



NATIONAL WATER LAW

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CURRENT TEXT

Last amendment published DOF 08-05-2023

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Presidencia de la República.

CARLOS SALINAS DE GORTARI, Constitutional President of the United Mexican States, to its inhabitants be it known:

That the H. Congress of the Union, has been so kind as to address to me the following

DECRETO

"THE CONGRESS OF THE UNITED MEXICAN STATES, D E C R E T A :

NATIONAL WATERS LAW TITLE

ONE

Preliminary Provisions

Sole Chapter

ARTICLE 1. This Law regulates Article 27 of the Political Constitution of the United Mexican States with respect to national waters; it is of general observance throughout the national territory, its provisions are of public order and social interest and its purpose is to regulate the exploitation, use or development of such waters, their distribution and control, as well as the preservation of their quantity and quality in order to achieve their integral sustainable development.

The provisions of this Law are applicable to all national waters, whether surface or subsoil. These provisions are also applicable to the national properties indicated in this Law.

The provisions of this Law are applicable to the waters of Mexican marine zones with respect to the conservation and control of their quality, without detriment to the jurisdiction or concession that may govern them.

Article amended DOF 29-04-2004

ARTICLE 3. For the purposes of this Law, the following definitions shall apply:

- I. "National Waters" are those referred to in the Fifth Paragraph of Article 27 of the Political Constitution of the United Mexican States;
- II. "Aquifer": Any geological formation or group of geological formations hydraulically connected to each other, through which subsoil waters circulate or are stored that can be extracted for exploitation, use or development, and whose lateral and vertical limits are conventionally defined for purposes of evaluation, management and administration of national subsoil waters;



- III. "Clear water" or "Water of first use": Water from different natural sources and artificial storages that have not been subject to any previous use;
- III BIS. "Working Waters": Those from the subsoil that must necessarily be extracted to allow the execution of works and works of mining exploration and exploitation.
Section added DOF 08-05-2023
- IV. "Subsoil waters": Those national waters existing below the earth's surface;
- V. "Marine waters": refers to waters in marine areas;
- VI. "Wastewater": Waters of varied composition from discharges of public urban, domestic, industrial, commercial, service, agricultural, livestock, treatment plants and in general, from any use, as well as the mixture of them;
- VII. "Utilization": Application of water in activities that do not involve water consumption;
- VII Bis. "Pass-Through Use": That carried out in any activity that does not imply consumption of water volumes, and its alterations do not exceed the parameters established by the official Mexican standards;
Section added DOF 24-03-2016
- VIII. "Assignment": Title granted by the Federal Executive, through "the Commission" or the corresponding Basin Organization, in accordance with their respective competencies, to exploit, use or exploit national waters, municipalities, states or the Federal District, for urban or domestic public water services;
- IX. "Inherent Public Assets": Those mentioned in Article 113 of this Law;
- X. "Carrying Capacity": Estimate of the tolerance of an ecosystem to the use of its components, such that it does not exceed its capacity for recovery in the short term without the application of restoration or recovery measures to reestablish ecological balance;
- XI. "Channel of a stream": The natural or artificial channel that has the necessary capacity for the waters of the maximum ordinary flood to flow without overflowing. When streams are subject to overflow, the natural channel is considered as a channel, as long as channeling works are not constructed; at the sources of any stream, it is considered as a properly defined channel when the runoff is concentrated in a topographic depression and forms a gully or channel as a result of the action of water flowing over the land. For purposes of application of the present Law, the magnitude of said gully or incipient channel must be at least 2.0 meters wide by 2.0 meters wide by 2.0 meters wide by 1.0 meters wide. 0.75 meters deep;
- XII. "National Water Commission": Deconcentrated Administrative Body of the Ministry of the Environment and Natural Resources, with Public Law functions in the management of national waters and their inherent public goods, with technical, executive, administrative, budgetary and management autonomy, for the achievement of its purpose, the performance of its functions and the issuance of the acts of authority that according to this Law correspond to it and to the bodies of authority referred to therein;



- XIII.** "Concession": Title granted by the Federal Executive, through "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for the exploitation, use or development of national waters, and their inherent public assets, to individuals or legal entities of a public and private nature, except for assignment titles;
- XIV.** "Particular Discharge Conditions": The set of physical, chemical and biological parameters and their maximum permitted levels in wastewater discharges, determined by "the Commission" or by the corresponding Basin Agency, according to their respective competencies, for each user, for a specific use or group of users of a specific receiving body in order to conserve and control water quality in accordance with this Law and the regulations derived therefrom;
- XV.** "Basin Council": Mixed integration collegiate bodies, which shall be an instance of coordination and agreement, support, consultation and advice, between "the Commission", including the corresponding Basin Organization, and the agencies and entities of the federal, state or municipal authorities, and the representatives of the water users and organizations of the society, of the respective hydrological basin or hydrological region;
- XVI.** "Hydrological basin: It is the unit of the territory, differentiated from other units, normally delimited by a water part or watershed -that polygonal line formed by the points of highest elevation in said unit-, where water occurs in different forms, and this is stored or flows to an exit point that may be the sea or other inland receiving body, through a hydrographic network of channels that converge in a main one, or the territory where waters form an autonomous unit or differentiated from others, even without flowing into the sea. In this space delimited by topographic diversity, water, soil, flora, fauna, other related natural resources and the environment coexist. The hydrological basin, together with the aquifers, constitutes the water resources management unit. The hydrological basin is in turn integrated by sub-basins and the latter are integrated by micro-basins.
- For the purposes of this Law, it is considered as:
- a.** "Hydrological region": Territorial area formed according to its morphological, orographic and hydrological characteristics, in which the hydrological basin is considered as the basic unit for water resources management, whose purpose is the grouping and systematization of information, analysis, diagnoses, programs and actions related to the occurrence of water in quantity and quality, as well as its exploitation, use or development. Normally, a hydrological region is made up of one or more hydrological basins. Therefore, the boundaries of the hydrological region are generally different in relation to the political division by states, Federal District and municipalities. One or several hydrological regions integrate a hydrological-administrative region, and
- b.** "Hydrological-Administrative Region": Territorial area defined according to hydrological criteria, integrated by one or several hydrological regions, in which the hydrological basin is considered as the basic unit for the management of water resources and the municipality represents, as in other legal instruments, the minimum unit of administrative management in the country;
- XVII.** "Receiving body": The natural watercourse or reservoir, dams, watercourses, marine areas or national property where wastewater is discharged, as well as the land where it is discharged.



infiltrate or inject such waters, when they may contaminate soils, subsoil or aquifers;

- XVIII.** "Self-Sufficiency Quota": It is that intended to recover the costs derived from the operation, conservation and maintenance of hydraulic infrastructure works, various facilities and irrigation areas, as well as the costs incurred in investments in infrastructure, mechanisms and equipment, including their improvement, rehabilitation and replacement. Self-sufficiency quotas are not of a fiscal nature and are normally covered by irrigation users or irrigators, in irrigation districts, units and systems, in water boards for agricultural purposes and in other associative forms used to use national waters for agricultural irrigation; self-sufficiency quotas in rainfed districts and units are of a similar nature and characteristics to those of irrigation, in terms of rainfed infrastructure, including its operation, conservation and maintenance and the inherent investments;
- XIX.** "Natural Water Renewal Quota": The annually renewable volume of water in a watershed or groundwater body;
- XX.** "Delimitation of the riverbed and federal zone: Topographic, bathymetric, photogrammetric, hydrological and hydraulic works and studies necessary to determine the limits of the riverbed and the federal zone;
- XXI.** "Sustainable development": In terms of water resources, it is the process that can be evaluated by means of criteria and indicators of a water, economic, social and environmental nature, which tends to improve the quality of life and productivity of people, based on the necessary measures for the preservation of the hydrological balance, the use and protection of water resources, so as not to compromise the satisfaction of the water needs of future generations;
- XXII.** "Discharge": The action of discharging, infiltrating, depositing, or injecting wastewater into a receiving body;
- XXIII.** "Mean annual surface water availability": In a hydrological basin, it is the value resulting from the difference between the mean annual volume of runoff from a basin to downstream and the current mean annual volume committed downstream;
- XXIV.** "Average annual groundwater availability": In a hydrogeological unit - understood as the set of hydraulically connected geological strata whose lateral and vertical limits are conventionally defined for purposes of evaluation, management and administration of national groundwater - is the average annual volume of groundwater that can be extracted from that hydrogeological unit for various uses, in addition to the extraction already granted and the natural discharge committed, without endangering the balance of ecosystems;
- XXV. a.** "Irrigation District": It is established by Presidential Decree, which is made up of one or several previously delimited surfaces and within whose perimeter the irrigation zone is located, which has the hydraulic infrastructure works, surface and subsoil waters, as well as its storage vessels, its federal and protection zone and other related assets and works, and may also be established with one or several irrigation units;
- b.** "Technified Rainfed District": Geographic area normally destined to agricultural activities that does not have irrigation infrastructure, in which through the use of diverse



In addition to the technical and construction works, damage to production due to heavy and prolonged rains - also known as Drainage Districts - or in conditions of scarcity, rainfall and humidity in agricultural land are used more efficiently; the technified rainfed district is made up of rainfed units;

- XXVI.** "Estero": Low, marshy land, usually filled with water by rain or by overflows of a stream, or a nearby lagoon or by the sea;
- XXVII.** "Exploitation": Application of water in activities aimed at extracting chemical or organic elements dissolved in it, after which it is returned to its original source without significant consumption;
- XXVIII.** "Water Management": Process based on the set of principles, policies, acts, resources, instruments, formal and informal norms, goods, resources, rights, powers and responsibilities, through which the State, water users and organizations of society promote and implement in a coordinated manner to achieve sustainable development for the benefit of human beings and their social, economic and environmental environment, (1) the control and management of water and hydrological basins, including aquifers, and therefore their distribution and administration, (2) the regulation of water exploitation, use or development, and (3) the preservation and sustainability of water resources in terms of quantity and quality, considering the risks of extraordinary hydrometeorological phenomena and damage to vital ecosystems and the environment. Water management comprises the governmental administration of water in its entirety;
- XXIX.** "Integrated Water Resources Management: A process that promotes the coordinated management and development of water, land, related resources, and the environment to maximize social and economic welfare equitably without compromising the sustainability of vital ecosystems. Such management is closely linked to sustainable development. For the application of this Law in relation to this concept, water and forest are considered primarily;
- XXX.** "Wetlands": Transition zones between aquatic and terrestrial systems that constitute areas of temporary or permanent flooding, subject or not to the influence of tides, such as swamps, marshes and swamps, whose limits are constituted by the type of hydrophilic vegetation of permanent or seasonal presence; areas where the soil is predominantly hydric; and lacustrine areas or areas of permanently wet soils due to the natural discharge of aquifers;
- XXXI.** "La Comisión": The National Water Commission;
- XXXII.** "La Ley": National Water Law;
- XXXIII.** "La Procuraduría": The Federal Attorney General's Office for Environmental Protection;
- XXXIV.** "The Secretariat": The Secretariat of the Environment and Natural Resources;
- XXXV.** "The Councils": The Councils of Cuenca;
- XXXVI.** "The Organizations": The Basin Organizations;
- XXXVII.** "Stony Materials": Materials such as sand, gravel, stone and/or any other type of material used in construction, which is extracted from a vessel, riverbed or any other property indicated in Article 113 of this Law;



- XXXVIII.** "Official Mexican Standards": Those issued by "the Secretariat", under the terms of the Federal Law on Metrology and Standardization referring to the conservation, safety and quality in the exploitation, use, development and administration of national waters and national assets referred to in Article 113 of this Law;
- XXXIX.** "Basin Agency": A specialized technical, administrative and legal unit, autonomous in nature, directly attached to the Head of "the Commission", whose powers are established in this Law and its regulations, and whose specific resources and budget are determined by "the Commission";
- XL.** "Permits": For the purposes of this Act, there are two meanings of permits:
- a.** "Permits": Are those granted by the Federal Executive through "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for the construction of hydraulic works and others of a diverse nature related to water and national assets referred to in Article 113 of this Law;
Section amended DOF 08-06-2012
 - b.** "Discharge Permits": Title granted by the Federal Executive through "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for the discharge of wastewater to receiving bodies of national property, to individuals or legal entities of a public or private nature;
- XLI.** " Individual or legal entity": Individuals, ejidos, communities, associations, societies and other institutions recognized by law as having legal personality, with the modalities and limitations established therein;
- XLII.** " National Water Program": Guiding document that integrates the water plans of the basins at the national level, in which the availability, use and development of the resource are defined, as well as the strategies, priorities and policies, to achieve the balance of sustainable regional development and advance in the integrated management of water resources;
- XLIII.** " Basin Water Program": Document in which the availability, use and development of the resource are defined, as well as the strategies, priorities and policies to achieve the balance of sustainable regional development in the corresponding basin and to advance in the integrated management of water resources;
- XLIV.** "Public Registry of Water Rights": (REPD) Registry that provides information and legal security to the users of national waters and inherent goods through the registration of concession titles, assignment and discharge permits, as well as the modifications made to their characteristics;
- XLV.** " Rescue": Act issued by the Federal Executive for reasons of public utility or public interest, by means of the corresponding declaration, to extinguish:
- a.** Concessions or assignments for the exploitation, use or development of National Waters, their inherent public goods, or



- b. Concessions to build, equip, operate, conserve, maintain, rehabilitate and expand federal water infrastructure and the provision of the respective services;

XLVI. "Reuse": The exploitation, use or exploitation of wastewater with or without prior treatment;

XLVII. "Bank or Federal Zone": The ten meter wide strips contiguous to the bed of the streams or the vessel of the reservoirs of national property, measured horizontally from the maximum ordinary water level. The width of the bank or federal zone shall be five meters in watercourses with a width not exceeding five meters. The ordinary maximum water level shall be calculated on the basis of the ordinary maximum water level to be determined by "the Commission" or by the corresponding Basin Agency, according to their respective competencies, in accordance with the provisions of the regulations of this Law. In rivers, these strips shall be delimited from one hundred meters upstream, counted from the mouth of the river into the sea. In watercourses with a width not exceeding five meters, the ordinary maximum water level shall be calculated on the basis of the average of the maximum annual discharges produced during ten consecutive years. These strips shall be delimited in rivers from one hundred meters upstream, counted from their mouth at the sea. At the source of any stream, the runoff that concentrates towards a topographic depression and forms a gully or channel, as a result of the action of water flowing over the land, is considered as a properly defined channel. The size of the gully or incipient channel must be at least 2.0 meters wide by 0.75 meters deep;

XLVIII. " River": A natural, perennial or intermittent watercourse, which flows into other watercourses, or into a natural or artificial reservoir, or into the sea;

XLIX. " Environmental Services": The benefits of social interest generated or derived from watersheds and their components, such as climate regulation, conservation of hydrological cycles, erosion control, flood control, aquifer recharge, maintenance of runoff in quality and quantity, soil formation, carbon sequestration, purification of water bodies, as well as conservation and protection of biodiversity; for the application of this concept in this Law, water resources and their link with forest resources are primarily considered;

L. "Drinking Water and Sewage System": Set of works and actions that allow the provision of public drinking water and sewage services, including sanitation, understanding as such the conduction, treatment, removal and discharge of wastewater;

LI. "Irrigation Unit": Agricultural area that has irrigation infrastructure and systems, different from an irrigation district and commonly smaller in area than the former; it may be integrated by associations of users or other organized producers who freely associate among themselves to provide irrigation services with autonomous management systems and operate the hydraulic infrastructure works for the collection, diversion, conduction, regulation, distribution and discharge of national waters intended for agricultural irrigation;

LII. " Use": Application of water to an activity involving the partial or total consumption of this resource;



- LIII. " Agricultural Use":** The application of domestic water for irrigation for agricultural production and the preparation thereof for the first sale, provided that the products have not undergone industrial transformation;
- LIV. " Environmental use" or "Use for ecological conservation":** The minimum flow or volume necessary in receiving bodies, including streams of various kinds or reservoirs, or the minimum natural discharge flow of an aquifer, which must be conserved to protect the environmental conditions and the ecological balance of the system;
- LV. "Consumptive Use":** The volume of water of a given quality that is consumed when carrying out a specific activity, which is determined as the difference of the volume of a given quality that is extracted, minus the volume of a given quality that is also discharged, and which are indicated in the respective title;
- LVI. " Domestic Use":** The application of domestic water for the private use of individuals and households, irrigation of their gardens and ornamental trees, including the watering of domestic animals that does not constitute a lucrative activity, in terms of Article 115 of the Political Constitution of the United Mexican States;
- LVII. " Use in Aquaculture":** The use of national waters in the set of activities directed to the controlled reproduction, pre-fattening and fattening of fauna and flora species carried out in facilities in national waters, by means of breeding or cultivation techniques, which are susceptible of commercial, ornamental or recreational exploitation;
Section amended DOF 24-03-2016
- LVII BIS. "Industrial use in mining":** The development, exploitation or use of national waters, including working waters, in the exploration, exploitation or benefit of minerals and substances reserved to the Federation under the terms of the Mining Law, is considered a type of industrial use;
Section added DOF 08-05-2023
- LVIII. "Industrial use":** The application of national waters in factories or companies that carry out the extraction, conservation or transformation of raw materials or minerals, the finishing of products or the elaboration of satisfiers, as well as the water used in industrial parks, boilers, devices for cooling, washing, bathrooms and other services within the company, the brines used for the extraction of any type of substances and the water even in a vapor state, which is used for the generation of electric energy or for any other use or transformation exploitation;
- LIX. " Livestock Use":** The application of national waters for the breeding and fattening of livestock, poultry and other animals, and their preparation for the first alienation provided they do not include industrial transformation; it does not include the irrigation of pastures;
- LX. "Urban Public Use":** The application of national water for population centers and human settlements, through the municipal network;
- LXI. " Lake, lagoon or estuary basin":** The natural reservoir of national waters delimited by the level of the maximum ordinary flood;
- LXI BIS. "Hydrothermal geothermal deposit":** That defined in terms of the Geothermal Energy Law;
Section added DOF 11-08-2014



- LXII. " Protection Zone":** The strip of land immediately adjacent to dams, hydraulic structures and other hydraulic infrastructure and related facilities, when such works are national property, to the extent established in each case by "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for their protection and adequate operation, conservation and surveillance, in accordance with the provisions of the regulations of this Law;
- LXIII. "Regulated zone":** Those specific areas of aquifers, hydrological basins, or hydrological regions, which due to their characteristics of deterioration, hydrological imbalance, risks or damage to water bodies or the environment, fragility of vital ecosystems, overexploitation, as well as for their reorganization and restoration, require specific water management to guarantee hydrological sustainability;
- LXIV. "Reserve zone":** Those specific areas of aquifers, hydrological basins, or hydrological regions, in which limitations are established on the exploitation, use or exploitation of a portion or all of the available waters, in order to provide a public service, implement a restoration, conservation or preservation program or when the State decides to exploit such waters for public utility;
- LXV. " Closed zone":** Those specific areas of hydrological regions, hydrological basins or aquifers, in which water uses additional to those legally established are not authorized and are controlled by specific regulations, due to the deterioration of water quantity or quality, the impact on hydrological sustainability, or damage to surface or subway water bodies, and
- LXVI. "Mexican Marine Zones":** Those classified as such by the Federal Law of the Sea.

For the effects of this Law, the definitions contained in Article 3 of the General Law of Ecological Equilibrium and Environmental Protection that do not contradict those set forth in this Article are applicable. The additional terms that may be used in the regulations of this Law shall be defined in such legal instruments.

Article amended DOF 29-04-2004

TITLE TWO **Water Management**

Chapter I **General Provisions**

ARTICLE 4. The authority and administration in the matter of national waters and their inherent public assets corresponds to the Federal Executive, who shall exercise it directly or through "the Commission".

Any authorization, permit, concession, assignment or extension granted under this law must prioritize human and domestic water consumption.

Paragraph added DOF 08-05-2023

In case there is a risk of water availability for human and domestic consumption, "the Water Authority" will decrease or cancel the volume of water granted.

Paragraph added DOF 08-05-2023

ARTICLE 5. For the compliance and application of this Law, the Federal Executive:



I. It will promote the coordination of actions with the governments of the states and municipalities, without affecting their powers in the matter and within the scope of their corresponding attributions. The coordination of the planning, implementation, and administration of water resource management actions by river basin or hydrological region shall be through the River Basin Councils, in which the three levels of government converge, and in which the users, individuals, and organizations of society participate and assume commitments, in accordance with the provisions contained in this Law and its regulations;

II. Encourage the participation of water users and individuals in the execution and administration of water works and services; and

III. It will promote the decentralization of water resources management in accordance with the legal framework in force.

Article amended DOF 29-04-2004

Chapter II Federal Executive

ARTICLE 6. It is incumbent upon the Federal Executive:

I. To regulate by hydrological basin and aquifer, the control of extraction as well as the exploitation, use or exploitation of national subsoil waters, including those that have been freely illuminated, and surface waters, under the terms of Title Five of this Law; and to issue decrees for the establishment, modification or suppression of regulated zones that require specific management to guarantee hydrological sustainability or when the sustainability of vital ecosystems in specific areas in aquifers, hydrological basins or hydrological regions is compromised;

II. To issue decrees for the establishment, modification or suppression of closed areas of national waters, under the terms of Title Five of this Law;

III. To issue declarations of national surface or subsoil water reserve zones, as well as decrees for their modification or elimination;

IV. To issue, for reasons of public utility or public interest, declarations of rescue, in the matter of concessions for the exploitation, use or exploitation of National Waters, of their inherent public assets, under the terms established in the General Law of National Assets;

V. To issue, for reasons of public utility or public interest, declarations of rescue of concessions granted by "the Commission", to build, equip, operate, conserve, maintain, rehabilitate and expand federal water infrastructure and the rendering of the respective services, upon payment of the indemnification that may correspond;

VI. To issue decrees of expropriation, temporary, total or partial occupation of property, or the limitation of ownership rights, under the terms of this Law, the Expropriation Law and other applicable provisions, except in the case of ejido or communal property, in which case it will proceed under the terms of the Agrarian Law;

VII. Approve the National Water Program, in accordance with the provisions of the Planning Law, and issue policies and guidelines for the sustainable management of hydrological basins and water resources;



VIII. Adopt the necessary measures for compliance with international water agreements and conventions, taking into account the national, regional and public interest;

IX. Appoint the General Director of "the Commission" and the General Director of the Mexican Institute of Water Technology;

X. Establish irrigation or technified rainfed districts, as well as irrigation or drainage units, when it implies expropriation due to public utility, and

XI. The other powers set forth in this Law.

Article amended DOF 29-04-2004

ARTICLE 7. It is declared to be of public utility:

I. The integrated management of surface and subsoil water resources, based on the hydrological basins in the national territory, as a priority and a matter of national security;

II. The protection, improvement, conservation and restoration of hydrological basins, aquifers, riverbeds, watercourses, reservoirs and other water deposits of national property, catchment areas of water supply sources, federal zones, as well as the natural or artificial infiltration of water to replenish aquifers in accordance with the "Normas Oficiales Mexicanas" and the diversion of water from one basin or hydrological region to others;

III. The installation of the necessary devices for the measurement of the quantity and quality of national waters and in general for the measurement of the hydrological cycle;

IV. The reestablishment of the hydrological balance of national, surface or subsoil waters, including extraction limitations in regulated zones, closed areas, reserves and changes in water use for domestic and urban public use; the artificial recharge of aquifers, as well as the disposal of water to the soil and subsoil, in accordance with the regulations in force;

V. Restoring the balance of vital ecosystems linked to water;

VI. The efficiency and modernization of domestic and public urban water services, to contribute to the improvement of health and social welfare, to improve the quality and timeliness of the service provided, as well as to contribute to achieving integrated water resources management;

VII. The improvement of wastewater quality, the prevention and control of wastewater pollution, the recirculation and reuse of wastewater, as well as the construction and operation of water pollution prevention, control and mitigation works, including wastewater treatment plants;

VIII. The establishment, under the terms of this Law, of irrigation districts, irrigation units, technified rainfed districts and drainage units, as well as the acquisition of land and other real estate necessary to integrate irrigation or drainage areas;

IX. Prevention and attention to the effects of extraordinary meteorological phenomena that endanger people, productive areas or facilities;

X. The use of national waters to generate electricity for public services, and



XI. The acquisition or use of real estate required for the construction, operation, maintenance, conservation, rehabilitation, improvement or development of public water works and the respective services, and the acquisition and use of other facilities, real estate and communication routes required for the same.

Article amended DOF 29-04-2004

ARTICLE 7 BIS. It is declared to be in the public interest:

I. The basin together with the aquifers as the basic territorial unit for integrated water resources management;

II. Decentralization and improvement of water resource management at the level of river basins, through governmental Basin Organizations and Basin Councils of mixed composition, with the participation of the three levels of government, water users, and organizations of society in decision-making and the assumption of commitments;

III. Decentralization and improvement of water resources management with the participation of the states, the Federal District and the municipalities;

IV. The permanent improvement of knowledge on the occurrence of water in the hydrological cycle, on its exploitation, use or exploitation and conservation in the national territory, and on the concepts and fundamental parameters to achieve integrated water resources management, as well as the periodic inventories of uses and users, water bodies, hydraulic infrastructure and diverse equipment necessary for integrated water resources management;

V. Priority attention to water problems in localities, aquifers, hydrological basins and hydrological regions with scarcity of the resource;

VI. Prevention, conciliation, arbitration, mitigation and resolution of water conflicts and their management;

VII. The control of the extraction and exploitation, use or development of surface and subsoil water;

VIII. The full incorporation of the environmental variable and the economic and social valuation of national waters in policies, programs, and actions related to water resource management, at the institutional and societal levels;

IX. Improving the efficiency and modernization of irrigated areas, particularly in irrigation districts and units, to contribute to the integrated management of water resources;

Reformed fraction DOF 20-06-2011

X. The organization of users, civil associations and other public and private systems and organizations providing rural and urban water services, as well as their linkage with the three levels of government, to consolidate their participation in the Basin Councils; and

Reformed fraction DOF 20-06-2011

XI. Environmental sustainability and prevention of overexploitation of aquifers.

Section added DOF 20-06-2011 Article added DOF 29-04-2004

Chapter II BIS
Ministry of Environment and Natural Resources

Chapter added DOF 2004-04-29



ARTICLE 8. The Secretary of the Environment and Natural Resources shall have the following powers:

- I. Propose the country's water policy to the Federal Executive;
- II. Propose to the Federal Executive the draft laws, regulations, decrees and agreements related to the sector;
- III. To act as Chairman of the Technical Council of "the Commission";
- IV. To sign the international instruments that, in accordance with the Law, fall within its competence, in coordination with the Ministry of Foreign Affairs, and to implement guidelines and strategies for compliance with international water treaties;
- V. To issue the Mexican Official Standards on water matters under the terms of the Federal Law on Metrology and Standardization, at the proposal of "the Commission"; and
- VI. Those specifically assigned to it in water matters by legal provisions, as well as those delegated to it by the Head of the Federal Executive.

Article amended DOF 29-04-2004

Chapter III National Water Commission

Chapter relocated DOF 2004-04-29

ARTICLE 9. "The Commission" is a decentralized administrative body of "the Secretariat", which is regulated in accordance with the provisions of this Law and its regulations, the Organic Law of the Federal Public Administration and its Internal Regulations.

The purpose of "The Commission" is to exercise the powers that correspond to the authority in water matters and to constitute itself as the Superior Body with technical, normative and consultative character of the Federation, in matters of integrated management of water resources, including the administration, regulation, control and protection of the public water domain.

In the exercise of its attributions, "the Commission" shall be organized in two modalities:

- a. The National Level, and
- b. The Regional Hydrological-Administrative Level, through its Basin Organizations.

The attributions, functions and specific activities in operational, executive, administrative and legal matters, related to the Federal sphere in the area of national waters and their management, shall be carried out through the Basin Organizations, with the exceptions set forth in this Law.

The following are attributions of "the Commission" at its National Level:

- I. To act as the Authority in matters of quantity and quality of water and its management in the national territory and consequently exercise those attributions that according to the present Law correspond to the authority in water matters, within the scope of federal competence, in accordance with the decentralization of the water sector, except for those that must be exercised directly by the Federal Executive or "the Secretariat" and those that are under the responsibility of the Governments of the states, the Federal District or municipalities;



- II.** To formulate the national water policy and propose it to the Head of the Federal Executive Power, through "the Secretariat", as well as to follow up and periodically evaluate compliance with such policy;
- III.** To integrate, formulate and propose to the Head of the Federal Executive Branch, the National Water Program, update it and monitor its compliance;
- IV.** To develop special interregional and interbasin programs on national waters;
- V.** To propose the criteria and guidelines that will make it possible to give unity and consistency to the actions of the Federal Government in the area of national waters and their inherent public goods, and to ensure and oversee consistency between the respective programs and the allocation of resources for their execution;
- VI.** To issue general provisions on national waters and their inherent public goods;
- VII.** To attend to strategic and national security issues and projects related to water;
- VIII.** To formulate and apply technical and administrative guidelines to prioritize investments in federal public works for water infrastructure and to contribute when requested by states, the Federal District and municipalities, with guidelines for the prioritization of their investments in this area;
- IX.** To program, study, construct, operate, conserve and maintain federal water works directly or through contracts or concessions with third parties, and to carry out actions corresponding to the federal sphere for the integral use of water, its regulation and control and the preservation of its quantity and quality, in cases that correspond to or affect two or more hydrological-administrative regions, or that have repercussions on international treaties and agreements in transboundary basins, or when so provided by the Federal Executive, as well as in other cases established by this Law or its regulations, which are reserved for direct action by "the Commission" at the national level;
- X.** Support, grant concessions, contract, agree and regulate water infrastructure works to be carried out with total or partial federal resources or with its endorsement or guarantee, in coordination with other federal agencies and entities, with the government of the Federal District, with the governments of the corresponding states and, through them, with the governments of the municipalities benefiting from such works, in the cases established in the preceding section;
- XI.** To operate, conserve and maintain rural and urban hydraulic works and services when the Head of the Federal Executive so orders in cases of national security or of a strategic nature in accordance with the laws on the subject;
- XII.** Participate in the arrangement of loans and other financial mechanisms, including the participation of third parties in the financing of works and services that support the construction and development of federal water works and services; it may also promote and support credit arrangements and other financial mechanisms in favor of states, the Federal District and municipalities in accordance with its powers and at the request of a party;
- XIII.** To promote and support urban and rural public drinking water, sewerage, sanitation, recirculation and reuse services in the national territory, for which purpose it will coordinate as appropriate with the governments of the states and, through them, with the municipalities. This will not affect the provisions, faculties and responsibilities of the municipalities and states in the coordination and rendering of the aforementioned services;



XIV. To promote and support the development of drinking water and sewerage systems; water sanitation, treatment and reuse systems; irrigation or drainage systems; and flood control and flood protection systems in the cases provided for in Section IX of this Article; to contract, grant concessions or decentralize the rendering of services within its jurisdiction or that it so agrees with the State Governments and, through the latter, with the Municipal Governments, or with third parties;

XV. Propose to the Head of the Federal Executive Branch the establishment of Irrigation Districts and, if necessary, the expropriation of the corresponding real estate;

XVI. To regulate irrigation services in irrigation districts and units in the national territory, and to integrate, with the assistance of its Basin Organizations, the infrastructure census, the volumes delivered and used, as well as the user lists, the state of the infrastructure and services. This will not affect the processes of decentralization and deconcentration of powers and activities at the federal level, nor the provisions, powers and responsibilities of the states and municipalities, as well as of associations, societies and other irrigation user organizations, in the coordination and provision of the services referred to;

XVII. To administer and guard the national waters and national assets referred to in Article 113 of this Law, and to preserve and control the quality of the same, at the national level;

XVIII. To establish national priorities concerning the administration and management of national waters and the inherent national assets referred to in this Law;

XIX. To accredit, promote, and support the organization and participation of users at the national level, and to support the state governments, as appropriate, to do the same at the state and municipal levels, to improve water management, and to encourage their broad, informed participation with the capacity to make decisions and assume commitments, under the terms of the Law;

XX. To issue concession, assignment or discharge permit titles referred to in this Law and its regulations, to recognize rights and to keep the Public Registry of Water Rights;

XXI. Conciliate and, if necessary, act at the request of the users, as arbitrator in the prevention, mitigation and solution of conflicts related to water and its management, under the terms of the regulations of this Law;

XXII. To analyze and resolve, with the assistance of the corresponding parties, the problems and conflicts arising from the exploitation, use, development or conservation of national waters between uses and users, in the cases established in Section IX of this Article;

XXIII. Enter into agreements with foreign entities or institutions and related organizations for technical assistance and cooperation, exchange of information related to the fulfillment of its objectives and functions, and exchange and training of specialized human resources, under the principles of reciprocity and common benefits, within the framework of the agreements signed by the Ministry of Foreign Affairs and "the Secretariat", as the case may be, with other countries for the purpose of promoting technical, scientific and administrative cooperation in the area of water resources and their integrated management;

XXIV. To agree with the interested parties, at the national level, on the corresponding measures, in accordance with this Law and its regulations, as well as other applicable provisions, when the adoption of necessary actions could affect the rights of concessionaires and assignees of national waters;



XXV. To enter into coordination agreements with the Federation, the Federal District, states, and through them, with the municipalities and their respective public administrations, as well as agreements with the social and private sectors, and to favor, within the scope of its competence, in a systematic manner and with specific measures, the decentralization of water resources management under the terms of the Law;

XXVI. Promote at the national level the efficient use of water and its conservation in all phases of the hydrological cycle, and encourage the development of a water culture that considers this element as a vital, scarce resource of high economic, social and environmental value, and that contributes to achieving integrated management of water resources;

XXVII. Periodically carry out studies at the national level on the economic and financial valuation of water by source of supply, locality and type of use, in accordance with the provisions issued by the Authority on the matter;

XXVIII. To study, with the assistance of the Basin Councils and Basin Organizations, the recommended amounts for the collection of water rights and basin tariffs, including charges for the extraction of national waters, wastewater discharge, and environmental services related to water and its management, in order to submit them to the consideration of the corresponding Authorities under the terms of the Law;

XXIX. To exercise the tax powers in matters of administration, determination, liquidation, collection, collection and control of the contributions and benefits assigned to it or in the cases indicated by the respective laws, in accordance with the provisions of the Federal Fiscal Code;

XXX. Promote and foster scientific research and technological development, human resources training, as well as disseminate knowledge on water resources management, with the purpose of strengthening its actions and improving the quality of its services, for which it will coordinate as appropriate with the Mexican Institute of Water Technology;

XXXI. Propose to the "Secretariat" the Mexican Official Standards on water matters;

XXXII. To issue provisions on the issuance of concession, assignment or discharge permits, as well as permits of various kinds referred to in this Law;

XXXIII. To issue the regulations to which the Basin Organizations must adhere in the exercise of their functions, consistent with the provisions contained in this Law, including the administration of the resources allocated to them, and to verify compliance therewith;

XXXIV. To issue provisions on the structuring and operation of the Public Registry of Water Rights at the national level, to support it financially and coordinate it; in particular, "the Commission" shall take the necessary steps in accordance with the Law to operate said Registry and its functions regionally, through the Basin Organizations;

XXXV. To carry out all kinds of legal acts that may be necessary to comply with its attributions, as well as those necessary for the administration of the resources and assets in its charge;

XXXVI. To oversee compliance with and application of this Law, interpret it for administrative purposes, apply sanctions and exercise acts of authority in the matter that are not reserved to the Federal Executive;

XXXVII. To act with technical, administrative, budgetary and executive autonomy in the management of the resources allocated to it and of the assets it has under the terms of this Law, as well as with



management autonomy for the full fulfillment of its purpose and the objectives and goals set forth in its programs and budget;

XXXVIII. Issue in each case, with respect to the national property referred to in this Law, the corresponding declaration, which will be published in the **Official Gazette of the Federation**;

XXXIX. To issue the declarations of classification of the national water bodies referred to in this Law;

XL. To participate in the national civil protection system and support the application of federal plans and programs to prevent and attend emergency situations caused by extreme hydrometeorological phenomena;

XLI. To define the technical guidelines on the management of national waters, basins, works and services, to be considered in the preparation of programs, regulations and decrees of closures and reserves;

XLII. To propose to the Head of the Federal Executive Branch the issuance of Decrees for the establishment, modification or extinction of Closed Zones and Regulated Zones for the Extraction and Distribution of National Waters and for their exploitation, use or exploitation, as well as Declarations of National Water Reserves and disaster zones;

XLIII. To make the declarations of classification of high risk zones due to flooding and to prepare the corresponding risk atlases;

XLIV. To coordinate the national meteorological service and to exercise the functions in such matter;

XLV. To keep updated and periodically make public the inventory of national waters, and of their inherent public assets and of the federal hydraulic infrastructure; to classify waters according to uses, and to prepare balances in quantity and quality of water by hydrological regions and hydrological basins;

XLVI. To permanently improve and disseminate at the national level knowledge on the occurrence of water in the hydrological cycle, water supply and demand, inventories of water, soil, uses and users, and relevant information related to water and its management, with the support deemed necessary by other federal agencies, state and municipal governments, as well as water users, organizations of society and individuals;

XLVII. To integrate the National Information System on water quantity, quality, uses, and conservation, with the participation of the Basin Organizations, in coordination with the governments of the states and of the Federal District and with the Basin Councils, and in accordance with the Federal Law on Transparency and Access to Public Governmental Information;

XLVIII. Resolve in an expeditious manner the requests for extension of concession, assignment, discharge and construction permits submitted within the terms established in this Law.

Reformed fraction DOF 08-06-2012

XLIX. To file the corresponding complaints before the competent authorities when, as a result of the exercise of its attributions, it becomes aware of acts or omissions that constitute violations to the administrative legislation on water matters or to the criminal laws;

L. In situations of emergency, extreme scarcity or overexploitation, take the necessary measures, normally of a transitory nature, which will cease to be applied when "the



The "Commission" so determines, to guarantee the supply of domestic and urban public use, through the issuance of general agreements; when these actions could affect the rights of concessionaires and assignees of national waters, to agree with the interested parties on the corresponding measures, in accordance with this Law and its regulations;

LI. Grant the technical support requested by the "Procuraduría" in the exercise of its powers in the matter of reparation of damage to water resources and their environment, to vital ecosystems and to the environment;

LII. To regulate the transfer of rights;

LIII. Acquire the property necessary for its own purposes, and

LIV. To carry out any other duties indicated in the legal or regulatory provisions.

Article amended DOF 29-04-2004

ARTICLE 9 BIS. The financial and other resources in charge of "the Commission" and the provisions for their management and accountability will be determined in the Internal Regulations of "the Secretariat", which will respect the annual budgets determined for it in the legal instruments issued for such purpose by the Honorable Congress of the Union, and will act in accordance with the provisions established by the Authority on the matter.

Article added DOF 2004-04-29

ARTICLE 9 BIS 1. For the handling of matters within its competence, "the Commission" shall have at the national level:

a. A Technical Board, and

b. A General Manager.

Article added DOF 2004-04-29

ARTICLE 10. The Technical Council of "the Commission" shall be composed of the heads of the Ministries of the Environment and Natural Resources, who shall preside over it; Finance and Public Credit; Welfare; Energy; Economy; Health; and Agriculture and Rural Development; as well as the Mexican Institute of Water Technology and the National Forestry Commission. For each proprietary representative, the necessary substitutes will be designated at the level of Undersecretary or equivalent. At the proposal of the Technical Council, the Head of the Federal Executive will appoint as members of the Council, observing the principle of gender parity, two representatives of the governments of the states and one representative of a prestigious Citizen Organization with experience related to the functions of "the Commission".

Amended paragraph DOF 11-05-2022

The Technical Council may, when it deems it convenient, invite to its meetings the heads of the other agencies and entities of the Federal Public Administration and other representatives of the states, municipalities, users and organized society, who may participate with voice, but without vote. The head of the General Directorate of "the Commission" will participate in the meetings of the Technical Council with voice, but without vote.

Amended paragraph DOF 11-05-2022

The periodicity and manner of convening the meetings of the Technical Council shall be in accordance with the provisions of the Internal Regulations of "the Commission".

Article amended DOF 29-04-2004

ARTICLE 11. The Technical Council shall have the following non-delegable powers:



- I. Approve and evaluate the programs and projects in charge of "the Commission";
- II. Approve, in accordance with this Law and its regulations, the budget and operations of "the Commission", supervise its execution, as well as hear and approve the reports submitted by the Director General;
- III. Appoint and remove, at the proposal of the Director General of "the Commission", the Directors General of the Basin Organizations, as well as the public servants of "the Commission" at the central and regional hydrological-administrative levels, who occupy positions with the two administrative hierarchies lower than that of the former;
- IV. Agree on matters submitted for its consideration regarding the administration of water and the assets and resources of "the Commission";
- V. To know and agree on the policies and measures that allow programming on water administration and coordinated action among the Federal Public Administration agencies and others that must intervene in water matters;
- VI. Approve the terms under which credits and other financing mechanisms required by "the Commission" may be negotiated and arranged;
- VII. Agree on the creation of Basin Councils, as well as modifications to existing ones;
- VIII. In the event of a breach in the execution and compliance of the programs and projects referred to in Section I and of the agreed matters referred to in Section IV, to report the facts to the Internal Comptroller's Office of "the Commission";
- IX. Approve the Integration, Organizational Structure and Operation Manual of "the Commission" at the proposal of its General Director, as well as any modifications, as the case may be, and
- X. Such others as are set forth in this Law or its regulations and those necessary for the fulfillment of its purpose.

Article amended DOF 29-04-2004

ARTICLE 11 BIS. As an internal control body, "the Commission" shall have an Internal Comptroller's Office, headed by an Internal Comptroller, appointed under the terms of the Law; in the exercise of its duties it shall be assisted by the heads of the audit, complaints and responsibilities areas, appointed under the same terms.

The public servants referred to in the preceding paragraph shall exercise, within the scope of their respective competencies, the powers set forth in the Organic Law of the Federal Public Administration, the Federal Law of Administrative Responsibilities of Public Servants, and other applicable laws, as provided in the Internal Regulations of the Ministry of Public Administration.

The absences of the Internal Comptroller, as well as those of the heads of the audit, complaints and responsibilities areas, shall be substituted as provided for in the Internal Regulations of the Civil Service Secretariat.

Article added DOF 2004-04-29



ARTICLE 11 BIS 1. "The Commission" shall be considered to be of proven solvency and therefore shall not be obliged to constitute a deposit or legal bonds, not even in the case of amparo proceedings. The assets of "the Commission", for the purpose of the direct rendering of its services, shall be unseizable.

Article added DOF 2004-04-29

ARTICLE 12. The General Director of "the Commission" shall have the following powers:

- I. To direct and legally represent "the Commission";
- II. To assign the administrative units of the same and issue their manuals;
- III. To process the exercise of the approved budget before the competent agencies;
- IV. To grant general and special powers of attorney in terms of the applicable legal provisions and to delegate powers within the scope of its competence;
- V. Submit the reports requested by the Technical Council and "the Secretariat";
- VI. To request the approval of the Technical Council on the movements that imply modifying the organizational and occupational structure and operational staffing, in terms of the Law;
- VII. Propose to the Technical Council the incentives and licenses that may be granted to the personnel of "the Commission" in terms of the Law;
- VIII. To issue acts of authority in the matter within its sphere of competence;
- IX. To issue concession titles, assignment, discharge permits, in addition to the permits established in Section IX of Article 9 of this Law;
- X. To support and verify compliance with the autonomous nature of the Basin Organizations, under the terms set forth in this Law and its regulations, in accordance with the processes of decentralization of water resources management;
- XI. Those indicated in Article 9 of this Law for the express attention of "the Commission" and not included in Articles 11 and 12 BIS 6 thereof, and
- XII. Any other powers conferred to "the Commission" in this Law and its regulations.

Reformed fraction DOF 08-06-2012

Article amended DOF 29-04-2004

Chapter III BIS Basin Organizations

Chapter added DOF 2004-04-29

ARTICLE 12 BIS. Within the scope of hydrological basins, hydrological regions and hydrological-administrative regions, the exercise of the Authority in the matter and the integrated management of water resources, including the administration of national waters and their inherent public goods, "the Commission" shall carry them out through Basin Organizations of a governmental nature and shall rely on Basin Councils of mixed integration under the terms of the Law, except in the cases provided for in Section IX of Article 9 of this Law.

The regulations of this Law shall provide mechanisms to ensure the consistency of the management of the Basin Organizations with the national water policy and the National Water Program.



Article added DOF 2004-04-29

ARTICLE 12 BIS 1. The Basin Organizations, in the hydrological-administrative regions, are specialized technical, administrative and legal units, with autonomous character conferred by this Law, directly attached to the Head of "the Commission", whose attributions, nature and territorial scope of competence are established in this Law and detailed in its regulations, and whose specific resources and budget are determined by "the Commission".

Based on the provisions of this Law, "the Commission" shall organize its activities and adapt its integration, organization and operation to the establishment of the referred Basin Organizations, which shall have the profile of specialized regional units to fulfill their functions. Said Basin Organizations shall operate harmoniously with the Basin Councils in the achievement of integrated management of water resources in the hydrological basins and hydrological regions.

The Basin Organizations, due to their specialized nature and the specific powers granted to them by this Law, shall act with executive, technical and administrative autonomy in the exercise of their functions and in the management of the assets and resources allocated to them and shall exercise within the hydrological basin or in the grouping of several hydrological basins determined by "the Commission" as within its jurisdiction, the powers established in this Law, its Regulations and the Internal Regulations of "the Commission", without detriment to the direct action by "the Commission" when it is within its competence, pursuant to the provisions of Section IX of Article 9 of this Law and those of the Head of the Federal Executive Branch.

Article added DOF 2004-04-29

ARTICLE 12 BIS 2. Each Basin Organization shall be headed by a General Director appointed by the Technical Council of the Commission upon proposal of the Director General of the Commission.

The General Director of the Basin Organization, who shall be directly subordinate to the General Director of the Commission, shall have the following powers:

- I. To direct and legally represent the Basin Organization;
- II. To delegate powers within the scope of its competence;
- III. Submit reports requested by the Director General of "the Commission" and the Advisory Council of the Basin Organization;
- IV. To issue acts of authority in the matter within its sphere of competence;
- V. To issue concession, assignment and discharge permits;
- VI. Those indicated in Article 12 BIS 6 of this Law and not included in Article 12 BIS 3 of the same; and
- VII. Any others conferred to the Basin Agency by this Law and its regulations.

Reformed fraction DOF 08-06-2012

Each Basin Organization will have an Advisory Council, which will be made up of representatives appointed by the Heads of the Ministries of Finance and Public Credit, Social Development, Energy, Economy, Environment and Natural Resources, Health, Agriculture, Livestock, Rural Development, Fisheries and Food, and the National Forestry Commission, as well as "the Commission", who will chair it. Likewise, the Technical Council will have a representative of the following



designated by the Head of the State Executive Branch for each of the states included in the territorial jurisdiction of the Basin Organization, as well as the Federal District when appropriate. For each state included in the aforementioned territorial scope, the Advisory Council shall have a representative of the corresponding Municipal Presidencies, for which each state shall be in charge of determining the required representative. The representatives referred to in this paragraph shall participate with voice and vote.

The necessary alternates shall be appointed for each proprietary representative, with sufficient capacity to make decisions and assume commitments. The General Director of the Basin Organization shall act as Technical Secretary of the aforementioned Council, which shall be organized and operate in accordance with the rules issued for such purpose.

In addition, the Advisory Council shall have a representative appointed from among the representatives of the users before the Basin Council or Basin Councils existing in the corresponding hydrological-administrative region. The users' representative will participate with voice, but without vote, and will have an alternate.

The Consultative Council of the Basin Organization, when it deems it convenient, may invite to its meetings other agencies and entities of the Federal and State Public Administrations and representatives of the municipalities, users and organized society, who may participate with voice, but without vote.

Article added DOF 2004-04-29

ARTICLE 12 BIS 3. The Advisory Council of each Basin Organization shall have the following powers:

I. To know and agree on the regional water policy by hydrological basin, in congruence with the national water policy, as well as the measures that allow water programming and coordinated action among the agencies, entities and organizations of the federal and state public administrations, and through these, the municipalities, that must intervene in the management of water resources;

II. To hear matters on water administration and on the assets and resources under the charge of the corresponding Basin Organization;

III. To be familiar with the programs of the Basin Organization, their budget and execution and to validate the reports submitted by the Director General of the Basin Organization;

IV. Propose the terms for managing and agreeing on the necessary resources, including those of a financial nature, for the implementation of water programs and actions to be carried out within the territorial jurisdiction of the Basin Organization, for which purpose it shall coordinate with "the Commission" and comply with the applicable provisions issued by the relevant authority and the corresponding laws and regulations; and

V. Any others indicated in this Law or in its regulations and those that the Advisory Council itself deems necessary for the fulfillment of its powers.

Article added DOF 2004-04-29

ARTICLE 12 BIS 4. The integration, structure, organization, operation and scope of competence of the Basin Organizations shall be established in the Regulations of this Law and, if applicable, in the Internal Regulations of "the Commission", taking into account the geographic location of the country's hydrological basins, as well as the provisions through which mechanisms are established to guarantee the consistency of their management with the national water policy. The units attached to the



Basin Organizations shall not be subordinated to the units attached to "the Commission" at the national level, in accordance with the provisions of Article 12 BIS 1.

The provisions issued to regulate the integration, structure, organization, and operation of basin organizations, in addition to those provided for in this Chapter, while respecting the capacities and autonomy of the levels of government, shall be aimed at having representatives from the states, the Federal District, as the case may be, and municipalities within the territorial scope of the basin organization participate in its Advisory Council for decision-making consensus, as well as for coordination and consensus-building; These provisions shall also be aimed at expanding the facilities for the participation and assumption of commitments by the users of the national waters of the river basin or basins in question, as well as by organized and representative groups of society.

Article added DOF 2004-04-29

ARTICLE 12 BIS 5. The resources to be charged to the Basin Organizations and the provisions for their management and accountability shall be determined by "the Commission", which shall act in accordance with the provisions established by the Authority on the matter.

Article added DOF 2004-04-29

ARTICLE 12 BIS 6. The Basin Organizations, in accordance with the guidelines issued by "the Commission", shall exercise the following powers within their territorial jurisdiction:

I. To exercise the powers that, in accordance with this Law, correspond to the water authority and to carry out the administration and custody of national waters and their inherent public assets;

II. To formulate and propose to "the Commission" the regional water policy;

III. Formulate and propose to "the Commission" the Water Program(s) by hydrological basin or aquifer, update them and monitor their compliance;

IV. To program, study, construct, operate, conserve and maintain federal water works directly or through contracts or concessions with third parties, and to carry out actions corresponding to the federal sphere for the integral use of water, its regulation and control and the preservation of its quantity and quality;

V. Support, grant concessions, contract, agree and regulate water infrastructure works, which are carried out with total or partial federal resources or with its endorsement or guarantee, in coordination with other federal agencies and entities and, through the state governments, with the governments of the municipalities benefiting from such works; for the foregoing it will observe the provisions issued by the Authority in the matter and those corresponding to the respective Laws and regulations;

VI. To operate, conserve and maintain hydraulic works and services when declared of national security or of a strategic nature, when so ordered by "the Commission";

VII. To promote and support urban and rural public drinking water, sewerage, sanitation, recirculation and reuse services, for which purpose it will coordinate as appropriate with the state governments and, through them, with the municipalities. This will not affect the provisions, faculties and responsibilities of the states and municipalities in the coordination and rendering of the aforementioned services;

VIII. Encourage and support the development of drinking water and sewerage systems; water sanitation, treatment and reuse systems; irrigation or drainage systems; and flood control and flood control systems.



flood protection. Where appropriate, to contract or grant concessions for the provision of services that fall within its competence or that it so agrees with state governments or third parties;

IX. Propose to the General Director of "the Commission" the establishment of Irrigation and Temporary Technified Irrigation Districts and, as the case may be, the expropriation of the corresponding real estate;

X. To regulate irrigation services in irrigation districts and units in accordance with the provisions established by "the Commission" for this purpose and to keep updated the infrastructure census, the volumes delivered and used, as well as the user lists, the status of the infrastructure and services. This shall not affect the provisions, powers and responsibilities of the State and municipalities, as well as associations, societies and other irrigation user organizations, in the coordination and provision of the aforementioned services;

XI. To preserve and control the quality of water, as well as to manage the hydrological basins and hydrological regions that correspond to it, under the terms of this Law and its regulations;

XII. To accredit, promote and support the organization of users to improve the exploitation, use or development of water and the conservation and control of its quality, and to encourage their participation at the state, regional, hydrological basin or aquifer level under the terms of the Law;

XIII. To issue concession titles, allocation or discharge and construction permits, recognize rights and operate the Public Registry of Water Rights in its geographical area of action;

Reformed fraction DOF 08-06-2012

XIV. To conciliate and, as the case may be, to act at the request of the users, the Basin Councils, or the states, as arbitrator in the prevention, mitigation, and solution of conflicts related to water and its management, under the terms of the regulations of this Law;

XV. Promote, in coordination with river basin councils, state governments, citizen or nongovernmental organizations, users' associations, and individuals, the efficient use of water and its conservation in all phases of the hydrological cycle, and promote a water culture that considers water as a vital, scarce resource of high economic, social, and environmental value and that contributes to achieving integrated water resource management;

XVI. To act, if so provided by "the Commission", as the specialized financial authority for the water sector in its territorial area of competence, in accordance with the provisions issued by the relevant authority and the corresponding laws and regulations;

XVII. To implement and operate the Water Financial System in the corresponding basin or basins in accordance with the provisions issued by the Authority on the matter and the corresponding laws and regulations;

XVIII. Periodically carry out studies on the economic and financial valuation of water by source of supply, locality and type of use, to support the design of basin tariffs and water rights, including water extraction, wastewater discharge and environmental services, as well as to disseminate such results in the corresponding hydrological region, to improve knowledge of water prices and costs and strengthen the culture of payment for water management and services, and for the protection of vital ecosystems linked to water; it shall do so in accordance with the provisions issued by the Authority on the matter;

XIX. Study and propose, with the assistance of the Basin Councils, the recommended amounts for the collection of water rights and basin tariffs, including the collection of water extraction charges



The law also establishes that the following provisions shall be applicable to the discharge of national waters, wastewater discharge and environmental services related to water and its management, based on the provisions established in Section XXVIII of Article 9 of the present Law;

XX. To implement and operate the necessary mechanisms for the collection of water rights, in accordance with the tax provisions in force;

XXI. Under the coordination and supervision of "the Commission", to participate as appropriate in the exercise of the fiscal attributions in matters of administration, determination, liquidation, collection, collection and control of the contributions and benefits assigned to it or in the cases indicated by the respective laws, in accordance with the provisions of the Federal Fiscal Code;

XXII. To carry out all kinds of legal acts necessary to fulfill its purposes, as well as those necessary for the management of national waters, including their administration and inherent public assets, as well as other assets and resources under its responsibility;

XXIII. To oversee compliance with this Law, apply the corresponding sanctions and exercise the acts of authority in matters of water and its management that correspond to the federal sphere and that are not reserved to the Federal Executive or to "the Commission";

XXIV. Act, in accordance with their nature and the specialized nature conferred upon them by this Law, with technical, administrative and legal autonomy in the management of the resources allocated to them and the assets they have under the terms of this Law, and act with managerial autonomy for the full compliance of its purpose and the objectives and goals set forth in its programs and budget, observing the provisions of this Article, Articles 9 Section XXXIII, 12 Section X, 12 BIS 1, 12 BIS 2, 12 BIS 3 and 12 BIS 4, and the other applicable provisions contained in this Law and its regulations;

XXV. To participate in the national civil protection system and support the application of federal plans and programs to prevent and address emergency situations caused by extraordinary hydrometeorological phenomena;

XXVI. Propose to the Director General of the Commission the draft Regulations for the Extraction and Distribution of National Waters and their exploitation, use or exploitation; Decrees of Closed Zones and Regulated Zones; and Declarations of National Water Reserves;

XXVII. To keep updated and periodically make public the inventory of national waters, and their inherent public assets and federal hydraulic infrastructure; the classification of waters according to uses, and the preparation of hydrological balances by hydrological regions and hydrological basins in quantity and quality of waters;

XXVIII. To permanently improve and disseminate knowledge on the occurrence of water in the hydrological cycle, water supply and demand, inventories of water, soil, uses and users, and relevant information related to water and its management, with the support it deems necessary from other federal agencies, state and municipal governments, as well as water users, social organizations and individuals;

XXIX. To integrate the Regional Information System on water quantity, quality, uses and conservation, in coordination with the governments of the states and the Federal District, when appropriate, and with the Basin Councils, and in accordance with the provisions of the Federal Law on Transparency and Access to Public Governmental Information;

XXX. Resolve in an expeditious manner the requests for extension of concession, assignment or discharge permit submitted within the terms established in this Law;



XXXI. To file the corresponding complaints before the competent authorities when, as a result of the exercise of its attributions, it becomes aware of acts or omissions that constitute violations to the administrative legislation on water matters or to criminal laws;

XXXII. Regulating the transfer of water rights, and

XXXIII. To carry out any other duties as required by law or regulation.

Article added DOF 2004-04-29

Chapter IV Basin Councils

ARTICLE 13. "The Commission," with the prior agreement of its Technical Council, shall establish Basin Councils, collegiate bodies of mixed integration, pursuant to Section XV of Article 3 of this Law. The coordination, agreement, support, consultation and advice referred to in said section are aimed at formulating and implementing programs and actions for better water administration, the development of hydraulic infrastructure and the respective services, and the preservation of the basin resources, as well as the others established in this Chapter and in the respective Regulations. The Basin Councils are not subordinate to the Commission or the Basin Organizations.

The Basin Councils shall consider the plurality of interests, demands and needs in the corresponding hydrological basin or basins.

Article amended DOF 29-04-2004

ARTICLE 13 BIS. Each River Basin Council shall have a Chairman, a Technical Secretary and members, with voice and vote, representing the three levels of government, water users and organizations of society, in accordance with the following:

Vowels	Proportion of Representation
Representatives of the Federal Government	Those resulting from the provisions of Section IV of Article 13 BIS 2
Representatives of State and Municipal Governments according to their territorial circumscription within the hydrological basin	When more 35% more
Representatives of Users in different uses and Citizen or Non-Governmental Organizations.	At least 50

The Chairman of the Basin Council shall be appointed in accordance with the General Rules for the Integration, Organization and Operation of the Basin Council and shall have a voice and a casting vote. The General Director of the Basin Organization shall act as Technical Secretary of the Basin Council, who shall have voice and vote.

For the purposes of this Chapter, drinking water and sanitation service providers are considered as users.

Article added DOF 2004-04-29

ARTICLE 13 BIS 1. The River Basin Councils shall be established for each hydrological basin or group of hydrological basins determined by "the Commission", which shall constitute their territorial delimitation.

The Basin Councils, in accordance with this Law and its regulations, shall establish their general rules of integration, organization and operation.



The Basin Council shall have at least four bodies for its operation:

A. The General Assembly of Users: which will be made up of representatives of the water users of the different uses and of the organizations of society; it will have a Chairman of the Assembly and a Recording Secretary, who will be elected from among its members by the assembly members themselves in accordance with the General Rules for the Integration, Organization and Operation of the Basin Council.

The General Assembly of Users shall function with the periodicity, sessions and participants determined by the General Rules of Integration, Organization and Operation of the Basin Council.

The provisions for determining the participation of the water users of the different uses by state in the context of the river basin or hydrologic region and of the organizations of society before the General Assembly of Users shall be contained in the General Rules for the Integration, Organization, and Operation of the corresponding Basin Council, which shall consider the representativeness of the uses in the river basin or hydrologic region.

The General Assembly of Users shall have the following functions:

1.- To discuss strategies, priorities, policies, lines of action and criteria to be considered in the short, medium and long term planning of the hydrological basin;

To hear matters related to the exploitation, use and development of water; concession, allocation and discharge permits; water pollution and treatment; construction of hydraulic works, and other aspects related to the integrated management of water resources, proposed by the representatives of the water users of the different uses;

3.- To cooperate with the Basin Council in monitoring compliance with the Water Plan of the Hydrological Basin;

4.- Appoint its representatives who shall serve as members of the Basin Council;

To define the position of the water users of the different uses and of the organizations of the society, in relation to the matters to be submitted by the General Assembly to the Basin Council.

B. The Basin Council Steering Committee: Composed of the President and Technical Secretary of the Basin Council.

C. The Operation and Surveillance Commission of the Basin Council: which will be responsible for the follow-up and evaluation of the performance of the Basin Council, specific working groups and other specialized bodies required by the Basin Council to better fulfill its purpose, and

D. Operational Management: With internal technical, administrative and legal functions.

For the exercise of their functions, the Basin Councils will be assisted by the Basin Commissions - whose scope of action is usually at the level of a sub-basin or group of sub-basins corresponding to a particular hydrological basin-, Basin Committees -whose scope of action usually corresponds to the level of a micro-basin or group of micro-basins of a specific sub-basin- and Technical Groundwater Committees -which carry out their activities in relation to a specific aquifer or group of aquifers- as necessary.



Like the Basin Councils, the Basin Commissions, Basin Committees and Groundwater Technical Committees are collegiate bodies of mixed integration and are not subordinate to "the Commission" or to the Basin Organizations.

The nature and general provisions for the creation, integration and operation of basin commissions, basin committees and groundwater technical committees shall be established in the regulations of this Law. The particular characteristics of said commissions and committees shall be set forth in the General Rules for the Integration, Organization and Operation of said Council.

Article added DOF 2004-04-29

ARTICLE 13 BIS 2. The Basin Councils shall be organized and operate in accordance with the provisions of this Law, its Regulations, the provisions issued by the Commission, and the General Rules of Integration, Organization and Operation adopted by each Basin Council, in accordance with the following general guidelines:

I. The water users who participate as members of the Basin Councils shall be elected at the General Assembly of Users, and shall come from the water users' organizations at the national level for the different uses accredited before "the Commission", as well as from the water users' organizations for each state of the different uses in the hydrological basin or hydrological region in question, in a number that ensures proportionality in the representation of the uses and allows for the effective operation of said Basin Councils and in compliance with the provisions of Article 13 BIS of this Law; the designation of alternates shall also be provided for by the Assembly itself; the representation of each use by state shall be determined in the General Rules for the Integration, Organization and Operation of the Basin Council;

II. The state governments with territory within the hydrological basin will be represented by their respective Heads of the State Executive Branch, who will act as members; they may designate an alternate, preferably at the level of Secretary or similar;

III. The municipal governments with territory within the basin shall be represented as determined in each state. The total number of members corresponding to the municipalities shall comply with the provisions of Article 13 BIS. The distribution of municipal members shall be determined in the General Rules of Integration, Organization and Operation of the Basin Council itself. The municipal proprietary members shall be Municipal Presidents and may designate an alternate, preferably at the level of alderman or similar;

IV. The Federal Government will have members appointed by the Ministries of the Environment and Natural Resources; Finance and Public Credit; Social Development; Energy; Economy; Health; and Agriculture, Livestock, Rural Development, Fisheries and Food. The proprietary members of the Federal Government may designate an alternate, at the level of Director General or the highest regional hierarchy;

V. The organizations of the society, including citizen or non-governmental organizations, professional associations, businessmen, and other organized groups related to the exploitation, use, development or conservation, preservation and restoration of the waters of the hydrological basin and of the underlying aquifer or aquifers, shall also participate in the activities of the Basin Councils in the number of members, both proprietary and their respective alternates, in accordance with the provisions of Article 13 BIS of this Law and in the capacity determined in the General Rules of Integration, Organization and Operation of the Basin Council itself;



VI. The Basin General Assembly, through its designated user members, shall channel its recommendations to the Basin Council and, through the latter, to the corresponding Basin Organization; and

VII. The Basin Councils shall have the territorial delimitation defined by "the Commission" with respect to the Basin Organizations.

Article added DOF 2004-04-29

ARTICLE 13 BIS 3. The Basin Councils shall be responsible for:

I. To contribute to the integrated management of water resources in the respective hydrological basin or basins, to contribute to reestablish or maintain the balance between availability and use of water resources, considering the different uses and users, and to favor sustainable development in relation to water and its management;

II. To agree on water use priorities with its members and with the corresponding Basin Organization in accordance with the provisions of the Third Paragraph of Article 22 of this Law. In all cases, priority shall be given to domestic and urban public use;

III. Know and disseminate the general guidelines of national, regional and basin water policy, and propose those that reflect the reality of water development in the short, medium and long terms, in the territorial scope corresponding to the Basin Council;

IV. Participate in the definition of general objectives and criteria for the formulation of basin water management programs in harmony with the general criteria of national water programming;

V. Promote the participation of state and municipal authorities and ensure the implementation of mechanisms for the participation of basin users and social organizations in the formulation, approval, follow-up, updating and evaluation of water programming for the basin or basins in question under the terms of the law;

VI. Develop, review, reach the necessary consensus and propose to its members, with the intervention of the competent Basin Organization in accordance with its attributions, the draft Basin Water Program, containing the investment priorities and specific subprograms for sub-basins, micro-basins, aquifers and vital ecosystems included in its territorial scope, for approval, if applicable, by the competent Authority and to promote its implementation, follow-up, evaluation of results and feedback;

VII. Promote the coordination and complementation of water investments made by the governments of the states, the Federal District and municipalities in the territorial scope of the sub-basins and aquifers, and support the necessary steps to achieve the concurrence of resources for the execution of the actions foreseen in the water programming;

VIII. To participate in the analysis of technical studies related to the availability and uses of water; the improvement and conservation of its quality; its conservation and that of the vital ecosystems linked to it; and the adoption of criteria for selecting water projects and works to be carried out in the hydrological basin or basins;

IX. To contribute to the development of water infrastructure and water services for domestic, urban public and agricultural use, including environmental services;



X. Contribute to the sanitation of basins, sub-basins, micro-basins, aquifers and wastewater receiving bodies to prevent, stop or correct their contamination;

XI. Contribute to the economic, environmental and social valuation of water;

XII. Collaborate with the Basin Organization in the efficient implementation of the Water Financial System in its territorial area, based on the provisions established by the Authority in this matter;

XIII. Support the water user-payer and polluter-payer programs; promote actions derived from the establishment of regulated, closed, and reserve zones; and encourage the remediation of environmental damage to water resources and vital ecosystems at risk;

XIV. Support the financing of regional water management and the preservation of basin resources, including vital ecosystems;

XV. Assist in the development of the financial studies carried out by the Basin Organizations to propose the amounts of user contributions to support the financing of the programs of the aforementioned bodies for regional water management and the conservation of water resources and vital ecosystems, in accordance with the provisions of the Authority on the matter;

XVI. To have timely and reliable information and documentation on water quantity and quality availability, water uses and registered rights, as well as the most relevant topics and parameters regarding water resources and their management, with the support of the respective Basin Organization and its integrated monitoring and information systems; to widely disseminate among its members and the society of the basin or basins concerned, the information and documentation referred to, enriched with the orientations and determinations arrived at by said Basin Council;

XVII. Promote the efficient and sustainable use of water, and specifically, promote water reuse and recirculation;

XVIII. Participate in the improvement of water culture as a vital and scarce resource, with economic, social and environmental value;

XIX. Collaborate with the Authority in the matter for the prevention, conciliation, arbitration, mitigation and resolution of water conflicts and their management;

XX. To form working commissions to propose solutions and recommendations on specific water management issues, development of water infrastructure and services, rational use of water, preservation of water quality, and protection of vital ecosystems;

XXI. To assist "the Commission" in the surveillance of surface and groundwater uses, by defining the procedures for the intervention of users and their organizations, within the framework of this Law and its regulations;

XXII. To be aware of the accreditations granted by "the Commission" at the federal level to user organizations constituted for the exploitation, use and development of water, and to recognize, when appropriate, such organizations as auxiliary bodies of the Basin Council;

XXIII. Promote, with the assistance of the competent Basin Organization, the establishment of basin commissions and committees and technical committees on groundwater; achieve consensus and



support necessary to implement the bases for the organization and operation of these organizations and to recognize them as auxiliary bodies of the Basin Council when appropriate;

XXIV. Participate or intervene in the other cases provided for in the Law and its corresponding regulations, and

XXV. Other tasks conferred by its General Assembly, in accordance with the provisions of this Law and its regulations.

Article added DOF 2004-04-29

ARTICLE 13 BIS 4. In accordance with the provisions of this Law and its regulations, "the Commission", through the Basin Organizations, shall consult with users and organizations of society, within the scope of the Basin Councils, and shall resolve possible temporary limitations to existing water rights to face situations of emergency, extreme shortage, hydrological imbalance, overexploitation, reserve, contamination and risk or if the sustainability of vital ecosystems is compromised; under the same tenor, it will resolve the limitations derived from the existence or declaration and instrumentation of regulated zones, reserve zones and closed zones. In these cases, priority will be given to domestic and urban public use.

Article added DOF 2004-04-29

Chapter V **User and Society Organization and Participation**

Title of the Chapter amended DOF 2004-04-29

ARTICLE 14. At the federal level, "the Commission" shall accredit, promote and support the organization of users to improve water use and the preservation and control of its quality, and to encourage their participation at the national, state, regional or basin level under the terms of this Law and its regulations.

Article amended DOF 29-04-2004

ARTICLE 14 BIS. "The Commission", jointly with the Governments of the states, the Federal District and the municipalities, the basin organizations, the basin councils and the Water Advisory Council, shall promote and facilitate the participation of society in the planning, decision-making, execution, evaluation and monitoring of the national water policy.

Support will be provided so that citizen or non-governmental organizations with specific objectives, interests or activities related to water resources and their integrated management may participate in the Basin Councils, as well as in Basin Commissions and Committees and Groundwater Technical Committees. The participation of professional associations, specialized academic groups, and other organizations of society whose participation enriches water planning and water resources management shall also be facilitated.

For the above purposes, "the Commission", through the Basin Organizations and with the support of the Basin Councils:

I. Within the scope of the Democratic Planning system, it will convene local, regional or sectorial organizations of water users, ejidos and communities, educational institutions, citizen or non-governmental organizations, and interested persons, to consult their opinions and proposals regarding planning, priority and strategic water problems and their management, as well as to evaluate the sources of supply, within the scope of sustainable development;

II. It will support organizations and initiatives arising from public participation, aimed at a better distribution of tasks and responsibilities between the State - understood as the Federation, the



The purpose of this project is to promote the integrated management of water resources in the states, the Federal District and the municipalities, and society;

III. It will provide spaces and mechanisms so that users and society can:

a. Participate in the decision-making processes related to water and its management;

b. Make explicit commitments resulting from decisions on water and its management, and

c. Assume direct responsibilities in the implementation, execution, follow-up and evaluation of specific measures to contribute to the solution of water problems and the improvement of water resources management;

IV. Enter into cooperation agreements to improve and promote water culture at the national level with the sectors of the population mentioned in the preceding sections and the media, in accordance with the provisions of Chapter V of Title Six of this Law, and

V. It will enter into actions and agreements with water users for the conservation, preservation, restoration and efficient use of water.

Article added DOF 2004-04-29

Chapter V BIS Water Advisory Board

Chapter added DOF 2004-04-29

ARTICLE 14 BIS 1. The Water Advisory Council is an autonomous consulting body made up of individuals from the private and social sectors, who are experts or sensitive to the problems related to water and its management and the ways to address and solve them, with an altruistic vocation and who have a high level of recognition and respect.

The Water Advisory Council, at the request of the Federal Executive, may advise, recommend, analyze and evaluate with respect to priority or strategic national problems related to the exploitation, use or development, and restoration of water resources, as well as in the case of international agreements on the subject. In addition, it may make on its own the recommendations, analyses and evaluations it deems convenient in relation to the integrated management of water resources.

Article added DOF 2004-04-29

Chapter V BIS 1 National Meteorological Service

Chapter added DOF 2004-04-29

ARTICLE 14 BIS 2. The National Meteorological Service, an autonomous specialized technical unit directly attached to the Head of "the Commission", has the purpose of generating, interpreting and disseminating meteorological information, its analysis and forecast, which are considered of public and strategic interest in accordance with the provisions of this Law and its regulations.

Article added DOF 2004-04-29

Chapter V BIS 2 Mexican Institute of Water Technology

Chapter added DOF 2004-04-29



ARTICLE 14 BIS 3. The Mexican Institute of Water Technology is a decentralized public agency under "the Secretariat", whose purpose, in accordance with its instrument of creation and organic statute, is to conduct research, develop, adapt and transfer technology, provide technological services and prepare qualified human resources for the management, conservation and rehabilitation of water and its environment, in order to contribute to sustainable development.

The powers of the Institute, for the purposes of this Law and its regulations, are as follows:

I. To coordinate, promote and direct research and technological development actions in the field of water, including its dissemination, and the education and training of human resources at the national level;

II. To certify personnel to implement the National Civil Service Career System for the water sector;

III. To become the center of excellence in up-to-date knowledge of integrated water resources management;

IV. To integrate and keep updated the National Technical and Scientific Documentary Center on Integrated Water Resources Management;

V. To develop and strengthen relations with international organizations related to water issues and integrated water management, and to establish academic and technological exchange relations with Mexican, foreign and international institutions and organizations;

VI. Develop and test integrated water resources management instruments of various types to support the development of the Water Sector and contribute to the solution of the country's water and hydraulic problems;

VII. To carry out, by itself or upon request, studies and provide specialized consulting services in the fields of hydraulics, hydrology, water quality control, and integrated water resources management;

VIII. To propose guidelines and contents for the National Water Policy and the National Water Program, and to lead the planning and implementation of programs and actions for scientific research and technological development in the field of water and its management, as well as for the education and training of human resources in these areas;

IX. Systematize and publish the technical information associated with the country's water resources, in coordination with "the Commission";

X. Perform, at the request of a party, technical and scientific arbitration functions;

XI. To certify water quality laboratories, devices for measuring water quantity, and equipment, instruments and equipment that facilitate the increase of efficiency in the exploitation, use or exploitation of water, in terms of the Law;

XII. To preside over the National Scientific and Technological Council of the water sector, in whose creation and operation "the Secretariat", "the Commission" and the National Council of Science and Technology will participate;

XIII. Promote water education and culture to foster awareness in society that water is a scarce resource that requires care for its quantity and quality, as well as its sustainable use and the mitigation of its undesirable effects; and



XIV. Any other powers conferred by other legal instruments and by the Head of "the Secretariat" for the fulfillment of the purpose of this Law.

In the areas of scientific research, technological development, institutional capacity building and training of human resources for the water sector, academic and research institutions related to water and its management may participate.

The Institute shall adhere to the provisions of this Law and its regulations on the decentralization of the water sector, and shall encourage the participation of the country's academic and research institutions in the fulfillment of the functions contained in this Article.

Article added DOF 2004-04-29

**Chapter V BIS 3
Federal Attorney General's Office for Environmental Protection
(Procuraduría Federal de Protección al Ambiente)**

Chapter added DOF 2004-04-29

ARTICLE 14 BIS 4. For the purposes of this Law and its regulations, "the Attorney General's Office" has the following attributions:

I. Formulate complaints and apply sanctions that fall within its competence;

II. Substantiate and resolve the administrative procedures and appeals within its competence, under the terms of this Law and its regulatory provisions;

III. To impose the technical corrective and safety measures that are within its competence under the terms of this Law and the General Law of Ecological Equilibrium and Environmental Protection;

Reformed fraction DOF 07-06-2013

IV. Promote actions for the repair or compensation of environmental damage to ecosystems associated with water under the terms of this Law and other applicable legal provisions;

Reformed fraction DOF 07-06-2013

V. Request before "the Commission" or the corresponding Basin Organization pursuant to the provisions of Section IX of Article 9 of this Law, in accordance with their respective competencies, the cancellation of the discharge permits, and

VI. Any others indicated in the legal and regulatory provisions for the fulfillment of the purpose of this Law.

Article added DOF 2004-04-29

**TITLE THREE
Water Policy and Programming**

Title as amended DOF 04-29-2004

Sole Chapter

**Section One National
Water Policy**

Section added DOF 2004-04-29

ARTICLE 14 BIS 5. The principles underlying the national water policy are:



I. Water is a vital, vulnerable and finite asset in the federal public domain, with social, economic and environmental value, whose preservation in terms of quantity, quality and sustainability is a fundamental task of the State and society, as well as a priority and a matter of national security;

II. Integrated water resources management at the river basin level is the basis of national water policy;

III. Water resources management will be carried out in a decentralized and integrated manner, favoring direct action and decisions by local stakeholders and by hydrological basin;

IV. The states, the Federal District, municipalities, river basin councils, user and society organizations, river basin organizations and "the Commission" are basic elements in the decentralization of water resources management;

V. Meeting the water needs of society for its well-being, of the economy for its development, and of the environment for its equilibrium and conservation; particularly, special attention to these needs for the marginalized and economically disadvantaged population;

VI. Water uses in hydrological basins, including aquifers and inter-basin transfers, must be regulated by the State;

VII. The Federal Executive will ensure that water concessions and allocations are based on the effective availability of the resource in the corresponding hydrological regions and watersheds, and will implement mechanisms to maintain or reestablish the hydrological balance in the country's watersheds and that of the ecosystems vital for water;

VIII. The Federal Executive shall promote solidarity in water matters among the states, the Federal District, municipalities, among users and among organizations of the society, in the different portions of the basins, sub-basins and micro-basins, with the participation of basin councils and organizations;

IX. The conservation, preservation, protection, and restoration of water quantity and quality is a matter of national security; therefore, unsustainable use and adverse ecological effects must be avoided;

X. Integrated water resources management by hydrological basin is based on the multiple and sustainable use of water and the interrelationship between water resources and the air, soil, flora, fauna, other natural resources, biodiversity and ecosystems that are vital for water;

XI. Water provides environmental services that must be recognized, quantified and paid for in accordance with the law;

XII. Water must be used efficiently and its reuse and recirculation must be promoted;

XIII. The Federal Executive shall promote that the states, the Federal District and the municipalities, through their competent bodies and institutional arrangements determined by them, become responsible for the management of national waters in quantity and quality assigned to them, under concession or under their administration and custody, and for the provision of hydraulic services; the Federal Executive shall provide facilities and support for the creation or improvement of competent state bodies that make possible the implementation of the provisions of this section;



XIV. In particular, the Federal Executive will establish the necessary measures to maintain an adequate quality of water for human consumption and thus have an impact on public health; for the best compliance with this policy, it will coordinate and request the necessary support from the states, the Federal District and municipalities;

XV. Water management must generate the economic and financial resources necessary to carry out its inherent tasks, under the principle that "water pays for water", in accordance with the relevant laws;

XVI. Water users must pay for its exploitation, use or exploitation under the "user-pays" principle in accordance with the provisions of the Federal Law of Rights;

XVII. Individuals or legal entities that pollute water resources are responsible for restoring their quality, and the "polluter pays" principle will be applied, in accordance with the relevant laws;

XVIII. Individuals or legal entities that make efficient and clean use of water will be entitled to economic incentives, including tax incentives, as established by applicable laws;

XIX. The right of society and its institutions, at the three levels of government, to timely, full and reliable information on the occurrence, availability and needs of surface and groundwater, in quantity and quality, in geographic space and time, as well as information related to phenomena of the hydrological cycle, inventories of uses and users, water bodies, hydraulic infrastructure and diverse equipment necessary to carry out such management;

XX. The informed and responsible participation of society is the basis for better management of water resources and particularly for their conservation; therefore, environmental education is essential, especially in the area of water;

XXI. The water culture built on the above water policy principles, as well as on the theses derived from social and economic development processes, and

XXII. Domestic use and urban public use shall have preference over any other use.

The principles of national water policy set forth in this Article are fundamental in the application and interpretation of the provisions contained in this Law and its regulations, and shall guide the contents of national water programming and by hydrologic region and hydrologic basin.

Article added DOF 2004-04-29

ARTICLE 14 BIS 6. The following are basic instruments of the national water policy:

I. Water planning; includes local, state, hydrological basin, hydrological-administrative region and national levels;

II. The regime of concessions and allocations referring to the rights for exploitation, use or exploitation of water, for the use of national property in accordance with the provisions of Article 113 of this Law, as well as discharge and construction permits;

Reformed fraction DOF 08-06-2012

III. National water management, to rationalize water needs, and to contribute to the improvement of water economics and finance and its management;



IV. The collection of rights caused by the exploitation, use or exploitation, discharge and protection of water;

V. The participation of society's organizations and users, and their co-responsibility in the development of specific activities;

VI. Prevention, conciliation, arbitration, mitigation and resolution of water conflicts and their management;

VII. Social support for marginalized rural and urban communities to access water and sanitation, and

VIII. The National Information System on water quantity, quality, uses and conservation.

Article added DOF 2004-04-29

Section Two Water Planning and Programming

Section added DOF 2004-04-29

ARTICLE 15. Water planning is mandatory for the integrated management of water resources, conservation of natural resources, vital ecosystems and the environment. The formulation, implementation and evaluation of water planning and programming shall include:

I. The National Water Program, approved by the Federal Executive, the formulation of which will be the responsibility of "the Commission", under the terms of this Law and the Planning Law; said program will be periodically updated and improved under the guidelines and priorities demanded by social welfare and economic development, without endangering the ecological balance and sustainability of the processes involved;

II. Water programs for each of the river basins or groups of river basins in which River Basin Organizations are constituted and River Basin Councils operate, prepared, agreed upon and implemented by them; in the cases of states and the Federal District that, in accordance with their legal framework, develop a state water program supported by the integration of local programming with the participation of organized society and local authorities, such programs shall be incorporated into the process of water programming by river basins and hydrological regions;

III. The specific, regional, watershed, aquifer, state and sectoral subprograms that make it possible to address problems of water scarcity or contamination, order the management of watersheds and aquifers, or correct the overexploitation of surface and groundwater; such subprograms will include the use of instruments to address conflicts over the exploitation, use, development and conservation of water in terms of quantity and quality, the problem of concession, assignment and transfer of water use rights in general for the exploitation, use and development of water, including its reuse, as well as its control, preservation and restoration; the formulation and updating of the inventory of national waters and their inherent public goods, as well as that of water uses, including the Public Registry of Water Rights and of the infrastructure for its development and control;

IV. Special or emergency programs implemented by "the Commission" or the Basin Organizations to address special problems and situations in which the safety of persons or their property is at risk;

V. The integration and updating of the catalog of projects for the use or development of water and for the preservation and control of its quality;



VI. The classification of water bodies according to their intended uses, and the preparation of water balances in quantity and quality and by basins, hydrological regions and aquifers, according to their carrying capacity;

VII. Strategies and policies for the regulation of the exploitation, use or development of water and for its conservation;

VIII. Mechanisms for consultation, agreement, participation, and assumption of specific commitments for the execution of programs and for their financing, which allow the concurrence of water users and their organizations, of society organizations, and of federal, state, or municipal public administration agencies and entities;

IX. The multiannual investment and annual operating programs for investments and actions carried out by "the Commission" on its own in the cases provided for in Section IX of Article 9 of this Law or through the Basin Organizations, and

X. Water programming will respect the environmental or ecological conservation use, the natural quota of water renewal, the hydrological sustainability of hydrological basins and vital ecosystems, and will consider the feasibility of exploiting subsoil water in a temporary or controlled manner.

The formulation, monitoring, evaluation, and modification of water programming under the terms of the Planning Law shall be carried out with the participation of the Basin Councils, which shall establish consultation mechanisms to ensure the participation and co-responsibility of users and other interested social groups in the development of activities.

National water and basin planning and programming will be based on a network integrated by the National Information System on Water Quantity, Quality, Uses and Conservation under the responsibility of "the Commission" and the Regional Information Systems on Water Quantity, Quality, Uses and Conservation, whose creation and development will be supported by "the Commission" and the Basin Organizations.

Article amended DOF 29-04-2004

ARTICLE 15 BIS. The structure, minimum contents, orientation, forms of participation of states, Federal District and municipalities, as well as of users and society, provisions for financing in accordance with the Authorities in the matter, and other provisions regarding the implementation, periodic evaluation, feedback, improvement and conclusion of the water programs and subprograms under the jurisdiction of the Federal Executive, as well as the provisions for the periodic publication and means of dissemination of said programs and subprograms, through "the Commission" and the Basin Organizations, shall be established in the regulations of this Law.

The governments of the states, the Federal District, and the municipalities, in accordance with their regulatory framework, needs, and priorities, may carry out water programs within their territorial scope and coordinate with the corresponding basin organization for their preparation and implementation, in accordance with the provisions of this Law, the Planning Law, and other applicable legal provisions, in order to contribute to the decentralization of water resource management.

"The Commission, with the support of the Basin Organizations, and with the assistance of the governments of the Federal District, the states, and, through them, the municipalities, will integrate the programs starting at the local level up to the integration of water programming at the national level.

Article added DOF 2004-04-29

TITLE FOUR

Rights of Exploitation, Use or Development of National Waters



Title as amended DOF 04-29-2004

Chapter I National Waters

ARTICLE 16. This Law establishes the rules and conditions for the granting of concessions for the exploitation, use or development of national waters, in compliance with the provisions of the Sixth Paragraph of Article 27 of the Constitution.

National waters are those set forth in the Fifth Paragraph of Article 27 of the Political Constitution of the United Mexican States.

The regime of national ownership of waters shall subsist even when the waters, by means of the construction of works, are diverted from the original channel or basin, their inflow is prevented or they are subject to treatment.

Wastewater from the use of national waters shall also have the same character when discharged into receiving bodies of national property, even if they are subject to treatment.

Article amended DOF 29-04-2004

ARTICLE 17. The exploitation, use and development of national surface waters by manual means for domestic use pursuant to section LVI of Article 3 of this Law is free, provided that they are not diverted from their course or cause an alteration in their quality or a significant decrease in their flow, under the terms of the applicable regulations.

No concession shall be required for the extraction of inland marine waters and territorial sea, for their exploitation, use or exploitation, except for those intended for desalination, which shall be subject to concession.

Article amended DOF 29-04-2004

ARTICLE 18. National subsoil waters may be freely illuminated by means of artificial works, except when, for reasons of public interest or utility, the Head of the Federal Executive Branch establishes a regulated, closed or reserve zone, or suspends or temporarily limits free illumination by means of general Agreements.

Amended paragraph DOF 20-06-2011

The Federal Executive, at the proposal of "the Commission", will issue the declaration of regulated, closed or reserve zones, delimiting, when so required, the application of the provisions established for aquifers defined by "the Commission", in relation to other aquifers or hydrothermal geothermal reservoirs existing in the same geographic area. For this purpose, "the Commission" shall carry out, by itself or with the support of third parties when it is convenient, the studies and evaluations sufficient to support the referred delimitations and promote the best use of the subsoil water sources.

Amended paragraph DOF 20-06-2011, 11-08-2014

In accordance with the provisions of this Article and the Law, regulations shall be issued for the extraction and for the exploitation, use or development of national waters of the corresponding aquifers, including the establishment of regulated zones, as well as the decrees for the establishment, modification or suppression of closed zones or reserve declarations that may be required.

The general agreements referred to in this article shall be issued in the following cases:

Paragraph added DOF 20-06-2011



- I. When studies on the availability of national waters show that there is no availability of the water resource or that the availability is limited;

Section added DOF 20-06-2011

- II. When the data contained in the technical studies for the establishment of regulated, closed or reserve zones indicate the need to suspend or limit the free flow of subsoil waters;

In this case, the general Agreements will be in force until the Decree of regulated zone, closure or reserve of national waters is published;

Section added DOF 20-06-2011

- III. When there are technical reasons justified in specific studies that show the need to suspend or limit the free flow of subsoil water, and

Section added DOF 20-06-2011

- IV. When specific technical studies performed or validated by "the Commission" show the existence of abatement cones, volume interference or any other situation that may affect third parties.

Section added DOF 20-06-2011

Regardless of the foregoing, the exploitation, use or exploitation of subsoil water will cause the fiscal contributions indicated in the Law on the matter. In the corresponding tax returns, the concessionaire or assignee must indicate that its use is registered in the Public Registry of Water Rights, under the terms of this Law.

Article amended DOF 29-04-2004

ARTICLE 19. When the cases provided for in Article 38 of this Law occur, the control of the extraction as well as the exploitation, use or exploitation of subsoil waters, including those that have been freely illuminated, shall be of public utility, pursuant to the provisions issued by the Federal Executive, under the terms of the provisions of this Law.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

Chapter I BIS Knowledge of National Waters

Chapter added DOF 2004-04-29

ARTICLE 19 BIS. In the case of a matter of national security and pursuant to the provisions of the Federal Law on Transparency and Access to Public Governmental Information, "the Commission" shall be responsible, with the assistance of the Basin Organizations and with the support it deems necessary from the governments of the states, the Federal District and the municipalities, as well as from associations of users and individuals, to periodically, systematically and as a priority, carry out the necessary studies and evaluations to broaden and deepen the knowledge about the occurrence of water in the hydrological cycle, with the purpose of improving the information and analyses on water resources, their behavior, their diverse surface and subsoil sources, their potential and limitations, as well as the ways for their better management.

"The Commission shall make the necessary arrangements so that, in compliance with the Federal Law of Transparency and Access to Public Governmental Information, it disseminates knowledge about national waters in a broad and systematic manner, through the appropriate means of communication.

Article added DOF 2004-04-29

Chapter II



Concessions and Allocations

In accordance with the public nature of water resources, the exploitation, use or development of national waters shall be carried out by means of concessions or allocations granted by the Federal Executive Branch through "the Commission" by means of the River Basin Organizations, or directly by the latter when it is so empowered, in accordance with the rules and conditions provided for in this Law and its regulations. The concessions and assignments will be granted after considering the parties involved, and the economic and environmental cost of the projected works.

The Basin Organizations are responsible for issuing the concession, assignment and discharge permits referred to in this Law and its regulations, except in those cases provided for in Section IX of Article 9 of this Law, which are reserved for direct action by the Commission.

The exploitation, use or development of national waters by individuals or legal entities shall be carried out by means of a concession granted by the Federal Executive through "the Commission" by means of the Basin Organizations, or by the latter when it is so empowered, in accordance with the rules and conditions established by this Law, its regulations, the title and the extensions issued for such purpose.

The exploitation, use or development of national waters by agencies and decentralized bodies of the federal, state or municipal public administration, or the Federal District and its decentralized bodies, shall be carried out by means of a concession granted by the Federal Executive Branch through "the Commission" by means of the River Basin Organizations, or by the latter when it is so empowered, in accordance with the rules and conditions established by this Law and its regulations. In the case of the rendering of urban or domestic public water services, including the processes involved in such services, the exploitation, use or development of national waters shall be carried out by means of an assignment granted by the Federal Executive Branch through the "Commission" through the River Basin Organizations, or by the latter when it is so empowered, to the municipalities, the states or the Federal District, in accordance with Section VIII of Article 3 of this Law. The rights covered by the assignments may not be subject to transfer.

The allocation of water referred to in the preceding paragraph shall be governed by the same provisions that apply to concessions, except for the transfer of rights, and the assignee shall be considered a concessionaire for the purposes of this Law.

The concessions and assignments will create rights and obligations in favor of the beneficiaries under the terms of this Law.

The Federal Government may coordinate with the governments of the states and the Federal District, through administrative and fiscal collaboration agreements for the execution by the latter, of certain administrative and fiscal acts related to this Title, under the terms of the provisions of this Law, the Planning Law, the Fiscal Coordination Law and other applicable provisions, in order to contribute to the decentralization of water administration.

When the provisions of this Title refer to the actions of "the Commission", in the cases that correspond to it in accordance with the provisions of Section IX of Article 9 of this Law, or of the corresponding Basin Organization, it shall be understood that each instance shall act within its scope of competence and in accordance with its specific powers, without implying concurrence. Hereinafter, this Law shall refer to "the Water Authority", when the corresponding Basin Organization acts within its scope of competence, or "the Commission" acts in the cases set forth in the aforementioned Section and Article.

Article amended DOF 29-04-2004



ARTICLE 21. The application for concession or assignment shall contain at least:

I. Name and address of applicant;

II. The hydrological basin, aquifer, if applicable, hydrological region, municipality and locality to which the request refers;

III. The point of extraction of the national waters requested;

IV. The volume of extraction and consumption required;

V. The initial use to be made of the water, without prejudice to the provisions of the Fifth Paragraph of Article 25 of this Law; when such volume is intended for different uses, the corresponding breakdown shall be made for each of them;

VI. The point of wastewater discharge with quantity and quality conditions;

VII. The project of the works to be carried out or the characteristics of the existing works for their extraction and use, as well as the respective ones for their discharge, including wastewater treatment and the processes and measures for water reuse, if applicable, and restoration of the water resource; in addition, the economic and environmental cost of the projected works must be presented, the latter in accordance with the provisions of the General Law of Ecological Balance and Environmental Protection; and

VIII. The duration of the concession or assignment requested.

Together with the application for the concession or assignment for the exploitation, use or exploitation of national waters, the wastewater discharge permit and the permit for the execution of the works required for the exploitation, use or exploitation of waters and the treatment and discharge of the respective wastewater shall be requested. The application will specify the beneficiary's full acceptance of his obligation to pay regularly and in full the fiscal contributions derived from the issuance of the respective title and that may derive from the extraction, consumption and discharge of the concession or assigned waters, as well as the corresponding environmental services. The beneficiary will know and must expressly accept the fiscal consequences and the validity of the respective title issued, if any, derived from the noncompliance of the referred payment obligations.

In the case of concession applications for agricultural use referred to in Chapter II, Title Six, of this Law, it shall not be required to apply jointly with the concession for the wastewater discharge permit, provided that the application assumes the obligation to comply with the Mexican Official Standards or the particular discharge conditions that may apply, and with the provisions of Article 96 of this Law.

Article amended DOF 29-04-2004

ARTICLE 21 BIS. The petitioner shall attach to the request referred to in the preceding Article, at least the following documents:

I. Proof of ownership or possession of the property on which the water extraction will be located, as well as those related to the ownership or possession of the areas to be benefited;

II. The document that accredits the constitution of the required easements;

III. The environmental impact statement, when required by the General Law of Ecological Balance and Environmental Protection;



IV. The project of the works to be carried out or the characteristics of the existing works for the extraction, use and discharge of the waters that are the subject of the request;

V. The technical report with the corresponding plans containing the description and characteristics of the works to be carried out to exploit, use or exploit the waters to which the application refers, as well as the disposal and treatment of the resulting wastewater and other measures to prevent contamination of the receiving bodies, in order to comply with the provisions of the Law;

VI. The technical documentation supporting the request in terms of the volume of consumption required, the initial use to be made of the water and the conditions of quantity and quality of the respective wastewater discharge, and

VII. A sketch indicating the location of the property, with the reference points that allow its location and that of the site where the extraction of national waters will take place; as well as the points where the discharge will take place.

The studies and projects referred to in this Article shall be subject to the technical standards and specifications issued by "the Commission".

Article added DOF 2004-04-29

ARTICLE 22. "The Water Authority" shall answer the requests within a term not to exceed sixty working days from the date of their presentation and once the file has been duly integrated.

The granting of a concession or assignment shall be subject to the provisions of this Law and its regulations and shall take into account the average annual availability of water, which shall be reviewed at least every three years, in accordance with water programming; the rights of exploitation, use or exploitation of water registered in the Public Registry of Water Rights; the regulations of the hydrological basin that have been issued, as the case may be; the regulations regarding the control of extraction as well as the exploitation, use or exploitation of water; and the regulations regarding the regulated zones, closed areas and reserves of national waters existing in the aquifer, hydrological basin or hydrological region in question.

The Basin Council, in coordination with the corresponding Basin Agency, shall propose to the Commission the order of priority of water uses for its approval, which shall be applied in normal situations, for the granting of concessions and assignments for the exploitation, use or development of national, surface and subsoil waters, in accordance with the provisions of Articles 13 BIS 3 and 14 BIS 5 of this Law. Domestic use and urban public use will always be preferred over any other use.

For the purposes of this Law, situations other than normal ones are when disaster zones are declared in accordance with the provisions of the second paragraph of Article 38 of this Law, and when regulated zones, closed areas and reserve zones previously exist or are declared and implemented, based on the contents of sections LXIII, LXIV and LXV of Article 3 of this Law. In these cases, the procedure shall be in accordance with the provisions of Articles 13 BIS 4, 14 BIS 5 and Title Five of the present Law.

The concessions and allocations issued by "the Water Authority", in the cases referred to in Section IX of Article 9 of this Law, shall expressly indicate the conditions of variability of the water source from which the respective extraction shall be made, and the conditions to which the extraction of volumes shall be subject in the event of droughts and other phenomena. The titles of concession or



The allocation does not guarantee the existence or invariability of the volumes they cover. In the event of droughts and other phenomena, the volumes usable in the sources indicated in such titles shall be taken into consideration, as provided in the regulations of this Law.

The following shall be observed in the granting of concessions:

I. "The Water Authority" may reserve for concessioning certain waters by means of competitive bidding, when the concurrence of several interested parties is foreseen; the regulations for such cases shall be previously published in each case, and

II. When waters are not reserved in terms of the preceding section, the Water Authority may grant the concession to the first applicant. If different applicants apply simultaneously, the Water Authority may proceed to select the application that offers the best terms and conditions that guarantee the rational use, reuse and restoration of the water resource.

In addition to the above provisions for the processing of concession titles, the municipalities, the states and the Federal District, as the case may be, shall submit the following to the "Water Authority" in their application for assignment:

a) Scheduling for tapping water supply sources and the manner of its execution;

b) The sites and forms of measurement of both wastewater supply and discharge;

c) The way to guarantee the quality and conservation of water quantity;

d) The assumption of the obligations to use water rationally and efficiently; to respect the reserves and rights of third parties downstream registered in the Public Registry of Water Rights; to comply with the quality standards and conditions in the supply of water and in the discharge of wastewater to receiving bodies; and to pay on time and in full the federal contributions or benefits for which it is responsible, in connection with the exploitation, use or exploitation of national waters, the discharge of wastewater and the corresponding environmental services; and

e) The particular conditions for the discharge of wastewater to receiving bodies that have been dictated by the Authority.

For purposes of the provisions of this Article, "the Commission" shall publish within the first three months of every three years, under the terms of the regulatory provisions of this Law, the availability of national waters by hydrological basin, hydrological region or locality, which may be consulted at the offices of the Public Registry of Water Rights and through the National Information System on water quantity, quality, uses and conservation.

Article amended DOF 29-04-2004

ARTICLE 23. The concession or assignment title granted by the "Water Authority" shall state at least: Name and domicile of the holder; the hydrological basin, aquifer if applicable, hydrological region, municipality and locality to which it refers; the point of extraction of the national waters; the volume of authorized extraction and consumption; the corresponding use or uses, flow rates and volumes shall be explicitly referred to; the point of discharge of the wastewater with the conditions of quantity and quality; the duration of the concession or assignment, and as an annex the approved project of the works to be carried out or the characteristics of the existing works for the extraction of the waters and for their exploitation, use or exploitation, as well as the respective ones for their discharge, including wastewater treatment and the processes and measures for the reuse of the water, if applicable, and restoration of the water resource.



The corresponding concession or assignment title for the exploitation, use or exploitation of national surface waters shall also authorize the project of the necessary works that may affect the hydraulic or hydrological regime of the watercourses or vessels of national property or of the corresponding federal zones, and also, if requested, the exploitation, use or exploitation of such watercourses, vessels or zones, provided that, under the terms of the General Law of Ecological Balance and Environmental Protection, if applicable, the environmental impact statement is complied with. Similarly, in the case of concession or assignment titles for the exploitation, use or exploitation of national subsoil waters, in addition, the project of the necessary works for the illumination of the subsoil waters and for their exploitation, use or exploitation will be authorized, with the corresponding compliance with the other applicable legal ordinances.

In no case may the holder of a concession or assignment dispose of water in volumes greater than those authorized by the Water Authority. In order to permanently increase or modify water extraction in volume, flow or specific use, the issuance of the respective concession or assignment title must invariably be processed.

Article amended DOF 29-04-2004

ARTICLE 23 BIS. Without the definitive transfer of rights or the modification of the conditions of the respective title, when the holder of a concession intends to provisionally provide third parties with the total or partial use of the concessioned waters, he may only do so with prior notice to the "Water Authority", when this is the case in accordance with the provisions of Section IX of Article 9 of this Law.

Article added DOF 2004-04-29

The term of the concession or assignment for the exploitation, use or development of national waters shall not be less than five nor more than thirty years, in accordance with the priority of the specific use in question, development priorities, social benefit and the capital invested or to be invested in a verifiable manner in the respective development. In the duration of the concessions and assignments, the "Water Authority" must take into consideration the conditions of the supply source in terms of quantity and quality, the priority of uses in force in the corresponding region and the growth expectations of such uses.

Amended paragraph DOF 08-05-2023

The concessions or assignments under the terms of Article 22 of this Law, shall be subject to extension for up to the same term and characteristics of the current title for which they were granted, provided their holders do not incur in the causes for termination set forth in this Law, comply with the provisions of the Second Paragraph of Article 22 of this Law and in this Article and request it within the last five years prior to the expiration of its term, at least six months prior to its expiration.

Failure to submit the request referred to in this Article within the established term shall be considered as a waiver of the right to request the extension.

In order to decide on the granting of the extension, the total recovery of the investments made by the concessionaire or assignee in relation to the exploitation, use or exploitation of the concessioned or assigned volumes will be considered.

"The Water Authority is obliged to personally notify the applicants of the resolution on the respective requests referred to in this Chapter, in accordance with the term established in Article 22 of this Law and the procedure established in Article 35 of the Federal Law of Administrative Procedure. In the event that the authority omits to inform the petitioner of the resolution on his request, it will be considered that it has resolved to deny the request. The lack of resolution to the request may



The resolution of this matter may involve liabilities to the public servants responsible for such resolution, in accordance with the provisions of the applicable laws.

Article amended DOF 29-04-2004

ARTICLE 25. Once the concession or assignment title has been granted, the concessionaire or assignee shall have the right to exploit, use or take advantage of national waters during the term of the concession or assignment, pursuant to the provisions of this Law and its regulations.

The validity of the concession or assignment title begins on the day following the day on which it is notified in the case mentioned in the preceding Article.

The right of the concessionaire or assignee may only be affected by causes established in this Law and other applicable regulations, duly founded and motivated.

The concession, assignment and its extensions will be understood to be granted without prejudice to the rights of third parties registered in the Public Registry of Water Rights and do not guarantee the existence or invariability of the volume of water concessioned or assigned. The concessionaires or assignees will be obliged to comply with the provisions of this Law, the corresponding regulations or other applicable ordinances, as well as with the conditions of the title, permits and extensions, as the case may be, and to respond for damages caused to third parties and attributable to them.

The concessionaire, when the consumptive use established in the corresponding title is not altered, may totally or partially change the use of water under concession, provided that such variation is definitive and timely notifies the "Water Authority" for purposes of updating or modifying the respective discharge permit and updating the Public Registry of Water Rights. Otherwise, prior authorization from the Water Authority will be required. The authorization will always be necessary when the consumptive use established in the corresponding title is altered, the point of extraction, the discharge site or the volume or quality of the wastewater is modified.

The request for authorization referred to in the preceding paragraph must indicate the data of the concession title, the type of variation or modification to the use in question; those inherent to the modification of the point of extraction, the discharge site and the quality of the wastewater, the alteration of the consumptive use and the modification of the volume of water granted or assigned, which may not be greater than that granted or assigned; in case of proceeding, it will be necessary to present the environmental impact assessment, in terms of the Law.

The right of the concessionaire or assignee may only be affected by causes established in this Law, duly founded and motivated.

Together with the request for change of use, permission shall be requested to carry out the works required for the use.

The applicant will assume the obligation to destroy the previous works and, if applicable, to comply with the Mexican Official Standards, the particular discharge conditions and those established by this Law and the regulations derived from it.

Article amended DOF 29-04-2004

ARTICLE 26. Repealed.

Article repealed DOF 29-04-2004

ARTICLE 27. Repealed.

Article repealed DOF 29-04-2004



Chapter III

Rights and Obligations of Concessionaires or Assignees

ARTICLE 28. Concessionaires shall have the following rights:

- I. To exploit, use or take advantage of national waters and the assets referred to in Article 113 of this Law, under the terms of this Law and the respective title;
- II. To carry out at its own expense the works or works to exercise the right of exploitation, use or exploitation of water, under the terms of this Law and other applicable regulatory provisions;
- III. Obtain the constitution of the legal easements on the lands indispensable to carry out the use of water or its disposal, such as drainage, aqueduct and other easements established in the respective legislation or as may be agreed upon;
- IV. When appropriate according to the regulations in force, to transfer the rights of the securities they hold, in accordance with the provisions of this Law;
- V. To relinquish concessions or assignments and the rights derived therefrom;
- VI. Request administrative corrections or duplicates of their titles;
- VII. Request and, if applicable, obtain an extension of the certificates issued to them, for up to the same term of validity for which they were issued and under the conditions of the certificate in force, in accordance with the provisions of Article 24 of this Law, and
- VIII. Any other powers granted by this Law and the respective regional regulations derived from said Law.

Article amended DOF 29-04-2004

ARTICLE 29. The concessionaires shall have the following obligations, in addition to the others set forth in this Title:

- I. Execute the works and works for exploitation, use or exploitation of water under the terms and conditions established by this Law and its regulations, and verify their execution in order to prevent negative effects to third parties or to the water development of the supply sources or the hydrological basin; as well as to verify their execution within thirty days following the date of the conclusion of the term granted for their execution through the presentation of the corresponding notice;
- II. Install, within forty-five days following receipt of the respective title by the interested party, the respective water meters or other direct or indirect metering devices or procedures required by the applicable legal and regulatory provisions, as well as the Official Mexican Standards;
- III. To conserve and maintain in good operating condition the meters or other devices for measuring the volume of water exploited, used or exploited;
- IV. Pay punctually in accordance with the regimes established by the corresponding Law, the fiscal rights derived from the extractions, consumption and volumetric discharges carried out in relation to the exploitation, use or exploitation of the national waters that have been granted or assigned to it; the concessionaires will be informed that the non-compliance with this obligation will be considered as a breach of the law.



The suspension of the concession or assignment for more than one fiscal year will be sufficient reason for the suspension and, in case of recurrence, the revocation of the corresponding concession or assignment;

V. To cover the payments that correspond to them in accordance with the provisions of the Fiscal Law in force and other applicable provisions;

VI. To be subject to the general provisions and norms in matters of hydraulic safety and ecological balance and environmental protection;

VII. To operate, maintain and conserve the works necessary for the stability and safety of dams, flood control and other works required for hydraulic safety in accordance with the regulations;

VIII. Allow the personnel of "the Water Authority" or, as the case may be, of "the Attorney General's Office", as applicable and in accordance with this Law and its regulations, to inspect the hydraulic works to exploit, use or take advantage of national waters, including the drilling and extraction of water from the subsoil; the national assets in their charge; the drilling and illumination of national subsoil waters; and to allow the reading and verification of the operation and accuracy of meters, and other activities required to verify compliance with the provisions of this Law and its regulatory provisions, rules and titles of concession, assignment or discharge permit;

IX. Provide the information and documentation requested by the "Water Authority" or, as the case may be, the "Office of the Attorney General", in strict compliance with the deadlines established in accordance with the legal framework in force, to verify compliance with the provisions of this Law, the corresponding regional regulations, and those set forth in the concession, assignment or discharge permit titles referred to in this Law;

X. Comply with the requirements for efficient water use and reuse in accordance with the terms of the Mexican Official Standards or the specific conditions issued for this purpose;

XI. Not to exploit, use, exploit or discharge volumes greater than those authorized in the concession titles;

XII. Allow "the Water Authority", at the expense of the concessionaire, assignee or permit holder and as a tax credit for its collection, to install devices for measuring the water exploited, used or exploited, in the event that they do not do so themselves, without prejudice to the application of the penalties provided for in this Law and its respective regulations;

XIII. Give immediate written notice to the "Water Authority" in case the metering devices stop working, and the concessionaire or assignee must repair or replace such devices within 30 calendar days;

XIV. To take the necessary measures to prevent the contamination of the waters granted or assigned and to return them in adequate conditions in accordance with the discharge title that covers such discharges, in order to allow their exploitation, use or subsequent exploitation in other activities or uses and to maintain the balance of the ecosystems; failure to comply with this provision will imply: (1) the application of sanctions, the severity of which will be in accordance with the damage caused to water quality and the environment; (2) the payment of the fees corresponding to the discharges made in volume and quality, and (3) will be considered grounds that may lead to the suspension or revocation of the corresponding concession or assignment;

XV. Maintain the watercourses clean and expeditious, in the portion corresponding to its use, according to the respective concession or assignment title;



XVI. Submit a report every two years containing the chronological analyses and indicators of the quality of the water discharged by a laboratory certified by the Mexican Institute of Water Technology, and

XVII. Comply with the other obligations established in this Law and its regulations, and other applicable norms and with the conditions established in the concession or assignment titles.

Article amended DOF 29-04-2004

ARTICLE 29 BIS. In addition to the provisions of the preceding Article, the assignees shall have the following obligations:

I. Guarantee water quality in accordance with the parameters referred to in the Mexican Official Standards;

II. Discharge wastewater to receiving bodies after treatment, complying with the Mexican Official Standards or the particular discharge conditions, as the case may be, and seek its reuse, and

III. Assume the economic and environmental costs of the pollution caused by their discharges, as well as assume the responsibilities for the environmental damage caused.

Article added DOF 2004-04-29

ARTICLE 29 BIS 1. The assignees shall have the following rights:

I. To exploit, use, reuse or take advantage of national waters, under the terms of this Law and the respective title;

II. Obtain the constitution of the legal easements on the lands indispensable to carry out the use or disposal of water, such as those for drainage, aqueducts and others established in the respective legislation or as may be agreed upon;

III. Request administrative corrections or duplicates of their titles;

IV. Obtain an extension of the titles for the same term and conditions, in accordance with the provisions of Article 24 of this Law, and

V. Any other powers granted by this Law and applicable regulatory provisions.

Article added DOF 2004-04-29

Chapter III BIS

Suspension, Termination, Revocation, Restrictions and Easements of the Concession, Allocation and Discharge Permits

Chapter added DOF 2004-04-29. Name amended DOF 08-06-2012.

Section One

Suspension

Section added DOF 2004-04-29

ARTICLE 29 BIS 2. The concession or assignment for the exploitation, use or exploitation of waters and national assets in charge of the Federal Executive shall be suspended, regardless of the application of the appropriate penalties, when the usufructuary of the title:

Amended paragraph DOF 08-06-2012



- I. Does not cover the payments that, in accordance with the Law, it must make for the exploitation, use or exploitation of water or for the supply services thereof, until such situation is regularized;
- II. Does not cover the tax credits that are in its charge during a period longer than one fiscal year, due to the exploitation, use or exploitation of national waters and goods, or for the services of supply or use of the same, until it regularizes such situation;
- III. Opposes or obstructs the exercise of inspection, measurement or verification powers over the hydraulic resources and infrastructure granted or assigned, by authorized personnel;
- IV. Discharge of wastewater that affects or may affect sources of drinking water supply or public health and is so requested by the "Procuraduría" or the "Autoridad del Agua", and
- V. Failure to comply with the conditions or specifications of the concession or assignment title, unless it proves that such non-compliance is not attributable to it.

The suspension will not be applied if within ten working days following the day in which the authority in exercise of its powers has notified the usufructuary of the title and the latter proves that it has covered the payments or credits referred to in Sections I and II respectively, or demonstrates that the non-compliance provided for in Sections IV and V are not attributable to it, In such cases, the "Water Authority" shall decide within five working days following the presentation of evidence by the concessionaire or assignee, whether or not the suspension shall be applied, without prejudice to the provisions of this Law regarding prevention and control of water pollution and liability for environmental damage.

In the case provided for in Section III, the suspension will last until the concessionaire or assignee proves that the acts that gave rise to it have ceased, in which case the Water Authority will resume its powers of inspection, measurement and verification.

The suspension shall subsist only as long as the violator does not regularize his administrative situation or a resolution is issued by a competent authority decreeing its lifting.

Article added DOF 2004-04-29

Section Two Termination

Section added DOF 2004-04-29

ARTICLE 29 BIS 3. The concession or assignment for the exploitation, use or exploitation of national waters may only be terminated by:

- I. Expiration of the term established in the title, except when it has been extended under the terms of this Law;
- II. Resignation of the holder;
- III. Blinding of the use at the owner's request;
- IV. Death of the holder, when no inheritance rights are proven;
- V. Nullity declared by "the Water Authority" in the following cases:



- a. When false information has been provided to obtain the title or when in the issuance thereof there has been error or fraud attributable to the concessionaire or assignee;
 - b. When it is proven that the processing and titling process has been vitiated with the intervention of the concessionaire or assignee or through an intermediary;
 - c. For having been granted by an official without authority to do so;
 - d. For lack of object or subject matter of the concession, or
 - e. Having been issued in contravention of the provisions of this Law or the corresponding Regulations;
- VI.** Partial or total forfeiture declared by the "Water Authority" when the exploitation, use or exploitation of national waters is partially or totally stopped for two consecutive years, without explicit justified cause in this Law and its regulations.

This statement will be taken considering jointly the payment of duties made by the user under the terms of the Federal Law of Duties and the presumptive determination of the volumes used.

Extinction by partial or total forfeiture shall not apply when:

1. The total or partial non-use of all or part of the volume of water granted or assigned, due to an act of God or force majeure;
2. A court order or administrative resolution has been issued that prevents the concessionaire or assignee from temporarily disposing of the volumes of water concessioned or assigned, as long as these have not been issued for causes attributable to the user under the terms of the applicable provisions;
3. The concessionaire or assignee pays a non-expiration guarantee fee, proportional and in accordance with the provisions to be established, before two consecutive years without exploiting, using or taking advantage of national waters up to the total volume granted or assigned for the purpose of not losing its rights, and in terms of the regulations of this Law. In all cases, the "Water Authority" will verify the timely application of the provisions regarding the transfer of rights and their regulation;
4. Because it assigns or transfers its rights temporarily to the "Water Authority" in special circumstances.

This is the only permitted case of temporary transfer and refers to the transfer of rights to the "Water Authority" to attend to extraordinary droughts, serious overexploitation of aquifers or similar states of necessity or urgency;

5. The concessionaire or assignee has made investments aimed at increasing the efficiency of water use, and therefore only uses a part of the volume of water granted or assigned;
6. The concessionaire or assignee is making the corresponding investments, or executing the authorized works for the exploitation, use or exploitation of national waters, provided that it is within the term granted for such purpose.



The concessionaire or assignee that finds itself in any of the cases provided for in this Article, shall submit a written statement to the Water Authority within fifteen working days following the date on which the respective case arises.

The written notice must be accompanied by evidence that proves that the suspension is within the suspension assumption that is being invoked.

The concessionaire or assignee shall submit a written notice to the Water Authority within fifteen days following the date on which the events referred to in paragraphs 1, 5 and 6 of this Article cease to exist.

Regardless of the application of the appropriate sanctions, the failure to file the written notice referred to in the preceding paragraph shall not suspend the term for the expiration and the same shall be computed in the manner referred to in Section VI of this Article, unless the concessionaire or assignee proves that the assumptions ceased before the two-year term.

The expiration shall not operate if before the expiration of the two-year term, the holder of the concession or assignment, fully and definitively transfers its rights according to the availability of water and so certifies before the "Water Authority", in addition to paying the guarantee fee mentioned in Paragraph 3 of Section VI of this Article. In such case, the concession period stated in the original title shall prevail;

VII. Rescue by means of the respective declaration, in accordance with Section IV of Article 6 of this Law, of the concession or assignment for reasons of public utility or interest, through the payment of indemnification, the amount of which will be determined by experts, under the terms provided for the concession in the General Law of National Assets;

VIII. In the case of irrigation districts, when their respective regulations do not comply with the provisions of this Law and its regulations, and

IX. Final judicial or administrative rulings that so determine.

Article added DOF 2004-04-29

Section Three Revocation

Section added DOF 2004-04-29

ARTICLE 29 BIS 4. The discharge concession, assignment or permit may be revoked in the following cases:

Amended paragraph DOF 08-06-2012

- I. To dispose of water in volumes greater than one fifth of those authorized, when for the same reason the beneficiary's rights have been previously suspended;
- II. Exploit, use or take advantage of national waters without complying with the Mexican Official Standards on quality;
- III. To permanently or intermittently discharge wastewater in contravention of the provisions of this Law into receiving bodies that are national property, including marine waters, as well as when they infiltrate land that is national property or other land when they may contaminate the subsoil or aquifer, without prejudice to the sanctions established by the health, ecological balance and environmental protection provisions;



- IV. Use dilution to comply with Mexican Official Standards on ecological matters or particular discharge conditions;
- V. To carry out works for lighting, extracting or disposing of subsoil water in regulated, closed or reserved areas, without the permission of the "Water Authority";
- VI. Failure to pay in a timely manner or in full the contributions, benefits or tariffs established by the tax legislation for the exploitation, use or exploitation of national waters and national assets or for the supply services thereof, when for the same reason the beneficiary has been suspended in its right previously, even if it is a different fiscal year;
- VII. Failure to execute the works and works authorized for the use of water, its reuse and control of its quality under the terms and conditions set forth in this Law and other applicable legislation or those stipulated in the concession;
- VIII. Failure to carry out the works and works authorized for the use of water and control of its quality, under the terms and conditions set forth in this Law and its regulations, or to carry out works not authorized by the "Water Authority";
- IX. Damage ecosystems as a consequence of the exploitation, use or exploitation of national waters;
- X. Discharging wastewater containing hazardous materials or wastes that cause or may cause damage to health, natural resources, fauna, flora or ecosystems;
- XI. Transfer title rights without permission of "the Water Authority" or in contravention of the provisions of this Law;
- XII. Infringing the provisions on transfer of rights;
- XIII. Recidivism in any of the infractions foreseen in Article 119 of this Law;
- XIV. For using water other than that authorized, without permission from the "Water Authority";
- XV. To provisionally provide third parties with the total or partial use of concessioned waters without prior notice to the "Water Authority";
- XVI. Failure to comply with the provisions of the Law with respect to the exploitation, use or exploitation of national waters or preservation and control of their quality, when for the same cause the offender has been previously sanctioned by means of a final resolution, in accordance with sections II and III of Article 120 of this Law;
- XVII. For non-compliance with preventive and corrective measures ordered by the "Water Authority";
Reformed fraction DOF 08-05-2023
- XVIII. When, in order to obtain or maintain a concession, the holder has submitted false documentation;
Reformed fraction DOF 08-05-2023



- XIX.** For supervening events or acts of public, general or social interest, or that cause some type of economic, social, environmental or any other type of imbalance;
Section added DOF 08-05-2023
- XX.** Failure to comply with the Restoration, Closure and Post-closure Program provided for in the General Law of Ecological Balance and Environmental Protection, and
Section added DOF 08-05-2023
- XXI.** Any others provided for in this Law, in its regulations or in the concessions themselves.
Section added DOF 08-05-2023

Upon termination of the concession or assignment or its last extension, or when the title has been revoked for non-compliance, in accordance with the provisions of this Law, the works and facilities permanently attached to national assets must revert to "the Commission".

Article added DOF 2004-04-29

Section Four Water Use Restrictions

Section added DOF 2004-04-29

ARTICLE 29 BIS 5. The Federal Executive, through the "Water Authority", shall have the power to deny the concession, assignment or discharge permit in the following cases:

- I.** When the use of water flows determined in the National Water Program and regional water programs is requested, in order to guarantee adequate economic, social and environmental development of human settlements;
- II.** When it involves the affectation of regulated zones or those declared for protection, closure, water reserves, and for the preservation or reestablishment of vital ecosystems and the environment;
- III.** When it affects the minimum ecological flow, which is part of the Environmental Use referred to in Section LIV of Article 3 of this Law, in accordance with the respective regional regulations;
- IV.** When the applicant does not comply with the requirements of the Law;
- V.** In the case of a transfer of rights in the making and the original holder has not timely paid the guarantee fee referred to in Paragraph 3 of Section VI of Article 29 BIS 3 of this Law, and there are sufficient elements to determine that there is a monopolization or concentration of water resources tending to monopolistic practices contrary to the social interest;
- VI.** When waters subject to international agreements are affected, when the requests do not comply with said agreements, with the provisions of this Law and other applicable legal ordinances;
- VII.** When the Federation decides to undertake direct exploitation of the volumes requested;
- VIII.** When water resources programmed for the creation or sustenance of national reserves are affected, and
- IX.** When there is a cause of public interest or social interest.
Article added DOF 2004-04-29

Section Five



Easements

Section added DOF 2004-04-29

ARTICLE 29 BIS 6. "The Water Authority" may impose easements on public or private property, observing in this respect the legal framework of the Federal Civil Code and legal administrative provisions, which shall be applied as appropriate to those areas indispensable for the use, reuse, exploitation, conservation, and preservation of water, vital ecosystems, defense and protection of banks, roads and, in general, for the hydraulic works that require them.

Natural easements are considered to be those national property watercourses in which there are no infrastructure works. The owner of the dominant estate may not aggravate the subjection of the servient estate.

Forced or legal easements are considered to be those established on land used for the construction of hydraulic works such as reservoirs, diversions, direct intakes and other catchments, conduction works, treatment, drainage, riverbank protection works and complementary works, including roads for passage and surveillance.

Article added DOF 2004-04-29

Chapter IV Public Registry of Water Rights

ARTICLE 30. "The Commission" at the national level and the Basin Organizations at the level of the hydrological-administrative regions, shall keep the Public Registry of Water Rights in which they shall be registered:

- I. The titles of concession and assignment of national waters, and their inherent public goods, as well as the permits for wastewater discharges indicated in this Law and its regulations;
- II. Extensions granted in connection with concessions, assignments and permits;
- III. Modifications and rectifications in the characteristics of the registered titles and acts;
- IV. The transfer of concession titles under the terms established by this Law and its regulations;
- V. The suspension, revocation or termination of the aforementioned titles, and the required references of the acts and contracts related to the transfer of their ownership;
- VI. The final judgments of the judicial and administrative courts, in which the modification, cancellation or rectification of the concession or assignment titles is ordered, provided that such judgments are notified by the jurisdictional body, by the competent authority or filed by the interested parties before "the Commission" or the corresponding Basin Agency;
- VII. Resolutions issued by the Head of the Federal Executive or by the Superior Agrarian Court that extend or provide water, prior to the issuance of the concession title by "the Water Authority";
- VIII. The user lists of the irrigation districts, duly updated;
- IX. The water availability studies referred to in Article 19 BIS and other provisions contained in this Law, and



X. The regulated areas, closed areas and declarations of national water reserves established in accordance with this Law and its regulations.

The Public Registry of Water Rights by hydrological-administrative region will provide the service of access to information and dissemination of the same, regarding the titles of concession, assignment and discharge permits referred to in this Law, as well as the legal acts that, pursuant to the same and its regulations, require public faith to be effective before third parties. The rendering of this service will cause the corresponding fees to be specified by the competent authority in terms of the Law.

"The Commission shall make the necessary arrangements for the operation of the Public Registry of Water Rights by hydrological-administrative region in the Basin Organizations and, based on their records, shall integrate the Public Registry of Water Rights at the National level.

The acts carried out by the "Water Authority" shall be registered ex officio; those relating to the total or partial transfer of titles, as well as changes made in their characteristics or ownership, shall be registered at the request of the interested party, in order of presentation and when the requirements established in the regulations of this Law are met.

Article amended DOF 29-04-2004

ARTICLE 30 BIS. The Public Registry of Water Rights is competent to:

- I. To authorize the opening and closing of the books or folios, as well as the entries to be made;
- II. To issue the certifications and certificates that may be requested, as well as to attend and resolve the consultations that may arise in registry matters;
- III. To make preventive annotations;
- IV. Produce statistical and cartographic information on registered rights;
- V. Keeping the copies of the registered titles, and
- VI. Any other duties specifically assigned to it by the regulatory provisions.

Article added DOF 2004-04-29

ARTICLE 31. Proof of the registration of titles in the Public Registry of Water Rights constitutes evidence of their existence, ownership and status. The registration shall be a condition for the transfer of the titles to be legally effective before third parties, the "Water Authority" and any other authority.

Any person may consult the Public Registry of Water Rights and request at his own expense certifications of the registrations and documents that gave rise thereto, as well as on the non-existence of a registration or of a subsequent registration in relation to a given one.

The Public Registry of Water Rights may modify or rectify a registration when it is requested by the affected party, the existence of the omission or error is accredited, and third party rights are not prejudiced or there is consent of a legitimate party in authentic form. Claims for refusal, rectification, modification and cancellation of registrations that harm third parties, as well as those that refer to the nullity thereof, shall be resolved by the "Water Authority" under the terms of this Law and its regulations.



"The Water Authority" shall provide the necessary for the respect of the rights registered in the Public Registry of Water Rights.

Requests for registration, certificates, certifications, consultations and other registry services may be made by facsimile transmission or by electronic mail, provided that the interested party or his legal representative so requests. For the corresponding effects, the applicants shall keep a record of the transmission and a copy of the transmitted document, and shall comply with the applicable provisions.

The Public Registry of Water Rights shall be organized and operate under the terms of the regulations of this Law.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

ARTICLE 32. The Public Registry of Water Rights shall also keep a permanent national registry, by basins, hydrological regions, states, Federal District and municipalities, of the water supply works and subsoil water springs, in order to know the behavior of the aquifers and, if necessary, regulate their exploitation, use or exploitation.

"The Water Authority shall request the data from the landowners, regardless of whether they are located within or outside a regulated or closed zone. The landowners will be obliged to provide this information and the information related to the drilling or illumination works they have carried out.

Article amended DOF 29-04-2004

Chapter V Transfer of Securities

ARTICLE 33. The concession titles for the exploitation, use or exploitation of national waters, legally in force and recorded in the Public Registry of Water Rights, as well as the Discharge Permits, may be definitively transferred in whole or in part, based on the provisions of this Chapter and those additional ones provided for in the Law and its regulations.

The concession titles for the exploitation, use or exploitation of national waters, for their transfer shall be subject to the following:

Amended paragraph DOF 08-06-2012

I. In the case of a change of titleholder, when the characteristics of the concession title are not modified, the transfer will proceed by means of a written request submitted to "the Water Authority", who will issue the corresponding agreement of acceptance or not, as well as the registration in the Public Registry of Water Rights;

II. In the event that, in accordance with the regulations of this Law, the rights of third parties may be affected or the hydrological or environmental conditions of the respective basins or aquifers may be altered or modified, prior authorization shall be required from the "Water Authority", which may, as the case may be, grant it, deny it or instruct the terms and conditions under which the requested authorization is granted, and

III. The presentation before the Regional or National Registry, in the case of those titles authorized by the "Water Authority", through general agreements issued by hydrological region, hydrological basin, state or Federal District, zone or locality, authorization will be granted only for the transfer of the respective titles, within the same basin or aquifer. The aforementioned agreements must be published in the **Official Gazette of the Federation**.



When rights are not transferred or the respective title is modified, if the holder of a concession intends to provisionally provide third parties with the total or partial use of the concessioned waters, action shall be taken in accordance with the provisions of Article 23 BIS and the regulations of this Law.

Article amended DOF 29-04-2004

ARTICLE 34. The Water Authority, under the terms of the applicable regulations and by means of regional agreements, by river basin, state or Federal District, zone or locality, may authorize the transfer of the respective titles, within the same river basin or aquifer, upon a well-founded and reasoned request, provided that the operation of the water systems is not affected and their carrying capacity is respected.

The agreements referred to in this Article shall be published in the **Official Gazette of the Federation**, and in the newspapers with the largest circulation in the corresponding hydrological region.

In the cases of transfer of titles referred to in this Article, the application for registration in the Public Registry of Water Rights shall be made within fifteen working days following the date of authorization by the Water Authority, and until then said registration shall produce effects before third parties, provided that the act or contract of transfer has been executed in advance.

The notice or request for authorization of transfer of rights shall be made in the form and terms established by the Law for promotions; they shall also comply with the requirements established by the regulations of this Law.

The competent authorities may grant the authorization, deny it or instruct the terms and conditions under which it shall be granted.

In the case of the transfer of rights referred to in the Law, the acquirer is obliged to give notice and prove before the aforementioned authorities, within fifteen days following the notice of transfer or the authorization granted, that he is effectively using the volume of water subject to the transfer in accordance with the use of the discharge concession or permit.

The registration of the transfer made shall not prejudice and shall not affect the rights of third parties.

Article amended DOF 29-04-2004

ARTICLE 35. The transfer of rights to exploit the use or exploitation of subsoil waters in closed or regulated zones shall be agreed upon together with the transfer of ownership of the respective lands, and in any case shall be definitive, total or partial.

If it is desired to carry out the transfer separately, it may be done in the manner and under the terms provided for in the regulations of this Law. In any case, there shall be joint and several liability between the person transferring and the person acquiring the rights, to defray the expenses caused by the closure of the well that will not be used.

In no case shall acts of transfer of titles of assignment of national waters be celebrated.

Once the transfer of rights has been effected, the Water Authority will issue, in favor of the acquirer, after prior notice or authorization, the appropriate concession title.

Article amended DOF 29-04-2004

ARTICLE 36. When the ownership of a concession is transferred, the acquirer shall be subrogated to the rights and obligations thereof.



Article amended DOF 29-04-2004

ARTICLE 37. Transmissions made in contravention of the provisions of this Law shall be null and void and shall not produce any effect.

The transfer, for industrial use in mining, of the rights to exploit, use or take advantage of national waters for any other use is prohibited.

*Paragraph added DOF 08-05-2023
Article amended DOF 29-04-2004*

ARTICLE 37 BIS. "The Commission" may definitively or temporarily establish instances in which regulated operations for the transfer of rights are managed, which shall be called "water banks", the functions of which shall be determined in the respective regulations.

Article added DOF 2004-04-29

TITLE FIVE

Regulated, Closed or Reserve Zones Sole Chapter

ARTICLE 38. The Federal Executive, after the technical studies to be prepared for this purpose, and The Ministry of the Environment, in accordance with the provisions of Articles 6 and 7 of this Law, may decree the establishment of regulated areas, closed areas or declare a water reserve, taking into consideration the national water and hydrological basin programs and the needs of national, regional and local land use planning.

Additionally, the Federal Executive may declare as disaster zones those hydrological basins or hydrological regions that, due to natural or man-made circumstances, present or may present irreversible risks to any ecosystem.

Article amended DOF 29-04-2004

In the decree establishing the regulated zone referred to in the preceding Article, the Federal Executive shall establish the volumes of extraction, use and discharge that may be authorized, the modalities or limits to the rights of the concessionaires and assignees, as well as any other special provisions that may be required for reasons of public interest.

In cases of extraordinary droughts, serious overexploitation of aquifers or conditions of necessity or urgency due to force majeure, the Federal Executive shall adopt the necessary measures to control the exploitation, use or exploitation of national waters, which shall be established when issuing the corresponding decree for the establishment of regulated zones.

Article amended DOF 29-04-2004

ARTICLE 39 BIS. The Federal Executive may issue Decrees for the establishment of Closed Zones for the exploitation, use or exploitation of national waters, in cases of overexploitation of national waters, whether surface or subsoil, drought or extreme shortage or emergency or urgent situations, caused by water pollution or situations derived from the exploitation, use or exploitation of national waters, when:

I. It is not possible to maintain or increase surface or subsoil water withdrawals above a certain annual volume fixed by "the Water Authority", without affecting the sustainability of the resource and without the risk of inducing adverse economic or environmental effects on the water sources of the area in question or on the users of the resource, or



II. Water uses are required to be prohibited or limited in order to protect water quality in watersheds or aquifers.

Article added DOF 2004-04-29

ARTICLE 40. The decrees establishing, modifying or suppressing closed areas shall contain the location and delimitation thereof, as well as its consequences or modalities.

The corresponding decree of closure shall state:

- I. The declaration of public utility;
- II. The characteristics of the closure, its modification or elimination;
- III. The intended consequences of implementing the ban;
- IV. The location and delimitation of the closed area;
- V. Description of the affected water ecosystem or ecosystems;
- VI. The diagnosis of damage to water ecosystems, the available volume of water and its territorial distribution, as well as the volumes of abstraction, recharge and runoff;
- VII. The bases and provisions to be adopted by the "Water Authority", regarding the form, conditions and, as the case may be, limitations, in relation to temporary or definitive extractions or discharges;
- VIII. The issuance of norms that regulate uses and discharges, in relation to the previous section, including the creation and updating of standards;
- IX. The extraction volumes referred to in the two preceding fractions, and
- X. The time period during which the closed season, water reserve or regulated zone will be in effect, which may be extended if the conditions set forth in Articles 38 and 39 of this Law persist.

The corresponding basin organization shall promote the organization of the users of the respective closed zone, so that they may participate in its implementation.

Article amended DOF 29-04-2004

The Federal Executive may declare or lift by decree the total or partial reservation of national waters for the following purposes:

- I. Domestic Use and Urban Public Use;
- II. Generation of electric energy for public service, and
- III. Guarantee minimum flows for ecological protection, including the conservation or restoration of vital ecosystems.

"The Water Authority" shall make the necessary provisions to incorporate the reserves into regional and national water programming.

Article amended DOF 29-04-2004



ARTICLE 42. For the exploitation, use or exploitation of subsoil waters in regulated or closed areas decreed by the Federal Executive, including those that have been freely illuminated, shall require:

- I. Concession or assignment for its exploitation, use or exploitation;
- II. An integrated management program for each basin and aquifer to be exploited, and
- III. Permits for drilling works, replacement or relocation of wells, or other modifications to the conditions of use, carried out as from the decree of closure or regulation.

Concessions or allocations shall be subject to the requirements established in Articles 21 and 21 BIS of this Law and shall be granted in accordance with the respective availability studies, taking into account the volume of water used or exploited on average in the last year immediately prior to the respective decree, and which have been registered in the Public Registry of Water Rights.

In the absence of such registration in the aforementioned Registry, the volume fiscally declared for purposes of payment of the federal right for use or exploitation of water, in the last fiscal year, will be taken into account.

In those cases in which the exploitation, use or exploitation cannot be determined in accordance with the provisions of the two preceding paragraphs, the volume of water shall be determined in accordance with the procedures established by the respective regulations.

Article amended DOF 29-04-2004

ARTICLE 43. In the cases of the preceding Article, it shall be necessary to apply to the "Water Authority" for a permit to carry out:

- I. Drilling with the purpose of completing the authorized volume, if once the hydraulic work is completed, the same is not obtained;
- II. Well replacement, and
- III. Deepening, relocation or change of well equipment.

The permit shall take into account the extractions allowed under the terms of Article 40 of this Law.

Article amended DOF 29-04-2004

SIXTH TITLE **Water Uses**

Chapter I **Urban Public Use**

ARTICLE 44. The exploitation, use or development of national surface or subsoil waters by the Federal District, state or municipal drinking water and sewerage systems shall be carried out by means of an assignment granted by the "Water Authority", pursuant to the terms set forth in Title Four of this Law.

Allocations of national waters to population centers that have been granted to municipalities, states, or the Federal District, which administer the respective water systems.



The water supply and sewage systems will subsist even when these systems are administered by parastatal or paramunicipal entities, or are granted to private parties by the competent authority.

It is the responsibility of the municipality, the Federal District and, in terms of the Law, the State, as well as the agencies or companies that provide drinking water and sewage services, to treat urban public wastewater prior to its discharge into receiving bodies of national property, in accordance with the respective Official Mexican Standards or the particular discharge conditions determined by the "Water Authority".

In the assignment titles granted, the volume assigned for the provision of the public service will be expressly established in accordance with the data provided by the municipalities, the states and the Federal District, as the case may be.

The assignment titles granted by the "Water Authority" to the municipalities, the states or the Federal District, as the case may be, for the provision of drinking water services, will have at least the same data as the application and will indicate the causes for the expiration of the rights derived therefrom.

The municipalities that enter into agreements among themselves or with the corresponding states, for the rendering of public drinking water, sewage and sanitation services and the exercise of the functions for which they are responsible, as well as for rendering services in matters of urban public use, will be directly responsible for the compliance of their obligations before the water authorities, in terms of this Law, its Regulations and the corresponding titles, being the states or those in charge of rendering the service, jointly and severally responsible for the compliance of the corresponding obligations.

The municipalities, the states and, if applicable, the Federal District, may agree with the Basin Organizations with the assistance of "the Commission", the establishment of regional systems for the treatment of wastewater discharges that have been discharged into a receiving body of national property and their reuse, according to the studies carried out for such purpose and in which the part of the costs to be covered by each of the municipalities, the states and, if applicable, the Federal District, will be foreseen.

Persons who infiltrate or discharge wastewater into the soil or subsoil or receiving bodies other than the municipal sewage systems of the populations, must obtain the respective discharge permit, under the terms of this Law regardless of the origin of the sources of supply.

Discharges of wastewater for domestic use that are not part of a municipal sewage system may be carried out subject to the Mexican Official Standards issued for such purpose and by means of a notice.

Article amended DOF 29-04-2004

ARTICLE 45. The municipal authorities, with the assistance of the state governments under the terms of this Law, are responsible for the exploitation, use or development of the national waters assigned to them, including waste waters, from the point of their extraction or delivery by the Water Authority to the site of their discharge into receiving bodies that are national assets. The exploitation, use or development may be carried out by such authorities through their parastatal entities or concessionaires under the terms of the Law.

In the reuse of wastewater, the rights of third parties related to the volumes of wastewater registered in the Public Registry of Water Rights must be respected.

Article amended DOF 29-04-2004



ARTICLE 46. "The Water Authority" may carry out partially or totally, after entering into an agreement with the governments of the states or of the Federal District and, through them, with the governments of the corresponding municipalities, the works of catchment or storage, conduction and, if applicable, treatment or potabilization for water supply, with funds belonging to the federal treasury or with funds obtained with a guarantee or through any other form of guarantee granted by the Federation, provided that the following requirements are met:

I. The works are located in more than one state, or have multiple water uses, or are expressly requested by the interested parties;

II. That the governments of the states, the Federal District and the respective municipalities participate, as the case may be, with funds and investments in the work to be constructed, and that the necessary financing is obtained;

III. That the recovery of the investment is guaranteed, in accordance with the applicable tax legislation, and that the user or system of users commits to an efficient administration of the water systems and to take care of the quality of the same; in relation to this section, the Authority will adopt the necessary measures to attend to the infrastructure needs of the economically and socially less favored zones and sectors;

IV. That the states, the Federal District and the respective municipalities, and their parastatal or paramunicipal entities, or legal entities contracted for this purpose, assume the commitment to operate, conserve, maintain and rehabilitate the hydraulic infrastructure, and

V. That in the case of rural communities, the beneficiaries are integrated into the planning, execution, operation, administration and maintenance processes of the drinking water and sanitation systems.

The respective agreements or covenants shall establish the related commitments.

Article amended DOF 29-04-2004

ARTICLE 47. Discharges of wastewater into national property or its infiltration into land that may contaminate the subsoil or aquifers shall be subject to the provisions of Title Seven of this Law.

"The Water Authority shall promote the use of wastewater by municipalities, operating agencies or third parties from potable water and sewage systems.

Article amended DOF 29-04-2004

ARTICLE 47 BIS. "The Water Authority" shall promote among the public, private and social sectors, the efficient use of water in towns and urban centers, the improvement of water management in the respective systems, and actions for the management, preservation, conservation, reuse and restoration of wastewaters related to the use included in this Chapter.

Article added DOF 2004-04-29

Chapter II Agricultural Use

Section One General Provisions

ARTICLE 48. Ejidatarios, commoners and small landowners, as well as ejidos, communities, societies and other persons who are owners or possessors of agricultural land,



The right to exploit, use or exploit the national waters granted to them under the terms of this Law shall be available to livestock or forestry farmers or foresters.

In the case of water concessions for irrigation, the Water Authority may authorize its total or partial use in lands other than those indicated in the concession, when the new acquirer of the rights is the owner or possessor thereof, provided that no damage is caused to third parties.

Article amended DOF 29-04-2004

ARTICLE 49. The rights of exploitation, use or exploitation of water for agricultural, livestock or forestry use may be transferred under the terms and conditions established in this Law and its regulations.

In the case of irrigation units, districts or systems, the transfer of water exploitation, use or exploitation rights shall be made in compliance with the terms of the respective regulations issued by them.

Article amended DOF 29-04-2004

ARTICLE 50. Concessions may be granted to:

I. Individuals or legal entities for the exploitation, use or individual exploitation of national waters for agricultural purposes, and

II. Legal entities to manage or operate an irrigation system or for the exploitation, use or common use of national waters for agricultural purposes.

ARTICLE 51. For the administration and operation of the systems or for the common use of the waters referred to in Section II of the preceding Article, the legal entities shall have a regulation that includes:

I. The distribution and administration of concessioned waters, as well as the way in which decisions will be made by the users as a whole;

II. The way to guarantee and protect the individual rights of its members or irrigation service users and their participation in the administration and surveillance of the system;

III. The form of operation, conservation and maintenance, as well as to make investments for the improvement of the infrastructure or common system, and the form in which the costs incurred will be recovered through self-sufficiency quotas. It will be mandatory for the members or users to pay the self-sufficiency quotas established in order to continue receiving the service or to carry out the use;

IV. The rights and obligations of members or users, as well as penalties for non-compliance;

V. The form and conditions to which the transfer of individual rights of exploitation, use or exploitation of water among the members or users of the common system shall be subject;

VI. The terms and conditions under which the concession title, or the surplus water obtained, may be totally or partially transferred to third parties;

VII. The procedure by which members' or users' disagreements shall be substantiated;

VIII. The form and terms in which the merger, spin-off, extinction and liquidation shall be carried out;



- IX. The form and terms in which it will keep the user registry;
- X. The form and terms of payment for irrigation services;
- XI. The necessary measures to promote the efficient use of water;
- XII. Measures for the control and preservation of water quality, under the terms of the Law, and
- XIII. Any others arising from this Law and its regulations or agreed upon by the members or users.

The by-laws and their modifications shall require the favorable agreement of two thirds of the votes of the general assembly expressly called for such purpose.

The volumes saved by the increase in water use efficiency will not be a reason for reducing the volumes of water under concession, when the investments and modernization of irrigation infrastructure and technification have been made by the concessionaires, as long as there is availability.

Article amended DOF 29-04-2004

The right of exploitation, use or exploitation of water by the members or users of the legal entities referred to in Section II of Article 50 of this Law shall be specified in the register that the concessionaire shall keep for such purpose, under the terms of the regulations referred to in the preceding Article.

The registry shall be public, shall constitute a means of proof of the existence and status of the rights and shall be available for consultation by the interested parties.

The rights registered in the registry may not be affected without prior hearing of the possible affected party.

The members or users registered in the registry will have the obligation to periodically provide the information and documentation that allows its updating.

Article amended DOF 29-04-2004

ARTICLE 52 BIS. The Federal Executive, through "the Commission" by means of the River Basin Organizations, shall promote the organization of the users of the water referred to in this Chapter and the construction of the necessary infrastructure for the use of water for agricultural purposes and shall be considered in this respect:

- I. Sources of supply, by hydrological basin;
- II. Volumes of surface water and groundwater;
- III. The water program by hydrological basin;
- IV. The perimeter of the irrigation district, unit or system, as well as the area with irrigation rights that make up the irrigation district, unit or system;
- V. The requirements to provide irrigation service;
- VI. The census of landowners or landowners, and



VII. The other requirements established in this Law, according to the title issued.

Article added DOF 2004-04-29

ARTICLE 53. The provisions of Articles 50 to 52 of this Law shall apply to irrigation units and districts.

When the ejidos or communities are part of the units or districts referred to in the preceding paragraph, they shall be subject to the provisions of this ordinance.

Ejidos or communities that are not included in the irrigation units or districts will be considered concessionaires for the purposes of this Law and, in the event that they have common irrigation systems or make common use of water, the provisions of Articles 51 and 52 of this Law will apply with respect to such systems or use; in this case, the ejidatarios or communal owners who use or take advantage of such systems or use will be the ones to establish the respective internal regulations.

Article amended DOF 29-04-2004

ARTICLE 54. The individuals or legal entities that constitute an irrigation unit or district may partially or totally vary the use of water, pursuant to the provisions of their respective regulations, with the intervention, under the terms of the Law, of the Water Authority.

Article amended DOF 29-04-2004

Section Two Ejidos and Communities

ARTICLE 55. The exploitation, use or exploitation of water in ejidos and communities for human settlement or for lands for common use shall be carried out in accordance with the internal regulations formulated by the ejido or community for such purpose, taking into account the provisions of Article 51 of this Law.

When an ejido or community has been divided into plots, the exploitation, use or exploitation of the water necessary for the irrigation of the respective plot corresponds to the ejidatarios or communal owners.

In no case may the assembly or the ejidal commissariat use, dispose of or determine the exploitation, use or exploitation of water destined for the parcels without the prior and express consent of the ejidatarios owning said parcels, except in the case of water that is indispensable for the domestic needs of the human settlement.

Article amended DOF 29-04-2004

When the General Assembly of the ejido resolves that the ejidatarios may adopt full ownership of the parcel, the rights to exploit, use or exploit the water necessary for irrigation of the parceled land shall be deemed transferred, and the respective sources or volumes shall be specified, taking into account the water rights they have been enjoying. Where appropriate, it will establish the required modalities or easements.

The adoption of full dominion over ejido parcels implies that the ejidatario or communal owner will exploit, use or exploit the water as a concessionaire, for which he must have the respective title, under the terms of this Law and its regulations.

Ejidatarios who, in accordance with the Agrarian Law, assume full ownership of their plots will retain the rights to exploit, use or take advantage of the water they have been using. "The Water Authority shall grant the corresponding concession at the request of the interested party, with no other requirement than to have official proof of the cancellation of the registration of the parcel in question.



When granting the concession to the applicant, the "Water Authority" will subtract from the volume of water recorded in the ejido endowment, restitution or accession, the volume that will be covered by the requested concession. The concession and the reduction of the referred volume will be registered in the Public Registry of Water Rights.

Article amended DOF 29-04-2004

ARTICLE 56 BIS. In cases where ejidatarios or comuneros transfer ownership of land in accordance with the Law, they may also transfer their water rights.

Ejididos and communities, as well as ejidatarios and comuneros within irrigation districts and units, shall be governed by the provisions of this Law and its Regulations.

When ejidatarios and comuneros in irrigation units and districts assume full individual dominion over their plots, their corresponding water rights will be registered in the Public Registry of Water Rights and in the register of associations or societies of users holding concessions for the exploitation, use or exploitation of national waters.

Article added DOF 2004-04-29

ARTICLE 57. When the ownership of ejido lands or lands for common use is transferred or the usufruct of plots of land is contributed to civil or mercantile corporations or to any other legal entity, under the terms of the Agrarian Law, said persons or acquiring corporations shall retain the rights over the exploitation, use or development of the corresponding waters. "The Water Authority, at the request of the interested party, shall grant the corresponding concession under the terms of this Law and its regulations.

Article amended DOF 29-04-2004

Section Three Irrigation Units

ARTICLE 58. Rural producers may freely associate among themselves to form legal entities, for the purpose of integrating systems that allow providing agricultural irrigation services to various users, for which purpose they shall form irrigation units under the terms of this Section.

In this case, the concession of national waters shall be granted to the legal entities grouping such users, who shall receive freely transferable certificates in accordance with the regulations of this Law. The latter will not be obligatory within the irrigation districts.

Article amended DOF 29-04-2004

ARTICLE 59. Individuals or legal entities may form a legal entity and constitute an irrigation unit for the purpose of:

- I. Build and operate its own infrastructure to provide irrigation service to its members;
- II. Construct irrigation infrastructure works in co-investment with federal, state and municipal public resources and take charge of their operation, conservation and maintenance to provide irrigation services to its members, and
- III. Operate, conserve, maintain and rehabilitate federal public infrastructure for irrigation, the use or exploitation of which has been requested in concession to "the Commission" through the corresponding Basin Organization.

Article amended DOF 29-04-2004



ARTICLE 60. The respective construction permit and, if applicable, the concession for the exploitation, use or development of the public property referred to in Article 113 of this Law shall be included in the title of concession of national waters granted by the competent River Basin Agency to the irrigation units.

The bylaws of the legal entity and the regulations of the irrigation units shall contain the provisions of Article 51 of this Law and may not contravene the provisions of the respective concession title.

Article amended DOF 29-04-2004

In the case referred to in Section II of Article 59 of this Law, corporations shall be obliged to pay the recoverable part of the federal investment in accordance with the Law, and to grant the guarantees established for its compliance.

In the same case, "the Commission" shall issue the regulations for the construction, conservation and maintenance of the infrastructure works required by the irrigation units, and may construct them partially or totally through the competent River Basin Organization or by itself, in the cases provided for in Section IX of Article 9 of this Law, after consultation with the producers and, if applicable, with the prior execution of the agreement or arrangement with the governments of the states, the Federal District and the corresponding municipalities.

Article amended DOF 29-04-2004

In the cases referred to in Sections II and III of Article 59 of this Law, the governing body of the legal entities shall propose to the general assembly the operating regulations and the amount of the self-sufficiency quotas required.

"The Water Authority may review the activities and manner of rendering the irrigation service, dictate corrective measures and intervene in the administration under the terms to be established in the operating regulations.

The operating regulations and the amount of the self-sufficiency quotas, as well as their modifications, will require the sanction of "the Water Authority".

Article amended DOF 29-04-2004

ARTICLE 63. The irrigation units that so agree may form an irrigation district. Notwithstanding the foregoing, the irrigation units may freely associate among themselves, for the purposes of Article 14 of this Law.

The provisions established for irrigation districts shall apply to the irrigation units.

Article amended DOF 29-04-2004

Section Four Irrigation Districts

ARTICLE 64. The irrigation districts shall be integrated with the areas comprised within their perimeter, the hydraulic infrastructure works, the surface and subsoil waters destined to provide the water supply service, the storage vessels and the facilities necessary for their operation and functioning.

Article amended DOF 29-04-2004

ARTICLE 65. The irrigation districts shall be administered, operated, conserved and maintained by the users thereof, organized under the terms of Article 51 of this Law or by whomsoever they may designate, for which purpose "the Commission", through the Basin Organizations, shall grant the concession of the



water and, as the case may be, the necessary public infrastructure to the legal entities that they create for this purpose.

The users of the district may acquire the infrastructure of the irrigation zone under the terms of the Law.

Article amended DOF 29-04-2004

ARTICLE 66. In each irrigation district, a hydraulic committee shall be established, whose organization and operation shall be determined in the regulations to be prepared and applied by each district, which shall act as a collegiate body for consultation for the adequate management of water and infrastructure.

The hydraulic committee shall propose a regulation for the respective irrigation district and shall supervise its compliance. The regulations may not contravene the provisions of the concession and shall be subject to the sanction of the corresponding basin organization.

The irrigation service regulations shall comply with the provisions of Article 51 of this Law.

Article amended DOF 29-04-2004

ARTICLE 67. In irrigation districts, users shall have the right to receive water for irrigation upon compliance with the following:

a. To be part of the respective users' register, which shall be integrated and updated by the competent Basin Organization with the information and support provided by the users, individually and through their organizations; and

b. To have a single planting permit issued for this purpose, the characteristics of which will be defined by the relevant Authority.

Once the register has been created, it will be the responsibility of the concessionaire to keep it updated under the terms of the district's regulations and it will be registered in the Public Registry of Water Rights.

Article amended DOF 29-04-2004

ARTICLE 68. The users of the irrigation districts are obliged to:

I. Use water and irrigation service in accordance with the terms of the district's regulations, and

II. Pay the self-sufficiency fees for irrigation services agreed upon by the users themselves, which shall cover at least the administration and operation expenses of the service and the conservation and maintenance of the works. Such self-sufficiency fees shall be subject to the authorization of the corresponding Basin Organization, which may object to them when they do not comply with the above.

Failure to comply with the provisions of this Article shall be sufficient to suspend the provision of irrigation services until the offender regularizes his situation.

Suspension for non-payment of the self-sufficiency quota for irrigation services may not be decreed in an agricultural cycle when there are standing crops.

Article amended DOF 29-04-2004

ARTICLE 69. In agricultural cycles in which, due to force majeure, water is insufficient to meet the demand of the irrigation district, the distribution of available water shall be made by the respective Basin Organization under the terms set forth in the district regulations.

Article amended DOF 29-04-2004



ARTICLE 69 BIS. The users of the irrigation districts shall respect the irrigation programs determined in accordance with the availability of water for each agricultural cycle. The carrying out of sowings not included in the irrigation and sowing programs approved by the competent authorities for such purpose for that agricultural cycle shall cause the suspension of the right to irrigation service, even when there are standing crops.

When there is a shortage of water and the users who have their own means for irrigation have satisfied the water needs derived from the authorized surface area in their lists, they must deliver to the irrigation district the surplus volumes determined by the corresponding Basin Organization. Those users in the district that benefit from the use of such surplus volumes shall cover the costs incurred by the users or associations of users that have had surplus volumes.

Article added DOF 2004-04-29

ARTICLE 70. Total or partial transfers of water exploitation, use or exploitation rights within an association of users of an irrigation district shall be subject to the provisions of the regulations of the unit in question.

Total or partial transfers of the rights of exploitation, use or exploitation of national waters between associations of users of the same district may be made under the terms of the district regulations.

The total or partial transfer of the rights of exploitation, use or exploitation of national waters under concession, to individuals or legal entities outside the district, shall require the approval of the general assembly of the users' associations of the district.

The provisions contained in this Article shall apply without prejudice to the provisions of this Law and its regulations.

Article amended DOF 29-04-2004

The Federal Executive shall promote the organization of rural producers and the construction of the necessary infrastructure for the establishment of irrigation districts.

The establishment of an irrigation district with funding from the federal government will be published in the

Diario Oficial de la Federación and shall be specified:

- I. Sources of supply;
- II. Volumes of surface water and groundwater;
- III. The perimeter of the irrigation district;
- IV. The perimeter of the irrigation zone or zones comprising the district, and
- V. The requirements to provide irrigation service.

ARTICLE 72. In order to proceed with the constitution of an irrigation district, with financing from the federal government, the Commission, through the corresponding River Basin Organization:

- I. It shall promote, as the case may be, the necessary closures for the proper operation of the works;
- II. It shall prepare the cadastral plan of land and buildings within the district;



III. It shall prepare the census of owners or possessors of land and other real estate, as well as the list of fiscal and commercial values they have;

IV. It shall conduct the hearings, consultations and other actions provided for in this Law and its regulations, necessary to establish the projected irrigation zone;

V. Promote, as the case may be, the expropriation by the Federal Executive of the land required to carry out the hydraulic storage and distribution works, and

VI. It shall inform the authorities that must intervene according to their competence, on the occasion of the creation of the district and, as the case may be, of the expropriations that may be required.

Article amended DOF 29-04-2004

ARTICLE 73. The corresponding Basin Organization shall convene, under the terms of the regulations of this Law, hearings with the beneficiaries of the projected irrigation area in the district to:

I. Inform and agree with the beneficiaries on the recovery of federal investment in water infrastructure works, in accordance with the terms of the law;

II. Invite that the works required to constitute the projected irrigation area be executed by the beneficiaries with their own resources, and

III. Agree on the organization of the users of the irrigation area and the way in which the beneficiaries will contribute to the solution of the problems of those affected by the hydraulic works and the readjustment of the same.

In the event that in the hearings referred to in this Article, within the year following the date of publication of the creation of the irrigation district, agreement is not reached for the construction of the irrigation zone of the entire district with private and social investment, the same may be carried out with public investment, prior to the expropriation of the land necessary to constitute the projected irrigation zone.

Likewise, land may be expropriated if, prior to the year referred to in the preceding paragraph, the future beneficiaries representing four-fifths of the projected irrigated area so request the Federal Executive.

Article amended DOF 29-04-2004

ARTICLE 74. Compensation for the expropriation of land shall be paid in cash.

At the request of the party affected by the federal public works, the indemnity may be covered by compensation in kind for an equivalent value of irrigated land for each of the affected parties, under the terms of the Law, and the remainder of the indemnity, if any, will be covered in cash.

The competent basin organization, in coordination with the competent authorities, will provide and support the establishment of the necessary settlements to compensate for the property affected by the construction of the works.

Article amended DOF 29-04-2004

ARTICLE 75. The irrigation districts may:



I. Interconnect or merge with one or more other irrigation districts or units, in which case the Commission, through the competent Basin Organization, shall provide the support required, in which case they shall retain their nature as irrigation districts;

II. Decide and implement the division into two or more irrigation units, in accordance with the provisions of the district regulations, in which case the Commission, through the corresponding Basin Organization, shall arrange the necessary actions and measures to protect the rights of the users; and

III. To totally change the use of water, prior authorization from "the Commission".

Article amended DOF 29-04-2004

Section Five Temporary Technified Seasonal

Name of the Section amended DOF 04-29-2004

ARTICLE 76. The Federal Executive, through "the Commission", which shall rely on the Basin Organizations, and with the participation of the users, shall promote and encourage the establishment of technified rainfed units, including drainage units, pursuant to the provisions of paragraph b of section XXV of Article 3 of this Law, in order to increase agricultural and livestock production.

The agreement for the creation of the technified rainfed unit in accordance with the preceding paragraph will be published in the **Official Gazette of the Federation**. Said agreement will indicate the perimeter that delimits it, the description of the works and the rights and obligations of the beneficiaries for the services provided with said works.

Article amended DOF 29-04-2004

ARTICLE 77. The agreements for the creation of the Technified Temporary Districts shall be published in the **Official Gazette of the Federation**, which shall be based on technical studies formulated by the Basin Organizations and authorized by "the Commission", for which it shall coordinate, as appropriate, with the corresponding Authorities, and shall also indicate:

I. The requirements to become a user of the Technified Seasonal District;

II. The rights and obligations of the members of the Technified Seasonal District;

III. The geographic location and perimeter delimiting the Temporary District, and

IV. The description of the infrastructure associated with the creation and operation of the works that benefit the Technified Seasonal District.

In the Technified Rainfed Districts, taking as a basis the technified rainfed units that are identified and located within their territorial scope and that have federal agricultural infrastructure, the beneficiaries thereof must organize and incorporate as legal entities for the purpose of, on behalf of and in the name of the authorities mentioned in Paragraph One of this Article, provide the various services required, including drainage and roads, administration, operation, conservation and maintenance of the infrastructure, and charge the self-sufficiency fees derived from the provision of such services per benefited surface area.

The self-sufficiency fees must cover the total costs of the services rendered and may include the recovery of investments and the improvement of Temporal's infrastructure; to this effect, the users of the services will be obliged to cover such self-sufficiency fees.



The expenses for operation, conservation and maintenance services carried out by the authorities, directly or through third parties, as well as the portion of the self-sufficiency quotas destined to recover the investment, will have the character of tax credits.

The authorities mentioned in Paragraph One of this Article shall provide the necessary technical advice to the beneficiaries of the technified rainfed districts, based on the technified rainfed units identified and located within their territorial scope and, as the case may be, of the watershed areas that affect the infrastructure with water and sediment contributions.

The provisions established for irrigation districts and irrigation units shall be applicable, as applicable, to technified rainfed districts.

Article amended DOF 29-04-2004

Chapter III

Use in Electric Power Generation

ARTICLE 78. "The Commission", based on the environmental impact assessment, the general plans on the use of the country's water resources and the water programming referred to in this Law, when there are available volumes of water, shall grant the water concession title in favor of the Federal Electricity Commission, which shall determine the volume destined for the generation of electric energy and cooling of plants, as well as the causes for which the concession may be terminated.

"The Commission shall carry out the periodic programming of water extraction in each stream, vessel, lake, lagoon or reservoir of national property, and of its distribution, in order to coordinate hydroelectric development with the other uses of water.

The studies and planning carried out by the Federal Electricity Commission with respect to the use of water for the generation of electric energy, once approved by "the Commission", will be part of the general plans for the use of the country's water resources. Likewise, the studies and plans carried out by "the Commission" on water matters may be integrated to the general plans for the use of electric energy in the country. In the water programming carried out by "the Commission" and which may be used for hydroelectric purposes, the Federal Electricity Commission will be given the corresponding participation under the terms of the applicable law on the matter.

Article amended DOF 29-04-2004

ARTICLE 79. The Federal Executive shall determine whether the hydraulic works corresponding to the hydroelectric system shall be carried out by "the Commission" or by the Federal Electricity Commission.

"The Commission may use or concession the infrastructure it is in charge of to generate the electric energy it requires and may also dispose of the surplus, under the terms of the applicable law on the matter.

ARTICLE 80. Individuals or legal entities must request a concession from "the Commission" when they require the exploitation, use or exploitation of national waters for the purpose of generating electricity, under the terms of the applicable law on the matter.

No concession shall be required, under the terms of the regulations of this Law, for the exploitation, use or exploitation of national waters on a small scale for hydroelectric generation in accordance with the applicable law on the matter.

Article amended DOF 29-04-2004



ARTICLE 81. Those interested in carrying out exploration works for geothermal purposes shall apply to "the Commission" for a work permit for the exploratory well or wells, in terms of the provisions of the Geothermal Energy Law and its Regulations.

The exploitation, use and exploitation of subsoil water contained in hydrothermal geothermal deposits requires a water concession granted by "the Commission" and environmental impact authorization.

The water concessions referred to in the preceding paragraph will be granted in accordance with the requirements established in the Geothermal Energy Law and its Regulations. In any case, the agency before which the procedures related to its granting and modification will be carried out, will be the one indicated in Article 2 section XVI of the Geothermal Energy Law.

As part of the requirements established by the Geothermal Energy Law and its Regulations for the granting of water concessions, the interested party must submit to the agency referred to in the preceding paragraph, the studies of the geothermal hydrothermal reservoir that determine its location, extension, characteristics and connection or independence with adjacent or overlying aquifers.

The studies and explorations carried out by the interested parties must determine the location of the hydrothermal geothermal reservoir with respect to the aquifers, the probable position and configuration of the lower limit of the aquifers, the characteristics of the geological formations between the reservoir and the aquifers, among other aspects.

If the studies show that the hydrothermal geothermal reservoir and the overlying aquifers do not have a direct hydraulic connection, the granting of the water concession by the Commission will not be subject to the availability of water in the aquifers or to the regulations regarding the respective regulated zones, closed areas and reserves.

"The Commission will grant the applicant, through the agency referred to in Section XVI of Article 2 of the Geothermal Energy Law, the corresponding water concession for the volume of water requested by the interested party and will establish a monitoring program to identify negative effects on groundwater quality, groundwater catchments or existing infrastructure resulting from the exploitation of the field.

A discharge permit and environmental impact authorization will be required when the return water is discharged into receiving bodies that are national waters and other national property or when the disposal of drill cuttings into the subsoil is involved. The reincorporation of the return water to the hydrothermal geothermal reservoir requires a work permit for the injection well.

Water concessions granted by the Commission may be subject to modification in the event of alteration of extraction or injection points, redistribution of volumes, relocation, replacement and closure of wells.

Article amended DOF 29-04-2004, 11-08-2014

Chapter III Bis Industrial Use in Mining

Chapter added DOF 08-05-2023

ARTICLE 81 BIS. The person applying for a concession of national waters for industrial use in mining, in addition to the provisions of Article 21 BIS of this Law, must submit the following:

- I. Decision of the mining concession contest in favor of the applicant referred to in Section VI of Article 13 Bis of the Mining Law;



- II. The document indicating the methods and auxiliary works to be used for the use of working water in exploration and exploitation works, as well as the estimated volume expected to be handled. Such information must be public;
- III. The design of water quantity and quality monitoring well networks;
- IV. Authorization of the Mine Restoration, Closure and Post-closure Program, as provided for in the General Law of Ecological Balance and Environmental Protection, and
- V. The document indicating which will be the telemetric measurement devices with the capacity to transmit to "the Water Authority" in real time and their location, so that all surface or subway water intakes are measured, without exception.

Article added DOF 08-05-2023

ARTICLE 81 BIS 1. The concessionaires of national waters for industrial use in mining, in addition to those established in Article 29 of this Law, have the obligation to measure the volume of exploited, used or exploited water extracted from the basins and aquifers, as well as the waters coming from the workings of the mines for industrial or service use, in accordance with the provisions of this Law.

Article added DOF 08-05-2023

ARTICLE 81 BIS 2. The volume of water established in the concession for industrial use in mining includes the volume of groundwater extracted via wells as surface water intakes.

Article added DOF 08-05-2023

ARTICLE 81 BIS 3. In no case may national waters be used for the transportation of materials from mining operations.

In the case of concession applications for industrial use in mining, the construction of extraction wells whose depth could affect the availability of water for other uses should not be authorized.

In the concession of national waters for industrial use in mining, permission must not be granted for the deepening of extraction wells.

Article added DOF 08-05-2023

ARTICLE 81 BIS 4. The concessions of national waters for industrial use in mining shall have a maximum term of thirty years, counted from the day following the date of issuance of the concession title.

The concession of national waters for industrial use in mining may be extended for up to twenty-five years and with the same characteristics of the title for which it was granted, as long as the mining concession is in force and its holders comply with the provisions of the Program for the Restoration, Closure and Post-closure of mines, in the concession title, as well as in the applicable legal provisions, and request it at least six months prior to the expiration of its term.

Article added DOF 08-05-2023

Chapter IV

Use in other productive activities



ARTICLE 82. The exploitation, use or development of national waters for industrial, aquaculture, tourism and other productive activities may be carried out by individuals or legal entities, subject to the respective concession granted by the Water Authority, under the terms of this Law and its regulations.

"The Commission, in coordination with the Secretariat of Agriculture, Livestock, Rural Development, Fishing and Food, will grant facilities for the development of aquaculture and the granting of the necessary water concessions; it will also support, at the request of the interested parties, the aquaculture development in the federal hydraulic infrastructure, which is compatible with its exploitation, use or exploitation. In order to carry out the above, "the Commission" will rely on the Basin Organizations.

Aquaculture activities carried out in suspended systems in national waters shall not require a concession, as long as the watercourses are not diverted and provided that water quality, navigation, other permitted uses and the rights of third parties are not affected.

Article amended DOF 29-04-2004

Chapter V Flood Control and Flood Protection

ARTICLE 83. "The Commission", through the Basin Organizations, in coordination with the state and municipal governments, or in agreement with individuals or corporations, shall construct and operate, as the case may be, works for flood control and protection of flood zones, as well as roads and complementary works that make possible the best use of the land and the protection of population and industrial centers and, in general, the lives of persons and their property, in accordance with the provisions of Title Eight.

"The Commission, under the terms of the regulations, and with the support of the Basin Organizations, will classify the zones according to their risk of possible flooding, issue the necessary standards and recommendations, establish the measures for operation, control and follow-up, and apply the contingency funds created for this purpose.

The Basin Organizations shall support "the Commission", in accordance with the laws on the subject, to promote, if necessary, in coordination with the competent authorities, the establishment of insurance against flood damage in high-risk areas, in accordance with the classification referred to in the preceding paragraph.

Article amended DOF 29-04-2004

ARTICLE 84. "The Commission" shall determine the operation of the hydraulic infrastructure for flood control and shall take the necessary measures to follow up on extreme weather phenomena, promoting or carrying out the preventive actions required; likewise, it shall carry out the necessary actions agreed upon by its Technical Council to address the areas of hydraulic emergency or affected by extreme weather phenomena, in coordination with the competent authorities.

For the effective and timely compliance with the provisions of this Article, "the Commission" shall act, as appropriate, through the Basin Organizations.

Article amended DOF 29-04-2004

Chapter V BIS Water Culture

Chapter added DOF 2004-04-29



ARTICLE 84 BIS. "The Commission", with the assistance of the Basin Organizations, shall promote among the population, authorities and the media, a water culture in accordance with the reality of the country and its hydrological regions, for which purpose it shall:

I. Coordinate with federal and state educational authorities to incorporate into the curricula of all educational levels the concepts of water culture, in particular, the availability of the resource; its economic, social, and environmental value; efficient use; the needs and advantages of wastewater treatment and reuse; the conservation of water and its environment; payment for the provision of water services in rural and urban areas; and the payment of fees for extraction, discharge, and environmental services;

II. Implement permanent water culture dissemination campaigns;

III. Inform the population about water scarcity, the costs of providing it and its economic, social and environmental value; and strengthen the culture of paying for water, sewerage and treatment services;

IV. Provide information on adverse effects of pollution, as well as the need and advantages of treating and reusing wastewater;

V. To promote the rational use and conservation of water as a matter of national security, and to encourage the use of procedures and technologies aimed at the efficient use and conservation of water; and

VI. Promote the interest of society in its various citizen or non-governmental organizations, professional associations, academic bodies, and user organizations, to participate in decision-making, assumption of commitments and responsibilities in the execution, financing, monitoring, and evaluation of various activities in water resources management.

Article added DOF 2004-04-29

ARTICLE 84 BIS 1. "The Secretariat", "the Commission" and the Basin Organizations shall promote the improvement of water culture with the support of the corresponding agencies of the Federal Executive Branch, for the purpose of using mass media for its dissemination, under the terms set forth in the Federal Law on Radio and Television.

Article added DOF 2004-04-29

ARTICLE 84 BIS 2. "The Secretariat", "the Commission" or the Basin Agency shall promote that in programs aimed at children, the mass media disseminate and promote water culture, conservation together with the rational use of natural resources, as well as the protection of vital ecosystems and the environment, under the terms set forth in the Federal Law on Radio and Television.

Article added DOF 2004-04-29

TITLE SEVEN

Prevention and Control of Water Pollution and Liability for Environmental Damage

Title as amended DOF 04-29-2004

Chapter I

Water Pollution Prevention and Control

Chapter added DOF 2004-04-29

In accordance with Sections VI and VII of Article 7 of this Law, it is essential that the Federation, the states, the Federal District and the municipalities, through the corresponding agencies, the water users and the organizations of the society, preserve the conditions of the water resources of the country.



The ecological aspects of the hydrological regime, through the promotion and execution of the necessary measures and actions to protect and conserve water quality, in accordance with the terms of the Law.

The Federal Government may coordinate with the governments of the states and the Federal District, so that the latter execute certain administrative acts related to the prevention and control of water pollution and liability for environmental damage, under the terms of the provisions of this Law and other applicable legal instruments, in order to contribute to the decentralization of water resources management.

Individuals or legal entities, including agencies, agencies and entities of the three orders of government, which exploit, use or exploit national waters in any use or activity, shall be responsible under the terms of the Law of:

a. To take the necessary measures to prevent their contamination and, if necessary, to return the waters referred to in adequate conditions, in order to allow their exploitation, use or further development; and

b. Maintain the balance of vital ecosystems.

Article amended DOF 29-04-2004

ARTICLE 86. "The Water Authority" shall be in charge, under the terms of the Law:

I. Promote and, if necessary, execute and operate the federal infrastructure, monitoring systems and services necessary for the preservation, conservation and improvement of water quality in hydrological basins and aquifers, in accordance with the respective Official Mexican Standards and the particular conditions of discharge;

II. Formulate and carry out studies to evaluate the quality of national water bodies;

III. Formulate comprehensive programs for the protection of water resources in hydrological basins and aquifers, considering the existing relationships between land use and water quantity and quality;

IV. Establish and monitor compliance with the particular discharge conditions that must be met by wastewater from different uses and users generated in:

a. Assets and areas under federal jurisdiction;

b. Water and national assets;

c. Any land when they can contaminate the subsoil or aquifers, and

d. Other cases provided for in the General Law of Ecological Equilibrium and Environmental Protection and in the regulations of this Law;

V. To inspect and verify compliance with the provisions of the applicable Mexican Official Standards, for the prevention and conservation of the quality of national waters and goods indicated in this Law;

VI. Authorize, when appropriate, the discharge of wastewater into the sea, and in coordination with the Secretariat of the Navy when they come from mobile sources or fixed platforms;



VII. To monitor, in coordination with other competent authorities, that the water supplied for human consumption complies with the corresponding Official Mexican Standards;

VIII. To monitor, in coordination with other competent authorities, compliance with water quality standards in the use of wastewater;

IX. Promote or carry out the necessary measures to prevent garbage, waste, materials and toxic substances, as well as sludge resulting from wastewater treatment, water purification and the cleaning of urban or municipal sewage systems, from contaminating surface or subsoil waters and the property referred to in Article 113 of this Law;

X. To implement, within the scope of its competence, a rapid, timely and efficient response mechanism in the event of a hydro-ecological emergency or environmental contingency that may arise in the bodies of water or national assets under its responsibility;

XI. To address environmental alterations caused by the use of water, and to establish at the hydrological basin or hydrological region level the necessary actions to preserve water resources and, if necessary, contribute to prevent and remedy adverse effects on health and the environment, in coordination with the Secretariat of Health and "the Secretariat" within the scope of their respective competencies;

XII. To exercise the powers that correspond to the Federation in matters of prevention and control of water pollution and its control and sanction, in terms of the Law;

XIII. Perform:

a. Systematic and permanent monitoring of water quality, and keeping the Water Quality Information System updated at the national level, coordinated with the National Information System on water quantity, quality, uses and conservation in terms of this Law;

b. The national inventory of wastewater treatment plants; and

c. The national inventory of wastewater discharges; and

XIV. To provide support to "la Procuraduría" when so requested, in accordance with its legal competencies, subject to the availability of resources.

Article amended DOF 29-04-2004

ARTICLE 86 BIS. In the application of the provisions contained in this Title reserved for "the Commission", the latter shall determine the explicit action of the Basin Organizations, in accordance with the regulations derived from this Law.

Article added DOF 2004-04-29

ARTICLE 86 BIS 1. For the preservation of wetlands affected by the flow regimes of national waters, "the Commission" shall act through the Basin Organizations, or by itself, in the cases provided for in Section IX of Article 9 of this Law, which are reserved for direct action by "the Commission". For such purposes, it shall have the following powers:

I. Delimit and keep the inventory of wetlands on national property or those flooded by national waters;

II. Promote under the terms of this Law and its regulations, the national water reserves or the ecological reserve in accordance with the law of the matter, for the preservation of wetlands;



III. Propose Mexican Official Standards to preserve, protect and, when appropriate, restore wetlands, the national waters that feed them, and the aquatic and hydrological ecosystems that are part of them;

IV. Promote and, if necessary, carry out the necessary actions and measures to rehabilitate or restore wetlands, as well as to establish a natural environment or protection perimeter of the wetland, in order to preserve its hydrological conditions and ecosystem; and

V. To grant permits to drain land in wetlands in the case of national waters and property under its responsibility, for protection purposes or to prevent damage to public health, when this is not the responsibility of another agency.

For the exercise of the powers referred to in this Article, "the Commission" and the Basin Organizations shall coordinate with the other authorities that must intervene or participate within the scope of their competence.

Article added DOF 2004-04-29

ARTICLE 86 BIS 2. It is prohibited to dump or deposit in receiving bodies and federal zones, in contravention of the legal and regulatory provisions on environmental matters, garbage, materials, sludge from wastewater treatment and other waste or residues that by dissolution or dragging effect, contaminate the waters of the receiving bodies, as well as those wastes or residues considered hazardous in the respective Official Mexican Standards. Whoever fails to comply with this provision will be sanctioned in terms of the Law.

Article added DOF 2004-04-29

The Water Authority shall determine the parameters to be met by discharges, the assimilation and dilution capacity of national water bodies and the pollutant loads they may receive, as well as the quality goals and deadlines for achieving them, by issuing Declarations of Classification of National Water Bodies, which shall be published in the **Official Gazette of the Federation**, as well as their modifications, for their observance.

The declarations shall contain:

I. The delimitation of the classified water body;

II. The parameters to be met by discharges according to the body of water classified in accordance with the periods provided for in the regulations of this Law;

III. The capacity of the classified water body to dilute and assimilate pollutants, and

IV. The maximum discharge limits for the pollutants analyzed, the basis for establishing the particular discharge conditions.

Article amended DOF 29-04-2004

ARTICLE 88. Individuals or legal entities require a discharge permit issued by the "Water Authority" to permanently or intermittently discharge wastewater into receiving bodies that are national waters or other national property, including marine waters, as well as when they infiltrate land that is national property or other land when they may contaminate the subsoil or aquifers.



The control of wastewater discharges to the drainage or sewage systems of population centers is the responsibility of the municipalities, with the assistance of the states when necessary and as determined by law.

Article amended DOF 29-04-2004

ARTICLE 88 BIS. Individuals or legal entities that discharge wastewater into the receiving bodies referred to in this Law shall:

- I. To have the wastewater discharge permit mentioned in the previous Article;
- II. Treat wastewater prior to discharge into receiving bodies, when necessary to comply with the provisions of the corresponding discharge permit and Mexican Official Standards;
- III. To cover, when applicable, the federal fee for the use or exploitation of national property as receiving bodies for wastewater discharges;
- IV. Install and maintain in good condition, the measuring devices and accesses for the sampling necessary to determine the concentrations of the parameters foreseen in the discharge permits;
- V. To inform the "Water Authority" of the pollutants present in the wastewater generated by the industrial process or service they are operating, and which were not considered in the particular discharge conditions established;
- V BIS.** For industrial use in mining, submit to the "Water Authority" a monthly report of daily measurements containing the chronological analysis and water quality indicators of the discharges made in surface and subway waters, guaranteeing their quality in accordance with the parameters established by said authority;
Section added DOF 08-05-2023
- VI. Inform "the Water Authority" of any change in its processes, when this causes modifications in the characteristics or volumes of the wastewater contained in the corresponding discharge permit;
- VI Bis.** Adopt the use of biodegradable materials in their processes, as long as they are technically feasible, in compliance with the regulatory provisions on the matter;
Fraction added DOF 06-01-2020
- VII. To operate and maintain by itself or by third parties the works and facilities necessary for the management and, if applicable, the treatment of wastewater, as well as to ensure the control of the quality of such water prior to its discharge into receiving bodies;
- VIII. Retain for at least five years a record of the information on the monitoring they carry out;
- IX. Comply with the conditions of the corresponding discharge permit and, if applicable, maintain the works and facilities of the treatment system in satisfactory operating conditions;
- X. Comply with the Mexican Official Standards and, if applicable, with the particular discharge conditions that have been established for the prevention and control of extended or extended contamination.



The use of substances that may pollute the quality of national waters and receiving bodies;

- XI.** Allow the personnel of "the Water Authority" or "the Attorney General's Office", according to their competences, to carry out:
- a.** Inspection and verification of the works used for wastewater discharges and their treatment, if applicable;
 - b.** Reading and verifying the operation of meters or other metering devices;
 - c.** The installation, repair or replacement of metering devices or other measuring devices that allow to know the volume of discharges, and
 - d.** The exercise of its powers of inspection, verification and verification of compliance with the provisions of this Law and its Regulations, as well as the discharge permits granted;
- XII.** Submit, in accordance with its discharge permit, the reports of the volume of wastewater discharged, as well as the monitoring of the quality of its discharges, based on determinations made by a laboratory accredited in accordance with the Federal Law on Metrology and Standardization and approved by "the Water Authority";
- XIII.** To provide "la Procuraduría", within the scope of their respective competencies, with the documentation requested;
- XIV.** Pay within thirty days following the installation, repair or replacement of metering devices or devices made by the Water Authority, the amount corresponding to the cost thereof, which shall be considered a tax credit, and
- XV.** Any other matters indicated in the applicable laws and regulations.

When deemed necessary, "the Water Authority" will apply in the first instance the maximum limits established in the particular conditions of discharge instead of the Official Mexican Standard, for which it will notify the person responsible for the discharge in a timely manner.

Article added DOF 2004-04-29

ARTICLE 88 BIS 1. Discharges of wastewater for domestic use that are not part of a municipal sewage system may be carried out subject to the Official Mexican Standards issued for such purpose and by means of a written notice to the "Water Authority".

In localities that lack sewage and sanitation systems, individuals or legal entities that in their productive process or activity do not use as raw material substances that generate heavy metals, cyanides or toxics in their wastewater discharges and their discharge volume does not exceed 300 cubic meters per month, and are supplied with drinking water by municipal, state or Federal District systems, may carry out their wastewater discharges subject to the Mexican Official Standards issued for such purpose and by means of a written notice to the "Water Authority".

The control of wastewater discharges to urban or municipal drainage or sewage systems of population centers, which are discharged into receiving bodies, corresponds to the municipalities, the states and the Federal District.



The notices referred to in this Article shall comply with the requirements set forth in this Law and shall state, under oath, that they are in the cases indicated therein.

When one or more wastewater discharges are accidentally made into receiving bodies that are national property, the responsible parties must immediately notify the "Water Authority", specifying the volume and characteristics of the discharges, so that the appropriate measures may be promoted or adopted by the responsible parties or by the "Commission" and other competent authorities at their expense.

Those responsible for the discharges mentioned in the preceding paragraph must carry out the removal and cleaning of the pollutant from the receiving bodies affected by the discharge. In the event that the responsible party does not give notice, or having given notice, "the Commission" or other competent authorities must carry out such work, the cost thereof shall be paid by said responsible parties within thirty days following notification and shall be considered a tax credit. The damages caused will be determined and quantified by the Water Authority, and the amount thereof, as well as the cost of the work to which they refer, will be notified to the responsible individuals or legal entities for payment.

The determination and collection of the damage caused to national waters and property referred to in this Article shall proceed regardless of whether the "Water Authority", "the Attorney General's Office" and other competent authorities apply the corresponding administrative and criminal sanctions.

Article added DOF 2004-04-29

ARTICLE 89. In granting discharge permits, the Water Authority shall take into account the classification of national water bodies referred to in Article 87 of this Law, the corresponding Official Mexican Standards and the particular conditions that the discharge must comply with.

"The Water Authority shall answer the discharge permit application submitted under the terms of the regulations of this Law, within sixty working days following its admission. In the event that the authority fails to inform the applicant of the resolution of the request, it will be considered that the authority has decided to deny the permit requested. In such case, the petitioner may request the pertinent information in relation to its processing and the reasons for the negative resolution. The lack of resolution to the request may imply liabilities to the public servants in charge of such action, according to the provisions of the applicable laws. "The Water Authority shall issue the discharge permit to which the permit holder shall be subject and, if applicable, shall establish particular discharge conditions and requirements different from those contained in the application.

When the discharge of wastewater affects or may affect sources of drinking water supply or public health, the "Water Authority" will notify the competent authority and will issue the denial of the corresponding permit or its immediate revocation, and, if applicable, the suspension of the water supply, until these anomalies are eliminated.

Article amended DOF 29-04-2004

ARTICLE 90. "The Water Authority" shall issue the wastewater discharge permit under the terms of the regulations of this Law, which shall specify at least the location and description of the discharge in quantity and quality, the regime to which it will be subject to prevent and control water pollution and the duration of the permit.

When wastewater discharges originate from the use or exploitation of national waters, the discharge permits shall have at least the same duration as the title of the discharge permit.



The same rules shall apply to the extension or termination of the corresponding concession or assignment and shall be subject to the same rules.

Discharge permits may be transferred under the terms of Chapter V of Title Four of this Law, as long as the characteristics of the permit are maintained.

Article amended DOF 29-04-2004

ARTICLE 91. The infiltration of wastewater to recharge aquifers requires a permit from the "Water Authority" and must comply with the Official Mexican Standards issued for such purpose.

Article amended DOF 29-04-2004

ARTICLE 91 BIS. Individuals or legal entities that discharge wastewater into the drainage or sewage networks must comply with the Mexican Official Standards and, if applicable, with the particular discharge conditions issued by the state or municipality.

The municipalities, the Federal District and, if applicable, the states, must treat their wastewater before discharging it into a receiving body, in accordance with the Mexican Official Standards or the particular discharge conditions determined by the "Water Authority", when the latter is responsible for establishing them.

Discharges of wastewater for domestic and public urban use that lack or are not part of a sewage and sanitation system may be carried out subject to the Mexican Official Standards issued and by means of a notice. If these discharges are carried out in the municipal jurisdiction, the local authorities will be responsible for their inspection, surveillance and control.

Article added DOF 2004-04-29

ARTICLE 91 BIS 1. When one or more wastewater discharges are made fortuitously, culpably or intentionally into receiving bodies that are national property, in addition to the provisions of Article 86 of this Law, the responsible parties must give notice within 24 hours to the "Procuraduría" and the "Autoridad del Agua", specifying the volume and characteristics of the discharges, so that the appropriate measures may be promoted or adopted by the responsible parties or those that, at their expense, will be carried out by the "Procuraduría" and other competent authorities.

Failure to provide such notice shall be sanctioned in accordance with this Law, regardless of the application of other corresponding administrative and criminal sanctions.

Article added DOF 2004-04-29

ARTICLE 92. "The Water Authority" shall order the suspension of the activities that give rise to wastewater discharges, when:

- I. Failure to obtain a Wastewater Discharge Permit under the terms of this Law;
- II. The quality of the discharges is not subject to the corresponding Official Mexican Standards, to the particular conditions of discharge or to the provisions of this Law and its regulations;
- III. Failure to pay the fee for the use or exploitation of national property as receiving bodies for wastewater discharges for more than one fiscal year;
- IV. The person responsible for the discharge, in contravention of the terms of the Law, uses the process of dilution of the wastewater to try to comply with the respective Mexican Official Standards or the particular conditions of discharge;

Section amended DOF 08-05-2023



- V. When a report containing the analyses and indicators of the quality of the water discharged is not submitted every two years, and

Section amended DOF 08-05-2023

- VI. Failure to submit the monthly report of discharges referred to in Section V BIS of Article 88 BIS of this Law.

Section added DOF 08-05-2023

The suspension shall be without prejudice to any civil, criminal or administrative liability that may have been incurred.

When there is a risk of damage or danger to the population or ecosystems, the "Water Authority", at the request of the competent authority, may carry out the necessary actions and works to avoid it, at the expense of whoever is responsible.

Article amended DOF 29-04-2004

ARTICLE 93. The following are causes for revocation of the wastewater discharge permit:

I. Discharge in a place other than that authorized by the "Water Authority";

II. Performing the acts or omissions mentioned in sections II, III and IV of the preceding Article, when the activities of the licensee have been previously suspended by the "Water Authority" for the same reason, or

III. The revocation of the concession or assignment of national waters, when by reason of said title these are the only waters that with their exploitation, use or exploitation originate the discharge of wastewater.

When revocation is appropriate, the Water Authority, after hearing the interested party, will issue and notify the respective resolution, which must be duly founded and motivated.

The Discharge Permit will expire when the concession or assignment title that originates the discharge expires.

Article amended DOF 29-04-2004

ARTICLE 93 BIS. In addition to the provisions of the preceding Article, failure to pay the fee for the use or exploitation of national property as receiving bodies of wastewater discharges in a recidivist manner in relation to the provisions of Section III of Article 92 of this Law shall be grounds for revocation of the Wastewater Discharge Permit.

Article added DOF 2004-04-29

ARTICLE 94. When the suspension or cessation of operation of a wastewater treatment plant may cause serious damage to the health or safety of the population or serious damage to vital ecosystems, the Water Authority, by itself or at the request of a different authority, in accordance with their respective competencies, shall order the suspension of the activities causing the discharge, and when this is not possible or convenient, the "Water Authority" will appoint an intervener to take charge of the administration and provisional operation of the wastewater treatment facilities, until the activities are suspended or the seriousness of the discharge is considered overcome, without prejudice to the administrative or criminal liability that may have been incurred.

The expenses incurred by such intervention shall be charged to the holders of the discharge permit. In

case they are not covered within thirty days following their request by "the Authority of the Water", the expenses will have the character of tax credit.



Article amended DOF 29-04-2004

ARTICLE 94 BIS. Prior to granting or renewing permits, including discharge permits, concessions and assignments of pollution generators, in addition to complying with the Mexican Official Standards relating to wastewater discharges, the interested party shall submit to the "Water Authority" a physical, chemical and organic analysis of the waters of the receiving sources at points immediately prior to discharge. This information will be used to form the Point Source Pollution Control Register and to evaluate the environmental quality of the source, its assimilation or self-purification capacity and support.

Article added DOF 2004-04-29

ARTICLE 95. The Water Authority, within the scope of federal jurisdiction, shall carry out inspections or inspections of wastewater discharges for the purpose of verifying compliance with the Law. The results of such inspection or inspection shall be recorded in a circumstantial record, shall produce all legal effects and may serve as a basis for the Commission and the competent agencies of the Federal Public Administration to apply the respective penalties provided for in the Law.

Article amended DOF 29-04-2004

ARTICLE 96. In irrigation zones and in those zones of widespread or dispersed contamination, the handling and application of substances that may contaminate national surface or subsoil waters shall comply with the standards, conditions and provisions derived from this Law and its regulations.

"The Commission shall promote, within the scope of its competence, the standards or provisions required to make land use compatible with water use, in order to preserve the quality of the same within an ecosystem, hydrological basin or aquifer.

Article amended DOF 29-04-2004

Chapter II Liability for Environmental Damage

Chapter added DOF 2004-04-29

ARTICLE 96 BIS. The "Water Authority" shall intervene to ensure compliance with the remediation of environmental damage, including those damages that compromise vital ecosystems, and shall be subject in its actions to the terms of the law, the National Waters Law and its Regulations.

Article added DOF 2004-04-29. Amended DOF 07-06-2013

ARTICLE 96 BIS 1. Individuals or legal entities that discharge wastewater, in violation of the applicable legal provisions, and that cause pollution in a receiving body, shall assume the responsibility to repair or compensate the environmental damage caused in terms of the Law on National Waters and its Regulations, without prejudice to the application of the appropriate administrative, criminal or civil sanctions, by removing the pollutants from the affected receiving body and restoring it to the state it was in before the damage occurred.

Amended paragraph DOF 07-06-2013

"The Commission, with the support of the competent Basin Agency, shall intervene to ensure that environmental damage to water bodies of national property caused by water extractions or discharges is repaired, in accordance with the terms of this Law and its regulations.

Article added DOF 2004-04-29

TITLE EIGHT Investment in Water Infrastructure



Chapter I General Provisions

ARTICLE 96 BIS 2. The following are considered as necessary public works that are the responsibility of the Federal Executive through "the Commission":

I. Improve and expand knowledge on the occurrence of water, in quantity and quality, in all phases of the hydrological cycle, as well as the phenomena related to such occurrence, under their responsibility;

II. To regulate and conduct water, in order to guarantee the availability and use of water in the basins, except in those cases in which they have been carried out or are expressly in charge and safeguarded by other orders of government;

III. Control, and serve for the defense and protection of national waters, as well as those necessary to prevent floods, droughts and other exceptional situations affecting public water assets; without prejudice to the competencies of the State or Municipal Governments;

IV. Enable the supply, potabilization and desalination, the implementation of which affects two or more states;

V. Are of strategic importance in a hydrological region due to their size or investment cost;

VI. Are necessary for the execution of national plans or programs other than water, but related to the latter, when the responsibility for the works corresponds to the Federal Executive, as requested by the state or Federal District in whose territory it is located, and

VII. Are necessary to comply with this Law and its regulations.

Article added DOF 2004-04-29

ARTICLE 97. The users of national waters may carry out, by themselves or by third parties, any hydraulic infrastructure works required for their exploitation, use or development.

The administration and operation of these works shall be the responsibility of the users or of the associations formed for this purpose, regardless of the exploitation, use or development of national waters.

Article amended DOF 29-04-2004

ARTICLE 98. When such works could affect the hydraulic or hydrological regime of the watercourses or vessels of national property or of the corresponding federal zones, as well as in the cases of drilling wells in regulated or closed areas, a permit shall be required pursuant to the terms of Articles 23 and 42 of this Law and its regulations. For this purpose, the competent Authority will issue the corresponding Official Mexican Standards.

"The Water Authority" shall supervise the construction of the works, and may at any time take the necessary corrective measures to ensure compliance with the permit and such standards.

Article amended DOF 29-04-2004



The Water Authority shall provide, at the request of the investors, concessionaires or assignees, the support and technical assistance for the adequate construction, operation, conservation, improvement and modernization of the hydraulic works and the services for their operation.

"The Water Authority will also provide the support and technical assistance requested for the adequate operation, improvement and modernization of the hydraulic services for their self-sustained development, through specific programs that include the efficient management and conservation of water and soil, in collaboration with the users' organizations.

Article amended DOF 29-04-2004

ARTICLE 100. "The Commission" shall establish the standards or take the necessary actions to prevent the construction or operation of a work from adversely altering the hydraulic conditions of a stream or endangering the lives of persons and the safety of their property or vital ecosystems.

Article amended DOF 29-04-2004

ARTICLE 101. "The Commission" will carry out by itself or by third parties the federal public works of hydraulic infrastructure arising from the investment programs under its responsibility, pursuant to the Law and regulatory provisions. Likewise, it may execute the works requested and which are totally or partially financed with resources other than federal resources.

In the event that the investment is made totally or partially with federal resources, or that the infrastructure is built through credits guaranteed by the Federal Government, "the Commission", within the scope of its competence, will establish the standards, characteristics and requirements for its execution and supervision, unless by law they correspond to another agency or entity.

Chapter II

Private and Social Investment Participation in Federal Hydraulic Works

In order to achieve the promotion and encouragement of private participation in the financing, construction and operation of federal water infrastructure, as well as in the provision of the respective services, "the Commission" may:

I. Enter into public works and services contracts with private parties under the recoverable investment modality, for the construction, equipment and operation of hydraulic infrastructure, and a company or group of companies may be in charge of the integral responsibility for the work and its operation, under the provisions issued by the Authority in the matter and under the terms of the regulations of this Law;

II. To grant total or partial concessions to operate, conserve, maintain, rehabilitate and expand the hydraulic infrastructure built by the Federal Government and the rendering of the respective services; and

III. To grant total or partial concessions to build, equip and operate the federal hydraulic infrastructure and to provide the respective service.

"The Commission shall coordinate in terms of the Law with the corresponding state government(s) to grant the concessions referred to in Sections II and III of this Article.

For the processing, duration, regulation and termination of the concession referred to in Section II of this Article, the provisions of this Law for concessions for the exploitation, use or exploitation of water and the provisions of its regulations shall apply accordingly. The users of such infrastructure shall have preference in the granting of such concessions.

Article amended DOF 29-04-2004



The concessions referred to in Section III of the preceding Article shall be subject to the provisions of this Chapter and the regulations of this Law.

"The Commission shall establish the minimum bases to participate in the bidding process to obtain the concessions referred to in this Chapter, under the terms of this Law and its regulations. The selection among the companies participating in the bidding process will be made based on the minimum rates that respond to the criteria of seriousness, reliability and quality established in the bases established by "the Commission" for each case.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

ARTICLE 104. The minimum rates referred to in the preceding Article, in accordance with the bases issued by "the Commission" shall:

- I. Promote the efficient use of water, the rationalization of consumption patterns and, if necessary, inhibit activities that impose excessive demand;
- II. Provide for the necessary adjustments based on the corresponding variable costs, in accordance with the known and measurable indicators established in the bases themselves, and
- III. Consider an established period; which at no time shall be less than the period for recovery of the cost of capital or compliance with the financial obligations incurred in connection with the concession.

The term of the concession in relation to this Chapter may not exceed fifty years, except as provided in the last paragraph of Article 102 of this Law.

Article amended DOF 29-04-2004

ARTICLE 105. "The Commission", under the terms of the respective regulations, may authorize the concessionaire to grant as guarantee the rights of the concessioned assets referred to in this Chapter, and shall specify in this case the respective terms and modalities.

The guarantees will be granted for a term that in no case will include the last tenth part of the total time for which the concession has been granted, for concessions with a duration of more than fifteen years; when the duration of the concession is less than fifteen years, the guarantees will be granted for a term that will not exceed the last eighth part of the total duration of the respective concession.

Article amended DOF 29-04-2004

If during the last tenth or eighth of the total term of the concession, as the case may be in accordance with the provisions of the preceding Article, the concessionaire does not maintain the infrastructure in good condition, the Commission shall appoint an auditor to oversee or be responsible for maintaining the infrastructure up to date, at the concessionaire's expense, so that an efficient service is provided and the hydraulic infrastructure is not impaired.

Article amended DOF 29-04-2004

ARTICLE 107. The concession shall only be terminated by:

- I. Expiration of the term established in the title or resignation of the holder;
- II. Revocation for non-compliance in the following cases:
 - a. Failure to execute the works or works that are the object of the concession under the terms and conditions set forth in this Law and its Regulations;



b. Failure to pay the contributions or benefits established by tax legislation for the use or exploitation of infrastructure and other concessioned goods or services;

c. To transfer the rights of the title or grant as guarantee the concessioned assets, without the authorization of "the Commission"; or

d. Deficient or irregular rendering of the service, or the construction, operation, conservation or maintenance, or its definitive suspension, for causes attributable to the concessionaire, when this could cause or will cause serious harm or damage to users or third parties;

III. Rescue of the concession for reasons of public utility or public interest, pursuant to the provisions of Section V of Article 6 of this Law, by means of payment of the respective indemnification, determined by experts in accordance with the terms of the Regulations, guaranteeing in any case that such indemnification is at least equivalent to the pending recovery of the investment made and the reasonable profit agreed upon in the terms of the concession, or

IV. Judicial Resolution.

In the cases referred to in section II, the constructed works or infrastructure, as well as their improvements and accessions and the assets necessary for the continuity of the service, will be delivered in good condition, free of charge and free of any lien or limitation, to pass to the domain of the Nation, with the accessories and other assets necessary to continue with the operation or rendering of the service.

Article amended DOF 29-04-2004

ARTICLE 108. The total or partial recovery of the private or social investment may be made through the supply of water for multiple uses, including the sale of electric power under the terms of the applicable Law on the matter.

The public works of hydraulic infrastructure or the assets necessary for their construction or operation may be destined to trusts, established in credit institutions, so that, through the administration and operations on the use or exploitation of such works, the recovery of the investment made will be facilitated. Once the purpose of the trust has been fulfilled, they must revert to the Federal Government, otherwise, they will be disincorporated in accordance with the terms of the applicable law.

Chapter III Recovery of Public Investment

ARTICLE 109. Public investments in federal hydraulic works shall be recovered in the manner and under the terms set forth in the Law on Contribution for Improvements for Federal Public Works of Hydraulic Infrastructure, through the establishment of self-sufficiency quotas to be paid by the persons directly benefiting from the use, development or exploitation of such works.

Article amended DOF 29-04-2004

The operation, conservation and maintenance of the hydraulic infrastructure will be charged to the users of the respective services. The self-sufficiency fees shall be determined based on the costs of the services, after the valuation of such costs in terms of economic efficiency; likewise, criteria of economic efficiency and financial sanitation of the entity or unit rendering the service shall be taken into consideration.

Article amended DOF 29-04-2004



ARTICLE 111. In irrigation districts and irrigation or technified rainfed units, the ownership of the land or, in the case of ejido or communal landholders, the right to use or exploit the parcel may be granted as guarantee, under the terms of the Agrarian Law, to ensure the recovery of the investments in the works and the cost of the respective irrigation or drainage services.

Article amended DOF 29-04-2004

Chapter IV **Charges for Exploitation, Use or Exploitation of National Waters and National Assets**

Chapter repealed DOF 2004-04-29

TITLE EIGHTH BIS **Water Financial System**

Title added DOF 2004-04-29

Sole Chapter

Chapter added DOF 2004-04-29

ARTICLE 111 BIS. The Federal Executive shall provide the adequate means and framework to define, create and sustainably implement the Water Financial System; its operation shall be the responsibility of "the Commission", under the supervision and support of the Ministry of Finance and Public Credit.

The purpose of the Water Financial System will be to serve as a basis for supporting actions related to the integrated management of water resources in the national territory, without prejudice to the continuity and strengthening of other financial mechanisms with similar purposes.

The Water Financial System will clearly determine the different financial sources, ways of obtaining financial resources, criteria for the application of expenditure and recovery, if applicable, of such financial resources, accountability and management indicators, as well as goals resulting from the application of such resources and financial instruments.

Article added DOF 2004-04-29

ARTICLE 112. The rendering of the different administrative services by "the Commission" or its Basin Organizations and the exploitation, use or development of national waters, including those of the subsoil, as well as of the national assets administered by "the Commission", shall motivate the payment by the user of the fees established by the Federal Law on Duties.

The exploitation, use or exploitation of property of the public domain of the Nation as receiving bodies of wastewater discharges will motivate the payment of the fee established by the Federal Law of Rights.

The payment is independent of compliance with the provisions of this Law on the prevention and control of water quality; the provisions of the General Law on Ecological Balance and Environmental Protection; and the General Law on Health.

This obligation includes national assets and their services that are coordinated with the governments of the states, the Federal District or municipalities for the administration of the collection of duties under the terms of the Fiscal Coordination Law and the Federal Law of Duties.

Article amended DOF 29-04-2004

ARTICLE 112 BIS. The fees for duties and other federal contributions and other fees and tariffs established for the use or exploitation of water, or for the rendering of water services, shall be paid in accordance with the provisions of this article.



related to hydraulic infrastructure works shall be designed, in accordance with the provisions issued by the Authority on the matter, to:

I. Privilege demand management by promoting efficient water use, rationalizing consumption patterns, and, if necessary, inhibiting activities that impose excessive demand;

II. Provide for the necessary adjustments based on the corresponding variable costs, in accordance with the known indicators that can be measured and that establish the bases of the contributions, fees and tariffs themselves;

III. Recovering federal investments through contributions within an established period, which shall not be less than the period for recovery of the cost of capital or compliance with the financial obligations incurred as a result of the concession, and

IV. Any other applicable lawful provisions.

Article added DOF 2004-04-29

TITLE NINE **National Assets in Charge of "the Commission"**

Sole Chapter

ARTICLE 113. The administration of the following national assets shall be the responsibility of "the Commission:

I. The beaches and federal zones, in the part corresponding to the channels of currents in the terms of the present Law;

II. Land occupied by the vessels of lakes, lagoons, estuaries or natural reservoirs whose waters are national property;

III. The channels of national watercourses;

IV. The banks or federal zones contiguous to the beds of the streams and to the vessels or deposits of national property, in the terms foreseen by Article 3 of this Law;

V. The lands of the riverbeds and those of the vessels of lakes, lagoons or estuaries of national property, uncovered by natural causes or by artificial works;

VI. The islands that exist or are formed in the vessels of lakes, lagoons, estuaries, dams and reservoirs or in the channels of streams of national property, except those that are formed when a stream segregates lands of private, communal or communal property, and

VII. Water infrastructure works financed by the federal government, such as dams, dikes, reservoirs, canals, drains, dikes, ditches, aqueducts, irrigation districts or units and others constructed for the exploitation, use, exploitation, flood control and management of national waters, with the land they occupy and the protection zones, to the extent established by "the Commission" in each case.

In the cases of fractions IV, V and VII, the administration of the assets, when applicable, will be carried out in coordination with the Federal Electricity Commission.



ARTICLE 113 BIS. The "Water Authority" shall be in charge of the stone materials located within the channels of national waters and their inherent public property.

It will be mandatory to have a concession for the use of the referred materials.

Amended paragraph DOF 08-06-2012

"The Water Authority will monitor the exploitation of such materials and will periodically review the validity and compliance of the concessions granted to individuals and corporations, whether public or private.

Amended paragraph DOF 08-06-2012

The following are causes for revocation of the concession:

Amended paragraph DOF 08-06-2012

- I. Disposal of stone materials in volumes greater than those authorized;
- II. Disposal of stone materials without complying with the respective Official Mexican Standards;
- III. Depositing in watercourses and other water bodies of national property, stone materials and waste thereof, including debris and rubble, or other waste on a permanent, intermittent or incidental basis;
- IV. Failure to pay the respective fees and dues in a timely manner;
- V. Failure to adequately execute the authorized works;
- VI. Damage vital ecosystems to water as a result of the disposal of stone materials;
- VII. Transfer title rights without permission of "the Water Authority" or in contravention of the provisions of this Law;
- VIII. Provisionally allow third parties to exploit the stone materials covered by the respective concession, without the definitive transfer of rights, the modification of the conditions of the respective title, or the prior authorization of the "Water Authority";
- IX. Failure to comply with preventive and corrective measures ordered by the Water Authority, and
- X. Any others provided for in this Law, in its regulations or in the concession title itself.

Upon termination of the concession, or when the title has been revoked, the works and installations permanently attached to the reason for the concession must be removed, notwithstanding that "the Water Authority" may consider them of subsequent utility, in which case they will revert in its favor.

Should appreciable damage to slopes, riverbeds and other elements related to water management be detected, in the judgment of the "Water Authority", in accordance with its respective powers, they shall be fully repaired by the perpetrators, without prejudice to the application of other administrative and criminal sanctions that may be applicable in accordance with the regulations issued in this regard.

Article added DOF 2004-04-29

ARTICLE 113 BIS 1. In order to comply with the provisions of the Articles of this Title, the Commission shall rely on the Basin Organizations and, when necessary, on the three levels of government and their institutions.



"The Commission and the Basin Organizations may coordinate with the governments of the states and the Federal District, so that the latter execute certain administrative acts related to the national assets under the responsibility of the Commission, under the terms of the provisions of this Law and other applicable legal instruments, in order to contribute to the decentralization of the management of the aforementioned assets.

Article added DOF 2004-04-29

ARTICLE 113 BIS 2. The purpose of the declaration of national waters issued by the Federal Executive shall be to make public knowledge of the streams or water reservoirs that have such character. The lack of such declaration does not affect the national character of the waters.

In order to issue the respective declaration, the technical studies that justify or prove that the stream or reservoir in question meets the characteristics established by the Law to be national waters shall be carried out or referred to.

The declaration shall include, in addition to the general description and characteristics of the stream or reservoir of national waters, the watercourses, vessels and federal zones, without it being necessary to make demarcations in each case.

Article added DOF 2004-04-29

ARTICLE 114. When, due to natural causes, a definitive change occurs in the course of a stream owned by the Nation, the latter shall acquire ownership of the new riverbed and its federal zone by that sole fact.

When, due to natural causes, there is a definitive change in the level of a lake, lagoon, estuary or stream of national property and the water invades land, the land, the federal zone and the corresponding federal maritime-terrestrial zone will become part of the public domain of the Federation. If with the definitive change in said level, land is discovered, it will continue to be part of the public domain of the Federation.

In the event that surface waters tend to change their basin or bed, the owners of the surrounding land shall have the right to build the necessary defense works. In case of consummated change, they shall have the right to construct rectification works, within a period of one year from the date of the change. In order to proceed with the construction of defenses or rectification, it will be sufficient to determine the environmental impact, and that written notice be given to the "Water Authority", which may suspend or order the correction of such works in the event that damage is caused or may be caused to third parties or to vital ecosystems.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

When, due to natural causes, a definitive change occurs in the course of a stream of national property, the owners affected by the change of course shall have the right to receive, in substitution, the proportional part of the surface that remains available outside the bank or federal zone, taking into account the extension of land on which they have been affected.

Failing this, the riparian owners of the abandoned watercourse may acquire up to half of the abandoned watercourse on the part that is in front of their property, or all of it if there is no interested riparian on the opposite side.

In the absence of affected or interested riparian owners, third parties may acquire the surface of the abandoned watercourse.

Article amended DOF 29-04-2004



ARTICLE 116. The lands gained by artificial means when channeling a stream, shall pass to the public domain of the Federation. The lands uncovered when limiting or partially or totally draining a vessel of national property, shall remain in the public domain of the Federation. The channeling or limiting works will be considered as an integral part of the corresponding watercourses and vessels, and of the respective federal zone and protection zone, for which reason they will be subject to the public domain of the Federation.

Article amended DOF 29-04-2004

ARTICLE 117. The Federal Executive, by itself or through the Commission, may reduce or eliminate by means of a declaration the federal zone of streams, lakes and lagoons of national property, as well as the federal zone of the hydraulic infrastructure, in the portions comprised within the perimeter of the towns.

The states, the Federal District, the municipalities or, as the case may be, the individuals interested in the lands referred to in this Article, shall submit to "the Commission" for its approval the project to carry out the control works and those necessary to reduce or eliminate the federal zone.

"The Commission may agree with the governments of the states, the Federal District or the municipalities, the custody, conservation and maintenance of the federal zones referred to in this Article. In the case of interested individuals, this will be done through public auction.

Article amended DOF 29-04-2004

ARTICLE 118. The national properties referred to in this Title may be exploited, used or exploited by individuals or legal entities by means of a concession granted by the Water Authority for such purpose. In the case of stone materials, the provisions of Article 113 BIS of this Law shall apply.

For the granting of the concessions mentioned in the preceding paragraph, the provisions of this Law and its regulations for concessions for the exploitation, use or exploitation of national waters shall be applied, even when there are endowments, restitutions or accessions of land and water to population centers.

For the granting of concessions in the federal zone referred to in this Article, in equal circumstances, outside urban areas and for productive purposes, the owner or possessor adjacent to said federal zone shall have preference.

The "Water Authority" is prohibited from granting concessions on watercourses or vessels and their federal zones for the final disposal of mining waste or mining wastewater deposits.

Paragraph added DOF 08-05-2023

Article amended DOF 29-04-2004

ARTICLE 118 BIS. The concessionaires referred to in this Chapter shall be obliged to:

I. To carry out the exploitation, use or exploitation set forth in the concession in accordance with the specifications issued by the "Water Authority";

II. Carry out only the works approved in the concession or authorized by "the Water Authority";

III. To begin exercising the rights set forth in the concession as of the date approved in accordance with the conditions set forth in the respective Title and to conclude the approved works within the terms set forth in the concession;



IV. Cover the costs of demarcation and demarcation of the concessioned area;

V. To vacate and deliver within the term established by "the Water Authority", the areas in question in cases of extinction or revocation of concessions;

VI. Timely payment of the payments to be made in accordance with the applicable tax legislation and the other obligations set forth therein, and

VII. Comply with the obligations established in the concession.

Failure to comply with the provisions set forth in this Article shall be grounds for suspension and, in case of recurrence, for revocation of the respective concession.

In relation to stone materials, the provisions of Article 113 BIS of this Law shall apply.

Article added DOF 2004-04-29

TITLE TEN **Measures of Exigency, Security, Violations, Penalties and Remedies**

Title of the Title amended DOF 08-06-2012

Chapter I **Security and Safety Measures**

Chapter added DOF 08-06-2012

ARTICLE 118 BIS 1. "The Commission" in order to enforce its determinations may request the assistance of the public force from the federal, state or municipal authorities.

Article added DOF 08-06-2012

In case of imminent risk, damage, deterioration to health, to national waters, to the goods referred to in Article 113 of this law, to biodiversity or to the ecosystems linked to water, the water authority or the Attorney General's Office, within the scope of their respective competencies, may immediately carry out one or some of the following measures:

I. Temporary closure of the use of national waters.

II. Suspension of the activities that give rise to the process that generates wastewater discharges.

III. Promote before the civil protection and public safety authorities of the Federal, State, Federal District and municipal governments, the adoption of urgent measures, including the securing of property, removal or demolition of infrastructure, in order to protect the life and property of people.

The measures established in sections I and II shall be maintained until such time as the conditions that gave rise to their establishment cease to exist.

Article added DOF 08-06-2012

When the "Water Authority" applies the security measures referred to in the preceding article, it shall indicate to the user, concessionaire or assignee, the actions to be carried out to correct the irregularities that led to the imposition of the measure, as well as the deadlines for their completion, so that once these are fulfilled, the withdrawal of the security measure imposed may be ordered.

Article added DOF 08-06-2012



Chapter II Administrative Violations and Penalties

Chapter route (formerly Chapter I) DOF 08-06-2012

ARTICLE 119. The Water Authority shall sanction the following offenses in accordance with the provisions of this Law:

- I. Permanently, intermittently or accidentally discharging wastewater in contravention of the provisions of this Law into receiving bodies that are national property, including marine waters, as well as when they infiltrate land that is national property or other land when they may contaminate the subsoil or aquifer;
- II. To exploit, use or take advantage of national waste waters without complying with the Mexican Official Standards on the matter and in the particular conditions established for such effect;
- III. Exploit, use or take advantage of national waters in volumes greater than those authorized in the respective titles or in the inscriptions made in the Public Registry of Water Rights;
- IV. Occupy or take advantage of vessels, watercourses, canals, federal zones, protection zones and other assets referred to in Article 113 of this Law, without the concession title;
- V. Altering the hydraulic infrastructure authorized for the exploitation, use or exploitation of water, or its operation, without the corresponding permit;
- VI. Failure to condition works or installations in accordance with the terms established in the regulations or other standards or provisions issued by the competent authority to prevent negative effects on third parties or on the hydraulic development of the sources of supply or the basin;
- VII. Not to install, not to preserve, not to repair or not to replace the necessary devices for recording or measuring the quantity and quality of water, under the terms established in this Law, its regulations and other applicable provisions, or to modify or alter the facilities and equipment for measuring the volumes of water exploited, used or exploited, without the corresponding permit, including those installed by the "Water Authority" in the exercise of its powers;
- VIII. To exploit, use or take advantage of national waters without the respective title, when so required under the terms of this Law;
- IX. Executing for himself or for a third party works to illuminate, extract or dispose of subsoil water in regulated, closed or reserved zones, without the respective permit, as well as whoever has ordered the execution of such works;
- X. Impede or hinder visits, inspections, surveys, verifications and inspections carried out by the "Water Authority" under the terms of this Law and its regulations;
- XI. Failure to provide the data required by the "Water Authority" or the "Water Prosecutor's Office", as the case may be, to verify compliance with the provisions contained in this Law and the

Reformed fraction DOF 08-06-2012



- concession, assignment or discharge permit titles, as well as in other legal regulations;
- XII.** Use water volumes greater than those generated by wastewater discharges for dilution in order to try to comply with Mexican Official Standards on ecological matters or particular discharge conditions;
 - XIII.** Supplying national waters for human consumption that do not comply with the corresponding quality standards;
 - XIV.** Dumping or depositing any pollutant, in contravention of legal provisions, in rivers, riverbeds, watercourses, lakes, lagoons, estuaries, marine waters and other water deposits or currents, or infiltrating materials and substances that pollute subsoil waters;
 - XV.** Failure to comply with the obligations set forth in the concession, assignment or discharge permit titles;
 - XVI.** Failure of the concessionaire or assignee to request registration in the Public Registry of Water Rights under the terms provided in this Law and its regulations;
 - XVII.** Causing considerable environmental damage or generating imbalances in the area of water resources in accordance with the provisions on the matter;
 - XVIII.** Wasting water in contravention of the provisions of the Law and its regulations;
 - XIX.** Not to execute the blinding of wells that have been subject to relocation, replacement or whose rights have been totally transferred to another property, as well as not to adjust the capacity of their pumping equipment when the rights of exploitation, use or exploitation of national waters are partially transferred;
Reformed fraction DOF 08-06-2012
 - XX.** Modify or divert watercourses, vessels or streams when they are national property, without the corresponding permit; when a water work of national property is damaged or destroyed;
 - XXI.** Failure to inform the "Water Authority" of any change in its processes when this causes modifications in the characteristics or volumes of the wastewater used to issue the corresponding discharge permit;
 - XXII.** Failure to file the chronological records referred to in "the Law" or failure to file the monthly report described in Article 88 BIS, Section V BIS, of this Law;
Fraction amended DOF 08-05-2023
 - XXIII.** Exploit, use or take advantage of national assets determined in Articles 113 and 113 BIS of this Law, without having a concession title, and
Reformed fraction DOF 08-06-2012
 - XXIV.** To exploit, use or take advantage of national assets determined in Articles 113 and 113 BIS of this Law, in a greater amount or in a different manner than that established in the respective concession title.
Section amended DOF 08-06-2012
Article amended DOF 29-04-2004



ARTICLE 120. The offenses referred to in the preceding Article shall be administratively sanctioned by "the Water Authority" with fines that shall be equivalent to the daily value of the Unit of Measurement and Actualization in force at the time the offense is committed, and in the amounts expressed below; the foregoing, regardless of the sanctions stipulated in the General Law of Ecological Balance and Environmental Protection, Law of National Property and Federal Law of Metrology and Standardization and its regulations, the Mexican Official Standards, the Federal Penal Code and other applicable provisions in the matter:

Amended paragraph DOF 06-01-2020

- I. 260 to 1,950 Unidades de Medida y Actualizacion, in the case of violation of sections X, XI, XVI, XXI and XXII;

Reformed fraction DOF 08-06-2012, 06-01-2020

- II. 1,560 to 6,500 Units of Measurement and Actualization, in the case of violations to fractions I, VI, XII, XVIII and XIX, and

Reformed fraction DOF 08-06-2012, 06-01-2020

- III. 1,950 to 26,000 Unidades de Medida y Actualizacion, in the case of violation of sections II, III, IV, V, VII, VIII, VIII, IX, XIII, XIV, XV, XVII, XX, XXIII and XXIV.

Reformed fraction DOF 08-06-2012, 06-01-2020

In the cases provided for in Section IX of the preceding Article, the violators shall forfeit to the Nation the works for the illumination and use of water and the machinery and drilling equipment shall be retained or kept in deposit or custody until the damage caused is repaired in accordance with the terms of the Law, without prejudice to other applicable administrative and criminal penalties.

Fines imposed by the Water Authority must be paid within the terms established in the Federal Administrative Procedure Law.

When fines are not paid on the established date, the amount of the fines will be updated monthly from the time payment should have been made until payment is made, in accordance with the National Consumer Price Index.

Article amended DOF 29-04-2004

ARTICLE 121. In order to sanction the offenses referred to in this Chapter, infractions shall be qualified in accordance with:

- I. The seriousness of the offense;
- II. The economic conditions of the offender;
- III. Repealed,
and
- IV. Recidivism.

Section repealed DOF 08-06-2012

If upon expiration of the term granted by the authority to remedy the infraction or infractions that have been committed, it appears that such infraction or infractions still subsist, fines may be imposed for each day that elapses without obeying the order, without the total of the fines exceeding the maximum amount allowed pursuant to the preceding Article.

In the case of recidivism, the amount of the fine may be up to three times the amount originally imposed, without exceeding three times the maximum allowed, and will also be subject to suspension and, if applicable, revocation of the title or permit on a provisional basis.



Article amended DOF 29-04-2004

ARTICLE 122. In the cases of sections I, II, III, IV, V, VII, VIII, VIII, IX, XI, XI, XII, XIII, XIV, XV, XVII, XIX, XX, XXII and XXIII of Article 119 of this Law, as well as in cases of recidivism in any of the fractions of the aforementioned Article, "the Water Authority" will additionally impose the temporary or definitive, partial or total closure of the wells and works or intakes for the extraction or use of national waters.

Likewise, "the Water Authority" will impose the closure in the case of:

- I. Failure to comply with the order of suspension of activities or suspension of the wastewater discharge permit referred to in Article 92 of this Law, in which case the company or establishment directly causing the discharge shall be permanently or temporarily closed, and
- II. Illegal exploitation, use or exploitation of national waters through hydraulic infrastructure without having the concession or assignment title required in accordance with the provisions of this Law, or in the case of clandestine or illegal wells.

Amended paragraph DOF 08-06-2012

In the case of closure, action will be taken in accordance with the terms of the Federal Law of Administrative Procedure and the Regulations applicable to the administrative procedure in water matters.

In order to execute a closure, the "Water Authority" may request the support and assistance of federal, state or municipal authorities, as well as public security forces, to intervene within the scope of their attributions and competence.

In the case of occupation of water bodies, watercourses, federal zones and other inherent national assets referred to in this Law, through the construction of any type of work or infrastructure, without having the corresponding title, the "Water Authority" is empowered to remove or demolish the same at the expense of the offender, without prejudice to the corresponding sanctions.

*Paragraph amended DOF 08-06-2012
Article amended DOF 29-04-2004*

ARTICLE 123. The penalties applicable for the offenses set forth in this Law shall be specifically destined in favor of "the Commission" and shall be imposed without prejudice to the fines for tax violations and the application of penalties for the resulting criminal liability.

In the event of noncompliance with the provisions and under the terms of this Law, the "Water Authority" will notify the debts owed by individuals or legal entities for the execution of works or their destruction, as well as monitoring, analysis, studies or actions that the "Water Authority" carries out on its own account.

The income referred to in this Article shall be considered a tax credit for collection purposes.

Article amended DOF 29-04-2004

ARTICLE 123 BIS. "The Water Authority" shall initiate proceedings before the competent authority to sanction authorities and public servants who have issued permits or Titles in violation of this Law, the Federal Law on Administrative Responsibilities of Public Servants and the Federal Criminal Code.

Article added DOF 2004-04-29



ARTICLE 123 BIS 1. In cases where the existence of a crime is presumed, "the Commission" shall file the corresponding report with the Public Prosecutor's Office.

Article added DOF 2004-04-29

Chapter III Recurso de Revisión y Denuncia Popular (Appeal for Review and Popular Complaint)

Title of the Chapter amended DOF 2004-04-29. Chapter traveled (before Chapter II) DOF 08-06-2012.

ARTICLE 124. An appeal for review may be filed within fifteen working days following the date of notification against final acts or resolutions of the "Water Authority" that cause harm to private parties.

The purpose of the appeal is to revoke, modify or confirm the challenged resolution and the rulings issued will contain the challenged act, a Chapter of recitals, the legal grounds on which it is based and the points of resolution. The regulations of this Law shall establish the terms and other requirements for the processing and substantiation of the appeal.

The appeal shall be filed in writing addressed to the Director General of "the Commission", in the cases established in Section IX of Article 9 of this Law, or to the Director General of the competent Basin Organization, in which the name and domicile of the appellant and the grievances shall be stated, accompanied by the evidence deemed necessary, as well as the proof of the appellant's personality.

If the imposition of a fine is appealed, the collection of the fine will be suspended until the appeal is resolved, provided that payment is guaranteed in the terms provided by the tax provisions.

Appeals against acts or resolutions issued in tax matters pursuant to this Law will be resolved in accordance with the terms of the Federal Tax Code and its regulations.

Article amended DOF 29-04-2004

ARTICLE 124 BIS. Any person, social groups, citizen or non-governmental organizations, associations and societies, may resort to popular denunciation under the terms of Chapter VII of the General Law of Ecological Balance and Environmental Protection, when acts are committed that produce or may produce imbalances or damage to water resources or their inherent assets.

Article added DOF 2004-04-29

TRANSITIONS

ARTICLE ONE.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE TWO.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE THREE.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE FOURTH.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE FIVE.- It is hereby repealed.

Article repealed DOF 29-04-2004



ARTICLE SIXTH.- It is repealed.

Article repealed DOF 29-04-2004

ARTICLE SEVENTH.- It is repealed.

Article repealed DOF 29-04-2004

ARTICLE EIGHT.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE NINTH.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE TEN.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE THIRTEENTH.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE TWELFTH.- It is repealed.

Article repealed DOF 29-04-2004

ARTICLE THIRTEENTH.- It is repealed.

Article repealed DOF 29-04-2004

Patricia Ruiz Anchondo, President; Sen. **Idolina Moguel Contreras**, President; **Miguel Gómez Guerrero**, Secretary; Sen. **Roberto Suárez Nieto**, Secretary; Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States and for its due publication and observance, I issue this Decree in the residence of the Federal Executive Power, in Mexico City, Federal District, on the twenty-seventh day of November of the year nineteen hundred and ninety-two, **Carlos Salinas de Gortari**.



TRANSITORY ARTICLES OF REFORM DECREES

Erratum to the National Water Law, published on December 1, 1992.

Published in the Diario Oficial de la Federación on February 15, 1993.

On page 26, first column, line 17 of **article 19**, it says: control of the
extraction and use of the waters of the

It should read:

control of the extraction and utilization of the waters of the

On page 28, second column, line 33, **article 31, third paragraph**, reads: "The
nullity of these shall be resolved by the "The

It should read:

The nullity of these shall be resolved by "The

On page 39, first column, line 8, **article 103, second paragraph**, it reads: established
in the bases that for each step

It should read:

established in the bases that for each case

On page 40, second column, line 47 of **article 114, third paragraph**, it says: to
change the vessel or cause, the owners of the vessels shall

Should read:

to change the vessel or waterway, the owners of the



DECREE amending, adding and repealing various provisions of the National Waters Law.

Published in the Diario Oficial de la Federación on April 29, 2004.

CONTAINS THE COMPLETE TEXT OF THE NATIONAL WATER LAW, INCLUDING THOSE PROVISIONS THAT ARE AMENDED, ADDED AND REPEALED, AS WELL AS THOSE THAT HAVE NOT BEEN AMENDED:

SOLE ARTICLE: Articles 2; 3; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 14; 15; 16; 17; 18; 19 **are amended;** 20; 21; 22; 23; 24; 25; 28; 29; 30; 31; 32; 33; 34; 35; 36; 37; 38; 39; 40; 41; 42; 43; 44; 45; 46; 47; 48; 49; 51; 52; 53; 54; 55; 56; 57; 58; 59; 60; 61; 62; 63; 64; 65; 66; 67; 68; 69; 70; 72; 73; 74; 75; 76; 77; 78; 80; 81; 82; 83; 84; 85; 86; 87; 88; 89; 90; 91; 92; 93; 94; 95; 96; 97; 98; 99; 100; 102; 103; 104; 105; 106; 107; 109; 110; 111; 112; 114; 114; 115; 116; 117; 118; 119; 120; 121; 122; 123 and 124; Articles 7 and 8 **are added** BIS; 9 BIS; 9 BIS 1; 11 BIS; 11 BIS 1; 12 BIS; 12 BIS 1; 12 BIS 2; 12 BIS 3; 12 BIS 4; 12 BIS 5; 12 BIS 6; 13 BIS; 13 BIS 1; 13 BIS 2; 13 BIS 3; 13 BIS 4; 14 BIS; 14 BIS 1; 14 BIS 2; 14 BIS 3; 14 BIS 4; 14 BIS 5; 14 BIS 6; 15 BIS; 19 BIS; 21 BIS; 23 BIS; 29 BIS; 29 BIS 1; 29 BIS 2; 29 BIS 3; 29 BIS 4; 29 BIS 5; 29 BIS 6; 30 BIS; 37 BIS; 39 BIS; 47 BIS; 52 BIS; 56 BIS; 69 BIS; 84 BIS; 84 BIS 1; 84 BIS 2; 86 BIS; 86 BIS; 86 BIS 1; 86 BIS 2; 88 BIS; 88 BIS 1; 91 BIS; 91 BIS 1; 93 BIS; 94 BIS; 96 BIS; 96 BIS 1; 96 BIS 2; 111 BIS; 112 BIS; 113 BIS; 113 BIS 1; 113 BIS 2; 118 BIS; 123 BIS; 123 BIS 1; and 124 BIS; and **repealing** Articles 26 and 27, as well as the thirteen Transitory Articles of the Law on National Waters published in the **Official Gazette of the Federation** on December 1, 1992; the names of the following Titles **are amended** to read as follows: Third Water Policy and Programming; Fourth Rights for Exploitation, Use or Development of National Waters; Seventh Prevention and Control of Water Pollution and Liability for Environmental Damage; Title Eight BIS Water Financial System **is added** with a Single Chapter; the names of the following Chapters **are amended** to read as follows: in Title Two, Chapters V Organization and Participation of Users and Society; in Title Ten, Chapter II Appeal for Review and Popular Complaint; the **following are added: in Title Two**, Chapters V Organization and Participation of Users and Society; in Title Ten, Chapter II Appeal for Review and Popular Complaint **are added:** in Title Two Chapter II BIS Secretariat of the Environment and Natural Resources; Chapter III BIS Basin Organizations; Chapter V BIS Water Advisory Council; Chapter V BIS 1 National Meteorological Service; Chapter V BIS 2 Mexican Institute of Water Technology; Chapter V BIS 3 Federal Attorney's Office for Environmental Protection; Title Four Chapter I BIS Knowledge on National Waters; Chapter III BIS Suspension, Extinction, Revocation, Restrictions and Easements of the Concession, Assignment or Provisional Permit for the Use of Water and Discharge Permit; and sections **are added** in the same Chapter III BIS: First Suspension; Second Extinction; Third Revocation; Fourth Water Use Restrictions; Fifth Easements; Title Sixth Chapter V BIS Water Culture; Title Seventh Chapter I Prevention and Control of Water Pollution; Chapter II Liability for Environmental Damage; in the Sole Chapter of Title Third **are added** Sections One: National Water Policy and Section Two: Water Planning and Programming; in Title Six Chapter II Agricultural Use, Section Five **is renamed** to become Temporary Technified; likewise, Chapter IV of Title Eight **is eliminated;** to leave the full text of the National Water Law in the following terms:

.....

TRANSITIONS

FIRST. This Decree shall enter into force on the day following its publication in the **Official Gazette of the Federation.**

SECOND: Pending the issuance of the regulations derived from this Law, the provisions of the Regulations of the Law on National Waters shall remain in force, in all that does not contravene the provisions of this Decree and the Law it contains.



THIRD. The Regulations referred to in this Decree shall be issued within a period of no more than twelve months from the date of entry into force of this Decree.

FOURTH. "The Commission" at its National and Regional Hydrological-Administrative Levels shall distribute its resources and reorganize itself organically and functionally in accordance with the provisions of this Decree, for which purpose the Director General shall issue the Integration, Organizational Structure and Operation Manual of this Decentralized Administrative Body within a term not to exceed nine months, prior approval of its Technical Council.

FIFTH. The Honorable Congress of the Union shall make the necessary amendments to the Organic Law of the Federal Public Administration and shall provide for the improvement of the legal framework governing the management of water resources and their different uses, as well as the interrelationships and repercussions of such management in the areas of health, education and culture, communication and dissemination, budget and fiscal aspects.

SIXTH. The Honorable Congress of the Union shall provide for the revision of the Federal Criminal Code to determine the offenses related to water and its management, which are typified as criminal offenses.

SEVENTH. The Commission shall publish or update the studies on the availability of national waters referred to in this Law within a term that shall not exceed two years as of the entry into force of this Decree.

EIGHTH. The declarations, closures, reserves and regulations of national waters issued by the Federal Executive shall continue to produce their legal effects.

NINTH. Concessions, allocations, discharge permits, permits of a different nature from the foregoing, certificates, registrations, certificates and, in general, all authorizations granted in favor of individuals or legal entities, in accordance with the amendments, additions and repeals made to the Law on National Waters by this Decree, as well as other valid acts that have been registered in the Public Registry of Water Rights, shall remain in force.

TENTH. When "the Commission" finds that the information contained in the concession or assignment titles issued prior to the entry into force of this Law is erroneous, the holder will be notified so that within a period of sixty calendar days it may state what it deems appropriate and provide the information and documents that may be required.

"The Commission shall issue a resolution within a term not to exceed sixty days, based on the response of the interested party and the evidence in the file and, if applicable, shall order the correction of the title, as well as its registration in the Public Registry of Water Rights.

ELEVENTH. The agreements, decrees and procedure manuals issued by the Federal Executive or by the National Water Commission up to the date of publication of this Law will remain in force, insofar as they do not oppose the contents of this Law. The Federal Executive, and when appropriate under the terms of the Law, "the Commission", will provide for the appropriate modifications.

TWELFTH. "The Commission" shall make the necessary arrangements so that within a period of no more than eighteen months from the entry into force of this Decree, the integration, organization and implementation of the Basin Organizations, with the characteristics and powers set forth in this instrument and those conferred by the respective regulations, are completed. Based on the foregoing, the Commission may provide for the establishment of Basin Councils and the improvement of the existing ones in accordance with the provisions of this Law and its Regulations.



The Regional and State Management Offices of the Commission, including all their facilities, equipment, resources and programs, shall be absorbed by the Basin Organizations, in accordance with the geographic delimitation, regionalization and provisions determined by the Commission for the integration, organization, administration and operation of the Basin Organizations.

Until such time as the Basin Organizations are created, the Regional and State Managements of "the Commission" will continue to perform their functions in the manner and under the terms established in the internal regulations of "the Secretariat".

THIRTEENTH. When the Federal Government has participated in the financing, construction, operation and administration of the works necessary for the operation of irrigation districts, "the Commission" will continue and conclude the process to turn over the administration and operation of these to the users under the terms of this Law and its regulations.

FOURTEENTH. "The Commission" will have a term not to exceed twelve months to structure and implement the New and Clean Slate Program, understanding as New Account, to be up to date with its obligations for the current fiscal year and the last four fiscal years in accordance with the Federal Fiscal Code. Said Program will establish its validity.

Likewise, the Commission shall have a term of twelve months, as from the entry into force of this Decree, to carry out a campaign for the administrative regularization of concessions for the exploitation, use or exploitation of national waters, the term of which has expired. Concession holders who fail to regularize their titles within the established term will be sanctioned by the Commission in accordance with the applicable legal provisions. This benefit will only be applied to those holders who have a history of concessions and permits for the exploitation, use or exploitation of national waters, prior to the presidential decrees of 1995 and 1996 on the subject, who can reliably demonstrate the operation of the exploitation and are subject to the applicable legal provisions and the availability and sustainability of the basin.

Paragraph added DOF 18-04-2008

For its due observance, compliance and dissemination, it shall be published in the **Official Gazette of the Federation**, as well as in the main newspapers of national circulation.

FIFTEENTH. Pending compliance with the provisions of Paragraph Three of Article 22 of this Law, the following order of priority of water uses shall be observed for the concession and assignment of the exploitation, use or development of national, surface and subsoil waters, applicable in normal situations:

1. Domestic;

Amended paragraph DOF 24-03-2016

2. Urban public;

Amended paragraph DOF 24-03-2016

3. Livestock;

Amended paragraph DOF 24-03-2016

4. Agricultural;

Amended paragraph DOF 24-03-2016

5. Aquaculture;

Amended paragraph DOF 24-03-2016



6. Uses for ecological conservation or environmental use; *Amended paragraph DOF 24-03-2016*
7. Generation of electric energy for public service; *Amended paragraph DOF 24-03-2016*
8. Industrial; *Amended paragraph DOF 24-03-2016*
9. Generation of electric energy for private service; *Amended paragraph DOF 24-03-2016*
10. Washing and silting of land; *Amended paragraph DOF 24-03-2016*
11. Uses for tourism, recreation and therapeutic purposes; *Amended paragraph DOF 24-03-2016*
12. Multiple use, and *Amended paragraph DOF 24-03-2016*
13. Other s. *Amended paragraph DOF 24-03-2016*

The foregoing shall apply without prejudice to the provisions of Article 29 BIS 5 and Title Five of this Law.

SIXTEENTH. Administrative proceedings pending at the time of the entry into force of this Decree shall be resolved under the terms of the Law in force prior to this Decree amending, adding and repealing various provisions of the Law on National Waters.

Mexico City, December 22, 2003. **Enrique Jackson Ramírez**, Chairman.- Deputy **Juan de Dios Castro Lozano**, Chairman.- Sen. **Sara I. Castellanos Cortés**, Secretary.- Deputy **Ma. de Jesús Aguirre Maldonado**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fifteenth day of March of the year two thousand and four.- **Vicente Fox Quesada**.- Rubric.- The Secretary of the Interior, **Santiago Creel Miranda**.- Rubric.



DECREE adding a Second Paragraph to the Fourteenth Transitory Article of the Decree amending, adding and repealing various provisions of the National Waters Law, published in the Official Gazette of the Federation on April 29, 2004.

Published in the Diario Oficial de la Federación on April 18, 2008.

Sole Article.- A second paragraph is added to the Fourteenth Transitory Article Fourteen of the Decree Amending, Adding and Repealing Various Provisions of the Law on National Waters, published in the Official Gazette of the Federation on April 29, 2004, to read as follows:

.....

TRANSITORY

Sole Paragraph: This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Santiago Creel Miranda, Chairman - **Ruth Zavaleta Salgado**, President - **Gabino Cué Monteagudo**, Secretary - **Esmeralda Cardenas Sanchez**, Secretary - Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fourteenth day of April, two thousand eight.- **Felipe de Jesús Calderón Hinojosa**.- Rubric.- The Secretary of the Interior, **Juan Camilo Mouriño Terrazo**.- Rubric.



DECREE amending and adding Articles 7 Bis and 18 of the National Waters Law.

Published in the Official Journal of the Federation on June 20, 2011.

The first and second paragraphs of Article 18 are amended and a section XI is added to Article 7 BIS and a fourth paragraph to Article 18 of the Law of National Waters, to read as follows:

.....

TRANSITORY

Sole Paragraph. This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Jorge Carlos Ramírez Marín, Chairman.- Sen. **Manlio Fabio Beltrones Rivera**, Chairman.- Sen. **María de Jesús Aguirre Maldonado**, Secretary.- Sen. **Martha Leticia Sosa Govea**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the seventeenth day of June of the year two thousand and eleven.



DECREE amending and adding various provisions of the National Waters Law.

Published in the Official Gazette of the Federation on June 8, 2012.

Sole Article. Section XL, subsection a) of Article 3; Section XLVIII of Article 9; Section IX of Article 12; Section V of Article 12 Bis 2; Section XIII of Article 12 Bis 6; Section II of Article 14 Bis 6; the first paragraph of Article 29 Bis 2; the first paragraph of Article 29 Bis 4; the second paragraph of Article 33; the second, third and fourth paragraphs of Article 113 Bis; Sections VIII, XIX, XXIII and XXIV of Article 119 are amended; Sections I, II and III of Article 120; the first and fourth paragraphs of Section II of Article 122 are amended; the names of Title Ten "Measures of Apprehension, Security and Arrest" are modified; Sections I, II and III of Article 120, first and fourth paragraph of Section II of Article 122; the names of Title Ten "Measures of Urgency, Security, Infractions, Penalties and Remedies" are modified; Chapter I, "Measures of Urgency and Security", and consequently, the other Chapters are deleted; Articles 118 Bis 1, 118 Bis 2, 118 Bis 3 are added and Section III of Article 121 of the Law of National Waters is repealed, to read as follows:

.....

TRANSITORY

Sole Paragraph. This decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Guadalupe Acosta Naranjo, Chairman.- Sen. **José González Morfin**, Chairman.- Sen. **Mariano Quihuis Fragoso**, Secretary.- Sen. **Martha Leticia Sosa Govea**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fifth day of June of the year two thousand twelve.



DECREE enacting the Federal Law of Environmental Responsibility and amending, adding and repealing several provisions of the General Law of Ecological Balance and Environmental Protection, the General Law of Wildlife, the General Law for the Prevention and Integral Management of Waste, the General Law of Sustainable Forest Development, the Law of National Waters, the Federal Criminal Code, the Law of Maritime Navigation and Commerce and the General Law of National Assets.

Published in the Official Gazette of the Federation on June 7, 2013.

ARTICLE SIXTH: Sections III and IV of Article 14 BIS 4; Article 96 BIS and Article 96 BIS 1 of the Law on National Waters are amended to read as follows:

.....

TRANSITIONS

FIRST.- This Decree shall enter into force thirty days after its publication in the Official Gazette of the Federation.

SECOND.- The Environmental Liability Fund shall be constituted and its bases and rules of operation shall be prepared and approved within one hundred eighty days after the entry into force of this Decree.

THIRD.- The District Courts specialized in environmental matters must be established within a maximum term of two years from the date this Decree becomes effective. The Jurisdiction specialized in environmental matters may be granted to the District Courts in operation in each jurisdictional circuit or in accordance with the provisions of the Council of the Federal Judicature, without this implying the creation of new jurisdictional bodies. The personnel of each of such District Courts will receive specialized training in environmental law.

Mexico City, April 25, 2013. **Ernesto Cordero Arroyo**, Chairman.- Dip. **Francisco Arroyo Vieyra**, Chairman.- Sen. **Rosa Adriana Díaz Lizama**, Secretary.- Dip. **Javier Orozco Gómez**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fifth day of June of the year two thousand thirteen, **Enrique Peña Nieto**.



DECREE enacting the Electricity Industry Law, the Geothermal Energy Law and adding and amending several provisions of the National Waters Law.

Published in the Official Gazette of the Federation on August 11, 2014.

ARTICLE THREE. Articles 18, second paragraph and 81 are amended; and Section LXI BIS of the Law on National Waters is added to Article 3, to read as follows:

.....

TRANSITIONS

FIRST.- This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

SECOND.- All provisions that oppose the provisions of this Decree are hereby repealed.

Mexico City, August 5, 2014.- Deputy **José González Morfín**, Chairman.- Senator **Raúl Cervantes Andrade**, Chairman.- Deputy **Javier Orozco Gómez**, Secretary.- Senator Lilia Guadalupe Merodio Reza, Secretary. **Lilia Guadalupe Merodio Reza**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on August eleventh, two thousand fourteen, of the year two thousand fourteen, by **Enrique Peña Nieto**.



DECREE amending and adding various provisions of the National Waters Law.

Published in the Official Gazette of the Federation on March 24, 2016.

Section LVII of Article 3 is amended and a section VII Bis is added to Article 3; and the paragraphs of the Fifteenth Transitory Article of the "Decree amending, adding and repealing several provisions of the Law on National Waters, published in the Official Gazette of the Federation on April 29, 2004" are amended to read as follows:

.....

Transitory

Sole Paragraph: This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Mexico City, February 25, 2016.- Deputy **José de Jesús Zambrano Grijalva**, Chairman.- Sen. **Roberto Gil Zuarth**, Chairman.- Deputy **María Eugenia Ocampo Bedolla**, Secretary.- Sen. **César Octavio Pedroza Gaitán**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on the twenty-second day of March of the year two thousand sixteen.



DECREE amending the first paragraph of Article 120 and adding a section VI Bis to Article 88 Bis of the Law of National Waters.

Published in the Official Gazette of the Federation on January 6, 2020.

The first paragraph and sections I, II and III of Article 120 are amended and a section VI Bis is added to Article 88 BIS of the Law on National Waters, to read as follows:

.....

Transitory

First.- This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Second: All provisions that oppose this Decree are hereby repealed.

Mexico City, November 21, 2019.- Dip. **Laura Angélica Rojas Hernández**, President.- Sen. **Mónica Fernández Balboa**, President.- Dip. **Mónica Bautista Rodríguez**, Secretary.- Sen. **Primo Dothé Mata**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on January 3, 2020.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Interior, Dr. **Olga María del Carmen Sánchez Cordero Dávila**.- Rubric.- The Secretary of the Interior, Dr. **Olga María del Carmen Sánchez Cordero Dávila**.- Rubric.



DECREE amending and adding various provisions of the Federal Public Defender's Office Law, the General Health Law, the General Law of Physical Culture and Sports, the General Law of Climate Change, the Organic Law of the Taxpayer's Defense Attorney's Office, the Organic Law of the Seminar of Mexican Culture, the Law of the National Agency of Industrial Safety and Environmental Protection of the Hydrocarbons Sector, the Law of the Federal Electricity Commission, of the Law of the National Banking and Securities Commission, of the Law that Creates the Mexican State News Agency, of the Law of the Public Broadcasting System of the Mexican State, of the Law of Insurance and Bonding Institutions, of the Law of the Mexican Petroleum Fund for Stabilization and Development, of the Law of the Electric Industry, of the Law of the Social and Solidarity Economy, Regulatory of the Eighth Paragraph of Article 25 of the Political Constitution of the United Mexican States, with respect to the Social Sector of the Economy, the Law of the Mint of Mexico, the Law of Commercial Bankruptcy, the Law of Biosecurity of Genetically Modified Organisms, the Law of National Waters, the Law of Social Assistance, the General Law of Social Development, the Organic Law of the National Finance for Agricultural, Rural, Forestry and Fishing Development, the Federal Law for the Administration and Disposal of Public Sector Assets, the Federal Law for the Administration and Disposal of Public Sector Assets, the Federal Law of Plant Varieties, the Federal Law for the Administration and Disposal of Public Sector Assets, and the Federal Law of Plant Varieties, the Federal Law on Plant Varieties, the Federal Law on Plant Health, the Federal Law on Animal Health, the Federal Law on the Promotion of Activities Carried out by Civil Society Organizations, the Organic Law of the National Council for Science and Technology, the Law on the Protection of Bank Savings, the Law on National Institutes of Health, the Law on Science and Technology, with respect to gender parity.

Published in the Official Gazette of the Federation on May 11, 2022.

Article Nineteen. The first and second paragraphs of Article 10 of the Law of National Waters are amended to read as follows:

.....

Transitory

First. This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Second. In accordance with the Third transitory article of the Decree reforming Articles 2, 4, 35, 41, 52, 53, 56, 94, and 115 of the Political Constitution of the United Mexican States, in the matter of Gender Parity, the principle of parity must be observed progressively, starting with the new designations and appointments that correspond, in accordance with the law.

Third. All obligations generated with the entry into force of this Decree will be covered from the budget approved to the responsible executors of expenditure for the current and subsequent fiscal years, therefore no additional resources will be authorized for such purposes and, in the event that any modification is made to its organizational structure, it must also be covered with its authorized budget and in accordance with the applicable legal provisions.

Mexico City, March 15, 2022.- Deputy Sergio Carlos Gutiérrez Luna, Chairman.- Senator Olga Sánchez Cordero Dávila, Chairman.- Deputy Luis Enrique Martínez Ventura, Secretary.- Senator Verónica Noemí Camino Farjat, Secretary.- Rubrics".



LAW
CHAMBER OF DEPUTIES OF THE H. CONGRESS OF THE
UNION
General Secretariat
Parliamentary Services Secretariat

NATIONAL WATER

Last Reform DOF 08-05-2023

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on May 2, 2022.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Interior, Mr. **Adán Augusto López Hernández**.- Rubric.



DECREE amending, adding and repealing several provisions of the Mining Law, the Law of National Waters, the General Law of Ecological Balance and Environmental Protection and the General Law for the Prevention and Integral Management of Waste, regarding mining and water concessions.

Published in the Official Gazette of the Federation on May 8, 2023.

Article Two. Articles 19; 24, first paragraph; 29 BIS 4, first paragraph, sections XVII and XVIII; 119, section XXII are **amended**; sections III BIS and LVII BIS are **added** to the first paragraph of Article 3; the second and third paragraphs to Article 4; sections XIX, XX and XXI to the first paragraph of Article 29 BIS 4; a second paragraph to Article 37; Chapter III BIS called "Industrial Use in Mining", with its articles 81 BIS, 81 BIS 1, 81 BIS 2, 81 BIS 3 and 81 BIS 4; a fraction V BIS to the first paragraph of article 88 BIS, fraction VI to the first paragraph of article 92, and a fourth paragraph to article 118, of the Law of National Waters, to read as follows:

.....

Transitory

First. This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Second. The legal provisions that oppose this Decree are hereby repealed.

Third. The expenditures generated as a result of the entry into force of this Decree shall be charged to the resources expressly approved for such purposes by the Chamber of Deputies in the respective expenditure budgets of the corresponding executors of expenditure; in the event that any modification is made to the organizational structure thereof, such modification shall be carried out through compensated movements in accordance with the applicable legal provisions, and therefore, in no case shall expansions be authorized to their expenditure budgets for the current fiscal year.

Fourth. The head of the Federal Executive, within a term that shall not exceed one hundred and eighty days from the entry into force of this Decree, shall issue the corresponding amendments to the respective regulatory provisions.

Fifth. Pending the issuance of the regulations referred to in the preceding article, the provisions in force prior to the entry into force of this Decree shall continue to apply, provided that they are not in conflict with this Decree.

References to the Mining Law contained in other laws, regulations and in any general provision are understood to refer to the Mining Law.

Applications in process for new exploration and exploitation concessions will be rejected without further processing, by virtue of the provisions of this Decree.

Sixth. The exploration and exploitation concessions granted prior to the entry into force of this Decree will have the duration foreseen in the respective title.

Seventh. As of the entry into force of this Decree, no extensions will be granted to concessions in Natural Protected Areas, as well as to those already issued for the exploration, exploitation and benefit of mercury within the national territory.



Eighth. For purposes of the expiration referred to in Article 53 Bis of the Mining Law, the terms shall be computed as of the entry into force of this Decree.

Ninth. Administrative procedures and appeals related to mining and water activities initiated prior to the entry into force of this Decree, shall be processed and resolved in accordance with the provisions in force at the time of their initiation, and the other provisions applicable to the matter in question, provided that they do not conflict with the provisions of this Decree.

Tenth. The holders of mining concessions, within three hundred and sixty-five calendar days from the entry into force of this Decree, must present the financial vehicle referred to in the Mining Law, which guarantees the possible damages generated during the execution of the mining activities, as well as present for authorization by the Ministry of the Environment and Natural Resources the Mine Restoration, Closure and Post-closure Program.

Eleventh. The holders of mining concessions must guarantee that the deposits or sites of final disposal of earth, tailings or slag dams do not affect population centers, productive zones or ecosystems, in accordance with the applicable legal provisions.

When the competent authorities determine that the deposits or sites for the final disposal of earth, tailings or slag dams present risks to the safety or health of the population, productive zones or ecosystems, the concession holders will have a term of three hundred and sixty-five calendar days from the date of notification by the competent authority to carry out the necessary removal or remediation.

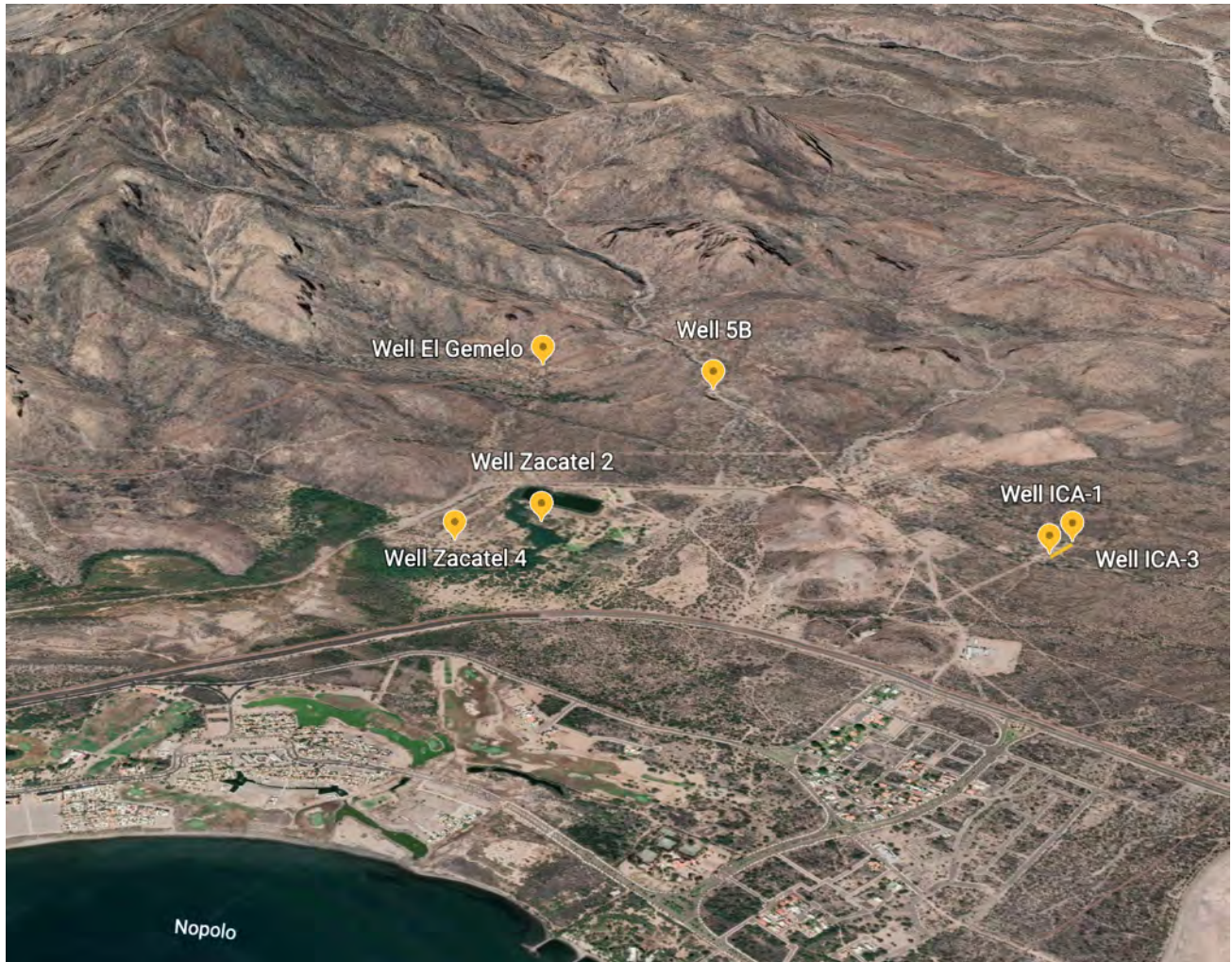
Twelfth. Within one hundred and eighty days following the entry into force of this Decree, the Mexican Geological Service must withdraw its participation in shared risk investment funds in which it has assets, as long as it does not generate losses. For such purposes, it may maintain its position until they are in the securities in which they were acquired.

Thirteenth. Within ninety calendar days after the entry into force of this Decree, the holders of national water concessions that carry out mining exploration, exploitation, benefit and exploitation activities must apply to "the Water Authority" for the change of industrial use to industrial use in mining, in order to regularize their legal situation, in accordance with the applicable regulatory provisions.

Santiago Creel Miranda, Chairman.- Sen. **Alejandro Armenta Mier**, Chairman.- Sen. **María del Carmen Pinete Vargas**, Secretary.- Sen. **Verónica Noemí Camino Farjat**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on May 8, 2023.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Interior, Mr. **Adán Augusto López Hernández**.- Rubric.

WATER RESOURCES OF NOPOLO LORETO, BAJA CALIFORNIA SUR



Loreto Bay HOA Water Supply Committee

prepared by:

**Suzanne Whitelaw, PhD
January 2022**

reviewed by:

**Larry Perko - Chair
Alfredo Baeza
Dennis Bentley
Juliann Lopez
Catherine Tyrrell**

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WATER RESOURCES OF NOPOLO, LORETO, BAJA CALIFORNIA SUR

The Loreto Bay Water Supply Committee (the Committee) was created in December 2020 to assess the sustainability of our potable water supply, to answer the question of whether we have enough water to meet our current and anticipated future needs. This report has been compiled to answer the scientific question of the quantity of water sustainably available within the municipality of Loreto, focusing on the local supply of groundwater available within the community of Nopolo. (note that in this report, "Nopolo" is intended to be inclusive of our entire community, not only the Fondo Nacional de Fomento de Turismo (FONATUR) property known in Loreto Bay as "Nopolo" but including Loreto Bay, the Inn at Loreto Bay, Punta Nopolo condominiums, and the Homex community.) Other technical reports are being prepared on the topics of Infrastructure & Demand and on Governance.

1.0 INFORMATION SOURCES

The Committee conducted an exhaustive search on Google and Google Scholar for relevant available information and found many peer-reviewed scientific articles and several doctoral dissertations focused on various aspects of geology, climate, and hydrogeology of our region (see references at end).

The primary source of information on the hydrogeology of the local aquifers is a report prepared by the Mexican federal agency in charge of water resources, Comision Nacional de Agua (abbreviated as CONAGUA and sometimes CNA). The CONAGUA reports are required by law to periodically determine the status of water rights within the aquifer region -- whether the quantities of water available justify issuing additional water rights in the basin.

The CONAGUA report was based upon a detailed study of the hydrogeology of groundwater within the Loreto municipality that was initially prepared in 2006 by a hydrogeology consulting firm, Lesser y Asociados (LEASA) (www.lesser.com.mx). CONAGUA issued its initial report, based upon the LEASA work, in 2007, and re-issued the report in 2020, repeating essentially the same data. The 2020 report does not provide any updates on groundwater levels in the local aquifers after 2006.

CONAGUA (2020a) also summarized several older reports commissioned by FONATUR and prepared by hydrogeological consulting firms; we were not able to locate these original reports but relied upon the summaries provided. These include: Ingenieria Integral 1980; Acuaplan 1981; IEPSA 1984; and IEPSA 1986. Additionally, two reports were prepared by the Loreto Bay Company (LBC) consultants Prieto Mendoza (Prieto 2005) and Ecoscapes (2006).

The Committee contacted local experts on water resources as part of this effort. Dr. Luis Lesser (of Lesser y Asociados) was contacted to obtain his opinion. Hugo Quintero, director of EcoAlianza and the former head of the Loreto Municipality water department (Organismo Operadora Municipal SAPA Loreto (OOMSAPAL)) responded to numerous requests for information. The Committee interviewed the supervising meteorologist at the CONAGUA Loreto meteorology station and obtained 40 years of meteorological data.

In addition to literature review, the Committee conducted field surveys to assess the condition of water supply systems in our area. FONATUR personnel took several members of the committee to survey our current water supply wells and the wastewater treatment system. Several members scouted out other water supply wells in Nopolo and Loreto Town. We also located, sounded, and sampled water at four older wells in the local Nopolo area in May 2021 and October 2021. Approximately 50 samples of

potable and environmental water sources were obtained from various locations and tested for Total Dissolved Solids using instruments purchased by a member of the Committee.

The Committee also reviewed available documents prepared by the Loreto Bay Company that were pertinent to the question of water resources.

2.0 ADMINISTRATIVE AQUIFER UNITS

The Mexican government has divided the country into hydrographic basins for administrative purposes. The Loreto municipality lies within the Southeast Baja California hydrological basin which contains nine subbasins. Two of these are of interest to us: the Loreto and San Juan Londo Aquifer administrative units as shown on Figure 1.

The Loreto sub-basin is defined as a zone 66 km in length along the coast of the Gulf of California bounded by the crest of the Sierra La Giganta to the west and the Sea of Cortez to the east, covering 300 km² including the town of Loreto, San Javier, Nopolo and the Ensenada Blanca/Ligui/Danzante Bay area. Within this zone, groundwater flows generally from the mountains in the west to the coastline on the east.

The Loreto sub-basin is often designated as "the Loreto Aquifer" however this nomenclature is misleading as it implies one contiguous, homogeneous aquifer unit. The Loreto sub-basin contains aquifers in several distinct geologic units, which may or may not be continuous with each other. Therefore, this report utilizes the terms "Loreto Town Aquifer", "Nopolo Aquifer", and "Puerto Escondido Aquifer" to clarify these distinctions (more information below).

The San Juan Londo sub-basin (SJJ) lies north of the Loreto sub-basin and includes the towns of San Juan Londo Bautista and San Bruno and El Imposible. The SJJ aquifer covers approximately 600 km² and it is similarly bounded on the west by the crest of the Sierra La Giganta mountain range and on the east by the Sea of Cortez.

3.0 CURRENT WATER SUPPLY WELLS

In the Loreto area, groundwater is the only reliable source of fresh water for human use. For the last 40 years, Nopolo's drinking water has been primarily supplied from two wells located in the low hills west of the highway (Figure 2). These wells, designated 5B and El Gemelo (in the CONAGUA system they are designated LO-97 and LO-98), were installed by FONATUR in 1980, and FONATUR still owns, maintains, and operates them. Water from these wells is pumped into the elevated tank west of the Transpeninsular Highway, passes through a chlorination plant next to the highway, and from there enters the Nopolo community from both a north and a south entrance. The Loreto Bay water supply is completely integrated with the water supply for all of Nopolo. Further details of the Nopolo water and wastewater infrastructure are provided in a separate report prepared by the Committee.

FONATUR provided a tour of these wells to the Committee in May 2021, and they appeared to be well maintained and secured. Well 5B is constructed of a 12" pipe with a total depth of 61.5 m; Well El Gemelo is also constructed with a 12" pipe and a total depth of 50 m (Ecoscapes 2006). The screened interval of the wells is unknown.

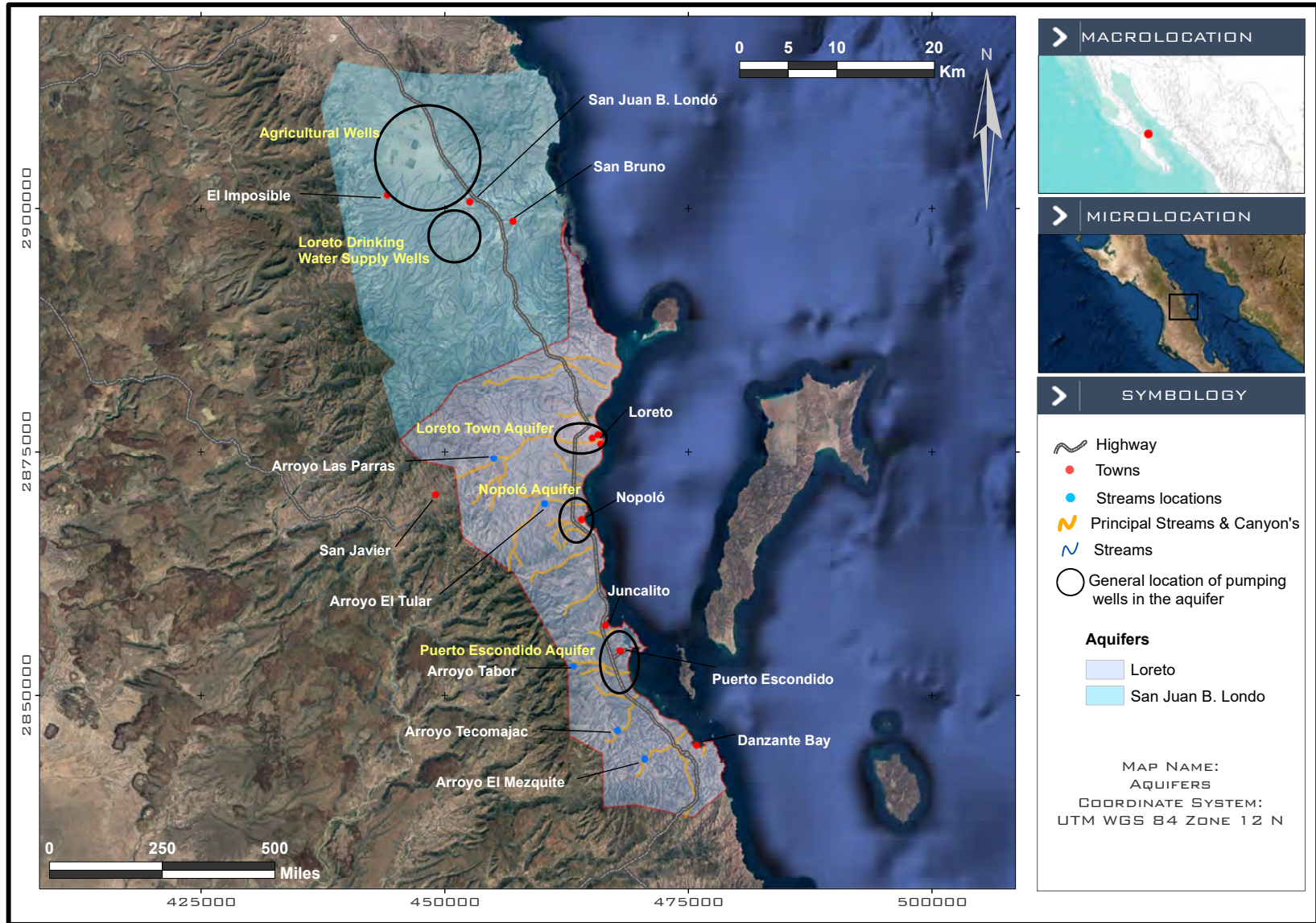


Figure 1: Administrative units of the Loreto and SJL Sub-basins showing locations of the aquifer units



Figure 2. Water supply infrastructure in Nopoló

Since 1992, most of the water supply for Loreto Town has come from the SJL aquifer north of town (Figure 3). FONATUR pumps water from four wells through a ~30-km aqueduct into elevated water tanks west of town, to supply Loreto Town.

Another aqueduct (underground water pipe) extends from the elevated tanks at Loreto Town to the water tank at Nopolo. This aqueduct was constructed in 1992 and provided additional water from the SJL aquifer to Nopolo between 1992 until around 2007. The water appears to have been used primarily for irrigation of the Nopolo golf course and for construction of infrastructure for Loreto Bay. Nopolo has not received potable water from the north for the last decade. However, it is theoretically feasible that water could be provided to Nopolo from the north if needed or in the opposite direction (with the addition of pumps).

The oldest operational well in the town of Loreto, named Pozo 2 ("pozo" means "well" in Spanish), is located on the north side of Arroyo Las Parras just east of Highway One. This well is owned and operated by the municipality's water department, Organismo Operador Municipal del Sistema de Agua Potable y Alcantarillado (OOMSAPAL). Pozo 2 is currently used for filling water trucks for domestic and commercial users that are not connected to the municipal water supply.



In addition, OOMSAPAL has three wells located in or next to the Arroyo Las Parras (the canyon paralleling the road to San Javier) west of Loreto Town that have the capability of providing water to the town (Wells 9A, Pozo A, and Pozo B) but these wells are currently used very little, if at all. In March 2021, water was seen dripping from a relief pipe in Pozo B, however water was not evident in a subsequent visit in October.

The area south of Nopolo, including Juncalito and Puerto Escondido, obtains potable water from a well in Tabor Canyon that is owned and operated by FONATUR. OOMSAPAL also operates a water supply system in the Liguí/Ensenada Blanca area and in San Javier.



Figure 3. Water supply infrastructure for the Town of Loreto

Table 1. Details and photographs of current water supply wells in Nopolo and Loreto Town

<p>Well El Gemelo (1980 to present)</p> <p>primary water supply to Nopolo</p>	 A photograph of a well enclosure. The well is a circular concrete structure with a metal mesh fence around it. A blue valve is visible on the fence. To the right, there is a small white structure with a thatched roof. The background shows a rocky hillside under a clear blue sky.
<p>Well 5B (1980 to present)</p> <p>primary water supply to Nopolo</p>	 A photograph of a well enclosure. The well is a circular concrete structure with a metal mesh fence around it. A blue valve is visible on the fence. The well is surrounded by a large pile of rocks. In the background, there are trees and a rocky hillside under a clear blue sky.

Pozo 2
Loreto
Town
(1960 to
present)

currently
used to
supply
water
trucks



Pozo 9
Loreto
Town
1980 - ?

currently
unusable



<p>Pozo A Loreto Town (2008 or 2015 to present)</p> <p>current use unclear</p>	
<p>Pozo B Loreto Town (2008 or 2015 to present)</p> <p>current use unclear</p>	

4.0 HISTORY OF WELLS AND WATER USES

The first known well in Loreto, around 3 m deep, was dug just west of the Mission (O’Neil & O’Neil 2001). In the early 20th century, neighborhoods typically shared a small, shallow well which provided brackish water for gardens and washing; four or five deeper wells in town provided "sweet" water suitable for drinking; these wells were fitted with faucets and residents carried the drinking water back to their homes (O’Neil & O’Neil 2001). Running water was established in 1960 (O’Neil & O’Neil 2001).

The oldest extant water supply well for the town of Loreto is Pozo 2, established around 1960. The well is located between the hospital and the Arroyo Las Parras (O’Neil & O’Neil, 2001). (Probably there was/is a Pozo 1, but its location and operation have not been established by the Committee). Pozo 2 previously

supplied water to the elevated tank west of Loreto Town (as shown on older topographic maps) and was the main source of the public water supply. Currently it is owned by OOMSAPAL and operated to supply water trucks.

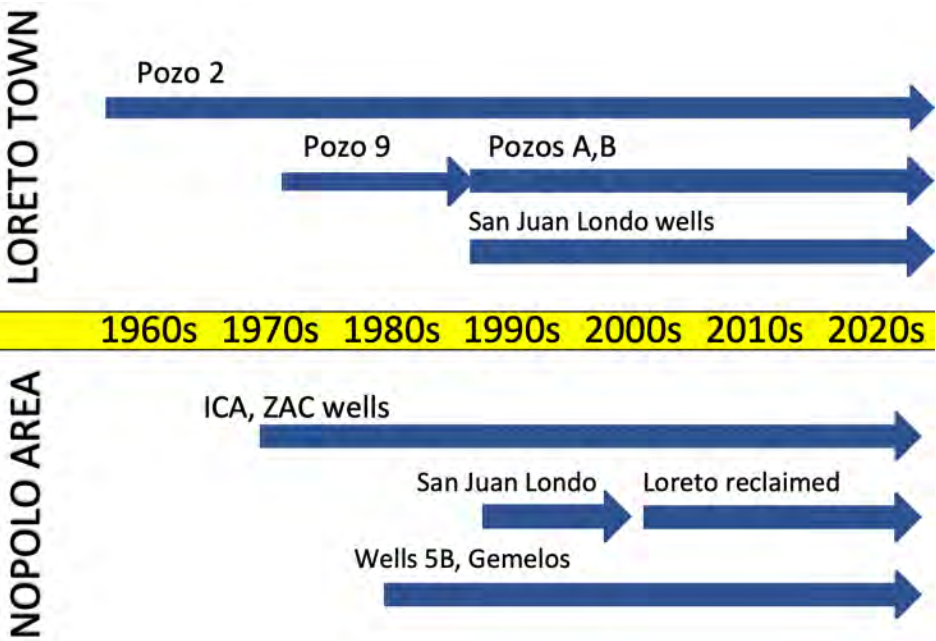







Figure 4. Schematic timeline of water supply for Loreto Town and Nopolo, 1960s to present

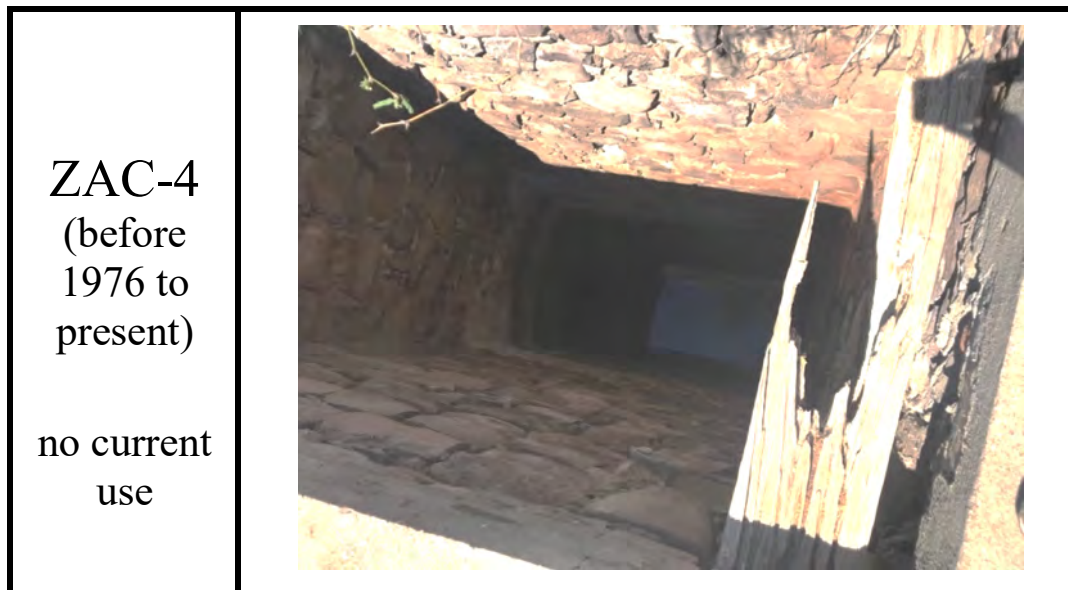
In the Nopolo area, three wells were installed in the early 1970s by Ingenieros Civiles Asociados (ICA) during the construction of the Transpeninsular Highway (O’Neil & O’Neil 2001). These comprise three brick-lined, approximately 2-m diameter wells extending to about 20 m depth (Ecoscapes 2005). Two of these wells, designated ICA-1 and ICA-3, still exist. No pumps are installed in the wells, but they may still be subject to occasional use by ranchers. ICA-2 has been filled in with dirt above the level of the water table.

FONATUR began operations in Loreto and Nopolo in 1976. Tasked with the beautification of Loreto, one of its first activities was the development of a nursery on the west side of the highway to grow ornamental plants for the landscaped medians that it installed in Loreto Town (FONATUR 2020). This nursery is still operational. To support the nursery, four wells, now designated as Zacatel (ZAC-1,2,3,4) were installed; these are approximately 2 m-diameter, brick- and stone-lined wells dug to depths of about 10 m (Ecoscapes 2006). Zacatel was the name of a ranch that had previously existed at this site; it is possible that one or more of these wells had originally supplied the Zacatel Ranch and were only improved by FONATUR. ZAC-2 and 4 still exist and hold groundwater; ZAC-3 is in questionable condition unsuitable for monitoring; and ZAC-1 has been partially filled in with dirt and debris above the level of the groundwater table.

Table 2. Details and photographs of older wells in Nopolo.

<p>ICA-1 (~1970 to present) possibly used by ranchers</p>	 A photograph showing a person from behind, wearing a dark t-shirt, shorts, and a hat, standing next to a circular well. The well is constructed from stacked stones and has a brick-lined top edge. The surrounding environment is arid with sparse vegetation and mountains in the background.
<p>ICA-3 (~1970 to present) possibly used by ranchers</p>	 A photograph looking down into a well shaft. The shaft is lined with red bricks and has a curved, arched top. The interior is dark, and the brickwork shows some wear and mortar.

<p>ZAC-1</p> <p>(~1976 to ?)</p> <p>filled in with dirt</p>	
<p>ZAC-2</p> <p>(~1976 to present)</p> <p>no current use</p>	
<p>ZAC-3</p> <p>(~1976 to present)</p> <p>no current use</p>	



In 1977, the World Bank issued a \$120M (USD) loan to FONATUR to develop infrastructure for tourism in Nopolo (World Bank 1985). In 1980, FONATUR installed three water supply wells in the low hills west of the Transpeninsular Highway. These wells were designated 5A, 5B, and El Gemelo. Well 5A performed poorly compared to the other wells (more details provided later in this report), and it appears that it was never used for water supply and may have been abandoned. Wells 5B and El Gemelo are lined with a 12” metal pipe and extend to 61 m and 50 m depth, respectively (Ecoscapes 2005). Wells 5B and El Gemelo have been the primary water source to Nopolo since 1980. During construction activities in the early 1980s, the World Bank reported that FONATUR was pumping 360,000 m³ annually from these wells.

Also in 1980, FONATUR installed two wells near Loreto Town in Arroyo Las Parras (Pozo 9 and 9A) (CONAGUA 2020a). These wells were intended for water supply to the town of Loreto. One of these wells is still in existence (it is not clear whether it is 9 or 9A) but the well does not have electrical power supplied to it.

In Loreto Town, FONATUR used a portion of the World Bank loan to repave streets and install curbs and landscaped medians and rehabilitate the Mission (World Bank 1985).

In Nopolo between 1977 and 1984, FONATUR developed building pads, roads, and installed electrical and water supply, and a wastewater treatment plant in Nopolo. FONATUR also constructed the 250-room El Presidente Hotel (initially operated by Stouffer) (World Bank 1985). The El Presidente Hotel is reported to have had lush tropical gardens on its grounds and at the associated Tennis Center, both requiring significant amounts of potable water for irrigation.

In 1986, FONATUR installed two wells in Tabor Canyon (Tabor 1,2) to supply its planned development in Puerto Escondido; it appears that Tabor 1 is still operational (CONAGUA 2020a).

In Loreto Town, pumping of Pozos 2 and 9 led to intrusion of seawater into the coastal aquifer as early as 1981 (CONAGUA 2020a). An extended drought between 1985 and 1990 (Wurl and Gonzalez-Baheza 2020) led to intensification of the saline intrusion and wells in the town began to yield brackish water. In 1989, the citizens of Loreto blocked the highway to protest the lack of drinking water; the President of

Mexico came to the town and promised a new water supply, and FONATUR was tasked with providing that supply (O'Neil & O'Neil 2001). A formal agreement exists between the municipality and FONATUR related to this infrastructure (Villegas 2007), but the Committee has not obtained the document for review.

In 1992 FONATUR completed construction of four wells in the San Juan Londo (SJL) Aquifer north of Loreto (FONATUR website; O'Neil & O'Neil 2001) of the original planned ten wells. They also constructed a ~30-km long aqueduct to transmit this water to Loreto, where it is pumped into the elevated water tank in Loreto to serve as its primary water supply.

Additionally, a second aqueduct brought this water from the Loreto water tank southwards to Nopolo, where it was then pumped up into the Nopolo elevated water tank (FONATUR website).

That same year, the El Presidente Hotel completed construction of a golf course (NY Times 1992). Golf courses require a large amount of water for irrigation. The exact quantity of water necessary for operation of the golf course is unknown; however, in 2005 the LBC company was anticipating a need of 1,000,000 m³/year. The average golf course in Baja California uses 500,000 m³/yr (Wurl 2019).

During the 1990s, the Nopolo wells (5B and El Gemelo) were being pumped between 6 to 24 hours a day (Prieto 2005), most likely to supply water to the golf course. The lower aquifer (in Recent Alluvium) east of the highway experienced saltwater intrusion which extended to the low area west of the highway; the upper wells 5B and El Gemelo did not experience saltwater intrusion (reported in Prieto 2005 but no data provided) (CONAGUA 2020a).

In 2002, the El Camino Real Resort (now the Inn at Loreto Bay) took over operation of the golf course. The El Presidente Hotel changed hands several times, becoming first the "New Eden" and then the "Whales Inn" and finally going defunct (additional information on Loreto tourism during the 1990s can be found in Los Angeles Times articles from 1986, 1993, 1995, and 1997).

In 2003, the Trust for Sustainable Development (TSD) began planning for the Villages of Loreto Bay. In 2004 the Loreto Bay Company (LBC) began sales. Construction began in 2005. During this time, water was being supplied from the local Nopolo wells (5B and El Gemelo) and supplemented from the SJL aquifer via the aqueduct. The supplementation appears to have been needed to support construction activities (primarily for compaction of building pads) and the golf course irrigation.

In 2006, the LBC replanted the golf course with salt-tolerant turf and began to irrigate the golf course with reclaimed water from Loreto Town's PTAR, greatly reducing the quantity of potable water needed for the community (Terrain 2008).

The Loreto Bay Company planned to develop approximately 6,000 homes in the Nopolo area. They estimated that full build-out of the development would require 1,250,000 m³/yr of potable water and proposed to construct a desalination plant to supply this water (Terrain 2008) in addition to water from SJL and the local Nopolo wells. The plant was never constructed.

During the collapse of the real estate market between 2007 and 2009, the LBC struggled and eventually went bankrupt, closing operations in 2009. The Loreto Bay HOA persevered and continued to support our community without assistance from the developer. CitiGroup, the majority stakeholder since 2007, retained the Inn, golf course, and undeveloped property after the bankruptcy, and in 2010 sold their stake to a Mexican developer, HOMEX. HOMEX struggled, and in 2013 the Inn, golf course, and some of the undeveloped lands were bought by Carlos Slim's company, CARSO.

At some point between 2007 and 2009, Nopolo stopped receiving water from SJL and has relied entirely upon the two Nopolo wells 5B and El Gemelo for its water supply.

In 2006, CONAGUA reported that the aquifer in Loreto Town had recovered from seawater intrusion and recommended the installation of additional wells further west (away from the coastline) within the Las Parras canyon to provide additional water supply sources to the town of Loreto.

Around 2008, two wells were installed in Arroyo Las Parras (Pozo A and B) a few kilometers west of the original Pozo 9. These wells were visited by the Committee in 202 and appeared to be operational, although the FONATUR Director of Maintenance has told the Committee that these wells “had never functioned.”

Also in 2008, FONATUR began installing infrastructure to support a new development south of the Zaragoza community (FONATUR 2008). It is possible that Pozos A and B were intended to supply this development, but homes were never constructed there.

In 2015, OOMSAPAL was assigned water rights for Pozos A and B. These rights allow for pumping of 1,600,000 m³/year (CONAGUA database). CONAGUA (2020a) indicates that they are currently pumping only 100,000 m³/year from these wells.

In the summer of 2020, FONATUR’s budget was cut by 75%, and they informed OOMSAPAL that they would not pay the electrical bills for pumping water from the SJL aquifer. OOMSAPAL failed to pay those bills, and the town of Loreto experienced water outages lasting several weeks. The issue was resolved when the governor instructed FONATUR to recommence payment of the electrical bills (Tribuna de los Cabos 2020).

5.0 SOURCES AND USES OF POTABLE WATER

Several sources are available to supply potable water to the Loreto Municipality. To better delineate the sources and uses of potable water (which areas are supplied by which sources) a survey of potable water sources was undertaken by the Committee. We found that the different water sources had quite different salinities, so we used Total Dissolved Solids (TDS) to "fingerprint" each source.

The survey sampled a wide variety of potable water sources within the Loreto sub-basin and tested them for TDS (Total Dissolved Solids). The primary goal of the survey was to determine which areas were being supplied by each specific water source. The following tables summarizes the results of testing in May and October 2021.

TDS is an indication of the salinity of water. One of the most basic measurements of potable water quality is salinity. The World Health Organization (WHO) indicates palatability of drinking-water in relation to its TDS level as follows: excellent, less than 300 mg/L; good, between 300 and 600 mg/L; fair, between 600 and 900 mg/L; poor, between 900 and 1200 mg/L; and unacceptable, greater than 1200 mg/L. The USEPA does not have a primary health standard for salinity, the secondary standard (nuisance level) is 500 mg/L. California EPA has recommended salinity levels for drinking water-to be less than 1000 mg/L.

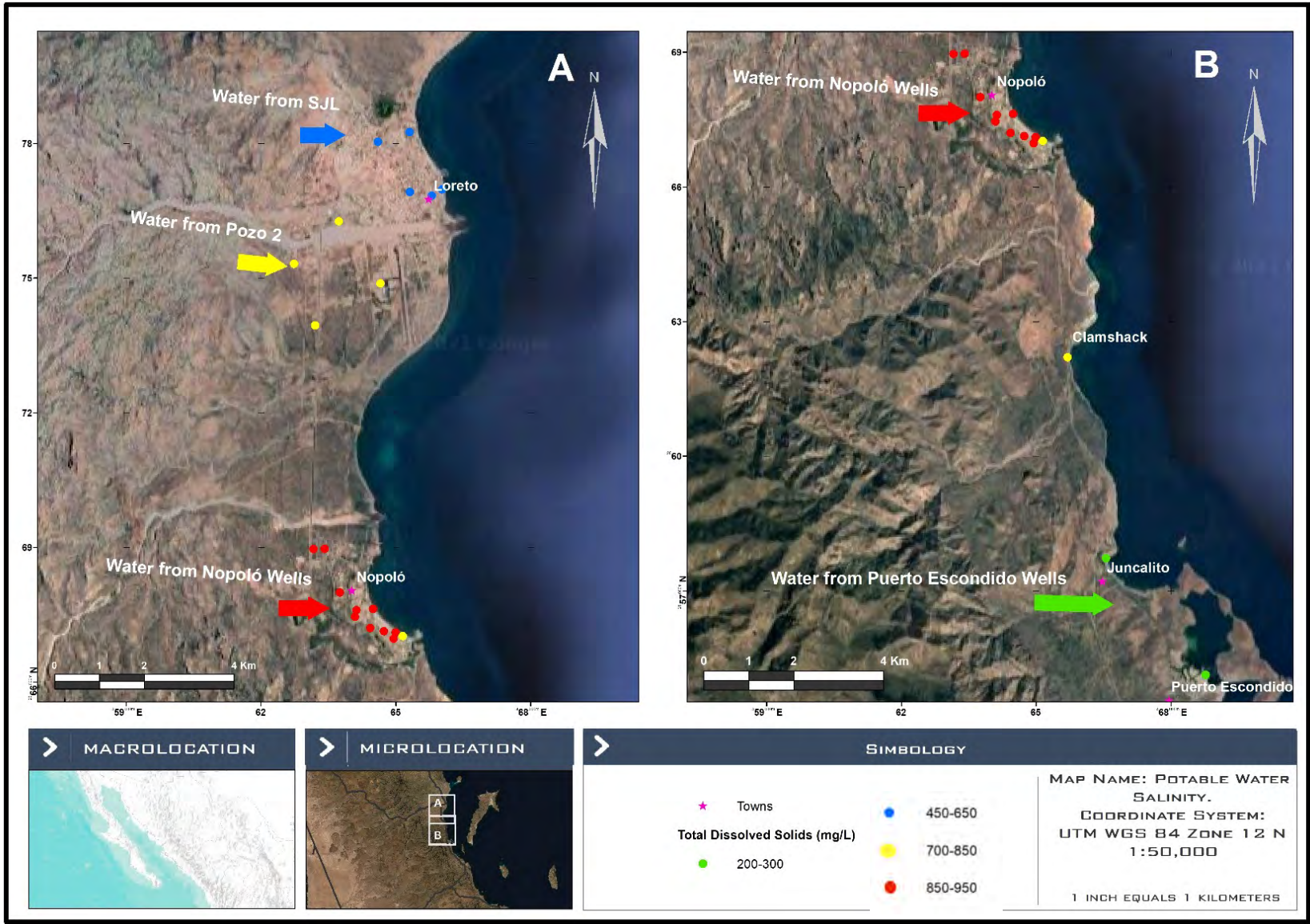


Figure 5. Total Dissolved Solids of potable water

Table 3. Total Dissolved Solids of potable water samples

2021 TOTAL DISSOLVED SOLIDS		
	mg/L (ppm)	
	May-21	Oct-21
Puerto Escondido business		283
Juncalito home	353	
Loreto Town business	449	
Loreto Town business	504	
Mar Vista business		544
Loreto Town business		592
Loreto Town home		618
Loreto supplied by truck	711	779
Loreto supplied by truck	712	
Founders home	720	
Clam Shack supplied by truck		837
Pozo 2 (supplying trucks)		850
Nopolo median sprinkler	846	
Golfcourse irrigation sprinkler	868	1056
Golfcourse irrigation sprinkler		874
Airport		882
Nopolo business	899	
Founders home	909	1100
Paseo business	911	
AV business	913	
LB Inn lawn sprinkler	913	
AV home	923	
AV business	931	
Golfcourse irrigation sprinkler	934	
Nopolo median sprinkler	953	
Nopolo PTAR (from truck)	1101	
Discharge to Golf Course Lake		1105
Golf Course Lake		1105

Figure 5 and Table 3 summarize the results of the potable water sampling program, showing that Loreto Town, including MiraMar, is supplied from the SJL aquifer. Nopolo is supplied from our local wells. Juncalito and Puerto Escondido appear to be supplied from the Tabor Canyon wells. For those homes and businesses not connected to a municipal water supply, water is delivered by water trucks which appear to mostly obtain their water from Pozo 2 in Loreto Town. The Committee plans to continue monitoring water samples for TDS.

Water samples from pools and fountains of Loreto Bay were also analyzed. In May, the typical salinity of fountain water was around 1000 mg/L, while the pools ranged from 1000 to 4000 mg/L (likely elevated due to pool water chemical addition and evaporation).

Table 4. Total Dissolved Solids of water from Loreto Bay pools and fountains

TOTAL DISSOLVED SOLIDS (mg/L, ppm)	
	Oct-21
Fountains (typical)	1000
Community pool	1000
AV pool	3000
Lap pool	4000

Salinities in the Loreto Bay waterways measured for the Waterways Report (Santamaria 2021) ranged from 32,500 mg/L (3.25%) to 45,000 mg/L (4.5%). In October 2021 they ranged from 48,000 to 59,000 mg/L. In the mangrove lagoon by the golf course salinities were near that of seawater (36,000 to 39,500 mg/L), becoming increasingly saline towards the west, indicating little freshwater input from inland sources. The water in the Golf Course Lake had a TDS of 1100 mg/L in October 2021.

Table 5. Total Dissolved Solids of other non-potable water samples

TOTAL DISSOLVED SOLIDS (mg/L, ppm)		
	Dr. Noe	Whitelaw
	2020 avg	Oct-21
Canal K	32,500	59,000
Bay of Loreto	35,200	
Canal I	36,400	48,000
Canal L	36,400	
Homex pond	40,600	
Canal J	45,000	57,000
Golf Course Lake		1,105
		May-21
Mangrove Lagoon (golf course)		
East wooden bridge		36,000
Second bridge (low)		37,000
Marina		37,000
Far southwest corner		38,500
By highway underpass		39,500

6.0 CLIMATE

The climate in Baja California Sur is classified as low latitude west coast desert. Temperature data from 1980 to present was obtained from the CONAGUA meteorological station located in downtown Loreto. Only the maximum and minimum temperatures are recorded. The average annual temperature ranges between 25-27°C (77-81°F) (CONAGUA data). Maximum temperatures range from 37-40 °C (93-104 °F) and average minimum temperatures range from 18-21 °C (64-70 °F).

The data shows an apparent warming trend 1980-present, which is likely due to the "heat island" effect. This effect occurs as areas become more urbanized, because pavement and building construction materials retain more heat than bare earth or vegetation. This effect appears to be more pronounced in the average minimum (lowest overnight) temperature data.

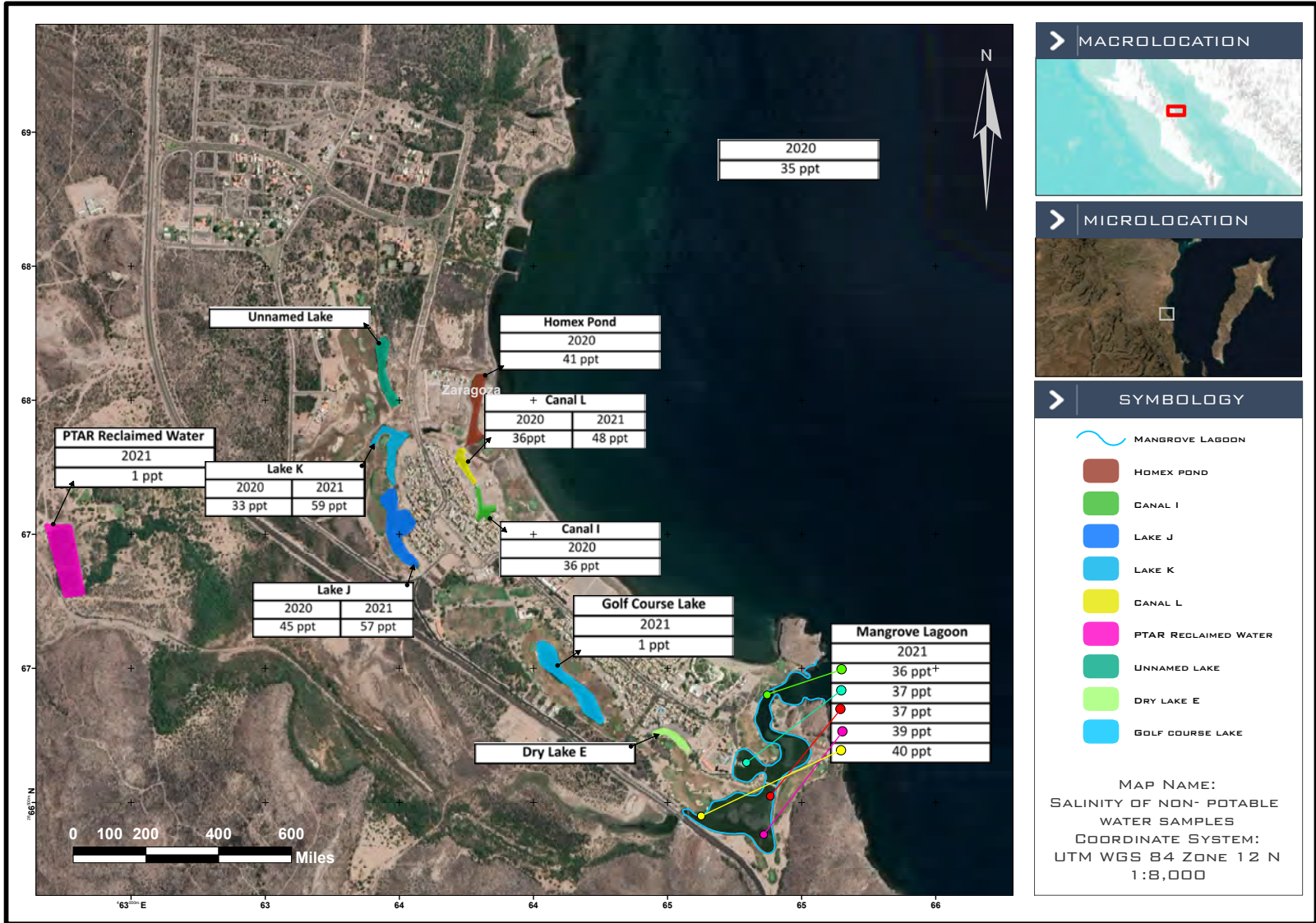


Figure 6. Total Dissolved Solids of non-potable water samples

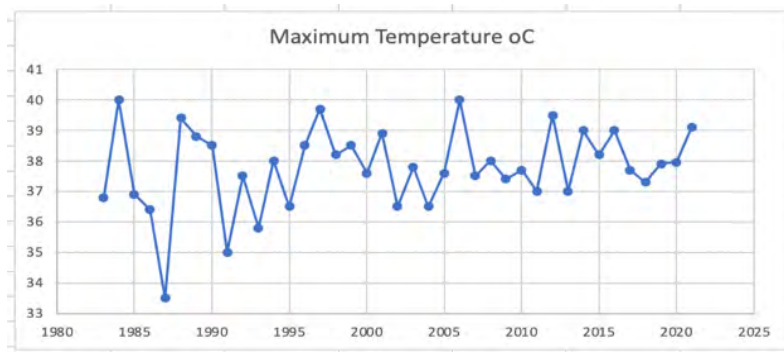


Figure 6. Maximum temperatures in Loreto, °C, 1980-2020

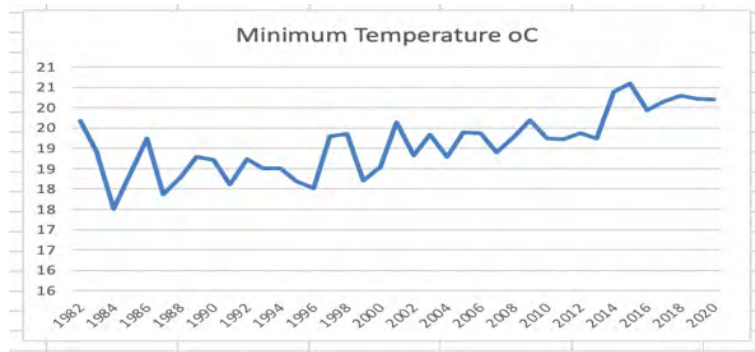


Figure 7. Average minimum temperatures in Loreto, °C, 1980-2020

Most of the rainfall in Loreto occurs from July through February with most precipitation in August and September due to its relationship with the cyclone season every year. March through June are usually without significant measurable precipitation. Most of the rainfall is related to hurricanes and tropical storms, and most of the precipitation occurs in short periods of time, resulting in a significant portion of the water occurring as runoff into the ocean. Local estimates of infiltration are about 15% of the total precipitation (Prieto 2005; HIMEX 2021).

The average total annual precipitation in the Loreto Basin between 1940-2020 was around 140 mm/yr (about 6") in the flat areas and 300 mm/yr (about 12") in the mountainous areas (Wurst and Gonzalez-Baheza 2020). Based upon data obtained from the local meteorological station, the average precipitation during the last 40 years (1980 to 2020) has been 182 mm/year, which is slightly wetter than the long-term average cited in previous publications.

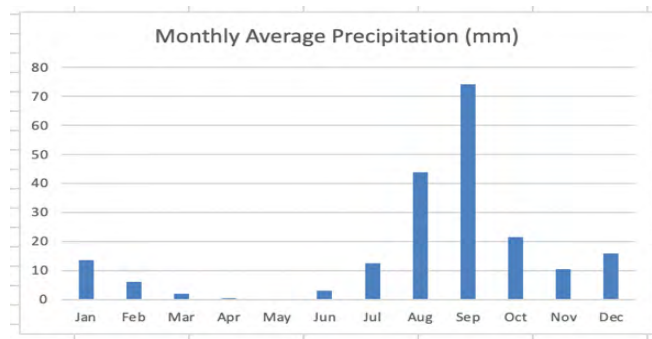


Figure 8. Average monthly precipitation in Loreto (mm) 1980-2020

The phrase "average precipitation" in this case, however, does not mean that a typical year receives around 180 mm of rain. Instead, the data shows a very large interannual variation in precipitation, with very wet years punctuated by frequent droughts. Two-year droughts are not uncommon, with the second year often being drier than the first. The period from 2012 through 2019 was consistently wetter than previous decades. Both 2020 and 2021 have been drought years.

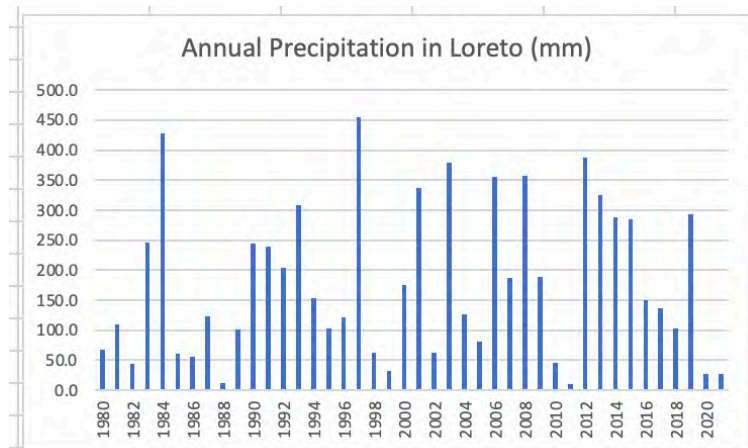


Figure 9. Total annual precipitation in Loreto (mm) 1980-2020

There is no official cut-off or definition for droughts or floods, the Committee characterized precipitation as follows for this discussion. "Normal" as 100-250 mm/yr; drought as 50-100 mm/yr; extreme drought as <50 mm/yr; "floods" as 250-350 mm/yr; and extreme flood as >350 mm/yr.

Floods and droughts (as so defined) account for over half of the annual precipitation patterns.

Droughts account for 27% of the total record. The 1980s experienced 5 years of drought. Between 1990 and 2019, there were 2 drought years per decade. Since 1990, these have been:

- 1998 and 1999
- 2002 and 2005
- 2010 and 2011
- 2020 and 2021

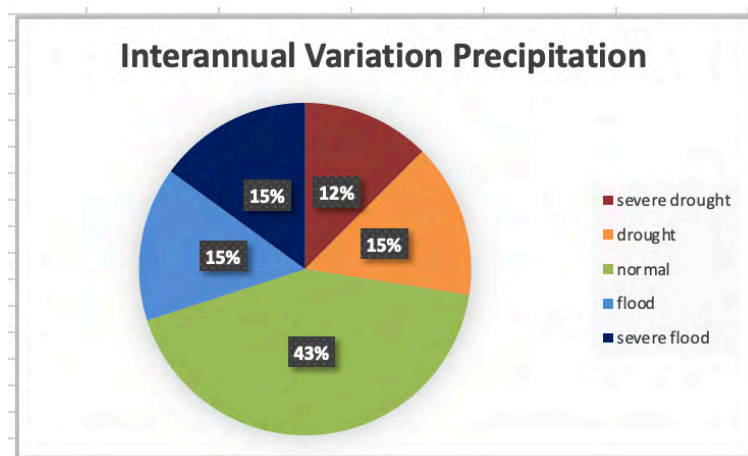


Figure 10. Interannual variation in precipitation in Loreto, 1980-2020

To evaluate possible long-term trends in the data, a five-year running average was calculated. No obvious trend emerged. Extremely dry conditions persisted between 1985-1990 and relatively wetter conditions persisted from 2012-2019.

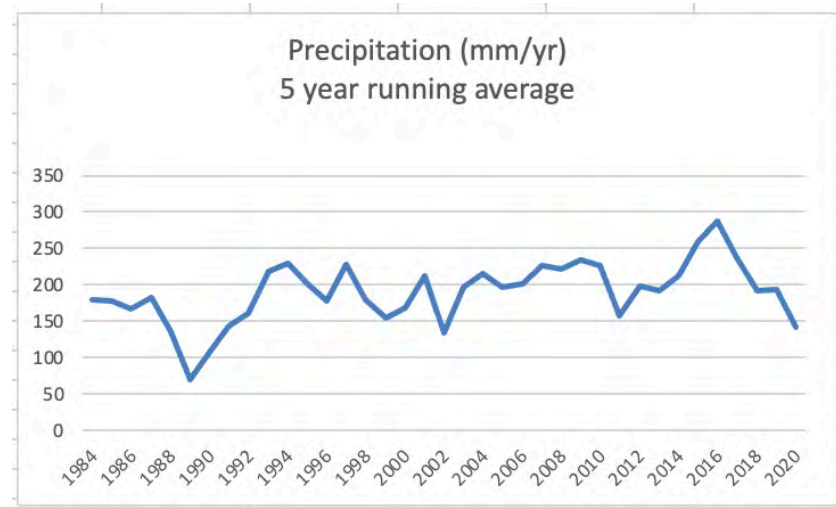


Figure 11. Five-year running average of total annual precipitation in Loreto (mm) 1980-2020

Evapotranspiration ranges from 1500 mm/yr in Loreto to 2000 mm/yr in San Juan Bautista (Wurl and Gonzalez-Baheza, 2020). Because evaporation exceeds precipitation, any water that does not infiltrate into the subsoil beyond the vadose zone will be subject to evaporation. Therefore, standing surface water and running streams are rare and ephemeral in the Loreto area (Wurl and Gonzalez-Baheza 2020).

Most of the year, all the rainfall infiltrates to the subsoil before reaching the ocean, except during cyclonic events, in which case the streamflow becomes torrential with huge potential for erosion and flooding (Wurl and Gonzalez-Baheza 2020).

Data on maximum rainfall events (over a 24-hour period) indicate a trend towards increasingly larger (wetter) storms over the last three decades (data from HIMEX 2021) except for a lull during the prolonged drought in 1985-1990.

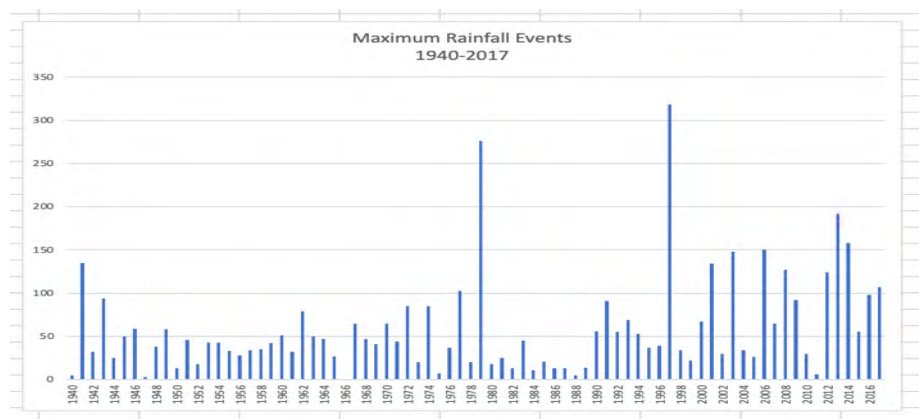


Figure 12. Maximum rainfall events (mm in 24-hour period) 1940-2017

The trend of increasing larger storm events appears even more prominent in a five-year running average of the data. This trend indicates a potentially increasing risk of flooding in the Loreto area in the future.

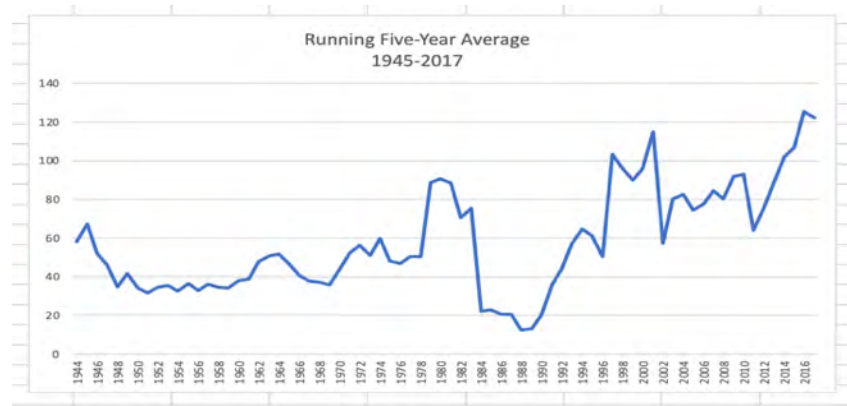


Figure 13. Five-year running average, maximum rainfall events (mm in 24-hour period) 1940-2017

7.0 GEOLOGY

The Loreto area has an extreme topography with a narrow coastal plain 1 to 4 km wide flanked by low hills and a precipitous escarpment leading up to the Sierra La Giganta. The Sierra La Giganta is oriented roughly north-south in the Nopolo area and is characterized by numerous plateaus incised by steep canyons that trend in various directions influenced by local faulting and fracture zones.

The geologic units and stratigraphy have been studied and mapped previously (U.S. Geological Survey 1988). The table below identifies the important geologic units in their area, along with their descriptions, and identifies which water supply wells have been completed within (draw water from) each unit.

Basement rocks comprise Cretaceous granitic rocks approximately 70 to 145 million years of age. These rocks are not extensively exposed in the Loreto area but may be similar to exposures in the Catavina area.

In the Loreto area, the Cretaceous granite is unconformably overlain by a thick sequence of volcanoclastic sedimentary rocks known as the Comondu Group. The Comondu Group comprises three main units with a total thickness of 1500 to 2000 m. These sediments were laid down in a volcanic arc and forearc basin that formed along the northwestern margin of Mexico between 30 and 12 million years ago (mya). At the time, a subduction zone existed along the west coast of Baja California with the Pacific plate being thrust under the North American plate; at this time, the Gulf of California did not exist (Drake et al 2017).

During deposition of the lower part of the Comondu Group, the volcanic arc lay to the east on mainland Mexico in the Sierra Madre Occidental, and then migrated to the position of the Gulf of California at about 25 mya (Umhoefer et al 2001). At about 19 mya the proximal part of the arc migrated abruptly 50 km westward to approximately the position of Carmen Island and at 15 mya the arc once again stepped west, forming eruptive centers along the coast near Loreto until around 12 mya.

Table 6. Geologic units associated with water supply wells

WELLS COMPLETED	GEOLOGIC UNIT	LITHOLOGIC DESCRIPTION
Loreto Town: Pozos 2, 9, A, B Nopolo Aquifer: ZAC-2, ZAC-4	Recent Alluvium	Loosely consolidated coarse-grained gravels with sand, mostly restricted to current arroyos
Nopolo Aquifer: ICA-1, ICA-3	Quaternary Terrace Deposits	Generally volcanoclastic gravel cemented by caliche, uplifted into terraces, and dissected by recent streams
San Juan Londo Aquifer Fonatur wells supplying the town of Loreto	Pliocene Salada Formation	(occurs only north of Loreto Town; absent from Sierra Giganta and the Nopolo area) Nonmarine to marine sedimentary rocks about 615 m thick representing deltaic deposits around 8 to 2 Mya
	Upper Unit Comondu Group (Miocene)	Near-vent volcanic deposits approximately 15-12 million years ago (Mya) up to 600 m thick, of andesite lava flows with minor andesite breccia representing debris flow deposits and volcanic ash, absent from Sierra Giganta due to erosion
Nopolo Aquifer: 5B, El Gemelo Puerto Escondido Aquifer: Tabor 1, 2	Middle Unit Comondu Group	Massive beds of volcanic breccia interbedded with minor andesite lava flow deposits approximately 19-15 Mya up to 750 m thick. Forms the majority of Sierra Giganta; locally extensively fractured
	Lower Unit Comondu Group	Volcanoclastic deposits of stream-laid sandstone and conglomerate around 200-300 m thick with interbedded volcanic breccia and lava flows around 30-19 Mya; underlies the Middle Unit throughout Sierra Giganta
	Cretaceous Granite	Granodiorite app. 60 to 145 Mya; unconformably overlain by the Miocene Comondu Group

The migration of the volcanic arc resulted in more proximal (near-volcano) deposits being gradually deposited over more distal (further away from the volcano) deposits. Therefore, the Lower Comondu Unit consists of reworked fluvial (stream-laid) sedimentary deposits of conglomerate and sandstone; ash and tuff (debris flow) volcanoclastic deposits increase in abundance in the Middle Comondu Unit; and lava flows become more prevalent in the Upper Comondu Unit (Umhoefer et al 2001).

The Lower Comondu contains 200-300 m of fluvial sandstone and conglomerate with numerous tuffs and basalt flows. These represent distal deposits of sediments reworked from extrusive volcanic rocks occurring closer to the volcanic arc. This lower clastic unit is exposed in the Arroyo Las Parras. (Umhoefer et al 2001)

The Middle Comondu breccia and lava flow unit is up to 750 m thick and consists of massive volcanoclastic breccia deposited as proximal debris flows, interbedded with minor andesite lava flows (Umhoefer et al 2001). This unit forms most of the visible strata in the Sierra La Giganta, with the breccia tending to form massive cliff faces (Umhoefer et al 2001).

Table 7: Photographs of geologic units



VOLCANICLASTIC BRECCIA OF THE COMONDU GROUP



INTERBEDDED ANDESITE AND BRECCIA OF THE COMONDU



The Upper Comondu lava flow and breccia unit consists of about 600 m of andesite lava flows and minor andesite breccia that formed from thick debris flows near the center of volcanic activity. This unit has largely been eroded from the main area of the Sierra La Giganta but is exposed locally at the feature known as Nopolo Rock (which is primarily breccia) and north of Loreto town (McLean 1988).

A plug-shaped stock of hypabyssal hornblende andesite porphyry forms the peak of Cerro El Pilon de Las Parras, dated to 19 mya, representing the later stages of volcanic activity in the area. The plug and associated dike swarms of hornblende and plagioclase andesite intrude unconformably across the middle and lower strata of the Comondu Group (McLean 1998)

The plate tectonic regime dramatically altered around 10 mya as subduction zone tectonics was abruptly replaced with extensional tectonics and the opening of the Gulf of California (Zanchi 1994). This tectonic regime resulted in the down-dropping of the area now known as the Gulf of California and the uplift of the Sierra La Giganta (Umhoefer, Mayer and Dorsey 2002). As a result, the strata of the Comondu Formation were rapidly uplifted (Mayer and Vincent 1998), and its upper unit has been largely eroded.

Younger volcanism changed to a basaltic nature, with notable volcanic activity at Cerro el Gordo and Coronado Islands. Coronado Island is rimmed by extensive coral reef deposits of Pleistocene age (McLean 1998; Johnson 2014).

Around 2 mya, three large down-dropped basins (grabens) formed in the Comondu deposits north of Loreto around San Juan Londo Bautista. Extensive deltas began to form in the area. Rapid and extensive subsidence of the basin area formed a thick sequence of marine and nonmarine deposits of sandstone, conglomerate, and siltstone, designated the Salada Formation, with a total thickness over 600 m (Dorsey et al 1995).

During the Pleistocene era, erosion of the Sierra La Giganta led to the development of extensive alluvial deposits, which have been subsequently uplifted to form terrace deposits cut by younger alluvial deposits. These terrace deposits are typically cemented with caliche. In the area near Nopolo, these Quaternary Terrace deposits reach thicknesses of 50 m (McLean 1988).

The older deposits are dissected by arroyos containing loosely consolidated deposits of gravel and sand, forming the Recent Alluvium.

The primary structural element in the area is the Loreto Fault, a north-south and northwest-southeast trending normal fault, down-dropped on the east side (Mayer and Vincent 1998). Total down-drop along this fault is 800 m, with only about 30 m during the Quaternary, indicating that its activity has lessened through time (Mayer and Vincent 1998). Numerous other small faults and fractures occur both parallel and perpendicular to the Loreto Fault (McLean 1988).

8.0 HYDROGEOLOGY OF THE NOPOLO AQUIFER

The following sections focus on the Nopolo Aquifer; further details on other segments of the Loreto Aquifer and the San Juan Londo Aquifer will be provided in forthcoming reports.

8.1 Hydrogeologic Units of the Nopolo Aquifer

The water that we use in Loreto Bay comes from the groundwater contained in the Nopolo Aquifer that primarily occurs within fractured rocks of the Middle Unit of the Comondu Group, comprising volcanoclastic sediments including tuffs interbedded with andesite lava flows (CONAGUA 2020a). In general, these strata have little primary porosity and permeability, however in the Nopolo area they are locally fractured to the extent that they hold and transmit water as an aquifer. It appears that the andesitic lava flows are the rock units with the highest degree of fracturing (IEPSA 1984) and therefore form the main aquifer unit in the lower Nopolo Hills. Higher up in the Sierra La Giganta, groundwater also likely occurs within the fluvial (river-laid) sedimentary rocks of the Lower Comondu Group. Fluvial units generally exhibit higher primary porosity and permeability. The uplift of the Sierra La Giganta has resulted in the Lower Comondu Group being in horizontal contact with the Middle Comondu Group in the Nopolo Hills area (the source of Nopolo's potable water supply).

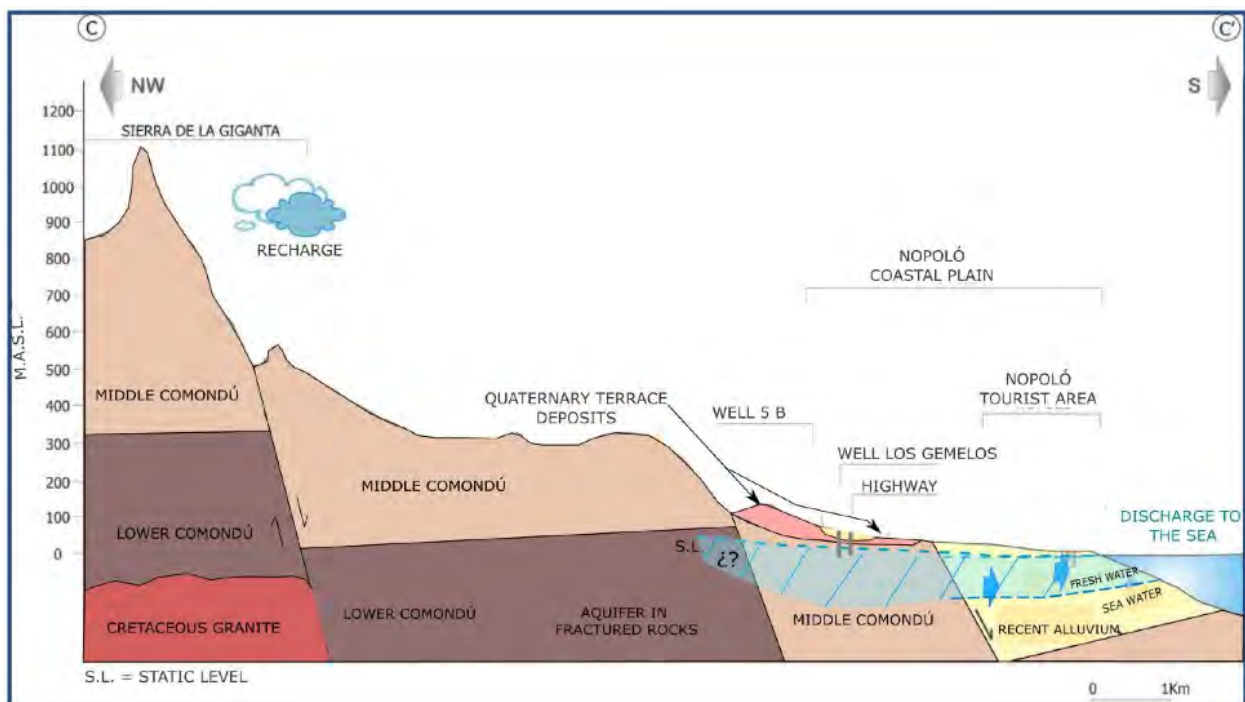


Figure 14. Schematic geologic cross section of the Nopolo area

In addition to the main aquifer unit in the Comondu Group, shallower wells have been established in other geologic units in the Nopolo area. These are:

- The Zacatel wells completed in Recent Alluvium; and
- The ICA wells completed in Quaternary Terrace deposits

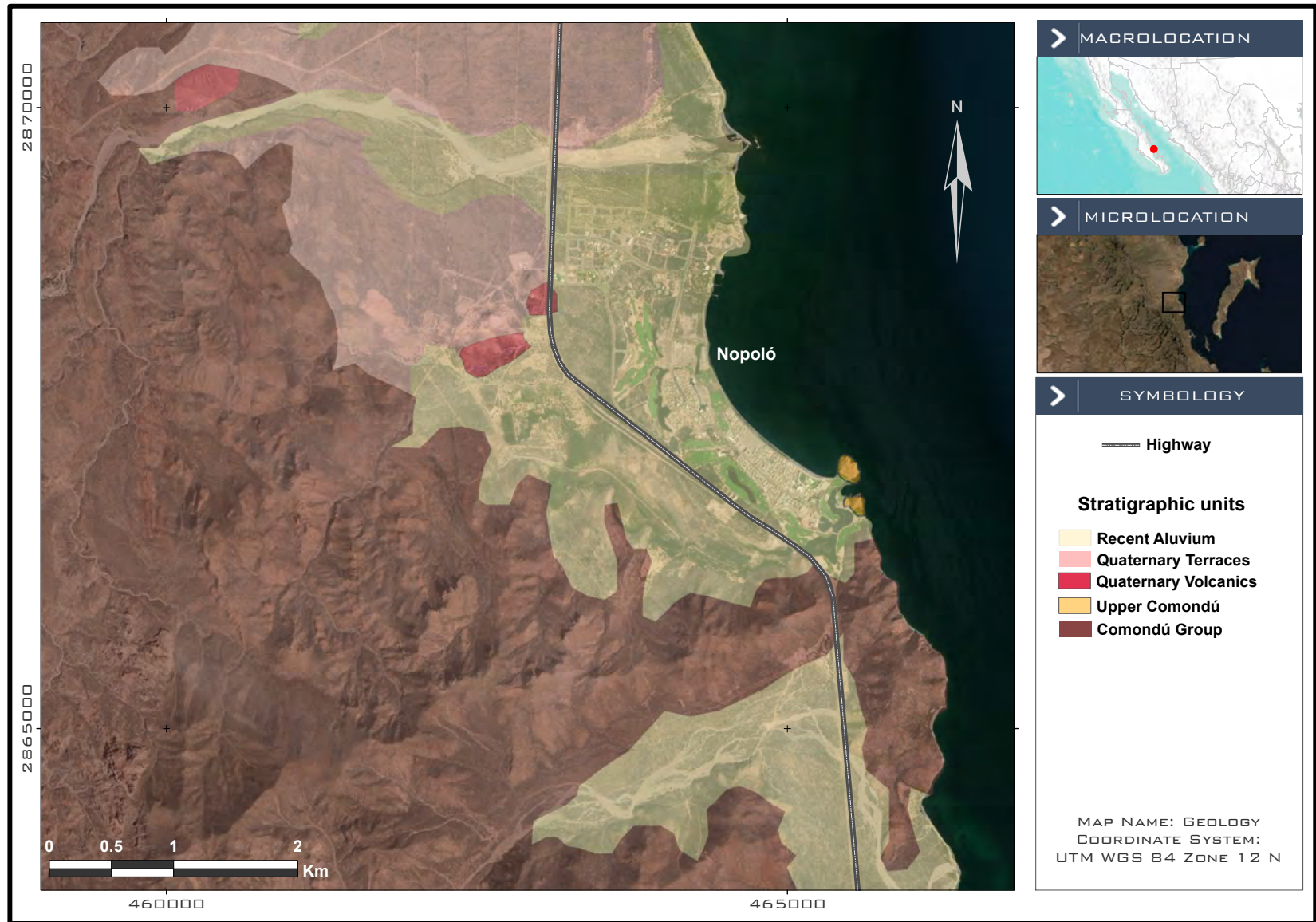


Figure 15. Geologic map of the Nopoló area

These wells, and the geologic units in which they are completed, are downgradient and contiguous with the Middle Comondu Unit in which our water-producing wells (5B and El Gemelo) are completed. In previous hydrogeologic studies, piezometric levels suggest that all three of these units (in this area) are hydraulically connected (CONAGUA 2020a). The Committee is currently monitoring the groundwater levels and water quality in these wells, and further refinement of our understanding of the hydraulic interactions between these three units is anticipated.

8.2 Hydraulic properties of the Nopolo Aquifer

One of the traditional means of determining how a water supply well will perform is through conducting a pumping test to determine standard hydraulic properties of the aquifer. The pumping test involves pumping water out of the well, sometimes at a constant rate and sometimes at variable rates, and measuring the response of the water levels in the pumped well and surrounding monitoring wells. Pumping tests last at least 24 hours and sometimes up to a week. The drawdowns in the water levels through time are then analyzed according to a variety of methods, and three useful properties are derived: the safe yield, transmissivity, and storativity. Note that the term safe yield is often used interchangeably with sustainable yield; in this document, we use the term "safe yield" to refer to the capacity of a specific well to draw water, and "sustainable yield" to refer to the capacity of the aquifer to provide water without drawing down storage.

Hydraulic parameters of the Nopolo Aquifer have been measured by pumping tests in 1980 (by Ingeniería Integral, consulting for FONATUR), again in 1984 (IEPSA consulting for FONATUR) and finally in 2006 (Lesser y Asociados consulting for CONAGUA). We do not have the original reports of the pumping tests but have relied upon summaries of the reports provided in CONAGUA's 2020 report on the Loreto Sub-basin.

Drawdown in these wells (defined as the difference between the static level and the dynamic level at the time of the testing) was reported by Ecoscapes (2006) as:

- 41.3 m in Well 5A (29.1 to 70.4 m)
- 22.9 m in Well 5B (27.2 to 50.1 m); and
- 16.4 m in Well El Gemelo (29.2 to 45.6 m)

Determining the safe yield of a well involves a test to determine the balance between the rate at which water can be pumped out of the well and the rate at which the water will flow back into the well from the surrounding aquifer. During the pumping test, measurements are made of 1) the rate at which water is being pumped out of the well and 2) the distance the water level is lowered in the well as a result of the pumping, known as the drawdown. Balance, or equilibrium, is achieved when the water level within the well stops dropping for a given discharge rate. Water well professionals rely on the yield pump test to set the well pump at the correct level. If the operator pumps the well at a rate greater than the safe yield, water levels will fall within the well and the submersible pump will eventually be above water.

The safe yields for these wells were indicated as (CONAGUA 2020a):

- 7.5 liters per second (lps) for Well 5A
- 11 lps for Well 5B; and
- 15 lps for Well El Gemelo

Transmissivity is a hybrid value which represents the permeability (or hydraulic conductivity) of the aquifer materials multiplied by the aquifer thickness. Permeability is a measurement of how easily water will flow through the geologic material of the aquifer, and depends upon the porosity (size and number of

pores or "holes" in the rock) and their interconnection within the rock. Transmissivity, therefore, measures how easily water is transmitted from the aquifer. Transmissivity is very important in calculating the sustainable yield of the aquifer.

Transmissivity calculated during the initial pumping tests in 1980 was provided as:

- 0.3 x 10⁻³ m²/s for Well 5A;
- 0.69 x 10⁻³ m²/s for Well El Gemelo; and
- 0.78 x 10⁻³ m²/s for Well 5B.

The numerical results of the 1984 and 2006 pumping tests were not provided; however, the CONAGUA 2020a report stated that the average transmissivity of all the Nopolo Aquifer pumping tests was 0.6 x 10⁻³ m²/s, suggesting that there is good agreement between all the historical pumping tests.

The storativity (or specific storage) is the amount of water that a portion of an aquifer releases from storage, per unit mass or volume of aquifer, per unit change in hydraulic head, while remaining fully saturated. For our purposes, the storativity tells us whether the aquifer is confined beneath an impermeable layer. In all cases in the Loreto aquifers, they were determined to be unconfined.

8.3 Nopolo Aquifer Historical Extraction

Extraction amounts (or pumping volumes) are typically expressed in cubic meters (m³). There are 1,000 liters or 264 gallons in a cubic meter. It is likely that all of the extraction volumes reported by CONAGUA (2020a, b) are over-stated; in Mexico, if an entity does not utilize all its assigned water rights, they may be taken away (Wurl and Gonzalez-Baheza 2020). Therefore, the stated rates of extraction may actually represent the maximum possible extraction rather than actual extraction.

In the early 1980s, during construction of the Nopolo infrastructure, these wells are reported to have extracted an annual volume of 360,000 m³/yr (World Bank 1985).

In 1984, Wells 5B and El Gemelo were reportedly extracting 440,000 m³/yr. At this time, water was being used primarily for landscape irrigation, notably at the El Presidente Hotel and Tennis Club, which reportedly had lushly landscaped grounds. The water table in 1985 occurred at the same elevation as 1981 (CONAGUA 2020a).

CONAGUA reported extractions of 400,000 m³/yr for 2006, 2015, 2017, and 2020. The CONAGUA reports are not clear on exactly what these numbers mean. The Committee does not believe that these reported rates of extraction are reliable. We have requested actual measured extraction and water level data, but these have not been provided to us.

According to the FONATUR Director of Maintenance, currently Wells 5B and El Gemelo are serviced by small pumps (total combined capacity of about 26 liters per second) and are pumped an average of 5 to 6 hours per day. This rate of extraction would correspond to an approximate annual volume of around 200,000 m³.

8.4 Piezometric Elevations of the Nopolo Aquifer

Piezometric elevations refer to the elevation of the surface of the groundwater table above mean sea level (MSL). The piezometric elevation is quantified by measuring the distance between the ground surface and the surface of the groundwater table in a well, typically during pumping (dynamic water level) and after

cessation of pumping, when the groundwater level has risen and stabilized (static water level). The ground elevation is then subtracted from those numbers to obtain the piezometric elevations. In general, our references are to static water level measurements.

To evaluate the data, piezometric elevations from individual wells were plotted on a map, and contour intervals calculated to develop a map of isometric lines connecting equal groundwater table elevations. From these piezometric maps, we can infer the direction of groundwater flow, which will be perpendicular to the isometric lines. We can also use the piezometric map to calculate the velocity of groundwater flow using Darcy's Law, and thus estimate the quantities of groundwater flow through time.

Finally, if we study the evolution of the piezometric surface through time, it gives us an indication as to whether the volume of water being extracted from the aquifer is sustainable. For example, if the piezometric levels consistently falls through time, it suggests that the aquifer is being over-drafted or other geologic factors are in play.

Piezometric levels for the aquifers of the Loreto sub-basin were provided in the 1984 (CONAGUA 2020a), 2005 (Ecoscapes 2005), and 2006 (CONAGUA 2020a) reports.

Additionally, members of the Committee measured piezometric levels in the older Nopolo wells (ZAC-2, ZAC-4, ICA-1, ICA-3) in May and October 2021.

Piezometric levels of the Nopolo Aquifer fell by 0.1 m between 1981 and 1982, which is a negligible amount (Acuaplan for SARH, 1981) and by 1985 they had returned to the 1981 levels (IEPSA 1984). A severe drought occurred between 1985 and 1990 but its impact on this aquifer is unknown.

The piezometric levels in the Nopolo Aquifer are shown in Figure 16 for 1984 (IEPSA) and 2006 (Lesser & Associates). These data demonstrate a significant rise in the groundwater elevations between the two measurement events. Between 1984 and 2006, water levels rose about 5 m in the upper wells (5B and El Gemelo) and 4 m in the lower wells.

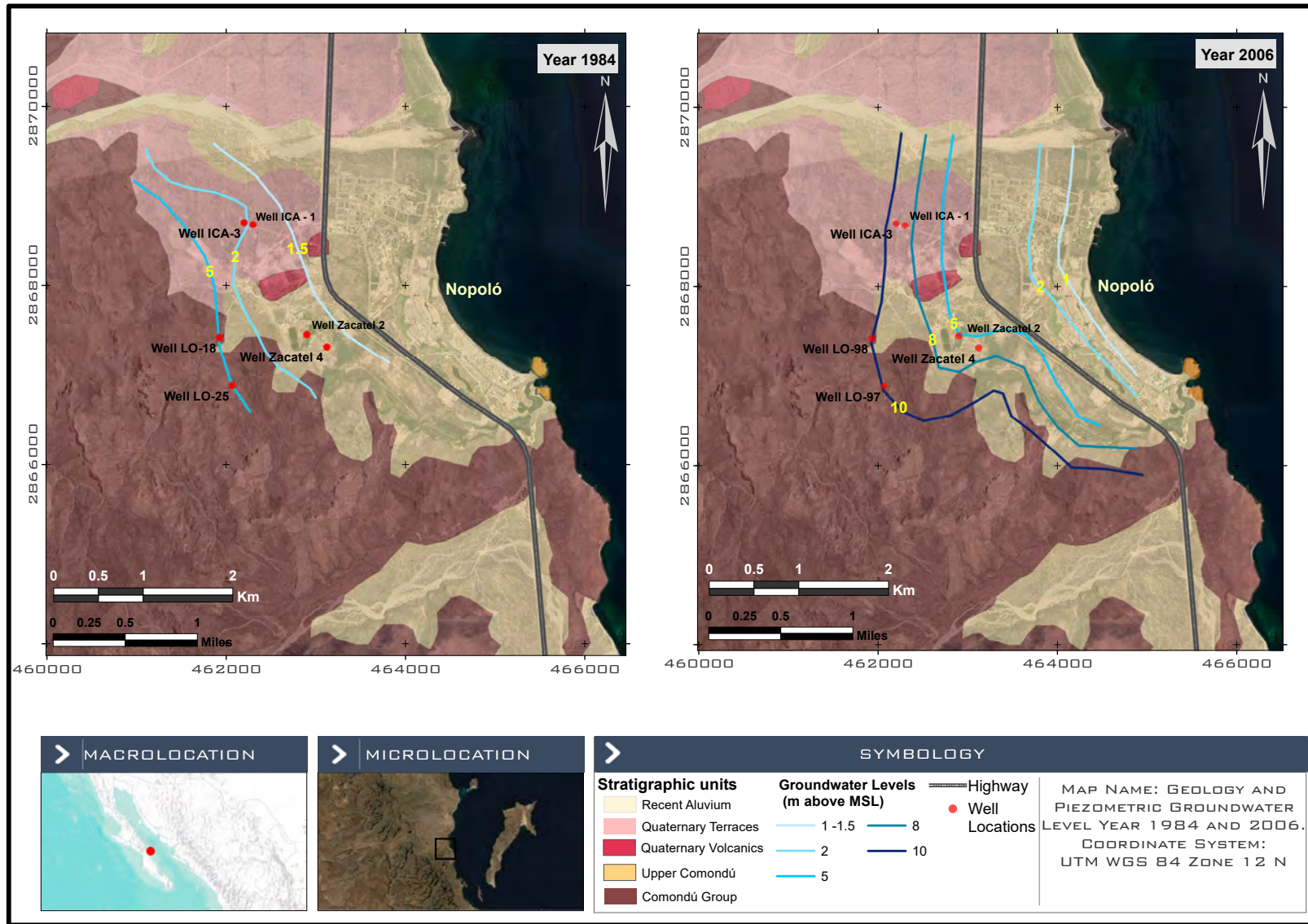


Figure 16. Piezometric elevations for the Nopoló Aquifer, 1984 and 2006

Data on groundwater levels for the pumping wells 5B and El Gemelo after 2006 were not available for our review. Knowledge of these levels is very important, as they serve as an indicator of whether the current levels of extraction are above or below the sustainable yield. The Committee has requested these data from FONATUR and CONAGUA. In November 2021, FONATUR indicated that they intended to conduct an aquifer study in 2022, and that they may share those results with us when they are available (FONATUR, 2021).

Lacking water level elevation for the pumping wells, Dr. Luis Lesser (Lesser y Asociados), in a consultation with the Committee, suggested that we could use the lower wells as a surrogate for the water levels in the upper (pumping) wells (Lesser, pers. comm. 2021). Therefore, the Committee initiated a program to locate, sound, and sample these wells.

The lower wells ZAC-2, ZAC-4, ICA-1, and ICA-3 were sounded in May and October 2021 by the Committee. Accurate measurements of the ground surface elevation are not available for these wells. For our calculations, we used ground surface elevations presented on Google Earth, which are given in whole meters. Therefore, the 2021 piezometric elevations have an accuracy of about a half meter.

The depths to groundwater (soundings) were provided in table form for the 2005 results (Ecoscapes 2005) and in map form for the 2006 results (CONAGUA 2020a) so those results are directly comparable to the 2021 data (in other words, any potential discrepancies in the ground elevation do not affect the comparison).

The results of the survey indicate that the depth to groundwater (and the elevation of the water table) in the lower wells in 2021 are essentially the same as in 2005 and 2006 and significantly higher than in 1984. Note that the dashed lines are provided for ease of connecting data points; water levels for dates other than the data points are unknown.

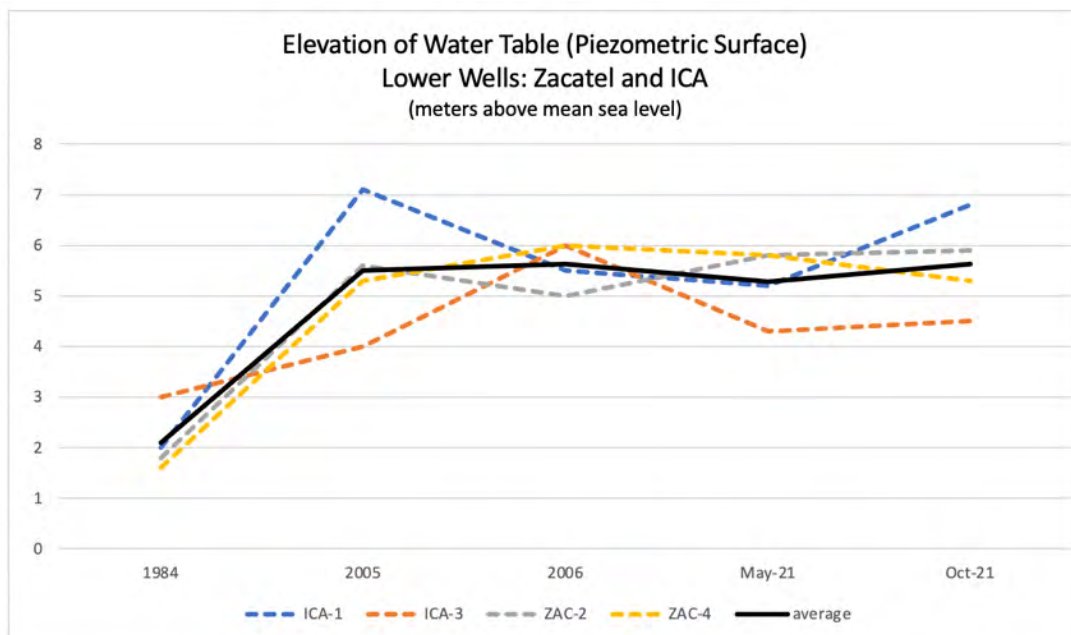


Figure 17. Graph of piezometric elevations in lower wells, 1984, 2005, 2006, and 2021

9.0 SUSTAINABLE YIELD OF THE NOPOLO AQUIFER

Sustainable yield is defined as the amount of groundwater extraction that can be maintained for an indefinite time without causing unacceptable environmental, social, or legal consequences. If water is being pumped from the aquifer at or below its sustainable yield, then water levels should remain stable and no water is being removed from storage within the aquifer.

For our aquifer, there are two unacceptable consequences that could be caused by excessive extraction:

1. A significant and permanent change in storage of the aquifer. Storage is defined as the amount of water contained within the aquifer. If decreases in the storage of the aquifer were to occur, this would be manifested by the consistent lowering of the groundwater table over the course of years.
2. Seawater intrusion into the freshwater aquifer. Seawater intrusion occurs when coastal wells are either located too close to the shoreline, or too deep, or are pumped at too high a rate. If seawater intrusion were to occur, it would be manifested by persistent increases in the salinity of water in the lower wells.

An estimate of the sustainable yield of an aquifer can be obtained by the water budget method. In this method, the sustainable yield of the aquifer is equal to the annual inflow of water into the aquifer minus the outflow that must be maintained to avoid unacceptable consequences downstream (i.e., seawater intrusion).

Inflows into the Nopolo Aquifer includes two components:

1. Vertical recharge from precipitation infiltrating into the ground directly over the local aquifer. In our case, this represents the local watershed of the hills west of Nopolo.
2. Horizontal inflow from the regional aquifer. In our case, this represents recharge from further up in the Sierra La Giganta that is flowing underground into our local aquifer through fractures in the rock. (In reality, there is no physical separation between the "local aquifer" and the "regional aquifer"; the distinction is only necessary for the methodology of the scientific calculation.)

Outflows from the Nopolo Aquifer include three components:

1. Evapotranspiration: in our case, infiltration is rapid and groundwater is deep, so losses due to evapotranspiration are zero.
2. A sufficient outflow to the ocean to prevent seawater intrusion. For Nopolo, this has been estimated to require a minimum of 300,000 m³. For the calculations herein, the most conservative necessary natural outflow to the ocean of 600,000 m³ is utilized;
3. Water pumped from the aquifer for use by the community.

A search of the available scientific literature found two hydrogeological studies that estimated a sustainable yield based upon the water budget method (IEPSA 1984 and LEASA 2006). The full reports were not available for review, so we utilized summaries of the reports provided in the CONAGUA

(2020a) report to prepare our conclusions. Two other consultants' reports (Ingeniera Integral 1980; Ecoscapes 2005) provided a generalized description of their thoughts on sustainable yield but no specific numbers. The conclusions of all four reports are presented below.

When the two upper wells in Nopolo (5B and El Gemelo) were first installed in 1980, FONATUR's consultant (Ingeniera Integral) stated that because rainfall was very low, the sustainable yield of these wells was essentially zero, and that any extraction would overdraft the aquifer.

FONATUR proceeded to extract water from the aquifer during construction of the infrastructure for Nopolo (completed in 1984). CONAGUA indicated that FONATUR was pumping around 360,000 m³/yr from these two upper wells in 1981.

In 1984, the consulting firm IEPSA conducted a more thorough hydrogeologic study, including additional field work and analyses of the Nopolo aquifer. Their report noted that groundwater levels in the upper wells had not fallen between 1981 and 1985. They also completed a water budget analysis for the Nopolo aquifer, and those calculations gave:

Total recharge (inflow) = 960,000 m³/yr, which includes
Vertical recharge = 380,000 m³/yr
Horizontal inflow = 580,000 m³/yr
Necessary natural outflow to ocean = 520,000 m³/yr

Sustainable Yield = Total Recharge - Necessary Natural Outflow to Ocean

Indicating a sustainable yield of 440,000 m³/yr.

In 2005, the Loreto Bay Company hired a geologist (Prieto Mendoza), to evaluate the potential sustainable yield of the Nopolo aquifer. Prieto did not conduct a full water budget analysis and did not provide a numerical value for sustainable yield of the aquifer, but the general tone of the report suggested that he believed that the available recharge would not be sufficient to support Loreto Bay Company's development plans for 6,000 homes.

Prieto indicated that the upper wells may be extracting as much as 1,000,000 m³/yr, which appeared to be causing seawater intrusion in the lower portion of the aquifer (under the golf course). The Committee questions whether the suggested extraction amount is accurate as it seems very large.

In 2006, CONAGUA hired Lesser y Asociados (LEASA) to conduct a comprehensive assessment of the Loreto groundwater basin. They conducted a review of the literature, additional groundwater level monitoring, pumping tests, and a water budget analysis. The results indicated:

Total Recharge = 1,100,000 m³/yr
Vertical recharge = 100,000 m³/yr
Horizontal inflow = 1,000,000 m³/yr
Necessary natural outflow to ocean = 600,000 m³/yr.

From these numbers we would estimate the sustainable yield of the Nopolo Aquifer to be at least 500,000 m³/yr. (note the 1984 and 2006 studies demarcated different zones for the "local" and "regional" aquifers but the Total Recharge remained very similar).

LEASA estimated that only 300,000 m³/yr outflow was necessary to prevent seawater intrusion but used twice that quantity in their calculation. Therefore, the sustainable yield could potentially be as high as 800,000 m³/yr.

In conclusion, it is the opinion of the Committee that the best conservative estimates for the sustainable yield of the Nopolo Aquifer are 440,000 to 500,000 m³/yr.

10.0 SUMMARY OF POTABLE WATER AVAILABILITY FOR NOPOLO

The Committee estimates current water consumption to be around 176,000 m³/yr for all of Loreto Bay and Nopolo. Given a sustainable yield of 440,000 to 500,000 m³/yr, these estimates indicate that we are not currently exceeding the sustainable yield of the Nopolo Aquifer as calculated by CONAGUA (2020a).

Groundwater levels in the lower wells of the Nopolo Aquifer corroborate the conclusion that we are currently extracting water from the aquifer below its sustainable yield.

The Committee's estimates for complete build-out of the Greater Nopolo area may reach water consumption levels of 426,000 m³/yr, about equal to the estimated sustainable yield of the Nopolo Aquifer (Demand estimates for current and full buildout are provided in a separate report prepared by the Committee). Note that our scenario of "full buildout" remains speculative.

It is likely that additional wells, spread out over a wider area, may be required to meet these higher levels of consumption. We anticipate that FONATUR's proposed Water Studies in 2022 will evaluate that need. We also do not know if the existing infrastructure is capable of handling additional volumes of water; infrastructure is discussed in a separate Technical Report prepared by the Committee.

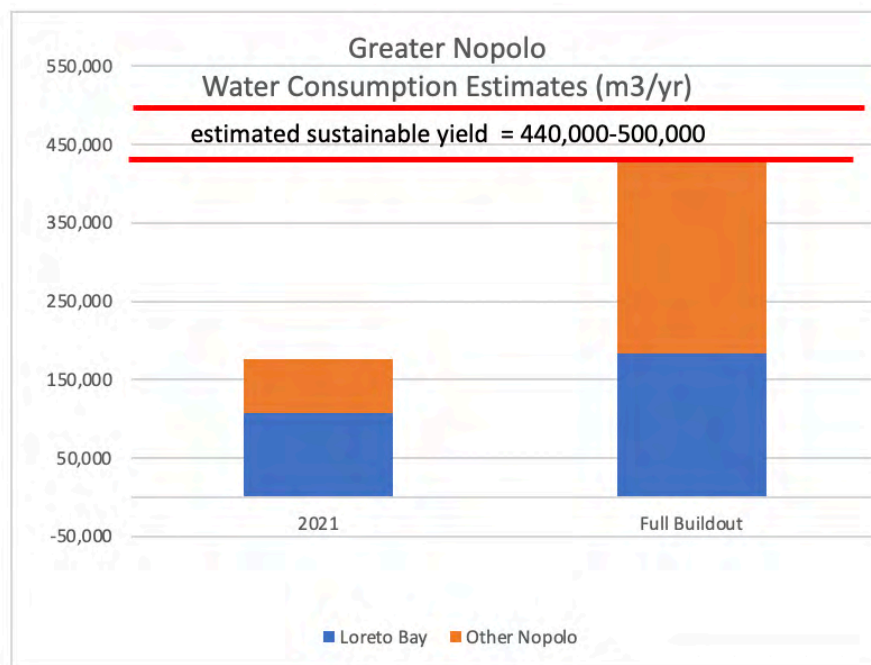


Figure 18. Summary of Sustainable Yield vs. Demand, 2021 vs. full buildout, Nopolo

11.0 RECOMENDATIONS FOR FUTURE WORK

The Committee will continue to monitor water levels in the lower wells

The Committee will continue dialogue with FONATUR to gain access and/or data on the water levels and pumping regime of the upper wells.

The Committee will also continue to obtain and monitor precipitation data.

The water supply for Loreto Town remains a concern to some members of the Committee, so we will prepare an analysis of the sustainable yields of the Loreto Town and SJL Aquifers.

The potential for climate change to affect the sustainable yield of our aquifer will also be evaluated and the conclusions presented to our community.

The Committee plans to continue evaluating potential conservation measures, and their associated benefits, costs, and logistical challenges. We intend to present a matrix of conservation measures to the Loreto Bay community in a Town Hall in the spring of 2022.

The Loreto Bay HOA should also engage with the community of Greater Nopolo to develop conservation measures (for example, decreasing the extent of lawn coverage in Nopolo and the Inn at Loreto Bay) and FONATUR (for example, mitigating the impact of leakages) to better conserve our community's precious resources.

Our HOA should also work within our community, and in collaboration with our neighbors, to develop a comprehensive plan of growth to maintain our water usage below the sustainable yield of our natural aquifer.

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ALTERNATIVE FUTURES FOR THE REGION OF LORETO, BAJA CALIFORNIA SUR, MEXICO

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The authors of the study are solely responsible for any errors or omissions in the study and for its conclusions.

Introduction

This study investigates how economic performance, demographic changes, private and public investments, and public policy choices could influence urban growth and land use change in the region of Loreto of Baja California, Mexico, over the next 20 years. The study assesses how these changes will impact the area's hydrology and ecology, as well as its visual, social, and economic landscape.

A range of scenarios for the region of Loreto is developed in this study. The scenarios are studied using digital models that evaluate the locational attractiveness for the major land use types of the area, and project a range of Alternative Futures through the year 2025. Computer-based models, built on expert knowledge, local interviews, and comparable locations in Mexico, assess the economic, ecological, hydrological, and visual impacts of the Alternative Futures. These models are used to analyze the consequences of the range of policy choices embedded in the scenarios.

Interviews and discussions with relevant individuals and groups informed the study, both to help determine the types and extent of the conservation and development strategies to be studied, and to help define the economic, social, hydrological, visual, and ecological assessment models. The study relies on existing data, scientific research, and professional expertise. One of the results of this effort has been the compilation of a comprehensive digital information database for the Loreto region.

Decision-makers in Loreto will face a number of major challenges over the next years: providing adequate drinking water, ensuring public access to beaches and marine areas, safeguarding the visual quality of the city and surrounding areas, reducing poverty while managing in-migration, maintaining the economic health of the historic core of the city, preserving traditional societal values, enhancing tourism, attracting new ideas and innovation, protecting and improving quality of life for all citizens, managing development for the benefit of both current and future residents, and protecting fragile marine and terrestrial ecosystems.

This study is elaborated at a time when city leaders are considering action on a proposed regional development plan that outlines a legal zoning plan that delineates where future development is permitted. The principal objective of the study is to aid city and regional leaders in evaluating the plan and possible modifications. The hope is that this study will also be useful in formulating planning policy for the future of the region. The introduction of effective regulatory controls is essential if the region is to maintain the economic, hydrological, ecological, societal, and visual base upon which future growth will depend.

Short-term objectives have often taken precedence over longer term planning. Government administrators and policy makers are forced to make land use decisions without proper consideration of the full range of impacts and without adequate consideration of longer-term consequences. This study seeks to contribute to policy formulation and land use planning processes in Loreto and to further economically and environmentally sustainable development.

Figure 1. The Loreto Region

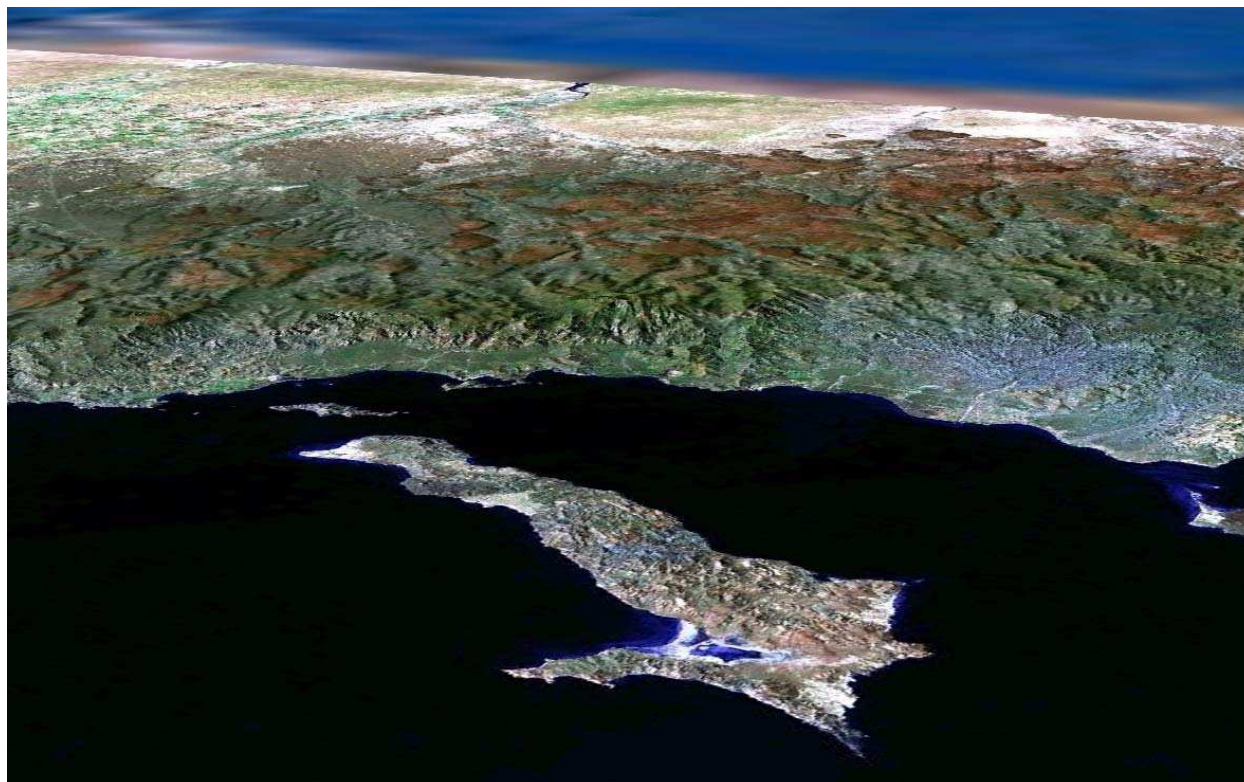
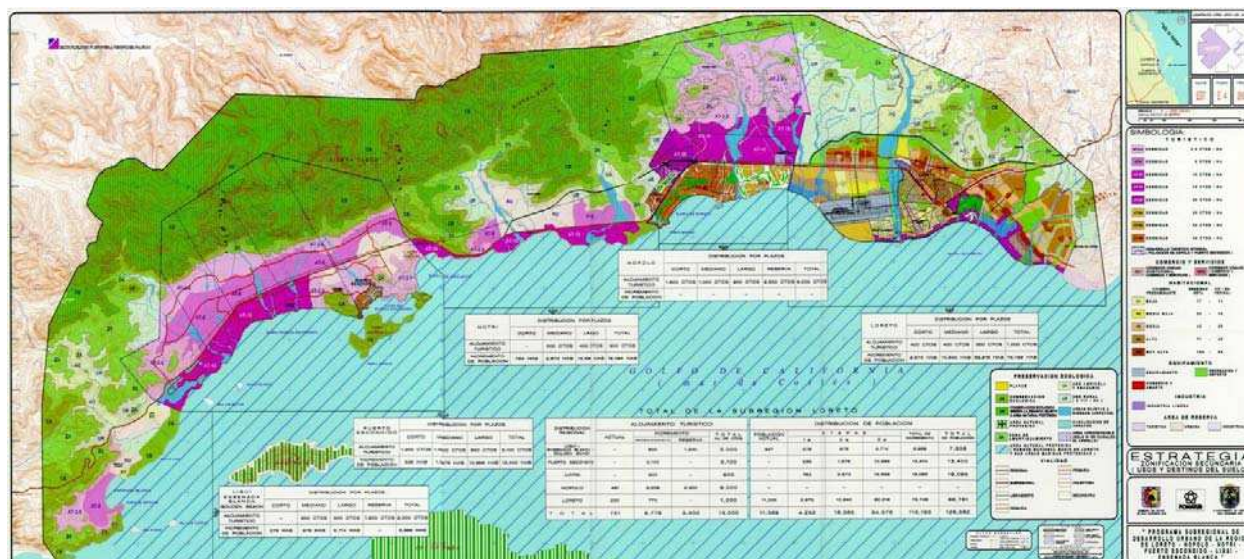


Figure 2. The Proposed Sub-Regional Development Plan



The Loreto Region

Loreto is located on the Sea of Cortez in the southern half of Baja California. The territory of the municipality of Loreto is 4,311 km² with approximately 270 kilometers of coastline, including the offshore islands. The region of Loreto houses approximately 15,000 people, of which over 80% live in the town of Loreto. The rest of the population lives in 130 small ranching settlements and another 21 fishing and cattle breeding communities (Ivanova and Cota, 2005).

Figure 3. Location of the Study Area in Mexico



Loreto is the oldest colonial settlement in the Californias, built around a mission that was founded in the year 1697. Loreto was the capital and administrative center of Baja California until the capital was moved to La Paz following a devastating hurricane in 1829. Historically, the economy of Loreto has been based on fishing and ranching. The society and economy of the Loreto region underwent fundamental changes in the second half of the 20th century. The rural-based society transformed into an urban society, while the economy based on primary sectors transformed into a predominantly service-based economy. The environment has also begun to show signs of degradation due to inappropriate use of natural resources and the lack of adequate conservation efforts (Fuentes, 2003). The region now depends heavily on tourism, focused mainly on sportfishing. Foreign visitors currently number more than 60,000 per year. Most of these visitors are from the western areas of North America and typically come for a few days of fishing.

Loreto is known for its outstanding natural beauty. Dramatic mountains descend steeply to a narrow coastal strip along the Sea of Cortez on the eastern shore of Baja California. The views over the water are notable, accentuated by a number of offshore islands. However, the beaches in the Loreto area are not considered first rate. Moreover, stingrays inhabit the dark sandy bottoms in many of the near-shore areas, further reducing the appeal for the 'sun and sand' tourism market. The region of Loreto is recognized for its emerging potential for nature-based tourism. Kayaking, trips to the islands of the Marine Park, and hiking are popular activities for tourists in the Loreto region. A golf course and tennis facilities in the Nopoló area offer more traditional recreational opportunities. Loreto is known as a three-season destination: the intense heat and humidity of the summer months make Loreto an uncomfortable place to be in the summer.

In the late 1960s, Loreto was identified as one of a select number of areas with the potential to be a major tourism destination by the Fondo Nacional de Fomento al Turismo (FONATUR), the Mexican federal agency charged with tourism development and investment promotion.

Subsequent public investments in infrastructure included the construction of an airport, new roads, water supply, sewage treatment, and a hotel. These investments were carried out at approximately the same time as those in Los Cabos. Whereas tourism took off in Los Cabos, the expected growth of tourism in Loreto did not materialize, except for a failed marina and development at Puerto Escondido. The rising interest recently among North Americans in real estate in Baja California, and the renewed efforts by government tourism promoters, has revived the hopes for economic growth spurred by foreign visitors and investments.

Development plans for Loreto have also played a central role in the Escalera Nautica project, a regional project being promoted by FONATUR. The Escalera Nautica is designed to increase tourism in Baja California with a series of marinas to attract recreational boaters to the Sea of Cortez, mainly from the west coast region of the United States. The Escalera Nautica project has not proceeded as planned and has been subject to criticism that the demand estimates were overly optimistic and that the environmental impacts had not been adequately addressed.

If the economy of Loreto is to experience strong growth in the coming years, this growth will be based on tourism and real estate development. There are no other apparent sources of robust growth. However, tourism in Loreto did not grow as expected over the past two decades despite the public investments in infrastructure. This suggests that skepticism regarding the potential for strong growth based on traditional tourism markets would be well founded. The development trend has shifted from conventional tourism to the sale of second homes to North Americans. This market does show remarkable potential for growth as exemplified by the surge in real estate transactions in Baja California in recent years. Loreto is now being marketed not only as an ecotourism destination but also as an excellent location for investing in a second home.

In the Nopoló area, the Loreto Bay Company, based in Phoenix, Arizona, is constructing a residential community. This planned community is being sold as a sustainable community based on the principles of New Urbanism. This project plans to build and sell thousands of homes, and promises to dramatically change the economic and social landscape of the Loreto region.

Real estate sales are quietly transforming the structure of landholding throughout the region. Communal property owners have been selling *ejido* land along the coast, most commonly in rectangular plots with 20 meters along the oceanfront. Relatively few of the plots sold have been developed, as water, electricity and roads service very few of these areas. These purchases are perhaps best explained as an attempt 'to get in early' and purchase oceanfront property while it is still affordable.

Loreto is not an affluent area. Per capita income and human development measures place it below average for Baja California Sur, though above average for the country. Nevertheless, surveys suggest that residents are generally content with the quality of life in Loreto. Access to public services, and in particular healthcare, is substandard. The incidence of social problems is on the rise, which adds to the development debate taking place in Loreto. Some attribute this to the recent surge in construction and associated influx of outside workers. Others point to the slow economic growth of the past several decades.

The Study Area

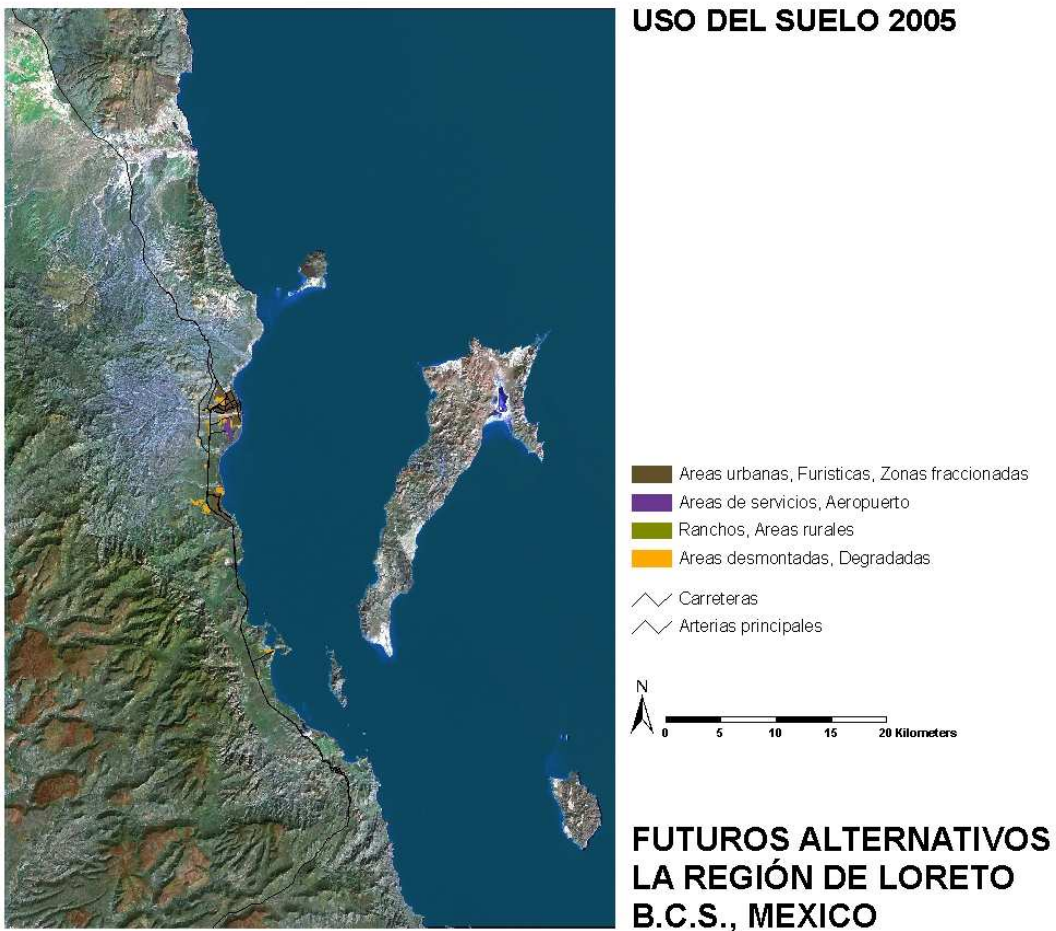
The study area covers an area of approximately 4,525 square kilometers within the municipality of Loreto. Of this, 2,625 square kilometers is covered by ocean and islands. The terrestrial areas make an area of approximately 1,900 square kilometers. The landscape is oriented north to south following the coastline. The study area spans a distance of 85 kilometers north to south, as the crow flies.

The coastal strip that might be developed is quite narrow in most areas and is traversed by many small arroyos that carry significant amounts of water during storms. This leaves relatively little land that might be appropriate for development. The town of Loreto lies in the northern half of the study area with the source of drinking, the San Juan Bautista Londó aquifer, 30 kilometers to the northwest. In addition to the area surrounding the town of Loreto, the region is usually divided into four other areas south of Loreto: Nopoló, Notrí, Puerto Escondido, and Ensenada Blanca-Ligüi.

FONATUR owns approximately 30 square kilometers of land in the Loreto region designated for tourism development. Most of this landholding is within two parcels, one in Nopoló and the other in the Puerto Escondido-Ligüi area. The Nopoló area is the site of two major hotels, a golf course, a tennis center, and the Loreto Bay Company development. The FONATUR land in the Puerto Escondido area covers an area of more than 35 square kilometers.

A marine protected area covers most of the ocean included in the study area. The Loreto National Marine Park covers an area of approximately 2,065 square kilometers.

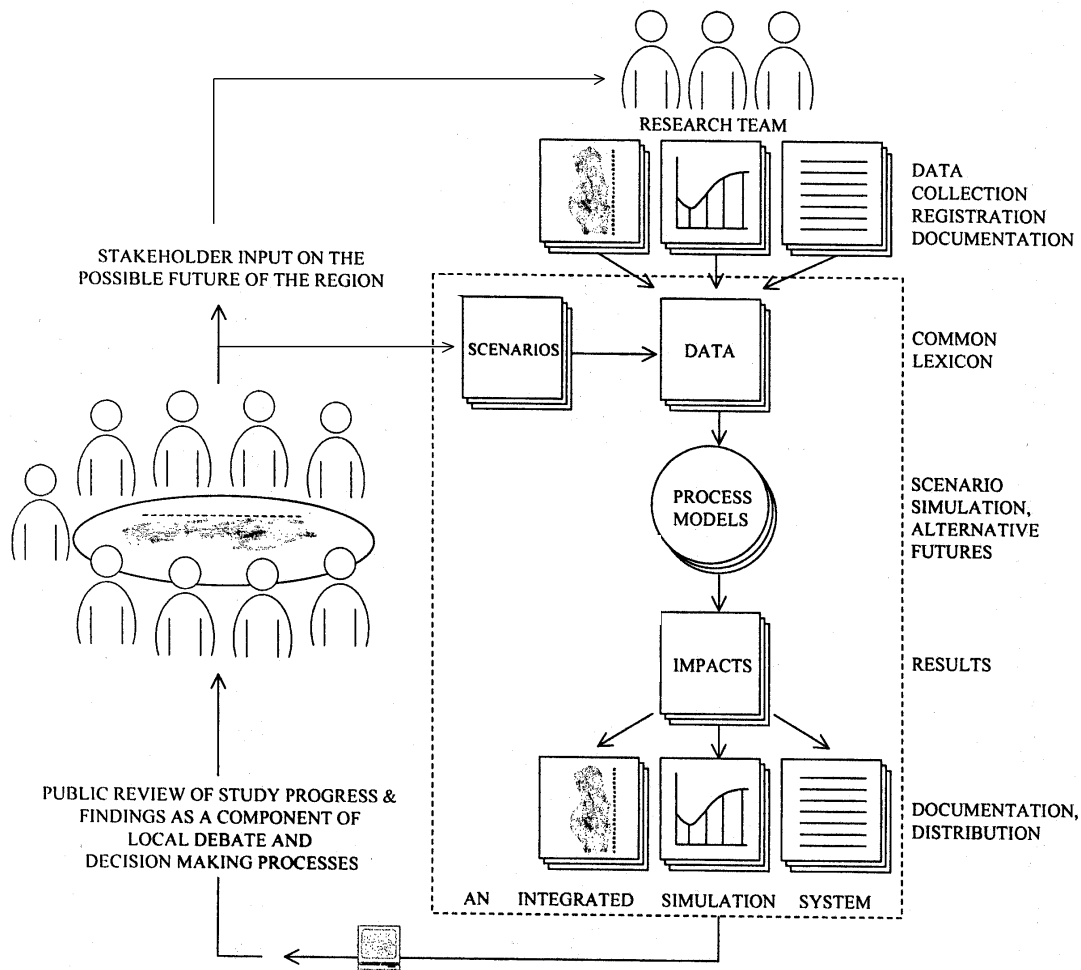
Figure 4. Map of the Loreto region study area



The Study Approach

The analytical framework of this project has been developed by the authors and used in numerous prior studies. This approach is designed to utilize the widest possible range of information, both quantitative and qualitative, and to organize this information to form a structured basis for analysis. It attempts to represent a broad spectrum of opinion and values regarding the future of Loreto.

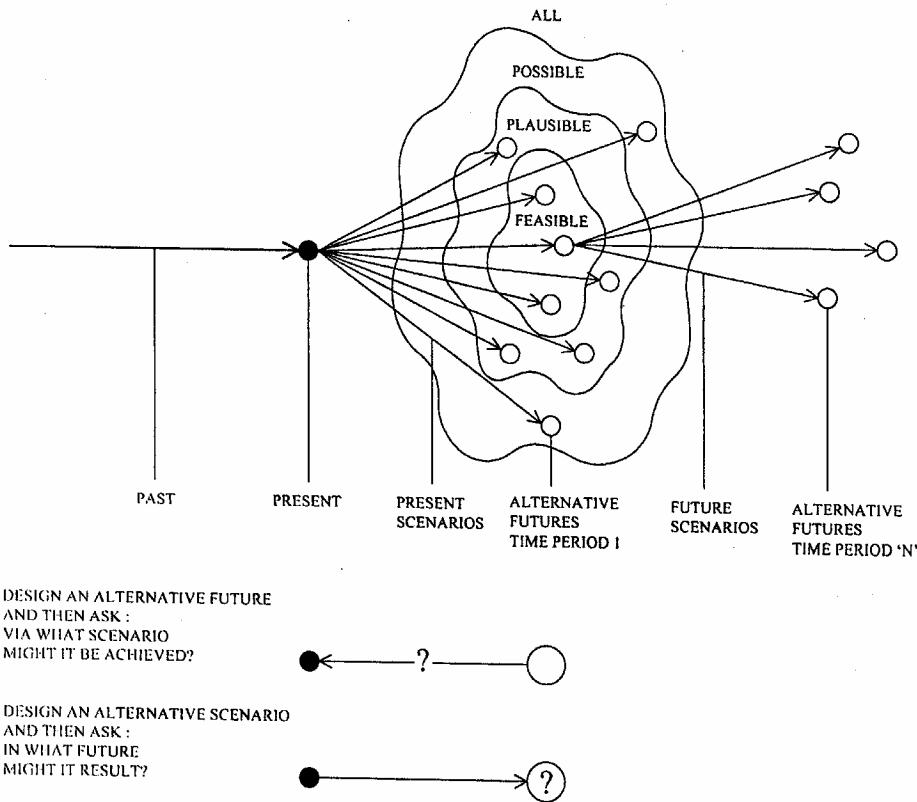
Figure 5. The Study Approach



Maintaining neutrality is a critical guiding principle for the research team in carrying out studies such as these. Every effort is made to use diverse local values to guide the development of the study in an unbiased manner.

Rather than producing a single recommendation, this approach produces a set of well-developed Alternative Futures that can help local stakeholders to assess the strengths and weaknesses of each of the policy choices inherent in the scenarios. An advantage of this approach is that it models the consequences of a range of choices that decision-makers face today, rather than creating a single vision for the future of Loreto.

Figure 6. Alternative Futures



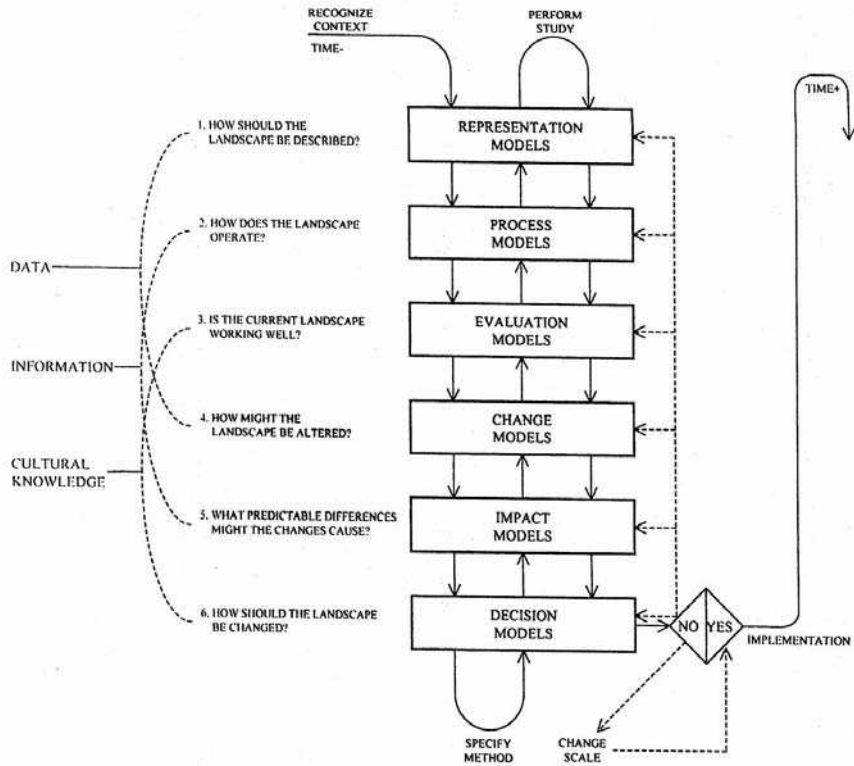
The Conceptual Framework

The study of the Loreto region is organized according to the framework for Alternative Futures studies developed by Carl Steinitz (1995). The framework consists of six questions (Figure 7). In designing a study of Alternative Futures for an area, the answers – the models and their applications – result from the unique conditions of the study area.

I. How should the state of the landscape be described in content, space, and time?

This question is answered by representation models that describe the study area. The boundary of the study area is defined to allow modeling interactions among hydrological, economic, and ecological processes, and to include the areas most directly affected by policy decisions. A computer-based Geographic Information System (GIS) is used to organize the data spatially, and to model and represent the complex processes at work. The baseline land use and economic conditions are defined for the year 2005. This establishes the reference period against which the impacts of future change are measured.

Figure 7. The Organizational Framework



II. How does the landscape operate? What are the functional and structural relationships among its elements?

This question is answered by process models that provide information for the assessments that form the core of the study. Process models are developed for economics, new land use development, hydrology, terrestrial ecology, marine ecology, visual quality, and recreation. Process models are used to describe and evaluate how the current landscape works, and to assess the potential impacts of each of the scenarios relative to baseline conditions in the year 2005. Just as issues facing the region are interrelated, the computer models are interlinked.

basis for measuring changes in visual quality associated with each of the Alternative Futures. Finally, a land value model assesses the impact of the different policy sets on property values.

The terrestrial ecology model assesses the relative value of the region's vegetation and habitat types. The marine ecological model assesses the potential impact of land use and demographic changes on the adjoining marine areas. An additional model looks at fishing catch and its influence on the risk of overexploitation in the fisheries.

III. Is the current landscape working well?

This question is answered by evaluation models, which evaluate existing conditions in the study area in terms of the parameters inherent in each of process models listed above. The output of each of the evaluation models is a map or chart of the baseline conditions in 2005.

IV. How might the landscape be altered, by what policies and actions, where and when?

This question is answered by the change scenarios that are projected in the research. The scenarios were developed based upon wide ranging discussions with stakeholders and experts, and are intended to represent the broadest spectrum of foreseeable futures.

The Scenarios

Each scenario is defined by a unique combination of economic growth and policy variables. Economic and population growth forecasts are linked to the number of new rooms in planned developments, including tourism resorts. The policy context determines the amount and location of land to be available for development in each of the scenarios. In addition, assumptions regarding the placement of new roads and upgrade of existing roads vary by scenario.

Population Growth Alternatives

The demand for new land uses is reflected in five possible alternatives defined by the number of rooms in tourism-related developments. The number of new rooms accounts for both hotel rooms and rooms in the high-end residential market, including villas, condominiums, and other similar housing development projects. This is appropriate given that much of the growth in Loreto will be the result of housing developments.

The linkage between the expansion of the real estate, tourism markets, and population growth is estimated using a simple ratio of population in respect to tourism-related rooms of 15 to 1. This number is based on the experience of other tourist destinations in Mexico. However, we also recognize the uncertainty in this ratio. The actual ratio will depend on many factors, such as the overall performance of the Mexican economy and the performance of the other tourism locations. The ratio of new migrants to tourism development is also a key determinant in future levels of per capita income for the region. The population to room ratio is largely beyond the control of local leaders. However, leaders are able to limit the number of new tourism-related rooms that are permitted, which will have an impact on the population.

To account for this uncertainty, we look at the implications of lower and higher population-to-room ratios in the largest scenarios, constructing two scenarios built on ratios of 10 to 1 and 20 to 1, respectively.

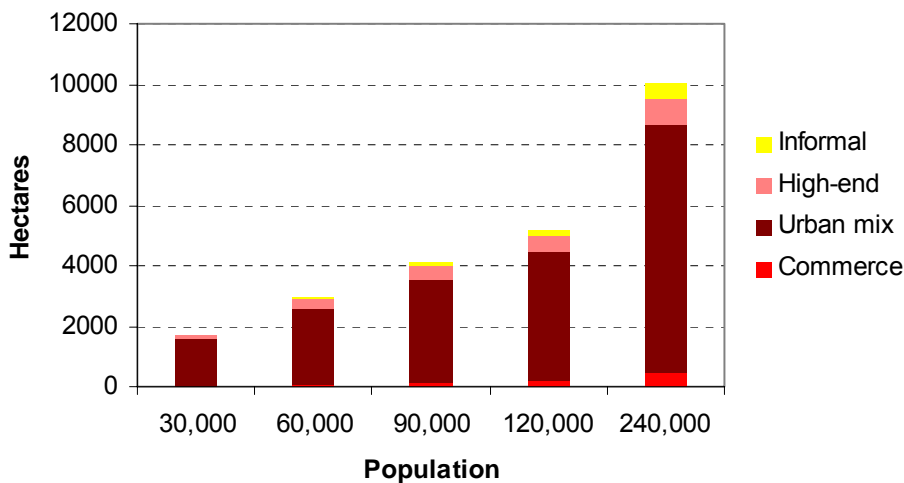
Table 1. Tourism Development and Population Growth

Total tourism-related rooms	Population/rooms ratio	Population	Annual Population Growth Rate
2,000	15 to 1	30,000	3.5%
4,000	15 to 1	60,000	7.2%
6,000	15 to 1	90,000	9.4%
12,000	10 to 1	120,000	11.0%
12,000	20 to 1	240,000	14.9%

The existing population of the region is estimated at 15,000. We define 5 levels of possible growth over the next 20 years. The lowest assumes a doubling of population. The highest projects an ultimate population of 240,000 people, based on a total of 12,000 tourism-related rooms and a population to room ratio of 20 to 1. The rate of growth necessary to reach the estimated population levels in the year 2025 varies from 3.5% to almost 15% (see Table 1). As we discuss later, both the ultimate size of the population and the rate of growth represent a critical challenges for planning and policy.

The demand for new land uses is derived from planned resort and housing developments, population levels, and gross development densities for each of the land use categories. We do not assume contiguous development that is of uniform density. Therefore, the new developed areas allocated on the landscape are gross densities, implying that there will be open spaces interspersed with the actual new developments. The polygons should therefore be interpreted as showing the extent of influence of urban development, not the actual footprint of individual buildings and housing plots. The projected densities of new development vary with the demand and supply of new land uses. The demands for new lands uses are shown in Figure 9.

Figure 9. Demand for new land uses



Supply of Developable Land

The supply of developable land is defined by a set of land use policies. The columns in Table 2 correspond to different policy sets that define where future development would be permitted.

Table 2. The Twenty-five Alternative Futures

Total rooms	Population/ rooms/ ratio	Population	Sin Planeación	Plan Propuesta	Loreto 2025	Proactive Moderado	Proactivo Muy Regulado
2,000	15 to 1	30,000	SP30	PP30	VV30	PM30	PR30
4,000	15 to 1	60,000	SP60	PP60	VV60	PM60	PR60
6,000	15 to 1	90,000	SP90	PP90	VV90	PM90	PR90
12,000	10 to 1	120,000	SP120	PP120	VV120	PM120	PR120
12,000	20 to 1	240,000	SP240	PP240	VV240	PM240	PR240

Five policy options are included in the study:

Sin Planeación

This alternative assumes that all land is available for development. The only areas that are precluded from development in the computer simulations are areas with steep slopes or frequent flooding. These limitations are included to approximate behavioral choices of landowners and developers, not policy choices.

Plan Propuesta

This alternative represents a somewhat simplified version of the plan currently under consideration in Loreto. In the actual plan, the allowable density for development varies by location. Nevertheless, the implied densities of future growth allocated by the computer models are consistent with the limits stated in the plan. Where site-level plans are available, we have tried to replicate the plans for each of the areas.

Loreto 2025

This policy set reflects a spatial plan submitted for study by a local non-governmental organization, Loreto 2025. Much of the future growth in this plan is restricted to the northern areas of the region close to the town of Loreto. Fewer areas in the south are opened for development. We offered to study alternative plans submitted by local groups. This was the only such plan that was submitted to us.

Proactivo Moderado

This policy set includes a number of policies designed to protect key public goods, including hydrological, ecological, visual, recreational, and economic assets. This alternative is a rules-based zoning pattern created by the research team that was later converted into a spatial model by the computer, guided by the spatial rules. Areas of high ecological or visual value are set

aside, as well as areas subject to safety risks. These areas include areas at risk of flooding from hurricanes, arroyos that flood regularly, areas with important biodiversity, steep slopes, and high-quality view corridors.

Proactivo Muy Regulado

This policy set is based on the same criteria as the previous alternative, except that the level of visual protection is much stricter, thereby removing additional land from possible development.

Table 3 summarizes the elements that define the policy sets.

Table 3. Scenario Specifications – Land Excluded from Development by Public Policy

	Sin Planeación	Plan Propuesto	Loreto 2025	Proactivo Moderado	Proactivo Muy Regulado
Streams and frequently flooded areas	X	X	X	X	X
Areas with excessive slope	X	X	X	X	X
Plan Propuesto zoning		X			
Loreto 2025 zoning			X		
50-year flood areas				X	X
Terrestrial areas of ecological importance				X	X
Key recreational areas				X	X
Aquifer recharge areas				X	X
Inner mountain areas – 200m contour line				X	X
Moderate visual protection				X	
Stringent visual protection					X

The constraint areas function differently for each of the land use types. High-end housing, for example, is permitted to build on slopes of up to 20%, while commerce and mixed urban is restricted to land on slopes no greater than 10%. The new land use allocations assume that resorts, high-end housing, commerce, and mixed urban respect the designated spatial plans. The allocation of informal settlements is governed by the assumption that enforcement of property rights is costly, both economically and politically, and will therefore not be consistently implemented. Informal housing therefore does not respect these same spatial restrictions, although they are prevented from building in areas of high development value.

The Process of Allocation

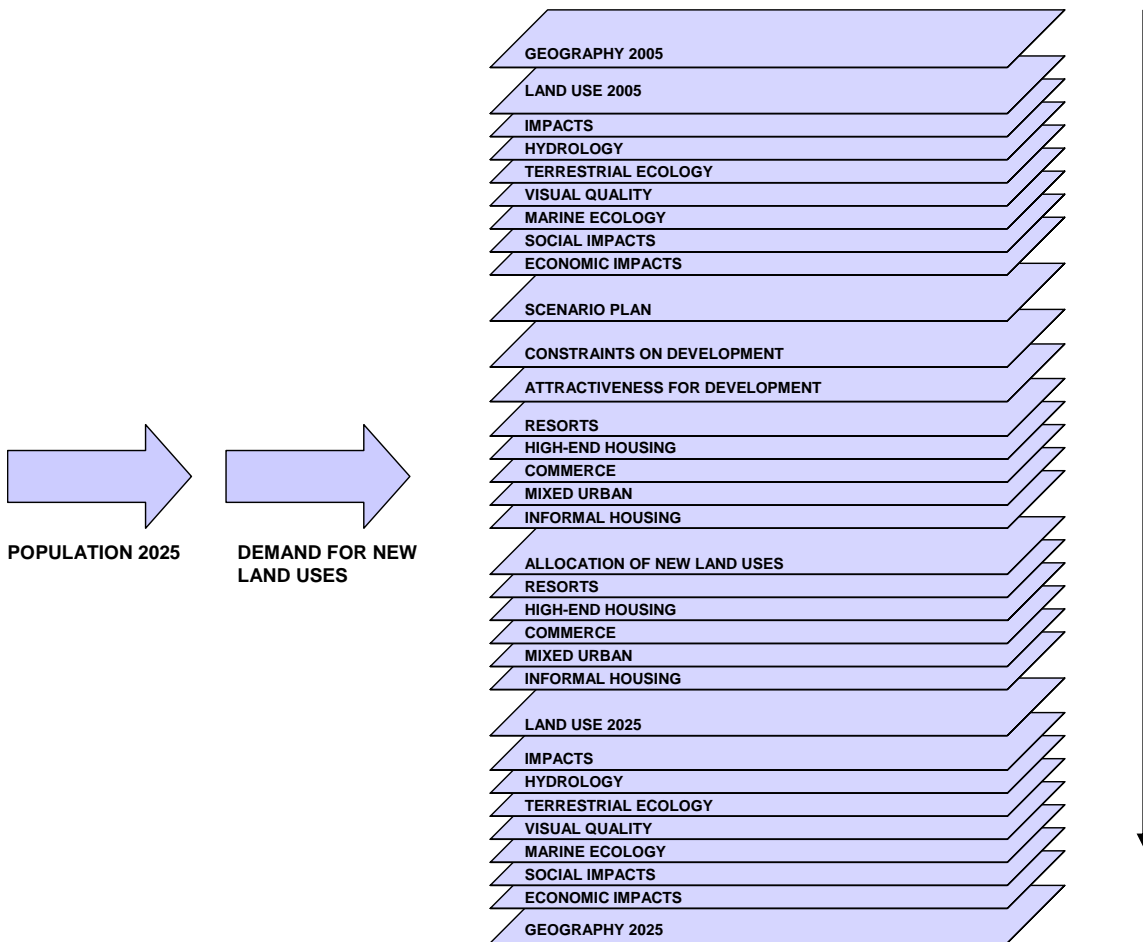
The economic projections from each scenario are converted into demands for new land uses in five categories: hotels and villas, high-end residential, commerce, mixed urban, and informal housing. A computer program then defines the areas that are constrained from development by

the relevant policy set. Subsequently, the development attractiveness model for each development type is implemented based upon infrastructure investments that either attract or repel development. The program allocates the new land uses which are required in the order in which they are assumed to be able to pay: hotels and villas, high-end residential, commerce, mixed urban, and informal.

The computer models are designed to reflect a context in which market forces and individual choices determine the location of future development in all the scenarios. These policy sets also assume that there are normal levels of public resources to meet the demands for new services and infrastructure.

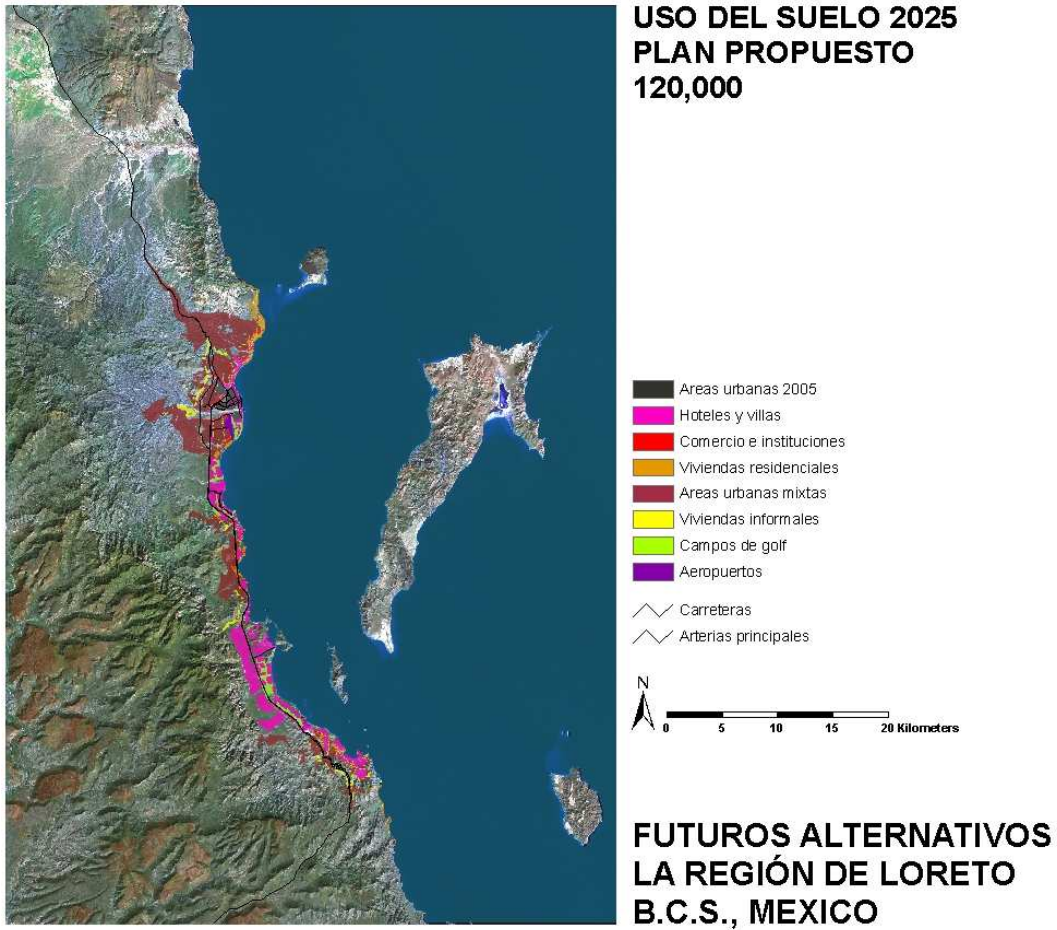
Twenty-five scenarios are developed in order to include a broad selection of policy choices. Each scenario creates an Alternative Future that is evaluated in terms of the over-all level of economic and ecological impacts and the spatial distribution of those impacts, including both water and land. Each of the scenarios is projected over a 20-year time horizon.

Figure 10. Scenario Process



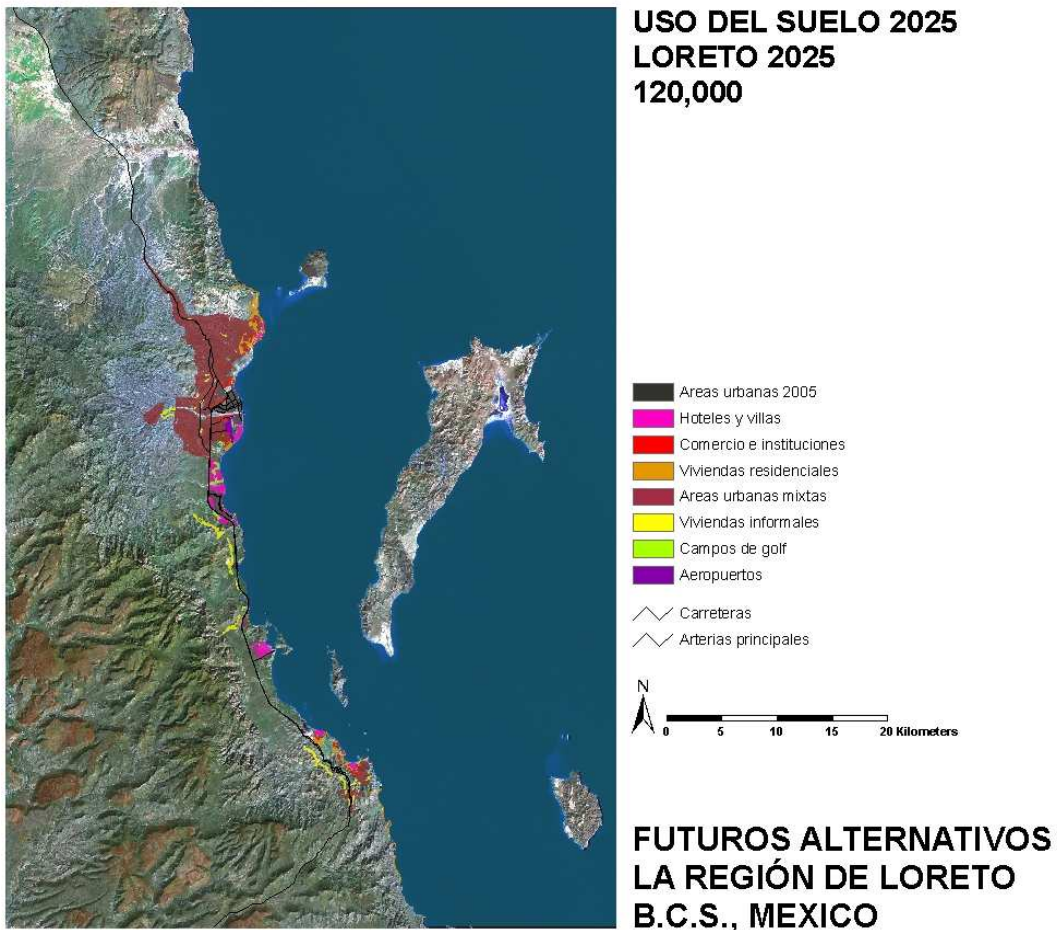
The resulting land use patterns vary in terms of the extent, the direction, and the pattern of growth. Figure 11 shows projected land use in the year 2025 for Alternative Future PP120 - the proposed development plan at a population of 120,000. In this alternative, development extends to essentially all of the most attractive locations in the study area.

Figure 11. Land Use in 2025 for Plan Propuesto 120,000



The projected land use pattern for the plan proposed by the group, Loreto 2025, is shown in Figure 12 at a population of 120,000. This configuration concentrates much more of the development in the areas surrounding the town of Loreto. Development in the southern areas is restricted to relatively small windows where development is permitted.

Figure 12. Land Use in 2025 for Loreto 2025 120,000



V. What difference might the changes cause?

This question is answered by impact models, which are based upon the process models under changed conditions. The economic, social, hydrological, ecological, visual, and marine impacts are estimated for each of the Alternative Futures in the year 2025.

Water Model and Impacts

The groundwater model estimates the impact of changes in water demand and land cover on groundwater storage in the region and forecasts the wells at risk of saltwater intrusion for each of the scenarios. MODFLOW, (McDonald and Harbaugh 1988; 1996) the most widely used and respected groundwater modeling program, was used to develop a preliminary groundwater model for the San Juan Londó aquifer. Currently, the San Juan aquifer is the only major source of potable water supplying the citizens of the City of Loreto and surrounding areas. In constructing a groundwater model, estimates of the water entering the aquifer (recharge), water leaving the system (well pumping), and hydraulic properties (an estimate of how fast the water moves through the system) are entered into the model. MODFLOW then produces a map of groundwater elevations using a set of partial differential equations.

To prevent saline water from entering the San Juan aquifer, and thus contaminating the aquifer, water must flow out of the basin into the Sea of Cortez. If this stops and the elevation of the Sea becomes greater than the elevation of the groundwater, saline water will flow into the system. If pumping then continues, the saline water will reach the wells resulting in the loss of potable water.

In 1986, the Institute of Geophysics at the Universidad Nacional Autónoma de México (UNAM, 1986) used a basic water balance equation and rudimentary flow net analysis to estimate recharge. Given the sparse data available and high level of uncertainty, they estimated a recharge rate of 10 Mm³ per year, plus or minus an order of magnitude, which translates into a rate of recharge that falls within a range of 1 Mm³ and 100 Mm³ per year.

In this study, we update this estimate using a different methodology. To calculate the amount of recharge entering the aquifer, sub-basins were delineated using digital elevation models and the total volume of water that fell within each sub-basin was determined from annual rainfall rates and storm data. In semi-arid areas such as Loreto, only a small portion of this volume becomes recharge; most is lost to run-off and evaporation. In average or dry years - years with average annual rainfall of 11.5 cm or less - rainfall is not sufficient to produce aquifer recharge. Potential recharge in wet years was estimated by including data from larger 2-year, 5-year, 25-year, and 50-year storm events. The 2-year storm event yielded the highest amount of annual recharge: 2 Mm³/yr. Using improved data analysis tools that were not available at the time of the 1986 study, our estimates of average annual recharge are close to the lower of the earlier estimates. The updated analysis carried out for this study indicates that given the level of rainfall and the aridity of the area, a recharge of 10 Mm³ per year is not possible.

To ascertain the effects of pumping on the aquifer, the model was applied with the projected water consumption rates for each of the growth scenarios (see Table 4). Both the high and low recharge estimates (10 and 2 Mm³ per year) were tested in different runs of the models.

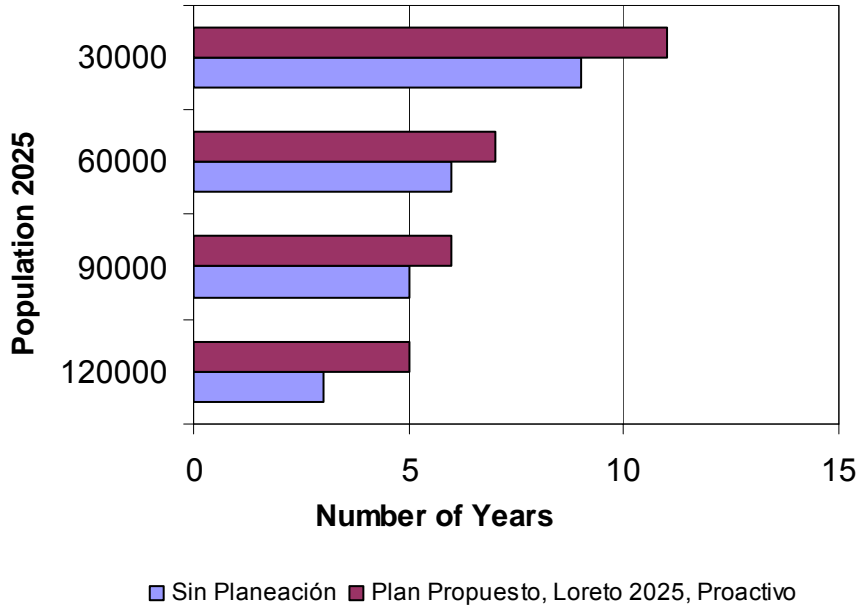
Table 4. Projected water use

Population in 2025	Sin Planeacion	Plan Propuesto	Loreto 2025	Proactivo
30,000	600	500	500	500
60,000	540	450	450	450
90,000	475	400	400	400
120,000	415	350	350	350
240,000	350	300	300	300

Liters per person per day.

In all cases, the pumping resulted in saline intrusion into the aquifer, although the estimated date of saline intrusion varies with different recharge and pumping rates (Figure 13).

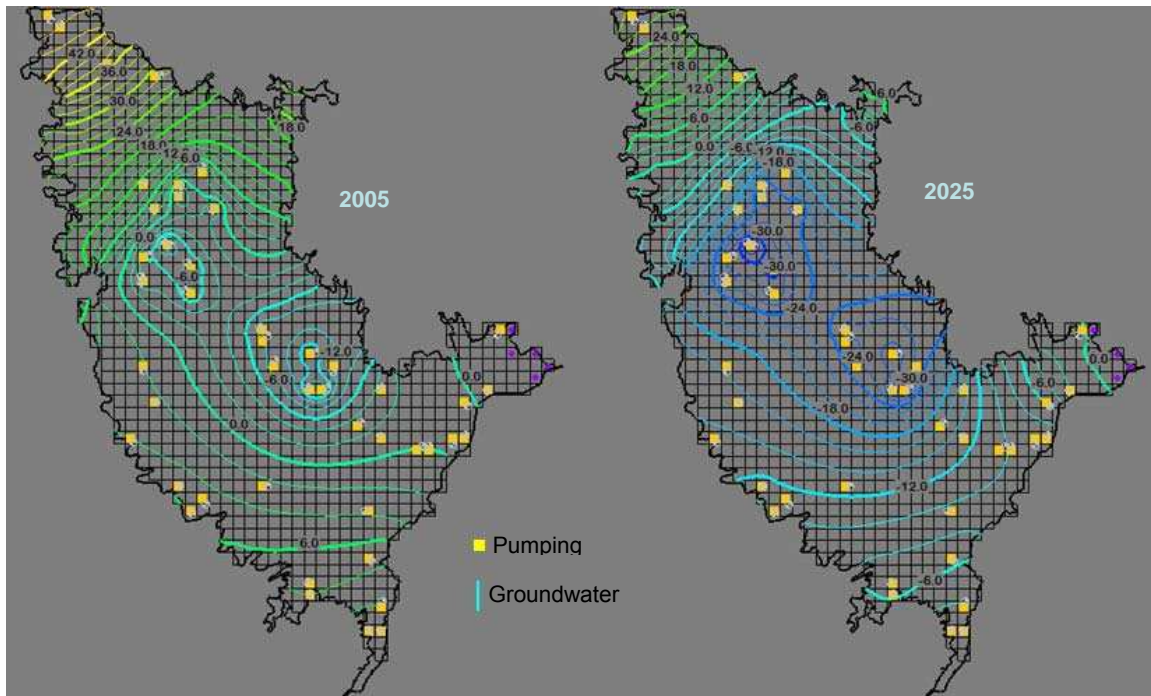
Figure 13. Year of saline intrusion into the San Juan Londó aquifer



Estimated at a rate of recharge of 2 Mm³ per year.

More importantly, at current population levels and a recharge rate of 2 Mm³ per year, the municipal wells will see saline intrusion by the year 2025 (Figure 14). The onset of saline intrusion could be significantly delayed with infrastructure improvements. Even with an optimistic recharge estimate of 10 Mm³ per year, the maximum amount of pumping above current rates that can be sustained is 0.9 Mm³ per year. This is approximately equal to the amount of water needed for an additional 4000 residents in the region. In summary, the model results conclude that any future development must find an alternative water source for that development and the associated growth in supporting population.

Figure 14. Estimated San Juan Aquifer groundwater elevations for years 2005 and 2025 projected at present pumping levels



Negative numbers indicate elevations below level of Sea of Cortez.

The surface water component of the model is created using the software package, KINEROS. The model estimates the areas at risk of flooding in major hurricane events. When compared with the land uses in the various Alternative Futures, an estimate can be made of the population at risk of flooding. Figure 15 shows the areas at risk of flooding under the Plan Propuesto and a population of 120,000. A comparative summary of the population at risk in the twenty-five Alternative Futures is shown in Figure 16.

Figure 15. Population at Risk of Flooding, Plan Propuesto 120,000

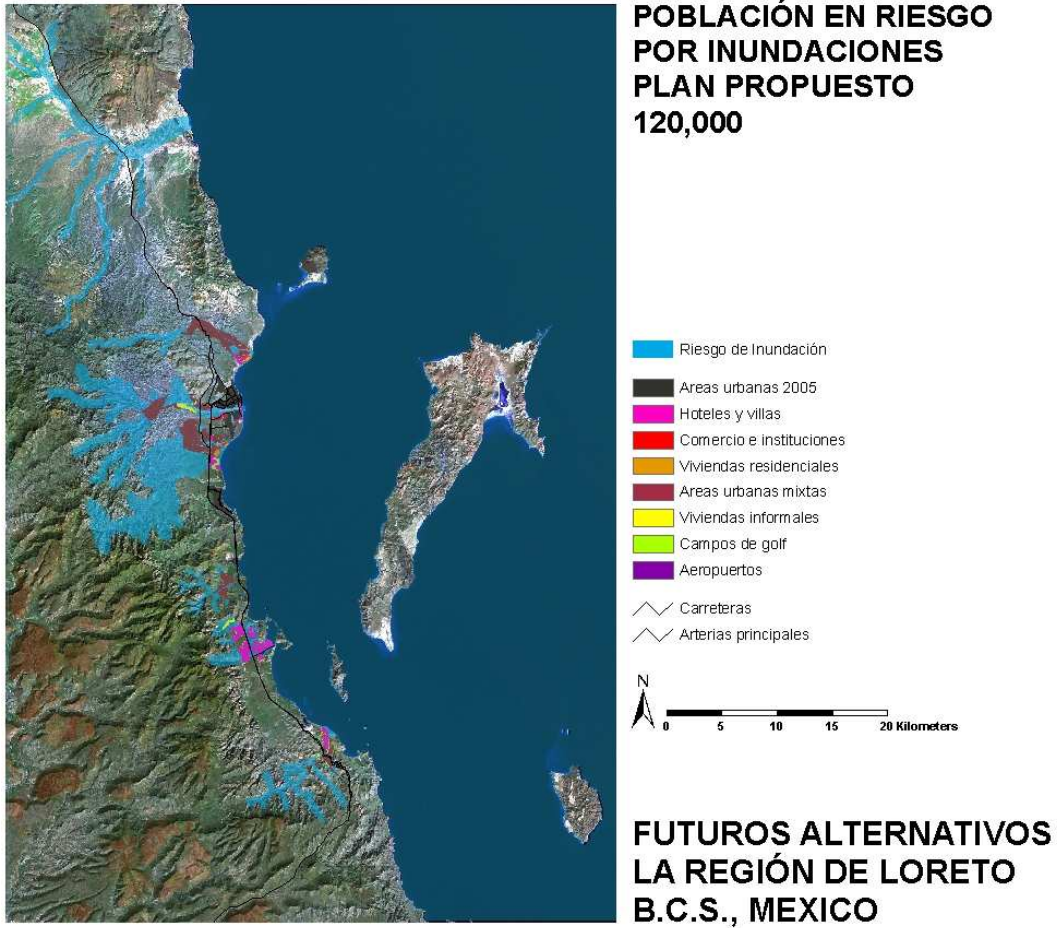
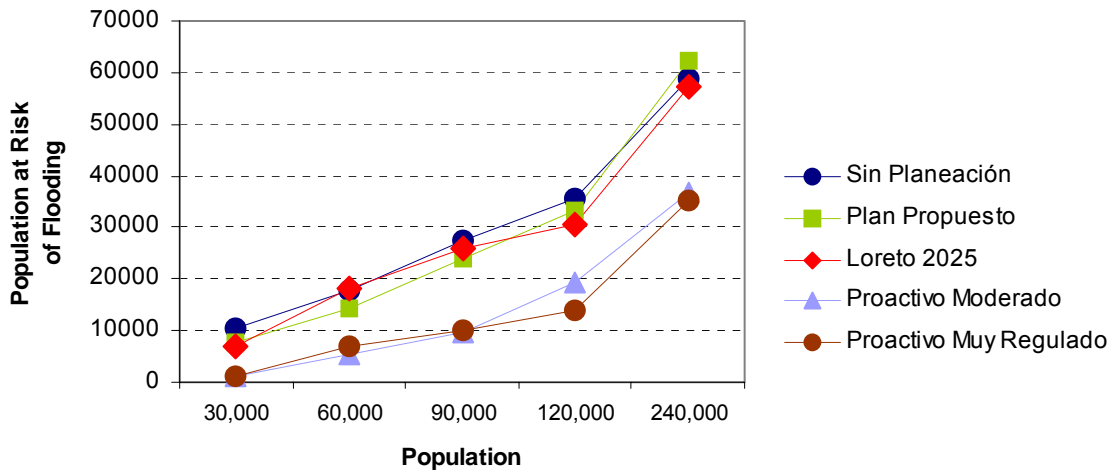


Figure 16. Population at Risk of Flooding

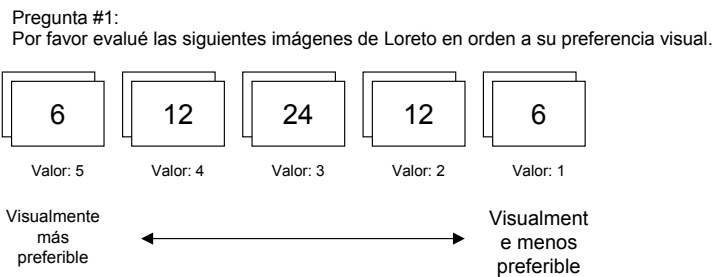


Visual Model and Impacts

The visual model assesses the impact of future development and resulting landscape changes on visual quality. Survey results support the observation that the visual quality of the landscape in the Loreto region is a critical source of economic competitiveness for the area's tourism and real estate markets. The impacts of land use change are measured using the visual preferences of local residents and visitors as recorded in interviews carried out in the photographic survey. To assess the consequences of future change on the visual landscape, a model of visual quality is estimated using the results of a photographic survey of residents and visitors (Figure 17).

Survey respondents were asked to order sixty photographs that represent the existing landscape of the Loreto region according to their scenic preferences. Ten of these sixty photographs in the survey were altered to represent possible future developed conditions. The sixty photographs in are shown on the following pages in order of preference, from the highest rated to lowest rated, reading from upper left, across, and down. (Figures 18 and 19).

Figure 17. The Visual Survey



The visual quality assessment is implemented in four stages. First, the quality of the view from each location is recorded by cross-referencing the type of view from each location with the results of the visual survey. Four kinds of views are rated the highest: undeveloped ocean, island, and mountain views, and views in Loreto's historic center. These views are then identified, located, and assessed by a GIS-based model.

Figure 18. The Thirty Highest Rated Photographs

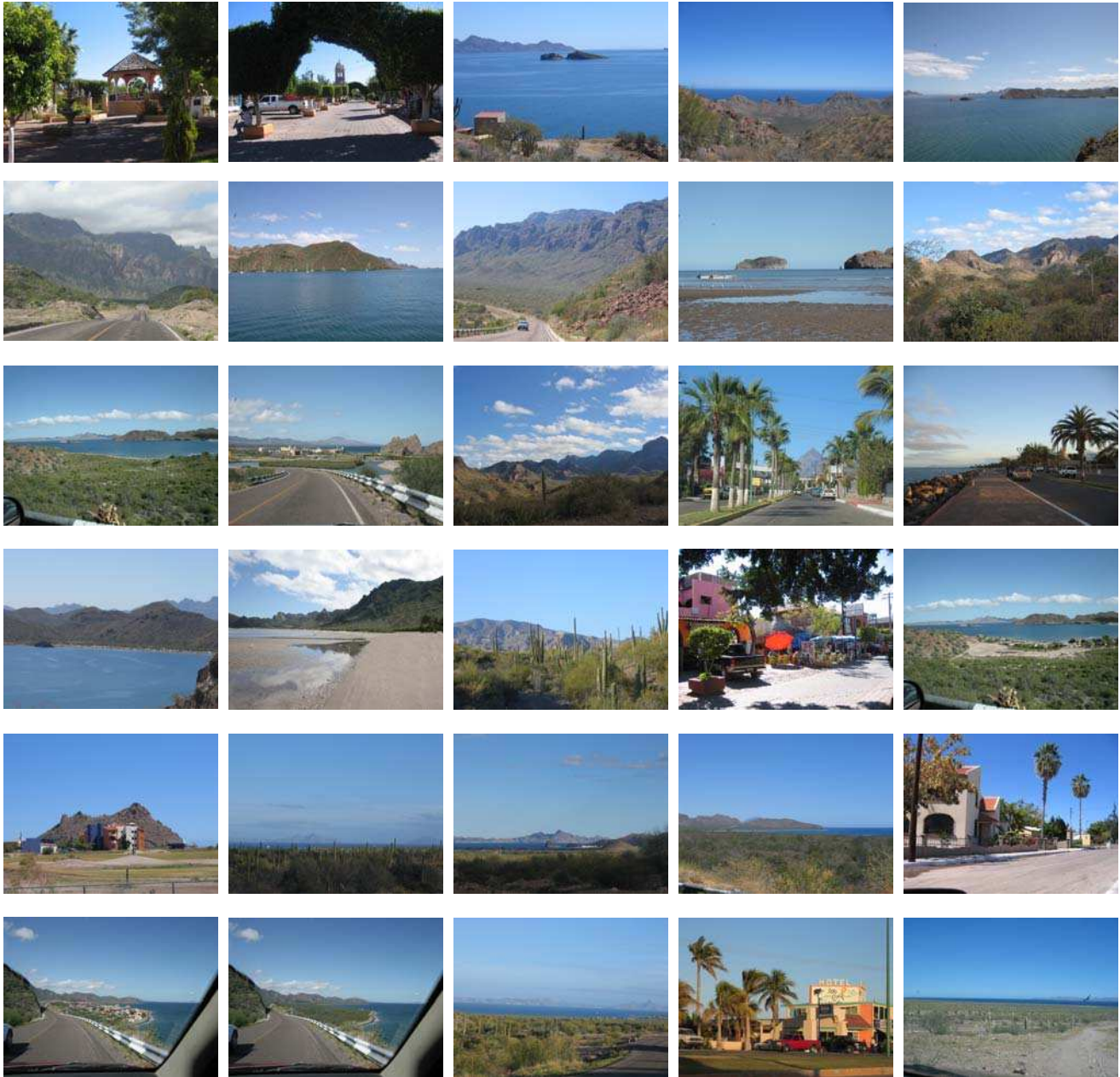
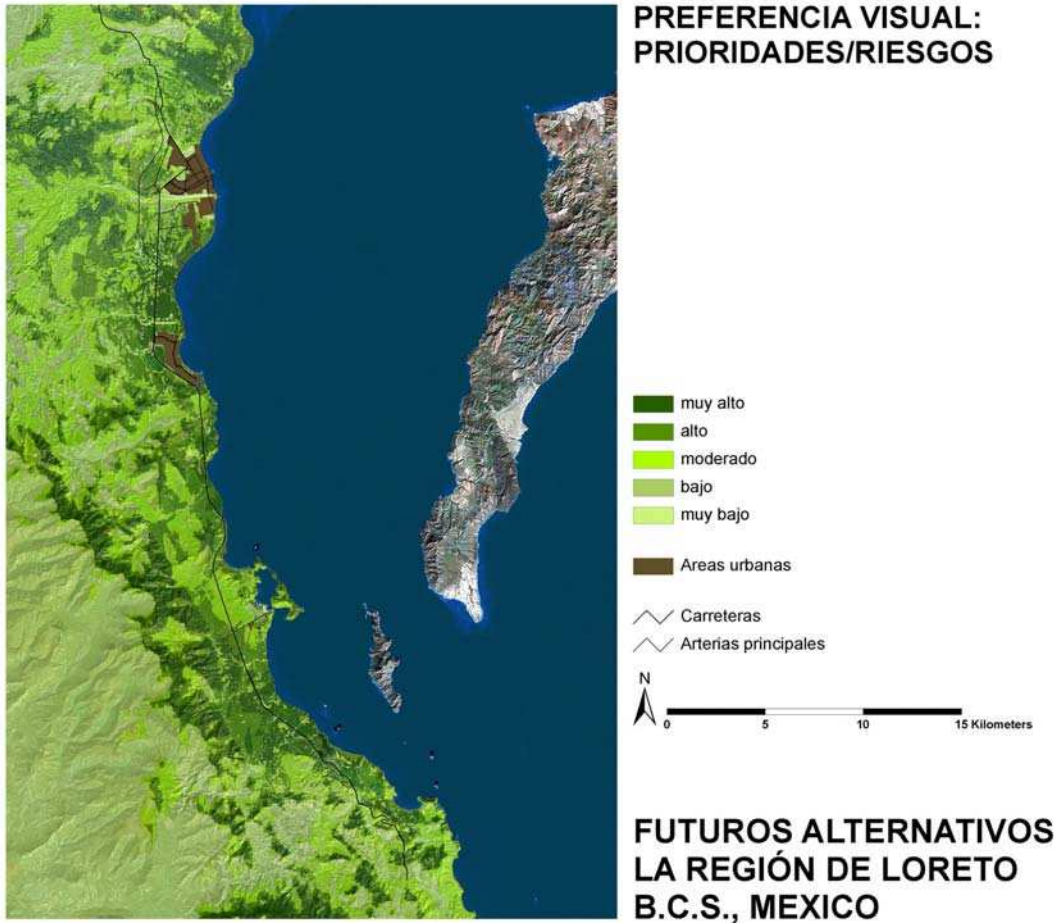


Figure 19. The Thirty Lowest Rated Photographs



Figure 20. View Preferences

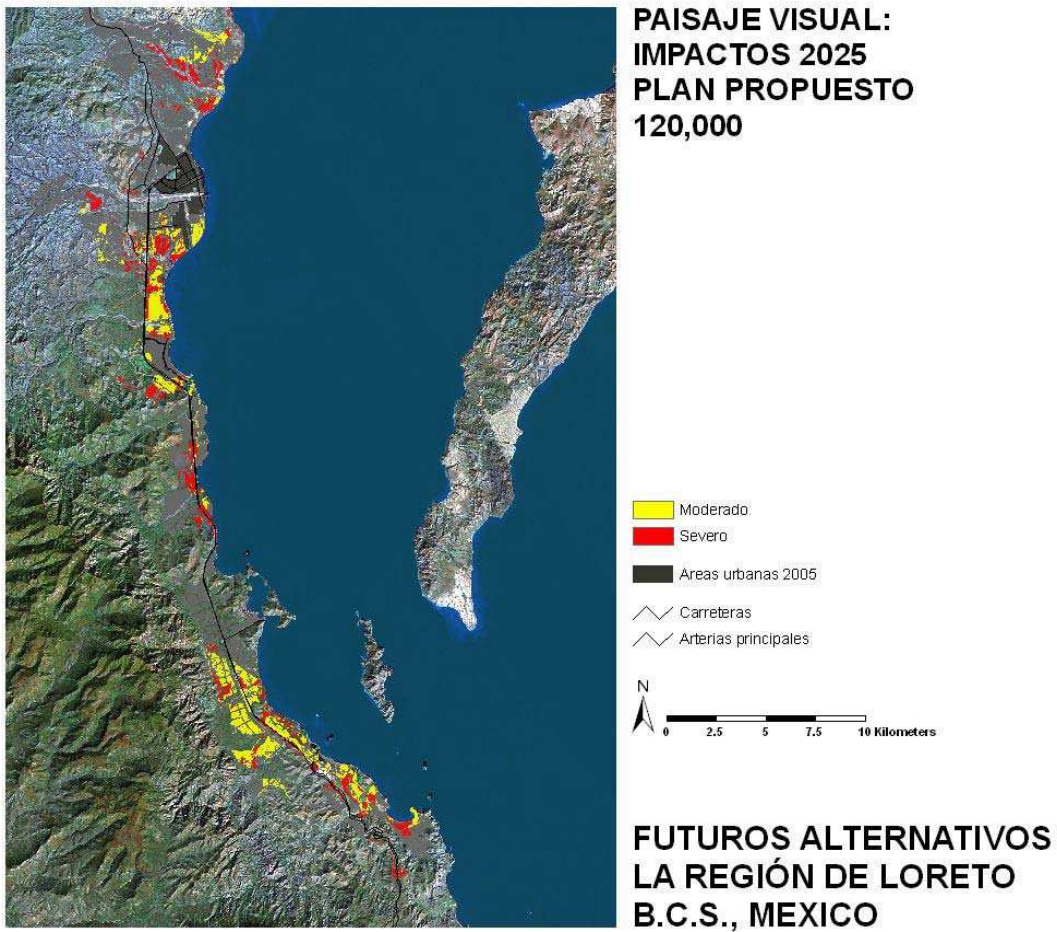


In the second stage of the visual assessment, the high-quality views are weighted by their predicted exposure to residents and visitors; the most visited and public views, such as those from the main north-south highway, are given greater weight compared to high-quality views that are, in effect, private. The third stage defines the areas that constitute the viewshed for these locations. This delineates the areas that are most deserving of visual protection, and the areas that suffer the highest costs if the view is degraded. This process creates a number of priority viewsheds that tend to fall along the north-south highway as well as in coastal areas with good public access. The final stage in the visual assessment is to assess the damage to the most important viewsheds resulting from different types of future development.

The impacts of visual models are reported by location. The model considers both the degree of change and the visual value of the impacted area. Two levels of impacts are reported, moderate and severe.

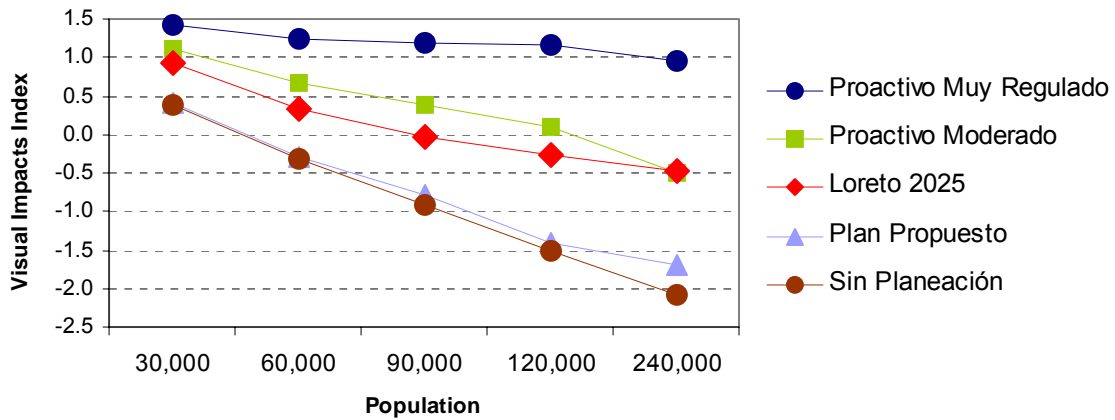
Figure 21 displays the extent and locations of visual impact of the Plan Propuesta with a population of 120,000.

Figure 21. Visual Impacts, Plan Propuesto 120,000



In order to compare the visual impacts of the different Alternative Futures, the level of impacts is summarized using a simple scoring method that totals the impact scores for each location on the landscape. The results of the visual impact assessment are summarized in Figure 22. (The scores have been normalized; which means that the scores are based on a comparison with the scores of the other scenarios. A lower score indicates a more severe impact.)

Figure 22. Visual Impacts Summary



Terrestrial Model and Impacts

The terrestrial ecology model assesses the impacts of the Alternative Futures on different vegetation and habitat categories. New land uses of the Alternative Futures are aggregated into groups based upon their impacts associated with construction, maintenance and use.

The impacts of terrestrial model are assessed by location. The model considers both the degree of change and the underlying ecological value of the impacted area. Three levels of impact are reported for this model:

- Moderate: natural mitigation possible
- Severe: mitigation possible with major engineering
- Terminal: no possible mitigation

Figure 23 shows the impact on terrestrial ecology of Plan Propuesto at a population of 120,000. The results of the terrestrial ecology model for the twenty-five Alternative Futures are summarized by totaling the impact scoring for each pixel on the map and shown in Figure 24.

Figure 23. Terrestrial Ecology Impacts of Plan Propuesto 120,000

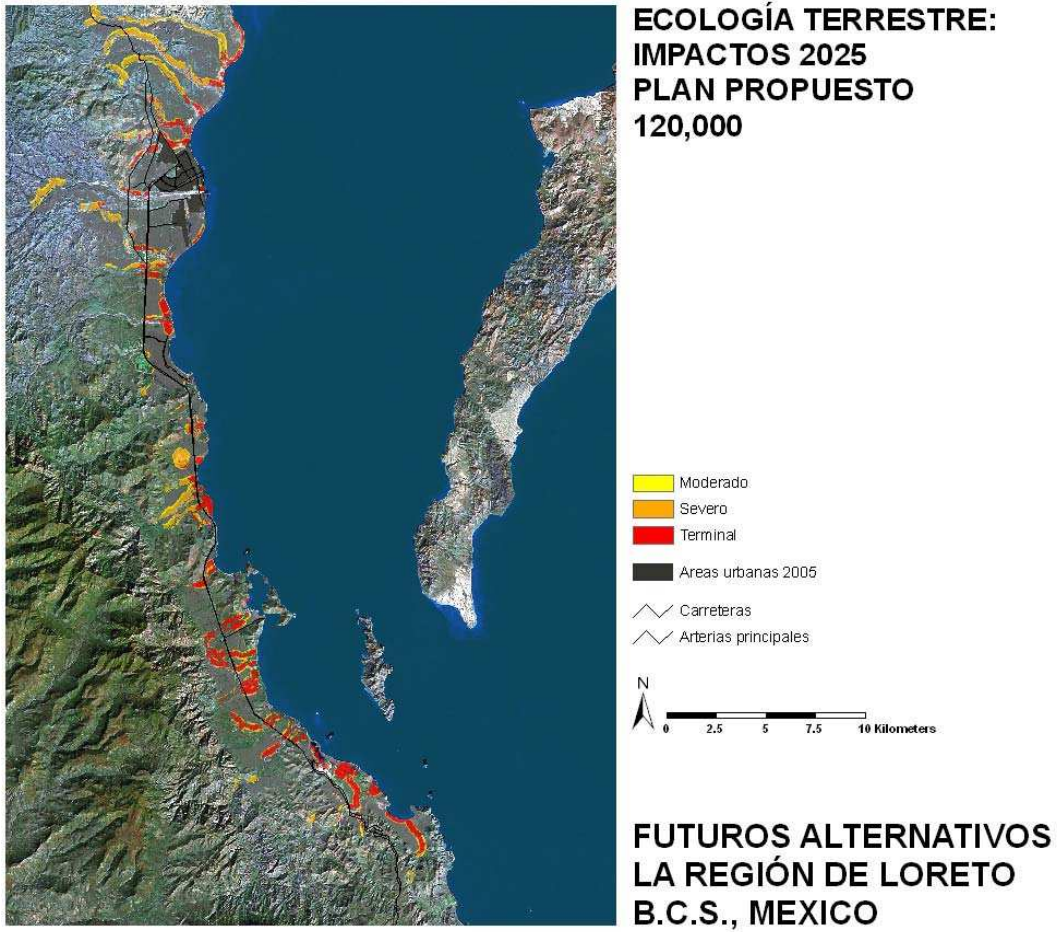
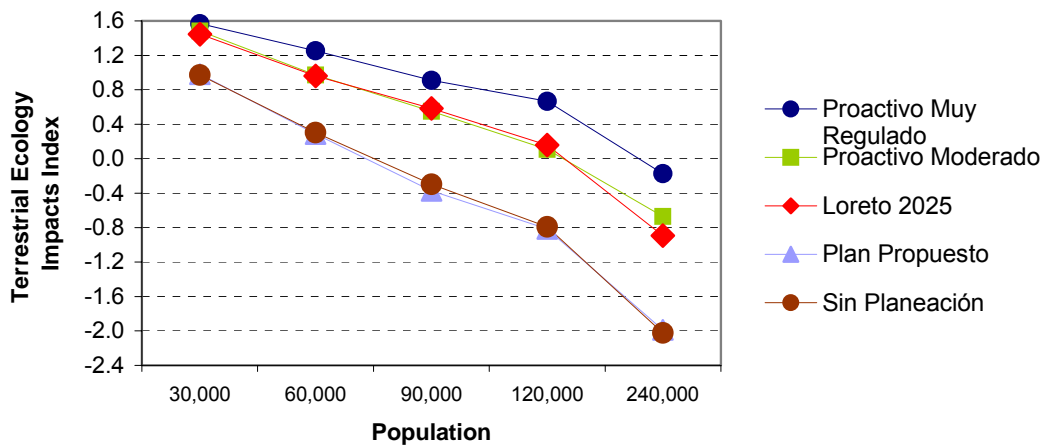


Figure 24. Terrestrial Ecology Impacts



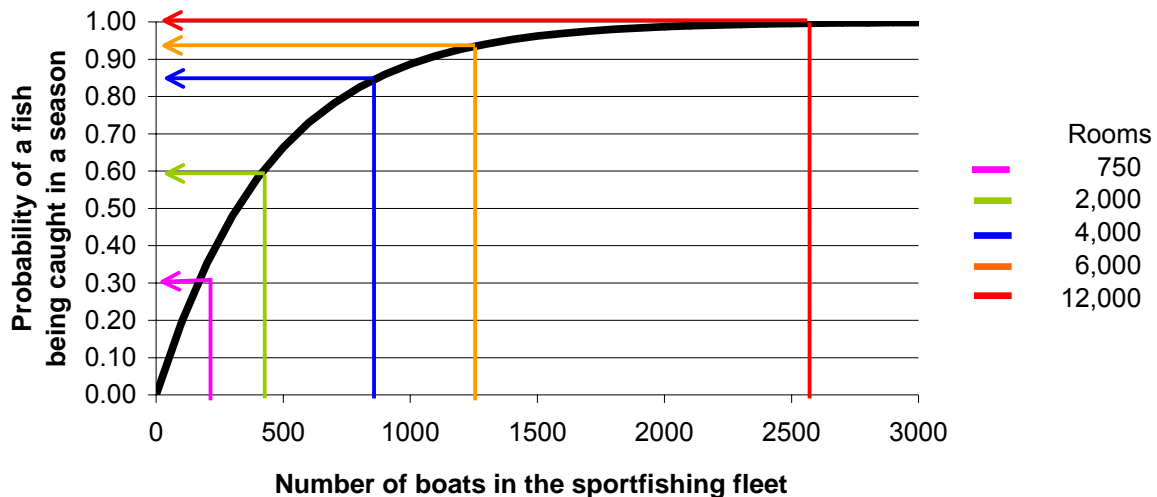
The impact index scores are normalized around an average score of zero.

Marine Impacts

The flow of sedimentation and other contaminants from building activities and land use change has the potential to cause severe damage to the marine ecosystems of the Loreto region. Sediment loading will damage, in particular, the benthic communities that inhabit the bottom of the ocean floor that are critical to the functioning of the other marine ecosystems. In turn, this will impact the quality and quantity of local fish and shellfish production. The quantity of sediment flows is an important determinant of damage, as is the content of these sediment flows. The presence of toxic waste associated with human activities and untreated sewage will exacerbate the damage on ecosystems that are integral to the economic future of Loreto.

The growth of tourism and resident populations in Loreto will increase the number of fishermen plying the waters of the region. Increased fishing effort will put additional pressure on fishing stocks that are already displaying signs of overexploitation. The fishing model elaborated as a part of this study estimates the impact on fishing stocks of increasing numbers of fishermen. The model employs a fishing search algorithm that estimates the risk of an individual fish being caught that enters the waters of the region. Extrapolating from this model, we can make inferences about the risk of overexploitation of the fishery and losing the viability of resident fish stocks. We consider here that when over 20% of the stock of a species is taken in a season, the sustainability of the population is at risk. As seen in Figure 25, the current level of fishing effort is already putting resident communities of fish in jeopardy. The probability of a major collapse in fish populations rises substantially with an increase in visitors.

Figure 25. The Impact of Increased Fishing Efforts



The dynamics of the model operate differently for resident species versus migratory species. For the resident fishing stocks such as grouper or sea bass, the activities of local fishermen represent the main pressures on fishing stocks, and the local fishing sector will also suffer the consequences of a collapse in the fishery. For migratory species, the actions of Loreto's sport fishermen have an impact on the fishery throughout the Gulf of California and are impacted by similar actions in other regions of the gulf. Not only are the fish themselves at risk, but the economic viability of the sportfishing and artisanal fishing sectors are in danger. Increasing numbers of fishermen competing for the same dwindling fishing stocks will destroy Loreto's reputation as an excellent launching point for sportfishing. This is true for both resident and migratory species. Hundreds of fishermen vying to catch each marlin that passes through the waters is much less attractive than a few dozen fishermen on the water at any particular time.

Economic and Social Impacts

Loretanos say that they enjoy a relatively high quality of life. Despite the lack of greater employment opportunities and local services such as a hospital, public transportation, and large retail stores, most people in Loreto report satisfaction with the quality of life in the community (Carrilio and Ganster 2006). *Loretanos* have a sense of their historical past and value it. The strong community feelings are reflected in high rates of political participation. *Loretanos* share many cultural and social values and the community displays significant internal cohesion.

Loreto's population grew at an average annual rate of 3.9% (doubling time of 18 years) during the decade of the 1990s and the community was able to retain its traditional social values. In conversations and interviews, people from the community express concerns that this sense of community and shared culture might be lost in the event of rapid population growth associated with high economic growth in the future. Annual growth rates similar to those experienced by Los Cabos in the 1990s (over 9% per year, doubling time of about 6 years) would bring new perspectives and values to Loreto and would likely overwhelm traditional social cohesiveness and sense of community.

A review of the quantitative indicators shows that Loreto lags behind the state of Baja California Sur and Los Cabos in average life expectancy, infant mortality, per capita income, and education (Gerber 2006; Carrilio and Angeles 2006). However, despite these differences, survey research (Carrilio and Ganster 2006) and informal conversations with Loreto residents reveal that many *Loretanos* contrast Loreto with Los Cabos. Many clearly state that they do not want to become like Los Cabos. They feel satisfied with Loreto as a community, they feel safe, and they have a positive view of the future.

Reconciling future growth and development needs with the strong sense of maintaining the existing community structure is one of the critical challenges for community leaders. In this study, we evaluate these future options with quantitative models, while recognizing that many of the aspects are fundamentally qualitative and must be addressed through the political process.

The economic assessments are based upon the projections for the number of new rooms in tourism and planned communities intended for foreign housing markets, and the rate at which new migrants are drawn to the area in search of economic opportunities stemming from real estate and tourism investments.

For this analysis, we assume that the economic and demographic impact of housing developments aimed at North American buyers is the same as conventional hotel-based tourism. In fact, the impacts that accompany these different types of markets might vary significantly if occupancy rates, average daily expenditures, and wage rates paid to employees differ substantially. This suggests that the actual impact of housing developments might be higher or lower compared to traditional hotel tourism. However, we believe that differences between the two markets will be small when compared to the variation in performance within either one of these markets. This assumption is bolstered by the fact that many of the second homes being sold in Loreto are being sold as 'horizontal hotels,' meaning that the homes are to be centrally managed and rented while the owner is not in residence. The distinction between hotels, time-shares and second homes is increasingly blurred in modern tourism markets. Moreover, the pricing and performance of these different sub-sectors will be closely linked, as are rental and purchase markets in conventional real estate markets.

The growth of the tourism and real estate markets in Loreto will constitute an exogenous boost in investment and spending for the local economy. As such, the performance of the economy will be based primarily on the success of the tourism and real estate sectors. To our knowledge, there are no studies that quantify the factors that explain the relative success or failure of tourism destinations in Mexico. This is understandable given the paucity of data that track income,

growth and tourism performance indicators. The available data (occupancy rates, domestic and foreign participation in tourism markets, per capita income rates) do allow us to make the following observations. Destinations that enjoy high occupancy rates and high participation in foreign markets are correlated with higher per capita incomes. The best examples of this are Cancún and Los Cabos. Of course, this success in tourism and high per capita incomes does not preclude underlying disparities in income distribution and social problems. (Not that one would choose lower per capita income given the choice.) The tourist destinations that have lower per capita income are those that are supported more by domestic tourism. This does not suggest that domestic tourism is necessarily undesirable, only that domestic tourism markets are correlated with lower per visitor expenditures.

The success of tourism destinations is based on providing a top-quality tourism product and in exploiting a destination's competitive niche. Cancún and Los Cabos have done well in the 'sun and sand' markets although occupying somewhat different positions in this market. Two important distinctions must be made when considering the future of the Loreto market. First, Loreto is not well positioned to compete in the 'sun and sand' market due to its poor quality beaches. The failure of the Loreto market to grow over the past two decades compared to Los Cabos is ample evidence to support this assertion. Second, the future of the Loreto market will be more heavily weighted toward the preferences of homeowners as compared to tourists that spend a relatively short time at a destination. Both of these points are related to the same principle: the success of Loreto will be based more on public amenities as compared to many traditional tourism markets. The Loreto market will be more sensitive to social and landscape issues that are more apparent at a regional scale, whereas many resorts in other locations are able to compete effectively solely on the environment of the specific resort site, without suffering as much from problems in the nearby communities and environment.

The economic model for Loreto used for this study is based on the performance of the factors that will determine the competitiveness of the tourism and real estate markets. These factors are shown in Table 5. Weights are assigned to each of these factors to assess the overall performance of the tourism and real estate markets. This performance is in turn linked to per capita incomes. In order to produce indicative estimates, these outcomes are calibrated to the range of outcomes currently observed in other Mexican tourism destinations.

Table 5. Determinants of Tourism Market Performance

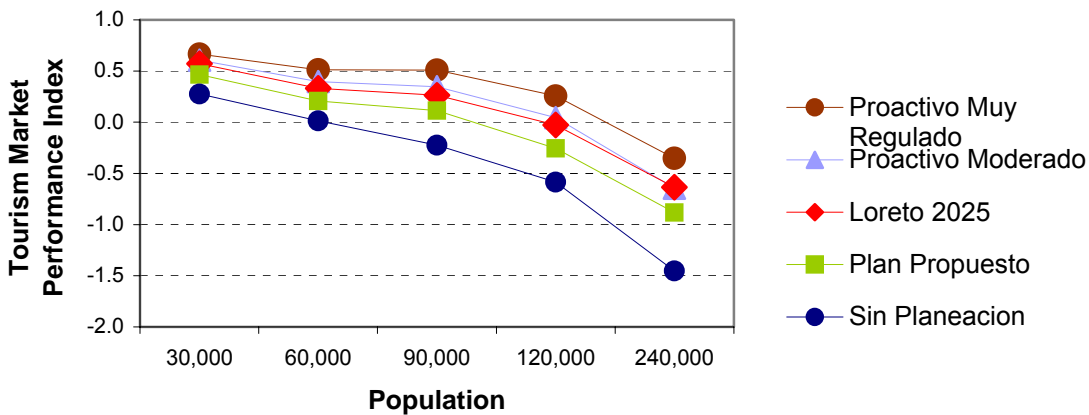
Factor	Weight
Density of the area and potential crowding	0.20
Natural beauty and quality of visual landscape	0.17
Character of social environment	0.13
Character of developed areas	0.13
Fishing and marine ecosystem health	0.12
Security	0.12
Accessibility and transportation	0.07
Availability of commerce and services including health care	0.06

The weights for these factors are derived from two surveys carried out for this study. One survey was conducted on the current English-speaking community in Loreto. This community is made up of mostly seasonal residents that originate from North America. A second survey was carried out on possible homebuyers from the San Diego area. This survey was implemented over the

Internet and advertised on the website of the San Diego Union-Tribune newspaper. (We surveyed people of non-Mexican origin, not because their opinions and preferences should carry more weight than that of residents of Mexican origin, but because their preferences are more likely to coincide with the preferences of the housing markets that will drive the economy of Loreto.)

The performance of each of the factors mentioned above is drawn from the results of the other impact models, such as the visual assessment and marine models. Other factors are correlated simply with the population of the region. The performance of many of the factors tends to decline as the size of the community grows. However, some of the economic performance factors, such as accessibility and transportation and the availability of commerce and services, tend to improve as the population and tourism market of the region increase. The projected performance of the tourism market for each of the scenarios is shown in Figure 26. This model also produces a projection of per capita income and gross regional product.

Figure 26. Projected Performance of the Tourism Market



The impact index scores are normalized around an average score of zero.

Gross regional product presents a very different measure compared to per capita income. Gross regional product is driven by both the size of the population and per capita incomes. In this sense, gross regional product is more likely to appeal to national policy makers while per capita income is perhaps a better measure of local economic performance.

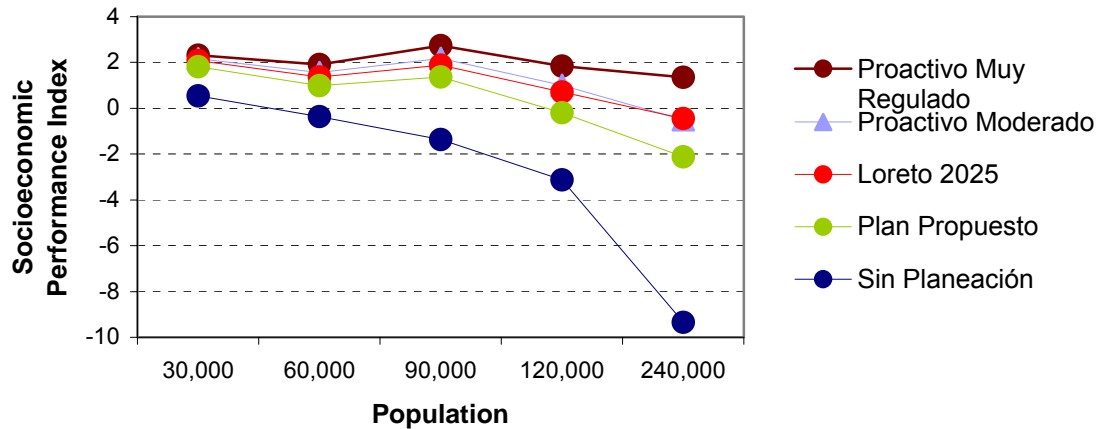
The next step in the analysis is to create an overall index of social and economic performance to allow the comparison of the twenty-five different Alternative Futures. This index is comprised of 6 factors: per capita income, gross regional product, number of households in poverty, social cohesion, crime, and access to public services. The estimates for per capita income and gross regional product are drawn from the analysis described above. (Neither one of these measures accounts for income distribution. This would have been another obvious choice for including in the socio-economic performance index. However, there is not adequate data to estimate the impact of different patterns of growth on income distribution.) Social cohesion is projected to decline and crime is projected to increase as population grows. This corresponds to the experiences of urbanization in Mexico.

Access to public services, such as health care and education, is an important aspect not only of human welfare but also of future economic competitiveness. Projecting how public services will vary in the future is speculative at best. For this study, we have created a simple quantitative

model in which access to public services is projected as a function of 5 factors, equally weighted: the number of people in poverty, the annual growth rate, per capita income, gross regional product, and total population. Public services would increase with rising incomes, both per capita and gross regional product. The quality of public services would drop with increasing numbers of people in poverty who would put increasing demands on public resources. All else equal, the availability of public services would improve as the size of the community grows with greater efficiency coming from the economies of scale. Finally, the performance of public services would suffer as population growth rates increase — there is a natural lag in the provision of services as the government attempts to catch up with a rising population and invests in expanding services. A difficult fact of life in Loreto is that the municipal government has little control over the level of spending on public services. Most of this funding comes from outside sources, predominantly state and federal transfers.

Combining the projected values for these factors for each of the alternative futures produces the socioeconomic index measure shown in Figure 27.

Figure 27. Socio-economic Index Scores



The impact index scores are normalized around an average score of zero.

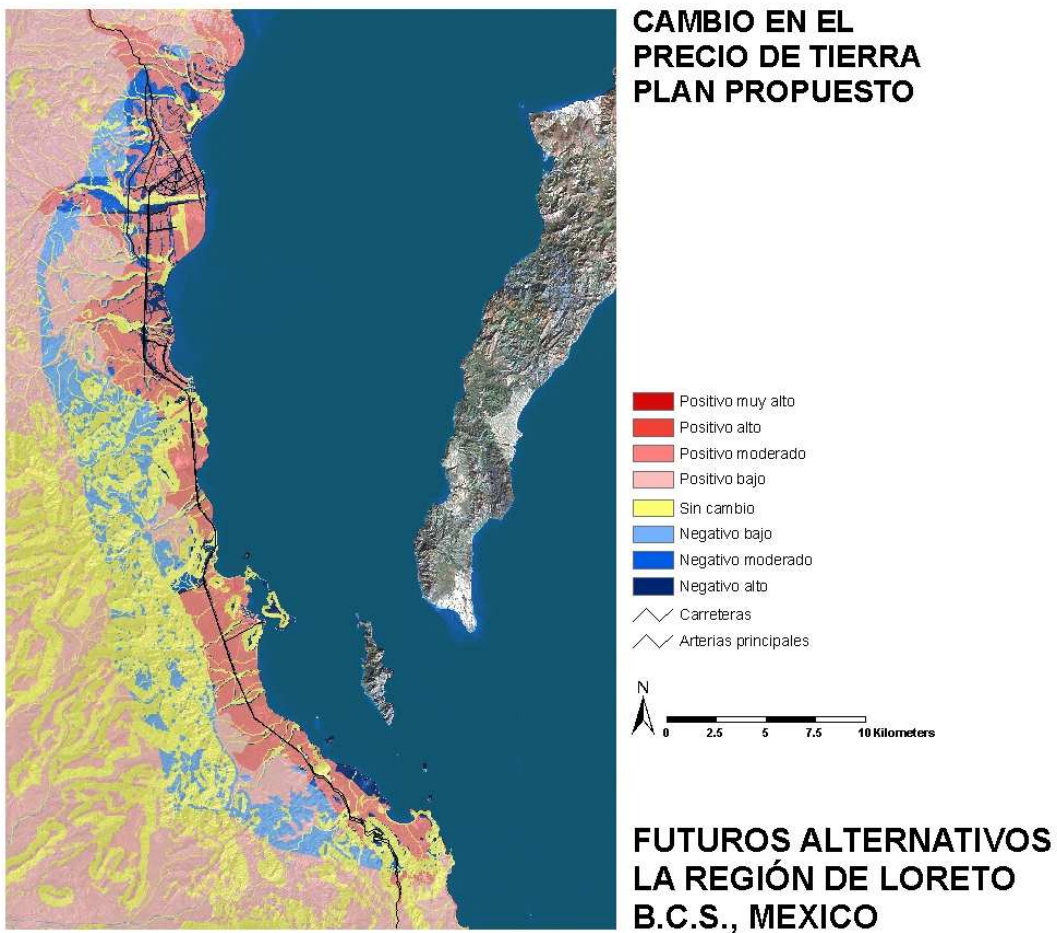
Impacts on Land Markets

An evaluation is carried out of the impact on land values associated with each of the planning scenarios. This assessment is predicated on a few basic premises. Removing development rights reduces the value of land, and visa versa. Restricting the supply of developable land increases the value of developable land. Areas that are inherently of low value because of the physical limitations of the land are not impacted significantly by the imposition of new zoning plans. Finally, the fall in the value of land is proportionate to the value of land if developable. The attractiveness model is used as a proxy for base land prices.

This analysis is meant only to capture the short to medium term impact of implementing each of the plans, not as a prediction of the long-term changes in property values.

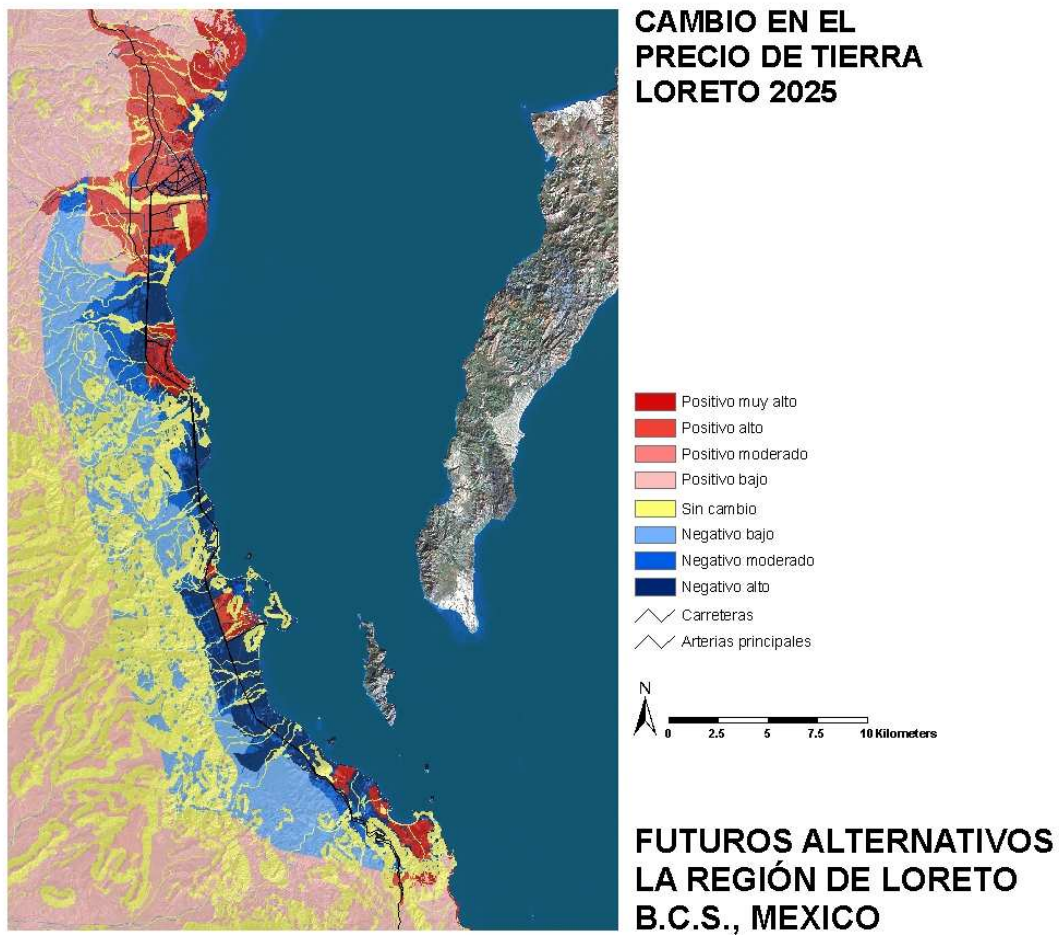
Figure 28 shows the estimated impact on land prices under the proposed plan. The areas where development is not permitted by policy are shown in blue. The yellow areas are not considered developable because of frequent flooding or excessive slope. The areas where development rights are established experience moderate increases in value, shown in red.

Figure 28. Impact on Land Prices of the Proposed Plan



The plan put forward by Loreto 2025 shows a markedly different impact on land prices, as seen in Figure 29. In this alternative, development is permitted on a much smaller proportion of the land in the areas of highest demand. This produces a relatively higher increase in land value for these areas. Accordingly, there are more areas that suffer from a drop in property values as a result of development restrictions. This analysis highlighted the political difficulty decision-makers would face in limiting development.

Figure 29. Impact on Land Prices of the Loreto 2025 Plan



A separate evaluation of the impact of changing land use patterns on land values is based on the results of the survey of residents in the United States. The survey asked potential homebuyers to choose among different housing choices that differed in price, the views from the house, and characteristics of the region, after survey respondents were introduced to the Loreto region with photographs and text. The evaluation is based on conjoint analysis, where a hypothetical market is created to replicate, to the greatest extent possible, the choices that consumers would make in a real marketplace.

Five attributes were included in the choice sets:

- the view from the house towards the ocean
- the view from the house towards the mountains
- the view of the road between the house and the urban center
- an aerial view of the region
- the price of the house

The statistical analysis of the reported preferences allows us to make inferences about the approximate difference in value among the different attributes. For the views towards the ocean, the unobstructed view (View 1) is worth on average \$90,000 more than the partially obstructed view (View 2), and \$150,000 more than View 3.

Figure 30. Views Towards the Ocean



The difference in the value of views towards the mountains is not as high. View 1 is worth approximately \$70,000 more than View 2, and \$90,000 more than View 3.

Figure 31. Views Towards the Mountains



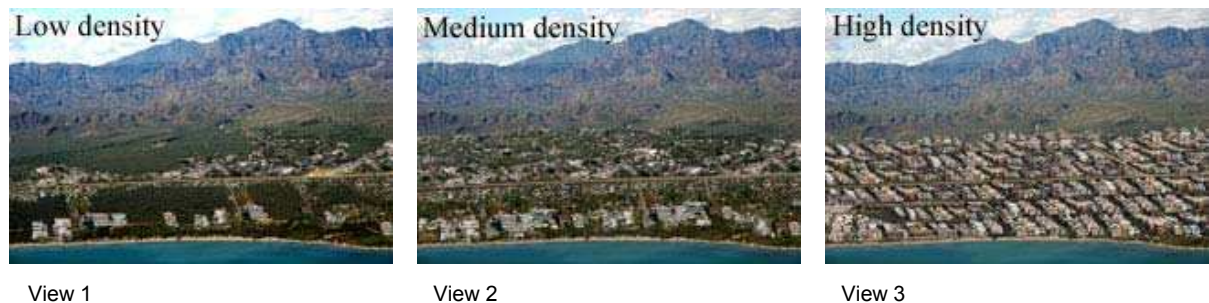
The difference in the views from the road is not statistically significant. Of the five factors, this appears to be the least important.

Figure 32. View of the Road between the House and the Urban Center



The density of the region did have a statistically significant impact on housing preferences. View 1 is valued at approximately \$70,000 more than View 2, and \$160,000 more than View 3.

Figure 33. Aerial View of the Region



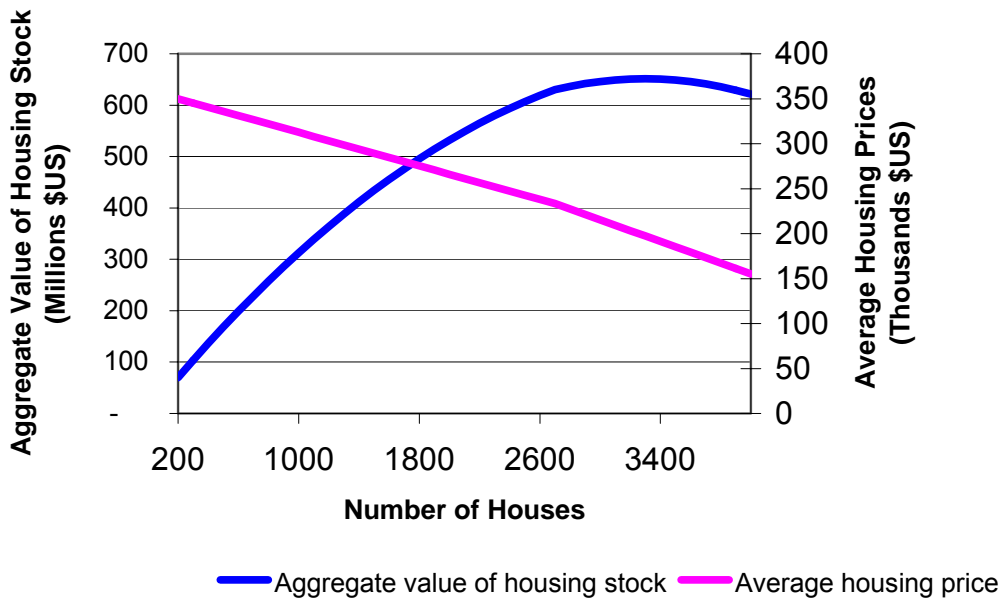
These results indicate that as density increases, the value of existing housing declines. This should not be confused with the movement in prices that result from other factors that influence property values, such as improvements in transportation, job creation, or real estate marketing efforts. In a housing market that experiences rising housing prices, the impact would be a relative decline (comparing real estate values to what would have occurred otherwise) and not an absolute decrease in property value.

Using the results of this study, we have created an indicative model of the relative impact on real estate prices in the high-end market in Loreto as the quantity of housing increases in the area. Again, this does not take into account the myriad of factors that can sway real estate prices in the future. This only looks at the impact of changes in the total number of houses on the landscape as interpreted by the stated preferences of potential homebuyers. This analysis does not include the impact of these changes on the value of the lower and middle segments of the housing market in Loreto.

Assuming an average home price of \$350,000 and starting with 200 homes, the estimated decline in the average price of housing is shown in Figure 34. This suggests that existing homeowners will experience a relative decline in property values as additional houses are added to the market. This phenomenon is widely accepted as one of the principal factors that motivate communities to limit growth. In Loreto, where investments by foreigners in real estate are likely to drive future growth, this could be a more fundamental indicator of the health of the economy.

More than reducing the relative value of existing homes, this simple model also exhibits how the aggregate value of this segment of the housing market can decline with increasing numbers of houses.

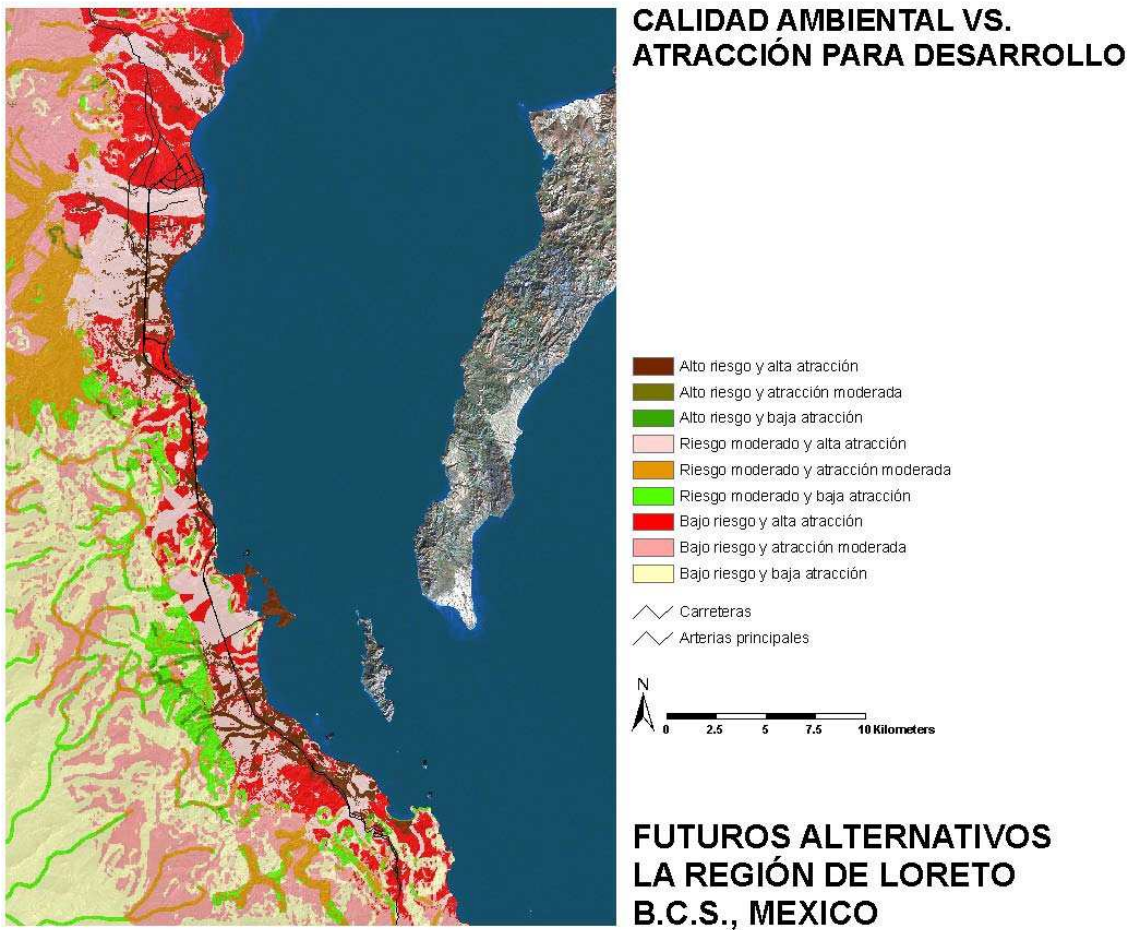
Figure 34. Impact of Increasing Development on Housing Values



Areas of Conflict

Figure 35 maps the relative attractiveness for development for each location against the ecological and visual value of the landscape. The areas in dark brown indicate areas of conflict: locations of high development pressure and high environmental value. It is these areas where the choices over land use will be both important and contentious. Areas in red could be developed at a low to moderate environmental cost.

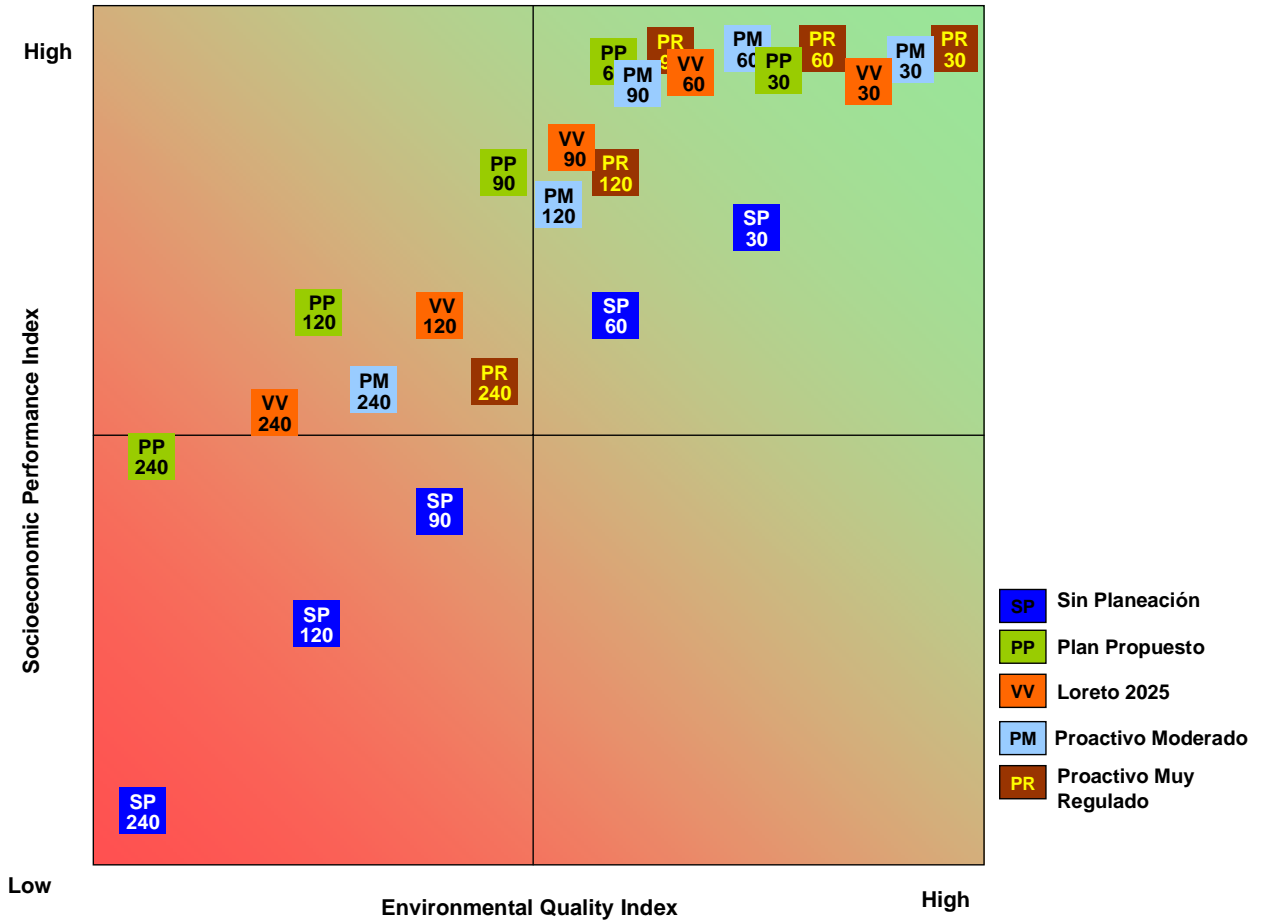
Figure 35. Attractiveness for Development and Environmental Quality



Comparing the Scenarios

Figure 36 graphically displays the aggregate performance of each of the Alternative Futures, using summary indices for economic and environmental performance. The socio-economic index is the same as explained earlier. The environmental index is based upon the results of the visual, terrestrial ecology, and marine ecology models. The terrestrial ecology impacts are not as important in Loreto. Therefore the terrestrial ecology indicator is given half the weight of the visual and marine aspects. Moving from the upper left to the lower right implies a trade-off between economic performance and environmental quality. Movements from the lower left to the upper right indicate an improvement in both economic and environmental terms. The distribution of the twenty-five Alternative Futures confirms the strong relationship between environmental and economic outcomes for Loreto. The results also suggest that limiting the amount of growth is essential for Loreto to achieve the best socio-economic and environmental results.

Figure 36. Comparing the Alternative Futures



Conclusions

The different spatial plans expressed in the twenty-five Alternative Futures exert a strong influence on the pattern and location of growth. New land use policies and related regulations could have a dramatic influence on the pattern of future land use. The ecological, visual, and marine impacts of the 25 alternatives vary according to the projected new land use pattern. The performance of these factors, in turn, influences the projected economic success for Loreto. This creates a situation in which the environmental and economic outcomes are correlated; if planned for and located properly, economic and environmental outcomes are not in conflict.

A principal conflict in the future of Loreto lies between pursuing actions that entail short-term benefits and the more politically difficult strategy of restricting short-term development in order to maintain more control over medium-term and long-term objectives such as environmental quality and social cohesion. A related conflict will be in defining whether the developable land is opened for private development or set aside in the public interest.

Historically, undeveloped areas surrounding the city of Loreto have supported a high quality of life, a healthy environment, and ample recreational opportunities for the citizens of Loreto. These amenities also attract visitors and support the tourism and real estate sectors of the region. The view of the water, islands, and mountains is one of the public amenities that contribute to the character of Loreto. Permitting private development is essential for economic growth. A key decision for the future of Loreto is to what degree these public amenities may be modified by private development.

Today, Loreto depends on groundwater for its water supply. All the scenarios assessed in this study exhibit the loss of groundwater resources and result in saline intrusion into public wells. In the future, alternative sources of water will need to be developed, with desalinization the only apparent option. The difference in the various scenarios is the point in time in which desalinization will become necessary for supplying all the fresh water to Loreto. The impacts of desalinization can be considerable, particularly when done without expensive remediation efforts. If steps are not taken to prevent significant damage to marine ecosystems, the provision of water could contribute to an erosion of one of the principal attractions and economic assets of the Loreto region: the excellent fishing and marine recreation in the national park.

Degradation of the ecological, visual and recreational landscape may have profound consequences for the future of the tourism and real estate sectors, as well as the quality of life for the residents of Loreto. As the size of Loreto grows, the risk of damaging the economic base for sustaining future growth also increases. The logical response to this situation is to develop the area in carefully controlled stages, rather than opening up the region now to a level of growth that eventually may prove to undermine economic growth and reduce the quality of life in Loreto. This suggests a potentially difficult conflict between the interests of the general public and individual landowners that stand to lose in the short-term if their development rights are curtailed. However, the results of this study also point out the potential losses expected for all – including landowners – if excessive development occurs. This transforms the problem into one of educating the stakeholders on the risks and opportunities, and allocating the development rights in a way that considers both equity and the necessity of incorporating the spatial criteria in deciding land use rights.

The leadership of Loreto is forced to make a decision in the near future in the face of great uncertainty. The responsible course of action in this context is to proceed with a strategy that allows future administrations to adapt the decisions taken today in light of better information. The current administration should not take decisions that are effectively irreversible, and development rights, once granted, cannot easily be rescinded.

VI. How should the landscape be changed?

Loreto must plan and implement an appropriate balance between protecting its valuable ecological, visual, and recreational landscape and promoting growth through private development. Additional land-use related policies must be integrated into the regulatory and planning framework for Loreto.

The most important question, “How should the landscape be changed?”, must be answered by the actions of the decision-makers of Loreto. The scenarios used to develop the Alternative Futures are representations of a range of policy decisions that can be made in the near future. Comparison of the Alternative Futures and their impacts allows decision-makers to explore the likely future effects of current policy choices.

As always, political will and public interest will decide the future of Loreto. It is the aim of this study to provide the basis for informed decision-making, in the hope that the future Loreto reflects the values and priorities of its people.

Figure 37. Loreto in 2005



Figure 38. Loreto in 2025 under the Plan Propuesto scenario with a population of 120,000



Authors

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Catalina Lopez is currently working toward a Masters in Advanced Studies in Marine Biodiversity and Conservation through the Center for Marine Biodiversity and Conservation, in cooperation with UCSD Division of Extended Studies and Public Programs. She has a Bachelors degree from the Universidad Autonoma de Baja California Sur. She was involved in a project whose objective was to establish a network of 13 marine reserves in the southern Gulf of California, and upon completion, took on two more that focused on the area surrounding the state's capital, La Paz.

On-line Resources

Additional materials and a full set of maps will be available at:

www.futurosalternativosloreto.org

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WATER LAW OF THE STATE OF BAJA CALIFORNIA SUR

Law published in the Official Gazette of the Government of the State of Baja California Sur on July 31, 2001.

CURRENT TEXT

Last reform published BOGE 20-05-2023

LEONEL EFRAIN COTA MONTAÑO, CONSTITUTIONAL GOVERNOR OF THE STATE OF BAJA CALIFORNIA SUR, HEREBY INFORMS ITS INHABITANTS:

THAT THE H. CONGRESS OF THE STATE, HAS BEEN PLEASED TO SEND ME THE FOLLOWING:

DECREE 1321

WATER LAW OF THE STATE OF BAJA CALIFORNIA SUR

Title One General Provisions

Article 1.- The provisions of this Law are of public order and social interest and its purpose is to regulate in the State of Baja California Sur, in accordance with Article 27, fifth paragraph, and 115 section III, of the Political Constitution of the United Mexican States and the correlatives of the Political Constitution of the State, the relative in the Law of Ecological Equilibrium and Environmental Protection in the State and the Organic Municipal Law, the participation of the state and municipal authorities, within the scope of their competence, in the performance of actions related to the exploitation, desalination, use and development of the water resource, as well as the public services of drinking water, sewage and sanitation.

As regards water planning, the State, through the State Water Commission, shall prepare a long-term State Water Plan of at least 25 years. This Plan shall be considered in the State Development Plan and by the Strategic Development Projects. The State Water Plan should be oriented to generate strategies, actions, elaboration of studies, projects, execution, rehabilitation, maintenance and expansion of urban development works and hydraulic infrastructure that allow the recharge of aquifers, the use of precipitation water, that protect the population from catastrophic hydrometeorological events, and abate the increasing water deficit faced by urban areas, and consider the optimization of the distribution network and the generation of alternative water use policies: desalination and reuse, as well as the promotion of water culture in the population. This plan should be prepared by the State with the participation of civil society organizations, business associations and chambers, specialists, public and private universities and society in general. The State Water Plan must be published in the Official Gazette of the Government of the State of Baja California Sur.

Article 2.- The purpose of this Law is to regulate;

- I. Drinking Water, Sewerage and Sanitation Systems;
- II. Coordination between the Municipalities and the State, and between the State and the Federation for the



carrying out actions related to the exploitation, use and development of water;

- III. The organization, operation and attributions of the State Water Commission;
- IV. Planning for different water uses;
- V. Public drinking water, sewerage and sanitation services;
- VI. Water programs that contribute to providing water of adequate quality for various uses.
- VII. The organization, operation and attributions of the Municipal and Intermunicipal Operating Organizations;
- VIII. The participation of the social and private sectors in the provision of public drinking water, sewerage and sanitation services;
- IX. The relations between the authorities, the providers of public drinking water, sewerage and sanitation services, the contractors and the users of such services; and
- X. The recovery of expenses and costs of investment, operation, conservation, connection fees and maintenance of drinking water systems, water desalination systems, sewerage and sanitation.
- XI. Promoting a culture of water care.

Article 3.- The following shall be understood as:

- I. Potable water: Water that can be ingested without causing harmful effects to health and that meets the quality requirements established in the official Mexican standards.
- II. Sewer: The network or system of pipes and fittings to collect and convey wastewater and storm water to the sewer or drainage system.
- III. Stormwater: Water from rainfall, including snow and hail.
- IV. Wastewater: Water of varied composition from discharges of municipal, industrial, commercial, agricultural, livestock, domestic and any other use.
- V. Treated water: The wastewater resulting from having undergone a treatment process to eliminate its pollutant loads.
- VI. Assignment: It is the right to the exploitation, use or exploitation of water and infrastructure of state jurisdiction, which is authorized by the State Executive through "the commission", to the State and Municipal Public Agencies that provisionally or permanently provide public water services.



- VII.** Commission: The State Water Commission.
- VIII.** Rural community: Population centers with less than 2,500 inhabitants.
- IX.** Concessionaire: The legal entity to which the public drinking water, sewerage or sanitation services are granted.
- X.** Basin Council: Coordination and coordination body between the National Water Commission, federal, state or municipal agencies and entities, and representatives of the users of the respective hydrological basins.
- XI.** Contractors: Individuals or legal entities that enter into contracts with the Municipalities, Municipal or Intermunicipal Operating Agencies, or the Commission, under the terms of Article 67 of this Law.
- XII.** Groundwater Technical Committee (COTAS): Users' organization promoted and accredited by the National Water Commission to improve water use and preserve water quality.
- XIII.** Fees: Consideration to be paid by users to the operating agencies.
- XIV.** Derivation: The connection to the interior hydraulic installation of a property to supply water to one or more users located on the same property or adjoining properties.
- XV.** Discharge: Wastewater and stormwater discharged into the sewer and drainage system.
- XVI.** Drainage: System of open and closed conduits, hydraulic structures and accessories for the drainage and removal of wastewater and rainwater.
- XVII.** Rate structure: The table that establishes for each type of user and, if applicable, consumption level, the prices per unit of service to be paid by each user for the public services referred to in section XXV of this Article.
- XVIII.** Water exchange: Exchange of water from deep wells and/or other sources for treated water.
- XIX.** Service provider: Whoever provides public drinking water, sewerage and sanitation services, whether they are Municipal or Intermunicipal Operating Organizations, concessionaires or the Commission.
- XX.** Strategic Development Project: A study that, based on a diagnosis of the current conditions of the potable water, desalinated water, sewerage and sanitation systems, and taking into account the projected increase in demand and in strict compliance with the urban, state and municipal development plans, contains the definition of the actions that will be required for



increase physical and commercial efficiencies, as well as the coverage of public services in the short, medium and long term, in such a way as to ensure the continuous satisfaction of the needs of present and future generations in all human settlements, in quantity and quality, without degrading the environment. This definition of actions must also be economically viable, technically feasible and socially acceptable.

- XXI.** Recidivism: Each subsequent infraction of the same precept, committed within two years from the date of the record of the previous infraction, provided that such infraction has not been disproved.
- XXII.** Reuse: The use of previously treated wastewater that meets certain quality characteristics and is used in certain types of industries or in the irrigation of green and agricultural areas.
- XXIII.** Sanitation: The conveyance, treatment, removal and discharge of wastewater from the drinking water system, water desalination and sewerage, when such actions are intended to discharge such water into a stream or reservoir of national property.
- XXIV.** Drinking Water and Sewerage System: Set of plans, works, and actions that allow the provision of public drinking water supply and sewerage services, considering its sanitation, which includes the conduction, treatment, removal, and discharge of wastewater. Includes the reuse of wastewater with secondary treatment.
- XXV.** Water Desalination System: Set of water desalination facilities, regulated by the State Water Commission and/or the Operating Agencies.
- XXVI.** Water Information System: Set of databases and other information related to inventories of water bodies, hydraulic infrastructure, investments made in this area, the portfolio of studies and projects and other climatic, hydrographic and hydrological information of the basins of the State of Baja California Sur, including records of water concession titles and corresponding permits, its monitoring network in quantity and quality and user registry;
- XXVII.** Public services: Actions aimed at the supply of drinking water, sewerage and sanitation.
- XXVIII.** Average break-even rate: The average rate to be applied for each unit charged to users to ensure the financial equilibrium of the service provider.
- XXIX.** Intake: Connection to the secondary network to provide water service to the user's property, including the branch and the switchboard.
- XXX.** Wastewater treatment: The activities carried out by the operating agency and service users to remove and reduce the pollutant load of wastewater;



- XXXI.** Commercial use: The use of water in establishments and offices, dedicated to the commercialization of goods and services;
- XXXII.** Domestic use: The use of potable water in the home for human consumption, food preparation and to satisfy the most basic needs such as sanitation, personal hygiene and cleaning of property;
- XXXIII.** Use of public services: The use of water for the supply of facilities that provide public services;
- XXXIV.** Industrial use: The use of water in factories or companies that carry out the extraction, conservation or transformation of raw materials or minerals, the finishing of products or the elaboration of satisfiers (water purification plants, purification plants, ice factories and others), as well as that used in industrial parks, in boilers, in devices for cooling, washing, baths and other services within the company, brines used for the extraction of any type of substances and water even in a vapor state that is used for the generation of electric energy or for any other use or transformation exploitation;
- XXXV.** Shipping use: Use of potable water to supply maritime vessels at docks, marinas and platforms;
- XXXVI.** Ecological conservation use: The minimum flow in a stream or the minimum volume in receiving bodies or reservoirs that must be conserved to protect the environmental conditions and ecological balance of the system;
- XXXVII.** Urban public use: The use of potable water for population centers or human settlements, through the municipal network;
- XXXVIII.** Tourist use: Use of potable water to supply hotel areas and those derived from them;
- XXXIX.** User: The individual or legal entity that uses public services;
- XL.** Vessel: Natural reservoir of waters under state jurisdiction delimited by the level of the maximum ordinary crescent; and
- XLI.** Suspension: The action and effect of temporarily interrupting services for lack of payment.

Article 4.- It is declared to be of public utility:

- I. The planning, studies, projects, conservation, execution, rehabilitation, maintenance and expansion of the works and services necessary for the operation and administration of drinking water systems, water desalination systems, sewerage and sanitation within the State, as well as the treatment and reuse of wastewater;
- II. The acquisition and use or development of waterworks owned by the company.



The Company's water supply, sewerage and sanitation services, when required for the efficient provision of public drinking water, sewerage and sanitation services, established or to be established;

- III. The systems of regulation, catchment, conduction, potabilization, desalination, fluoridation, storage and distribution of water; as well as the collection, discharge, treatment of wastewater and management of sludge resulting from such treatment;
- IV. The prevention and control of pollution of waters under state jurisdiction, national waters assigned to the state and municipalities and waters discharged into sewage systems; and
- V. Movable and immovable property necessary for the construction, rehabilitation, expansion, improvement, conservation, development and maintenance of drinking water systems, water desalination systems, sewerage and sanitation systems, as well as wastewater treatment, including related facilities such as access roads and protection areas.

Article 5.- The State Executive may decree the expropriation, temporary occupation, total or partial, or limitation of ownership rights over privately owned property when required for the provision of services, subject to the Laws in force on the matter.

The amount of the corresponding indemnity may be covered by the system operator out of the funds available from the collection of the service, or out of the funds granted by special agreement in each specific case.

Title Two

From the State Water Commission

Article 6.- The State Water Commission of Baja California Sur is hereby created as a decentralized public agency of the State Government, with legal personality and its own assets, with administrative authority functions, through the exercise of the powers conferred by this Law, which shall have its domicile in the capital of the State.

Article 7.- The Commission shall be in charge:

- I. To provide consultation and advice on drinking water, water desalination, sewerage and sanitation to the State Government and municipalities;
- II. Propose actions related to water planning and programming, within the scope of its competence, to be discussed within the Basin Council;
- III. Substitute for the head of the State Executive in the Basin Council and attend the sessions to which he/she is invited;



- IV.** Represent the State Executive in coordination and agreement activities with any body related to water issues;
- V.** Execute hydraulic infrastructure works, under the terms of the agreements entered into for such purpose with the Federation;
- VI.** Represent the State in the Irrigation District Water Committees;
- VII.** To promote and foster a culture of water care, through its efficient use and preservation of water as a scarce and vital resource; designing the state program for the promotion of water care, under the terms of Title Four of this Law.
- VIII.** To provide technical assistance and advice for the rational use of water to irrigation and technified rainfed units and districts and to other users whose purpose is the irrigation of specific lands;
- IX.** Support the consolidation and technical development of irrigation and drainage district and unit user associations;
- X.** Support and promote, with the assistance of the Groundwater Technical Committees and the Basin Council, water exchange programs;
- XI.** Represent the State in the COTAS;
- XII.** Request to the competent authorities the expropriation, temporary occupation, total or partial, of property or the limitation of the rights of ownership, for the fulfillment of its objectives, under the terms of the Law;
- XIII.** Promote the establishment and dissemination of standards for the construction, operation, administration, conservation and maintenance of water collection, potabilization, desalination, conduction, storage and distribution of drinking water, sewerage and sanitation systems;
- XIV.** Advise, assist and provide support services and technical assistance to service providers;
- XV.** To promote the creation, development and administrative, technical and financial self-sufficiency of the Municipal and Intermunicipal Operating Organizations for the provision of public services;
- XVI.** Promote social and private participation in the provision of public services;
- XVII.** Promote water potabilization and wastewater treatment, wastewater reuse, and sludge management;
- XVIII.** Assist the Municipal or Intermunicipal Operating Organizations in the financing and planning of works for the systems required for the provision of public services;
- XIX.** Promote, support and, if necessary, manage before federal agencies and entities, the corresponding allocations, concessions and permits in order to provide water to population centers and human settlements;



- XX.** To hear all matters of general or specific interest to the proper functioning of public services;
- XXI.** To issue opinions on the content of legal provisions and drafts thereof related to water resources and the provision of public services;
- XXII.** To render public services under the terms of Section Four of Chapter III, Chapter III of Title Three of this Law;
- XXIII.** Monitor compliance with the Strategic Development Projects;
- XXIV.** To sanction service providers and contractors for non-compliance with this Law;
- XXV.** Participate as advisor in the bidding processes for concessions for the rendering of public services and the contracts referred to in Articles 52, 53 and 67 of this Law;
- XXVI.** To issue an opinion on the appropriateness of the revocation of concessions or termination of contracts entered into by the operating agencies, under the terms of Article 62 of this Law;
- XXVII.** When rendering public services, it shall determine the fees and rates in accordance with the provisions of Title Three, Chapter IV, Section Three of this Law;
- XXVIII.** To prepare and keep updated the inventory of assets and resources used for the provision of public services;
- XXIX.** Collect and maintain updated information related to public services;
- XXX.** Promote the construction and use of conventional irrigation systems;
- XXXI.** Promote the modernization of irrigation districts and units;
- XXXII.** Promote the use of wastewater for irrigation of green and agricultural areas and other uses, subject to compliance with official standards;
- XXXIII.** Enter into agreements with institutions of higher education, investors and other institutes to encourage and promote research activities in agricultural and livestock matters and rational water management;
- XXXIV.** Establish training programs, in parallel to the construction of hydraulic works, in order to make better use of them,
- XXXV.** To issue and publish in the Official Gazette of the State Government the operating standards for water desalination systems;



XXXVI. Impose sanctions in accordance with the provisions of Articles 149 and 151 of this Law; and

XXXVII. Other powers conferred by this Law and other legal ordinances, as well as those transferred by the Federation to the State Government in the terms of the Law and the agreements entered into for such purpose.

In order to exercise its powers, the Commission may enter into coordination **a g r e e m e n t s** with the Municipalities.

Article 8.- The assets of the Commission shall consist of:

- I. The assets that currently form part of its net worth;
- II. Federal, state and municipal contributions, if any, as well as the contributions made by the Municipal or Intermunicipal Operating Organizations;
- III. Revenues from the provision of public services and reuse of treated wastewater or any other service provided by the Commission to the user;
- IV. The credits obtained for the fulfillment of its purposes;
- V. Donations, inheritances, legacies and other contributions from individuals. As well as subsidies and awards in favor of the Commission;
- VI. The remainder, fruits, profits, income, products, interest and sales obtained from their own assets; and
- VII. Other assets and rights acquired by any legal title.

Article 9.- The Commission shall have:

- I. A Board of Governors;
- II. Advisory Council;
- III. General Manager;
- IV. A Public Commissioner; and
- V. The technical and administrative personnel required for its operation.

The Governing Board of the Commission shall be composed of the following members:

- I. The Governor of the State, who shall preside;
- II. The heads of the competent agencies of the State Public Administration



in the areas of Urban Planning, Infrastructure and Ecology, Finance, Development, Health and Education;

- III. One representative of the users, for each water use;
- IV. A representative of the Municipal or Intermunicipal Operating Organizations, appointed by majority vote of the same organizations, from among their respective Governing Boards;
- V. A representative of the National Water Commission;
- VI. A Technical Secretary who shall be the Director General of the Commission;
- VII. The Chairman of the Advisory Council of the Commission; and
- VIII. A member of the State Congress, with voice only, who shall be a member of the Permanent Water Commission, whose absence may be substituted by the deputy or deputies determined by mutual agreement of the aforementioned Commission.

The representatives referred to in Section III shall be appointed in the manner and for the term set forth in the Organic Statutes of the Commission.

An alternate shall be appointed for each proprietary representative.

Representatives of Federal, State or Municipal agencies, as well as representatives of the users that are part of the Advisory Council, may be invited to be part of the Board, with voice, but without vote.

The Governing Board shall meet quarterly and extraordinarily when required for the proper functioning of the Commission; and shall make its resolutions in accordance with the rules established in the Organic Statutes.

Article 11.- The Board of Governors shall be in charge:

- I. Approve the hydraulic planning and programming actions submitted by the Director General to be discussed by the Basin Council;
- II. Approve the actions, submitted for its consideration by the Director General, necessary for the execution of the functions transferred by the Federation to the State Government, through the decentralization or coordination agreements entered into;
- III. To grant general power of attorney for acts of administration and ownership, as well as for lawsuits and collections, with all the general or special powers that require power of attorney or special clause in accordance with the Law, as well as to revoke and replace them; in addition, if applicable, to carry out the procedures for the divestment of the public property to be disposed of;
- IV. Oversee compliance with the obligations derived from this Law by the service providers and contractors when they enter into the contracts referred to in sections I to III of Article 67 of this Law, as well as



those cases in which the quality and continuity of public services depend on the contractor;

- V. Approve the content of the model contracts referred to in Article 76, the requirements referred to in Article 74, as well as the guarantee referred to in the second paragraph of Article 83 of this Law;
- VI. Resolve disputes submitted to it, arising between grantors and concessionaires of public services, as well as between contractors and contractors;
- VII. Verify the correct application of the formulas for the determination of fees and rates under the terms of Section Three, Chapter IV, Title Three of this Law;
- VIII. When rendering public services, determine the fees and rates in accordance with the provisions of Title Three, Chapter IV, Section Three of this Law;
- IX. To issue opinions on legal provisions and drafts relating to public services;
- X. Approve the Commission's Strategic Development Project submitted by the Director General and supervise its periodic updating;
- XI. To resolve, based on the legal and regulatory provisions, the matters submitted for its consideration by the General Director in matters of public services;
- XII. To authorize the contracting, in accordance with the applicable legislation, of the credits necessary for the provision of public services and the execution of works;
- XIII. To administer the assets of the Commission and take care of their proper management;
- XIV. To review and, as the case may be, authorize the draft annual program and budget of income and expenditures of the Commission, in accordance with the proposal made by the Director General;
- XV. Approve the Agency's investment projects;
- XVI. Examine and approve the financial statements and reports to be submitted by the General Director, after taking cognizance of the Commissioner's report, and order their publication in the Official Gazette of the Government of the State of Baja California Sur and in the local newspaper with the largest circulation;
- XVII. Approve and issue the organic statute of the Agency and its amendments, as well as the organization, procedures and public services manuals;
- XVIII. Appoint and remove the Director General of the Commission upon proposal of the President; and
- XIX. Any other duties assigned to it by this Law and other applicable legal provisions.

The Governing Board of the Commission will also have the necessary powers to



It shall meet quarterly and extraordinarily when required for the proper functioning of the Commission, and shall operate in accordance with its organic bylaws.

Article 12.- The Director General of the Commission shall be a Mexican citizen with proven professional technical and administrative experience in water matters, and shall have the following powers:

- I. To legally represent the Commission, with all general and special powers that require a power of attorney or special clause in accordance with the Law; as well as to grant powers of attorney, file complaints and accusations, grant pardon to extinguish the criminal action, articulate and absolve positions, as well as to promote and withdraw from the amparo trial;
- II. Submit to the Governing Board, for its approval, the hydraulic planning and programming actions to be dealt with by the Basin Council, as well as those necessary for the execution of the functions transferred by the Federation to the State Government;
- III. To publish, in the Official Gazette of the Government of the State of Baja California Sur and in the newspaper with the largest circulation in the locality, the fees and rates determined by the Governing Board, when the Commission provides public services;
- IV. To order the preparation of the long-term State Water Plan, when appropriate, and its periodic updating, submitting it to the Governing Board for approval. To order the preparation of the Commission's Strategic Development Project and update it periodically, submitting it to the Governing Board for approval. The Strategic Development Project must be prepared, approved and published within a term of six months from the date on which the Governor of the State takes office, and its validity shall not exceed the Constitutional Period corresponding to him/her, although it may contain considerations and projections for a longer term. Once approved and published in the Official Gazette of the State Government, it must also be published on the Commission's website, as well as the periodic updates of said project;
- V. Oversee the execution of the Strategic Development Project approved by the Board of Governors;
- VI. To coordinate the technical, administrative and financial activities of the Commission in order to achieve greater efficiency, effectiveness and economy;
- VII. To enter into such legal acts of ownership and administration as may be necessary for the operation of the Commission;
- VIII. To negotiate and obtain, in accordance with applicable legislation and with the prior authorization of the Board of Directors, financing for works, services and repayment of liabilities, as well as to subscribe loans or credit instruments, contracts or obligations with public and private institutions;
- IX. Authorizing the corresponding budget expenditures and submitting them to the



- approval of the Governing Board for extraordinary expenditures;
- X.** Make payment to the Federation of the rights for the use or exploitation of water and inherent national assets, in accordance with the applicable legislation;
 - XI.** Execute the resolutions of the Governing Board;
 - XII.** To call meetings of the Governing Board, on its own initiative or at the request of two or more members of the Board or of the Commissioner;
 - XIII.** Submit the annual report on the Commission's activities, as well as reports on compliance with the resolutions of its Governing Board; results of the financial statements; progress in the goals established in the Strategic Development Project, in the operating programs authorized by the Governing Board; compliance with the works programs and expenditures thereon; annual presentation of the work program and the draft income and expense budgets for the following period;
 - XIV.** Establish coordination relations with federal, state and municipal authorities, centralized or parastatal public administration, and persons from the social and private sectors, for the processing and attention of matters of common interest;
 - XV.** To order inspection and verification visits to be carried out in accordance with the provisions of Section IV of Chapter IV of Title III of this Law;
 - XVI.** To order examinations, analyses and sampling to determine the quality of water for human use and consumption, in accordance with Mexican Official Standards; to keep statistics of their results and consequently take the appropriate measures to optimize the quality of water distributed to the population, as well as that which, once used, is discharged into watercourses or vessels, in accordance with applicable legislation. The information generated as a result of the exercise of this attribution will be considered relevant, which is why it will constitute a specific obligation of transparency for the Commission and therefore must be published on its website, which will necessarily include the annual schedule of sampling to be carried out and the results of each of the samples taken, adding to the results obtained the publication and the type of sample taken. All this information must be kept in a digital file and its values will be updated within 15 days after the samples have been taken.
 - XVII.** To carry out the activities required to ensure that the Agency provides adequate and efficient services to the community;
 - XVIII.** To act as Secretary of the Board of Directors with voice and vote;
 - XIX.** Submit for approval of the Governing Board the draft organic statute of the Commission and its modifications; and
 - XX.** Any other duties assigned to it by the Governing Board, this Law and the Organic Statute.



The Public Commissioner shall be appointed by the Administrative Development and Governmental Control Unit of the State Government and shall have the respective powers, under the terms of the Organic Law of the State Public Administration, and shall participate in the meetings of the Governing Board with voice, but without vote.

Article 14.- The Commission shall have an Advisory Council that shall be integrated at the state level as an advisory and support body that shall be made up of representatives of the social and private sectors, representatives of each of the Higher Level Institutions that have specialists of recognized national prestige in the field of water or topics closely related to it, and a representative of each of the Non-Governmental Organizations existing in the entity concerned and committed to address the problem of water use and its conservation.

- I. The members of the Advisory Council must belong to solid and accredited Institutions or Organizations whose interest in the subject of water use and development is validated by their social or private representativeness, their academic capacity and/or the value of their contributions.

Officials or employees of the State Water Commission or of the operating agencies or public servants may not be members of the Advisory Council.

- II. In order to duly accredit the members of the Advisory Council, the following requirements must be met:

Social and Private Sector Representatives: Articles of Incorporation of the organization they represent;

Non-Governmental Organizations: Articles of Incorporation of their organization, and Institutions of Higher Education: Curriculum Vitae, publications or other elements that endorse their knowledge in the field of water.

All must present a letter of accreditation from the institution or organization they represent.

When there are institutions and organizations that may join the Advisory Council that do not meet the above requirements, they may join without voice or vote at the discretion of the Director. In their functions, the provisions of the bylaws shall be applied as appropriate.

Title Three

Public Water, Sewerage and Sanitation Services Chapter I General Provisions

Article 15.- The Municipalities, with the assistance of the State when necessary, shall be in charge of public services in all human settlements within their territorial jurisdiction, which may be rendered directly by the corresponding municipal agency or by the service providers, under the terms of the provisions of this Law.



Article 16.- Public services shall be rendered under conditions that ensure their continuity, regularity, quality and coverage, so as to satisfy the needs of the users and protect the environment.

Municipalities or service providers will be responsible for the treatment of wastewater generated by the systems in their charge, prior to its discharge to receiving bodies of national property, according to the particular discharge conditions determined by the National Water Commission, in accordance with the provisions of the National Water Law and its Regulations, and the Mexican Official Standards.

Article 17.- The Municipalities, service providers or contractors shall adopt the necessary measures to achieve financial autonomy in the rendering of public services and shall establish control mechanisms so that they are carried out with technical and administrative efficiency.

For such purpose, they shall be obliged to design and periodically review a Strategic Development Project, pursuant to the terms of Article 3, Section XVIII of this Law.

The Strategic Development Project must be prepared, approved and published within a period of four months from the date of the inauguration of the respective City Councils and its term shall not exceed the period corresponding to them, although it may contain considerations and projections for a longer term. Once approved and published in the Official Gazette of the State Government, it must also be published on the Commission's website, as well as the periodic updates of the project.

Article 18.- The Executive of the State, through the Commission, shall coordinate with the Municipalities and shall promote their coordination among themselves for the most efficient rendering of public services in all human settlements of the State.

The state authorities may coordinate with the competent federal authorities in order to take into consideration, in the area of public services, the guidelines issued by the National Democratic Planning System.

The state and municipal authorities may request technical assistance from the Federal Government in the projects of drinking water, sewerage, sanitation and wastewater treatment works that they intend to execute, in order to ensure the compatibility of the sites for delivery and reception of bulk water, the efficiency of the operation of the works and the best use of water, as well as for the exercise of the powers that correspond to them in terms of Federal, State and Municipal Laws.

Chapter II

On the rendering of public services by the Municipalities

Article 19.- When public services are rendered directly by the Municipalities, the latter shall be in charge of them:



- I. Plan and program the provision of the public services referred to in this Law, preparing and periodically updating a Strategic Development Project in accordance with the provisions of Article 17;
- II. To carry out by itself or by third parties the works required for the provision of public services in its jurisdiction and to receive those to be built in the same for the provision of such services;
- III. To carry out the necessary acts for the rendering of public services in all human settlements under its jurisdiction, in compliance with the National Waters Law and its Regulations, this Law, the General Law of Ecological Balance and Environmental Protection, and the Mexican Official Standards issued in relation thereto;
- IV. To enter into the contracts and agreements necessary for the fulfillment of its functions, under the terms of the applicable legislation;
- V. To take the necessary steps to obtain the financing required for the most complete provision of public services, in accordance with the terms of the applicable legislation;
- VI. To grant permits for wastewater discharges to drainage or sewage systems under the terms of the General Law of Ecological Balance and Environmental Protection, the Mexican Official Standards and this Law and its Regulations;
- VII. Establish and manage reserve funds for the rehabilitation, expansion and improvement of the systems under its responsibility, for the replacement of its fixed assets and for debt service;
- VIII. Timely payment of federal contributions, rights, benefits and products related to water and inherent national assets, as established in the applicable tax legislation;
- IX. To prepare the annual programs and budgets of revenues and expenditures derived from the provision of public services;
- X. Determine and update the fees and rates, based on the formula referred to in Section III, Chapter IV of Title III of this Law;
- XI. Order and execute the suspension of public services under the terms of Article 119 of this Law;
- XII. Formulate and keep updated the user registry of the public services for which it is responsible;
- XIII. Promote the participation of the social and private sectors in the provision of public services, with special interest in rural communities;
- XIV. Promote programs for drinking water supply, rational and efficient use of water, and household disinfection;



- XV.** To ensure the professional selection of management personnel, taking into consideration proven professional experience in the field, and to develop training programs for its personnel;
- XVI.** Request to the competent authorities the expropriation, temporary occupation, total or partial, of property or the limitation of the rights of ownership, under the terms of the Law;
- XVII.** To conduct inspection and verification visits in accordance with the provisions of Section Four of Chapter IV of this Title;
- XVIII.** To apply the penalties set forth in Article 140, for infractions committed;
- XIX.** Resolve appeals and other means of challenge filed against its acts or resolutions;
- XX.** Guarantee that the water supplied for human use and consumption is of high quality, for which purpose, in coordination with the competent authorities, they must perform the corresponding examinations, analyses and sampling, in accordance with the Official Mexican Standards; keep statistics of their results and consequently take the appropriate measures to optimize the quality of the water distributed to the population, as well as that which once used is discharged into the watercourses or vessels, in accordance with the applicable legislation. The information generated as a result of the exercise of this attribution will be considered relevant, which is why it will constitute a specific obligation of transparency for the municipalities and therefore must be published on their websites, The same shall necessarily include the annual sampling calendar to be carried out and the results of each of the samples taken, adding to the results obtained the information related to the publication and the type of sample taken. All this information shall be kept in a digital file and its values shall be updated within 15 days after the samples have been taken.
- XXI.** Any other powers granted to them by this or other legal provisions.

Article 20.- In those cases in which the Municipality directly provides public services, it must have accounting records that identify, independently, the income and expenses derived from the actions and object regulated by this Law and its Regulations, in accordance with the generally accepted accounting standards and practices for water companies.

Likewise, the Municipalities will generate the mechanisms to ensure that the income obtained from the rendering of public services established in this Law will be used to improve the efficiency of the administration and operation of the systems, to expand the hydraulic infrastructure and to comply with the obligations acquired in contracts or agreements entered into with the participation of the social and private sectors.

Article 21.- Municipalities may provide public services in a decentralized manner, through municipal operating agencies, or agree with other municipalities the creation of intermunicipal operating agencies, under the terms of this Law.



Article 22.- The City Councils, prior agreement of the City Council and with the approval of two thirds of the members of the State Congress, may grant total or partial concessions for the rendering of public services, or contract the performance of the activities referred to in Sections II to IV of Article 51, in accordance with the provisions of this Law.

Article 23.- In the event that the Municipalities are unable to render the public services, they may agree with the State Executive to render them through the Commission.

Chapter III Service providers

Section One Municipal Operating Organizations

Article 24.- The Commission shall promote the creation of Municipal Operating Organizations, particularly in those Municipalities in which the population of the main locality is greater than 5,000 inhabitants, for the rendering of public services and the construction, operation and maintenance of the corresponding hydraulic infrastructure, in accordance with the provisions of this Section.

Article 25.- The Municipal Operating Agencies shall be created, with the prior agreement of the corresponding Municipality and in accordance with the applicable legislation, as decentralized agencies of the municipal public administration, which shall be called Municipal Operating Agency, with its own legal personality and assets or in accordance with the provisions of Articles 38 and 39 of this Law, and shall have its domicile in the municipal seat.

In the agreement for the creation of the aforementioned decentralized agencies, the geographic area where they will provide public services must be established.

Article 26.- The Municipal Operating Organizations may not contract loans directly with Banking Institutions.

Article 27.- The Municipal Operator Agency shall be in charge of:

- I. The powers referred to in Article 19 of this Law, with the exception of sections X, XVIII and XIX;
- II. Determine the fees and rates in accordance with the provisions of Title Three, Chapter IV, Section Three of this Law;
- III. Submit an annual report to the city councils on the work of the agency during the previous fiscal year, as well as on the general state of the agency and on its management accounts; said report must be submitted within 60 days following the end of the previous fiscal year;
- IV. Establish the necessary offices within its jurisdiction;



- V. To prepare and keep updated the inventory of assets and resources that make up its patrimony;
- VI. To prepare the financial statements of the organization;
- VII. To use all revenues collected, obtained or received exclusively for public services, allocating them as a priority to improve the efficiency of the administration and operation of the agency and subsequently to expand the water infrastructure, since in no case may they be used for other purposes;
- VIII. To carry out all actions required, directly or indirectly, for the fulfillment of its objectives; and
- IX. Any other provisions set forth in this Law and other applicable legal ordinances.

Article 28.- The assets of the Municipal Operating Agency shall consist of:

- I. The assets that form an initial part of its net worth;
- II. Federal, state and municipal contributions, if any;
- III. Revenues from the provision of public services and reuse of treated wastewater, or any other service provided by the agency to the user;
- IV. The credits obtained for the fulfillment of its purposes;
- V. Donations, inheritances, legacies and other contributions from individuals, as well as subsidies and awards in favor of the organization;
- VI. The remainders, fruits, profits, income, products, interest and sales obtained from its own assets; and
- VII. Other assets and rights that form part of its assets by any legal title.

The assets of the Commission, directly affected to the provision of drinking water, water desalination, sewage and sanitation services, will be considered assets of the public domain of the State, and therefore will be unseizable and imprescriptible.

Article 29.- The Municipal Operating Organizations shall have:

- I. A Board of Governors;
- II. A General Manager;
- III. A Commissioner; and
- IV. The technical and administrative personnel required for its operation.

For each Operating Agency, an Advisory Council shall be created for the purpose set forth in Article 35.



Article 30.- The Board of Directors shall be composed of:

- I. The Municipal President, who shall preside;
- II. One alderman;
- III. A representative of the Commission;
- IV. Four representatives of the agency's Advisory Council, one of whom shall be the Chairman of said Council and the others shall be appointed in accordance with the terms of the agency's bylaws, one representing domestic users, another representing commercial and service users, and the last representing industrial users; and
- V. A member of the State Congress, with voice only, who shall be a member of the Permanent Water Commission, whose absence may be substituted by the Deputy or Deputies determined by mutual agreement of the aforementioned Commission.

The General Director of the organization shall act as Secretary of the Board of Directors, and shall attend its meetings with voice and vote.

An alternate shall be appointed for each proprietary representative. Representatives of federal, state or municipal agencies, as well as representatives of the users who are part of the Advisory Council, may be invited to be part of the Board, with voice, but without vote.

The Board of Directors, for the fulfillment of the objectives of the organization, shall have the broadest powers of dominion, administration and representation that require a power of attorney or special clause in accordance with the Law, as well as the following attributions:

- I. To establish, within the scope of its competence, the guidelines and policies on the matter, as well as to determine the applicable standards and criteria, in accordance with which public services must be rendered and the works required for that purpose must be carried out;
- II. Approve the agency's Strategic Development Project submitted by the Director General and supervise that it is periodically updated;
- III. Determine and approve the fees and rates in accordance with the provisions of Title Three, Chapter IV, Section Three of this Law;
- IV. To decide on matters regarding drinking water services, water desalination, sewerage, sanitation, water quality and reuse of treated wastewater submitted for its consideration by the Director General;
- V. To grant general power of attorney for acts of administration and domain, as well as for lawsuits and collections, with all general or special powers that require power of attorney or special clause in accordance with the Law, as well as to revoke and replace them; in addition, if necessary, to carry out the procedures for the divestment of public property to be disposed of, through the tax recovery and enforcement department, which reports to the general directorate;



- VI. To administer the assets of the organization and ensure their proper management;
- VII. To know and, if applicable, authorize the annual income and expenditure program and budget of the organization, in accordance with the proposal formulated by the General Director;
- VIII. To authorize the contracting, in accordance with applicable legislation, of the appropriations necessary for the provision of public services and the execution of works;
- IX. Approve the agency's investment projects;
- X. Examine and approve the financial statements and the reports to be submitted by the General Director, prior knowledge of the Commissioner's report, and order their publication in the Official Gazette of the Government of the State of Baja California Sur and in the local newspaper with the largest circulation;
- XI. To agree on the extension of services to other Municipalities, prior execution of the respective agreements by the Municipalities in question, under the terms of this Law, so that the Operating Agency becomes Intermunicipal;
- XII. Approve and issue the organic statute of the organization and its modifications, as well as the organization manuals. Of procedures and services to the public;
- XIII. Propose to the Board of Directors for its approval the appointment and removal of the General Director of the Operating Agency; and
- XIV. Any other duties assigned to it by this Law and other applicable legal provisions.

The Board of Directors shall operate validly with the concurrence of the majority of its members, among which shall be its Chairman and the representative of the Commission. Agreements and resolutions shall be adopted by majority vote of those in attendance and the Chairman shall have the casting vote.

The Board shall meet at least once every three months and as often as called by its Chairman, by the Director General or by the Commissioner of the organization, on his own initiative or at the request of two or more members of the Board.

Article 33.- The General Director of the Municipal Operating Agency shall submit annually to the respective Council a general report, previously approved by the Board of Directors, on the work performed during the fiscal year, and shall make it public in accordance with the provisions of Section X of Article 31 of this Law.

The Report referred to in the preceding paragraph shall explicitly state the degree of compliance with the goals established in the Strategic Development Project and the clarifications it deems appropriate in this regard.

Article 34.- The Advisory Council shall be integrated and shall meet with the number of members and in the manner indicated in the organic statute of the organism, and in any case, the organizations of the social and private sectors shall be represented.



The Operating Agency shall provide the necessary elements for the Advisory Council to be formed and shall ensure that it meets in the manner and under the terms indicated in the aforementioned organic statute.

Officials and/or employees of the Operating Agency or public servants may not be members of the Advisory Council.

The members of the Advisory Council shall appoint by majority vote from among their number a Chairman and three representatives, who shall represent the Advisory Council on the Governing Board of the Municipal Water Utility. Likewise, a Vice-Chairman will be appointed to replace the Chairman in his absence.

The President, the Vice President and the representatives referred to in the preceding paragraph shall hold office for two years, without the possibility of immediate reelection.

Article 35.- The purpose of the Advisory Council shall be:

- I. Involve users in the management of the Operator, making observations and recommendations for its efficient, effective and economical operation;
- II. To give an opinion on the results of the Operating Agency;
- III. Propose financial or credit mechanisms;
- IV. Contribute to improve the financial situation of the operating agency;
- V. Promote among users the culture, efficient and rational use of water and compliance with their obligations; and
- VI. Any other duties specified in the organic statute of the Agency.

Article 36.- The General Director of the Operating Agency shall be a Mexican citizen with proven professional technical and administrative experience in water matters, and shall have the following powers:

- I. To have the legal representation of the Agency, with all the general and special powers that require power of attorney or special clause in accordance with the Law; as well as to grant powers of attorney, formulate complaints and accusations, grant pardon extinguishing the criminal action, prepare and absolve positions. As well as to promote and desist from the amparo trial;
- II. To order the preparation of the Strategic Development Project of the organization and update it periodically, submitting it to the Governing Board for approval;
- III. Oversee the execution of the Strategic Development Project approved by the Board of Governors;
- IV. To publish the fees and rates determined by the Board of Governors in the Official Gazette of the Government of the State of Baja California Sur and in the newspaper with the largest circulation in the locality;



- V.** Coordinate the technical, administrative and financial activities of the organization to achieve greater efficiency, effectiveness and economy;
- VI.** To enter into such legal acts of ownership and administration as may be necessary for the operation of the Agency;
- VII.** To negotiate and obtain, in accordance with applicable legislation and with the prior authorization of the Board of Directors, financing for works, services and repayment of liabilities, as well as to subscribe loans or credit instruments, contracts or obligations with public and private institutions;
- VIII.** Authorize the corresponding budget expenditures and submit extraordinary expenditures to the Governing Board for approval;
- IX.** To make the payment of fees for the use or exploitation of water and inherent national assets, in accordance with applicable legislation;
- X.** Execute the resolutions of the Governing Board;
- XI.** To call meetings of the Governing Board, on its own initiative or at the request of two or more members of the Board or of the Commissioner;
- XII.** Submit to the Municipality the annual report on the Agency's activities, as well as reports on compliance with the agreements of its Governing Board; results of the financial statements, progress in the goals established in the Strategic Development Project, in the operating programs authorized by the Governing Board itself; compliance with the works programs and expenditures thereon; annual presentation of the work program and the draft income and expense budgets for the following period;
- XIII.** Establish coordination relations with federal, state and municipal authorities, centralized or parastatal public administration, and persons from the social and private sectors, for the processing and attention of matters of common interest;
- XIV.** To order the inspection and verification visits to be carried out, in accordance with the provisions of Article 123 of this Law;
- XV.** Order examinations, analyses and sampling to determine the quality of water for human use and consumption, in accordance with Mexican Official Standards; keep statistics of their results and consequently take the appropriate measures to optimize the quality of water distributed to the population, as well as that which, once used, is discharged into watercourses or vessels, in accordance with applicable legislation. The information generated as a result of the exercise of this attribution will be considered relevant, which is why it will constitute a specific obligation of transparency for the operating agencies and therefore must be published on their websites, which will necessarily include the annual schedule of samples to be taken and the results of each of the samples taken, adding to the results obtained the information related to the publication and the type of sample taken. All this



information shall be kept in digital file and its values shall be updated within 15 days after the samples have been taken.

- XVI.** To carry out the activities required to ensure that the Agency provides adequate and efficient services to the community;
- XVII.** To act as Secretary of the Board of Directors with voice and vote, for which purpose he/she shall be summoned to all meetings;
- XVIII.** Appoint and remove the personnel of the Agency, reporting to the Governing Board at its next session;
- XIX.** To submit for the approval of the Governing Board the Agency's organic statute and its modifications;
- XX.** To submit to the Advisory Council, for its opinion, a report on the annual results of the Agency; and
- XXI.** Any other duties assigned to it by the Governing Board, this Law and the Organic Statute.

Article 37.- The respective Municipality shall appoint a Commissioner who shall have the following powers:

- I.** Oversee the administration of resources in accordance with the provisions of the Law, approved programs and budgets;
- II.** To audit the financial statements and those of a technical or administrative nature at the end of the fiscal year or earlier, if it deems it convenient;
- III.** Submit an annual report at a regular meeting of the Board of Directors regarding the accuracy and sufficiency of the information submitted by the Chief Executive Officer;
- IV.** To cause to be inserted in the agenda of the sessions of the Governing Board the items it deems pertinent;
- V.** To call ordinary and extraordinary sessions in the event of omission of the President or the Director General, and in any other case in which it deems it convenient;
- VI.** To attend with voice, but without vote, all meetings of the Board of Directors, to which he/she shall be summoned;
- VII.** Verify compliance with the corresponding tax obligations for the use or exploitation of water and inherent national assets; and
- VIII.** To have unlimited oversight at any time of the operations of the Operating Agency.

The Commissioner, for the due fulfillment of his duties, may be assisted by the technical and administrative personnel he may require, at the Agency's expense, with the approval of the Board of Directors.



H. Congress of the State of Baja California Sur
General Counsel
Parliamentary Support Department

Article 38.- The Municipal Operating Entities may be constituted as



In such case, the capital stock must be subscribed in its entirety by the Municipality or by entities of the Municipal Public Administration and the Municipality must grant the respective concession by direct award, for which purpose it must comply, as applicable, with the provisions of Articles 54 and 55 of this Law, as well as with the applicable local legislation.

Article 39.- The incorporation, organization and operation of corporations with total or majority public capital shall be governed by the mercantile legislation and the Organic Municipal Law. Likewise, the provisions of Articles 27 and 28, penultimate and last paragraphs, and 29 to 37 of this Law shall apply to them.

Article 40.- In the event that the Municipal Operating Organizations are constituted as corporations referred to in the preceding Article, the Municipality may agree to the total or partial sale of the shares representing its capital stock, after a public bidding in accordance with the provisions of Article 53 of this Law.

When the social or private sectors hold more than 50% of the shares representing the capital stock, the provisions of this Section shall no longer apply to the company in question and the provisions of the concessions shall apply to them.

Article 41.- The Municipal Operating Organizations may, if so agreed by their respective Municipalities, become Intermunicipal Operating Organizations under the terms of Section Two of this Chapter.

Article 42.- In the event that the rendering of public services in a Municipality and the respective hydraulic construction is fully concessioned, the Municipal Operator Agency shall be extinguished. In the event that it is partially concessioned or its provision is contracted with a third party or its performance in the name and on behalf of the Municipal Operator Agency, the latter shall resize its structure and operation to the new needs, so that the provision of public services is adequately performed in accordance with the applicable legal provisions.

Section Two Intermunicipal Operating Organizations

Article 43.- The Commission, when it deems it necessary, shall promote the creation of Intermunicipal Operating Organizations, in accordance with the provisions of this Section, for the more efficient rendering of public services between neighboring Municipalities.

Article 44.- Intermunicipal Operating Organizations shall be created by agreement between the respective Municipalities, without requiring the approval of the State Congress, and the functions of the Intermunicipal Operating Organization may be assumed by an existing Operating Organization in any of the Municipalities or by a newly created one.

Article 45.- The Intermunicipal Operating Organizations may be created as public bodies with their own legal personality and assets, and the legislation relating to decentralized public bodies shall be applicable.



The Intermunicipal Operating Organizations may also be incorporated as corporations under the regime of municipal participation companies, in which case the capital stock must be subscribed in its entirety by the corresponding Municipalities or entities of the corresponding Municipal Public Administrations. The Municipalities must grant the respective concession by direct award, for which purpose they must comply, as appropriate, with the provisions of Articles 54 and 55 of this Law, as well as with the applicable local legislation. If the Intermunicipal Operating Organizations are constituted pursuant to this paragraph, Articles 39 and 40 of this Law shall be applicable.

Article 46.- The Intermunicipal Operating Agency shall be subrogated to the responsibilities and assume the rights and obligations of the operating agencies that are extinguished.

Article 47.- The agreement referred to in Article 44 of the present Law shall be considered of public law and shall be subject to the following bases:

- I. Its celebration must be authorized by the Municipalities in the corresponding town council meeting;
- II. Its purpose shall be as set forth in Article 43 of this Law;
- III. It should establish the co-responsibility of the Municipalities with respect to the payment of their fiscal debts regarding national water rights and inherent public goods;
- IV. Its term shall be indefinite and may only be rescinded or terminated by acts of God or force majeure;
- V. It shall establish the geographic area where the Agency shall provide public services;
- VI. If applicable, the mechanisms pursuant to which the Municipal Operating Organizations that provided public services in the geographic area referred to in the preceding section shall be extinguished shall be provided for;
- VII. It shall be constituted by such declarations and clauses as may be deemed convenient and shall specify all the elements indicated in this Section; and
- VIII. It will be perfected and will produce all its effects once published in the Official Gazette of the Government of the State of Baja California Sur;

Article 48.- The Intermunicipal Operating Agency shall have the objectives, powers, structure, administration and operating rules referred to in the preceding Section, with the modalities indicated in this Section, in relation to its new scope of municipal jurisdiction and shall provide public services to the Municipalities it comprises, in accordance with the rules and conditions set forth in the agreement entered into by the respective Municipalities, under the terms of this Law.

Article 49.- The Governing Board of the Intermunicipal Operator Agency shall be composed of:



- I. The municipal presidents of the municipalities that have entered into the agreement;
- II. A representative of the Commission, and
- III. A number of representatives of the Agency's Advisory Council equal to the number of members resulting from the previous fractions.

The President of the Governing Board will be the municipal president chosen by mutual agreement of the municipal presidents of the Municipalities that have entered into the agreement, under the terms and for the period provided therein. In the absence of agreement, the representative of the Commission shall act as Chairman.

Decisions of the Governing Board shall be made by majority vote. When more than two municipal presidents participate in the Governing Board, the majority vote of the latter shall be counted as two votes. A tie vote shall be counted as one vote in favor and one vote against. The rest of the members of the Board shall have one vote each. In the event of a tie, the Chairman of the Governing Board shall have the casting vote.

The Director General shall be appointed by the Board of Governors. The Commissioner shall be appointed by the State Executive.

Article 50.- The Advisory Council shall be formed and shall meet with the number of members and in the manner indicated in the organic statute of the Agency, and in any case, the organizations of the social and private sectors, and of the users of public services within the jurisdiction of the Intermunicipal Agency shall be represented.

Section Three Participation of the social and private sectors

Article 51.- The social and private sectors may participate in:

- I. The provision of public services;
- II. The execution of hydraulic infrastructure works and projects related to public utilities, including financing, if applicable;
- III. The administration, operation and total or partial maintenance of the systems for the rendering of public services; and
- IV. Other activities agreed upon with the Municipalities, Municipal or Intermunicipal Operating Organizations or the Commission, including the execution of long-term service contracts.

Article 52.- For the rendering of the public services referred to in Section I of the preceding Article, a concession shall be required, pursuant to the provisions of this Section and Article 22 of this Law, which may only be granted to legal entities.



H. Congress of the State of Baja California Sur
General Counsel
Parliamentary Support Department

WATER LAW
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For the granting of the concessions referred to in the preceding paragraph, the Municipality shall



shall carry out the necessary studies to determine the technical and financial feasibility of such concessions.

Article 53 .- The concessions mentioned in the preceding Article shall be granted by the Municipality, or by two or more Municipalities under the terms of Article 69, after public bidding carried out by the Municipality itself, with the participation of the Commission, to the winner thereof, in accordance with the following:

- I. The Municipality will issue the corresponding public call so that, within a reasonable period of time, proposals may be submitted in sealed envelopes that will be opened on a pre-established day and in the presence of all participants;
- II. The call will be published simultaneously in the Official Gazette of the Government of the State of Baja California Sur, in a newspaper of national circulation and in the newspaper with the largest circulation in the locality;
- III. The bidding conditions, in the preparation of which the Commission will participate, will include an indication of the geographic area where the public services are to be provided and the criteria for selecting the winner, which will take into account the considerations offered for the granting of the concession, the quality of the proposed service, the investments committed, if any, the physical and commercial performance goals, and any other conditions deemed convenient;
- IV. One or more interested parties may participate if they can demonstrate their economic solvency, as well as their technical, administrative and financial capacity, and comply with the requirements established in the terms and conditions issued by the Municipality;
- V. Proposals will only be received from companies that prequalify under the technical and financial criteria established in the bidding conditions;
- VI. After the opening of the bids and during the period in which the same are studied and approved, all interested parties will be informed of the bids that are rejected and the reasons for such rejection;
- VII. The Municipality, with the participation of the Commission, based on the comparative analysis of the admitted proposals, will issue a duly founded and reasoned decision, which will be made known to all participants;
- VIII. The winning proposal will be available to participants for ten working days after the decision is announced;
- IX. Within fifteen business days following the term indicated in the preceding paragraph, the participants may file a protest before the Municipality. Upon expiration of such term, the Municipality will issue a decision within a term not to exceed fifteen business days;
- X. Once the resolution has been issued, the Municipality, if applicable, will award the concession and publish the concession title in the Official Gazette of the Government of the State of Baja California Sur at the concessionaire's expense; and



- XI.** The concession will not be awarded when the proposal or proposals submitted do not comply with the bidding conditions or when the Municipality, in the case of section IX above, decides in favor of the non-conforming party. In these cases, the bidding will be declared void and a new call for bids will be issued.

The proposals referred to in Section I of this Article must contain the general technical description and schedule of the actions and works planned; estimates of the associated benefits, costs, present value and profitability; the proposed considerations and other requirements set forth in the bidding conditions.

In the event that there is an Operating Agency, it will issue its opinion regarding the procedures it deems necessary to adopt for the transfer of assets intended for the provision of public services.

In the case of rural communities, it shall not be necessary to carry out the bidding procedure indicated in this Article. In this case, the concession may be granted directly by the Municipality to the organizations constituted for such purpose in the communities and which so request.

Article 54.- The concession title, in the preparation of which the Commission shall participate, shall contain, among others:

- I. The legal basis and its purpose;
- II. Description of the granting authority and the concessionaire;
- III. The rights and obligations of the concessionaires;
- IV. The amount of the guarantee granted by the concessionaire;
- V. The considerations to be paid to the Municipality;
- VI. The obligations of the Municipality;
- VII. The guarantees granted by the Municipality to the concessionaire;
- VIII. Compensation granted by the Municipality to the concessionaire in the event of revocation of the concession for causes not attributable to the concessionaire;
- IX. The period of validity;
- X. The description of the assets, works and facilities under concession, as well as the commitments for their maintenance, productivity and use;
- XI. The rules and characteristics of the provision of public services;.
- XII. The designation of the geographic area where the concessionaire must provide the public services;



- XIII.** Technical, physical and commercial coverage and efficiency goals;
- XIV.** The construction, expansion and modernization programs of the systems, which shall comply with the applicable provisions on ecological balance and environmental protection;
- XV.** The formulas for calculating the fees and rates referred to in Title Three, Chapter IV, Section Three of this Law;
- XVI.** Explicit recognition of the Commission as arbitrator in the event of disputes between the parties and as the authority in the exercise of the powers conferred upon it by this Law and its Regulations, the concession title or any other ordinance; and
- XVII.** The causes for revocation referred to in Article 61 of these bylaws.

Article 55.- Concessions shall be granted for the time necessary to recover the investments and obtain the reasonable profit to be received by the concessionaire, and may not be less than five years or more than thirty.

The concessions referred to in the preceding paragraph may be extended for a period equal to that initially established, provided that the concessionaire requests it within a term prior to the last five years of the concession term; the decision to grant such extension corresponds to the Municipality, with the advice of the Commission.

Article 56.- The concessionaires shall be obliged to comply with the provisions of this Law, its Regulations and the conditions set forth in the concession titles.

Concessionaires must provide public services in accordance with the rules issued by the Municipality and in compliance with the legislation on ecological balance and environmental protection, and the Mexican Official Standards issued in connection therewith.

Article 57.- The concessionaires shall grant authorizations for the discharge of wastewater into the drainage or sewage systems, under the terms of the legislation on ecological balance and environmental protection, this Law and its Regulations.

Article 58.- Upon termination of the concession, the works and other assets of the concessionaire intended directly or indirectly for the rendering of public services shall revert to the Municipal or Intermunicipal Operating Agency that replaces the concessionaire or, as the case may be, to the Municipality, at no cost.

The concessionaires will be obliged to train the personnel of the service providers that replace them in the administration, operation, conservation and maintenance of the public services, works and assets under concession.

Article 59.- The Municipality may authorize, prior favorable opinion of the Governing Board of the Commission, within a term of sixty working days, counted from the filing of the request, the total or partial assignment of the rights and obligations of the concessions, provided that the assignee complies with the requirements that this Law demands to be a concessionaire, undertakes to comply with the obligations that are pending and assumes the conditions established by the Municipality for such purpose.



Article 60.- Concessions shall be terminated by:

- I. Expiration of the term established in the title;
- II. Renunciation of the holder, in which case the guarantees indicated in the concession title will be made effective;
- III. Revocation;
- IV. Not exercising the rights conferred in the concessions for a period of more than six months;
- V. Rescue in case of public utility or interest, prior indemnification; and
- VI. Dissolution, liquidation or bankruptcy of the concessionaire.

The termination of the concession does not extinguish the obligations contracted by the holder during its term.

Article 61. - Concessions may be revoked by the Municipality, if the concessionaire:

- I. Failure to comply with the purpose, obligations or conditions of the concessions in the terms and terms established therein;
- II. Assign or transfer concessions or the rights conferred therein, without the prior authorization of the Municipality;
- III. Interrupts the provision of public services, in whole or in part, without just cause;
- IV. Recidivism in the application of fees and rates higher than those resulting from the application of the formulas referred to in Section Three, Chapter IV of Title Three of this Law;
- V. It does not cover indemnities for damages arising from the object of the concession;
- VI. Failure to properly conserve and maintain the assets that may have been granted;
- VII. Substantially modifies or alters the nature or conditions of public works or services without authorization from the Municipality;
- VIII. It does not cover the grantor for any consideration that may have been established;
- IX. Does not grant or does not maintain in force the guarantee of compliance with the concessions;
- X. Repeatedly fails to comply with the obligations set forth in the concession title regarding ecological protection and water pollution prevention; or



XI. Repeatedly fails to comply with any of the obligations or conditions established in this Law, its Regulations or the concession title.

In the cases of sections III to XI, the concession may only be revoked when the concessionaire has been previously sanctioned at least twice for the causes set forth in the same section.

Article 62.- The revocation of the concession shall be declared administratively by the Municipality, prior favorable opinion of the Governing Board of the Commission, in accordance with the following procedure:

- I. The Municipality will notify the holder of the initiation of the proceeding and the causes that motivate it, and will grant him/her a term of thirty working days, counted from the day following the day on which the notification is made, to indicate what is in his/her best interest and to present the necessary evidence;
- II. Once the evidence or elements of defense have been presented, or once the term has elapsed without them having been presented, the Municipality shall issue an opinion within thirty working days, which shall be forwarded to the Commission's Board of Directors for its opinion;
- III. The Governing Board of the Commission shall send the corresponding opinion to the Municipality within a term not to exceed thirty working days from the date of receipt of the opinion referred to in the preceding section; and
- IV. The Municipality shall issue the corresponding resolution within a term not to exceed fifteen working days, counted from the receipt of the opinion of the Governing Board of the Commission.

Article 63.- The Municipality may authorize the concessionaire to grant the concession rights referred to in this Section as a guarantee, and in this case shall specify the respective terms and modalities.

The guarantees referred to in the preceding paragraph shall be granted for a term that in no case shall include the last tenth of the total time for which the concession has been granted.

Article 64.- The execution of a guarantee does not mean the automatic assignment of the concession rights, unless authorized by the Municipality.

Article 65.- In the event that the rendering of public services is concessioned, an Advisory Board shall be formed, which shall participate with voice, but without vote, through two representatives, in the meetings of the Board of Directors of the concessionaire related to the purpose of the Advisory Board referred to in Article 35 of this Law.

Article 66.- In matters of concessions, the legislation on permits, licenses and concessions for the rendering of public services and the exploitation and use of property owned by the State and the Municipalities shall be applied supplementary to this Law.



The activities referred to in Sections II to IV of Article 51 of this Ordinance may be carried out by means of the following contracts entered into with the Municipality, the Operating Agency or the Commission:

- I. Integral services rendering contract without commercial risk, to be entered into for the performance of studies, projects, construction, operation, maintenance and administration of the systems for the rendering of public services, in which a previously defined payment to the contractor for the services rendered will be established;
- II. Comprehensive service contract with commercial risk, to be entered into for the construction, operation, maintenance and administration of the systems required for the provision of public utilities and the financing of working capital;
- III. Contracts for the construction, possession, operation and transfer, which will be entered into for the financing, construction, possession and operation of a new work or specific system for the rendering of public services, reverting the ownership of the work at the end of the contract to the contractor.
- IV. Other contracts or agreements necessary to capitalize, improve, expand and make public services more efficient.

In those cases in which a comprehensive contract for the provision of public services has been awarded, and the contractor has complied with the conditions stipulated therein, the contractor may be assigned the concession for the provision of such services without the need for a new bidding process, provided that this has been stipulated in the bidding process corresponding to the awarding of such contract. In these cases, the criteria that would have been considered in the case of a concession will be taken into account for the establishment of the requirements in the bidding for the contract.

The contracts and agreements referred to in this Article are considered public law. Failure to comply with their clauses will cause their termination, after hearing the affected party, regardless of the conventional penalties and the agreed form of recovery of the investment made. The termination, by the Municipality, the Municipal or Intermunicipal Operating Organizations, or the Commission, of the contracts referred to in Sections I and III of Article 67 hereof and those cases in which the quality and continuity of the public services depend on the contracting party, will require the prior favorable opinion of the Governing Board of the Commission.

Articles 53, 56, 58, second paragraph, 59, 60 sections I, II, III, IV and VI, 61 and 62 of this Law shall apply to contracts.

Two or more Municipalities may enter into agreements for the granting of the concessions and contracts referred to in this Section, to the effect that the public services may be rendered by a concessionaire or contractor in the Municipalities in question. The procedure for the granting of concessions and contracts shall be governed, as applicable, by the provisions of this Section.



Article 70.- Private individuals may treat their wastewater, prior to its discharge into the sewage system, without the need to obtain a concession or enter into the contracts referred to in this Section.

Article 71.- Disputes arising from the interpretation and application of the concessions, agreements and contracts referred to in this Section shall be resolved in the first instance by the Governing Board of the Commission and, if the dispute persists, by the competent Jurisdictional Body.

Section Four On the rendering of public services by the State Water Commission

Article 72.- The Commission may temporarily carry out, upon agreement with the respective Municipalities, the public services in those where there are no Operating Organizations or concessionaires that provide them, or the Municipality in question does not yet have the capacity to take charge of them.

It may also concur with the Municipalities in the provision of public services when necessary and when requested by the Municipalities.

Article 73.- The Commission, as a provider of public services, shall act with the powers, obligations and competence provided for in this Law for the operating agencies.

Chapter IV Rules for the provision of public services

Section One Contracting of public services and connection to the system

Article 74. - The owners or possessors, in front of whose properties the water distribution and/or sewage and rainwater collection piping is installed, in order to have public services, shall request the service provider to install the respective intakes and the connection of their discharges, complying with the requirements indicated by the service provider:

Within three months from the date of notification that the public service has been installed on the street where their premises, businesses or establishments are located;

Within thirty days following the date of opening of its business or establishments, if public service exists, and

Before starting construction on land that lacks potable water services.

Article 75.- For non-domestic uses, with wastewater discharges to the municipal network, they shall be subject to the Mexican Official Standards that establish the maximum permissible limits of pollutants in national waters and property.



Article 76.- The models of contracts for the rendering of public services entered into by the service providers with the users, the requirements referred to in the preceding Article, as well as the guarantee referred to in the second paragraph of Article 83 must be approved by the Governing Board of the Commission and comply with the provisions of this Law, ensuring that the public services are rendered under competitive conditions that ensure their continuity, regularity, quality, coverage and efficiency.

Article 77. - Industrial, tourist, rural and other productive activity developments may operate systems for the supply of drinking water, desalination of water and wastewater independently, provided they have the authorization of the service provider and are subject in their operation to the standards established in this Law and other applicable laws, except in the case of concessionaires or contractors who are in charge of the integral provision of public services, in which case the authorization shall be granted by the Municipality, after hearing the opinion of the former.

Article 78.- Persons or companies supplying water to any class of vessels shall do so exclusively through the intake installed for such purpose at the dock or place deemed convenient by the agency of the branch. In places where there are no intakes, only individuals or companies authorized by the agency itself shall supply the necessary water, paying the fees established for the shipping service in the respective tariff.

Such authorization shall not be required in the event of an emergency when it is necessary to supply water to a vessel.

Article 79.- Upon the establishment of public services in places lacking them, the interested parties shall be informed by means of publications in the Official Gazette of the Government of the State of Baja California Sur and in the newspaper with the largest circulation in the locality, and any other form of notification may also be used so that the interested parties may be aware of the existence of the public services.

Article 80.- Each property or establishment shall have an independent water intake and two discharges, one for wastewater and the other for rainwater, when these systems must be separated, and one discharge when they are combined. The service provider shall establish the specifications to which the diameter of the same shall be subject.

When the request for public services does not comply with the necessary requirements, the interested parties will be notified so that they may comply with them within a term of fifteen working days, counted from the date on which they receive the communication. If this requirement is not complied with, the interested party must submit a new application.

In the case of buildings subject to the condominium property regime, the owners of each floor, apartment, dwelling or premises are obliged to pay the rates according to the readings recorded by the meter installed in each service, independently of the quota corresponding proportionally to them for the consumption of water for the common service of the building itself. All the owners will be jointly and severally liable for the latter payment, and the service may be reduced or suspended for their indebtedness.



Article 82.- Once the duly completed application has been filed, within the following fifteen working days, a visit shall be made to the premises, business or establishment in question, for the purpose of such visit:

- I. Corroborate the veracity of the data provided by the applicant;
- II. To know the circumstances that the service provider considers necessary to determine the rendering of public services and the corresponding budget; and
- III. Estimate the budget that will include the amount of the necessary material and labor, breakage and replacement of sidewalks, garrison and pavement, if any, as well as any other work required to be able to provide the requested public services.

The requested connections and tap installations will be authorized based on the result of the visit carried out in accordance with this Law, within a term of five working days computable from the receipt of the report. The preparation of the report may not be extended for more than fifteen working days after the visit.

Article 83.- Once the corresponding contract has been signed and the cost of installation and connection and the corresponding fees have been paid, the service provider shall order the installation of the intake and the connection of the wastewater and/or rainwater discharges, which shall be carried out within thirty working days following the date of payment.

In the case of intakes requested by businesses or establishments located on a temporary basis, in the case of tents for shows or public entertainment, the applicants must grant, as a prerequisite for the installation, the guarantee established by the service provider.

Article 84.- The installation of metering devices for the verification of public service water consumption is mandatory for all non-domestic users; in the case of domestic users, it shall be mandatory when the analysis of the corresponding costs and benefits justifies it. To this effect, the taps must be installed at the entrance of the premises or establishments, and the meters in accessible places, next to said entrance, in such a way that consumption readings, appliance operation tests and, when necessary, the replacement of the meters can be carried out without difficulty. The users, under their strict responsibility, shall take care that the meters are not damaged.

Metering devices may only be installed by the personnel of the Operator after verification of their correct operation and removed by the same personnel, when they have been damaged, are malfunctioning or there is any other justified cause that warrants their removal.

Article 85.- Once the connection has been installed and the respective connections have been made, the service provider shall inform the owner or holder of the property or establishment in question of the date of connection and the opening of his account for collection purposes.



In those cases in which the installation of the intake or discharges destroys the pavement, sidewalk or curb, the service provider will be obliged to immediately repair the same in accordance with the terms of this Law. The work must be carried out within a non-extendable period of seven working days from the date on which the installation work is completed. The execution of the repair work shall be carried out using materials of the highest quality and seeking to reestablish the conditions in which the pavement, trimming or sidewalk was originally located.

When the service provider does not comply with the obligation set forth in this precept within the term indicated, the Municipality shall repair the pavement, sidewalk or curb within a non-extendable term of five working days from the date on which the Municipality becomes aware of the non-compliance of the repair by the service provider; as the case may be, the repairs shall be charged to the service provider. In these cases, the Municipal Syndic shall inform the Internal Control Organ of the Service Provider so that it may initiate the administrative sanctioning procedure for the non-compliance with the obligation indicated in the preceding paragraph.

In order to prevent accidents, during the repair work on the pavement, sidewalk or curb, proper signage must be placed. Failure to comply with this provision shall subject those responsible for and executing the work to the penalties applicable in accordance with the laws of the matter, without prejudice to the patrimonial and civil liabilities that may be attributable to them in the event of accidents arising from the lack of timely repair under the terms provided in this article or the placement of the corresponding signage.

In all the cases provided for in this article and within the same terms already indicated, the Municipal Operating Agencies shall remove the remaining material and debris generated by the work; in case of omission, they shall proceed according to the terms set forth in the first and second paragraphs of this article.

Article 85 Bis.- In those cases in which the Municipal Operating Organizations, on the occasion of the repair of the intake or discharges, destroy sidewalks, curbs and pavements, they shall observe the provisions set forth in the preceding article.

Likewise, the Municipal Operating Agencies shall ensure that the sewers have the corresponding covers and in the event that, due to theft or any other cause, they do not have them, they shall immediately replace them. In all cases, while the replacement is being carried out, the corresponding signage must be placed to prevent accidents.

Article 86.- Any modification intended to be made to the property or establishment that affects the installations corresponding to public services shall require the prior presentation of the respective request by the interested parties to the service provider.

In no case shall the owner or possessor of the property or establishment be able to operate by himself the change of the system, installation, suppression or connection of public services.

Article 87.- Independently of the cases in which in accordance with the Law the



suspension or suppression of a water intake or discharge, the interested party may request the respective suspension or suppression, stating the reasons on which the request is based.

Article 88.- The request referred to in the preceding Article shall be resolved by the service provider within a term of ten working days from the date of its presentation; if the agreement is favorable, it shall be complied with within five working days from the date of its notification, and all expenses inherent to the suspension or suppression shall be borne by the applicant.

Article 89.- Water intake or sewerage discharge derivations shall require prior authorization of the project or control of its execution by the service provider, and in any case, the necessary conditions must be met for the latter to be able to charge the corresponding fees and rates for the supply of such services.

Article 90.- Businesses, workshops and industries shall install, at their own expense, in front of their premises on the public road and before discharging into the sewer system, a manhole or manhole for the purpose of allowing the Operating Agency to carry out the operation and maintenance of the discharge and, if applicable, the taking of samples to analyze the characteristics of the wastewater discharged. These analyses will be at the user's expense.

Article 91.- Domestic users, for the same purposes of the preceding Article, shall preferably install the manhole in front of their property, and the analysis shall be at the expense of the Operating Agency.

Article 92.- The businesses, workshops, industries and domiciles determined by the Operating Agency shall be obliged to build the solids traps, grease skimmers or treatment systems prior to the discharge of their wastewater into the sewage system, as required by the nature of the wastewater to comply with the particular conditions of discharge, the maximum permissible limits of pollutants established by the Mexican Official Standards, as well as with the provisions of the legislation on ecological balance and environmental protection and other applicable laws on the subject.

Article 93.- The subdivision, urbanization and development companies must construct, at their own expense, the necessary drinking water and sewerage installations and connections in accordance with the project authorized by the competent municipal authority, in accordance with the specifications of the service provider. Such works, once in operation, will become the property of the Operating Agency or of the Municipality, when in the latter case the service provider is a concessionaire or the Commission.

The subdivision, urbanization and development companies must cover the expenses corresponding to the infrastructure of the public services to be provided by the service providers.

The authorized project mentioned in the previous Article, shall include a plan of the polygon of the land showing the public roads with which it borders, the rights of payment of public services, the surfaces that serve the natural passage of water and the easements, all with their corresponding widths, and shall indicate the following



The property is also adjacent to property owned by the Federation, the State, municipalities, existing buildings and facilities, and wooded areas;

Article 94.- Persons who use public services in a clandestine manner shall pay the rates corresponding to such services and, in addition, shall be subject to the administrative penalties set forth in this Law and, if applicable, to the related criminal penalties.

Article 95.- Everything related to the premises or establishments, the manner in which other authorities or third parties must inform or notify the service provider of authorizations or activities related to the present Law; the formalities and procedures required for its compliance, the obligation to provide information to integrate the user registry and to facilitate the authority's attributions or the operation of public services and, in general, the others to provide for the exact observance of the present Law, shall be specified in the Regulations of the same.

Section Two Rights and obligations of users

Every user, whether from the public sector or the social or private sector, is obliged to pay for the public services rendered, based on the fees and tariffs established under the terms of this Law.

Article 97.- Users shall pay the amount of the tariff or fee within the reasonable term indicated in each case in the corresponding receipt and at the offices determined by the service provider.

Article 98.- The owner of a property shall be liable to the service provider for the debts generated before the same under the terms of this Law.

When the ownership of a property with its public services is transferred, the new owner will be subrogated in the rights and obligations derived from the previous contracting, and must give notice to the service provider, establishing a term of fifteen days for compliance.

Article 99.- The potable water service enjoyed by users in the Municipalities of the State shall be measured in accordance with the provisions of Article 84 of this Law.

In places where there are no meters or until such meters are installed, payments will be made based on previously determined fixed fees.

When water consumption cannot be determined due to meter malfunction for causes not attributable to the owner, possessor or person in charge of the premises, business or establishment, water service fees shall be charged by averaging the amount caused in the previous three months, and the service shall be charged at the rate in effect.

Article 101.- When water consumption cannot be verified due to meter malfunctions intentionally caused by the owner, the possessor or the owner's representative, the owner's representative or the owner's agent, the owner's representative or the owner's agent's agent shall not be liable for any damage caused to the water meters.



In the event of negligence or causes attributable to them, the water service fees shall be charged in the manner set forth in the preceding Article, but shall be duplicated, without prejudice to the imposition of the appropriate penalties.

Article 102.- Users who obtain their drinking water supply by means of derivations authorized by the service providers shall pay the rates corresponding to the meter of the original tap from which they are derived, but if the tap does not yet have a meter, they shall pay the fixed fee previously established for said tap.

Article 103.- The user shall pay the service provider the amount of the connection fees corresponding to a direct water connection, as well as the respective service, for each diversion.

Article 104.- In order to make water consumption more rational, users shall use water-saving devices, under the terms and characteristics set forth in the Regulations of this Law.

The authorities of the Municipalities will be responsible for overseeing compliance with the provisions of this Law and its Regulations, when authorizing the construction, rehabilitation, expansion, remodeling and demolition of works.

For non-domestic users such as stores, workshops, car wash service shops, industries, subdivisions and developers, as determined by the operating agency, treated water must be used if they have treatment systems, as well as for irrigation of green areas, parks and gardens and compaction of streets for paving works.

Article 105.- In times of proven or foreseeable water shortage, the service provider may agree on restriction conditions in the areas and for the period of time necessary, after timely notice to the users, through the available means of communication.

When the water shortage is caused by negligence or lack of foresight on the part of the service provider, the latter will be liable under the terms of the respective contract.

Article 106.- Users may water indoor gardens in private properties and outdoor lawns and groves between 7:00 p.m. and 6:00 a.m., and whoever violates this provision for the first time shall receive a formal warning from the corresponding authority, and in the event of a repeat offense shall be sanctioned with a limitation of service, regardless of whether or not the service is provided by the corresponding authority. In the event of failure to comply with the provisions of the preceding Article, and whoever violates this provision for the first time shall receive a formal warning from the corresponding authority, and in the event of a repeat offense shall be sanctioned with the limitation of the service, regardless of whether or not he is up to date in the payment for the consumption of the services, and shall also be subject to a sanction in accordance with the provisions of Article 140, Section II.

Article 107.- The social and private sectors, and the users shall have the following rights:

- I. To require the service provider to provide services in accordance with the established quality levels;



- II. To go before the competent authority, in case of non-compliance with the contracts entered into between the users and the service providers, in order to request their compliance;
- III. To file an appeal for reconsideration against resolutions and acts of the Municipalities, which shall be processed in the manner and under the terms of Section Three of Chapter V of this Title;
- IV. To report to the Municipality any action or omission committed by third parties that may affect their rights;
- V. Receive general information on public services in a sufficiently detailed manner to exercise their rights as users;
- VI. Be informed in advance of scheduled utility outages;
- VII. To be duly informed in advance of the tariff system and receive the corresponding receipts in a timely manner, as well as to complain about errors in the same;
- VIII. Form committees to promote the construction, conservation, maintenance, rehabilitation and operation of systems for the provision of public services;
- IX. Adopt the legal figures they deem pertinent for the maintenance and operation of the drinking water and sewerage systems in the population centers of rural areas, with the Municipality or the Operating Agency providing the necessary support;
- X. Incorporate legal entities to which concessions may be granted or with which contracts may be entered into to build and operate systems, provide public services or manage, operate, conserve and maintain the respective hydraulic infrastructure;
- XI. Participate, through the Advisory Councils, in the planning, programming, administration, operation, supervision or oversight of the service provider under the terms of this Law, and
- XII. Require the Service Provider to repair the pavement, sidewalk or curb under the terms of this Law, when these have been destroyed due to the installation or repair of outlets or drainage.

Section Three Fees and Rates

Article 108.- Fees and rates that are not contemplated in the respective Finance Laws for each Municipality, shall be determined and updated by the service provider based on the application of the formulas defined by the Board of Directors of the Operating Agency or, as the case may be, by the Commission. These formulas will establish the parameters and their interrelation for the calculation of the average equilibrium tariffs.



The average equilibrium tariffs must be sufficient to cover the costs derived from the operation, maintenance and administration of the systems; the rehabilitation and improvement of the existing infrastructure; the amortization of investments made; the financial expenses of liabilities; and the investments necessary for the expansion of the infrastructure. The formulas must reflect the effect, if any, of the contributions made by the Federal, State and Municipal Governments or any other public, private or social entity on the average equilibrium tariffs. The formulas shall also explicitly take into account the effect of the physical, commercial, operational and financial efficiency of the service providers.

Article 109.- The tariffs referred to in the preceding article shall promote:

- I. Financial self-sufficiency of public service providers;
- II. Rationalization of consumption;
- III. Access to public services for the low-income population, considering the payment capacity of the different user strata:
- IV. Less dependence of the Municipalities on the State and the Federation for the provision of public services; and
- V. The orientation of urban and industrial development.

Article 110.- The formulas for the calculation of the average equilibrium tariffs shall differentiate those corresponding to the rendering of the different services. In this sense, the formulas established by the Board of Directors of the Operating Agency or, as the case may be, the Commission shall determine:

- I. The average equilibrium tariff for drinking water supply and desalination services;
- II. The average break-even rate for wastewater collection and treatment services;
- III. The fee for connection to the potable water network;
- IV. The fee for connection to the sewerage system; and
- V. Such others as may be required at the discretion of the Governing Board of the Operating Agency or the Commission, as the case may be.

Article 111.- Revisions to the formulas, with respect to the cost components and the relationship between them, shall be made by the Commission at least every year. Said revisions may be made at the request of one or several service providers, who shall attach a proposal and a technical study that justifies it.

For the calculation of the average equilibrium tariffs, the service provider shall substitute in the formulas established by the Board of Directors of the Operating Agency or the Commission, as the case may be, the values of each parameter corresponding to the characteristics of the system in particular. Consideration shall be given to the evolution



The company's strategic development project is based on physical, commercial, operational and financial efficiencies, in accordance with the provisions of the Strategic Development Project.

The service provider may determine a tariff structure that takes into account the type and socioeconomic level or the payment capacity of the different user strata, in such a way as to establish criteria of equity in the cost of such services. The tariff structure must be designed in such a way that its application results in the same income as if the average tariffs were applied.

The Board of Directors of the Commission shall oversee the correct application of the formulas and shall approve the average tariffs calculated in accordance with the procedure established in the preceding article, as well as the consistency between the average tariffs and the corresponding tariff structure.

Article 114.- Fees and rates shall be automatically updated each time the National Consumer Price Index increases by five percent with respect to that which was in effect the last time they were established.

The formulas for the determination of the average equilibrium rates and their modifications, as well as the fees or rates that the service providers establish based thereon, shall be published in the Official Gazette of the Government of the State of Baja California Sur, in the corresponding municipal gazette, as the case may be, and in the newspaper with the largest circulation in the locality.

Article 116.- The payments to be paid by users for the rendering of public services are classified as follows:

I. Fees:

- a) For cooperation;
- b) For the installation of household outlets;
- c) For water service connection;
- d) For connection to drainage or sewage systems, and treatment of wastewater from domestic use;
- e) For connection to the drainage or sewage system, and treatment of wastewater from productive activities, when the discharge is made below the permissible concentrations in accordance with the Mexican Official Standards on ecological matters and the particular conditions of discharge in force, under the terms of the legislation on ecological balance and environmental protection;
- f) For connection to the drainage or sewage system, and treatment of wastewater from productive activities, when the discharge is made above the permissible concentrations in accordance with the Mexican official standards on ecological matters and the particular conditions of discharges in force, under the terms of the legislation on ecological balance and environmental



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protection;



- g) For installation of meters; and
- h) For other services.

II. Fees or rates for public services:

- a) Minimal use;
- b) For domestic use;
- c) For commercial use;
- d) For industrial use;
- e) For use in services;
- f) For other uses;
- g) For drainage or sewerage services and treatment of wastewater from domestic use;
- h) For drainage or sewage services, and treatment of wastewater from productive activities, when the discharge is below the concentrations allowed according to the Mexican Official Standards on ecological matters and the particular conditions of discharge in force, under the terms of the legislation on ecological balance and environmental protection;
- i) For drainage or sewage services, and treatment of wastewater from productive activities, when the discharge is above the concentrations allowed according to the Mexican Official Standards on ecological matters and the particular conditions of discharge in force, under the terms of the legislation on ecological balance and environmental protection;
- j) For the sale of treated water; and
- k) For other services.

In addition to the above classifications, rates will be applied by consumption range and in accordance with the respective regulations.

Article 117.- Even when the water service is not used for a determined period of time, the minimum operating cost shall generate the obligation to pay a fee that shall be established and updated under the terms of the corresponding tariff studies.

Article 118.- The fees and rates charged to the user shall be independent of the payments that the user is required to make pursuant to the applicable tax legislation.

Article 119.- The lack of payment of service fees, at the due date, by non-domestic users, entitles the municipality or the service provider to



suspend utility services until payment is regularized. In the case of domestic use, non-payment in two consecutive months will cause the limitation of public services, reducing it to the indispensable minimum.

Likewise, the Municipality and the service providers are empowered to suspend public services when unauthorized derivations or a use other than that agreed upon is proven. Likewise, when the service limiter is violated.

The above will be independent of informing the health authorities of such situation.

Article 120.- Notaries and officials empowered to attest public deeds shall be jointly and severally liable for the payment of the corresponding fees and surcharges, when they authorize any act that transfers ownership of real property, if they have not been proven by means of official receipts that the property is up to date in the payment of water and sewage service fees.

Section Four Power of inspection and verification

Article 121.- The service providers shall have the personnel required, based on their own budget, for the verification of the public services they render.

Article 122.- The City Councils, by themselves or through the Operating Agency, may order the practice of visits by personnel authorized to verify:

- I. That the use of public services be as contracted;
- II. That the operation of the facilities is in accordance with the provisions of the authorization granted;
- III. The operation of the meters and the causes of high or low consumption;
- IV. The exact diameter of the inlets and discharge connections;
- V. That there are no clandestine intakes or unauthorized derivations;
- VI. The existence of water leaks;
- VII. That the intakes or discharges comply with the provisions of the Law; and
- VIII. Compliance with the Law.

Article 123.- Whoever conducts the visits shall prove his or her personality and shall exhibit the written order that justifies and motivates the visit, delivering a copy of the same. Said order shall also state who issued it, express the object or purpose of the visit and bear the autograph signature of the person who issued it and the name or names of the persons to whom it is addressed; in the event that the name of the person to be visited is unknown, sufficient data of the premises shall be indicated to allow his or her identification.



Article 124.- When the visit cannot be made, the owner, possessor or the person with whom the visit is to be made shall be given a summons to wait for the day and time to be set, warning him that if he does not wait or does not allow the visit, the corresponding sanction shall be imposed.

The delivery of the summons shall be evidenced by means of an acknowledgment of receipt to be signed by the person who receives it from the person making the visit and, in the event that such person refuses, this circumstance shall be recorded in the same, with the signature of two witnesses.

In case of resistance to the practice of the announced visit, either in a frank manner or by means of evasion or unjustified postponements, an inspection report shall be drawn up.

The offender will be notified again, warning him/her to allow the visit to be made on the day and at the time indicated for that purpose, with the warning that if he/she refuses, he/she will be reported to the competent authority so that, if applicable, he/she may be charged with the crime of disobedience to a legitimate command of authority, under the terms of the Penal Code of the State of Baja California Sur.

If, in spite of the previous notification, the visit is prevented, a new infraction report will be issued and the competent authority will be informed, regardless of the application of the corresponding sanctions.

Article 125.- When a property or establishment where a visit is to be made is closed, the occupants, managers, owners or possessors shall be notified, by means of a notice to be posted on the entrance door, that on the day and at the time indicated, it must be kept open, with the warnings of the Law otherwise.

In the case of unoccupied or closed premises or establishments, or whose owner or possessor is absent, the summons may be left with the neighbor, and the respective record will be drawn up.

Article 126.- In the proceeding, a detailed record of the facts shall be drawn up. When any violation of this Law is found, such fact shall be recorded in writing, leaving a copy with the user for the appropriate effects.

Article 127.- Visits shall be limited exclusively to the object indicated in the respective order and for no reason may be extended to other objects, even if they are related to the water service, unless a flagrant violation of the provisions of this Law is accidentally discovered, in which case the person making the visit shall record it in the respective record.

In case of infringement of the provisions of this Law, a report shall be drawn up in which a detailed account shall be made of the facts constituting the infringement, stating the names and addresses of the offenders and all other circumstances revealing the seriousness of the infringement.

When the offender refuses to sign the respective record, it shall be signed by two witnesses who attest to the facts constituting the offense. If the witnesses do not know how to sign, they shall print their fingerprint at the bottom of the record; the same shall be done if the offender does not know how to sign, provided he is willing to do so.



Article 129.- When the Municipalities provide public services directly, the users are obliged to allow duly accredited personnel of the Municipalities access to the place or places where the meters are installed so that they may read them.

The reading of the metering devices to determine the water consumption in each tap or derivation will be done by authorized personnel according to the distribution of uses, under the terms of the respective regulations.

Whoever reads the meters will fill out a form, verifying that the meter number and the address indicated is the corresponding one, and the meter reading or the non-reading code, if applicable, will be expressed.

Article 130.- When the City Councils directly render public services, it shall be their exclusive responsibility, or that of those contracted for such purpose, to install and operate the metering devices, as well as to verify their operation and their removal when they have been damaged.

Article 131.- The users shall ensure that the metering devices are not deteriorated or destroyed; therefore, they shall be protected against theft, improper manipulation and any possible cause of deterioration.

The owners or possessors of properties that have the installation of metering devices are obliged to inform the Municipalities, within a maximum period of three working days, of any damage or harm caused to the meters.

In those cases in which it is necessary, the Municipalities will order the revision and removal of the meter, provisionally installing a substitute meter,

Article 132.- With the report issued by the person making the corresponding visit, the apparatus shall be repaired or replaced.

The owner or possessor of the property shall pay the costs of repair or replacement.

Article 133.- If the household sewer discharge is destroyed due to causes attributable to the users, owners or possessors of the premises, they shall cover the work required to replace it, according to the costs in force at the time of replacement.

Article 134.- When the volume of water cannot be determined as a consequence of meter failure, for reasons not attributable to the user or due to the total or partial destruction of the meter, the water rate shall be paid in accordance with Article 99 of this Law.

Article 135.- The presumptive determination of the volume of water consumption shall be applicable when:

- I. No metering device is installed in case the user is obligated to do so, under the terms of Article 100;



- II. Do not operate the meter;
- III. The meter seals are broken or its functions have been altered; and
- IV. The user opposes or obstructs the initiation or development of the verification and measurement powers, or does not submit the information or documentation requested by the Municipality.

The determination referred to in this Article shall proceed independently of any penalties that may be applicable.

Article 136.- For the purposes of the presumptive determination referred to in the preceding Article, the payment shall be calculated, considering indistinctly:

- I. The volume indicated in the service contract or in the respective discharge permit;
- II. The volumes indicated by the measuring device or that are derived from some of the payments made in the same fiscal year, or in any other fiscal year with the modifications that, if applicable, may have occurred as a result of the exercise of the powers of verification;
- III. The amount of water that the user is estimated to have been able to obtain during the period for which the determination is made, according to the characteristics of its facilities;
- IV. Other information obtained by the Municipality in the exercise of its verification powers; and
- V. Indirect means of economic research or any other kind.
- VI. The Municipalities will determine and demand payment based on the presumptive determination of the volume.

Article 137.- The City Councils are empowered to take the necessary actions to prevent, obstruct or close the possibility of discharging wastewater into the drainage and sewerage networks, to those users who fail to pay the respective payment in accordance with the provisions of this Law; or, in collaboration with the competent ecological authorities, when the discharge does not comply with the particular conditions of discharges, the maximum permissible limits of pollutants indicated in the Mexican Official Standards, as well as with the provisions of the legislation on ecological balance and environmental protection and other applicable to the matter.

Article 138.- The service provider may carry out the actions referred to in this Section provided that this has been foreseen in the contracts for the rendering of public services entered into with the users, the models of which must be approved by the Board of Directors of the Operating Agency or, as the case may be, the Commission, under the terms of Article 76 of this Law.



Chapter VI

Infringements, Penalties and Administrative Remedies

Section One Violations and penalties

Article 139.- For the purposes of this Law, the following commit an infraction:

- I.** Persons who clandestinely install connections in any of the system's facilities without being contracted and without complying with the requirements established in this Law;
- II.** Whoever damages any facility intended for service providers;
- III.** Whoever uses the service of public hydrants for uses other than those for which they were intended;
- IV.** The owners or possessors of the premises within which a leak is located that has not been attended in a timely manner;
- V.** Those who waste water or do not use water-saving devices under the terms of Article 92 of this Law;
- VI.** Persons impeding the installation of public utilities;
- VII.** The one that employs mechanisms to suck water from the distribution pipes;
- VIII.** Those who build or operate systems for the provision of public services, without the corresponding concession;
- IX.** Notary Publics and Judges who authorize or certify the transfer of ownership of urban real estate, transfers of commercial and industrial activities when they do not prove that they are up to date in the payment of fees and tariffs for public services;
- X.** Those who do not condition the installation inside the dwellings, so that the reading of the consumption is easily accessible to the personnel authorized for this purpose by the Operating Organizations;
- XI.** Anyone who impedes the inspection and reconnaissance visits carried out by the personnel authorized by the operating agencies on the basis of Articles 123, 124 and 125 of this Law;
- XII.** Those who supply water to an adjoining property or farm, regardless of whether such consumption is recorded by the metering device;
- XIII.** Whoever causes damage to a measuring device;
- XIV.** Those who violate the seals to a measuring device;



- XV.** Those who by any means alter the reading of a measuring device, with the intention of reducing it;
- XVI.** Those who, without being legally authorized to do so, remove a meter, changing its placement temporarily or definitively;
- XVII.** Residents, who in front of the properties they live in, find a water leak, and that it is attributable to them;
- XVIII.** Those who water gardens outside the allowed hours, which are from 7:00 p.m. to 6:00 a.m.;
- XIX.** To those who, when supplying drinking water from the public service and connecting to the sewage system, do not comply with the obligation to request the corresponding water connection within the terms established in Article 74 of this Law or prevent the installation of the same; and
- XX.** To officials or employees who grant a license for construction without being presented with official proof of having installed the water supply on the property where the construction is to be carried out.

Article 140.- The infractions referred to in the preceding Article shall be administratively sanctioned by the City Council or the Operating Agency, with the exception of those indicated in Sections IX and XX, which shall be sanctioned by the hierarchical superior or corresponding authority:

- I.** With a fine for the equivalent of five to fifty times the daily value of the Unit of Measurement and Actualization, in the case of the infractions referred to in sections II, IV and VI;
- II.** With a fine for the equivalent of five to twenty times the daily value of the Unit of Measurement and Actualization, in the case of fraction V, X, XI, XII and XVII;
- III.** With a fine for the equivalent of five to forty times the daily value of the Unidad de Medida y Actualización, in the case of fractions I, III and VII, XIII and XVII; and
- IV.** With a fine for the equivalent of one hundred to five hundred times the daily value of the Unit of Measurement and Actualization, in the case of fraction VIII, XIV, XV and XVI.

In order to sanction the above offenses, infractions will be graded taking into consideration the seriousness of the offense, the damage caused, the economic conditions of the offender and recidivism.

The violators indicated in Section VIII of the preceding Article shall forfeit to the Municipality the works executed, the facilities established and all real or personal property dedicated to the rendering of public services, without prejudice to the application of the fine indicated in Section IV of this Article. The Municipality may request the corresponding authority to evict the violators and, if applicable, that the demolition of the works and installations be carried out at the violator's expense.



Once the Municipality is aware of the foregoing and until such time as a decision has been issued



final resolution, it will request the corresponding authority to secure the executed works and the established installations.

When the facts that contravene the provisions of this Law and its Regulations constitute a crime, a report shall be filed before the competent authorities, without prejudice to the application of the appropriate administrative sanctions.

Article 141.- If upon expiration of the term granted to remedy the infraction or infractions, it is found that such infraction or infractions still subsist, fines may be imposed for each day that elapses without obeying the mandate, without the total of the fines exceeding the maximum amount allowed.

In the case of recidivism, the amount of the fine may be up to twice the amount originally imposed. In the case of a second recidivism, three times the amount originally imposed shall be applied, and so on.

Article 142.- In the case of commercial or industrial establishments, the offender shall be summoned, making him/her aware of the sanction to which he/she is entitled so that he/she may state what is in his/her best interest, and in case of recidivism, the State Government or the City Council shall be requested to close the establishment.

In the case of commercial or industrial activities, the Drinking Water and Sewerage System Operating Agency may order the suspension of water service in accordance with the provisions of Article 119 of this Law.

Article 144.- In the case of services for domestic use, its limitation shall be ordered or, as the case may be, the service shall be temporarily suspended, pursuant to the terms of Article 119 of this Law.

Article 145.- Sanctions shall be imposed based on the minutes drawn up by personnel of the Municipality. In any case, the resolutions issued in the matter of sanctions shall be founded and motivated in accordance with the law and taking into consideration the criteria established in the second paragraph of Article 131 of this Law.

The resolutions shall be notified to the offenders in person or by certified mail with return receipt requested at their registered address, or at the premises or establishment where the infraction was committed, under the terms of the tax code.

Article 146.- In the cases of Sections II and XX of Article 139, the sanction of temporary or definitive, partial or total closure of the intake may be additionally imposed.

In the case of closure, a detailed report shall be drawn up at the time of the proceeding. The refusal of the offender to sign shall not invalidate such record, and such situation shall be noted.

Article 147.- The corresponding penalties for the offenses provided for in this Law shall be imposed without prejudice to the payment of the damages caused, the amount of which shall be notified to the offender, after quantification, so that he/she may pay them within a reasonable period of time to be determined.



Individuals or legal entities will be notified of the debts they owe for the works or the destruction of the same that they have to carry out on their own account.

Article 148.- Violations committed by service providers and contractors:

- I. Deny the contracting of public services without just cause;
- II. Apply fees and rates that exceed those resulting from the application of the formulas referred to in Section Three, Chapter IV of this Title;
- III. Failure to provide public services in accordance with the quality levels established in the agreement for the creation of the Operating Organizations, the concession title or the agreement entered into between the Municipality and the Commission, the legislation on ecological balance and environmental protection and the Mexican Official Standards;
- IV. Interrupt, in whole or in part, the provision of public services without just cause;
- V. Failure to comply with the conditions established in the agreements for the creation of the Operating Organizations, the concession title or the agreement entered into between the Municipality and the Commission;
- VI. In the case of concessionaires and contractors, failure to comply with the obligations of conservation and maintenance of the systems destined for public services;
- VII. Failure to comply with the provisions of the second paragraph of Article 85 of this Law; and
- VIII. Any other infringement of this Law or its Regulations not expressly provided for in this Section.

The infractions referred to in the preceding Article shall be sanctioned by the Board of Directors of the Operating Agency or, as the case may be, the Commission:

- I. With a fine of five hundred to two thousand times the daily value of the Unit of Measurement and Actualization, in the case of fractions I, IV and VII;
- II. With a fine of one thousand to four thousand times the daily value of the Unit of Measurement and Actualization, in case of fraction II;
- III. With fines of one hundred to one thousand times the daily value of the Unit of Measurement and Actualization, in the case of fraction III;
- IV. With a fine of one thousand to five thousand times the daily value of the Unit of Measurement and Actualization at the time the infraction is committed, in the case of fractions V and VI; and
- V. With a fine of up to five hundred times the daily value of the Unit of Measurement and Actualization, in the case of fraction VIII.



In the event of a repeat offense, the Governing Board of the Operating Agency or the Commission, as the case may be, may impose an equivalent sanction of up to double the amount indicated.

Article 150.- The penalties set forth in the preceding Article shall be applied without prejudice to the civil or criminal liability that may result, as the case may be, or to the revocation or rescission that may be applicable.

For the application of the penalties referred to in Article 149, the Board of Directors of the Operating Agency or, as the case may be, the Commission shall notify the alleged offender of the facts giving rise to the proceeding and shall grant him a term of fifteen working days to submit evidence and state in writing what he deems appropriate.

Once said term has elapsed, the competent authority shall issue the corresponding resolution, within a term not exceeding thirty working days.

Article 152.- When the facts that contravene the provisions of this Law constitute a crime, a complaint shall be filed before the competent authorities, without prejudice to the application of the appropriate administrative sanctions.

Article 153.- Debts owed by users of potable water and sewerage services, as well as fines, shall be considered tax credits when the service is provided directly by the Municipalities or by the State Water Commission.

Second Section

Payment of services and collection of debts

Article 154. - For the collection of debts for fees and tariffs, as well as fines imposed due to violations of this Law and its Regulations in the event that the City Councils or the State Water Commission directly provide the service and which are not covered, they shall be demanded through the administrative enforcement procedure provided for in Chapter Two of Title Five of the Fiscal Code for the State and Municipalities of Baja California Sur, in accordance with the provisions of this Law.

Section Three

Administrative appeals

Article 155.- An appeal for reconsideration may be filed against resolutions and acts of the Municipal Councils that cause harm to individuals, as well as against resolutions and acts of the Commission or, as the case may be, of the Operating Agency, and which are not subject to any special procedure established in this Law, which shall be processed in the manner and under the terms of this Section.

Article 156.- The appeal for reconsideration shall be filed in writing before the person who has issued the resolution or executed the act, within fifteen working days following its notification or that in which it became known if there was no notification.



Said letter shall state:

- I. The name and domicile of the appellant, the grievances caused by the challenged resolution or act and the evidence deemed necessary. The written document shall be accompanied by evidence of the appellant's personality, when acting on behalf of another person or legal entity;
- II. The date on which it became aware of the appealed resolution, attaching the respective documentation;
- III. The challenged act or resolution; and
- IV. The name of the person who issued the decision or ordered or executed the act.

Article 157.- The City Councils or the Commission, within two working days of receiving the appeal, shall verify whether it was filed on time, admitting or rejecting it.

In case of admission, it shall order, if applicable, the suspension of the act, and it shall present the appropriate evidence within a term that shall not exceed twenty working days from the date of notification of the admission order.

Article 158.- Within ten working days following the presentation of evidence, if any, a decision shall be issued confirming, modifying or revoking the decision appealed against or the challenged act. Said decision shall be notified to the interested party personally or by certified mail.

Article 159.- With respect to the interpretation, substantiation and decision of the appeals contemplated in this Law, the provisions in force in the Civil and Civil Procedure Codes of the State of Baja California Sur shall be applied supplementarily.

Title Four **On the Promotion of Water Care Culture Article 160.**

Article 161.- Repealed

Article 162.- Repealed

T R A N S I T O R I O R S

ARTICLE ONE.- This Law shall become effective three months after its publication in the Official Gazette of the Government of the State of Baja California Sur.

ARTICLE TWO.- The Law of Potable Water and Sewerage of Baja California Sur issued by the H. Congress of the State by means of Decree 228 dated December 24, 1980 is hereby repealed.



ARTICLE THREE.- The Regulations of this Law shall be published within a period of no more than six months. Counted from the publication of this Law in the Official Gazette of the Government of the State of Baja California Sur.

ARTICLE FOURTH: For the purposes of the provisions of Article 39 of this Law, the provisions relating to the Board of Directors shall be deemed to refer to the current Board of Directors.

ARTICLE FIFTH: The workers who currently render their services in the State Water Commission, as well as in the municipal operating agencies of the potable water and sewerage systems and who by virtue of this decree are to be integrated into the municipal operating agencies that may be created, shall retain their labor rights unalterable in accordance with the law of the matter.

GIVEN IN THE SESSION ROOM OF THE LEGISLATIVE BUREAU; La Paz, Baja California

Sur, on the fourteenth day of June of the year two thousand and one. Chairman: Representative Javier Gallo Reyna. Secretary.- Representative Alejandro Félix Cota Miranda.- Rubric.

TRANSITORY DECREE No. 1742

This decree shall enter into effect on the date of its publication in the Official Gazette of the Government of the State of Baja California Sur.

Given in the Assembly Hall of the Legislative Power, La Paz, Baja California Sur, on the eleventh day of March of the year two thousand eight. Chairman: Representative José Carlos López Cisneros - Rubric. Secretary: Representative Ana Luisa Yuen Santa Ana.

TRANSITORY DECREE No. 1929

FIRST.- The present Decree shall enter into effect on the day following its publication in the Official Gazette of the Government of the State of Baja California Sur.

SECOND.- The State Water Commission shall have a term of 60 days as from the entry into force of this Decree to prepare the State Program for the Promotion of Water Care Culture as from the year 2012.

SESSION HALL OF THE LEGISLATURE, LA PAZ, BAJA CALIFORNIA SUR, ON THE FIFTEENTH DAY OF SEPTEMBER OF THE YEAR TWO THOUSAND AND ELEVEN.

President: Representative Juan Domingo Carballo Ruiz, President: Representative Juan Domingo Carballo Ruiz. Secretary.- Representative Pablo Sergio Barrón Pinto.- Rubric.

TRANSITIONS DECREE No. 2379

FIRST.- This Decree shall enter into effect on the date of its publication in the Official Gazette of the Government of the State of Baja California Sur.



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SECOND.- The State Executive and the Municipalities shall make, within the scope of their respective competencies, the corresponding adjustments to their regulations, bylaws and other administrative rules, within a term not to exceed January 28, 2017.



GIVEN IN THE SESSION HALL OF THE STATE LEGISLATURE, IN LA PAZ, BAJA CALIFORNIA SUR ON THE TWENTY-FOURTH DAY OF THE MONTH OF OCTOBER TWO THOUSAND SIXTEEN. Chairman: **Representative Alfredo Zamora García** - Rubric. Secretary.- **Representative Norma Alicia Peña Rodríguez**.- Rubric.

TRANSITORY DECREE No. 2684

First: This Decree shall enter into effect the day after its publication in the Official Gazette of the Government of the State of Baja California Sur.

Second: All provisions that oppose this decree are hereby repealed.

GIVEN IN THE SESSION HALL OF THE STATE LEGISLATURE, IN LA PAZ, BAJA CALIFORNIA SUR, ON THE 6TH DAY OF THE MONTH OF DECEMBER 2019.

President: **Representative Daniela Viviana Rubio Avilés**. Secretary.- **Representative Lorenia Lineth Montaña Ruiz**.- Rubric.

TRANSITIONS DECREE No. 2655

FIRST.- To publish this Decree in the Official Gazette of the Government of the State of Baja California Sur.

SECOND.- This Decree shall enter into force on the day following its publication in the Official Gazette of the Government of the State of Baja California Sur.

THIRD.- Without prejudice to the provisions of the **SECOND** transitory article, the "**Long-term State Water Plan (25 years)**" shall be prepared by the State Water Commission and published no later than during the last semester of the current State Public Administration **2015-2021**, in case it is not prepared during the current administration, it shall be prepared and published by the State Water Commission in the Official Gazette of the Government of the State of Baja California Sur, corresponding to the new State Public Administration **2021-2027**, no later than December 31, **2022**.

FOURTH.- Notwithstanding the provisions of the **SECOND** transitory article, the term set forth in this Decree for the preparation and publication of the "**Strategic Development Projects**" by the State Water Commission and the Municipal Water Utilities, shall not apply to the current General Director of the State Water Commission, nor to the current Municipal Water Utilities.

FIFTH: The Municipal Operating Agencies shall provide in their administrative and regulatory sphere what is necessary to comply with this Decree.

SIXTH: The legal provisions that oppose this Decree are hereby repealed.

GIVEN IN THE SESSION HALL OF THE STATE LEGISLATURE, IN LA PAZ, BAJA CALIFORNIA SUR, ON THE SEVENTH DAY OF NOVEMBER OF THE YEAR

2019. President: **Representative Daniela Viviana Rubio Avilés**, President: **Representative Daniela Viviana Rubio Avilés**, President: **Representative Lorenia Lineth Montaña Ruiz**, President: **Representative Lorenia Lineth Montaña Ruiz**. Secretary.-



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Representative Lorenia Lineth Montaña Ruiz.- Rubric.



TRANSITORY DECREE No. 2669

This Decree shall enter into force on the day following its publication in the Official Gazette of the State Government.

GIVEN AT THE SESSION HALL OF THE STATE LEGISLATURE, IN LA PAZ, BAJA CALIFORNIA SUR, ON THE FIFTH DAY OF DECEMBER, 2010 OF THE YEAR 2019. President: **Deputy Daniela Viviana Rubio Avilés** - President: **Deputy Daniela Viviana Rubio Avilés** - Rubric. Secretary: **Representative Lorenia Lineth Montaña Ruiz** - Rubric.

TRANSITORY DECREE No. 2919

FIRST.- This Decree shall enter into effect the day following its publication in the Official Gazette of the Government of the State of Baja California Sur.

SECOND.- For the purposes of the provisions of Section V of Article 30 of this Decree, the municipal operating agencies are granted a term of 30 business days, counted as of the entry into force of this Decree, to make the necessary adjustments to their respective organic bylaws.

THIRD.- For the purposes of the provisions of Section VIII of Article 10 of this Decree, the State Water Commission is granted a term of 30 business days, counted as of the entry into force of this Decree, to make the necessary adjustments to its internal regulations.

GIVEN IN THE SESSION HALL OF THE LEGISLATURE, IN LA PAZ, BAJA CALIFORNIA SUR, ON THE TWENTY-FIFTH DAY OF THE MONTH OF APRIL OF THE YEAR 2023.

President: **Representative Guadalupe Vázquez Jacinto**. Secretary.- **Deputy María Luisa Trejo Piñuelas**.- Rubric.

**SECRETARY OF ENVIRONMENT, NATURAL RESOURCES AND
FISHERIES**

AGREEMENT that aims to provide a category in accordance with current legislation to the areas that were the subject of various declarations of protected natural areas issued by the Federal Executive.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Secretaría de Medio Ambiente, Recursos Naturales y Pesca.

JULIA CARABIAS LILLO, Secretary of the Environment, Natural Resources and Fisheries, in exercise of the powers conferred upon me by Articles 1, 4 and 5 sections I, III and XXV of the Internal Regulations of the Secretariat of the Environment, Natural Resources and Fisheries, and based on Articles 45, 46, 48, 50, 51, 52, 53, 54, 55 and seventh transitory of the General Law of Ecological Equilibrium and Environmental Protection, and 32 Bis of the Organic Law of the Federal Public Administration; and

WHEREAS

That natural protected areas should be conceptualized as strategic instruments for the preservation of biodiversity, consisting of portions of the national territory, terrestrial or aquatic, representative of the different ecosystems, where the original environment has not been significantly altered by man and which are subject to various regimes of protection, conservation, restoration and sustainable use of its resources;

That the current policy on administration, operation and sustainable development of natural protected areas requires homogeneous categories that facilitate their management, in accordance with national and international principles in this matter; therefore, it is necessary to provide the multiple declarations issued by the Federal Executive in previous times, with a category more in accordance with their current vocation, which will give greater certainty and security to the policy of protection, preservation and sustainable use of the ecosystems incorporated in them, declared under a different category;

In view of the above, this Secretariat has determined to recategorize the natural protected areas that have a category different from any of those contemplated in the current General Law of Ecological Balance and Environmental Protection, in order to comply with the seventh transitory article of the Decree that amends, adds and repeals various provisions of the General Law of Ecological Balance and Environmental Protection, published in the **Official Gazette of the Federation** on December 13, 1996;

The National Development Plan 1995-2000 states in its Economic Growth Chapter, specifically in the strategy called Environmental Policy for Sustainable Growth, that programs will be applied in protected natural areas to incorporate ecological tourism services, develop new markets for natural goods with ecological certification, and induce management and operation for the preservation of wild flora and fauna species;

That under these premises, the National Environmental Program 1995-2000 is oriented to make the general development process compatible with the preservation and restoration of the quality of the environment and the conservation and sustainable use of natural resources;

That within the framework of Mexico's 1995-2000 Natural Protected Areas Program, the National Council of Natural Protected Areas issued an opinion indicating that a group of natural protected areas present adequate conditions of biodiversity, endemism, uniqueness, extension and degree of conservation, and that they should be recategorized with the appropriate type according to their natural vocation and ecological importance, with the purpose of maintaining and developing institutional, human and physical infrastructure capacities for their management and operation, in such a way that they become areas with a legal reference in accordance with the current legislation in this matter, for which reason I have had the good will to issue the following:

AGREEMENT

ARTICLE ONE.- The purpose of this Agreement is to grant a category in accordance with the legislation in force to the areas that were declared Natural Protected Areas issued by the Federal Executive, which are listed below:

1. The National Marine Park Sistema Arrecifal Veracruzano, established by Decree in the zone known as Sistema Arrecifal Veracruzano, located in front of the coasts of the municipalities of Veracruz, Boca del Río and Alvarado, in the State of Veracruz-Llave, with a surface of 52,238-91-50 hectares published in the **Official Gazette of the Federation** on August 24, 1992 and its modification published in the **Official Gazette of the Federation** on November 25, 1994, will have the character of National Park of the Veracruz Reef System.
2. The Arrecife Alacranes National Marine Park, established by Decree in the area known as Arrecife Alacranes, located off the coast of the Municipality of Progreso, in the State of Yucatan, with an area of 333,768-50-50 published in the **Official Gazette of the Federation** on June 6, 1994, will have the character of Arrecife Alacranes National Park.
3. The Cabo Pulmo National Marine Park, established by Decree in the area known as Cabo Pulmo, located off the coast of the Municipality of Los Cabos, State of Baja California Sur, with an area of 7,111-01-00 hectares, published in the **Official Gazette of the Federation** on June 6, 1995, will have the status of Cabo Pulmo National Park.
4. The National Marine Park Costa Occidental de Isla Mujeres, Punta Cancun and Punta Nizuc, Quintana Roo; established by decree in the area known as Costa Occidental Isla Mujeres, Punta Cancun and Punta Nizuc, located off the coast of Isla Mujeres, Punta Cancun and Punta Nizuc, Quintana Roo.
5. The Arrecifes de Cozumel National Marine Park, established by Decree in the area known as Arrecifes de Cozumel, located off the coast of the Municipality of Cozumel, State of Quintana Roo, with a total area of 11,987-87-50 hectares, published in the **Official Gazette of the Federation** on July 19, 1996, will have the character of Cozumel Reefs National Park.
6. The Loreto Bay National Marine Park, established by Decree in the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, with a total area of 206,580-75-00 hectares, published in the **Official Journal of the Federation** on July 19, 1996, will have the character of Loreto Bay National Park.
7. The area that requires protection, improvement, conservation and restoration of its environmental conditions is the Sian Ka an Biosphere Reserve, established by Presidential Decree, located in the municipalities of Cozumel and Felipe Carrillo Puerto, in the State of Quintana Roo, with an area of 528,147-66-80 hectares, published in the **Official Gazette of the Federation** on January 20, 1986, will have the character of Sian Ka an Biosphere Reserve.
8. The Natural Protected Areas for the migration, wintering and reproduction of the Monarch butterfly, as well as the conservation of its environmental conditions, located in the municipalities indicated, belonging to the States of Michoacán and the State of Mexico, with an area of 16,110-14-50

coasts of the municipalities of Isla Mujeres and Benito Juárez, State of Quintana Roo, with a total area of 8,673-06-00 hectares, published in the **Official Gazette of the Federation** on July 19, 1996, will have the character of National Park West Coast of Isla Mujeres, Punta Cancun and Punta Nizuc.

- hectares, established by Presidential Decree published in the **Official Journal of the Federation** on October 9, 1986, will have the character of Monarch Butterfly Biosphere Reserve.
9. The Reserve and Refuge Zone for Migratory Birds and Wildlife Islas del Golfo de California, established by Decree in the islands listed below located in the Gulf of California, in the states of Baja California, Baja California Sur, Sonora and Sinaloa, published in the **Official Gazette of the Federation** on August 2, 1978, will have the character of Flora and Fauna Protection Area Islas del Golfo de California.
 10. The Submarine Refuge Zone of Flora, Fauna and Ecological Conditions of the Fund, established by Presidential Decree in Cabo San Lucas of the Coast of the Territory of the Baja California Peninsula, in the State of Baja California Sur, in the reduced zone of the South Coast of the Peninsula in an area delimited to the North, by the parallel 22° 54 North latitude and to the South, 22° 50 50 , to the West, by the meridian 109° 54 and to the East, by the meridian 109° 50 , published in the **Official Gazette of the Federation** on November 29, 1973, will have the character of Area of Protection of Flora and Fauna Cabo San Lucas .
 11. The Forest Protection Zone, as well as the Mapimí Integral Biosphere Reserve and Fauna Refuge, established by Decree in the region known as Mapimí, located in the State of Durango, published in the **Official Gazette of the Federation** on July 19, 1979, will have the character of Mapimí Biosphere Reserve.
 12. The Forest Protection Zone and Integral Biosphere Reserve La Michilía, established by Decree in the region known as La Michilía, in the State of Durango, published in the **Official Gazette of the Federation** on July 18, 1979, will have the character of La Michilía Biosphere Reserve.
 13. The Refuge Zone for whales and whale calves in the area of Laguna Ojo de Liebre, established by Decree in the waters of the area of Laguna Ojo de Liebre, located in the State of Baja California Sur, published in the **Official Gazette of the Federation** on January 14, 1972 and its modification published in the **Official Gazette of the Federation** on March 28, 1980, declaring as a Refuge Zone for whales and whale calves the waters of the Ojo de Liebre Lagoon Complex, which includes the Lagoon of the same name, as well as the lagoons called Manuela and Guerrero Negro, will have the character of Biosphere Reserve of the Ojo de Liebre Lagoon Complex.
 14. La Primavera Forest Protection Zone and Wildlife Refuge; established by Presidential Decree in the region known as La Primavera, located in the municipalities of Tala, Zapopan and Tlajomulco, Jalisco, with an approximate area of 30,500 hectares, published in the **Official Gazette of the Federation** on March 6, 1980, will have the character of La Primavera Flora and Fauna Protection Area.
 15. The Forest Protection Zone and Wildlife Refuge Valle de los Cirios, established by Presidential Decree in the region known as Valle de los Cirios, on the central slope of the Baja California Peninsula, within the following geographic coordinates: to the North, the 30° parallel, to the South, the 28° parallel, to the East, the 113° meridian and to the West, the 116° meridian; published on June 2, 1980, will have the character of Valle de los Cirios Wildlife Protection Area .
 16. The Forest Protection Zone and Wildlife Refuge Cascada de Agua Azul ; established by Presidential Decree in the region known as Cascada de Agua Azul, located in the Municipality of Tumbalá, Chiapas, with a surface area of 2,580 hectares, published in

- The Cascada de Agua Azul Flora and Fauna Protection Area was published in the **Official Gazette of the Federation** on April 29, 1980.
17. The Sierra de Alvarez Forest Protection Zone and Wildlife Refuge, established by Decree in the region known as Sierra de Alvarez, located in the municipalities of Armadillo de los Infantes and Zaragoza in the State of San Luis Potosi, with an area of 16,900 hectares, published in the **Official Gazette of the Federation** on April 7, 1981, will have the character of Sierra de Alvarez Flora and Fauna Protection Area.
 18. The Sierra La Mojonera Forest Protection Zone and Wildlife Refuge, established by Decree in the region known as Sierra La Mojonera, located in the Municipality of Vanegas, in the State of San Luis Potosi, with an approximate area of 9,2-51-50-00 hectares, published in the **Official Gazette of the Federation** on August 13, 1981, will have the character of Sierra La Mojonera Flora and Fauna Protection Area.
 19. The Forest Protection Zone and Integral Reserve of the Montes Azules Biosphere, established by Decree the Forest Protection Zone in the Tulijah River Basin, and the Integral Reserve of the Montes Azules Biosphere, in the area within the limits indicated, in the State of Chiapas, published in the **Official Gazette of the Federation** on January 12, 1978, will have the character of Montes Azules Biosphere Reserve, Chiapas, only in what corresponds to the Integral Reserve of the Montes Azules Biosphere.
 20. The El Jabalí Forest Protection Zone and Wildlife Refuge, established by Decree in the region known as El Jabalí, located in the Municipality of Comala, State of Colima, with an approximate area of 5,178-56-00 hectares, published in the **Official Gazette of the Federation** on August 14, 2009, is located in the municipality of Comala, State of Colima, with an approximate area of 5,178-56-00 hectares.
- 1981, will have the character of El Jabalí Flora and Fauna Protection Area.
21. The Sierra de Quila Forest and Fauna Protection Zone, established by Presidential Decree in the region known as Sierra de Quila, located in the municipalities of Tecolotlán, Tenamaxtlán, San Martín Hidalgo and Cocula, in the State of Jalisco, with an approximate area of 15,192-50-00 hectares, published in the **Official Gazette of the Federation** on August 4, 1982, will have the character of Sierra de Quila Flora and Fauna Protection Area.
 22. The Selva del Ocote Forest and Wildlife Protection Zone, established by Presidential Decree in the region known as Selva del Ocote, in the Municipality of Ocozocuaula de Espinoza, in the State of Chiapas, with an area of 48,140 hectares, published in the **Official Gazette of the Federation** on October 20, 1982, will have the status of Selva del Ocote Biosphere Reserve.
- ARTICLE TWO.-** The successive official communications related to the denomination of the natural protected areas shall be the one consigned in the present instrument.
- ARTICLE THREE.-** For the due compliance of the present Agreement, each one of the categories of natural protected areas established in the first article, shall be subject to the dispositions contained in the General Law of Ecological Balance and Environmental Protection for the category, as well as the other applicable dispositions of said legal ordinance and the stipulations of the corresponding decrees.
- ARTICLE FOURTH:** When, as a result of the justifying technical studies, it is determined the need to modify the delimitation of the Area, its zoning or permitted activities established in the respective declarations, the Secretariat shall submit for consideration of the Head of the Federal Executive the corresponding modifications to said declarations, in accordance with the procedure established in the General Law of Ecological Balance and Environmental Protection.
- ARTICLE FIVE.-** The Secretariat will carry out the legal and administrative actions

The Company will take the necessary steps before the competent instances or authorities, for the full achievement of the provisions of this Agreement.

ARTICLE SIXTH.- The Secretariat shall be in charge of interpreting this Agreement.

TRANSITIONS

FIRST.- All provisions established in the aforementioned decrees are hereby repealed, in all matters that oppose this Agreement.

SECOND.- This Agreement shall enter into force on the day following its publication in the **Official Gazette of the Federation**.

Given in Mexico City, Federal District, on the thirtieth day of May of the year two thousand, in the absence of the Secretary of the Environment, Natural Resources and Fisheries, and in accordance with Article 85 of the Internal Regulations of this Agency, the Undersecretary of Planning, **Juan Carlos Belausteguigoitia Rius**.

DOF: 07/19/1996

DECREE declaring a protected natural area, with the character of National Marine Park, the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, with a total area of 206,580-75 -00 hectares.

In the margin a seal with the National Coat of Arms, which says: United Mexican States.- Presidency of the Republic.

ERNESTO ZEDILLO PONCE DE LEÓN, President of the United Mexican States, in exercise of the power conferred on me by article 89, section I, of the Political Constitution of the United Mexican States and based on the provisions of articles 27, third paragraph of the Constitution itself; 2nd. fractions II and III, 5th. fractions II, XI and XIII, 8o. fractions II, III and IV, 38, 44, 45, 46 fraction V, 47, 52, 57, 58, 59, 60, 61, 64, 65, 71, 76, 79 and 80 of the General Law of Ecological Balance and Environmental Protection; 6th, 18, 21 and 22 of the Federal Law of the Sea; 2nd. fractions III, VIII, X and XI of the Organic Law of the Mexican Navy; 2nd, 16, 85 and 86 sections III, IV and VII of the National Water Law; 3rd, 6th fraction I, 7o. section VII of the Navigation Law; 2nd, 3rd sections V and VI of the Fisheries Law; 33 and 37 of the Planning Law; 30, 32 Bis and 36 of the Organic Law of the Federal Public Administration, and

CONSIDERING

That Loreto Bay, located off the coast of the Municipality of Loreto in the State of Baja California Sur, represents a particular type of habitat, where ecological processes, biological communities and particular physiographic characteristics occur; which gives it national relevance;

That the Secretariats of the Navy and Environment, Natural Resources and Fisheries, in coordination with the Government of the State of Baja California Sur and the City Council of Loreto, as well as with inhabitants of said federal entity, carried out the technical studies, of the which emerges the need to establish the region known as "**Bahía de Loreto**" as a protected natural area with the character of National Marine Park, with the purpose of protecting and restoring environmental conditions to harmonize and boost its sustainable development, as well as plan and comprehensively manage the use of the region's natural resources;

That based on the studies referred to in the previous considering, a general polygon was determined for the establishment of the protected natural area with the character of National Marine Park, under the name "**Bahía de Loreto**", whose delimitation is provided for in the official map kept by the National Institute of Ecology of the Ministry of Environment, Natural Resources and Fisheries, with the topo-hydrographic analytical boundary description established in this Decree;

That it is necessary to protect the ecological environment of the polygon that is the subject of this Decree, for which purpose it is required to carry out studies and research actions that generate the necessary elements for its recovery and provide bases for the sustainable management of the ecosystem;

That it is urgent to carry out population studies in the area covered by this Decree for species of marine mammals such as whales, dolphins and sea lions, as well as other marine species such as the manta ray;

That the islands found in the Bay of Loreto have numerous endemic species, which are of great value for the conservation of the balance of ecosystems, as well as a fauna rich in mammals, reptiles, amphibians and insects that present marked endemism;

That the Secretariats of the Navy, of the Environment, Natural Resources and Fisheries and of Communications and Transportation, have proposed to the Federal Executive under my charge to incorporate the area known as "**Bahía de Loreto**", to the National System of Protected Natural Areas, with the character of the National Marine Park, so I have seen fit to issue the following

DECREE

FIRST ARTICLE.- Because it is of public interest and of the Federation, the area known as "**Bahía de Loreto**", located off the coast of the Municipality of Loreto, State of Baja, is declared a protected natural area, with the character of National Marine Park. Southern California, with a total area of 206,580-75-00 ha. (TWO HUNDRED SIX THOUSAND FIVE HUNDRED AND EIGHTY HECTARES, SEVENTY-FIVE AREAS, ZERO CENTIARES), made up of a general polygon, whose analytical topo-hydrographic boundary description is as follows:

BOUNDARY DESCRIPTION OF THE GENERAL POLYGON OF THE "BAHÍA DE LORETO" NATIONAL MARINE PARK

The polygon begins at vertex 1 with coordinates 26°07'48.72" LATITUDE N; 111°21'08.67" LONGITUDE W starting from this point with a RAC of EAST FRANK and a distance of 35,200.00 m. Vertex 2 is reached with coordinates 26°07'48.72" LATITUDE N, 111°00'00" LONGITUDE W starting from this point with a RAC of SOUTH FRANCO and a distance of 42,100.00 m. Vertex 3 with coordinates 25°45'00" LATITUDE N, 111°00'00" LONGITUDE W is reached starting from this point with a RAC of EAST FRANK and a distance of 25,100.00 m. Vertex 4 is reached with coordinates 25°45'00" LATITUDE N, 110°45'00" LONGITUDE W starting from this point with a RAC of SOUTH FRANCO and a distance of 17,900.00 m. Vertex 5 is reached with coordinates 25°35'18.41" LATITUDE N, 110°45'00" LONGITUDE W starting from this point with a RAC of FRANC WEST and a distance of 35,100.00 m. Vertex 6 is reached with coordinates 25°35'18.41" LATITUDE N, 111°05'56.77" LONGITUDE W starting from this point with a RAC of FRANK NORTH and a distance of 14,600.00 m. Vertex 7 with coordinates 25°43'12.78" LATITUDE N, 111°05'56.77" LONGITUDE W is reached starting from this point with a RAC of FRANK WEST and a distance of 12,050.00 m. You reach vertex 8 with coordinates 25°43'12.78" LATITUDE N, 111°13'08.84" LONGITUDE W. Starting from this point and following the coast in a general direction North you reach vertex 1 where the polygon closes with an area of 206,580 -75-00 ha.

SECOND ARTICLE.- For the purposes of the provisions of the General Law of Ecological Balance and Environmental Protection, the administration, organization and management of the protected natural area with the character of National Marine Park referred to in this Decree, is in charge of the Secretariats of the Navy and the Environment, Natural Resources and Fisheries, which will formulate the Management Program for the area, inviting the competent Federal Public Administration agencies, the

Government of the State of Baja California Sur to participate in its preparation and execution. , to the Municipality of Loreto, to higher education and research institutions, to productive agents, as well as to environmental groups and other interested parties, celebrating the collaboration agreements, coordination agreements and consultation agreements that are appropriate.

ARTICLE THREE.- The Management Program of the protected natural area will contain, at least, the following:

- I. The description of the physical, biological and economic characteristics of the area in the national, regional and local context;
- II. The specific objectives of the National Marine Park;
- III. The actions to be carried out in the short, medium and long term, establishing their link with the National Democratic Planning System. These actions will include conservation, restoration, research, use of resources, extension, dissemination, operation, administration, development, surveillance, coordination, monitoring and control;
- IV. The catalog of flora and fauna species found in the area;
- V. Activities to protect ecosystems and their elements, scientific research and ecological education;
- SAW.** The provisions and activities for the protection of ecosystems, as well as matters related to avoiding pollution of coastal marine waters;
- VII. Restrictions on the construction, occupation and operation of maritime facilities or other types of works;
- VIII. The modalities, description and limitations to which fishing, commercial and sporting activities will be subject, specifying the areas, times, closed seasons, gear, equipment and methods established by official Mexican standards and other applicable legal provisions. As well as the provisions to which previously authorized fishing activities must be subject;
- IX. The provision of coordination actions and guidelines, as well as the regulations to which tourism and other authorized activities will be subject, so that there is due congruence with the general objectives of this Decree and other programs in charge of the other agencies. of the Federal Public Administration, within the scope of their respective powers;
- X. The regulation of permitted activities;
- XI. Navigation areas and channels, and
- XII. Possible sources of financing for the administration of the National Marine Park.

ARTICLE FOUR.- The zoning for management within the "Bahía de Loreto" National Marine Park must be carried out in common agreement with the agencies of the Federal Public Administration that affect the area, the State and Municipal Governments, non-governmental organizations, institutions academics and communities that have representation in the area.

ARTICLE FIFTH.- In the "Bahía de Loreto" National Marine Park, only activities related to the preservation of aquatic ecosystems and their elements, research, recreation, ecological education and the use of natural and fishing resources, approved by the authorities, will be permitted. competent, in the areas, seasons and modalities determined in accordance with their powers by the Secretariats of the Navy and the Environment, Natural Resources and Fisheries.

ARTICLE SIX.- Any public or private work project that is intended to be carried out within the National Marine Park or the surrounding Federal Maritime-Terrestrial Zone, must be consistent with the guidelines established by the Management Program and must also have, prior to its execution, with the corresponding environmental impact authorization, in the terms of the General Law of Ecological Balance and Environmental Protection and its Regulations on Environmental Impact.

ARTICLE SEVEN.- Within the National Marine Park, it is prohibited to dump or discharge contaminants, waste or any other type of material, use explosives; throwing or abandoning waste on adjacent beaches; carry out dredging or any other activities that generate the suspension of sediments, or cause areas with muddy or silty waters within the protected area or in surrounding areas; install platforms or infrastructure of any other nature that affects or represents a risk to the preservation of the area, as well as the introduction of living species foreign to the flora and fauna existing there. Likewise, the extraction of biogenic elements is prohibited.

ARTICLE EIGHTH.- The inspection and surveillance of the "Bahía de Loreto" National Marine Park is the responsibility of the Secretariats of the Navy, Environment, Natural Resources and Fisheries, and Communications and Transportation within the scope of their respective powers. Infractions committed will be sanctioned in accordance with the provisions of the General Law of Ecological Balance and Environmental Protection, Fisheries Law, National Water Law, Navigation Law, Law of the Sea and other applicable legal provisions.

TRANSIENTS

FIRST.- This Decree will enter into force on the day following its publication in the **Official Gazette of the Federation** .

SECOND.- The Secretariats of the Navy and the Environment, Natural Resources and Fisheries will prepare the Management Program for the area, within 365 calendar days from the publication in the **Official Gazette of the Federation** of this Decree.

THIRD.- The areas and navigation channels already established within the "Bahía de Loreto" National Marine Park, at the time of issuance of this Decree, will continue in use as long as the Management Program for the area is not developed and operates.

FOURTH.- The Secretariat of the Environment, Natural Resources and Fisheries will proceed to process the registration of this Decree in the National System of Protected Natural Areas, within a period of no more than 180 calendar days from its publication in the **Official Gazette. of the Federation** .

FIFTH.- The fishing activities that have been carried out prior to the issuance of this Decree may continue as long as they do not significantly affect the fish and malacological resources of the area, for which the current regulations on the matter must be

observed, even in until the National Marine Park Management Program is developed or the specific official Mexican regulations that will regulate said activities are issued.

SIXTH.- All administrative provisions that oppose this Decree are repealed.

Given at the Residence of the Federal Executive Branch, in Mexico City, Federal District, on the fifteenth day of July, one thousand nine hundred and ninety-six.- **Ernesto Zedillo Ponce de León.-** Heading.- The Secretary of the Navy, **José Ramón Lorenzo Franco** .- Heading.- The Secretary of the Environment, Natural Resources and Fisheries, **Julia Carabias Lillo** .- Heading.- The Secretary of Communications and Transportation, **Carlos Ruiz Sacristán** .- Heading.

DECREE declaring the 6,217-52-05.48 hectares of Loreto II Natural Protected Area, located in the municipality of Loreto, state of Baja California Sur, as a national park.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Presidencia de la República.

ANDRÉS MANUEL LÓPEZ OBRADOR, President of the United Mexican States, in exercise of the power vested in me by Article 89, section I, of the Political Constitution of the United Mexican States; based on Articles 4, fifth paragraph, and 27, third paragraph, of the Constitution; 13 and 32 Bis of the Organic Law of the Federal Public Administration; 1o, Sections I, IV and VI, 2nd, Section II, 3rd, Sections II, XXV, XXVII and XXX, 5th, Sections VIII and XI, 6th, 15th, Sections I, III, V, VI and IX, 44, 45, 46, first paragraph, Section III, second, fifth, sixth and seventh, 47, 47 BIS, 47 BIS 1, 50, 57, 58, 60, 61, 63, 64, 74 and 161 of the General Law of Ecological Balance and Environmental Protection; 29, section X, 30, section XXII, and 34, section III, clause e, of the General Law of Climate Change; 4th of the General Law of Wildlife; and

WHEREAS

That the fifth paragraph of Article 4 of the Political Constitution of the United Mexican States (CPEUM) establishes that "[e]very person has the right to a healthy environment for his or her development and well-being. The State shall guarantee respect for this right";

That the third paragraph of Article 27 of the CPEUM establishes that "[t]he nation shall at all times have the right to impose on private property the modalities dictated by the public interest", and that the State shall dictate "the necessary measures to order human settlements and establish adequate provisions, uses, reserves and destinations of land, water and forests (...) to preserve and restore the ecological balance", as well as "to avoid the destruction of natural elements and the damages that property may suffer to the detriment of society";

That the Convention on Biological Diversity, signed *ad referendum* by Mexico on June 13, 1992 and published in the Official Gazette of the Federation (DOF) on May 7, 1993, states in Article 8, paragraphs a and d, respectively, that each contracting party shall "[e]stablish a system of protected areas or areas where special measures must be taken to conserve biological diversity", and "[p]romote the protection of ecosystems and natural habitats and the maintenance of viable populations of species in natural surroundings";

The Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights "Protocol of San Salvador", ratified by Mexico on April 16, 1996 and published in the DOF on September 1, 1998, provides in Article 11 that "[e]very person has the right to live in a healthy environment and to have access to basic public services", and that "[t]he States Parties shall promote the protection, preservation and improvement of the environment";

That the Paris Agreement, published in the DOF on November 4, 2016, provides in its Article 7 that "...the Parties establish the global goal on adaptation, which is to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change with a view to contributing to sustainable development...";

That one of the "Framework Principles on Human Rights and the Environment" presented by the United Nations Special Rapporteur on Human Rights and the Environment to the United Nations Human Rights Council, in March 2018, is that "[s]tates must respect, protect and fulfill human rights in order to ensure a safe, clean, healthy and sustainable environment"; therefore, they must adopt effective measures for their compliance, prevent environmental damage, reduce it and provide for reparations;

The purpose of the General Law of Ecological Balance and Environmental Protection (LGEEPA) is to promote sustainable development and establish the bases for "[t]he preservation and protection of biodiversity, as well as the establishment and administration of protected natural areas" (Article 1, Section IV);

That the LGEEPA provides that preservation is the "set of policies and measures to maintain the conditions that favor the evolution and continuity of ecosystems and natural habitats, as well as to conserve viable populations of species in their natural environments and the components of biodiversity outside their natural habitats", and that protection is the "set of policies and measures to improve the environment and control its deterioration" (article 3o., fractions XXV and XXVII);

That the aforementioned law considers the establishment, protection and preservation of natural protected areas and ecological restoration zones to be of public utility (Article 2, Section II);

The LGEEPA provides that for the formulation and conduct of environmental policy and the issuance of official Mexican standards and other instruments provided for in said law, in matters of preservation and restoration of the ecological balance and environmental protection, the Federal Executive shall observe as a principle that the most effective means to avoid ecological imbalances is the prevention of the causes that generate them (Article 15, Section VI);

That, in accordance with the LGEEPA, the national parks will be constituted, in the case of biogeographic representations, at national level, of one or more ecosystems that are significant for their scenic beauty, their scientific, educational, recreational, historical value, for the existence of flora and fauna, for their aptitude for the development of tourism (article 50);

Protected natural areas will be established by means of a declaration issued by the Federal Executive, following the completion of supporting studies, which must be made available to the public (Articles 57 and 58 of the LGEEPA);

That natural protected areas contribute to adopting measures to combat climate change and its effects, and to halt the loss of biodiversity, in order to achieve Sustainable Development Goals 13 and 15 of the United Nations 2030 Agenda;

That the National Development Plan 2019-2024, approved by the Senate of the Republic and published in the DOF on July 12, 2019, states in its General Axis II. "Social Policy", section "Sustainable Development" that "[t]he Government of Mexico is committed to promoting sustainable development, which in the present era has been evidenced as an indispensable factor of well-being. It is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. This formula summarizes unavoidable ethical, social, environmental and economic mandates that must be applied in the present to guarantee a minimally habitable and harmonious future";

That the Sector Program for the Environment and Natural Resources 2020-2024, published in the DOF on July 7, 2020, states as a specific action "[c]onsolidating and promoting protected natural areas (...) giving priority to the representativeness and connectivity of ecosystems, the conservation of priority species and the biocultural heritage of the communities that inhabit them";

That the protection and conservation of ecosystems and their biodiversity reduce the vulnerability of the population and increase their resilience, in addition to favoring the adaptation of biodiversity and species at risk to climate change;

That the accelerated destruction of the natural environment highlights the need to preserve all the elements that make it up, so it has been considered that the establishment of natural protected areas is one of the most effective measures for biological conservation;

That, in order to guarantee the people of Mexico their right to a healthy environment, their development and well-being, as well as to avoid the excessive exploitation of natural resources and the alteration of ecosystems, the President of the Republic, through an agreement published in the DOF on February 15, 2023, instructed the National Fund for the Promotion of Tourism (Fonatur) to identify the properties that are part of its patrimony that, due to their characteristics and the presence of species of flora and fauna in them, have an important environmental value and, therefore, could be declared as natural protected areas;

That the Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas (Conanp), in collaboration with Fonatur, prepared the previous justification study for the Loreto II site, located in the municipality of Loreto, state of Baja California Sur, within the physiographic province of the Baja California peninsula and in the physiographic subprovince of the Sierra de la Giganta, and made available to the public by means of a notice published in the DOF on July 6, 2023;

That in said previous study the biological characteristics and land use vocation were considered, and it was concluded that it meets the necessary requirements to be declared as a natural protected area with the category of flora and fauna protection area, in accordance with articles 45 and 46 of the Regulation of the General Law of Ecological Balance and Environmental Protection in the matter of Natural Protected Areas, since it has orographic features in which are distinguished lomeríos, canyons, ravines, and valleys, with some morphological associations, located in a descent with lomerío, in high sierra and a basaltic plateau with ravines, which has allowed the establishment of fragile ecosystems typical of the Baja California peninsula in a good state of conservation such as thorny scrub with lateral thorns, sarco-crasicaule scrubland, sarco-caule scrubland, subperennial riparian forest, halophilic vegetation, coastal scrubland, coastal dune vegetation, and mangroves;

Loreto II provides important ecosystem services such as pollination, biological control, climate regulation, water and carbon capture and storage, protection against extreme weather events, landscape diversity for recreation and cultural identity, among others;

Loreto II is home to 557 native species of flora and fauna, which represents 13% of the biodiversity reported for the state of Baja California Sur, of which 94 vascular plant species, 4 invertebrate species, and 12 vertebrate species are endemic; 7 vascular plant species and 44 vertebrate species are in some category of risk according to the "Norma Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres- Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo", its modification and errata, published in the DOF on December 30, 2010, November 14, 2019 and March 4, 2020, respectively, and 35 species that are considered a priority for conservation in Mexico in accordance with the "Acuerdo por el que se da a conocer la lista de especies y poblaciones prioritarias para la conservación" published in the DOF on March 5, 2014;

That among the species present in Loreto II, seven are in some category of risk according to NOM-059-SEMARNAT-2010: black mangrove (*Avicennia germinans*), red mangrove (*Rhizophora mangle*) and white mangrove (*Laguncularia racemosa*), which are in the threatened category; palo fierro (*Olneya tesota*), garambullo (*Lophocereus schottii*), Evermann's biznaga (*Mammillaria evermanniana*) and the Baja California alicoche (*Morangaya pensilis*), subject to special protection; as well as fauna species such as the rattlesnake (*Crotalus mitchelli*) known in the site as the peninsular spotted rattlesnake, southern lizard (*Elgaria multicarinata*), northwestern banded gecko (*Coleonyx variegatus*), aura eagle (*Buteo albonotatus*), least tern (*Sternula antillarum*), blue-footed booby (*Sula nebouxii*) and bighorn sheep (*Ovis canadensis*), all in the category of subject to special protection; desert fox (*Vulpes macrotis*), tlalcoyote (*Taxidea taxus*), and Californian rat (*Neotoma bryanti*), in the endangered category; as well as sea turtles: Olive Ridley turtle (*Lepidochelys olivacea*) and black sea turtle (*Chelonia mydas*), in the endangered category;

In Loreto II there are archaeological sites such as open-air and cave dwellings, as well as shell middens, so called because they have mounds of shells whose mollusks were consumed by the ancient inhabitants; there are also paintings and petroglyphs dedicated to the cult of nature, which show the presence of groups such as the Monquis, also known as Monguies, who were the ancient and original inhabitants of the Baja California peninsula;

That in Loreto II there are socio-environmental problems such as unregulated tourism and poor tourism practices, overexploitation of aquifers, illegal extraction and sale of biodiversity, introduction of exotic and invasive species, unregulated extraction of stone materials and social problems related to the unauthorized entry of people from the surrounding localities to the Loreto II site, which benefit from the illegal extraction and use of natural resources;

That not taking preventive protection actions with respect to the Loreto II site implies putting at risk the ecosystems and species that live there, since environmental deterioration would continue for future generations due to the development of activities contrary to the conservation of the environment in the area, which transgresses the principles of responsibility and prevention established in the LGEEPA;

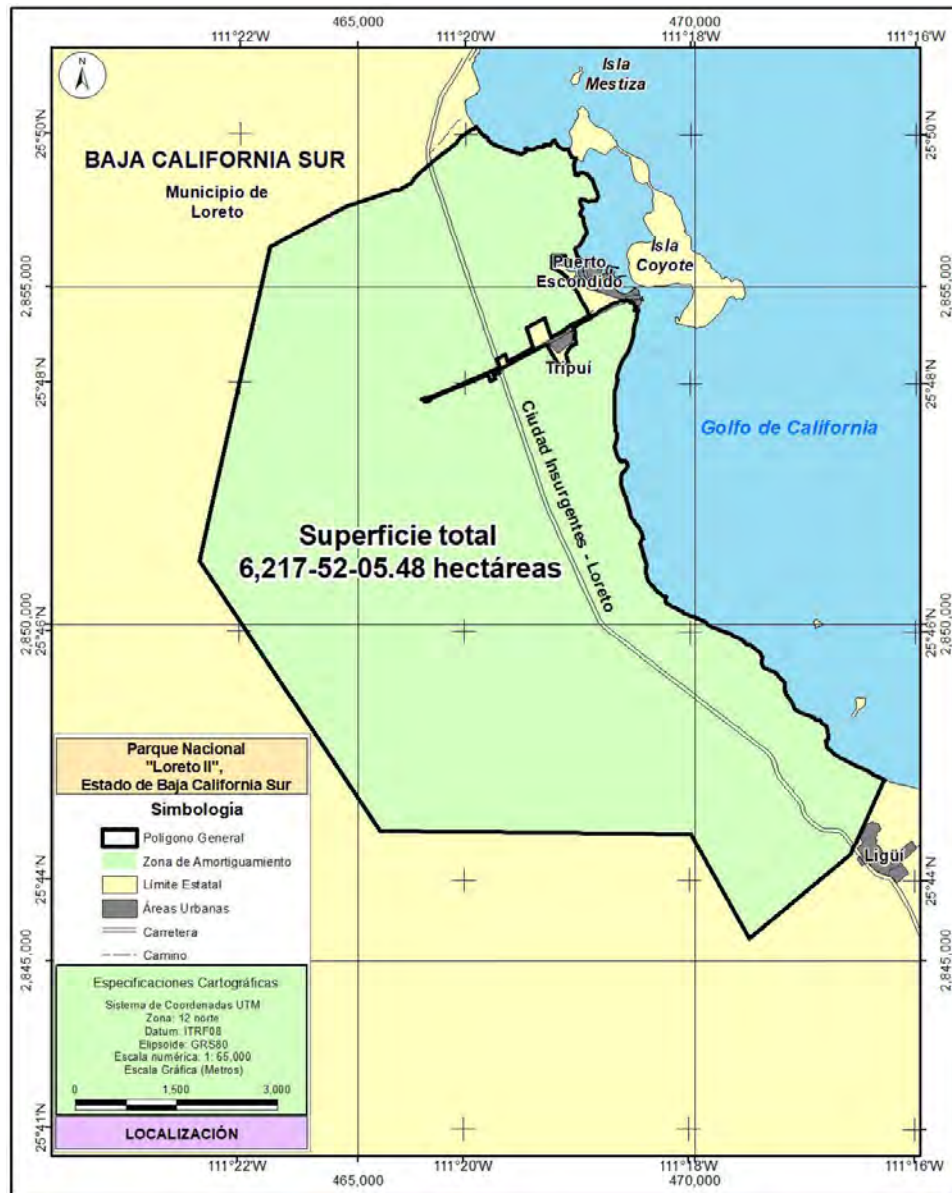
That, in the face of the challenge posed by climate change, various measures must be implemented with a cross-cutting and multidisciplinary vision, in order to conserve the natural heritage, use it in a sustainable manner and increase social welfare, and

That in order to protect the Loreto II site under schemes that guarantee the integral preservation of the natural elements that compose it, I have had the good will to issue the following

DECREE

ARTICLE ONE. The area of 6,217-52-05.48 hectares (six thousand two hundred and seventeen hectares, fifty-two areas, five point forty-eight centimeters), which according to the Geostatistical Framework, version 2022 of the National Institute of Statistics and Geography, is located in the municipality of Loreto, state of Baja California Sur, conformed by a general polygon that corresponds to the buffer zone, is declared Loreto II Natural Protected Area, with the character of a national park.

The boundary description of the general polygon that makes up Loreto II National Park is in a Universal Transverse Mercator (UTM) coordinate system, zone 12 north, with Ellipsoid GRS80 and Horizontal Datum ITRF08 epoch 2010.0.



The official map of Loreto II National Park that contains the analytical-topographical boundary description of the general polygon described in this decree is located at the central offices of the National Commission of Natural Protected Areas, located at Avenida Ejército Nacional, number 223, 12th floor, colonia Anáhuac, I Sección, alcaldía Miguel Hidalgo, postal code 11320, in Mexico City; at the office of the Dirección Regional Península de Baja California y Pacífico Norte, located at 1555 Agricultura Street, number 1555, building F, 2nd floor, colonia Emiliano Zapata, postal code 23070, La Paz, state of Baja California Sur, and at the representative office of the Secretaría de Medio Ambiente y Recursos Naturales, located at 1045 Melchor Ocampo Street, colonia Centro, postal code 23000, La Paz, state of Baja California Sur.

**General Polygon (Surface
area 6,217-52-05.48 hectares)**

Est-PV	Rumbo	Distance (meters)	Vertex No.-	UTM coordinates	
				X	Y
			1	466,751.502000	2,857,377.258300

From this vertex 1 we continue along the border of Loreto Bay National Park, with a general southeast course, for a n approximate distance of 1,734.52 meters until we reach vertex 2.

			2	468,121.889400	2,857,049.312000
2 - 3	76°30'35"SE	17.85	3	468,122.893200	2,857,031.494800
3 - 4	76°30'35"SE	108.70	4	468,170.820700	2,856,933.927600
4 - 5	01°59'10"SW	62.75	5	468,230.838500	2,856,915.605600

From this vertex 5, we continue along the border of Loreto Bay National Park, with a general southeast course, for a n approximate distance of 2,178.33 meters until we reach vertex 6.

			6	468,314.936100	2,855,396.386500
6 - 7	01°59'11"SW	28.43	7	468,287.246000	2,855,389.953700
7 - 8	86°28'53"NW	21.14	8	468,268.929400	2,855,379.390700
8 - 9	88°21'08"NW	31.24	9	468,243.321000	2,855,361.493900
9 - 10	01°57'21"SW	26.48	10	468,229.154400	2,855,339.118600
10 - 11	01°57'21"SW	1.19	11	468,227.979400	2,855,338.940500
11 - 12	88°29'32"SE	52.76	12	468,178.125300	2,855,356.197900
12 - 13	00°22'53"NE	33.71	13	468,158.963800	2,855,383.928100
13 - 14	88°32'08"SE	7.42	14	468,151.959900	2,855,386.390200
14 - 15	01°59'11"SW	86.48	15	468,078.071900	2,855,431.324600
15 - 16	87°55'53"NW	39.15	16	468,078.071900	2,855,470.479400
16 - 17	87°55'52"NW	205.67	17	467,872.419800	2,855,467.957400
17 - 18	87°55'52"NW	189.15	18	467,881.962200	2,855,279.048700
18 - 19	02°04'07"SW	106.77	19	467,982.075200	2,855,241.929700
19 - 20	02°04'08"SW	149.32	20	468,099.574400	2,855,149.793800
20 - 21	88°13'23"NW	118.89	21	468,148.311000	2,855,041.346800
21 - 22	81°43'00"SW	60.83	22	468,186.165900	2,854,993.733700
22 - 23	71°25'25"SW	35.19	23	468,219.782700	2,854,983.330000
23 - 24	60°52'47"SW	101.82	24	468,268.281400	2,854,893.802600
24 - 25	60°26'37"SW	21.95	25	468,278.734500	2,854,874.506400
25 - 26	61°03'12"SW	84.43	26	468,318.949500	2,854,800.270400
26 - 27	61°03'13"SW	30.19	27	468,333.331600	2,854,773.721200
27 - 28	60°00'24"SW	86.40	28	468,374.486400	2,854,697.750500
28 - 29	04°13'59"SW	4.08	29	468,376.429500	2,854,694.163600
29 - 30	04°14'00"SW	21.95	30	468,386.882600	2,854,674.867300
30 - 31	90°00'00"NE	89.82	31	468,429.666000	2,854,595.890100
31 - 32	75°30'36"NE	1.27	32	468,430.349800	2,854,594.824900
32 - 33	72°54'48"NE	1.27	33	468,431.182300	2,854,593.871300
33 - 34	72°23'08"NE	1.27	34	468,432.145500	2,854,593.050100
34 - 35	54°15'47"NE	1.27	35	468,433.218800	2,854,592.378900
35 - 36	54°15'45"NE	3.61	36	468,434.949300	2,854,589.206900
36 - 37	89°34'30"SE	16.54	37	468,420.548100	2,854,581.062700

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
37 - 38	01°59'11"NE	51.90	38	468,374.879300	2,854,556.406400
38 - 39	01°59'11"NE	21.90	39	468,355.608500	2,854,546.002200
39 - 40	01°59'10"NE	22.80	40	468,335.620900	2,854,535.040500
40 - 41	01°59'11"NE	53.79	41	468,288.458900	2,854,509.175500
41 - 42	76°30'35"SE	56.64	42	468,238.674400	2,854,482.163400
42 - 43	76°30'35"SE	21.72	43	468,219.903000	2,854,471.245100
43 - 44	76°30'35"SE	36.50	44	468,187.883800	2,854,453.714200
44 - 45	76°30'35"SE	26.15	45	468,165.197800	2,854,440.701300
45 - 46	76°30'35"SE	22.12	46	468,146.424400	2,854,429.007900
46 - 47	76°30'35"SE	21.71	47	468,128.651500	2,854,416.537000
47 - 48	76°30'35"SE	19.83	48	468,112.484900	2,854,405.058800
48 - 49	76°21'22"SE	13.42	49	468,101.839500	2,854,396.889600
49 - 50	05°03'23"SE	9.30	50	468,094.707900	2,854,390.926800
50 - 51	78°18'16"NW	12.34	51	468,085.665800	2,854,382.532200
51 - 52	31°56'41"NW	11.17	52	468,076.928000	2,854,375.576600
52 - 53	10°12'00"SW	6.38	53	468,071.855700	2,854,371.712400
53 - 54	78°05'50"NW	6.37	54	468,066.784800	2,854,367.849200
54 - 55	06°58'01"NE	6.29	55	468,061.680700	2,854,364.175300
55 - 56	02°54'40"NW	7.69	56	468,055.437700	2,854,359.681700
56 - 57	12°47'24"NW	13.39	57	468,043.993200	2,854,352.732600
57 - 58	22°40'10"NW	11.85	58	468,034.127300	2,854,346.161500
58 - 59	32°32'55"NW	1.61	59	468,032.706800	2,854,345.396600
59 - 60	42°25'40"NW	9.05	60	468,024.740200	2,854,341.106900
60 - 61	52°18'27"NW	6.29	61	468,019.117500	2,854,338.295600
61 - 62	62°11'08"NW	6.35	62	468,013.442300	2,854,335.458000
62 - 63	72°03'52"NW	14.93	63	468,000.399200	2,854,328.193400
63 - 64	81°56'44"NW	14.18	64	467,988.046500	2,854,321.225400
64 - 65	88°10'40"SW	6.00	65	467,982.821700	2,854,318.278100
65 - 66	78°17'46"SW	11.65	66	467,972.686800	2,854,312.526100
66 - 67	68°25'07"SW	15.47	67	467,959.231700	2,854,304.889600
67 - 68	58°32'19"SW	12.71	68	467,947.805500	2,854,299.318500
68 - 69	48°39'39"SW	15.80	69	467,933.599900	2,854,292.392200
69 - 70	38°46'48"SW	16.64	70	467,918.957500	2,854,284.493000
70 - 71	28°54'07"SW	20.34	71	467,901.054900	2,854,274.835000
71 - 72	76°13'22"NW	38.13	72	467,868.983000	2,854,254.204900
72 - 73	13°53'33"NE	309.42	73	467,767.819000	2,854,546.617900
73 - 74	11°05'39"NE	304.96	74	467,500.818000	2,854,399.276900
74 - 75	07°16'13"NE	311.41	75	467,602.611000	2,854,104.972900
75 - 76	06°23'22"NE	431.48	76	467,225.673000	2,853,894.988900
76 - 77	04°24'55"NE	113.03	77	467,188.883000	2,854,001.860900
77 - 78	03°18'40"NE	105.09	78	467,096.896000	2,853,951.035900
78 - 79	13°53'32"NE	40.37	79	467,059.470200	2,853,935.901500

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
79 - 80	88°00'31"SW	140.59	80	467,105.011500	2,853,802.888500
80 - 81	73°39'52"SW	57.24	81	467,052.357800	2,853,780.436600
81 - 82	64°30'26"SW	24.06	82	467,030.228300	2,853,771.005300
82 - 83	55°21'00"SW	988.26	83	466,121.138100	2,853,383.423600
83 - 84	46°11'21"SW	87.54	84	466,037.695800	2,853,356.952900
84 - 85	37°01'53"SW	40.57	85	465,999.022500	2,853,344.684400
85 - 86	27°52'19"SW	20.25	86	465,988.919200	2,853,362.238700
86 - 87	12°00'39"SW	51.12	87	465,944.611100	2,853,336.737400
87 - 88	14°54'22"SW	3.37	88	465,947.582100	2,853,335.153200
88 - 89	24°30'10"SW	7.98	89	465,953.185800	2,853,329.474300
89 - 90	34°05'45"SW	16.26	90	465,965.760800	2,853,319.170600
90 - 91	43°41'32"SW	12.29	91	465,975.981900	2,853,312.348500
91 - 92	53°17'18"SW	6.29	92	465,980.174900	2,853,307.657700
92 - 93	62°52'53"SW	2.60	93	465,981.448800	2,853,305.388000
93 - 94	72°28'47"SW	9.93	94	465,990.583000	2,853,309.282300
94 - 95	82°04'29"SW	17.33	95	465,998.035900	2,853,293.638700
95 - 96	88°19'50"NW	53.14	96	466,048.061300	2,853,311.573900
96 - 97	78°44'05"NW	17.82	97	466,061.335800	2,853,323.465300
97 - 98	70°11'50"NW	8.39	98	466,069.058700	2,853,326.749100
98 - 99	70°11'50"NW	15.07	99	466,066.295600	2,853,341.561600
99 - 100	17°47'48"NE	931.08	100	466,922.784700	2,853,706.717300
100 - 101	22°17'12"NW	6.53	101	466,925.366000	2,853,700.722900
101 - 102	67°01'48"NW	100.99	102	466,965.308000	2,853,607.968900
102 - 103	67°27'41"SW	77.20	103	467,036.231000	2,853,638.462900
103 - 104	21°22'00"SW	100.72	104	466,996.499000	2,853,731.014900
104 - 105	87°53'28"NW	6.14	105	466,994.078500	2,853,736.653300
105 - 106	86°01'04"SW	29.13	106	467,020.773200	2,853,748.314500
106 - 107	85°50'23"SW	6.19	107	467,023.212000	2,853,742.629900
107 - 108	01°59'11"SW	39.95	108	467,038.962000	2,853,705.918900
108 - 109	71°52'15"SW	12.90	109	467,050.832100	2,853,710.969800
109 - 110	79°18'50"SW	24.07	110	467,072.978800	2,853,720.393600
110 - 111	83°06'51"SW	23.00	111	467,094.142000	2,853,729.398900
111 - 112	89°15'24"NW	40.14	112	467,078.340000	2,853,766.292900
112 - 113	88°09'40"SW	6.03	113	467,075.964200	2,853,771.839900
113 - 114	86°21'59"NW	37.75	114	467,110.694400	2,853,786.641200
114 - 115	81°32'19"NW	40.00	115	467,148.630400	2,853,799.319900
115 - 116	87°56'10"NW	7.52	116	467,153.352700	2,853,805.167500
116 - 117	81°44'24"SW	7.52	117	467,158.655600	2,853,810.494100
117 - 118	31°50'38"NW	7.52	118	467,164.481900	2,853,815.242500
118 - 119	70°32'15"NE	7.52	119	467,170.768900	2,853,819.361500
119 - 120	20°49'17"NW	703.73	120	467,788.424000	2,854,156.622600
120 - 121	75°36'06"SW	362.67	121	467,976.673900	2,853,846.637700

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
121 - 122	20°59'45"SE	94.98	122	468,069.522000	2,853,866.660200
122 - 123	69°35'24"NE	49.18	123	468,117.601000	2,853,877.028300
123 - 124	31°50'38"SE	133.04	124	468,089.556600	2,854,007.076000
124 - 125	70°35'27"SW	46.91	125	468,104.277900	2,854,051.614300
125 - 126	73°18'22"SW	39.62	126	468,126.456300	2,854,084.443500
126 - 127	76°01'17"SW	45.13	127	468,159.417400	2,854,115.267700
127 - 128	78°44'10"SW	60.03	128	468,206.195900	2,854,152.887500
128 - 129	73°02'01"SW	22.69	129	468,228.621100	2,854,156.318800
129 - 130	61°31'35"SW	125.90	130	468,219.196900	2,854,281.861500
130 - 131	52°29'43"SW	125.90	131	468,209.772700	2,854,407.404100
131 - 132	47°20'25"SW	136.35	132	468,325.078700	2,854,480.180400
132 - 133	47°51'27"SW	6.83	133	468,330.997400	2,854,483.593300
133 - 134	39°25'47"SW	254.35	134	468,551.336000	2,854,610.645700
134 - 135	30°59'57"SW	33.66	135	468,574.912100	2,854,634.673400
135 - 136	43°35'13"SW	14.65	136	468,585.173700	2,854,645.131700
136 - 137	45°18'34"SW	3.09	137	468,587.336100	2,854,647.335500
137 - 138	55°16'35"SW	73.47	138	468,651.844400	2,854,682.501500
138 - 139	34°14'27"SW	89.80	139	468,730.435000	2,854,725.947400
139 - 140	22°31'59"SW	46.53	140	468,771.285100	2,854,748.220600
140 - 141	34°35'46"SW	26.05	141	468,794.867600	2,854,759.286900
141 - 142	35°56'41"SW	31.32	142	468,823.864500	2,854,771.130700
142 - 143	34°12'19"SW	23.72	143	468,846.335900	2,854,778.718800
143 - 144	21°59'27"SW	24.41	144	468,869.608700	2,854,786.083600
144 - 145	21°56'18"SW	25.07	145	468,893.881200	2,854,792.338700
145 - 146	20°33'21"SW	17.52	146	468,911.129500	2,854,795.398800
146 - 147	08°02'08"SW	46.98	147	468,957.719600	2,854,801.458600
147 - 148	04°45'48"SW	32.79	148	468,990.197500	2,854,805.943500
148 - 149	12°00'41"SW	1.65	149	468,991.440200	2,854,804.855600
149 - 150	20°55'28"SW	2.00	150	468,992.941700	2,854,803.541100
150 - 151	32°28'15"SW	53.98	151	469,033.557500	2,854,767.984100
151 - 152	88°49'38"NW	30.00	152	469,063.270600	2,854,772.106200
152 - 153	39°18'23"SW	12.21	153	469,063.486000	2,854,784.309300
153 - 154	08°17'27"SW	2.37	154	469,063.528000	2,854,786.681000
154 - 155	89°21'50"NE	94.45	155	469,124.397800	2,854,714.467100
155 - 156	07°07'59"NE	16.02	156	469,126.057300	2,854,698.530300
156 - 157	88°49'43"NW	42.97	157	469,094.735200	2,854,669.107600
157 - 158	32°28'16"NE	62.61	158	469,155.214600	2,854,652.911700

From this vertex 158 we continue along the boundary of Loreto Bay National Park, with a general southeast course, for an approximate distance of 9,341.82 meters until we reach vertex 159.

OFICIAL Tuesday, August 15, 2023

Est-PV	Rumbo	Distance (meters)	Vertex No.-	UTM coordinates	
				X	Y
			159	472,809.412700	2,847,679.591000
159 - 160	12°00'41"NE	36.04	160	472,784.869300	2,847,653.193900
160 - 161	04°45'49"NE	1,005.07	161	472,372.025700	2,846,736.833100
161 - 162	08°02'08"NE	45.27	162	472,353.785800	2,846,695.398700
162 - 163	20°33'22"NE	126.48	163	472,302.806600	2,846,579.646200
163 - 164	21°56'18"NE	32.40	164	472,278.364100	2,846,558.375200
164 - 165	21°59'27"NE	24.59	165	472,259.811300	2,846,542.237600
165 - 166	34°12'19"NE	1,896.58	166	470,805.206800	2,845,325.214000
166 - 167	35°56'41"NE	1,779.31	167	469,933.835800	2,846,876.560000
167 - 168	34°35'46"NE	2,167.53	168	467,766.453300	2,846,901.565000
168 - 169	22°31'59"NE	2,432.72	169	465,333.891000	2,846,929.617900
169 - 170	34°14'27"NE	4,825.16	170	462,648.498000	2,850,938.467900
170 - 171	55°16'35"NE	1,072.89	171	462,884.570000	2,851,985.063100
171 - 172	45°18'34"NE	3,704.66	172	463,699.727100	2,855,598.926000
172 - 173	43°35'12"NE	1,149.15	173	464,715.313200	2,856,136.629200
173 - 174	04°19'02"SE	137.97	174	464,837.244000	2,856,201.185200
174 - 175	12°48'39"SE	681.57	175	465,482.965700	2,856,419.326600
175 - 176	21°18'12"SE	61.51	176	465,541.274500	2,856,438.896600
176 - 177	29°47'51"SE	74.81	177	465,615.625400	2,856,447.205500
177 - 178	20°17'51"SE	194.31	178	465,783.673000	2,856,544.753200
178 - 179	18°52'05"SE	102.12	179	465,845.371800	2,856,626.128000
179 - 180	30°34'48"SE	100.94	180	465,915.833000	2,856,698.401200
180 - 181	75°33'40"SW	20.48	181	465,928.342000	2,856,714.615200
181 - 182	52°36'00"SW	182.33	182	466,069.562700	2,856,829.945700
182 - 183	43°13'08"SW	43.97	183	466,103.709600	2,856,857.646300
183 - 184	33°50'29"SW	222.84	184	466,276.721700	2,856,998.087800
184 - 185	24°27'33"SW	30.36	185	466,300.293900	2,857,017.220300
185 - 186	15°04'45"SW	195.88	186	466,452.401300	2,857,140.646700
186 - 187	05°42'12"SW	121.56	187	466,530.271200	2,857,233.990600
187 - 188	03°41'04"SE	202.31	188	466,699.784000	2,857,344.413600
188 - 189	13°03'36"SE	11.61	189	466,709.643500	2,857,338.274000
189 - 190	22°26'10"SE	17.49	190	466,718.887800	2,857,353.119500
190 - 191	78°22'32"SW	4.43	191	466,719.805600	2,857,357.456000
191 - 192	29°04'30"SE	7.44	192	466,726.038200	2,857,361.516000
192 - 1	69°30'15"NE	29.94	1		

ARTICLE TWO. The general polygon of Loreto II National Park is made up of the buffer zone that will be subzoned in the management program, in accordance with articles 47 BIS and 47 BIS 1 of the General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente).

ARTICLE THREE. The Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, is in charge of administering, managing, preserving and restoring the ecosystems and elements of Loreto II National Park, as well as overseeing that the actions carried out within the park comply with the purposes of the General Law of Ecological Balance and Environmental Protection, this decree and other applicable provisions.

ARTICLE FOUR: The following activities can be carried out within the buffer zone of Loreto II National Park:

- I. Scientific research;
- II. Environmental monitoring;
- III. Environmental education;
- IV. Low environmental impact tourism;
- V. Conservation, preservation, protection and restoration of ecosystems;
- VI. Controlled species repopulation;
- VII. Eradication or control of exotic species, invasive exotic species or species that become harmful;
- VIII. Construction and maintenance of support infrastructure as required, and
- IX. Any others provided for in the General Law of Ecological Balance and Environmental Protection, in accordance with the subzone where they are intended to be carried out, and those considered as permitted in the administrative rules indicated in the corresponding management program.

For the activities referred to in this article that require authorization, in accordance with the applicable legal provisions, the respective administrative unit must have the prior opinion of the National Commission of Natural Protected Areas and, in any case, the competent authorities must observe the response deadlines set forth in the corresponding regulations.

ARTICLE FIVE: Activities permitted within the buffer zone of Loreto II National Park should be carried out in accordance with the corresponding subzoning and subject to the following modalities:

- I. Scientific research, environmental monitoring and environmental education should be carried out in such a way that they do not imply substantial modifications to natural characteristics or conditions;
- II. Low environmental impact tourism may only be carried out provided that its development does not imply modifications to the original natural characteristics or conditions;
- III. The reintroduction or controlled repopulation of wildlife should be carried out with native species or, if applicable, with species that are compatible with the functioning and structure of the original ecosystems, taking into consideration that these activities should not compromise or affect the recovery of other existing species in the area, particularly those that are in some category of risk;
- IV. Ecosystem restoration should be carried out in order to recover the continuity of ecological processes;
- V. The eradication or control of exotic or invasive alien species, or those that become harmful, must be carried out in accordance with the measures authorized by the Ministry of the Environment and Natural Resources, in order to prevent the continuity of ecological and evolutionary processes, as well as ecosystem services from being affected or, if applicable, to promote the recovery of both;
- VI. Maintenance or construction of support infrastructure must be carried out in a manner that does not involve the removal of natural populations or the fragmentation of ecosystems and microenvironments, in the subzones in which the management program permits it, taking into consideration the physical and biological characteristics of the subzones themselves, and must be carried out in accordance with the specific rules established in the program;

- VII. Supporting infrastructure works must be carried out with the application of eco-techniques and traditional construction materials typical of the region, in order to avoid fragmentation of the habitat of the species protected by this decree;
- VIII. Supporting infrastructure works to be carried out in the natural protected area must not interfere with the natural water catchment or its infiltration into the soil; and
- IX. Other provisions of the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife, and other applicable legal provisions.

SIXTH ARTICLE: Within the buffer zone of Loreto II National Park, it is prohibited:

- I. Dumping, dumping or discharging any type of organic waste, solid or liquid waste or any other type of contaminant, such as insecticides, fungicides and pesticides, among others, on the ground or in bodies of water;
- II. Filling, draining or modifying natural permanent and intermittent stream channels;
- III. Dumping or abandoning waste outside the authorized sites;
- IV. Build landfills for solid waste, as well as for hazardous materials and substances;
- V. To carry out activities of extractive exploitation of wild flora or fauna;
- VI. To carry out fishing, aquaculture, forestry, agricultural and livestock activities;
- VII. Introducing exotic or exotic invasive wildlife specimens or populations;
- VIII. Introducing genetically modified organisms, except for bioremediation purposes;
- IX. Harass, disturb or harm wildlife species in any way;
- X. Altering or destroying by any means or action the feeding, nesting, shelter or reproduction sites of wildlife;
- XI. Use any source of sound emission that alters the behavior of wild species;
- XII. To carry out any private work;
- XIII. To carry out works and works for the exploration, exploitation and benefit of minerals or substances referred to in the Mining Law, and the extraction of stone materials;
- XIV. Build deposits or final disposal sites for tailings, slag, slag and grease from mines and mineral processing plants;
- XV. Final disposal of mining and metallurgical wastes;
- XVI. Modify the natural environment where historical and archaeological remains are located;
- XVII. Establish inhabited or urbanized areas that, starting from a central nucleus, present physical continuity in all directions, in which there are concentrated human settlements, including public administration, organized commerce and industry, and which have infrastructure, equipment and urban services such as electricity, drainage and drinking water supply; and
- XVIII. Any others required by the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife and other applicable legal provisions.

ARTICLE SEVENTH: No new population centers will be authorized in Loreto II National Park, including the ecological preservation zones of the population centers.

ARTICLE EIGHTH: Any public work or activity intended to be carried out within Loreto II National Park should be subject to the modalities established in this decree, the area's management program, and other applicable legal dispositions.

Likewise, those who intend to carry out such works or activities must have, if applicable and prior to their execution, the corresponding environmental impact authorization under the terms of the General Law of Ecological Balance and Environmental Protection and its regulations on environmental impact assessment, independent of the permits, licenses and authorizations that must be issued by other authorities in accordance with the applicable legal provisions.

ARTICLE NINTH. For the establishment and administration of representative collegiate bodies, the creation of economic instruments and the elaboration of the area's management program, the requirements and procedures established in the General Law of Ecological Balance and Environmental Protection and its regulations on natural protected areas must be observed.

ARTICLE TEN. The owners or holders of other land and water rights that may be found within Loreto II National Park are subject to the modalities established in the General Law of Ecological Balance and Environmental Protection and in the present decree. Therefore, they are obligated to carry out their activities according to the criteria for the preservation and conservation of the ecosystems and their elements established in this decree, and they must respect the provisions contained in the management program and other applicable legal dispositions.

ARTICLE ELEVEN. The Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, with the participation of other agencies of the Federal Public Administration, shall propose the celebration of coordination agreements with the government of the state of Baja California Sur, with the intervention that, as the case may be, corresponds to the municipality of Loreto; as well as the agreement of actions with the social and private sectors subject to the provisions contained in the General Law of Ecological Equilibrium and Environmental Protection, its regulations in the matter of protected natural areas, the established in the present decree, in the respective management program, as well as in the other applicable legal dispositions.

ARTICLE TWELFTH. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must formulate the management program for Loreto II National Park, in accordance with Article 65 of the General Law of Ecological Balance and Environmental Protection.

The content of this program must comply with the provisions of the General Law of Ecological Balance and Environmental Protection, its regulations on natural protected areas, this decree, and other applicable legal provisions. It must also contain a set of policies and measures for protection, management, sustainable use, and restoration, as well as knowledge, culture, and management processes that must be applied for the conservation of Loreto II National Park.

ARTICLE THIRTEEN. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must delimit the zone of influence of Loreto II National Park in the management program, in order to generate new patterns of sustainable regional development in accordance with this decree and promote that the competent authorities that regulate or authorize activities in this zone consider the congruence between these activities and the natural protected area.

ARTICLE FOURTEENTH: The Secretary of the Environment and Natural Resources, through the Federal Attorney General's Office for Environmental Protection, will be in charge of inspection and vigilance in Loreto II National Park, with the participation of the other agencies and entities of the Federal Public Administration.

TRANSITIONS

FIRST. This decree enters into effect on the day of its publication in the Official Gazette of the Federation.

SECOND. The Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, within a term not to exceed 30 calendar days, counted from the date of publication of this decree, must manage its inscription in the corresponding public registries of property, in the National Agrarian Registry, as well as in the National Registry of Natural Protected Areas.

THIRD: Permits, authorizations, or concessions granted by the competent agencies prior to the entry into force of this decree to carry out activities within Loreto II National Park will remain in effect until the corresponding titles cease to be effective.

FOURTH: The disbursements that, if applicable, are generated as a result of the entry into force of this decree, must be covered through compensated movements, in accordance with the applicable legal provisions, charged to the budget approved for the corresponding executors of expenditure in the current fiscal year, and no additional resources will be authorized in the current or subsequent fiscal years.

Given at the residence of the Federal Executive, in Mexico City, on August 15, 2023.- **Andrés Manuel López Obrador.**- Rubric.- The Secretary of the Environment and Natural Resources, **María Luisa Albores González.**- Rubric.

DECREE declaring the 2,076-51-91.75 hectare Nopoló natural protected area, located in the municipality of Loreto, state of Baja California Sur, as a national park.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Presidencia de la República.

ANDRÉS MANUEL LÓPEZ OBRADOR, President of the United Mexican States, in exercise of the power vested in me by Article 89, section I, of the Political Constitution of the United Mexican States; based on Articles 4, fifth paragraph, and 27, third paragraph, of the Constitution; 13 and 32 Bis of the Organic Law of the Federal Public Administration; 1o, Sections I, IV and VI, 2nd, Section II, 3rd, Sections II, XXV, XXVII and XXX, 5th, Sections VIII and XI, 6th, 15th, Sections I, III, V, VI and IX, 44, 45, 46, first paragraph, Section III, second, fifth, sixth and seventh, 47, 47 BIS, 47 BIS 1, 50, 57, 58, 60, 61, 63, 64, 74 and 161 of the General Law of Ecological Balance and Environmental Protection; 29, section X, 30, section XXII, and 34, section III, clause e, of the General Law of Climate Change; 4th of the General Law of Wildlife, and

WHEREAS

That the fifth paragraph of Article 4 of the Political Constitution of the United Mexican States (CPEUM) establishes that "[e]very person has the right to a healthy environment for his or her development and well-being. The State shall guarantee respect for this right";

That the third paragraph of Article 27 of the CPEUM establishes that "[t]he nation shall at all times have the right to impose on private property the modalities dictated by the public interest", and that the State shall dictate "the necessary measures to order human settlements and establish adequate provisions, uses, reserves and destinations of land, water and forests (...) to preserve and restore the ecological balance", as well as "to avoid the destruction of natural elements and the damages that property may suffer to the detriment of society";

That the Convention on Biological Diversity, ratified by Mexico on June 13, 1993, and published in the Official Gazette of the Federation (DOF) on May 7, 1993, states in its Article 8, paragraphs a and d, respectively, that each contracting party shall "[e]stablish a system of protected areas or areas where special measures must be taken to conserve biological diversity", and "[p]romote the protection of ecosystems and natural habitats and the maintenance of viable populations of species in natural surroundings";

That the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights "Protocol of San Salvador", ratified by Mexico on April 16, 1996 and published in the DOF on September 1, 1998, provides in Article 11 that "[e]very person has the right to live in a healthy environment and to have access to basic public services", and that [t]he States Parties shall promote the protection, preservation and improvement of the environment";

That the Paris Agreement, published in the DOF on November 4, 2016, provides in its Article 7 that "...the Parties establish the global goal on adaptation, which is to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change with a view to contributing to sustainable development...";

That one of the "Framework Principles on Human Rights and the Environment" presented by the United Nations Special Rapporteur on Human Rights and the Environment to the United Nations Human Rights Council, in March 2018, is that "[s]tates must respect, protect and fulfill human rights in order to ensure a safe, clean, healthy and sustainable environment"; therefore, they must adopt effective measures for their compliance, prevent environmental damages, reduce them and provide for reparations;

The purpose of the General Law of Ecological Balance and Environmental Protection (LGEEPA) is to promote sustainable development and establish the bases for "[t]he preservation and protection of biodiversity, as well as the establishment and administration of protected natural areas" (Article 1, Section IV);

That the LGEEPA provides that preservation is the "set of policies and measures to maintain the conditions that favor the evolution and continuity of ecosystems and natural habitats, as well as to conserve viable populations of species in their natural environments and the components of biodiversity outside their natural habitats", and that protection is the "set of policies and measures to improve the environment and control its deterioration" (article 3o., fractions XXV and XXVII);

That the aforementioned law considers the establishment, protection and preservation of natural protected areas and ecological restoration zones to be of public utility (Article 2, Section II);

The LGEEPA provides that for the formulation and conduct of environmental policy and the issuance of official Mexican standards and other instruments provided for in said law, in matters of preservation and restoration of the ecological balance and environmental protection, the Federal Executive shall observe as a principle that the most effective means to avoid ecological imbalances is the prevention of the causes that generate them (Article 15, Section VI);

That, in accordance with the LGEEPA, the national parks will be constituted, in the case of biogeographic representations, at national level, of one or more ecosystems that are significant for their scenic beauty, their scientific, educational, recreational, historical value, for the existence of flora and fauna, for their aptitude for the development of tourism (article 50);

That natural protected areas will be established by means of a declaration issued by the Federal Executive, prior to the completion of the justifying studies, which must be made available to the public (articles 57 and 58 of the LGEEPA);

That natural protected areas contribute to adopting measures to combat climate change and its effects, and to halt the loss of biodiversity, in order to achieve Sustainable Development Goals 13 and 15 of the United Nations 2030 Agenda;

That the National Development Plan 2019-2024, approved by the Senate of the Republic and published in the DOF on July 12, 2019, states in its General Axis II. "Social Policy", section "Sustainable Development" that "[t]he Government of Mexico is committed to promoting sustainable development, which in the present era has been evidenced as an indispensable factor of well-being. It is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. This formula summarizes unavoidable ethical, social, environmental and economic mandates that must be applied in the present to guarantee a minimally habitable and harmonious future";

That the Sector Program for the Environment and Natural Resources 2020-2024, published in the DOF on July 7, 2020, sets forth as a specific action [c]onsolidating and promoting protected natural areas (...) giving priority to the representativeness and connectivity of ecosystems, the conservation of priority species and the biocultural heritage of the communities that inhabit them";

That the protection and conservation of ecosystems and their biodiversity reduce the vulnerability of the population and increase their resilience, in addition to favoring the adaptation of biodiversity and species at risk to climate change;

That the accelerated destruction of the natural environment highlights the need to preserve all the elements that make it up, so it has been considered that the establishment of natural protected areas is one of the most effective measures for biological conservation;

That, in order to guarantee the people of Mexico their right to a healthy environment, their development and well-being, as well as to avoid the excessive exploitation of natural resources and the alteration of ecosystems, the President of the Republic, through an agreement published in the DOF on February 15, 2023, instructed the National Fund for the Promotion of Tourism (Fonatur) to identify the properties that form part of its patrimony that, due to their characteristics and the presence of species of flora and fauna in them, have an important environmental value and, therefore, could be declared as natural protected areas;

That the Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas (Conanp), in collaboration with Fonatur, prepared the previous justification study for the Nopoló site, located in the state of Baja California Sur, in the physiographic province of the Baja California Peninsula and in turn within the Sierra de la Giganta subprovince, and made available to the public by means of a notice published in the DOF on July 4, 2023;

That in said previous study the biological characteristics and land use vocation were considered, and it was concluded that it meets the necessary requirements to be declared as a natural protected area with the category of national park, in accordance with articles 45 and 46 of the Regulation of the General Law of Ecological Balance and Environmental Protection in the Matter of Natural Protected Areas, since it has orographic features in which are distinguished lomeríos, This has allowed the establishment of fragile ecosystems typical of the Baja California Peninsula in a good state of conservation, such as thorny scrub with lateral spines, sarco-caule scrub, sarco-crasicaule scrub, and coastal scrub, as well as riparian vegetation, halophytes, and coastal dunes;

That the Nopoló site provides ecosystem services such as nutrient regulation, pollination, biological control, microclimate regulation, continuity of the water cycle due to the processes of evapotranspiration, capture and recharge of aquifers, soil retention and erosion control; It is habitat, refuge and breeding ground for endemic species; its ecosystems are a source of protection against extreme meteorological events; it provides food, fuel and medicine; it is also part of the identity of the surrounding communities; and its rich and beautiful landscapes make it a favorite place for tourism;

That Nopoló is home to 499 native species, representing 10% of the biodiversity reported for the state of Baja California Sur, of which 74 species of flora and 11 species of fauna are endemic, 3 vascular plants and 31 priority vertebrates for conservation in Mexico and 49 are listed in some category of risk, according to the "Norma Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión or change-List of species at risk", and its "Modification of Normative Annex III, List of species at risk of the Official Mexican Standard NOM-059-SEMARNAT-2010, Environmental protection-Mexican native species of wild flora and fauna-Categories of risk and specifications for their inclusion, exclusion or change-List of species at risk, published in the DOF on December 30, 2010 and November 14, 2019;

Among the species present in Nopoló, included in the NOM-059-SEMARNAT-2010, are in the special protection category: the ironwood (*Olneya tesota*) and the bighorn sheep (*Ovis canadensis*). In the threatened category: black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), Baja California night snake (*Hypsiglena slevini*), golden eagle (*Aquila chrysaetos*), tlalcoyote (*Taxidea taxus*), desert fox (*Vulpes macrotis*), and *Ferocactus emoryi subsp. rectispinus*, known on site as the straight-spined barrel cactus. And in the endangered category: olive ridley turtle (*Lepidochelys olivacea*), peninsular mascarita (*Geothlypis beldingi*) and fishing bat (*Myotis vivesi*);

Nopoló's natural resources and abundant mountain landscapes, desert and unique vegetation make it a favorite place for national and foreign tourism, for recreational activities such as hiking, ecotourism and sun and beach tourism;

That in Nopoló there are archaeological sites such as open-air housing camps and others in caves, recognized as "concheros" because they have mounds of shells whose mollusks were consumed by the ancient inhabitants; as well as sites with cave paintings and petroglyphs dedicated to the cult of nature that show the presence of groups such as the Monquis, also known as Monguies, who were the ancient and original inhabitants of the Baja California peninsula;

That the Nopoló site presents socio-environmental problems such as unregulated tourism and poor tourism practices; overexploitation of aquifers; illegal extraction and sale of biodiversity; introduction of exotic and invasive species; unregulated extraction of stone materials; and social problems related to the unauthorized entry of people from outside the localities surrounding the Nopoló site, who benefit from the illegal extraction and exploitation of natural resources;

That not taking preventive actions to restore and protect the Nopoló site implies putting the ecosystems and species that live there at risk, since environmental deterioration would continue for future generations due to the development of activities contrary to the conservation of the environment in the area, which transgresses the principles of responsibility and prevention established in the LGEEPA;

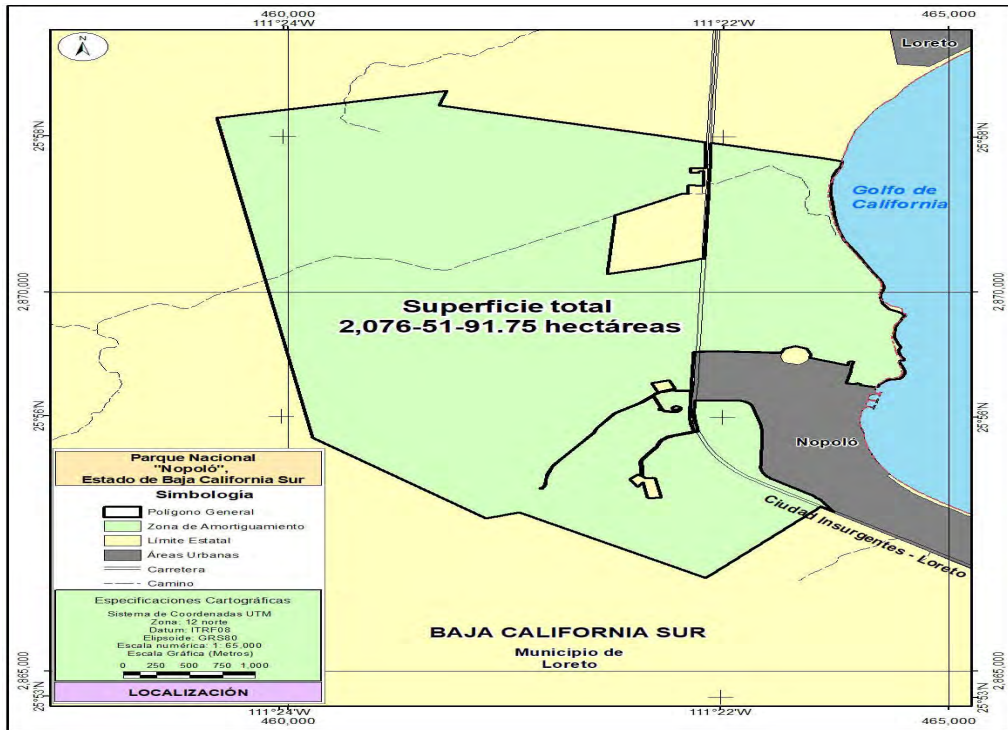
That, in the face of the challenge posed by climate change, various measures must be implemented with a cross-cutting and multidisciplinary vision, in order to conserve the natural heritage, use it in a sustainable manner and increase social welfare, and

That in order to protect the Nopoló site under schemes that guarantee the integral preservation of the natural elements that compose it, I have had the pleasure to issue the following

DECREE

ARTICLE ONE. The area of 2,076-51-91.75 hectares (two thousand seventy-six hectares, fifty-one areas, ninety-one point seventy-five centimeters), which according to the Geostatistical Framework, version 2022 of the National Institute of Statistics and Geography, is located in the municipality of Loreto, state of Baja California Sur, conformed by a general polygon that corresponds to the buffer zone, is declared Nopoló Natural Protected Area, with the character of national park.

The boundary description of the general polygon that makes up Nopoló National Park is in a Universal Transverse Mercator (UTM) coordinate system, zone 12 north, with Ellipsoid GRS80 and Horizontal Datum ITRF08 epoch 2010.0.



The official map of Nopoló National Park, which contains the analytical-topographic boundary description of the general polygon described in this decree, is located at the central offices of the National Commission of Natural Protected Areas, located at Avenida Ejército Nacional, 223, 12th floor, colonia Anáhuac, I Sección, alcaldía Miguel Hidalgo, postal code 11320, in Mexico City; at the offices of the Dirección Regional Península de Baja California y Pacífico Norte, located at 1555 Agricultura Street, between Mexico and Durango Streets, building F, 2nd floor, colonia Emiliano Zapata, postal code 23070, municipality of La Paz, state of Baja California Sur and at the representative office of the Secretaría de Medio Ambiente y Recursos Naturales, located at 1045 Melchor Ocampo Street, between Lic. Primo Verdad and Prof. Marcelo Rubio Ruiz, colonia Centro, zip code 23000, municipality of La Paz.

**General Polygon (Surface
area 2,076-51-91.75 hectares)**

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM coordinates	
				X	Y
			1	461,204.350300	2,872,653.016300
1 - 2	16°48'26"SW	202.23	2	461,145.873300	2,872,459.422300
2 - 3	76°30'35"SE	1,699.36	3	462,798.351200	2,872,062.995900
3 - 4	76°30'35"SE	377.45	4	463,165.390700	2,871,974.943800
4 - 5	01°59'10"SW	68.23	5	463,163.025800	2,871,906.756600
5 - 6	01°59'11"SW	79.63	6	463,160.265700	2,871,827.177900
6 - 7	01°59'11"SW	196.64	7	463,153.449700	2,871,630.658400
7 - 8	86°28'53"NW	41.69	8	463,111.840000	2,871,633.216900
8 - 9	88°21'08"NW	60.06	9	463,051.800000	2,871,634.943900
9 - 10	01°57'21"SW	39.99	10	463,050.435000	2,871,594.974900
10 - 11	01°57'21"SW	20.71	11	463,049.728000	2,871,574.272100
11 - 12	88°29'32"SE	60.75	12	463,110.457200	2,871,572.673800
12 - 13	00°22'53"NE	16.19	13	463,110.565000	2,871,588.858900
13 - 14	88°32'08"SE	41.41	14	463,151.963300	2,871,587.800600
14 - 15	01°59'11"SW	186.09	15	463,145.513100	2,871,401.827300
15 - 16	87°55'53"NW	11.52	16	463,134.001300	2,871,402.243100
16 - 17	87°55'52"NW	50.08	17	463,083.949000	2,871,404.051200
17 - 18	87°55'52"NW	50.15	18	463,033.826700	2,871,405.861800
18 - 19	02°04'07"SW	100.23	19	463,030.208400	2,871,305.696100
19 - 20	02°04'08"SW	9.05	20	463,029.881500	2,871,296.647600
20 - 21	88°13'23"NW	15.39	21	463,014.497300	2,871,297.124800
21 - 22	81°43'00"SW	34.42	22	462,980.437100	2,871,292.166100
22 - 23	71°25'25"SW	18.03	23	462,963.343000	2,871,286.421200
23 - 24	60°52'47"SW	143.51	24	462,837.969600	2,871,216.581600
24 - 25	60°26'37"SW	279.78	25	462,594.592900	2,871,078.569600
25 - 26	61°03'12"SW	25.77	26	462,572.046600	2,871,066.099500
26 - 27	61°03'13"SW	98.00	27	462,486.292300	2,871,018.670100
27 - 28	60°00'24"SW	11.51	28	462,476.325400	2,871,012.917300
28 - 29	04°13'59"SW	24.19	29	462,474.539800	2,870,988.794200
29 - 30	04°14'00"SW	754.90	30	462,418.812300	2,870,235.949300
30 - 31	90°00'00"NE	0.57	31	462,419.382100	2,870,235.949300
31 - 32	75°30'36"NE	415.85	32	462,822.007000	2,870,339.998200
32 - 33	72°54'48"NE	9.99	33	462,831.559600	2,870,342.934500
33 - 34	72°23'08"NE	287.46	34	463,105.545800	2,870,429.923200
34 - 35	54°15'47"NE	1.36	35	463,106.647600	2,870,430.716000
35 - 36	54°15'45"NE	6.55	36	463,111.964300	2,870,434.541700
36 - 37	89°34'30"SE	40.01	37	463,151.977800	2,870,434.245000
37 - 38	01°59'11"NE	1,369.27	38	463,199.440500	2,871,802.690600
38 - 39	01°59'11"NE	23.24	39	463,200.246100	2,871,825.918100
39 - 40	01°59'10"NE	82.95	40	463,203.121200	2,871,908.815800
40 - 41	01°59'11"NE	56.64	41	463,205.084500	2,871,965.421300

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
41 - 42	76°30'35"SE	259.15	42	463,457.084800	2,871,904.966900
42 - 43	76°30'35"SE	125.15	43	463,578.786000	2,871,875.771000
43 - 44	76°30'35"SE	131.05	44	463,706.223500	2,871,845.199000
44 - 45	76°30'35"SE	102.04	45	463,805.446400	2,871,821.395600
45 - 46	76°30'35"SE	58.83	46	463,862.653900	2,871,807.671600
46 - 47	76°30'35"SE	32.54	47	463,894.293400	2,871,800.081400
47 - 48	76°30'35"SE	146.26	48	464,036.519100	2,871,765.961600
48 - 49	76°21'22"SE	170.37	49	464,202.085200	2,871,725.772700

From this vertex 49, continue along the boundary of Loreto Bay National Park, with a general southeast course, for an approximate distance of 3,352.16 meters until reaching vertex 50.

			50	464,465.975400	2,868,743.329400
50 - 51	78°18'16"NW	78.78	51	464,388.835800	2,868,759.297700
51 - 52	31°56'41"NW	2.12	52	464,387.714000	2,868,761.096800
52 - 53	10°12'00"SW	1.53	53	464,387.442200	2,868,759.586200
53 - 54	78°05'50"NW	50.53	54	464,338.002200	2,868,770.007300
54 - 55	06°58'01"NE	3.87	55	464,338.472200	2,868,773.853400
55 - 56	02°54'40"NW	3.87	56	464,338.275400	2,868,777.723100
56 - 57	12°47'24"NW	3.87	57	464,337.417600	2,868,781.501700
57 - 58	22°40'10"NW	3.87	58	464,335.924200	2,868,785.077100
58 - 59	32°32'55"NW	3.87	59	464,333.839500	2,868,788.343300
59 - 60	42°25'40"NW	3.87	60	464,331.225400	2,868,791.203300
60 - 61	52°18'27"NW	3.87	61	464,328.159300	2,868,793.572400
61 - 62	62°11'08"NW	3.87	62	464,324.732200	2,868,795.380400
62 - 63	72°03'52"NW	3.87	63	464,321.045800	2,868,796.573600
63 - 64	81°56'44"NW	3.87	64	464,317.209300	2,868,797.116500
64 - 65	88°10'40"SW	3.87	65	464,313.336500	2,868,796.993300
65 - 66	78°17'46"SW	3.87	66	464,309.542300	2,868,796.207300
66 - 67	68°25'07"SW	3.87	67	464,305.939200	2,868,794.782100
67 - 68	58°32'19"SW	3.87	68	464,302.634100	2,868,792.759800
68 - 69	48°39'39"SW	3.87	69	464,299.724900	2,868,790.200500
69 - 70	38°46'48"SW	3.87	70	464,297.298000	2,868,787.179900
70 - 71	28°54'07"SW	3.87	71	464,295.425300	2,868,783.787800
71 - 72	76°13'22"NW	73.97	72	464,223.584000	2,868,801.403100
72 - 73	13°53'33"NE	167.04	73	464,263.690500	2,868,963.556400
73 - 74	11°05'39"NE	9.90	74	464,265.595200	2,868,973.269900
74 - 75	07°16'13"NE	21.98	75	464,268.377400	2,868,995.078100
75 - 76	06°23'22"NE	20.39	76	464,270.646200	2,869,015.338400
76 - 77	04°24'55"NE	20.95	77	464,272.259200	2,869,036.228000
77 - 78	03°18'40"NE	9.10	78	464,272.784700	2,869,045.310800
78 - 79	13°53'32"NE	40.30	79	464,282.459900	2,869,084.428500
79 - 80	88°00'31"SW	28.14	80	464,254.341800	2,869,083.450900
80 - 81	73°39'52"SW	2.06	81	464,252.360500	2,869,082.870200
81 - 82	64°30'26"SW	2.06	82	464,250.496900	2,869,081.981600
82 - 83	55°21'00"SW	2.06	83	464,248.798400	2,869,080.807700

OFICIAL Tuesday, August 15, 2023

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
83 - 84	46°11'21"SW	2.06	84	464,247.308500	2,869,079.378400
84 - 85	37°01'53"SW	2.06	85	464,246.065000	2,869,077.730100
85 - 86	27°52'19"SW	2.06	86	464,245.099800	2,869,075.905000
86 - 87	12°00'39"SW	31.48	87	464,238.549800	2,869,045.118700
87 - 88	14°54'22"SW	2.00	88	464,238.034100	2,869,043.181400
88 - 89	24°30'10"SW	2.00	89	464,237.202700	2,869,041.357300
89 - 90	34°05'45"SW	2.00	90	464,236.078900	2,869,039.697200
90 - 91	43°41'32"SW	2.00	91	464,234.694100	2,869,038.247700
91 - 92	53°17'18"SW	2.00	92	464,233.087000	2,869,037.049300
92 - 93	62°52'53"SW	2.00	93	464,231.302700	2,869,036.135500
93 - 94	72°28'47"SW	2.00	94	464,229.391000	2,869,035.532000
94 - 95	82°04'29"SW	2.00	95	464,227.405500	2,869,035.255600
95 - 96	88°19'50"NW	2.00	96	464,225.401600	2,869,035.314000
96 - 97	78°44'05"NW	2.00	97	464,223.435600	2,869,035.705600
97 - 98	70°11'50"NW	13.42	98	464,210.810400	2,869,040.251600
98 - 99	70°11'50"NW	277.28	99	463,949.930400	2,869,134.188000
99 - 100	17°47'48"NE	35.82	100	463,960.878400	2,869,168.293700
100 - 101	22°17'12"NW	90.65	101	463,926.500300	2,869,252.170900
101 - 102	67°01'48"NW	93.25	102	463,840.641300	2,869,288.562800
102 - 103	67°27'41"SW	92.16	103	463,755.522300	2,869,253.238300
103 - 104	21°22'00"SW	51.82	104	463,736.641700	2,869,204.978300
104 - 105	87°53'28"NW	484.01	105	463,252.960100	2,869,222.788900
105 - 106	86°01'04"SW	143.69	106	463,109.614600	2,869,212.810300
106 - 107	85°50'23"SW	40.23	107	463,069.489200	2,869,209.891700
107 - 108	01°59'11"SW	503.29	108	463,052.044100	2,868,706.903800
108 - 109	71°52'15"SW	16.15	109	463,036.691600	2,868,701.877200
109 - 110	79°18'50"SW	11.75	110	463,025.144600	2,868,699.698300
110 - 111	83°06'51"SW	11.75	111	463,013.478600	2,868,698.289500
111 - 112	89°15'24"NW	15.18	112	462,998.298900	2,868,698.486400
112 - 113	88°09'40"SW	15.18	113	462,983.125800	2,868,697.999300
113 - 114	86°21'59"NW	16.45	114	462,966.709900	2,868,699.041700
114 - 115	81°32'19"NW	32.40	115	462,934.661300	2,868,703.809300
115 - 116	87°56'10"NW	29.75	116	462,904.927300	2,868,704.880700
116 - 117	81°44'24"SW	10.81	117	462,894.226100	2,868,703.327200
117 - 118	31°50'38"NW	11.05	118	462,888.396100	2,868,712.713900
118 - 119	70°32'15"NE	44.54	119	462,930.393600	2,868,727.555000
119 - 120	20°49'17"NW	116.26	120	462,889.066200	2,868,836.226600
120 - 121	75°36'06"SW	138.12	121	462,755.287800	2,868,801.882600
121 - 122	20°59'45"SE	130.05	122	462,801.886700	2,868,680.463600
122 - 123	69°35'24"NE	87.24	123	462,883.645700	2,868,710.885700
123 - 124	31°50'38"SE	9.64	124	462,888.734300	2,868,702.692700
124 - 125	70°35'27"SW	10.27	125	462,879.050300	2,868,699.280700
125 - 126	73°18'22"SW	10.27	126	462,869.215600	2,868,696.331300
126 - 127	76°01'17"SW	10.27	127	462,859.252200	2,868,693.851100

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
127 - 128	78°44'10"SW	10.27	128	462,849.182400	2,868,691.845600
128 - 129	73°02'01"SW	33.05	129	462,817.573500	2,868,682.202100
129 - 130	61°31'35"SW	18.21	130	462,801.568000	2,868,673.521400
130 - 131	52°29'43"SW	14.65	131	462,789.945000	2,868,664.601300
131 - 132	47°20'25"SW	20.27	132	462,775.036100	2,868,650.863200
132 - 133	47°51'27"SW	3.77	133	462,772.239600	2,868,648.332600
133 - 134	39°25'47"SW	3.77	134	462,769.844200	2,868,645.419500
134 - 135	30°59'57"SW	3.77	135	462,767.901800	2,868,642.186700
135 - 136	43°35'13"SW	55.80	136	462,729.432100	2,868,601.771200
136 - 137	45°18'34"SW	82.76	137	462,670.595100	2,868,543.566800
137 - 138	55°16'35"SW	244.43	138	462,469.691900	2,868,404.333300
138 - 139	34°14'27"SW	238.99	139	462,335.220100	2,868,206.768100
139 - 140	22°31'59"SW	64.61	140	462,310.458700	2,868,147.086700
140 - 141	34°35'46"SW	152.15	141	462,224.069200	2,868,021.840500
141 - 142	35°56'41"SW	259.63	142	462,071.662900	2,867,811.646800
142 - 143	34°12'19"SW	117.84	143	462,005.416700	2,867,714.188500
143 - 144	21°59'27"SW	35.93	144	461,991.961500	2,867,680.870800
144 - 145	21°56'18"SW	49.33	145	461,973.531900	2,867,635.114500
145 - 146	20°33'21"SW	38.34	146	461,960.068600	2,867,599.212400
146 - 147	08°02'08"SW	54.93	147	461,952.390600	2,867,544.826600
147 - 148	04°45'48"SW	53.42	148	461,947.954300	2,867,491.590500
148 - 149	12°00'41"SW	30.09	149	461,941.692500	2,867,462.159900
149 - 150	20°55'28"SW	22.58	150	461,933.629300	2,867,441.071600
150 - 151	32°28'15"SW	25.69	151	461,919.835600	2,867,419.395700
151 - 152	88°49'38"NW	6.50	152	461,913.332500	2,867,419.528800
152 - 153	39°18'23"SW	7.93	153	461,908.307500	2,867,413.390900
153 - 154	08°17'27"SW	5.90	154	461,907.456100	2,867,407.548400
154 - 155	89°21'50"NE	21.98	155	461,929.432700	2,867,407.792300
155 - 156	07°07'59"NE	11.47	156	461,930.856600	2,867,419.170300
156 - 157	88°49'43"NW	4.00	157	461,926.856000	2,867,419.252100
157 - 158	32°28'16"NE	22.65	158	461,939.017000	2,867,438.362200
158 - 159	20°55'27"NE	23.65	159	461,947.463800	2,867,460.453900
159 - 160	12°00'41"NE	30.94	160	461,953.902000	2,867,490.713500
160 - 161	04°45'49"NE	53.63	161	461,958.355700	2,867,544.157600
161 - 162	08°02'08"NE	54.10	162	461,965.917700	2,867,597.722000
162 - 163	20°33'22"NE	37.61	163	461,979.124500	2,867,632.940000
163 - 164	21°56'18"NE	49.25	164	461,997.525000	2,867,678.624000
164 - 165	21°59'27"NE	35.29	165	462,010.739800	2,867,711.346400
165 - 166	34°12'19"NE	117.11	166	462,076.573900	2,867,808.198500
166 - 167	35°56'41"NE	259.61	167	462,228.968200	2,868,018.375600
167 - 168	34°35'46"NE	152.85	168	462,315.757700	2,868,144.201800
168 - 169	22°31'59"NE	64.63	169	462,340.526300	2,868,203.900600
169 - 170	34°14'27"NE	237.26	170	462,474.025100	2,868,400.036300
170 - 171	55°16'35"NE	243.84	171	462,674.442800	2,868,538.933300

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
171 - 172	45°18'34"NE	83.38	172	462,733.715900	2,868,597.569100
172 - 173	43°35'12"NE	45.59	173	462,765.148300	2,868,630.591500
173 - 174	04°19'02"SE	3.80	174	462,765.434400	2,868,626.801900
174 - 175	12°48'39"SE	3.80	175	462,766.277100	2,868,623.096000
175 - 176	21°18'12"SE	3.80	176	462,767.657800	2,868,619.555300
176 - 177	29°47'51"SE	3.80	177	462,769.546400	2,868,616.257300
177 - 178	20°17'51"SE	32.61	178	462,780.858400	2,868,585.673200
178 - 179	18°52'05"SE	119.67	179	462,819.557700	2,868,472.436400
179 - 180	30°34'48"SE	4.78	180	462,821.987900	2,868,468.323900
180 - 181	75°33'40"SW	4.84	181	462,817.303600	2,868,467.117800
181 - 182	52°36'00"SW	0.87	182	462,816.611300	2,868,466.588500
182 - 183	43°13'08"SW	0.87	183	462,816.014600	2,868,465.953500
183 - 184	33°50'29"SW	0.87	184	462,815.529300	2,868,465.229700
184 - 185	24°27'33"SW	0.87	185	462,815.168500	2,868,464.436500
185 - 186	15°04'45"SW	0.87	186	462,814.941800	2,868,463.595100
186 - 187	05°42'12"SW	0.87	187	462,814.855200	2,868,462.728000
187 - 188	03°41'04"SE	0.87	188	462,814.911200	2,868,461.858400
188 - 189	13°03'36"SE	0.87	189	462,815.108100	2,868,461.009600
189 - 190	22°26'10"SE	0.87	190	462,815.440700	2,868,460.204100
190 - 191	78°22'32"SW	7.63	191	462,807.963300	2,868,458.665900
191 - 192	29°04'30"SE	17.03	192	462,816.238900	2,868,443.782400
192 - 193	69°30'15"NE	14.97	193	462,830.264900	2,868,449.025300
193 - 194	22°23'50"NW	14.19	194	462,824.859400	2,868,462.141700
194 - 195	78°22'30"SW	4.62	195	462,820.330000	2,868,461.209900
195 - 196	19°08'29"NW	0.07	196	462,820.307300	2,868,461.275300
196 - 197	14°25'52"NW	0.21	197	462,820.253800	2,868,461.483200
197 - 198	04°56'35"NW	0.21	198	462,820.235300	2,868,461.697100
198 - 199	04°32'31"NE	0.21	199	462,820.252300	2,868,461.911100
199 - 200	13°59'50"NE	0.21	200	462,820.304200	2,868,462.119300
200 - 201	23°28'19"NE	0.21	201	462,820.389700	2,868,462.316200
201 - 202	32°55'39"NE	0.21	202	462,820.506400	2,868,462.496400
202 - 203	42°24'49"NE	0.21	203	462,820.651200	2,868,462.654900
203 - 204	51°52'11"NE	0.21	204	462,820.820000	2,868,462.787400
204 - 205	61°21'27"NE	0.21	205	462,821.008400	2,868,462.890300
205 - 206	70°49'51"NE	0.21	206	462,821.211200	2,868,462.960800
206 - 207	75°33'39"NE	3.54	207	462,824.635900	2,868,463.842600
207 - 208	30°34'47"SE	6.63	208	462,828.008700	2,868,458.134900
208 - 209	36°28'09"SE	18.42	209	462,838.954700	2,868,443.325600
209 - 210	42°13'15"SE	9.32	210	462,845.218100	2,868,436.423100
210 - 211	43°18'30"SE	4.63	211	462,848.392800	2,868,433.055200
211 - 212	51°22'49"SE	4.63	212	462,852.009000	2,868,430.166400
212 - 213	59°27'02"SE	4.63	213	462,855.994900	2,868,427.813900
213 - 214	67°31'26"SE	4.63	214	462,860.271700	2,868,426.044500

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
214 - 215	75°35'42"SE	4.63	215	462,864.754500	2,868,424.893100
215 - 216	88°21'48"SE	17.80	216	462,882.547800	2,868,424.384700
216 - 217	80°03'19"SE	45.58	217	462,927.438600	2,868,416.514100
217 - 218	74°26'18"SE	3.14	218	462,930.458900	2,868,415.673000
218 - 219	83°35'13"SE	3.14	219	462,933.574600	2,868,415.322800
219 - 220	87°15'54"NE	3.14	220	462,936.706300	2,868,415.472400
220 - 221	78°06'59"NE	3.14	221	462,939.774300	2,868,416.118000
221 - 222	68°58'14"NE	3.14	222	462,942.700800	2,868,417.243100
222 - 223	59°49'15"NE	3.14	223	462,945.411100	2,868,418.819200
223 - 224	50°40'27"NE	3.14	224	462,947.836400	2,868,420.806100
224 - 225	41°31'27"NE	3.14	225	462,949.914900	2,868,423.153400
225 - 226	32°22'45"NE	3.14	226	462,951.593900	2,868,425.801200
226 - 227	33°00'39"NE	31.58	227	462,968.798500	2,868,452.282900
227 - 228	33°17'37"NE	13.51	228	462,976.216400	2,868,463.578300
228 - 229	35°45'11"NE	5.47	229	462,979.410600	2,868,468.014800
229 - 230	18°05'02"NE	1.43	230	462,979.854400	2,868,469.373900
230 - 231	08°12'42"NE	1.43	231	462,980.058600	2,868,470.788900
231 - 232	01°39'33"NW	1.43	232	462,980.017200	2,868,472.218100
232 - 233	11°31'53"NW	1.43	233	462,979.731400	2,868,473.618900
233 - 234	21°24'33"NW	1.43	234	462,979.209500	2,868,474.950000
234 - 235	31°16'42"NW	1.43	235	462,978.467200	2,868,476.171900
235 - 236	41°09'05"NW	1.43	236	462,977.526400	2,868,477.248400
236 - 237	51°01'26"NW	1.43	237	462,976.414900	2,868,478.147700
237 - 238	60°54'06"NW	1.43	238	462,975.165600	2,868,478.843000
238 - 239	70°46'08"NW	1.43	239	462,973.815700	2,868,479.313900
239 - 240	69°59'49"NW	4.34	240	462,969.733600	2,868,480.799900
240 - 241	74°42'30"NW	4.34	241	462,965.543200	2,868,481.945600
241 - 242	09°24'18"NE	1.29	242	462,965.753600	2,868,483.215800
242 - 243	11°38'45"NW	4.96	243	462,964.752000	2,868,488.075400
243 - 244	70°05'54"NW	7.66	244	462,957.551900	2,868,490.682000
244 - 245	61°34'26"NW	13.52	245	462,945.660000	2,868,497.118900
245 - 246	90°00'00"NW	16.07	246	462,929.591900	2,868,497.118900
246 - 247	50°04'29"SW	20.00	247	462,914.252200	2,868,484.281500
247 - 248	29°36'11"SW	5.83	248	462,911.373700	2,868,479.215100
248 - 249	02°48'55"SE	27.47	249	462,912.723100	2,868,451.774700
249 - 250	90°00'00"NE	28.32	250	462,941.038100	2,868,451.774700
250 - 251	86°15'57"NE	19.97	251	462,960.965300	2,868,453.075200
251 - 252	17°58'23"NE	12.27	252	462,964.752000	2,868,464.748100
252 - 253	00°07'42"NW	12.25	253	462,964.724500	2,868,477.002500
253 - 254	74°18'16"SE	3.99	254	462,968.566800	2,868,475.922800
254 - 255	69°31'18"SE	3.99	255	462,972.305700	2,868,474.526500
255 - 256	75°46'50"SE	0.55	256	462,972.842800	2,868,474.390400
256 - 257	66°10'41"SE	0.55	257	462,973.349700	2,868,474.166600

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
257 - 258	56°33'34"SE	0.55	258	462,973.812000	2,868,473.861300
258 - 259	46°57'35"SE	0.55	259	462,974.217000	2,868,473.483100
259 - 260	37°20'36"SE	0.55	260	462,974.553100	2,868,473.042600
260 - 261	27°43'32"SE	0.55	261	462,974.810900	2,868,472.552100
261 - 262	18°07'39"SE	0.55	262	462,974.983300	2,868,472.025500
262 - 263	08°30'42"SE	0.55	263	462,975.065300	2,868,471.477600
263 - 264	01°05'46"SW	0.55	264	462,975.054700	2,868,470.923600
264 - 265	10°42'42"SW	0.55	265	462,974.951700	2,868,470.379100
265 - 266	35°45'13"SW	4.89	266	462,972.095900	2,868,466.412700
266 - 267	33°17'36"SW	13.63	267	462,964.612400	2,868,455.017300
267 - 268	33°00'39"SW	31.84	268	462,947.268100	2,868,428.320600
268 - 269	31°41'21"SW	2.41	269	462,946.003700	2,868,426.272500
269 - 270	41°06'32"SW	2.41	270	462,944.421100	2,868,424.458900
270 - 271	50°31'34"SW	2.41	271	462,942.563200	2,868,422.928800
271 - 272	59°56'50"SW	2.41	272	462,940.479800	2,868,421.723400
272 - 273	69°21'56"SW	2.41	273	462,938.227300	2,868,420.875200
273 - 274	78°47'08"SW	2.41	274	462,935.866300	2,868,420.407100
274 - 275	88°12'09"SW	2.41	275	462,933.460500	2,868,420.331600
275 - 276	82°22'35"NW	2.41	276	462,931.074900	2,868,420.650900
276 - 277	72°57'30"NW	2.41	277	462,928.773600	2,868,421.356300
277 - 278	80°03'19"NW	46.42	278	462,883.053600	2,868,429.372300
278 - 279	88°21'48"NW	17.77	279	462,865.294800	2,868,429.879700
279 - 280	74°53'35"NW	3.88	280	462,861.552600	2,868,430.889900
280 - 281	66°55'12"NW	3.88	281	462,857.986700	2,868,432.409400
281 - 282	58°56'56"NW	3.88	282	462,854.666000	2,868,434.408700
282 - 283	50°58'37"NW	3.88	283	462,851.654700	2,868,436.849200
283 - 284	43°00'15"NW	3.88	284	462,849.011000	2,868,439.683800
284 - 285	42°13'16"NW	9.20	285	462,842.826300	2,868,446.499500
285 - 286	36°28'09"NW	17.91	286	462,832.182400	2,868,460.900000
286 - 287	30°34'45"NW	15.84	287	462,824.123200	2,868,474.538600
287 - 288	18°52'05"NW	119.22	288	462,785.569500	2,868,587.349200
288 - 289	20°17'51"NW	33.31	289	462,774.015300	2,868,618.588200
289 - 290	30°43'25"NW	3.53	290	462,772.211300	2,868,621.623600
290 - 291	20°55'16"NW	3.53	291	462,770.950400	2,868,624.921900
291 - 292	11°06'52"NW	3.53	292	462,770.269700	2,868,628.386800
292 - 293	01°18'40"NW	3.53	293	462,770.188900	2,868,631.917000
293 - 294	08°29'41"NE	3.53	294	462,770.710500	2,868,635.409300
294 - 295	18°17'50"NE	3.53	295	462,771.819100	2,868,638.761900
295 - 296	28°06'10"NE	3.53	296	462,773.482400	2,868,641.876600
296 - 297	37°54'26"NE	3.53	297	462,775.651900	2,868,644.662700
297 - 298	47°42'44"NE	3.53	298	462,778.264100	2,868,647.038600
298 - 299	47°20'25"NE	20.27	299	462,793.167700	2,868,660.771800
299 - 300	52°29'43"NE	14.03	300	462,804.298900	2,868,669.314500

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
300 - 301	61°31'35"NE	17.31	301	462,819.514400	2,868,677.566700
301 - 302	73°02'01"NE	32.24	302	462,850.348100	2,868,686.973700
302 - 303	78°42'31"NE	10.10	303	462,860.252500	2,868,688.951200
303 - 304	76°05'52"NE	10.10	304	462,870.056500	2,868,691.377800
304 - 305	73°29'13"NE	10.10	305	462,879.739800	2,868,694.248500
305 - 306	70°52'36"NE	10.10	306	462,889.282300	2,868,697.557200
306 - 307	81°44'26"NE	16.08	307	462,905.198600	2,868,699.867600
307 - 308	87°56'11"SE	29.02	308	462,934.202000	2,868,698.822600
308 - 309	81°32'19"SE	32.33	309	462,966.182600	2,868,694.065100
309 - 310	86°22'00"SE	16.96	310	462,983.104800	2,868,692.990600
310 - 311	88°08'12"NE	15.25	311	462,998.351300	2,868,693.486600
311 - 312	89°13'49"SE	15.25	312	463,013.604400	2,868,693.281700
312 - 313	83°48'56"NE	8.24	313	463,021.796600	2,868,694.169400
313 - 314	81°13'27"NE	8.24	314	463,029.940400	2,868,695.426600
314 - 315	78°38'01"NE	8.24	315	463,038.019000	2,868,697.050600
315 - 316	71°52'14"NE	14.56	316	463,051.859500	2,868,701.582200
316 - 317	01°59'11"SW	123.25	317	463,047.587200	2,868,578.403800
317 - 318	01°59'11"SW	82.91	318	463,044.713300	2,868,495.542300
318 - 319	03°07'43"SW	30.47	319	463,043.050500	2,868,465.121400
319 - 320	01°39'49"SW	30.47	320	463,042.166000	2,868,434.667900
320 - 321	00°11'53"SW	30.47	321	463,042.060600	2,868,404.201700
321 - 322	01°16'01"SE	30.47	322	463,042.734300	2,868,373.742800
322 - 323	02°43'56"SE	30.47	323	463,044.186600	2,868,343.311100
323 - 324	04°11'51"SE	30.47	324	463,046.416600	2,868,312.926400
324 - 325	05°39'45"SE	30.47	325	463,049.422800	2,868,282.608800
325 - 326	07°07'41"SE	30.47	326	463,053.203400	2,868,252.377900
326 - 327	08°35'35"SE	30.47	327	463,057.755700	2,868,222.253500
327 - 328	10°03'30"SE	30.47	328	463,063.076800	2,868,192.255500
328 - 329	11°31'26"SE	30.47	329	463,069.163300	2,868,162.403300
329 - 330	71°18'33"SW	176.97	330	462,901.528200	2,868,105.692500
330 - 331	65°44'48"SW	1.58	331	462,900.088800	2,868,105.044000
331 - 332	67°13'45"SW	22.57	332	462,879.276100	2,868,096.307700
332 - 333	58°00'20"SW	11.41	333	462,869.598300	2,868,090.261700
333 - 334	54°15'50"SW	11.41	334	462,860.335700	2,868,083.597000
334 - 335	50°31'23"SW	11.41	335	462,851.527700	2,868,076.342200
335 - 336	46°46'53"SW	11.41	336	462,843.211800	2,868,068.528000
336 - 337	43°02'24"SW	11.41	337	462,835.423600	2,868,060.187900
337 - 338	39°17'54"SW	11.41	338	462,828.196200	2,868,051.357300
338 - 339	35°33'26"SW	11.41	339	462,821.560400	2,868,042.073900
339 - 340	31°48'58"SW	11.41	340	462,815.544500	2,868,032.377400
340 - 341	28°04'29"SW	11.41	341	462,810.174100	2,868,022.308900
341 - 342	24°20'00"SW	11.41	342	462,805.472200	2,868,011.911500
342 - 343	20°35'30"SW	11.41	343	462,801.458800	2,868,001.229400

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
343 - 344	16°51'01"SW	11.41	344	462,798.151000	2,867,990.308200
344 - 345	22°32'53"SW	33.58	345	462,785.275500	2,867,959.297600
345 - 346	36°36'25"SW	27.17	346	462,769.075400	2,867,937.489800
346 - 347	34°23'25"SW	53.07	347	462,739.098200	2,867,893.693400
347 - 348	31°14'48"SW	110.34	348	462,681.861300	2,867,799.358300
348 - 349	28°06'24"SW	8.65	349	462,677.786700	2,867,791.729400
349 - 350	23°12'04"SW	8.65	350	462,674.379400	2,867,783.780000
350 - 351	18°17'43"SW	8.65	351	462,671.664400	2,867,775.568400
351 - 352	13°23'21"SW	8.65	352	462,669.661600	2,867,767.154600
352 - 353	08°29'02"SW	8.65	353	462,668.385600	2,867,758.600500
353 - 354	03°34'41"SW	8.65	354	462,667.845800	2,867,749.968500
354 - 355	01°19'37"SE	8.65	355	462,668.046100	2,867,741.322000
355 - 356	06°14'02"SE	25.27	356	462,670.790000	2,867,716.202900
356 - 357	02°09'20"SE	140.75	357	462,676.084000	2,867,575.553900
357 - 358	49°10'57"NW	38.89	358	462,646.652000	2,867,600.974400
358 - 359	41°30'20"SW	91.32	359	462,586.136700	2,867,532.587900
359 - 360	30°07'50"SE	117.38	360	462,645.056600	2,867,431.071300
360 - 361	34°05'24"NE	70.94	361	462,684.819800	2,867,489.823000
361 - 362	10°34'55"SE	195.75	362	462,720.768500	2,867,297.398000
362 - 363	51°42'36"SE	28.06	363	462,742.794900	2,867,280.008900
363 - 364	80°50'58"NE	84.23	364	462,825.956600	2,867,293.404200
364 - 365	10°09'15"NW	257.17	365	462,780.617100	2,867,546.549200
365 - 366	77°18'31"NW	19.22	366	462,761.861900	2,867,550.772900
366 - 367	79°34'26"SW	47.85	367	462,714.801400	2,867,542.113700
367 - 368	49°10'57"NW	37.49	368	462,686.427400	2,867,566.620400
368 - 369	02°09'20"NW	150.42	369	462,680.769600	2,867,716.934900
369 - 370	06°14'03"NW	25.40	370	462,678.010800	2,867,742.189400
370 - 371	01°12'29"NW	7.75	371	462,677.847300	2,867,749.942500
371 - 372	03°40'25"NE	7.75	372	462,678.344200	2,867,757.681300
372 - 373	08°33'20"NE	7.75	373	462,679.497900	2,867,765.349800
373 - 374	13°26'12"NE	7.75	374	462,681.299900	2,867,772.892300
374 - 375	18°19'06"NE	7.75	375	462,683.737200	2,867,780.254100
375 - 376	23°12'01"NE	7.75	376	462,686.792200	2,867,787.381800
376 - 377	28°04'54"NE	7.75	377	462,690.442600	2,867,794.223600
377 - 378	31°14'48"NE	110.01	378	462,747.505300	2,867,888.271600
378 - 379	34°23'25"NE	52.61	379	462,777.218200	2,867,931.681800
379 - 380	36°36'26"NE	28.21	380	462,794.038300	2,867,954.324100
380 - 381	22°32'52"NE	35.48	381	462,807.643900	2,867,987.093500
381 - 382	16°37'28"NE	10.76	382	462,810.722300	2,867,997.403600
382 - 383	20°21'57"NE	10.76	383	462,814.466900	2,868,007.490800
383 - 384	24°06'28"NE	10.76	384	462,818.861800	2,868,017.312100
384 - 385	27°51'00"NE	10.76	385	462,823.888400	2,868,026.825700
385 - 386	31°35'31"NE	10.76	386	462,829.525100	2,868,035.990900

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
386 - 387	35°20'01"NE	10.76	387	462,835.747900	2,868,044.768700
387 - 388	39°04'32"NE	10.76	388	462,842.530300	2,868,053.121700
388 - 389	42°49'02"NE	10.76	389	462,849.843400	2,868,061.014300
389 - 390	46°33'33"NE	10.76	390	462,857.656000	2,868,068.412800
390 - 391	50°18'04"NE	10.76	391	462,865.934700	2,868,075.285600
391 - 392	54°02'36"NE	10.76	392	462,874.644400	2,868,081.603500
392 - 393	57°47'06"NE	10.76	393	462,883.747800	2,868,087.339500
393 - 394	67°13'45"NE	22.05	394	462,904.078600	2,868,095.873500
394 - 395	65°44'51"NE	1.22	395	462,905.193100	2,868,096.375600
395 - 396	71°18'33"NE	160.22	396	463,056.961600	2,868,147.718700
396 - 397	73°56'29"NE	15.60	397	463,071.953400	2,868,152.034100
397 - 398	74°21'27"NE	0.09	398	463,072.035900	2,868,152.057200
398 - 399	74°21'12"NE	39.41	399	463,109.988000	2,868,162.686800
399 - 400	13°44'53"NW	12.97	400	463,106.904900	2,868,175.288100
400 - 401	12°14'23"NW	29.71	401	463,100.605300	2,868,204.327100
401 - 402	10°43'52"NW	29.71	402	463,095.072400	2,868,233.521800
402 - 403	09°13'21"NW	29.71	403	463,090.310000	2,868,262.852100
403 - 404	07°42'52"NW	29.71	404	463,086.321200	2,868,292.297600
404 - 405	06°12'21"NW	29.71	405	463,083.109000	2,868,321.837900
405 - 406	04°41'51"NW	29.71	406	463,080.675500	2,868,351.452500
406 - 407	03°11'21"NW	29.71	407	463,079.022400	2,868,381.120800
407 - 408	01°40'50"NW	29.71	408	463,078.150900	2,868,410.822500
408 - 409	00°10'20"NW	29.71	409	463,078.061500	2,868,440.536700
409 - 410	01°20'10"NE	29.71	410	463,078.754400	2,868,470.243100
410 - 411	02°05'25"NE	107.19	411	463,082.664200	2,868,577.362400
411 - 412	88°00'18"SE	339.49	412	463,421.949100	2,868,565.545400
412 - 413	85°31'42"SE	9.15	413	463,431.070100	2,868,564.832100
413 - 414	80°34'29"SE	9.15	414	463,440.095500	2,868,563.333900
414 - 415	75°37'14"SE	9.15	415	463,448.957700	2,868,561.061900
415 - 416	70°40'01"SE	9.15	416	463,457.590700	2,868,558.033100
416 - 417	65°42'47"SE	9.15	417	463,465.929900	2,868,554.270100
417 - 418	60°45'34"SE	9.15	418	463,473.913000	2,868,549.801100
418 - 419	55°48'22"SE	9.15	419	463,481.480400	2,868,544.659500
419 - 420	50°51'07"SE	9.15	420	463,488.575500	2,868,538.883600
420 - 421	45°53'53"SE	9.15	421	463,495.145400	2,868,532.516500
421 - 422	40°56'40"SE	9.15	422	463,501.140900	2,868,525.606000
422 - 423	35°59'26"SE	9.15	423	463,506.517300	2,868,518.203500
423 - 424	31°02'14"SE	9.15	424	463,511.234400	2,868,510.364500
424 - 425	26°04'58"SE	9.15	425	463,515.256900	2,868,502.147400
425 - 426	21°07'46"SE	9.15	426	463,518.554900	2,868,493.613600
426 - 427	16°10'31"SE	9.15	427	463,521.103600	2,868,484.826900
427 - 428	13°41'55"SE	242.55	428	463,578.542900	2,868,249.181200
428 - 429	12°35'56"SE	18.18	429	463,582.507600	2,868,231.442600

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
429 - 430	10°23'54"SE	18.18	430	463,585.788300	2,868,213.564800
430 - 431	08°11'54"SE	18.18	431	463,588.380300	2,868,195.574300
431 - 432	05°59'53"SE	18.18	432	463,590.279700	2,868,177.497500
432 - 433	03°47'54"SE	18.18	433	463,591.483800	2,868,159.361100
433 - 434	01°35'51"SE	18.18	434	463,591.990600	2,868,141.191900
434 - 435	00°36'07"SW	18.18	435	463,591.799600	2,868,123.016600
435 - 436	01°42'08"SW	411.00	436	463,579.590600	2,867,712.194000
436 - 437	00°01'59"SW	12.40	437	463,579.583400	2,867,699.795400
437 - 438	03°18'14"SE	12.40	438	463,580.298000	2,867,687.417400
438 - 439	06°38'31"SE	12.40	439	463,581.732100	2,867,675.102000
439 - 440	09°58'45"SE	12.40	440	463,583.880700	2,867,662.891000
440 - 441	13°19'02"SE	12.40	441	463,586.736600	2,867,650.825900
441 - 442	16°39'17"SE	12.40	442	463,590.290100	2,867,638.947400
442 - 443	19°59'34"SE	12.40	443	463,594.529200	2,867,627.296000
443 - 444	23°19'48"SE	12.40	444	463,599.439400	2,867,615.911200
444 - 445	26°40'03"SE	12.40	445	463,605.004100	2,867,604.831500
445 - 446	30°00'19"SE	12.40	446	463,611.204400	2,867,594.094600
446 - 447	33°20'35"SE	12.40	447	463,618.019300	2,867,583.736900
447 - 448	36°40'50"SE	12.40	448	463,625.425700	2,867,573.793500
448 - 449	40°01'06"SE	12.40	449	463,633.398400	2,867,564.298200
449 - 450	43°21'22"SE	12.40	450	463,641.910400	2,867,555.283200
450 - 451	46°41'37"SE	12.40	451	463,650.932800	2,867,546.779100
451 - 452	50°01'53"SE	12.40	452	463,660.435100	2,867,538.814600
452 - 453	53°22'08"SE	12.40	453	463,670.384900	2,867,531.416900
453 - 454	55°02'16"SE	334.57	454	463,944.572200	2,867,339.699200
454 - 455	53°55'43"SE	17.20	455	463,958.477800	2,867,329.569700
455 - 456	51°42'37"SE	17.20	456	463,971.981000	2,867,318.909500
456 - 457	49°29'29"SE	17.20	457	463,985.061300	2,867,307.734500
457 - 458	47°16'24"SE	17.20	458	463,997.699300	2,867,296.061700
458 - 459	45°03'17"SE	17.20	459	464,009.876000	2,867,283.908300
459 - 460	42°50'10"SE	17.20	460	464,021.573000	2,867,271.292700
460 - 461	40°37'04"SE	17.20	461	464,032.773000	2,867,258.233700
461 - 462	38°23'57"SE	17.20	462	464,043.459000	2,867,244.751000
462 - 463	36°10'52"SE	17.20	463	464,053.615200	2,867,230.864800
463 - 464	33°57'44"SE	17.20	464	464,063.226100	2,867,216.595800
464 - 465	32°51'11"SE	134.50	465	464,136.190600	2,867,103.608100
465 - 466	55°12'15"NW	125.21	466	464,033.368300	2,867,175.059700
466 - 467	40°24'39"SW	41.60	467	464,006.403300	2,867,143.388200
467 - 468	42°45'33"SW	1,240.00	468	463,164.541300	2,866,232.966300
468 - 469	58°37'23"NW	1,657.43	469	461,749.490200	2,867,095.929200
469 - 470	72°43'18"SW	263.41	470	461,497.964700	2,867,017.692600
470 - 471	51°02'58"NW	1,686.58	471	460,186.330400	2,868,077.954600
471 - 472	09°43'41"NW	4,283.38	472	459,462.558300	2,872,299.746300
472 - 1	78°32'05"NE	1,777.26	1		

ARTICLE TWO. The general polygon of Nopoló National Park is made up of the buffer zone that will be subzoned in the management program, in accordance with articles 47 BIS and 47 BIS 1 of the General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente).

ARTICLE THREE. The Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, is in charge of administering, managing, preserving and restoring the ecosystems and elements of Nopolo National Park, as well as overseeing that the actions carried out within the park comply with the purposes of the General Law of Ecological Balance and Environmental Protection, this decree and other applicable provisions.

ARTICLE FOUR. The following activities may be carried out within the buffer zone of Nopoló National Park:

- I. Scientific research;
- II. Environmental monitoring;
- III. Environmental education;
- IV. Low environmental impact tourism;
- V. Conservation, preservation, protection and restoration of ecosystems;
- VI. Controlled species repopulation;
- VII. Eradication or control of exotic species, invasive exotic species or species that become harmful;
- VIII. Construction and maintenance of support infrastructure as required, using traditional eco-techniques and materials, and
- IX. Any others provided for in the General Law of Ecological Balance and Environmental Protection, in accordance with the subzone where they are intended to be carried out, and those considered as permitted in the administrative rules indicated in the corresponding management program.

For the activities referred to in this article that require authorization, in accordance with the applicable legal provisions, the respective administrative unit must have the prior opinion of the National Commission of Natural Protected Areas and, in any case, the competent authorities must observe the response deadlines set forth in the corresponding regulations.

ARTICLE FIFTH: Activities permitted within the buffer zone of Nopolo National Park should be carried out in accordance with the corresponding subzoning and subject to the following modalities:

- I. Scientific research, environmental monitoring and environmental education should be carried out in such a way that they do not imply substantial modifications to natural characteristics or conditions;
- II. Low environmental impact tourism may only be carried out provided that its development does not imply modifications to the original natural characteristics or conditions;
- III. The reintroduction or repopulation of wildlife must be carried out with native species, or if applicable, with species compatible with the functioning and structure of the original ecosystems, taking into consideration that these activities do not compromise or affect the recovery of other existing species in the area, particularly those that are in some category of risk;
- IV. Ecosystem restoration should be carried out in order to recover the continuity of ecological processes;
- V. The eradication or control of exotic or invasive alien species, or those that become harmful, must be carried out in accordance with the measures authorized by the Ministry of the Environment and Natural Resources, in order to prevent the continuity of ecological and evolutionary processes, as well as ecosystem services from being affected or, if applicable, to promote the recovery of both;
- VI. Maintenance or construction of support infrastructure must be carried out in a manner that does not involve the removal of natural populations or the fragmentation of ecosystems and microenvironments, in the subzones in which the management program permits it, in consideration of the physical and biological characteristics of the subzones themselves, and must be executed in accordance with the specific rules provided for in said program;

- VII. Supporting infrastructure works must be carried out with the application of eco-techniques and traditional construction materials typical of the region, in order to avoid fragmentation of the habitat of the species protected by this decree;
- VIII. The support works to be carried out in the natural protected area must not interfere with the natural water catchment or its infiltration into the soil; and
- IX. Other provisions of the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife, and other applicable legal provisions.

ARTICLE SIX. Within the buffer zone of the Nopoló National Park, it is prohibited:

- I. Dumping, dumping or discharging any type of organic waste, solid or liquid waste or any other type of contaminant, such as insecticides, fungicides and pesticides, among others, on the ground or in bodies of water;
- II. Filling, draining or modifying natural permanent and intermittent stream channels, among others;
- III. Dumping or abandoning waste outside the authorized sites;
- IV. Build landfills for solid waste, as well as for hazardous materials and substances;
- V. To carry out activities of extractive exploitation of wild flora or fauna;
- VI. To carry out fishing, aquaculture, forestry, agricultural and livestock activities;
- VII. Introducing exotic or exotic invasive wildlife specimens or populations;
- VIII. Introducing genetically modified organisms, except for bioremediation purposes;
- IX. Harass, disturb or harm wildlife species in any way;
- X. Altering or destroying by any means or action the feeding, nesting, shelter or reproduction sites of wildlife;
- XI. Use any source of sound emission that alters the behavior of wild species;
- XII. To carry out any private work;
- XIII. To carry out works and works for the exploration, exploitation and benefit of minerals or substances referred to in the Mining Law and the extraction of stone materials;
- XIV. Build deposits or final disposal sites for tailings, slag, slag and grease from mines and mineral processing plants;
- XV. Final disposal of mining and metallurgical wastes;
- XVI. Modify the natural environment where historical and archaeological remains are located;
- XVII. To establish inhabited or urbanized areas that, starting from a central nucleus, present physical continuity in all directions, in which there are concentrated human settlements, including public administration, organized commerce and industry, and which have infrastructure, equipment and urban services such as electricity, drainage and drinking water supply; and
- XVIII. Any others required by the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife, and other applicable legal provisions.

ARTICLE SEVENTH: No new population centers will be authorized in Nopoló National Park, including the ecological preservation zones of the population centers.

ARTICLE EIGHTH: Any public work or activity intended to be carried out within Nopoló National Park should be subject to the modalities established in this decree, the area's management program, and other applicable legal provisions.

Likewise, those who intend to carry out such works or activities must have, if applicable and prior to their execution, the corresponding environmental impact authorization under the terms of the General Law of Ecological Balance and Environmental Protection and its regulations on environmental impact assessment, regardless of the permits, licenses and authorizations that must be issued by other authorities in accordance with the applicable legal provisions.

ARTICLE NINTH. For the establishment and administration of representative collegiate bodies, the creation of economic instruments and the elaboration of the area's management program, the requirements and procedures established in the General Law of Ecological Balance and Environmental Protection and its regulations on natural protected areas must be observed.

ARTICLE TEN. The owners or holders of other land and water rights that may be found within Nopolo National Park are subject to the modalities established in the General Law of Ecological Equilibrium and Environmental Protection and in this decree. Therefore, they are obligated to carry out their activities in accordance with the criteria for the preservation and conservation of the ecosystems and their elements established in this decree, and they must respect the provisions contained in the management program and other applicable legal dispositions.

ARTICLE ELEVEN. The Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, with the participation of other agencies of the Federal Public Administration, will propose the celebration of coordination agreements with the government of the state of Baja California Sur, with the intervention that, if applicable, corresponds to the municipality of Loreto; as well as the agreement of actions with the social and private sectors subject to the provisions contained in the General Law of Ecological Equilibrium and Environmental Protection, its regulations in the matter of protected natural areas, the established in the present decree, in the respective management program, as well as in the other applicable legal dispositions.

ARTICLE TWELFTH. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must formulate the management program for Nopoló National Park, in accordance with Article 65 of the General Law of Ecological Balance and Environmental Protection.

The content of this program must comply with the General Law of Ecological Balance and Environmental Protection, its regulations on natural protected areas, this decree, and other applicable legal provisions. It must also contain a set of policies and measures for protection, management, sustainable use, and restoration, as well as knowledge, culture, and management processes that will be applied for the conservation of Nopoló National Park.

ARTICLE THIRTEENTH. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must delimit the zone of influence of Nopoló National Park in the management program in order to generate new patterns of sustainable regional development in accordance with this decree and promote that the competent authorities that regulate or authorize activities in this zone consider the congruence between these activities and the natural protected area.

ARTICLE FOURTEENTH: Inspection and vigilance in Nopolo National Park is the responsibility of the Secretary of the Environment and Natural Resources, through the Federal Attorney General's Office for Environmental Protection, with the participation of the other competent Federal Public Administration agencies and entities.

TRANSITIONS

FIRST. This decree enters into effect on the day of its publication in the Official Gazette of the Federation.

SECOND. The Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, within a term not to exceed 30 calendar days, counted from the date of publication of this decree, must manage its inscription in the corresponding public registries of property, in the National Agrarian Registry, as well as in the National Registry of Natural Protected Areas.

THIRD: Permits, authorizations, or concessions granted by the competent agencies prior to the entry into force of this decree to carry out activities within Nopoló National Park will remain in effect until the corresponding titles cease to be effective.

FOURTH: The disbursements that, if applicable, are generated as a result of the entry into force of this decree, must be covered through compensated movements, in accordance with the applicable legal provisions, charged to the budget approved for the corresponding executors of expenditure in the current fiscal year, and no additional resources will be authorized in the current or subsequent fiscal years.

Given at the residence of the Federal Executive, in Mexico City, on August 15, 2023.- **Andrés Manuel López Obrador.**- Rubric.- The Secretary of the Environment and Natural Resources, **María Luisa Albores González.**- Rubric.

AGREEMENT ENTERED INTO BY THE MUNICIPALITY OF LORETO" IN THE STATE OF BAJA CALIFORNIA SUR, HEREINAFTER "THE MUNICIPALITY", REPRESENTED IN THIS ACT BY ITS MUNICIPAL PRESIDENT C. ARELY ARCE PERALTA, NACIONAL FINANOERA, SOCIEDAD NACIONAL DE CRÉDITO, INSWTUCIÓN DE BANCA DE DESARROLLO, AS TRUSTEE IN THE TRUST NAMED FONDO NACIONAL DG FOMENTO ALTURISMO, HEREINAFTER "FONATUR", REPRESENTED IN THIS ACT BY ELARQ. FELIPG MOISÉS BEILES TAPIA, IN HIS CHARACTER OF GENERAL APODERATIVE, AND THE MUNIOPAL OPERATING ORGAFIISNIO OF THE DRINKING WATER AND SEWERAGE SYSTEM OF LORETO, HEREINAFTER "OOMSAPA LORETD", REPRESENTED BY ITS GENERAL DIRECTOR, C.ALMANDRO VILLEGAS TIMBRES; WHO TOGETHER WILL BE REFERRED TO AS "THE PARTIES", IN ACCORDANCE WITH THE FOLLOWING:

ANTECEDENTS

- I. The supply of drinking water to the towns of Loreto and the tourist development of Nopoló is historically supplied by the extraction of water from two local wells, whose production volume is limited.
- II. At the end of the 1976-1982 administration, agreements were initiated to enter into an agreement between the Federal Government through the then Secretariat of Agriculture and Hydraulic Resources, the Government of Baja California Sur and FONATUR to supply drinking water to the town of Loreto and the Nopoló development in the short and medium term.
- IR. The then Secretary of Agriculture and Hydraulic Resources carried out basic geohydrological studies, which determined that the San Juan Londó Valley, located within the San Juan B. Londó aquifer 32 km north of the town of Loreto, with an aquifer potential of 300 liters per second (LPS), was an alternative source of supply.
- IV. On February 20, 1990, the Government of the State of Baja California Sur, the Municipality of Loreto, the National Water Commission, the Secretary of Tourism and FONATUR entered into an agreement where joint actions were agreed upon for the construction and operation of the San Juan Londó-Loreto Aqueduct expansion, for which reason FONATUR took charge of the management, administration, construction and equipping of the Aqueduct expansion. In this agreement, a pipeline was agreed upon to provide 160 lt/sec. to Nopoló and 160 lt/sec. to the city of Loreto.
- V. On March 1, 1983, a promise of sale agreement was executed between FONATUR and C. Juan Orew Drev [redacted] faces in the property called Montecabello, where wells 6 and 7 and part of the Aqueduct in the San Juan Londó-Loreto section are located.
- Vi. The Organismo Operador Municipal del sistema de Agua Potable y Alcantarillado de Loreto, is the holder of the assignments from the Comisión Nacional de Agua for the exploitation of drinking water wells located in the San Juan B. Londó aquifer, specifically within the Montecabello property.

Eliminated:
name. Legal
basis: Article
113, Section I of
the Federal
Law on
Transparency
and Access to
Information. a
to
Public
Information.
At
virtue of
it is
informat
ion that
contains
personal data
concerning an
identified or
identifiable
person.

VII. According to the study for the analysis of electromechanical efficiencies of wells and pumping plant and leak detection of the San Juan Londó Aqueduct, in Loreto, B.C.S., the design flow of the Aqueduct is 300 lt/sec., but only 220 lt/sec. is extracted.

DECLARACIONES

I. FONATUR declares the following:

- 1.1 That it is a public trust of the Federal Government established in Nacional Financiera S.N.C. Institución de Banca de Desarrollo, by means of a trust agreement dated March 29, 1974, entered into between the Ministry of Finance and Public Credit 'as sole trustor of the Federal Government and the trustee in accordance with the provisions of the then Federal Law for the Promotion of Tourism published in the Official Gazette of the Federation on January 28, 1974. This agreement was modified by means of an agreement dated June 30, 2000, in order to adapt it to the regulations in force for parastatal entities.
- 1.2 That it is a parastatal entity pursuant to Articles 40 and following of the Federal Law of Parastatal Entities and in terms of Article 42 of the General Law of Tourism, FONATUR will contribute to the planning, programming, promotion and development of the tourist activity and tourist resources, as well as to the promotion of the financing of private and social investments. Likewise, article 44 refers, among other functions, to the creation and consolidation of tourist centers, in accordance with the master development plans, in which the urban and architectural designs of the zone must be identified, preserving the ecological balance and guaranteeing the economic and social development of the region.
- 1.3 Its attorney-in-fact accredits *its* personality in terms of **public** deed No. 70,429 dated November 10, 2008, granted before the faith of Liz. Luis Antonio Montes de Oca Mayagoitia, Notary Public No. 29 in Mexico City, registered in the Public Registry of Property and Commerce, under commercial folio 1275, powers that to date have not been revoked, limited or modified in any way.
- 1.4. For the purposes of this Collaboration Agreement, states as its domicile the address located at Tecoyotitla hlo. 100, Colonia Florida, Alcaldía Álvaro Obregón, Postal Code 01030, Mexico City.
- I.S. Appears to the celebration of the present instrument, in order to make delivery of the facilities related to the aqueduct in the Sañ Juan Londó-Loreto section, which has been operating through its subsidiary FONATUR INFRESTRUCTURA, S.A. DE C.V., for which reason it is of interest to contribute with the Municipality of Loreto in the operating expenses, in accordance with the terms of this agreement.

II. "THE MUNICIPALITY" declares the following:

- II.2 That it is a free and sovereign municipality with legal personality and its own patrimony, in accordance with the provisions of Section II of Article 115 of the Political Constitution of the United Mexican States.
- II.Z In accordance with Article 115, Section III, paragraph a) of the **Political** Constitution of the United Mexican States, it is established that the Municipality is responsible for providing the public services of drinking water, drainage, sewage, treatment and disposal of wastewater.
- 11.3 That in accordance with the provisions of Article 21 of the Water Law of the State of Baja California Sur, the Municipalities may provide public drinking water, sewerage and sanitation services through municipal operating agencies, and that within said locality the "OOMSAPA **LORETO**" is already formed to provide said public service.
- 11.4 a. Arely Arce Peralta, Municipal President of Loreto, Baja California Sur, has the powers to enter into this Collaboration Agreement, in accordance with the provisions of Articles 51 sections III clause e) and IV, 53 sections VII and XIII of the Organic Law of the Municipal Government of the State of Baja California Sur, as well as the authorization of the City Council.
- 11.5 That the address for the purposes of this contract is located at Magdalena de Kino Street between Fco. I. Madero and Paseo Juan M. de Sálvatierra, Colonia Centro, C.P. 23880, Loreto, Baja California Sur.
- 11.6 Appears to the celebration of the present instrument with the purpose that "**OOMSAPA LORETO**" receives for its operation, the facilities related to the Aqueduct in the San Juan Londó- Loreto section.

III. OOMSAPA LORETO" declares the following:

- III.1. It is a decentralized agency of the municipal public administration with legal personality and its own assets, in terms of the provisions of Article 25 of the Water Law of the State of Baja California Sur.
- III.2 That it has the powers conferred upon it by Article 27, in connection with Article 19, of the Law of Aguas del Estado de Baja California Sur, for the operation and distribution of water table in the jurisdiction of the Municipality of Loreto.
- III.3 That its creation and reason for existence is for the purpose of providing drinking water supply services, for which it has sufficient technical, administrative and legal capacities recognized and provided by that municipal entity.



III.4 That its General Director is empowered to sign this agreement, in terms of the provisions of Article 36, Section VI, of the Water Law of the State of Baja California Sur.

III.5 That its domicile for purposes of this Collaboration Agreement is located at Paseo Pedro de Ugarte, S/N, Esquina Laimones, Colonia Centro, C.P. 23880, Loreto Baja California Sur.

IV. "THE PARTIES" declare the following:

IV.1 that it is their will to collaborate in the broadest and most respectful manner for the fulfillment and development of the object and activities derived from this agreement.

IV.2 that they have the necessary means to provide each other with mutual assistance, collaboration and support for the achievement of the purpose of this instrument, in accordance with the following:

C L A U S E S

FIRST. The purpose of this agreement is to carry out the Handover-Reception of the hydraulic infrastructure, electromechanical equipment and facilities operated by FONATUR in San Juan Loreto, Baja California Sur to "THE MUNICIPALITY", facilities that will be operated by "OOMSAPA LORETO" Operating Agency to provide the service of potable water supply in the Municipality of Loreto in the State of Baja California Sur, including Nopoló, which until today are operated, managed and maintained by FONATUR through its subsidiary FONATUR INFRAESTRUCTURA.

SECOND. For the DELIVERY-RECEPTION of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londó, Baja California Sur, which are described in Annex 1 of this agreement, "THE MUNICIPALITY" will offer its support and will carry out the necessary actions that in law correspond to carry out the DELIVERY-RECEPTION" referred to in this agreement in favor of "OOMSAPA LORETO", so that this agency can operate the facilities for the provision of public service of drinking water supply in Loreto and Nopoló.

THIRD.- "OOMSAPA LORETO" agrees to receive from "FONATUR", within 15 (fifteen) working days following the signing of this instrument, the hydraulic infrastructure, its electromechanical equipment and facilities operated by "FONATUR" in San Juan Londó, Baja California Sur, as identified in Annex 1, in the physical state in which they are operating, as well as all documentation that supports the operation of these, therefore, the "OOMSAPA LORETO" is made responsible for the operation, administration and maintenance of the same, being in charge of the distribution, maintenance, sanitation, operation, regularization and all those resulting from the DELIVERY-RECEPTION of the facilities, which will be stated in the corresponding certificate.

In the event of a contingency in the operation of the San Juan Londó facilities during the first quarter of 2021, "FONATUR" through FONATUR INFRAESTRUCTURA will provide training to "OOMSAPA LORETO" personnel.

Likewise, "OOMSAPA LORETO" will receive from "FoNATUR", on the date of DELIVERY-RECEIPT all documentation, files, reports, licenses, permits, regulations, plans, reports, folders that are listed in Annex 1 of this Agreement.

FOURTH: "FONATUR" agrees to deliver monthly to "OOMSAPA LORETO" the amount corresponding to the costs and expenses of operation of the infrastructure of the San Juan Londó-Loreto Aqueduct section that FONATUR INFRESTRUCTURA has been paying during the fiscal year 2020 for a monthly amount of \$160,000.00 (one hundred sixty thousand pesos 00/100 m.n.) VAT included. Likewise, "FONATUR" undertakes to pay CFE the payment of the electric service originated by the operation of the facilities described in Annex 1, including the debt for the electric service to CFE for the amount of \$4'324,008.11 (four million three hundred and twenty-four thousand and eight pesos 11/100 M.N.) corresponding to 4 maturities for said concept; both payments referred to in this clause will be made during a period of 2 years following the date of signature of this agreement.

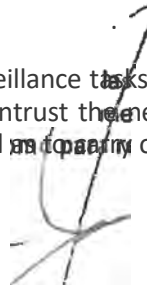
FIFTH.- "THE MUNICIPALITY" releases "FONATUR" and FONATUR INFRAESTRUCTURA of all The PARTIES hereby agree that "OOMSAPA LORETO", as of the date of signature of the delivery-receipt certificate, assumes all liability before third parties, and therefore said Agency will be liable for any judicial or extrajudicial claim that may be filed against "FONATUR" and FONATUR INFRAESTRUCTURA for acts or facts subsequent to the date of signature of the aforementioned certificate.

As a consequence of the foregoing, "OOMSAPA LORETO" undertakes to indemnify "FONATUR" and FONATUR INFRAESTRUCTURA from any judicial or extrajudicial claim, including fines or sanctions imposed by the competent authority, which may be attempted against it and/or which derive from events or acts subsequent to the signing of this agreement.

MUNICIPALITY°, within the scope of its competencies, will celebrate and expedite any necessary administrative procedure so that "OOMSAPA LORETO" may assume the functions that "FONATUR" performed before the signing of this agreement, reason enough for "FONATUR" to deliver the facilities to "OOMSAPA LORETO" upon the signing of the DEED OF DELIVERY-RECEPTION.

"THE MUNICIPALITY and OOMSAPA LORETO do not reserve any legal right to exercise against FONATUR and FONATUR INFRAESTRUCTURA as of the signing of this agreement, derived from the operation of the San Juan Londó Aqueduct facilities

SEVENTH: "THE MUNICIPALITY" will implement protection and surveillance tasks for the facilities that make up the HYDRAULIC INFRASTRUCTURE, for which it will entrust the necessary security elements to continue with the operation of this infrastructure, as well as carry out the DELIVERY RECEPTION of the same.



EIGHTH.- This agreement shall become effective as of the date of its signature and shall be enforceable by "THE PARTIES", in accordance with the commitments assumed in this agreement.

NINTH.-"THE PARTIES" agree that any change to the addresses indicated in the declarations of each one of them, must be previously known to the other, for such purpose they shall notify in writing with acknowledgement of receipt of the change of address that corresponds with 10 (ten) working days prior to the date on which such change is to take effect.

In the absence of such notification of change of **address, any** notice, **request** or application made at the address indicated in this **agreement** shall be fully effective.

TENTH: This agreement is a product of good faith, for which reason "THE PARTIES" undertake to carry out all possible actions for its compliance and only in case of discrepancy regarding its interpretation, they expressly agree that it shall be resolved in amicable composition.

Notwithstanding the foregoing, in the event that no agreement is reached, "THE PARTIES" agree to submit to the competence and jurisdiction of the federal courts of the City of La Paz, Baja California Sur, expressly waiving any other jurisdiction or venue that may correspond to them due to their present or future domiciles.

Having read this agreement and duly informed "THE PARTIES" of its contents and legal scope, they sign it in three copies in La Paz, State of Baja California Sur on the 23rd day of December, 2020.

MUNICIPAL PRESIDENT OF LORETO

GENERAL DIRECTOR OF
OOMSAPA LORETO



PROFRA- A DE ARCE PERALTA

ALEJANDRO VILLEGAS FIMBRES

FONATUR



ANICELINO MOSES BILESTAMA
APODERADO

ING. JES S
GENERAL MANAGER L

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ANCEO 1

CHARACTERISTICS OF THE INSTALLED INFRASTRUCTURE OF THE PUMPING STATION, DRINKING WELLS AND STORAGE OF SAN JUAN LONDÓ AND LORETO, WHICH FORM AN INTEGRAL PART OF THE DELIVERY AND RECEPTION SUBJECT TO THIS AGREEMENT.

SAN JUAN LONDÓ

- 28 km aqueduct from pumping station to surface tank in Loreto
- Steel piping of various diameters (20", 18"), 52 relief valves and safety fence and guard.
- Pump House of 1,400 m², in which it is housed:
 - o Electric substation with two transformers of 1,000 kva each and one of SOD kva.
 - o Pumping equipment (4 vertical turbine type centrifugal pumps to handle a flow rate of 120 lt/sec. Each one at a total dynamic load of 184 mca. with an electric motor of 400 hp of power each one).
 - o A 350 hp, vertical centrifugal turbine pump to handle an output of 100 lt/sec with a 350 hp electric motor.
 - o A seccionator for pump control. a Motor control house 185 m².
 - o Guardhouse (45 m²)
- a Two tanks (air chambers)
 - o Warehouse, gardens and parking lot.
- 4 wells extracting 30 lt/sec each.
 - o 4 submersible pumps of 60 hp 3,000 rpm,
 - o 4 pole type transformers of 75 kva.
 - o 4 control walls
 - o perimeter mesh

LORETO

- 1100 m³ surface tank made of reinforced hydraulic concrete to provide drinking water supply to the urban area of Loreto.
- 1100 m³ surface tank made of reinforced hydraulic concrete, built to supply drinking water to FONATUR's housing developments (Polígono II and Nopoló).

PUMPING STATION SITE

In this area is located the electrical substation (two transformers of 1,000 VA each), which supplies the operation of the disconnecter and 4 vertical centrifugal pumps tipo turbina to handle an output of 120 LPS. each at a total dynamic load of 184 lvi.C.A. with an electrical power of 400 hp. each, a 500 KVA transformer that feeds a vertical centrifugal pump with a power of 400 hp. each, a 500 KVA transformer that feeds a vertical centrifugal pump with a power of 400 hp. each, a 500 KVA transformer that feeds a vertical centrifugal pump with a total dynamic load of 184 lvi.C.A. each.

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turbine type to handle an output of 100 LPS, which pump the vital liquid to the concentration tanks in urban areas.

The zone is delimited in an area of 2,500 m² , of which 750 m* are constructed between civil works, accesses and exterior sidewalks.

cfDriving cfDriving cfNEA

The pipeline has a total length of 28 km, from the pumping station in San Juan Londó to the town of Loreto, and an 8 km overflow line from Loreto to Nopoló.

WELLS IN OPERATION

There are currently four wells in operation: well number 6 located 20 meters from the pumping station at coordinates (450157.78 E 2896275.40 N); well number 7 located 970 meters from the same station, at coordinates (449215.11 m E 289635s.m N); well number 8 located 2,100 meters from the pumping station at coordinates (449446.40 E 2898322.77 N) and well number 10 located 1,480 meters from the pumping station at coordinates (450805.60 r z897g.so N), each well operates with a 60 HP pump and generates 30 LPS of potable water supply each.

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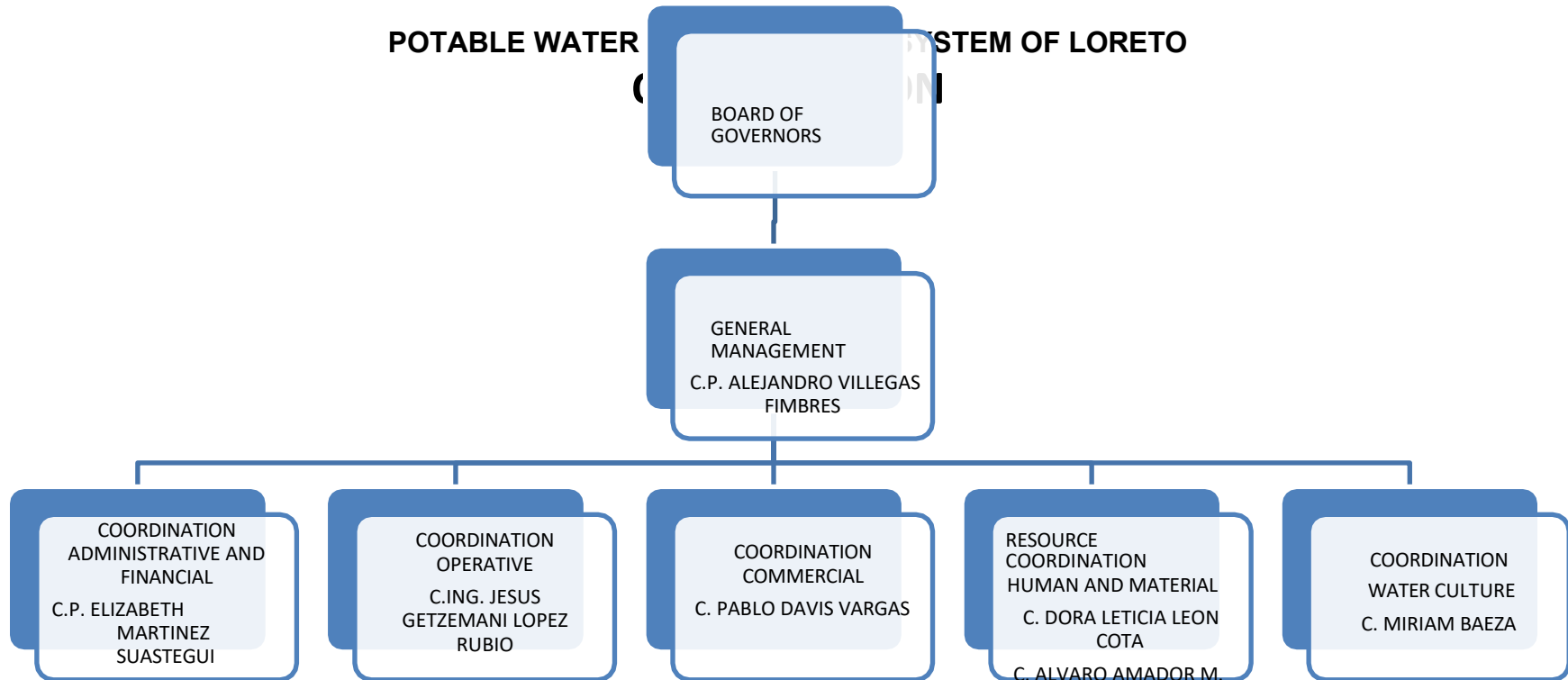
Luis Gerardo Garcia Toriz, Specialized Analyst attached to the Loreto Delegation of the National Fund for Tourism Development, based on Articles 123, 125, 128 and 145 of the Federal Law of Transparency and Access to Public Information and the Criterion 06/17 issued by the Plenary of the National Institute of Transparency, Access to Information and Protection of Personal Data, I hereby certify that this is a faithful and exact reproduction of the simple copy of the Agreement dated December 23, 2020.



H. IX CITY COUNCIL OF LORETO

MUNICIPAL OPERATING AGENCY OF THE SYSTEM

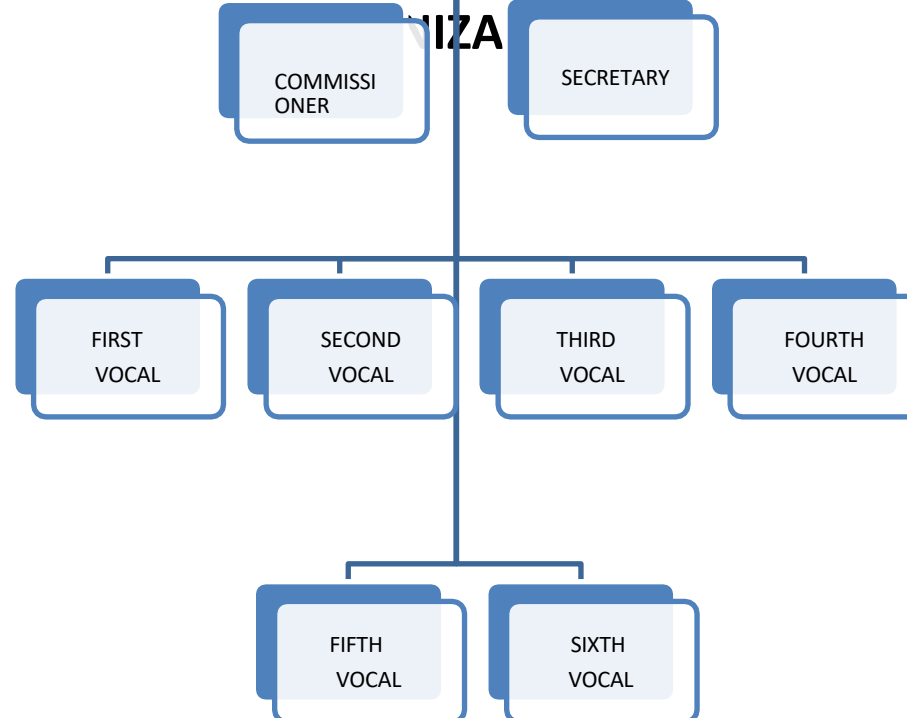
POTABLE WATER SYSTEM OF LORETO





H. IX CITY COUNCIL OF LORETO

CHAIRMAN
MUNICIPAL OPERATING AGENCY OF THE SYSTEM
POTABLE WATER AND SEWERAGE SYSTEM OF LORETO





H. IX CITY COUNCIL OF LORETO

**MUNICIPAL OPERATING AGENCY OF THE SYSTEM
POTABLE WATER AND SEWERAGE SYSTEM OF LORETO**

ORGANIZATION
GENERAL MANAGEMENT
C.P. ALEJANDRO VILLEGAS
FIMBRES

LEGAL
C.LIC. JOSE ALBERTO
BASTIDA AGUILAR

TECHNICAL SECRETARY
C. LIC. EDGAR HUMBERTO
GOMEZ OROZCO

RECEPTION
-MARIA DE LOS ANGELES
DREW MURILLO
-MARIA NIEVES ROMERO
RUBIO



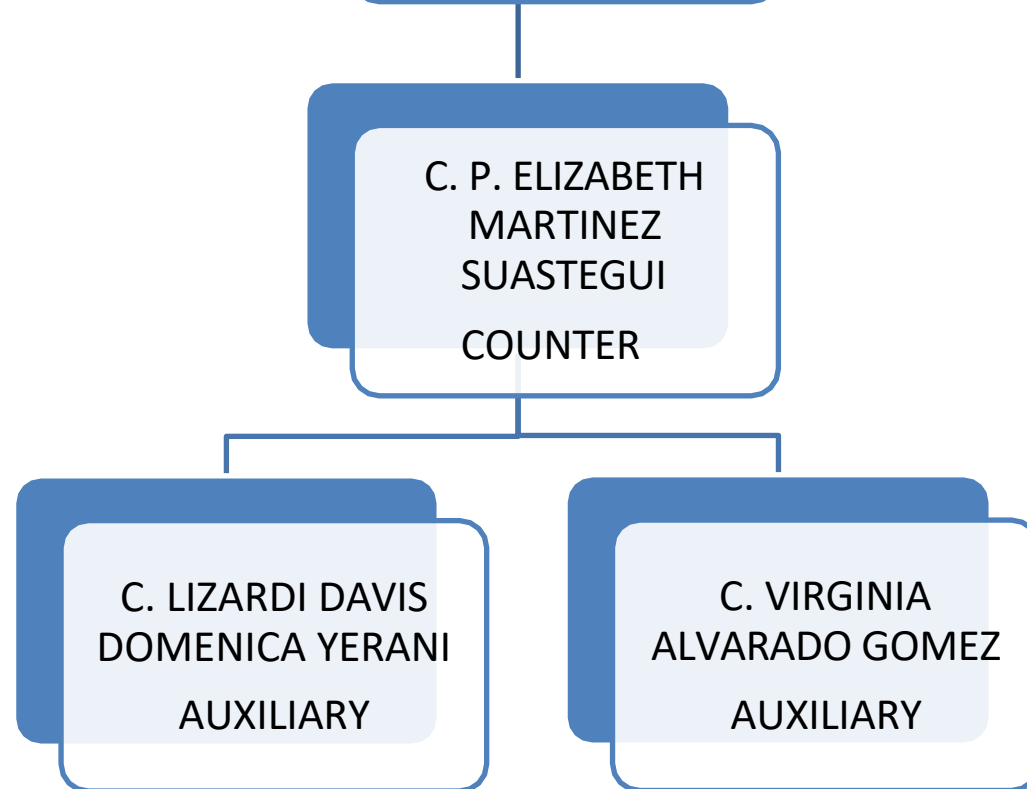
H. IX CITY COUNCIL OF LORETO

**MUNICIPAL OPERATING AGENCY OF THE SYSTEM
POTABLE WATER AND SEWERAGE SYSTEM OF LORETO
ORGANIZATION**



H. IX CITY OF LORETO

MUNICIPALITY OF LORETO
POTABLE WATER SUPPLY SYSTEM
ORGANIZATION



H. IX CITY COUNCIL OF LORETO

MUNICIPAL OPERATING AGENCY OF THE SYSTEM POTABLE WATER AND SEWERAGE SYSTEM OF LORETO **ORGANIZATION**

COORDINATION

OPERATIVE

TECHNICAL AND OPERATIONAL DIRECTOR



DEPARTMENT PLANNING AND



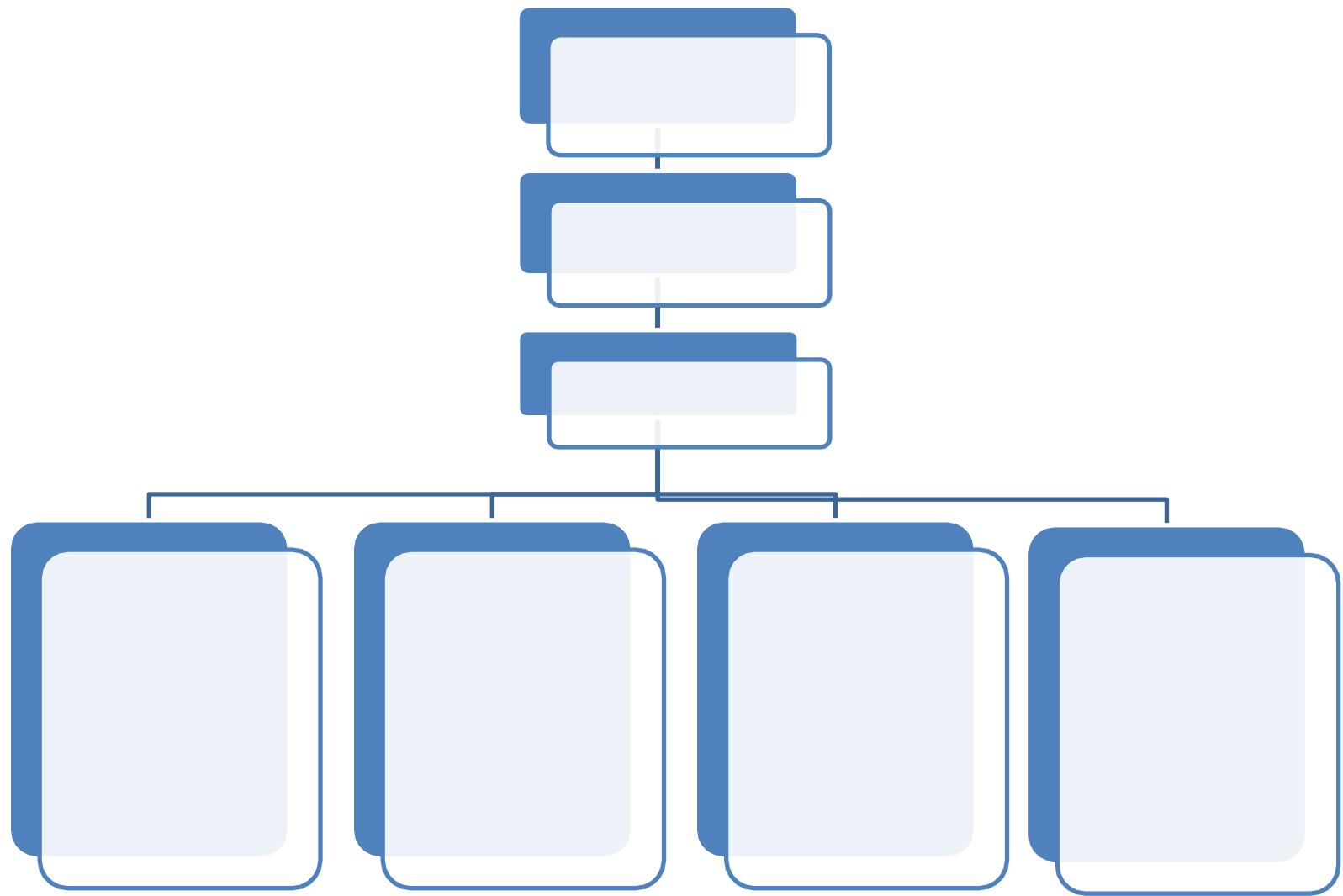
OPERATION



ING. RAUL ADOLFO ALARCON



CARDENAS





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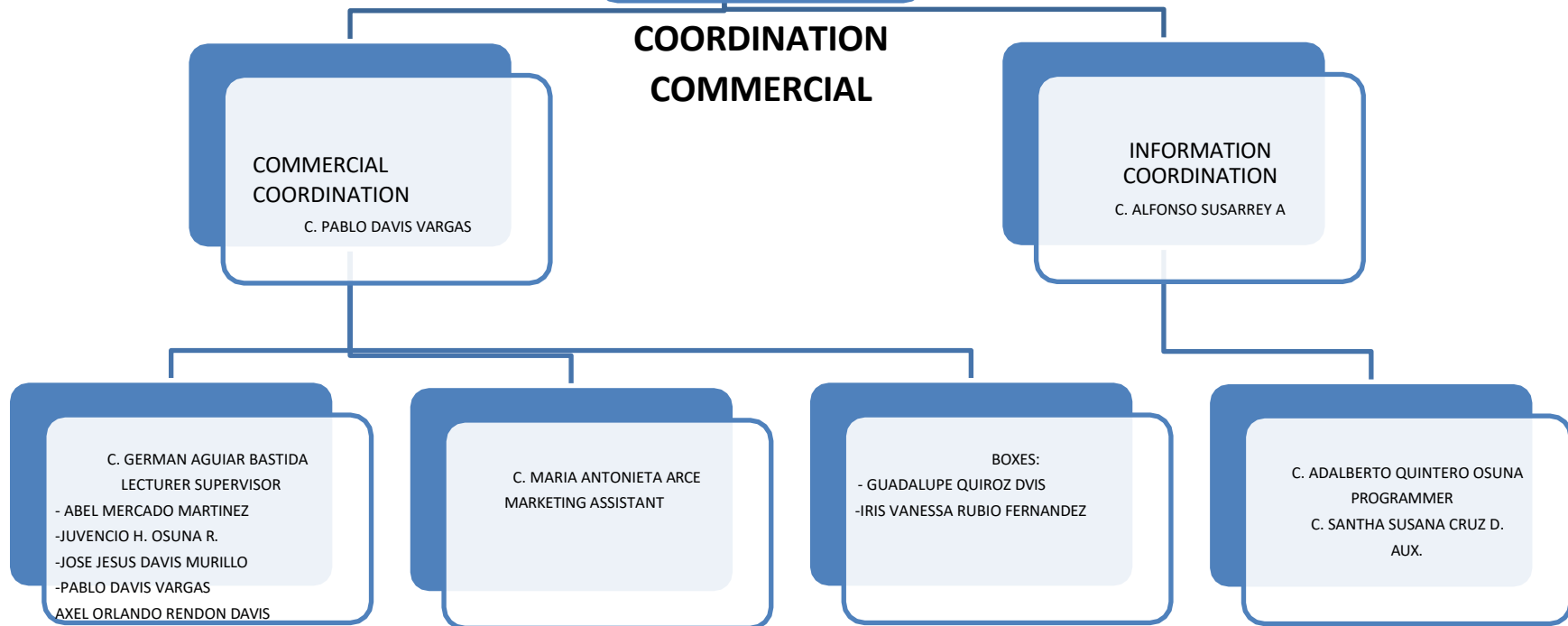


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H. IX CITY COUNCIL OF LORETO

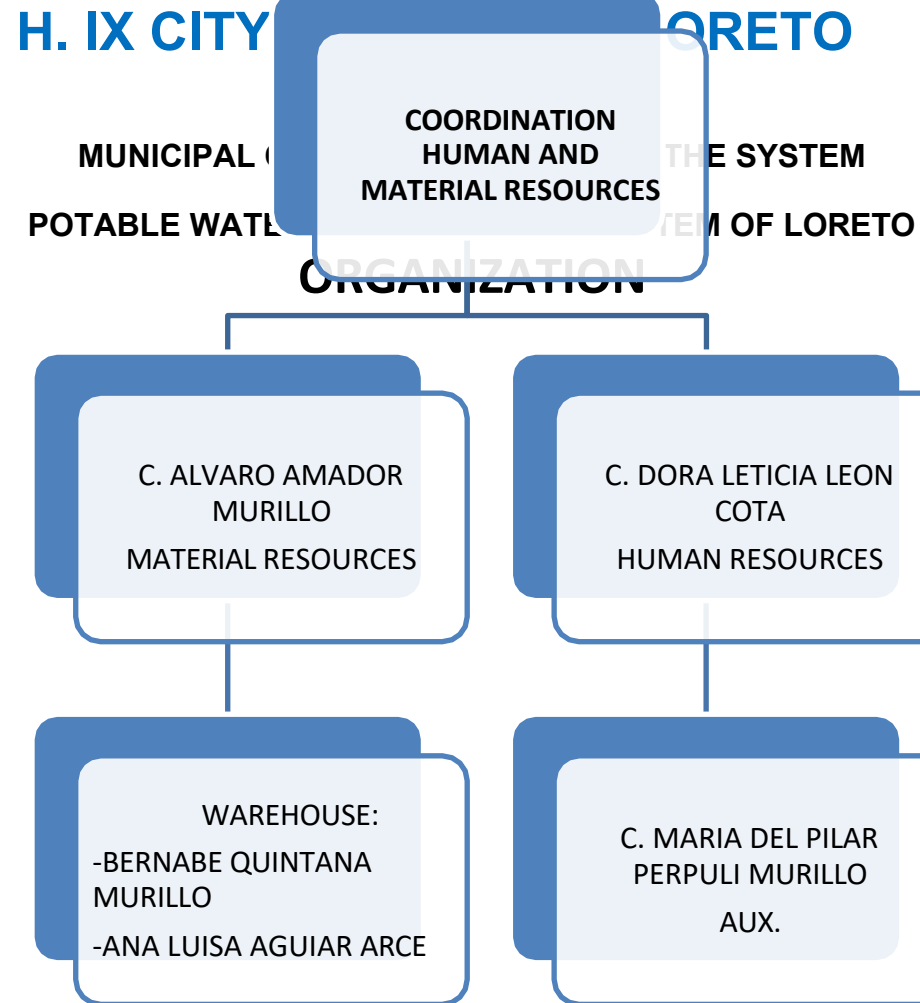
MUNICIPAL OPERATING AGENCY OF THE SYSTEM POTABLE WATER AND SEWERAGE SYSTEM OF LORETO ORGANIZATION





H. IX CITY COUNCIL OF LORETO

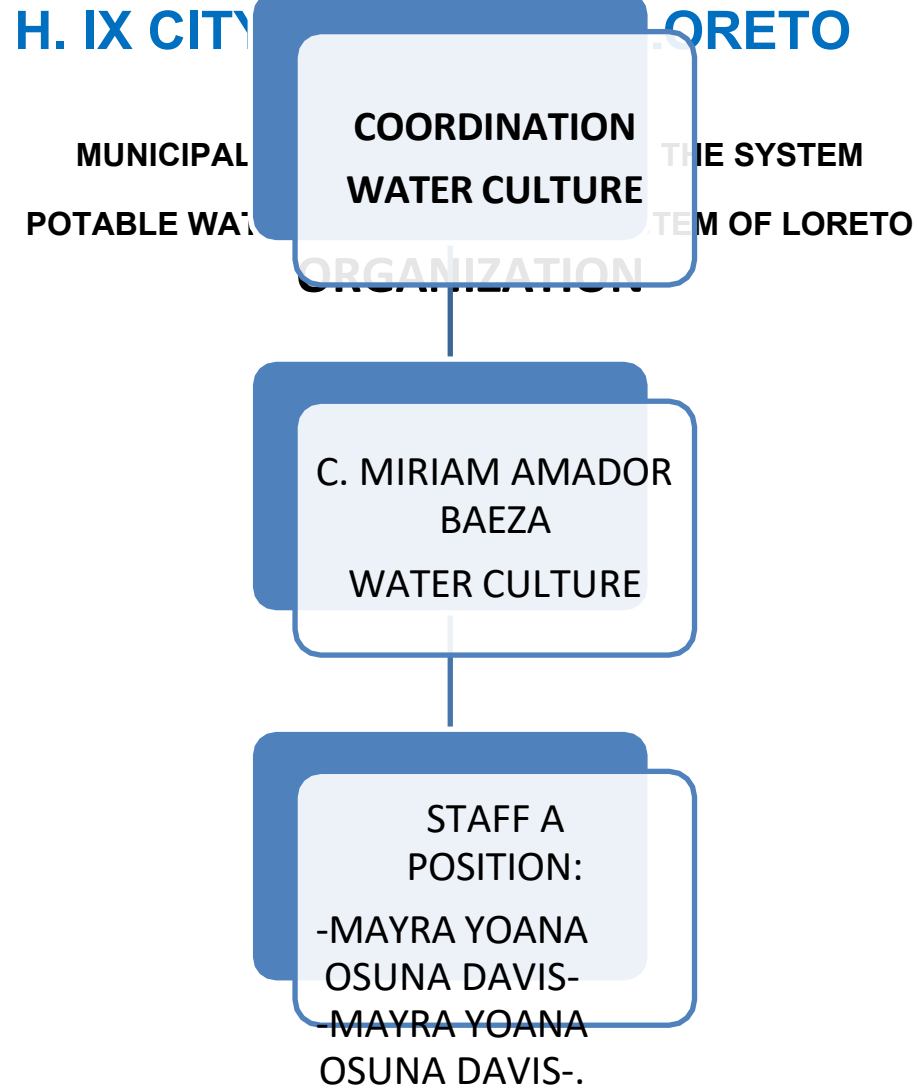
**MUNICIPAL OPERATING AGENCY OF THE SYSTEM
POTABLE WATER AND SEWERAGE SYSTEM OF LORETO
ORGANIZATION**





H. IX CITY COUNCIL OF LORETO

**MUNICIPAL OPERATING AGENCY OF THE SYSTEM
POTABLE WATER AND SEWERAGE SYSTEM OF LORETO
ORGANIZATION**



Mexico City, Mexico, October 26, 2022

C. APPLICANT PRESENT

Based on Article 61 of the Federal Law of Transparency and Access to Public Information (LFTAIP), we refer to the request for access to information identified with the folio number 330014822000442, addressed to this Transparency Unit, on September 28, 2022, which reads as follows:

Description of the request: "

On energy and hydraulic infrastructure. -

1. Based on the Agreement entered into by the Municipality of Loreto, Nacional Financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, as Trustee in the Trust named Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua Potable y Alcantarillado de Loreto (OOMSAPA LORETO) with the purpose of taking the delivery of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londo Baja California Sur to the Municipality of Loreto. In particular, with the exposed in the fourth clause referring to the payment of the debt for the electric energy service to CFE for the amount of \$4'324,008.11 million pesos, corresponding to maturities by concept of payment of Light, please answer the following questions:

- 1.1. For how many months and/or years is the light payment due?
- 1.2. Are electricity bills broken down by month or yearly for electromechanical equipment and hydraulic installations operated by FONATUR?
- 1.3. Show the breakdown of payment amounts for light in relation to electromechanical equipment and facilities operated by FONATUR for 2020, 2021 and so far in 2022?

2. Based on the operation of NOPOLO's hydraulic infrastructure managed by FONATUR:

- 2.1. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the NOPOLO WWTP?
- 2.2. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO?
- 2.3. How much is paid to the CFE for pumping drinking water in wells 5A and 5B in the years 2019, 2020, 2021, and so far in 2022?
- 2.4. How much was paid to the CFE for pumping drinking water in wells 5A and 5B in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?
- 2.5. How much is paid to the CFE for pumping drinking water in the Gemelos wells in 2019, 2020, 2021, and so far in 2022?

2.6. How much was paid to the CFE for pumping drinking water in the Twin wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

3. Based on the operation of San Juan Londo and the commitment to pay electric energy to CFE for the consumption in the hydraulic infrastructure paid by FONATUR:

3.1. How much is paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in 2019, 2020, 2021, and the remainder of 2022?

3.2. How much was paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

3.3. How much is paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in 2019, 2020, 2021, and the remainder of 2022?

3.4. How much was paid to the CFE for pumping potable water in wells Loreto 6, 7, 8 9 and 10 in each month (12 months from January to December) of the years 2019, 2020, 2021, and the remainder of 2022?

4. On payment of fees for concession titles or extraction assignment of water wells. -

4.1. What are the annual amounts of (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction assignment in Loreto 6, 7, 8 9 and 10 wells?

4.2. What are the annual amounts of (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction allocation in Zacatel I, II, III and IV wells?

4.3. What are the annual amounts of the (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction allocation in Zacatel I, II, III and IV wells?

Additional information: 1. Agreement between OOMSAPA and FONATUR 2.

In response to your request, the **Development Department**, by e-mail dated October 17, 2022, stated the following:

"[...]

By instructions of Mr. Saúl Reyes Palafox, Deputy Director of Planning and Patrimonial Control, in accordance with numeral 1.2.1, subnumeral 17, of the Organization Manual of the National Fund for the Promotion of Tourism (FONATUR), in response to the request for information with folio number 330014822000442, submitted through the Information Request System (SISAI 2), the content of which is as follows:

"On energy and hydraulic infrastructure. - Based on the Agreement entered into by the Municipality of Loreto, Nacional Financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, as Trustee in the Trust named Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua Potable y Alcantarillado de Loreto (OOMSAPA LORETO) in order to take the delivery receipt of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londo Baja California Sur to the Municipality of Loreto. In particular, with what is set forth in the fourth clause referring to the payment of the debt for the electric energy service.

To CFE for the amount of \$4'324,008.11 million pesos, corresponding to maturities for the payment of electricity, please answer the following questions:

- 1.1. For how many months and/or years does the payment of electricity correspond?
- 1.2. Are the electricity bills broken down by month or annually with respect to the electromechanical equipment and hydraulic installations operated by FONATUR?
- 1.3.

Show the breakdown of amounts of payment for light in relation to electromechanical equipment and facilities operated by FONATUR in 2020, 2021 and so far in 2022? 2. Based on the operation of the hydraulic infrastructure of NOPOLO managed by FONATUR: 2.1. What are the expenses for energy consumption generated by the electromechanical equipment and hydraulic facilities operated by the PTAR of NOPOLO? 2.2. What are the expenses for energy consumption generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO? 2.3. How much is paid to the CFE for pumping drinking water in wells 5A and 5B in the years 2019, 2020, 2021, and so far in 2022? 2.4. How much was paid to the CFE for pumping drinking water in wells 5A and 5B in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 2.5.

How much is paid to the CFE for pumping potable water in the Twin wells in the years 2019, 2020, 2021, and so far in 2022? 2.6. How much was paid to the CFE for pumping potable water in the Twin wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 3. Based on the operation of San Juan Londo and the commitment to pay CFE for the consumption in the hydraulic infrastructure paid by FONATUR: 3.1. How much is paid to CFE for pumping drinking water in the Zacatel I, II, III and IV wells in 2019, 2020, 2021, and so far in 2022? 3.2. How much was paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 3.3. How much is paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in the years 2019, 2020, 2021, and so far in 2022? 3.4. How much was paid to the CFE for pumping drinking water in the wells Loreto 6, 7, 8, 9 and 10 in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 4. On payment of rights for concession titles or extraction assignment of water wells. - 4.1. What are the annual amounts (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction assignment in Loreto 6, 7, 8, 9 and 10 wells? 4.2. What are the annual amounts (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction allocation in Zacatel I, II, III and IV wells? 4.3. What are the annual amounts of the (2019, 2020, 2" (SIC)

In this regard, in accordance with numeral 1.2 DIRECCIÓN DE DESARROLLO, del Manual de Organización del FONATUR, based on Article 133 of the Federal Law of Transparency and Access to Public Information, after conducting an exhaustive search in the files of all areas of the Directorate of Development, in accordance with the information provided by said areas, attached hereto is the response from the Sub-Directorate of Works, which is part of the aforementioned Directorate, who through the Work Follow-up Management in the CIP Los Cabos and the Work Residence in the PTI Loreto, is pleased to respond to the request.

[...]"

On the other hand, the **Regional Coordination and Donations Sub-Directorate** attached to the Strategic Management and Institutional Liaison Directorate, through an e-mail dated October 6, 2022, stated the following:

"[...]

Felipe Moises Beiles Tapia, Commissioner in Charge of the Office of the CIP Los Cabos and CIP Loreto, I am pleased to send the response of the Regional Delegation CIP Loreto, to the request for access to information (manual) with folio number 330014822000442 submitted through the Information Request System (SISAI 2).

[...]"

By virtue of the foregoing, the responses indicated above are attached as **Annex 1**.

Without further ado, I send you my best regards.

A T T E N T A M E N T S

LIC. DAVID G. VASTO DOBARGANES
FONATUR TRANSPARENCY UNIT

Request for access to information (manual) with folio number 330014822000442 submitted through the Information Request System (SISAI 2).

I refer to the request for access to information with folio number 330014822000442, submitted through the Information Request System (SISAI 2), by which the National Fund for Tourism Development (FONATUR) was required to provide diverse information, and therefore, based on numeral 1.3.2.3 function 17 of Fonatur's Organization Manual, by means of which the Regional Delegation of the National Fund for Tourism Development is empowered to take the appropriate actions with respect to matters related to requests for information from the National Institute for Transparency, Access to Information and Protection of Personal Data.

In this regard, I would like to point out that once I have instructed and conducted an exhaustive search within the files and databases of this Delegation in order to respond to the request for information formulated in relation to payments for electric energy and fees derived from the operation of various infrastructures for the extraction of drinking water and wastewater treatment in Loreto, Baja California Sur, I would like to provide a timely response to each of the questions contained in the request:

Item 1 of the application

Based on the Agreement entered into by the Municipality of Loreto, Nacional Financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, as Trustee in the Trust named Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua Potable y Alcantarillado de Loreto (OOMSAPA LORETO) with the purpose of taking the delivery of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londó Baja California Sur to the Municipality of Loreto. In particular, with the exposed in the fourth clause referring to the payment of the debt for the electric energy service to CFE for the amount of \$4'324,008.11 million pesos, corresponding to maturities by concept of payment of Light, please answer the following questions:

1.1. For how many months and/or years does the payment of electricity correspond?

ANSWER: For two years from December 23, 2020.

1.2. Are the electricity bills broken down by month or yearly for electromechanical equipment and hydraulic installations operated by FONATUR?

ANSWER: Per month

1.3. Show the breakdown of amounts of payment for light in relation to electromechanical equipment and facilities operated by FONATUR for 2020, 2021 and so far in 2022?

ANSWER.

December 2020	\$ 909,271.00
January 2021	\$ 926,190.00
February 2021	\$ 806,360.00
March 2021	\$ 936,582.00
April 2021	\$ 1,119,192.00
May 2021	\$ 1,232,486.00
June 2021	\$ 1,163,142.00
July 2021	\$ 1,165,204.00
August 2021	\$ 1,155,854.00
September 2021	\$ 1,041,517.00
October 2021	\$ 1,062,053.00
November 2021	\$ 868,915.00
December 2021	\$ 899,199.00
January 2022	\$ 861,600.00
February 2022	\$ 822,361.00
March 2022	\$ 912,162.00
April 2022	\$ 1,072,320.00
May 2022	\$ 1,110,599.00
June 2022	\$ 1,034,399.00
July 2022	\$ 1,095,079.00
August 2022	\$ 1,122,396.00
September 2022	\$ 1,038,597.00

With respect to periods prior to December 2020, no record or record was found that this area had made, requested or authorized any payment related to the electric energy service of the aforementioned infrastructures.

Item 2 of the application

2. Based on the operation of NOPOLO's hydraulic infrastructure managed by FONATUR:

2.1. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the NOPOLO WWTP?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, and the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual do not include any function that grants it

The Company has the power, authority or competence to pay for such services.

2.2. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.3. How much is paid to the CFE for pumping drinking water in wells 5A and 5B in 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.4. How much was paid to the CFE for pumping drinking water in wells 5A and 5B in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.5. How much is paid to the CFE for pumping drinking water in the Gemelos wells in 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.6. How much was paid to the CFE for pumping drinking water in the Twin wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

3. Based on the operation of San Juan Londó and the commitment to pay electric energy to CFE for the consumption in the hydraulic infrastructure paid by FONATUR:

3.1. How much is paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in 2019, 2020, 2021, and the remainder of 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

3.2. How much was paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER: No record or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures, without the inherent functions of the CIP Loreto Regional Delegation of the

FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of the Fonatur's Organization Manual, there is any that grants it attributions, faculties or competence to carry out the payment of such services.

3.3. How much is paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in the years 2019, 2020, 2021, and so far in 2022?

ANSWER:

2020: \$ 909,271.00 (December only)

2021: \$ 12,376,694.00

So far in 2022: \$ 9,069,513.00

With respect to periods prior to December 2020, no record or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said services, for which reason there is no reason to suppose that this area has or should have the required information.

3.4. How much was paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER.

December 2020	\$ 909,271.00
January 2021	\$ 926,190.00
February 2021	\$ 806,360.00
March 2021	\$ 936,582.00
April 2021	\$ 1,119,192.00
May 2021	\$ 1,232,486.00
June 2021	\$ 1,163,142.00
July 2021	\$ 1,165,204.00
August 2021	\$ 1,155,854.00
September 2021	\$ 1,041,517.00
October 2021	\$ 1,062,053.00
November 2021	\$ 868,915.00
December 2021	\$ 899,199.00
January 2022	\$ 861,600.00
February 2022	\$ 822,361.00
March 2022	\$ 912,162.00
April 2022	\$ 1,072,320.00

May 2022	\$ 1,110,599.00
June 2022	\$ 1,034,399.00
July 2022	\$ 1,095,079.00
August 2022	\$ 1,122,396.00
September 2022	\$ 1,038,597.00

With respect to periods prior to December 2020, no record or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said services, for which reason there is no reason to suppose that this area has or should have the required information.

4. On payment of fees for concession titles or water well extraction assignment.

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the referred fees. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed, as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said fees, for which reason there is no reason to suppose that this area has or should have the required information.

4.1. What are the annual amounts (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction assignment in Loreto 6, 7, 8, 9 and 10 wells?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the referred fees. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed, as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of the Fonatur's Organization Manual

There is no provision that grants it any powers, authority or competence to make the payment of such fees, for which reason there is no reason to assume that this area has or should have the required information.

4.2. What are the annual amounts for (2019, 2020, 2021, and so far in 2022) ? that FONATUR pays to CONAGUA for water rights for concession or extraction assignment titles in Zacatel I, II, III and IV wells?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the referred fees. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed, as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said fees, for which reason there is no reason to suppose that this area has or should have the required information.

4.3. What are the annual amounts of the (2019, 2020, 2020, 2

ANSWER: It is not possible to issue an answer as the question is not complete.

"FONATUR

Request for access to information (manual) with folio number 330014822000 42 submitted through the Information Request System (SISAI 2).

I refer to the request for access to information with folio number 3Z0014822000442, filed through the Information Request System (SISAI 2), by which the National Fund for the Promotion of Tourism (FONATUR) was asked for diverse information related to the operation of drinking water wells.

In this regard, I would like to state that once instructed and after an exhaustive search was performed within the files and databases of this Works Residence in order to respond to the request for information formulated in relation to payments for electric energy and fees derived from the operation of various infrastructures for the extraction of drinking water and wastewater treatment in Loreto, Baja California Sur, I am pleased to provide a timely response to each of the questions contained in the request:

Item 1 of the application

I. Having corrobated the Agreement entered into by the Municipality of Loreto, Nacional financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, corresponsable de la Fideicomiso called Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua D potable y Alcantarillado de Loreto (OOMSADA L. OQETO) in order to carry out the delivery reception of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in Con Juan Londó Baja California Sur (OQETO) with object to take the delivery reception of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in Con Juan Londó Baja California Sur to the Municipality of Loreto. In particular, with the exposed in the fourth clause referring to payment of the debt for the service of electric energy to CFE by IO COCTIDOO Q \$4 224,008. 11 million pesos, corresponding or maturities by concept of payment of Light, please answer the following questions."

1.1. For how many months and/or years does the payment of electricity correspond?

ANSWER: For two years from December 23, 2020.

1.2. Are the luz receipts broken down by month or yearly for the electromechanical equipment and hydraulic installations operated by FONATUR?

ANSWER: Per month

1.3. Show the breakdown of payment amounts by luz in relation to electromechanical equipment and facilities operated by FONATUR for the 2020, 2021 and so far in 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

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Item 2 of the application

2. Running the operation of NOPOLO's water infrastructure managed by FONATUR.

2.7. What are the expenses for energy consumption generated by the equipment electromechanical and hydraulic installations operated at the NOPOLO WWTP?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

2.2. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Z. How much was paid to the CFE for pumping drinking water in the SA and SB wells in the years 2019, 2020, 2021, so far in 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any paperwork related to the electric energy service of the referred infrastructures.

2.4. How much has been paid to the CFE for drinking water in the SA and SB wells in each month (72 months from January to December) of the years 2019, 2020, 2021, and the remainder of 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

2.5. How much will the CFE pay for the oil wells in the Cemelos wells in 2019, 2020, 2020, 2020, 2020, and 2022?

ANSWER: There is no record or record that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

2.6. How much was paid or the CFE for drinking water oomDeo in Cemelos wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and what goes che/ 2022?



¿ - FONATUR

ANSWER: No antecedent or record was found that this area has performed, requested or authorized anything related to the electric energy service of the referred infrastructures.

Item 3 of the application

Z. The operation of Son Juan Londó and the commitment to pay electric energy to CFE for the consumption in the hydraulic infrastructure paid for by

5.1. How much is paid to the CFE for drinking water supply in the wells Zocarel I, II, III and IV in 2019, 2020, 2021, and so far of 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Z.2. How much was paid to the CFE for drinking water supply to the Zocatel I, II, lily IV wells? in each quarter (12 months from January to December) of the years 2019, 2020, 2021, and the remainder of the year.

ANSWER: We did not find any record or record that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Z.S. How much was paid to the CFE for water supply in the wells Loreto 6, 7, 8 and 9 IO in the years 2019, 2020, 2021, so far in 2022?

ANSWER: There is no record or record that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

3.4. How much was paid to the CFE for 6 days of drinking water in the wells Loreto 6, 7, 8, 9 and IO in each year (12 months from January to December) in the years 2019, 2020, 2021, and so far in the year 2019, 2020, 2021, and so far in the year 2019, 2020 and 2021?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Item 4 of the application

4. Soóre payment of fees for concession or extraction assignment of extraction in wells of Og uO.

FONATUR

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the referred fees.

4.1. What are the annual amounts (2019, 2020, 2021, and the remainder of 2022) that FONATUR paid or CONAC UA for the concept of royalties for concession titles or extraction assignment in wells Loreto 6, 7, B 9 and 70?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the rights referred to.

4.2. What are the amounts of (2019, 2020, 2021, and what vo of 2022) that FONATUR pays or CONAC UA for Oonocepto of water rights for concession titles or allocation of extrOC:CIÓN in the wells Zacotol I, II, lily IV?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the rights referred to.

4.3. What are the annual amounts of the (2019, 2020, 2020, 2020, 2020, 2020, 2020)?

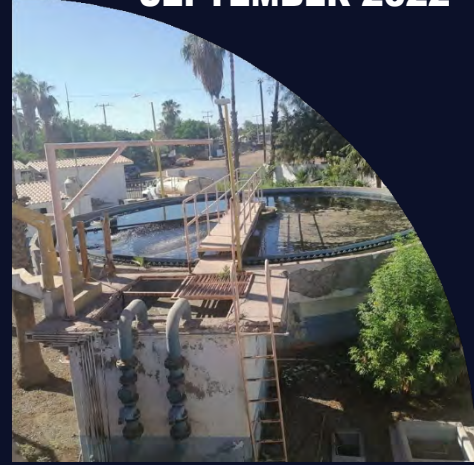
ANSWER: It is not possible to issue an answer since the question is not in the form of a poet.

**ELABORATION
OF AN
INTEGRAL
DEVELOPMENT
PLAN FOR THE
OOMSAPA OF
LORETO**

Zulema Guadalupe
Lazos Ramirez



SEPTEMBER 2022



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1. Introduction

Pursuant to Article 115 of the Political Constitution of the United Mexican States, the municipalities are in charge of, among other public services, potable water, drainage and sanitation, through the operating agencies such as the municipality of Loreto, which have a great impact on the population and are fundamental in the organization of society and its development, since they have a direct impact on the health, economy and well-being of the inhabitants.

Related to the above, in the National Development Plan 2019- 2024 (DOF December 30, 2020), which is aligned with the Environment and Natural Resources Program 2020-2024; it integrates the objectives, strategies and specific actions, where the National Water Program 2020- 2024 is derived, which has the following as its priority objectives the to progressively guarantee the human rights to water and sanitation, especially in the most vulnerable population, for which it establishes as a global strategy, the support for the integral improvement of water management and the provision of services, establishing as a goal the assurance of water supply and drinking water, sewerage and sanitation services. Therefore, in order to achieve this goal, it is

It is necessary to address the aspects of service coverage to the population, energy efficiency, administrative, technical, marketing and financial aspects that will allow the operating agency to operate adequately.

The National Water Commission, through the Program for the Integral Development of Water and Sanitation Operating Agencies (PRODI), with the support of financing from from Inter-American Development Bank (IDB), promotes the improvement of the overall efficiency of water and sanitation utilities. PRODI provides technical assistance and resources for the implementation of action and investment plans to promote operational and financial sustainability through actions to strengthen and finance short- and medium-term comprehensive projects to increase revenues, reduce expenses and make efficient use of water.

Integral Development Plan (PDI), which is focused on the identification of areas of opportunity in the different aspects related to OO management, addressing in greater detail aspects that contribute to operational and financial efficiency in the short and medium term, due to



that the vast majority of water and sanitation utilities in Mexico have problems related to the lack of sufficient economic resources to meet their fundamental objectives.

their
fundamental objectives,
insufficient management and
planning a

In the short, medium and long term, inefficient organizational management in the technical, operational and commercial areas, lack of legal and regulatory frameworks related to the implementation of tariffs, in addition to a low willingness to pay for services on the part of users, so that their indebtedness becomes excessive.

Therefore, we seek to identify the Action and Investment Packages that have the highest cost-benefit for the Operating Agency.

the Preparation of the **Development Plan of the Municipal Water and Sewage System Operator Organization of Loreto** (OOMSAPA de Loreto) in

the present document, where the show the Share Packs and Investments (PAI) that allow its transformation to improve the quality of the service offered to users, so that by having this instrument it can obtain resources from PRODI; however, the PDI will be useful for accessing other sources of financing that support similar or complementary actions to those of PRODI; and

will serve to justify conducting more detailed studies in some other area of work.

The preparation of the IMP consisted of three stages:

The first stage consisted at

The evaluation dashboard was developed to identify areas of opportunity to improve the OO's performance. The Evaluation and Monitoring Dashboard was developed based on the information collected from OOMSAPA Loreto and was complemented and validated through staff interviews. The Dashboard was completed with a succinct description of the situation and additional relevant data to explain the value of the indicators, which were presented in modules and areas for improvement were proposed for each of these modules. A Workshop was held to validate the actions that were made visible by the dashboard in order to deepen in the next stage.



The second stage consisted of

The IMP, which contains a list of PAIs that contribute to the achievement of the strategic objectives, was developed. The aim was to integrate the IMPs with the greatest impact, lowest cost and quickest implementation, as well as those that contain actions that allow the institutionalization of the actions carried out to achieve the sustainability of the strategic objectives.

changes made. In this same document structural changes are proposed to eliminate the restrictions that do not allow OOMSAPA of Loreto to develop its maximum potential in obtaining the strategic objectives (actions that give sustainability to the investments).

The third stage consisted of

at identify additional actions, which are not considered in the PRODI, but which are important to take into account in the planning of OOMSAPA's activities in Loreto.

The PAI to focus mainly in the achievement of the following three strategic objectives:

- i) Reduce OO operating costs.
- ii) Increase OO.
- iii) Reducing water losses

The transformation of OOMSAPA of Loreto, indicates structural changes, which promote the development of new systems and the application of best practices, to take full advantage of its capabilities, and contribute to the achievement of the strategic objectives.

Municipal del Sistema de Agua Potable y

Loreto's sewerage system serves a population of **17,485** inhabitants, distributed in **16 localities** within the municipality of Loreto, the most important of which is **Loreto**, its capital city, where the majority of the population is concentrated.

93% of the demand for potable water, sewerage and sanitation services. The user list

presents **7,509** accounts, where the

The majority are for domestic use; however, within the census it does not include users that are part of public services (government entities) and therefore the contribution to service revenues is non-existent. The OOMSAPA

of Loreto has drinking **water coverage coverage of 93.63%** without

However, it has a low effective **micro-measurement rate of only 16.30%**, which is a

very low percentage in comparison with the operating agencies of the State of Baja California Sur.

sewerage coverage of 85.96%. The Agency produces more than of 6 million m³ of water annually, however, it only invoices approximately 2

m³ million per year, so there is a **physical efficiency of 31.85%**, which means that there is no accounts for 68.15% of the water, however, it has an average continuous service time of 20.87 hours, indicating that the vast majority of the users have

continuous service 24 hours a day, 7 days a week, important fact because they are well above the Mexican OO average.





Likewise, the **commercial efficiency is 68.99%**, a figure that can be

This is relevant because it shows that the OOMSAPA of Loreto is not in a position to have resources and cover the counterpart to access the PRODI, without being able to finance investments in replacement and maintenance, and that it is not in a position to finance investments in the replacement and maintenance of the water supply system.

expansion. In addition, **electric power costs** will trigger an increase in the

The Agency will be more affected, given that, as of **2023**, it will no longer receive the subsidy from the FONATUR), which is about 10 million pesos per year, added to what the Agency pays (approximately 5 MDP) will drastically affect the finances of the Agency, which was considered for this document, observed within the areas of improvement and

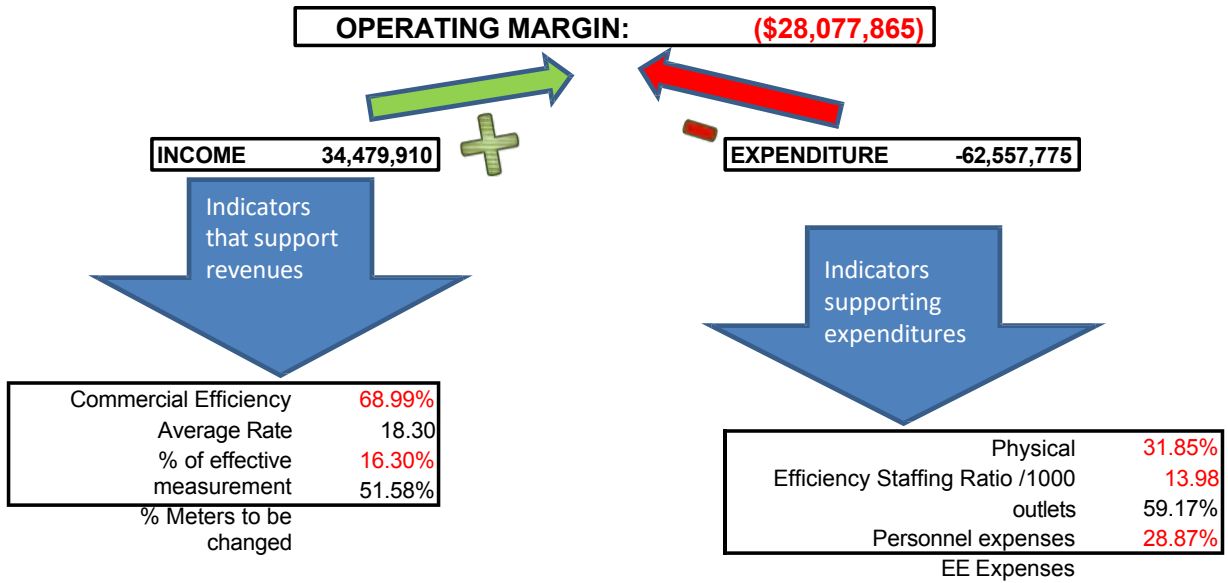
proposing action packages for its strengthening. Therefore, it was necessary to create a control panel with the information collected for the year 2021, where the cost of electricity does not appear because it is subsidized by FONATUR, and a control panel where the reflection of the electricity expenses that the Agency will have as of 2023 is observed, the latter is the one that was analyzed for this IMP.

In terms of **Administration and Personnel Management**, it has to be noted that the Salary monthly average per employee is Ps. 24,798 pesos, being less the Collection average monthly per employee the 20,298 pesos; the The Agency operates at a rate of 13.98 employees per 1,000 shots, indicating that your level exceeds the standard to national level, which is between 3 and 4 employees per thousand shots, and the international is 2 to 3.

Therefore, OOMSAPA of Loreto urgently needs to generate short and medium-term actions to improve its technical, economic and financial operating efficiencies, with a view to reducing costs and increasing revenues.



Figure 1 SUMMARY



In summary, among the main indicators that affect the Agency's operating margin, the following are highlighted in Figure 1: commercial and physical efficiency, where in each of them, there is an opportunity for improvement such as the increase in effective metering, which has a very low percentage (16.30%), it is also required to replace 51.58% of metering, which consists of 1,225 non-functioning micro-meters, which results in a Commercial Efficiency of 68.99, below the low limit value of 70%. Also noteworthy is the personnel index of 13.98 employees per 1,000 taps and the high percentage of personnel expenses which rises to 59.17%, as well as the high cost of electricity 28.87% (estimated with the payment made by Fonatur to the

date and which will cease to be carried out as of 2023 for better management of the Action and Investment Packages), which has a notable impact on Physical Efficiency, which reaches only 31.85%, when the national average fluctuates between over 58% depending on the measurement.

Therefore, the Global Efficiency (21.98%), which combines the Physical Efficiency and Commercial Efficiency indicators, is the one that shows a panorama of the physical and commercial competence of the company. commercial **OOMSAPA of Loreto**, a very below the national level, which has an average value of 41.6%. Considering that the operating margin is negative (-28,077,865 pesos), the Agency's inability to finance replacement and growth investments stands out.



2. Executive Summary.



The challenges faced by **OOMSAPA of Loreto** are associated with reducing the high cost of electricity, which directly affects the total cost of operation, associated with the very high rate of employees.

The number of employees required for its operation exceeds the required number of personnel indicated in the national standard of between 3 and 4 employees per thousand taps, and the international standard is between 2 and 3; likewise, the proportion of remuneration expenses with respect to operating expenses is high (59.17%).17%), the lack of effective macro and micro metering generates a very restricted operational margin that does not generate the necessary resources for the actions and investments that are part of the Agency's evolution in the short, medium and long term, which leads to improvements in all its areas with a vision of improvement in its Global Efficiency.

The various indicators of the Control Dashboard made it possible, through the traffic light system, to detect those aspects in which the IAPs were designed with the greatest impact on the financial and operational balance of the company.

OOMSAPA of Loreto, due to the adjustment that was made in the control panel for the year 2023, due to the electric energy that Fonatur will stop paying, we show the traffic light of the two control panels, one for 2021 and the other with the projection for 2023 for comparison, it is worth mentioning that based on the 2023 Control Panel, the document of the present IMP was carried out.

Table 1. ACTIONS TO BE PERFORMED ACCORDING TO TRAFFIC LIGHT

No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023
1	Request for a change in the electric rate to reduce electric energy expenses.	1. Reduction of electric energy costs	Action or investment	no	It is recommended to adhere to the ISO 50001 guidelines for energy efficiency, energy use and consumption.	NO	NO
2	Reactive power reduction (power factor reduction)	1. Reduction of electric energy costs	Action or investment	yes	Evaluation of existing equipment, and prioritization of new technologies	NO	NO
3	Replacement of drinking water pumping equipment to reduce energy consumption	1. Reduction of electric energy costs	Action or investment	yes	Evaluation and diagnosis of existing equipment, and prioritization of new technologies	NO	YES
4	Replacement or construction of water storage tanks to modify pumping equipment operating policies	1. Reduction of electric energy costs	Action or investment	yes	Diagnosis is recommended	YES	YES
5	Automation of pumping equipment to modify operating policies	1. Reduction of electric energy costs	Action or investment	yes	Automation through telemetry with new distribution policies makes processes and consumption more efficient.	NO	YES
6	Replacement of sewage pumps	1. Reduction of electric energy costs	Action or investment	no	Evaluation of existing equipment, and prioritization of new technologies	NO	YES
7	Reduction of energy costs in wastewater treatment plants (WWTPs)	1. Reduction of electric energy costs	Action or investment	no	Evaluation of existing equipment and prioritization of new technologies.	NO	YES

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023
8	Preparation of an energy audit	1. Reduction of electric energy costs	0.Preliminary study	with justification	It is necessary to carry out an inspection, study and analysis of the energy flows in the system with the objective of understanding the dynamic energy, to arrive at the implementation of specific measures to make the consumption of electrical energy more efficient.	YES	YES
9	Training and professionalization program to increase staff productivity.	Reduction of personnel expenses	2.Sustainability	no	Job training is highly recommended, as it increases knowledge of the equipment and machinery used on a daily basis, to increase labor efficiency. They are given at Escuela del Agua, therefore, they are not financed by PRODI.	YES	YES
10	Revision of the OO's personnel functions and positions manual.	Reduction of personnel expenses	0.Preliminary study	with justification	It is a priority to create a manual of processes and personnel functions in order to reduce duplication and downtime, which are affecting the costs and operation of daily activities.	YES	YES
11	Establishment of a voluntary and mandatory retirement program	Reduction of personnel expenses	Action or investment	no	There are labor deficiencies that increase the cost of personal services, which can be repaired by reducing the number of employees. This is almost 3 times the national average.	YES	YES
12	Adjustment of fixed quota consumption	3. Improvement of commercial management	Action or investment	yes	An adjustment in the fixed rate is necessary.	YES	YES

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023
13	Correction of micro-metering errors through meter replacement.	3. Improvement of commercial management	Action or investment	yes	Replacement of meters suitable for the area.	REVIEW	REVIEW
14	Training courses for human resources in commercial efficiency	3. Improvement of commercial management	2.Sustainability	no	Specialized courses on the subject are recommended.	YES	YES
15	Training courses for human resources in user services	3. Improvement of commercial management	2.Sustainability	no	The attention to users is recommended competency standard EC0305	YES	YES
16	Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	3. Improvement of commercial management	Action or investment	yes	In process according to interviews.	YES	YES
17	Improvements to invoicing through a new commercial system	3. Improvement of commercial management	Action or investment	yes	according to the current tariff scheme, only "invoices" under the fixed fee criteria, it is suggested a new system that allows the use of service billing criteria, under the criteria of measured service or fixed fee, unbundled service and taking control of the management of the collection.	NO	NO
18	Improvements in collection through schemes that facilitate payment.	3. Improvement of commercial management	Action or investment	yes	It is necessary to establish proactive strategies to achieve timely payments in the estimated times, according to what the OO said, the process for collection through a bank is being carried out.	YES	YES

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023
19	Location and regularization of clandestine outlets	Improvement of commercial management	Action or investment	yes	With sectorization, measurement and hydrometric balances, it will be easier to identify the sectors with physical losses in order to focus detection and correction efforts.	YES	YES
20	Census of users in order to improve the census. Establishment of schemes for the continuous updating of the registry.	Improvement of commercial management	Action or investment	yes	It is highly recommended to carry out an update of the User Register, in order to validate the rotation, use and geo-referenced location of each of the users, as well as the actual number of withdrawals, the User Register reflects the knowledge and reliability that we have about the registration of users. and its outlets, is an important part of the commercial operation.	YES	YES
21	Computing system for user registration and deregistration.	Improvement of commercial management	Action or investment	yes	As a complement to the updating of the register and as a module of the commercial system to be implemented, it is suggested to facilitate the management of the daily updating of the Register.	YES	YES
22	Tariff study for the purpose of updating water rates	3. Improvement of commercial management	0.Preliminary study	with justifi	A tariff study is required based on operating and production costs. Considering all factors related to the community	NO	NO

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023
23	Modifications to the tariff structure	3. Improvement of commercial management	Action or investment	no	Broaden the classification of users to allow for better segregation of mixed uses.	YES	YES
24	Reforms to ensure that tariffs are updated on a continuous basis	3. Improvement of commercial management	Structural	yes	Adhere to annual or monthly updating systems. Governing Board and Congress	YES	YES
25	Reforms to the legal framework to enable the OO to establish adequate tariffs.	3. Improvement of commercial management	Structural	yes	Go to the board of directors and congress.	NO	NO
26	Location and repair of leaks in tanks	4. Reduction of physical water losses	Action or investment	yes	Preventive maintenance, reflected in AOP and EDP	REVIEW	YES
27	Locating and repairing leaks in main and secondary pipelines	4. Reduction of physical water losses	Action or investment	with justification	Preventive and corrective maintenance program POA	REVIEW	YES
28	Installation of micro-meters at taps	4. Reduction of physical water losses	2.Sustainability	yes	A total program for the installation of micro-meters in representative intakes is a priority.	YES	YES
29	Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	4. Reduction of physical water losses	2.Sustainability	yes	Adhere to efficient metering and billing systems according to the needs of the sectors.	YES	YES
30	Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	4. Reduction of physical water losses	2.Sustainability	yes	Sectorization with hydrometric balance	YES	YES
31	Water infrastructure and network cadastre	4. Reduction of physical water losses	2.Sustainability	yes	Necessary to know the composition of the networks, characteristics and age for decision making	YES	YES

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023
32	Installation of macro meters in catchments	4. Reduction of physical water losses	2.Sustainability	yes	Priority to stop estimating production volume and adhere to official standards	YES	YES
33	Installation of macro-meters in sectors	4. Reduction of physical water losses	2.Sustainability	yes	Helps to control and detect losses	YES	YES
34	Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	4. Reduction of physical water losses	2.Sustainability	yes	Resource optimization. They will have to adhere to NOMX- AA-179-SCFI-2018, became effective on July 1, 2022.	REVIEW	REVIEW
35	Replacement of pipes with high leakage rate	4. Reduction of physical water losses	2.Sustainability	yes	Result of the knowledge and monitoring of the networks.	YES	YES
36	Training of OO personnel on equipment operation	4. Reduction of physical water losses	2.Sustainability	yes	Ongoing training improves operational efficiency, which can be provided by IMTA, ANEAS or other authorized institutions.	YES	YES
37	Geographic Information System	4. Reduction of physical water losses	2.Sustainability	yes	Having a network cadastre on a GIS provides greater reliability by having information attributes and being compatible with mathematical models.	YES	YES
38	Establishment of a citizen committee of the operating agency	5. Sustainability of investments	2.Sustainability	no	Citizen participation strengthens the transparency of actions and social awareness of the real needs of the agency, it does not require investment, if there is one that will have to be more integrated into the water issue.	NO	NO
No.	DESCRIPTION	PAI	TYPE	FINANCING BY PRODI	COMMENTS	SEMAFORO 2021	SEMAFORO 2023

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

39	Development of a code of ethics and subscription by OO staff.	5. Sustainability of investments	2.Sustainability	no	It is recommended that staff be aware of good practices in the sector.	NO	NO
40	Computerized accounting system	5. Sustainability of investments	2.Sustainability	yes		NO	NO
41	Integrated planning system	5. Sustainability of investments	2.Sustainability	yes	Having instruments with a long-term vision makes it possible to focus efforts in a prioritized and orderly manner.	YES	YES
42	Advisory for counterpart financing	5. Sustainability of investments	2.Sustainability	yes	Necessary because the OO lacks resources.	YES	YES





In the present diagnosis, the Action and Investment Packages (PAI) were identified, which group projects to reduce electric energy expenses, to increase personnel productivity, to improve Commercial Management, to reduce Physical Water Losses and for sustainability of the actions, The amount of investment required from PRODI for **OOMSAPA in Loreto** is \$36.80 million pesos, considering 6.0 million for energy efficiency, \$ 7.78 million to increase staff productivity, \$ 2.40 million to improve Commercial Management, \$ 19.62 million to reduce Physical Water Losses, and \$ 1.5 million to improve the efficiency of the water and sewage systems. 1.00 million for stock sustainability.

Table 2. 5-YEAR PRODI INVESTMENTS FOR OOMSAPA DE LORETO

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
1. PAI to reduce electricity costs						
Replacement of drinking water pumping equipment to reduce energy consumption	0.00	0.50	0.20	0.20	0.10	1.00
Replacement or construction of water storage tanks to modify pumping equipment operating policies	0.00	0.00	0.00	2.00	0.00	2.00
Automation of pumping equipment to modify operating policies	0.00	0.25	0.10	0.10	0.05	0.50
Replacement of sewage pumps	0.00	0.30	0.20	0.30	0.20	1.00
Reduction of energy costs in wastewater treatment plants (WWTPs)	0.00	1.00	0.00	0.00	0.00	1.00
Preparation of an energy audit	0.00	0.50	0.00	0.00	0.00	0.50
Total PAI investment for reduction of electric energy costs	0.00	2.55	0.50	2.60	0.35	6.00

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
2. PAI to increase staff productivity						
Training and professionalization program to increase staff productivity.	0.00	0.05	0.02	0.01	0.01	0.08
Revision of the OO's personnel functions and positions manual.	0.36	1.44	0.00	0.00	0.00	1.80
Establishment of a voluntary and mandatory retirement program	0.00	1.18	1.18	1.18	2.36	5.90
Total PAI investment to increase staff productivity	0.36	2.67	1.20	1.19	2.37	7.78
3. PAI for the improvement of Commercial Management						
Adjustment of fixed quota consumption	0.25	0.25	0.00	0.00	0.00	0.50
Correction of micro-metering errors through meter replacement.	0.89	0.00	0.00	0.00	0.00	0.89
Training courses for human resources in commercial efficiency	0.00	0.05	0.00	0.00	0.00	0.05
Training courses for human resources in user services	0.00	0.05	0.00	0.00	0.00	0.05
Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	0.03	0.03	0.00	0.00	0.00	0.05
Improvements to invoicing through a new commercial system	0.00	0.00	0.00	0.00	0.00	0.00
Improvements in collection through schemes that facilitate payment.	0.02	0.04	0.00	0.00	0.00	0.05
Location and regularization of clandestine outlets	0.00	0.01	0.00	0.00	0.00	0.02
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	0.38	0.38	0.00	0.00	0.00	0.75
Computing system for user registration and deregistration.	0.00	0.02	0.00	0.00	0.00	0.02
Modifications to the tariff structure	0.00	0.00	0.00	0.00	0.00	0.00
Reforms to ensure that tariffs are updated on a continuous basis	0.00	0.00	0.02	0.00	0.00	0.02
Total PAI for Commercial Management Improvement	1.56	0.82	0.02	0.00	0.00	2.40
4. PAI for Physical Water Loss Reduction						
Location and repair of leaks in tanks	0.00	0.00	0.04	0.04	0.02	0.10
Locating and repairing leaks in main and secondary pipelines	0.02	0.05	0.09	0.00	0.00	0.15
Installation of micro-meters at taps	2.50	1.50	1.00	0.00	0.00	5.00

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	0.00	0.03	0.01	0.00	0.00	0.04
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	0.00	0.24	0.56	0.00	0.00	0.80
Water infrastructure and network cadastre	0.00	1.50	0.00	0.00	0.00	1.50
Installation of macro-meters in catchments	1.60	4.00	2.40	0.00	0.00	8.00
Installation of macro-meters in sectors	0.00	0.15	0.30	0.30	0.00	0.75
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	0.42	1.04	0.42	0.00	0.21	2.08
Replacement of pipes with high leakage rate	0.09	0.27	0.18	0.18	0.18	0.90
Training of OO personnel on equipment operation	0.02	0.02	0.02	0.02	0.02	0.10
Geographic Information System	0.00	0.20	0.00	0.00	0.00	0.20
Total PAI for reduction of Physical Water Losses	4.64	8.99	5.02	0.54	0.43	19.62
5. PAI for sustainability of actions						
Integrated planning system	0.00	0.60	0.00	0.00	0.00	0.60
Advisory for counterpart financing	0.00	0.40	0.00	0.00	0.00	0.40
Total PAI for sustainability of actions	0.00	1.00	0.00	0.00	0.00	1.00
Total PAIs	6.56	16.03	6.73	4.33	3.15	36.80

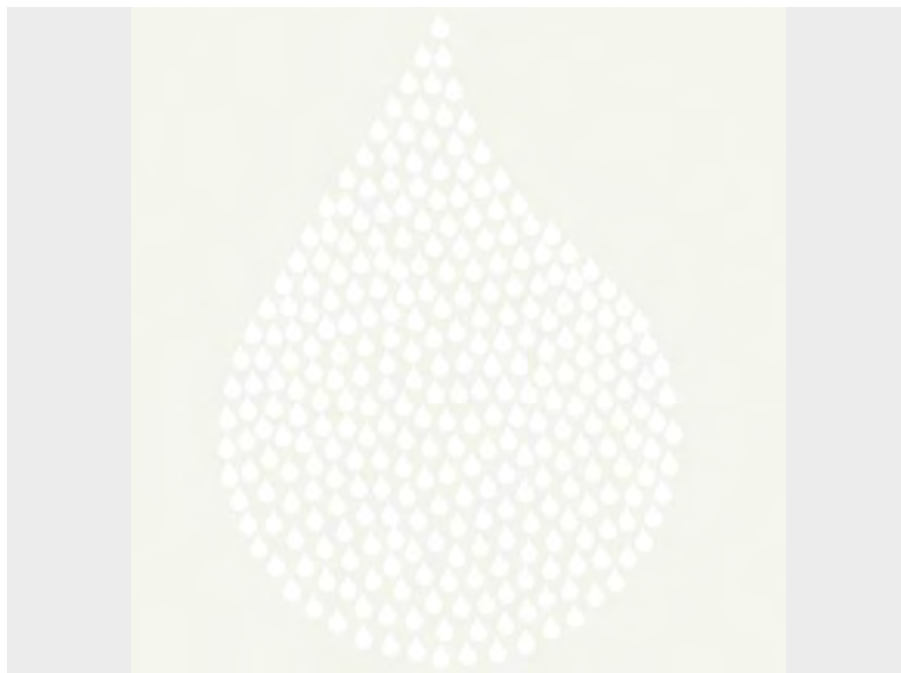
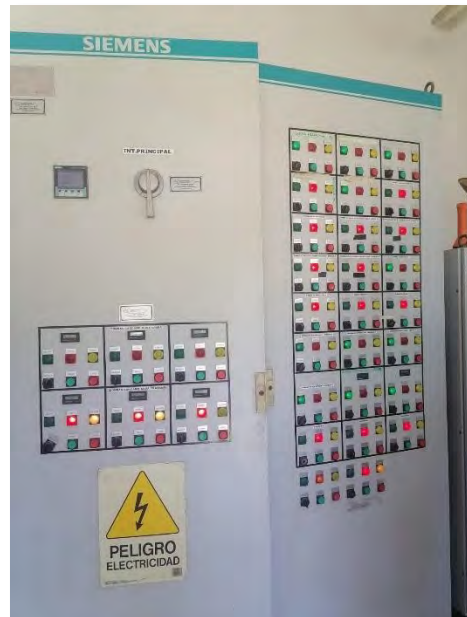


Table 3. SUMMARY OF EVALUATION

PAI Investments (Millions of pesos)	VP Investment Amount	VPN/VNI	IRR	VPN
1. PAI to reduce electricity costs				
Replacement of drinking water pumping equipment to reduce energy consumption	0.91	5.98	79.55%	5.44
Replacement or construction of water storage tanks to modify pumping equipment operating policies	1.82	2.68	40.76%	4.88
Automation of pumping equipment to modify operating policies	0.45	27.70	343.73%	12.59
Replacement of sewage pumps	0.91	5.70	79.04%	5.18
Reduction of energy costs in wastewater treatment plants (WWTPs)	0.91	5.98	79.55%	5.44
Preparation of an energy audit	0.45	N/A	N/A	N/A
Total PAI Investment for reduction of electric energy costs	5.45	6.06	81.64%	33.07
2. PAI to increase staff productivity				
Training and professionalization program to increase staff productivity.	0.07	6.79	93.10%	0.49
Revision of the OO's personnel functions and positions manual.	1.64	-0.28	5.46%	-0.46
Establishment of a voluntary and mandatory retirement program	5.36	0.32	14.59%	1.72
Total PAI investment to increase staff productivity	7.07	0.25	13.59%	1.75
3. PAI for the improvement of Commercial Management				
Adjustment of fixed quota consumption	0.45	5.06	297.90%	2.30
Correction of micro-metering errors through meter replacement.	0.81	35.81	453.98%	29.06
Training courses for human resources in commercial efficiency	0.05	328.89	2863.38%	14.95
Training courses for human resources in user services	0.05	328.89	2863.38%	14.95

Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	0.05	327.22	2843.51%	14.87
Improvements in collection through schemes that facilitate payment.	0.05	296.60	2466.49%	13.48
Location and regularization of clandestine outlets	0.02	1,000.29	1197.00%	18.19
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	0.68	52.15	635.59%	35.60
Computing system for user registration and deregistration.	0.02	211.18	2550.50%	3.60
Modifications to the tariff structure	0.00	6,674.29	79800.10%	18.20
Reforms to ensure that tariffs are updated on a continuous basis	0.01	-1.00	0.00%	-0.01
Total PAI for Commercial Management Improvement	2.18	75.71	890.22%	165.19
4. PAI for Physical Water Loss Reduction				
Location and repair of leaks in tanks	0.09	32.29	840.77%	2.94
Locating and repairing leaks in main and secondary pipelines	0.14	124.54	3451.41%	17.00
Installation of micro-meters at taps	4.55	8.90	271.95%	40.46
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	0.04	751.93	5552.13%	27.34
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	0.73	6.90	166.83%	5.02
Water infrastructure and network cadastre	1.37	0.43	22.75%	0.59
Installation of macro meters in catchments	7.27	-1.12	0.00%	-8.15
Installation of macro-meters in sectors	0.68	1.20	91.60%	0.82
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	1.89	-1.13	0.00%	-2.14
Replacement of pipes with high leakage rate	0.82	17.47	282.50%	14.31
Training of OO personnel on equipment operation	0.09	36.55	1423.57%	3.32
Geographic Information System	0.18	10.74	587.19%	1.95
Total PAI for Physical Water Loss reduction	17.84	5.80	142.16%	103.46

5. PAI for sustainability of actions				
Integrated planning system	0.55			
Advisory for counterpart financing	0.36			
Total PAI for sustainability of actions	0.91			
Total PAIs	33.45	9.03	151.26%	302.01



3. Basic data sheet

This sheet contains the data necessary to determine the calculation of the management indicators, mostly extracting data from other sheets of the Dashboard, which is a basic tool for the preparation of the IMP, whose objective is to obtain rapid knowledge of the current comprehensive situation, based on the

information collected and interviews with **OOMSAPA staff in Loreto**. The **Basic Data Sheet** was considered as the first input and was followed by the data collection for the integration of the Dashboard, which contains the indicators structured by modules and relevant practices.

Table 4.- DATA SHEET

DATA FOR THE CALCULATION OF BASIC INDICATORS			
Number	Data	Unit	Quantity
1	Total Population	Inhabitants	17,485
2	Population with drinking water service	Inhabitants	16,895
3	Overcrowding index	Inhabitants	3
4	Total number of active registered taps	Tomas	7,509
4.1	Domestic outlets	Tomas	6,758
4.1.1	Metered domestic outlets	Tomas	2,081
4.2	Commercial outlets	Tomas	680
4.2.1	Metered commercial outlets	Tomas	363
4.3	Industrial outlets	Tomas	71
4.3.1	Industrial outlets with meter	Tomas	55
4.4	Public service outlets	Tomas	0
4.4.1	Utility outlets with meter	Tomas	0
4.5	Other	Tomas	0
4.5.1	Other metered sockets	Tomas	0
4.6	Micro-meters installed and operating	Unit	1,224
4.6.1	Meters up to 5 years old	Tomas	1,210
4.6.2	Meters between 6 and 10 years old	Tomas	1,287
4.6.3	Meters older than 10 years	Tomas	2

DATA FOR THE CALCULATION OF BASIC INDICATORS			
5	Sockets with continuous service	Tomas	5,553
6	Intakes connected to the sewer	Tomas	6,680
7	Volume produced	m3/year	6,361,074
7.1	Annual groundwater production	m3/year	6,298,002
7.2	Annual surface water production	m3/year	63,072
8	Active supply sources	Unit	20
8.1	Macrometers installed and operating	Unit	0
9	Macro-measured volume	m3/year	0
10	Volume of water billed	m3/year	2,026,234
11	Volume of wastewater treated	m3/year	1,166,832
12	Average consumption	m3/month	22.49
12.1	Average household consumption	m3/month	18.44
12.2	Average commercial consumption	m3/month	39.03
12.3	Average industrial consumption	m3/month	248.98
12.4	Average utility consumption	m3/month	0.00
12.5	Average consumption other	m3/month	0.00
12	Operating expenses	\$	52,805,086
13	Electricity costs	\$	15,242,265
14	Salaries and benefits	\$	31,245,245
15	Materials	\$	4,061,433
16	Chlorine and reagents	\$	341,495
17	Rights of exploitation, use or development of water	\$	0
18	Other operating expenses	\$	1,914,648
19	Other non-operating expenses (loan payments or other)	\$	40,160,467
20	Number of employees	employees	105
21	Installed treatment capacity	lps	80

DATA FOR THE CALCULATION OF BASIC INDICATORS			
22	Amount of water, sewerage and sanitation billed	\$	37,070,606
23	Amount of water, sewage and sanitation collected	\$	25,575,950
24	Drinking water billing (\$)	\$	28,935,770
25	Sewer billing (\$)	\$	5,055,758
26	Invoicing for remediation (\$)	\$	3,079,078
27	Revenues from connection rights	\$	465,318
28	Income from factilities	\$	0
29	Other income	\$	8,438,642
30	Revenues from federal, state or municipal contributions	\$	0
31	Non-operating income (interest or other)	\$	0
32	Total invoicing	\$	45,974,566
33	Accounts Receivable more than 360 days old	\$	90,000,000
34	Number of WWTPs	unit	2
35	Number of water treatment plants	unit	1
36	Total bacteriological samples analyzed	unit	0
37	Bacteriological samples in compliance with regulations	unit	0
38	Percentage of replenishment to be applied	%	1.0%
39	New Replacement Value per intake (NRV)	\$/Take	34,000
40	Annual growth of withdrawals	%	4.70%
41	% of financing by the growth agency	%	60.00%
42	Physical losses not perceptible in the network	%	2.63%
43	Physical losses not perceptible in taps	%	0.03%
44	Commercial losses with respect to total losses	%	32.00%
45	PRODI non-refundable contribution	%	50.00%

4. Control panel indicators

With the collection of data for the integration of the Dashboard, the areas for improvement were identified for each of the modules and validated with the management staff of **OOMSAPA of Loreto**.

The indicators were generated from the data obtained through the Control Board, where the current situation of OOMSAPA de Loreto is identified, so that, based on these indicators, the performance of each area of the Agency was evaluated.

The fundamental objective of each indicator module is the verification of the operation and behavior of the processes, which will be aligned with the institutional objectives of the Operating Agency, using the Control Board to follow up the actions to evaluate the progress of the PAI's of this Plan, and with them, the actions will be followed up.

The Indicators derived from the Dashboard are as follows:

Table 5.- COVERAGE MODULE

HEDGING MODULE		
Number	Indicator	Result
1	Drinking water coverage	96.63%
2	Sewerage coverage	85.96%
3	Treatment coverage	56.29%
4	Overall efficiency	21.98%
5	Installed wastewater treatment capacity (lps)	80
6	Bacteriological quality compliance of drinking water	0.00%

Table 6.- ENERGY EFFICIENCY MODULE

ENERGY EFFICIENCY MODULE		
Number	Indicator	Result
7	Incidence of electric energy	28.87%

8	Unit cost of electric energy (\$/kWh)	9.26
9	EE Expense per cubic meter produced (\$/m ³) (Does not consider Water in block)	2.40
10	Energy indicator (kWh/m ³ produced) (Does not consider bulk water)	0.26
11	Percentage of peak consumption (average)	59.67%
12	Load factor	39.34
13	Power Factor	56.87

Table 7.- ADMINISTRATION AND PERSONNEL MANAGEMENT MODULE

PERSONNEL ADMINISTRATION AND MANAGEMENT MODULE		
Number	Indicator	Result
14	Labor rate (employees /1000 intakes)	13.98
15	Average monthly salary per employee (\$/employee/month)	24,798
16	Average monthly revenue per employee (\$/employee/month)	20,298
17	Ratio of operating personnel	68.57%
18	Remuneration expenses (wages, salaries and benefits)	\$ 31,245,245
19	Ratio of compensation expenses to operating expenses	59.17%
20	The board of directors and/or the board of directors of the agency have "corporate autonomy" in matters related to compensation and staffing.	yes

Table 8.- COMMERCIAL MANAGEMENT MODULE

COMMERCIAL MANAGEMENT MODULE		
Number	Indicator	Result
21	Commercial efficiency	68.99%
22	Installed micrometering coverage	33.28%
23	Micro-measured volume coverage	31.03%
24	Micrometering coverage with reading	16.30%
25	Annual collection per intake (\$/intake/year)	3,406
26	Annual billing per tap (\$/tap/year) INTEGRATED	4,937
27	Average billed rate (\$/m ³) INTEGRATED	18.30
28	Average domestic billed rate (\$/m ³) INTEGRATED	10.54
29	Average billed commercial and industrial rate (\$/m ³) INTEGRATED	40.16
30	Average fee charged (\$/m ³) INTEGRATED	12.62
31	Annual billing per metered service connection (\$/provision/year) INTEGRATED	7,722
32	Annual billing per tap fixed fee (\$/tap/year) INTEGRATED	3,547

33	% Volume of water billed with micro-metering	31.03%
34	Volume of water billed with fixed fee	68.97%
35	Average consumption (m ³ /draught/month)	22.49
36	Active outlets without micro-meter reading	6,285
37	% Meters older than 5 years old	51.58%
38	% Meters more than 10 years old	0.08%
39	Commercial losses as % of total losses	32.00%
40	Collection potential in water supplied (water supplied not invoiced)	25,378,336
41	Billed collection potential (for uncollected billed water)	11,494,656
42	The board of directors and/or the board of directors of the agency have "entrepreneurial autonomy" to set the rates for the services it provides. the OO	yes
43	Fees for services provided by the OO are updated annually (through indexation or some other ongoing review process).	no

Table 9.- PHYSICAL EFFICIENCY MODULE

PHYSICAL EFFICIENCY MODULE		
Number	Indicator	Result
44	Physical efficiency	31.85%
45	Continuity of service	86.98%
46	% of outlets with continuous service	73.95%
47	Production endowment per inhabitant (l/inhab/day)	1,032
48	Consumption per inhabitant (l/inhab/day)	329
49	% Water not accounted for	68.15%
50	Average service time (hours per day)	20.87
51	Macro-measured volume coverage	0.00%
52	Ratio of treated wastewater to billed potable water	57.59%
53	Unnoticeable physical losses in the network and taps	2.66%
54	Physical losses in tanks	0.21%
55	Length of network (Kms)	411.47

Table 10.- FINANCIAL MODULE

FINANCIAL MODULE		
Number	Indicator	Result
56	Operating margin (\$)	- 18,325,176
57	Operating Margin on Revenues (Collections) (%)	-71.65%
58	Unit operating cost per cubic meter produced (\$/m) ³	8.30

59	Unit operating cost per cubic meter billed (\$/m) ³	26.06
60	Total average monthly cost per tap (\$/tap/month)	586.02
61	Liquidity	0.35
62	Acid test	0.35
63	Working Capital	-26,005,460
64	Debt ratio	80.72%
65	Leverage	5.19
66	Profitability	-191.01%
67	Productivity	-36.83%
68	Infrastructure per user	4,741
69	Operating ratio	0.65

Table 11.- CORRECTED FINANCIAL MODULE

CORRECTED FINANCIAL MODULE		
Number	Indicator	Result
70	Annual replenishment	2,553,060
71	Investment for growth	7,199,629
72	Discount of accounts receivable from current assets	10,000,000
73	Operating margin (\$)	(28,077,865)
74	Operating margin over revenues (Collections) (%)	-109.78%
75	Operating unit cost per cubic meter produced (\$/m) ³	9.83
76	Operating unit cost per cubic meter billed (\$/m) ³	30.87
77	Average total monthly expenditure per tap (\$/tap/month)	694.25
78	Liquidity	0.10
79	Acid test	0.10
80	Working Capital	-36,005,460
81	Debt ratio	101.02%
82	Leverage	4.14
83	Profitability	-380.63%
84	Productivity	-91.86%
85	Infrastructure per user (20-year)	30,717
86	Operating ratio	0.42
87	Financing Requirement	24,036,498
88	Financing required as % of revenues	69.71%

5. Conclusions by module

Coverage Module -Table 5

The provision of drinking water service has reached a coverage of 92.4% at a national level.

According to CONAGUA 2022 data, **OOMSAPA of Loreto** has an index of **drinking water coverage of 96.63%**, indicating a

The **sewerage coverage is 85.96%**, which is also higher than the previous year.

The **treatment coverage, which is 57.27%**, is above the national average.

improvement, the objective of wastewater treatment is to remove pollutants that exceed the maximum permissible levels established by law and to treat the sewage sludge generated in the process, so attention must be paid to wastewater treatment plants (80 lps.

The implementation of improvements in the chlorination systems, as well as in the control and sample analysis procedures, should be considered due to the lack of bacteriological analysis of the water.



installed and only 32 lps are treated) for better operation and less damage to the

environment operation and less damage to the

environment and community health.

Therefore, within this Plan, the necessary investments are determined to expand the infrastructure and increase the coverage of drinking water, sewage and sanitation services. Also, in this module the Global Efficiency is indicated, which reaches only 21.98%, requiring actions and investments for its improvement. Finally, there is no compliance in the bacteriological quality of drinking water,



Energy Efficiency Module -Table 6

The energy impact in 2021 reached 10.83 %, however, due to the situation that will arise for the following year, in which Fonatur will no longer pay for the electricity, the

energy incidence will rise to **28.87%**,

This leaves the OO in an extreme situation, since by 2023 it will be paying close to 15 million pesos (according to the data provided by FONATUR), while in 2021 it paid \$4,559,800, which is why the 15 million pesos electricity charge was taken for this plan for a better estimate, in addition to the above, the change of tariff for electricity consumption, the automation of the pumping equipment and the redesign of the operating programs are being considered,

as well as an energy audit to obtain energy efficiency for the optimization of energy consumption by lower effective cost and achieve energy savings by analyzing the technical and economic feasibility of its implementation. The knowledge of energy consumption in each of the facilities, as well as the identification of the factors that allow the identification of energy saving alternatives, the replacement of drinking water and sewage pumping equipment and the reduction of energy costs in the wastewater treatment plant, should be complemented by training and monitoring of the operation and maintenance personnel.



Personnel Administration and Management Module -Table 7

The labor index with which **OOMSAPA de Loreto** operates is as follows. The average monthly collection per employee is very high at 13.98 employees per 1,000 taps, since the acceptable national level is 2 to 3 employees per 1,000 taps, which indicates that spending on salaries and benefits directly affects operating expenses at a rate of 59.17%. The average monthly collection per employee is lower than the average monthly salary per employee, which allows us to detect, in a standard way, the state of the services, their efficiency in operation and management, which impacts the quality of service and the improvement in commercial and financial management. The employee data was provided by the Human Resources area; however, in some areas the specific functions of the personnel are unknown, which affects the attributions and responsibilities of each employee.



Therefore, consideration should be given to revising the personnel functions and positions manual, updating the organizational chart, training and professionalization to increase personnel productivity, and a voluntary retirement program in accordance with applicable law.

Commercial Management Module -Table 8

Commercial efficiency evaluates the correlation between invoicing and payment of invoices; and

for **OOMSAPA of Loreto** is 68.99%, It is therefore highly advisable to update the User Register and extend the micro-metering coverage in order to collect the largest volume produced. With micro-metering actions, the percentage of losses will decrease. The low metering coverage affects the perception of commercial efficiency, as there is no certainty of the volume delivered to users, as well as the

produced, marking as a priority action the acquisition and installation of micro and macro metering. Among the areas for improvement, it is necessary to implement a collection program for accounts receivable amounting to 90 MDP, which are distributed among domestic, commercial and industrial connections; however, the Public Service connections are not included in the user list, which reflects the lack of mandatory payment for water, sewerage and sanitation services indicated in the Water Law of the State of Baja California Sur.

Among the areas for improvement, it is necessary to establish programs to recover accounts receivable and increase micro-metering, given that its effective coverage is 16.30%, which is relatively low. It is also necessary to

The tariff system must be reviewed and updated every year. There is an area of opportunity to improve collection through effective collection management with measures to facilitate payment by users.

Physical Efficiency Module -Table 9

The volume invoiced divided by the volume produced is the **physical efficiency**, which is low (**31.85%**). There is no Macrometering, so the control and quantification of volumes is not accurate. The difference between supply and consumption is large, so it is necessary to measure from the production sources, detect and locate water leaks in the piping network and tanks. The continuity of service has a high percentage, as well as the percentage of water intake with continuous service. The water supply is 1,032 l/inhab/day, which is a high value, given that the estimated production is a large volume for the number of inhabitants of the municipality. However, consumption is 329 l/inhab/day (consumption per inhabitant is proportional to the number of inhabitants).

day, under the geographic and climate conditions), which denotes discrepancy in the estimated volumes, due to the lack of measurement. Macro-measurement is necessary and mandatory in the extraction sources, which can be acquired with the support of the counterpart through the PRODI section, as follows such as micrometering and leak detection. There is a loss of extracted water volume, so making it visible and measuring it in real time would have an impact on the OO's efficiency. A study of physical losses in pipes is proposed, as well as a cadastre of the hydraulic infrastructure and networks, the implementation of a program to sectorize the water distribution network and improve the percentage of treated water through the rehabilitation of the WWTP.

Financial Module -Table 10

The Agency has a negative operating margin of 18,325,176.00 pesos, which is due to low commercial and physical efficiencies, where the unit operating cost per cubic meter produced is \$8.30, while the unit operating cost per cubic meter billed is more than three times higher (\$26.06), the cost is more than three times higher, mainly because 68.15% of the water produced is not billed. The high average total monthly cost per tap per month is \$586.02 and this shows that the

It is indebted, has very low profitability and productivity.

It is noted that the financial statement does not include the debt of users, which is approximately 90 MDP, likewise the OO presented a balanced financial statement, without taking into account the debt of years that they have for not making payments to SAT and ISSSTE among others, so the OO is in a financial situation. unfavorable.

Corrected Financial Module -Table 11

The operating margin is the sum of the amount collected from water, sewerage and sanitation, reconnections and other revenues less expenses.

a negative result of **109.78%**, so that the OO did not is generating sufficient revenue to cover basic operating expenses. The operating unit price expense per m^3 produced is

9.83 pesos and the invoiced one is 30.87 pesos, here it is influenced by the cost of Electric Energy. With a liquidity of 0.10 it is considered that the OO cannot cover all its obligations, as well as the results of the Acid Test and Working Capital show the very low solvency of the OO. The value of 101.2% of the indebtedness index indicates that the OO is carrying an excessive amount of debt and may lead to decapitalization and/or continue to depend on resources from the Federal, State and Municipal Governments to continue operating.



6. Portfolio of Actions and Investment Programs (PAI)

The purpose of the PAI is to integrate a document that guides the operating agency to provide quality service in compliance with current standards and regulations. The Actions and Investments Program focuses on improving commercial, physical and administrative management to achieve a financial balance that will make the Agency self-sufficient, allowing it to access investments through federal programs, meeting the objectives set forth in the following proposed actions:

Reduce operational costs:

1. Replacement of drinking water pumping equipment to reduce energy consumption.
2. Replacement or construction of water storage tanks to modify pumping equipment operating policies.
3. Automation of pumping equipment to modify operating policies.
4. Replacement of sump pumps in sewage systems.
5. Reduction of energy costs at the wastewater treatment plant.
6. Elaboration of energy audits.

Staff efficiency

7. Program of training program y professionalization to increase personnel productivity.
8. Revision of the manual of functions and positions of the personnel of the OO.
9. Establishment of a voluntary retirement program and/or in accordance with applicable law.

Increase revenues from commercial management

10. Adjustment of fixed quota consumption.
11. Correction of micro-measurement errors by replacement of meters.
12. Training courses for human resources in commercial efficiency.
13. Training courses for human resources in customer service.
14. Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.
15. Improvements in collection through schemes that facilitate payment.

- 16. Location and regulation of clandestine outlets.
- 17. Census of users in order to improve the register. Establishment of schemes to update the registry.
- 18. Computer system for user registration and deregistration.
- 19. Rate changes. a the structure
- 20. Reforms to ensure that tariffs are continuously updated.

Reduce physical losses

- 21. Location and repair of leaks and tanks.
- 22. Location and repair of leaks in main and secondary pipelines.
- 23. Installation of micro-meters at taps.
- 24. Systematization of micro-meter reading at intakes and incorporation of readings into the billing and collection system.
- 25. Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.

- 26. Cadastre of hydraulic infrastructure and networks.
- 27. Installation of macro meters in catchments.
- 28. Installation of macro meters in sectors.
- 29. Systematization of macro meter reading in catchments and sectors through telemetry.
- 30. Replacement of pipes with a high incidence of leaks.
- 31. Training of Agency personnel in equipment operation.
- 32. Geographic information system.

Access to financing

- 33. Integrated planning system
- 34. Consulting for financing counterpart financing.

Obtaining an investment amount required under the PRODI program for **OOMSAPA of Loreto** of 36.80 MDP, where the following actions are required and the proposed costs for the 5-year EPI actions are presented in the following table:

table 12.- actions and proposed costs

1. PAI to reduce electricity costs	Incorporated	Quantities	Cost in millions of pesos (\$)
Request for a change in the electric rate to reduce electric energy expenses.	no		0.00
Reactive power reduction (power factor reduction)	no		0.00
Replacement of drinking water pumping equipment to reduce energy consumption	yes	10	1.00
Replacement or construction of water storage tanks to modify pumping equipment operating policies	yes	1	2.00
Automation of pumping equipment to modify operating policies	yes	10	0.50
Replacement of sewage pumps	yes	5	1.00
Reduction of energy costs in wastewater treatment plants (WWTPs)	yes		1.00
Preparation of an energy audit	yes		0.50
Total PAI Investment for reduction of electric energy costs			6.00
2. PAI to increase staff productivity			
Training and professionalization program to increase staff productivity.	yes		0.08
Revision of the OO's personnel functions and positions manual.	yes		1.80
Establishment of a voluntary and mandatory retirement program	yes		5.90
Total PAI investment to increase staff productivity			7.78
3. PAI for the improvement of Commercial Management			
Adjustment of fixed quota consumption	yes		0.50

Correction of micro-metering errors through meter replacement.	yes	1,275	0.89
Training courses for human resources in commercial efficiency	yes		0.05
Training courses for human resources in user services	yes		0.05
Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	yes		0.05
Improvements to the invoicing through a new commercial system	no		0.00
Improvements in collection through schemes that facilitate payment.	yes		0.05
Location and regularization of clandestine outlets	yes		0.02
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	yes		0.75
Computing system for user registration and deregistration.	yes		0.02
Tariff study for the purpose of updating water tariffs	no		0.00
Modifications to the tariff structure	yes		0.00
Reforms to ensure that tariffs are updated on a continuous basis	yes		0.02
Reforms to the legal framework so that the OO can establish adequate tariffs.	no		0.00
Total PAI for Commercial Management Improvement			2.40
4. PAI for Physical Water Loss Reduction			
Location and repair of leaks in tanks	yes		0.10
Locating and repairing leaks in main and secondary pipelines	yes		0.15
Installation of micro-meters at taps	yes	5,000	5.00
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	yes		0.04

Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	yes		0.80
Water infrastructure and network cadastre	yes		1.50
Installation of macro meters in catchments	yes	20	8.00
Installation of macro-meters in sectors	yes	3	0.75
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	yes	23	2.08
Replacement of pipes with high leakage rate	yes		0.90
Training of OO personnel in equipment operation	yes		0.10
Geographic Information System	yes		0.20
Total PAI for Physical Water Loss reduction			19.62
5. PAI for sustainability of actions			
Establishment of a citizen committee of the operating agency	no		0.00
Development of a code of ethics and subscription by OO staff.	no		0.00
Computerized accounting system	no		0.00
Integrated planning system	yes		0.60
Advisory for counterpart financing	yes		0.40
Total PAI for sustainability of actions			1.00
Total PAI for sustainability of actions			36.80

The required investment amount for the Equity and Investment Packages amounts to Ps. 36.80 million.



6.1 PAI to Reduce Electricity Costs

Actions to reduce electric energy expenses will become relevant starting in 2023, for years the Operating Agency received support covering operating expenses from FONATUR for production and treatment facilities, the delivery of FONATUR's infrastructure to the Agency has been completed, The last item is the energy payment that will be transferred in December 2022, a payment that will be faced by the Agency the following year 2023 and will represent a drastic increase of 10 MDP extra that will impact its finances.

improve energy efficiency and this is reflected in a decrease in the Agency's billing in this area in order to meet the commitment.

Energy efficiency will be achieved with the replacement of high-efficiency pumping equipment for production catchments and high-performance pumps for distribution, as for wastewater, the retrofitting of the pumping sumps with high-efficiency hydraulic pumps, and in the same way in the treatment, improving the blower equipment will make the process more efficient.

Table 13.- IAP TO REDUCE ELECTRICAL ENERGY COSTS

PAI Investments	Investment 1	IRR	TOTAL \$\$
1. PAI to reduce electric energy costs			
Replacement of drinking water pumping equipment to reduce energy consumption	Purchase and installation of AP pumps	79.55%	1,000,000.00
Replacement or construction of water storage tanks to modify pumping equipment operating policies	Tank construction	40.76%	2,000,000.00
Automation of pumping equipment to modify operating policies	Automation Pumps	343.73%	500,000.00
Replacement of sewage pumps	Purchase and installation of A.R. pumps.	79.04%	1,000,000.00
Reduction of energy costs in wastewater treatment plants (WWTPs)	PTAR equipment replacement	79.55%	1,000,000.00
Preparation of an energy audit	Energy Efficiency Study	N/A	500,000.00
Total PAI investment for reduction of electric energy costs		81.64%	6,000,000.00

The above actions are to improve energy efficiency by 26% with a base investment of 6.00 MDP.

With facilities that operate 24 hours a day, 7 days a week, changing hourly usage rates for peak usage is not feasible, therefore the replacement or construction of storage tanks, replacement of potable water and sewage pumping equipment, automation of pumping equipment with the modification of operating policies, reduction of energy costs of wastewater plants and the development of an energy audit that gives the guideline to focus actions by a priority order is more feasible.

The replacement of drinking water pumping equipment to reduce energy consumption is justified based on the extraction sources of deep wells that are located far from the urban area, so the pumping equipment is essential for the conduction of water, this equipment operates 24 hours a day, 365 days a year and the cost of energy per cubic meter produced is in the following range \$2.40, however, the cost of energy per cubic meter billed at \$7.52, thus

In order for the above, improvements must be both in the reduction of driving and production costs as well as in commercial recovery for the action to reflect the expected result.

The production of drinking water of **OOMSAPA of Loreto** is mainly extracted from the subsoil, about 6 million m^3 of water per year that are extracted from 8 groundwater sources and 2 are extracted from surface water, and 16 sources extract more than the authorized flow, totaling 233.32 lps extracted in excess of these. In the total balance (adding the pluses and minuses), it indicates that the Agency extracts 54.40 lps more than the total allocated.

After being collected, the water is pumped through pipelines of approximately 51.47 kilometers to regulation tanks. The lack of automated systems in the pumping equipment makes it impossible to control the pumping equipment's operation schedules.



6.2 PAI to Increase Staff Productivity

Table 14.- PAI FOR INCREASING STAFF PRODUCTIVITY

PAI Investments	Investment 1	IRR	TOTAL \$\$
2. PAI to increase staff productivity			
Training and professionalization program to increase staff productivity.	Training courses	93.10%	80,000.00
Revision of the OO's personnel functions and positions manual.	Cost Manuals and removal for optimization	5.46%	1,800,000.00
Establishment of a voluntary and mandatory retirement program	Reduction of personnel due to retirement	14.59%	5,900,000.00
Total PAI investment to increase staff productivity		13.59%	7,780,000.00

In order to increase the productivity of the personnel, it is necessary to review the manuals of functions and positions, as well as to provide training to the personnel, based on the existence of functions that are duplicated or not attended, as well as dead or unoccupied time, which due to lack of knowledge of the responsibilities of each position in the organizational chart are unattended. The staff should be more efficient and reduced in number with a reorganization of the personnel.

The development that Loreto has experienced is highly linked to the certainty of a good

This can only be achieved through continuous improvement and standardization of processes to achieve efficiency and effectiveness, reducing response times, which will have an impact on operating costs.



To improve the data of 13.98 employees per 1000 shots, it is urgent to take actions to reach the goal of 7.75 employees in the short term, foreseeing an investment of 7.78 MDP to increase productivity.



6.3 PAI for Commercial Management Improvement

In the commercial area, 16.30% of the micro-metering coverage is low, of which about 50% is operating, so it is very important to purchase and install a system to control the water delivered and its financial collection for the service. It is also important to urgently carry out a tariff study based on its operating costs and that this can be continuously updated.

The demand for potable water service has grown in accordance with the uniform demand, meeting the expected service coverage. However, drainage and treatment service coverage is lower. Metering with an adequate tariff system strengthens the adequate use of resources.

The expectation is to achieve a commercial efficiency of 77% in the short term, through the actions mentioned in Table 15, which will lead to its achievement with a

The base tariff increase of 30%, incorporating taps to the standard by means of an update and the incorporation of new meters, a priority action in this section, given that the micro-metered volume is 16.30%.

Commercial management is vital for the Agency because it is essential to obtain the economic resources necessary to provide the service; currently the operating margin is deficient, so the balance of finances is negative. Commercial efficiency is 68.99%; however, this is not reliable data, since both actual production and micro-measurement are unknown due to the lack of macro and micro measurements in the system.

The following table shows the investment result of all the actions contemplated in the Commercial Improvement PAI, which is equivalent to 2.40 MDP.

Table 15.- PAI FOR IMPROVEMENT OF COMMERCIAL MANAGEMENT

PAI Investments	Investment 1	IRR	TOTAL \$\$
3. PAI for the improvement of Commercial Management			
Adjustment of fixed quota consumption	Fixed Fee Consumption Study	297.90%	500,000.00
Correction of micro-metering errors through meter replacement.	Acquisition and replacement of meters	453.98%	892,500.00
Training courses for human resources in commercial efficiency	Commercial Eff. training	2863.38%	50,000.00
Training courses for human resources in user services	User service training	2863.38%	50,000.00

Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	Advice on collection agreements	2843.51%	50,000.00
Improvements in collection through schemes that facilitate payment.	Advice on collection scheme	2466.49%	50,000.00
Location and regularization of clandestine outlets	Clandestine search campaign	11970.15%	20,000.00
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	Census of users	635.59%	750,900.00
Computing system for user registration and deregistration.	Computerized feasibility system	2550.50%	18,773.00
Modifications to the tariff structure	Tariff structure study	53141.61%	4,505.00
Reforms to ensure that tariffs are updated on a continuous basis	Study for polynomial tariffs and legal reforms	0.00%	15,000.00
Total PAI for Commercial Management Improvement		889.66%	2,401,678.00

6.4 PAI for Physical Water Loss Reduction

In the reduction of physical losses, it was detected that more than 60% of the water withdrawn is not billed, and it is unknown where it is lost, either due to leaks or lack of measurement. Therefore, it is necessary to carry out a program to repair leaks and replace lines that have exceeded their useful life; since there is no good micro and macro measurement, there is a tendency to estimate consumption and production volumes; there is a need to systematize the taking of readings to reduce costs and have greater control over water management, resulting in greater collection and a reduction in physical losses, which will raise the efficiency indicator by 15.4% to reach 41.4% as a short-term goal. 19.62 MDP.

Physical efficiency is 32% and continuity of service is 87%, the latter can be increased to 100% by carrying out the actions listed in the PAI in the following table, with the correct administration of the resource, the reduction of losses and the equitable provision of water along with the awareness of a rational use for an arid region, On average it is estimated that an inhabitant consumes around 250 liters per day, and it has been detected that in Loreto the average is 329 liters per inhabitant, however by reducing the physical loss, the objective is to achieve continuous service and that the water delivered is recovered by the commercial area to be able to invest in quality infrastructure and tools for the provision of the service.



Table 16.- PAI FOR REDUCTION OF PHYSICAL WATER LOSSES

PAI Investments	Investment 1	IRR	TOTAL \$\$
4. PAI for Physical Water Loss Reduction			
Location and repair of leaks in tanks	Total cost of tank leaks	840.77%	100,000.00
Locating and repairing leaks in main and secondary pipelines	Cost of locating and repairing leaks	3451.41%	150,180.00
Installation of micro-meters at taps	Installation of new micro-meters	271.95%	5,000,000.00
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	Micro automatic reading system	5552.13%	40,000.00
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	Sectorization	166.83%	800,000.00
Water infrastructure and network cadastre	Network cadastre	22.75%	1,501,800.00
Installation of macro-meters in catchments	Macrometering in catchments	0.00%	8,000,000.00
Installation of macro-meters in sectors	Macrometering in sectors	91.60%	750,900.00
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	Automation of macro-meter reading	0.00%	2,075,090.00
Replacement of pipes with high leakage rate	Pipe replacement due to leaks	282.50%	901,080.00
Training of OO personnel on equipment operation	Operations training	1423.57%	100,000.00
Geographic Information System	GIS	587.19%	200,000.00
Total PAI for Physical Water Loss reduction		142.16%	19,619,050.00

6.5 Evaluation and prioritization of EPIs

In order to evaluate the projects described above, we reviewed in detail the minimum investment cost required for these actions to be viable and result in revenues and financial self-sufficiency of the Agency to meet the commitments and investments necessary for

to provide quality service to the population of the Municipality.

For the evaluation, the IRR, the Utility Ratio (NPV/VP) and the Net Present Value are calculated at a rate of 10%, as shown in the following table:

Table 17.- PAI Investments

PAI Investments (Millions of pesos)	VP Investment Amount	VPN/VNI	IRR	VPN
1. PAI to reduce electricity costs				
Request for a change in the electric rate to reduce electric energy expenses.	0.00	0.00	0.00%	0.00
Reactive power reduction (power factor reduction)	0.00	0.00	0.00%	0.00
Replacement of drinking water pumping equipment to reduce energy consumption	0.91	5.98	79.55%	5.44
Replacement or construction of water storage tanks to modify pumping equipment operating policies	1.82	2.68	40.76%	4.88
Automation of pumping equipment to modify operating policies	0.45	27.70	343.73%	12.59
Replacement of sewage pumps	0.91	5.70	79.04%	5.18
Reduction of energy costs in wastewater treatment plants (WWTPs)	0.91	5.98	79.55%	5.44
Preparation of an energy audit	0.45	N/A	N/A	N/A
Total PAI investment for reduction of electric energy costs	5.45	6.06	81.64%	33.07
2. PAI to increase staff productivity				
Training and professionalization program to increase staff productivity.	0.07	6.79	93.10%	0.49
Revision of the OO's personnel functions and positions manual.	1.64	-0.28	5.46%	-0.46

Establishment of a voluntary and mandatory retirement program	5.36	0.32	14.59%	1.72
Total PAI investment to increase staff productivity	7.07	0.25	13.59%	1.75
3. PAI for the improvement of Commercial Management				
Adjustment of fixed quota consumption	0.45	5.06	297.90%	2.30
Correction of micro-metering errors through meter replacement.	0.81	35.81	453.98%	29.06
Training courses for human resources in commercial efficiency	0.05	328.89	2863.38%	14.95
Training courses for human resources in user services	0.05	328.89	2863.38%	14.95
Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	0.05	327.22	2843.51%	14.87
Improvements to invoicing through a new commercial system	0.00	0.00	0.00%	0.00
Improvements in collection through schemes that facilitate payment.	0.05	296.60	2466.49%	13.48
Location and regularization of clandestine outlets	0.02	1,000.29	#####	18.19
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	0.68	52.15	635.59%	35.60
Computing system for user registration and deregistration.	0.02	211.18	2550.50%	3.60
Tariff study for the purpose of updating water tariffs	0.00	0.00	0.00%	0.00
Modifications to the tariff structure	0.00	4,444.25	#####	18.20
Reforms to ensure that tariffs are updated on a continuous basis	0.01	-1.00	0.00%	-0.01
Reforms to the legal framework so that the OO can establish adequate tariffs.	0.00	0.00	0.00%	0.00
Total PAI for Commercial Management Improvement	2.18	75.66	889.66%	165.19
4. PAI for Physical Water Loss Reduction				
Location and repair of leaks in tanks	0.09	32.29	840.77%	2.94
Locating and repairing leaks in main and secondary pipelines	0.14	124.54	3451.41%	17.00

Installation of micro-meters at taps	4.55	8.90	271.95%	40.46
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	0.04	751.93	5552.13%	27.34
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	0.73	6.90	166.83%	5.02
Water infrastructure and network cadastre	1.37	0.43	22.75%	0.59
Installation of macro meters in catchments	7.27	-1.12	0.00%	-8.15
Installation of macro-meters in sectors	0.68	1.20	91.60%	0.82
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	1.89	-1.13	0.00%	-2.14
Replacement of pipes with high leakage rate	0.82	17.47	282.50%	14.31
Training of OO personnel on equipment operation	0.09	36.55	1423.57%	3.32
Geographic Information System	0.18	10.74	587.19%	1.95
Total PAI for Physical Water Loss reduction	17.84	5.80	142.16%	103.46
5. PAI for sustainability of actions				
Establishment of a citizen committee of the operating agency	0.00			
Development of a code of ethics and subscription by OO staff.	0.00			
Computerized accounting system	0.00			
Integrated planning system	0.55			
Advisory for counterpart financing	0.36			
Total PAI for sustainability of actions	0.91			
Total PAIs	33.46	9.03	151.25%	302.01



Based on the above, the exercise of resources through investments, the Loreto Agency through its corresponding counterpart of 21.58 MDP with a discount rate of 10%, the NPV of the investment will reach 302.01 MDP.

Therefore, the investments that make up each of the IAPs were prioritized according to cost-effectiveness as follows:

Table 18. PAI's INVESTMENT IMPLEMENTATION PERCENTAGES

PAI Investments (Millions of pesos)	Percentage of investment execution				
	2022	2023	2024	2025	2026
1. PAI to reduce electricity costs					
Replacement of drinking water pumping equipment to reduce energy consumption		50.00%	20.00%	20.00%	10.00%
Replacement or construction of water storage tanks to modify pumping equipment operating policies				100.00%	0.00%
Automation of pumping equipment to modify operating policies		50.00%	20.00%	20.00%	10.00%
Replacement of sewage pumps		30.00%	20.00%	30.00%	20.00%
Reduction of energy costs in wastewater treatment plants (WWTPs)		100.00%			0.00%
Preparation of an energy audit		100.00%			0.00%
2. PAI to increase staff productivity					
Training and professionalization program to increase staff productivity.		60.00%	20.00%	10.00%	10.00%
Revision of the OO's personnel functions and positions manual.	20.00%	80.00%			0.00%
Establishment of a voluntary and mandatory retirement program		20.00%	20.00%	20.00%	40.00%
3. PAI for the improvement of Commercial Management					
Adjustment of fixed quota consumption	50.00%	50.00%			0.00%
Correction of micro-metering errors through meter replacement.	100.00%				0.00%
Training courses for human resources in commercial efficiency		100.00%			0.00%
Training courses for human resources in user services		100.00%			0.00%
Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	50.00%	50.00%			0.00%
Improvements in collection through schemes that facilitate payment.	30.00%	70.00%			0.00%
Location and regularization of clandestine outlets		60.00%	20.00%	10.00%	10.00%

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Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	50.00%	50.00%			0.00%
Computing system for user registration and deregistration.		100.00%			0.00%
Modifications to the tariff structure		100.00%			0.00%
Reforms to ensure that tariffs are updated on a continuous basis			100.00%		0.00%
4. PAI for Physical Water Loss Reduction					
Location and repair of leaks in tanks			40.00%	40.00%	20.00%
Locating and repairing leaks in main and secondary pipelines	10.00%	30.00%	60.00%		0.00%
Installation of micro-meters at taps	50.00%	30.00%	20.00%		0.00%
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.		70.00%	30.00%		0.00%
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.		30.00%	70.00%		0.00%
Water infrastructure and network cadastre		100.00%			0.00%
Installation of macro meters in catchments	20.00%	50.00%	30.00%		0.00%
Installation of macro-meters in sectors		20.00%	40.00%	40.00%	0.00%
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	20.00%	50.00%	20.00%		10.00%
Replacement of pipes with high leakage rate	10.00%	30.00%	20.00%	20.00%	20.00%
Training of OO personnel on equipment operation	20.00%	20.00%	20.00%	20.00%	20.00%
Geographic Information System		100.00%			0.00%
Total PAI for reduction of Physical Water Losses					
5. PAI for sustainability of actions					
Integrated planning system		100.00%			0.00%
Advisory for counterpart financing		100.00%			0.00%

As a result of the prioritization and establishing the 5-year EPIs, it is as follows:

Table 19. SCHEDULING (PRIORITIZATION)

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
1. PAI to reduce electric energy costs						
Request for a change in the electric rate to reduce electric energy expenses.	0.00	0.00	0.00	0.00	0.00	0.00
Reactive power reduction (power factor reduction)	0.00	0.00	0.00	0.00	0.00	0.00
Replacement of drinking water pumping equipment to reduce energy consumption	0.00	0.50	0.20	0.20	0.10	1.00
Replacement or construction of water storage tanks to modify pumping equipment operating policies	0.00	0.00	0.00	2.00	0.00	2.00
Automation of pumping equipment to modify operating policies	0.00	0.25	0.10	0.10	0.05	0.50
Replacement of sewage pumps	0.00	0.30	0.20	0.30	0.20	1.00
Reduction of energy costs in wastewater treatment plants (WWTPs)	0.00	1.00	0.00	0.00	0.00	1.00
Preparation of an energy audit	0.00	0.50	0.00	0.00	0.00	0.50
Total PAI investment for reduction of electric energy costs	0.00	2.55	0.50	2.60	0.35	6.00
2. PAI to increase staff productivity						
Training and professionalization program to increase staff productivity.	0.00	0.05	0.02	0.01	0.01	0.08
Revision of the OO's personnel functions and positions manual.	0.36	1.44	0.00	0.00	0.00	1.80
Establishment of a voluntary and mandatory retirement program	0.00	1.18	1.18	1.18	2.36	5.90
Total PAI investment to increase staff productivity	0.36	2.67	1.20	1.19	2.37	7.78
3. PAI for the improvement of Commercial Management						
Adjustment of fixed quota consumption	0.25	0.25	0.00	0.00	0.00	0.50
Correction of micro-metering errors through meter replacement.	0.89	0.00	0.00	0.00	0.00	0.89
Training courses for human resources in commercial efficiency	0.00	0.05	0.00	0.00	0.00	0.05

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
Training courses for human resources in user services	0.00	0.05	0.00	0.00	0.00	0.05
Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	0.03	0.03	0.00	0.00	0.00	0.05
Improvements to invoicing through a new commercial system	0.00	0.00	0.00	0.00	0.00	0.00
Improvements in collection through schemes that facilitate payment.	0.02	0.04	0.00	0.00	0.00	0.05
Location and regularization of clandestine outlets	0.00	0.01	0.00	0.00	0.00	0.02
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	0.38	0.38	0.00	0.00	0.00	0.75
Computing system for user registration and deregistration.	0.00	0.02	0.00	0.00	0.00	0.02
Tariff study for the purpose of updating water rates	0.00	0.00	0.00	0.00	0.00	0.00
Modifications to the tariff structure	0.00	0.00	0.00	0.00	0.00	0.00
Reforms to ensure that tariffs are updated on a continuous basis	0.00	0.00	0.02	0.00	0.00	0.02
Reforms to the legal framework so that the OO can establish adequate tariffs.	0.00	0.00	0.00	0.00	0.00	0.00
Total PAI for Commercial Management Improvement	1.56	0.82	0.02	0.00	0.00	2.40
4. PAI for Physical Water Loss Reduction						
Location and repair of leaks in tanks	0.00	0.00	0.04	0.04	0.02	0.10
Locating and repairing leaks in main and secondary pipelines	0.02	0.05	0.09	0.00	0.00	0.15
Installation of micro-meters at taps	2.50	1.50	1.00	0.00	0.00	5.00
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	0.00	0.03	0.01	0.00	0.00	0.04
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	0.00	0.24	0.56	0.00	0.00	0.80
Water infrastructure and network cadastre	0.00	1.50	0.00	0.00	0.00	1.50
Installation of macro-meters in catchments	1.60	4.00	2.40	0.00	0.00	8.00
Installation of macro-meters in sectors	0.00	0.15	0.30	0.30	0.00	0.75
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	0.42	1.04	0.42	0.00	0.21	2.08
Replacement of pipes with high leakage rate	0.09	0.27	0.18	0.18	0.18	0.90

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
Training of OO personnel on equipment operation	0.02	0.02	0.02	0.02	0.02	0.10
Geographic Information System	0.00	0.20	0.00	0.00	0.00	0.20
Total PAI for reduction of Physical Water Losses	4.64	8.99	5.02	0.54	0.43	19.62
5. PAI for sustainability of actions						
Establishment of a citizen committee of the operating agency	0.00	0.00	0.00	0.00	0.00	0.00
Development of a code of ethics and subscription by OO staff.	0.00	0.00	0.00	0.00	0.00	0.00
Computerized accounting system	0.00	0.00	0.00	0.00	0.00	0.00
Integrated planning system	0.00	0.60	0.00	0.00	0.00	0.60
Advisory for counterpart financing	0.00	0.40	0.00	0.00	0.00	0.40
Total PAI for sustainability of actions	0.00	1.00	0.00	0.00	0.00	1.00
Total PAIs	6.56	16.03	6.73	4.33	3.15	36.80



The amount of investment required through the PRODI program is 36.80 MDP, of which 21.58 MDP is the counterpart for the Loreto Agency.

7. Actions for Investment Sustainability

Table 20.- PAI FOR SUSTAINABILITY OF ACTIONS

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
5. PAI for sustainability of actions						
Integrated planning system	0.00	0.60	0.00	0.00	0.00	0.60
Advisory for counterpart financing	0.00	0.40	0.00	0.00	0.00	0.40
Total PAI for sustainability of actions	0.00	1.00	0.00	0.00	0.00	1.00

In order to achieve sustainability of the actions, the first challenge is to achieve financial autonomy by establishing the instruments that provide the fulfillment of the strategic actions and projects that have been marked as quick actions, but also to achieve

a long-term vision in a comprehensive planning study, it is foreseen that infrastructure investment actions will be carried out in line with the urban planning documents and the city's needs for 20 to 50 years with an investment of 1 MDP by 2026.

8. Analysis of financial capacity and identification of financing sources

For the total investment amount contemplated in the IAPs of this Development Plan

OOMSAPA of Loreto, it was has a cost of 36.80 MDP for the next 5 years, being that 21.58 MDP, is what

required to generate as a counterpart by the Loreto Agency, therefore, based on the analysis of the financial capacity of the Agency, different sources of funding are identified that can be derived from:

a) Federal Programs

CONAGUA is in charge of the Potable Water, Drainage and Sanitation Program, whose acronym is **PROAGUA**.

to support the strengthening and increase the coverage of drinking water, sewerage and sanitation services provided by the municipalities' operating agencies through the federal entities. The main purpose of the program is to ensure that the application of subsidies in drinking water, sewerage and sanitation programs is carried out in accordance with the following rules and regulations

efficiency, effectiveness, economy and transparency, through a multisectoral approach and coordination among the three levels of government and the establishment of regulatory mechanisms for access, monitoring, evaluation and accountability. It seeks to increase and sustain access to drinking water, sewerage and sanitation services in order to contribute to the right to health, decent housing and a healthy environment.

The Program for the Modernization of Water Operating Agencies (**PROMAGUA**) is a strategy of the **National Infrastructure Fund**, which allocates non-recoverable support for the modernization of water utilities.

partial financing of studies and projects that contribute to the operational and financial sustainability of public entities related to the water sector. Its objective is to encourage the development of projects under Public-Private Partnership schemes to increase the levels of coverage and quality of drinking water and sanitation services, as well as the efficiency of the operating agencies.

One of the strategies of the **National Infrastructure Fund (FONADIN)** and the National Water Commission (CONAGUA) to promote the operational and financial sustainability of the public entities related to the water sector is to promote the development and implementation of a sustainable water supply and sanitation system.

sector is the Program for the **Modernization of Water Operating Organizations (PROMAGUA)**, which, through BANOBRAS, has the following objectives

The objective is to encourage the development of projects under Public-Private Partnership schemes to increase the levels of coverage and quality of drinking water and sanitation services, as well as the levels of efficiency in operating agencies. In view of the above, it is important that, in the case of resorting to this financing program, there be a long-term commitment to ensure the correct operation and maintenance of the infrastructure, thus guaranteeing the adequate provision of services.

- b) Source of financing through State and Municipal Programs.
- c) Private financing, the promotion through this source must be done through timely promotion and with the right investor, taking care mainly of the experience in the water sector.
- d) Financing through internally generated revenues, derived from the improvement included in this plan, taking into account that, for the start of the proposed actions and investments, **OOMSAPA of Loreto** will be limited until it begins to generate cash flows, as a result of the improvement presented in the actions and investments proposed in this document.

Table 21. OO COUNTERPART INVESTMENTS

PAI Investments (Millions of pesos)	2022	2023	2024	2025	2026	TOTAL
1. PAI to reduce electricity costs						
Request for a change in the electric rate to reduce electric energy expenses.	0.00	0.00	0.00	0.00	0.00	0.00
Reactive power reduction (power factor reduction)	0.00	0.00	0.00	0.00	0.00	0.00
Replacement of drinking water pumping equipment to reduce energy consumption	0.00	0.25	0.10	0.10	0.05	0.50
Replacement or construction of water storage tanks to modify pumping equipment operating policies	0.00	0.00	0.00	1.00	0.00	1.00
Automation of pumping equipment to modify operating policies	0.00	0.13	0.05	0.05	0.03	0.25
Replacement of sewage pumps	0.00	0.15	0.10	0.15	0.10	0.50
Reduction of energy costs in wastewater treatment plants (WWTPs)	0.00	1.00	0.00	0.00	0.00	1.00
Preparation of an energy audit	0.00	0.25	0.00	0.00	0.00	0.25
Total PAI investment for reduction of electric energy costs	0.00	1.78	0.25	1.30	0.18	3.50
2. PAI to increase staff productivity						
Training and professionalization program to increase staff productivity.	0.00	0.05	0.02	0.01	0.01	0.08
Revision of the OO's personnel functions and positions manual.	0.11	0.43	0.00	0.00	0.00	0.54
Establishment of a voluntary and mandatory retirement program	0.00	1.18	1.18	1.18	2.36	5.90
Total PAI investment to increase staff productivity	0.11	1.66	1.20	1.19	2.37	6.52
3. PAI for the improvement of Commercial Management						
Adjustment of fixed quota consumption	0.13	0.13	0.00	0.00	0.00	0.25
Correction of micro-metering errors through meter replacement.	0.45	0.00	0.00	0.00	0.00	0.45
Training courses for human resources in commercial efficiency	0.00	0.05	0.00	0.00	0.00	0.05

Training courses for human resources in user services	0.00	0.05	0.00	0.00	0.00	0.05
Signing of agreements with banks and other institutions to expand payment options for water and sanitation services.	0.01	0.01	0.00	0.00	0.00	0.03
Improvements to invoicing through a new commercial system	0.00	0.00	0.00	0.00	0.00	0.00
Improvements in collection through schemes that facilitate payment.	0.01	0.02	0.00	0.00	0.00	0.03
Location and regularization of clandestine outlets	0.00	0.01	0.00	0.00	0.00	0.01
Census of users in order to improve the registry. Establishment of schemes for continuous updating of the registry.	0.19	0.19	0.00	0.00	0.00	0.38
Computing system for user registration and deregistration.	0.00	0.01	0.00	0.00	0.00	0.01
Tariff study for the purpose of updating water tariffs	0.00	0.00	0.00	0.00	0.00	0.00
Modifications to the tariff structure	0.00	0.00	0.00	0.00	0.00	0.00
Reforms to ensure that tariffs are updated on a continuous basis	0.00	0.00	0.01	0.00	0.00	0.01
Reforms to the legal framework so that the OO can establish adequate tariffs.	0.00	0.00	0.00	0.00	0.00	0.00
Total PAI for Commercial Management Improvement	0.78	0.46	0.01	0.00	0.00	1.25
4. PAI for Physical Water Loss Reduction						
Location and repair of leaks in tanks	0.00	0.00	0.02	0.02	0.01	0.05
Locating and repairing leaks in main and secondary pipelines	0.01	0.02	0.05	0.00	0.00	0.08
Installation of micro-meters at taps	1.25	0.75	0.50	0.00	0.00	2.50
Systematization of micro-meter reading at taps and incorporation of readings to the billing and collection system.	0.00	0.01	0.01	0.00	0.00	0.02
Hydraulic optimization: sectorization of the distribution network, pressure control, storage capacity optimization.	0.00	0.12	0.28	0.00	0.00	0.40
Water infrastructure and network cadastre	0.00	0.75	0.00	0.00	0.00	0.75
Installation of macro meters in catchments	0.80	2.00	1.20	0.00	0.00	4.00
Installation of macro-meters in sectors	0.00	0.08	0.15	0.15	0.00	0.38
Systematization of macro-meter reading in catchments and sectors (e.g. through telemetry).	0.21	0.52	0.21	0.00	0.10	1.04
Replacement of pipes with high leakage rate	0.05	0.14	0.09	0.09	0.09	0.45

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Training of OO personnel on equipment operation	0.01	0.01	0.01	0.01	0.01	0.05
Geographic Information System	0.00	0.10	0.00	0.00	0.00	0.10
Total PAI for reduction of Physical Water Losses	2.32	4.50	2.51	0.27	0.21	9.81
5. PAI for sustainability of actions						
Establishment of a citizen committee of the operating agency	0.00	0.00	0.00	0.00	0.00	0.00
Development of a code of ethics and subscription by OO staff.	0.00	0.00	0.00	0.00	0.00	0.00
Computerized accounting system	0.00	0.00	0.00	0.00	0.00	0.00
Integrated planning system	0.00	0.30	0.00	0.00	0.00	0.30
Advisory for counterpart financing	0.00	0.20	0.00	0.00	0.00	0.20
Total PAI for sustainability of actions	0.00	0.50	0.00	0.00	0.00	0.50
Total PAIs	3.21	8.89	3.96	2.76	2.76	21.58

Also, the financial projection, mainly includes the population projection (based on the National Population Council, CONAPO), the increase of intakes per year to establish the projections of commercial and physical efficiencies among the other indicators.

of the IMP, projected revenues, operating costs and investment costs.

Therefore, by executing the actions contemplated in the PAI's, **OOMSAPA of Loreto** will generate positive cash flows from the year 2026.

Table 22.- FINANCIAL SEMBLANNING

SERVICE	2021	2022	2023	2024	2025	2026
DEMAND						
INHABITANTS	17,485	18,307	18,710	19,100	19,480	19,856
TOTAL TOMAS	7,509	7,862	8,035	8,203	8,366	8,527
MEASUREMENTS	1,224	5,116	6,625	7,694	7,846	7,998
FIXED FEE INTAKES	6,285	2,745	1,410	509	519	529
ANNUAL BILLING PER SERVICE INTAKE METERE D (\$/SHOT/YEAR) INTEGRATED	7,722.2	7,722.2	8,108.3	8,108.3	8,108.3	8,108.3
ANNUAL BILLING PER TAP FIXED FEE (\$/TAP/YEAR) INTEGRATED	3,547.5	3,990.9	4,611.7	4,611.7	4,611.7	4,611.7

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BILLING SEWERAGE BY INTAKE (\$/INTAKE/YEAR)	756.9	998.5	1,170.5	1,233.5	1,233.7	1,233.9
SANITATION BILLING FOR TAKE(\$/TAKE/YEAR)	460.9	608.1	712.9	751.3	751.4	751.5
AP COVERAGE	96.6%	96.6%	100.0%	100.0%	100.0%	100.0%
AR COVERAGE	86.0%	87.0%	88.0%	88.0%	89.0%	89.0%
EFFICIENCY COMMERCIAL	69.0%	71.99%	73.99%	75.99%	76.99%	77.00%
PHYSICAL EFFICIENCY	31.9%	36.85%	41.85%	44.85%	46.85%	47.30%
% MICROMETERING	16.3%	65.1%	82.4%	93.8%	93.8%	93.8%
M³ PRODUCED	6,361,074	6,272,998	7,379,671	7,656,127	7,871,837	8,048,337
BILLING RIGHTS						
DRINKING WATER, SEWERAGE AND SANITATION	\$ 37 070 606	\$ 51 203 240	\$ 65 935 153	\$ 70 935 354	\$ 72 355 282	\$ 73 763 132
OTHER INCOME						
RIGHT OF CONNECTION	\$ 465 318	\$ 487 188	\$ 497 909	\$ 508 308	\$ 518 407	\$ 528 419
OTHER INCOME	\$ 8 438 642	\$ 8 835 258	\$ 9 029 692	\$ 9 218 282	\$ 9 401 416	\$ 9 582 992
TOTAL INCOME	\$34,479,909.88	\$48,745,117.59	\$60,292,745.63	\$64,341,515.35	\$65,627,986.55	\$66,903,514.47
EGRESS						
OPERATION						
SALARIES AND BENEFITS	\$ 31 245 245	\$ 32 342 848	\$ 31 271 429	\$ 29 511 308	\$ 27 773 732	\$ 23 751 802
ELECTRICAL ENERGY	\$ 15 242 265	\$ 12 586 388	\$ 12 863 372	\$ 13 132 030	\$ 13 392 916	\$ 13 651 583
MATERIALS	\$ 4 061 433	\$ 3 800 000	\$ 3 800 000	\$ 3 800 000	\$ 3 800 000	\$ 3 800 000
PAYMENT OF FEES	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
OTHER EXPENSES OPERATIONAL	\$ 1 914 648	\$ 1 600 000	\$ 1 600 000	\$ 1 600 000	\$ 1 600 000	\$ 1 600 000
CHLORINE AND REAGENTS	\$ 341 495	\$ 336 767	\$ 396 178	\$ 411 020	\$ 422 601	\$ 432 076
NON-OPERATING EXPENSES	\$ 0					
ADDITIONAL COSTS PRODI		\$ 97 500	\$ 309 765	\$ 319 765	\$ 319 765	\$ 319 765
TOTAL EXPENSES	\$52,805,086	\$50,763,503	\$50,240,745	\$48,774,123	\$47,309,014	\$43,555,226
OPERATING CASH BALANCE (EBITDA)	-\$18,325,176	-\$2,018,385	\$10,052,001	\$15,567,392	\$18,318,973	\$23,348,289
CREDIT PAYMENTS	\$40,160,467	\$0	\$0	\$0	\$0	\$0

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PRODI INVESTMENTS

\$3,207,047

\$8,691,816

\$3,964,351

\$2,759,288

\$2,757,863

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INVESTMENTS IN FINANCING PRODI		\$0	\$200,000	\$0	\$0	\$0
ANNUAL REPLENISHMENT INVESTMENT PER GROWTH	\$ 2 553 060	\$ 2 673 054	\$ 2 731 879	\$ 2 788 935	\$ 2 844 341	\$ 2 899 276
CASH BALANCE AFTER INVESTMENTS	-\$68,238,332	-\$15,436,498	-\$9,275,592	\$949,309	\$4,694,300	\$9,515,191
ACCUMULATED CASH BALANCE AFTER INVESTMENT		-\$15,436,498	-\$24,712,089	-\$23,762,781	-\$19,068,480	-\$9,553,289
FINANCING		\$15,436,498	\$9,275,592	\$0	\$0	\$0
REPAYMENT FINANCING			\$1,543,650	\$2,471,209	\$2,471,209	\$2,471,209
CASH BALANCE AFTER FINANCING		\$0	-\$1,543,650	-\$1,521,900	\$2,223,091	\$7,043,982
ACCUMULATE D CASH BALANCE AFTER OF FINANCING		\$0	-\$1,543,650	-\$3,065,550	-\$842,459	\$6,201,524



9. Additional investments that are not part of PRODI.

The operating agency has a medium and long-term investment plan different from those set forth in the PRODI, totaling \$34.9 million pesos. The following table shows the medium and long term investments

considered by the Agency. These investments are not eligible for subsidies from PRODI, but it is important to identify and prioritize them for execution as soon as resources are available.

Table 23.- ADDITIONAL INVESTMENTS THAT ARE NOT PART OF PRODI

ADDITIONAL INVESTMENTS				
DESCRIPTION	Amount (\$)	Accumulated	Priority	Year of Construction
Expansion and rehabilitation of sanitary sewer system and sewage discharges	4,000,000	4,000,000	1	3
Expansion and rehabilitation of AP networks and house outlets	1,500,000	5,500,000	2	3
Loreto Wastewater Treatment Plant Executive Project	2,000,000	7,500,000	3	3
Rehabilitation of San Cosme desalination plant	2,000,000	9,500,000	4	3
Design and construction of photovoltaic systems	3,000,000	12,500,000	5	3
Rehabilitation and electromechanical equipment of sewage pumping station	2,000,000	14,500,000	6	4
Ozone disinfection and removal by odors	2,200,000	16,700,000	7	4
Rehabilitation and construction of wells	4,000,000	20,700,000	8	4
Studies and projects for new rural WWTPs	2,000,000	22,700,000	9	4
Basic studies for aquifer recharge	2,000,000	24,700,000	10	4
Expansion and rehabilitation of AP networks and house outlets	4,000,000	28,700,000	11	5
Ozone disinfection and removal by odors	2,200,000	30,900,000	12	5
Aqueduct and pipeline rehabilitation	4,000,000	34,900,000	13	5

10. Conclusions and recommendations

The **OOMSAPA of Loreto** is limited in terms of its investment possibilities, where total costs are not recovered through tariffs, so it has required government subsidies for its operation, such as the payment of electric energy made by FONATUR derived from the pumping of water from the wells of San Juan B. Londó, a payment that will cease to be made as of 2023; therefore, the Agency will have to resort to greater sources of financing such as fiscal resources, which are increasingly scarce. This condition makes operating and administrative expenses so large that they limit its investment possibilities, causing fragile conditions with greater difficulties in accessing resources, which has weakened its financing options, much of it due to the lack of attention to its tariff schemes and effective financial administration.

The financial balance of OOMSAPA of Loreto, with an operating margin in numbers negative numbers a ratio of **28.07 million pesos**, shows that there is no is in a position to dispose of

resources and to cover the counterpart to access PRODI, without being able to finance investments in replacement and expansion. **Electricity costs** will trigger a greater impact on the Agency as of **2023**, due to The 10 million pesos per year that until December 2022 are subsidized by FONATUR, which will affect, therefore, we must take advantage of the advantages that we have when carrying out the actions for the Improvement of Efficiencies, many of them are low cost and the recovery of the investment is given in a short period of time, This allows the reduction of operating costs that leave a greater margin of resources to be used for other investments, such as the replacement of drinking water pumping equipment to reduce energy consumption, which can recover the investment in less than a year due to the savings they generate. The user registry should be updated and the micro-metering coverage should be extended in order to increase collection for the volume produced, as well as to improve income through a continuously updated user registry and a census of users to improve the registry and carry out a tariff study to update water tariffs and their modifications.

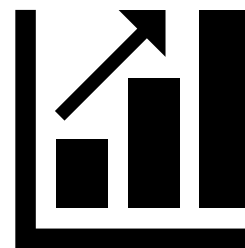
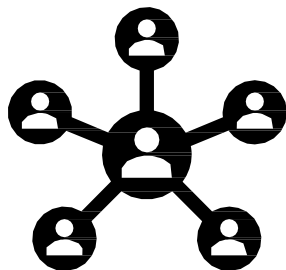
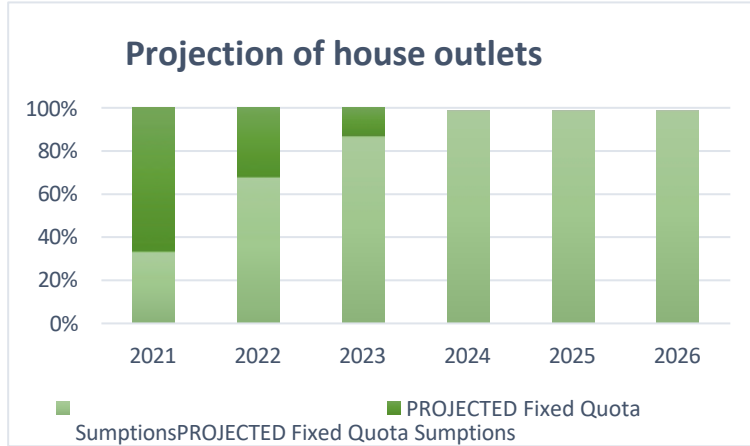


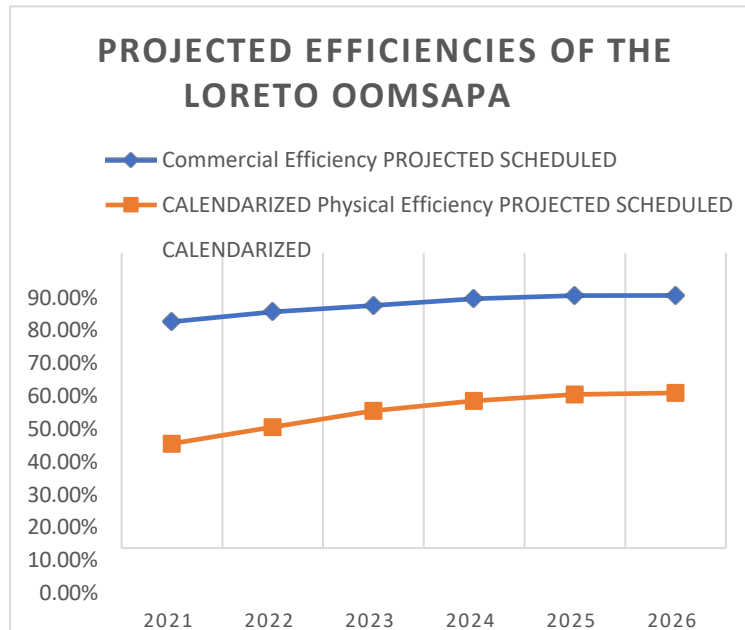
Figure 2. TOMAS PROJECTION



Other actions that increase efficiency in less time and at a lower cost are improvements in collection through schemes that facilitate payment, modifications to the tariff structure, and the signing of agreements with banks and other institutions to expand payment options for water and sanitation services.

last action. The direct benefit of these actions for the operating agency makes it less dependent on external resources and allows it to consolidate financially to make other investments and access other types of resources. An example of this is the projection of micro-metered intakes that increase commercial efficiency by 7.6%.

Figure 1 PROJECTED EFFICIENCY OF OOMSAPA OF LORETO



Based on the analysis of the indicators, the demographic growth of the localities that provide water supply, the availability of the resource, the budget and information from the different areas, it is possible to implement the improvement actions proposed in this document.

Loreto's OOMSAPA Integral Development Plan, to have a positive impact and achieve the particular goals and objectives for its economic sustainability.



These objectives and goals, in order to be achieved, must be evaluated over time, so that, with the support of the indicators set forth in this IMP, they can be used to measure standards for the purpose of increasing commercial, physical and, therefore, global efficiency.

11. Other supporting documents:

Annex A. Quality of information

Annex B. Attendance list for work sessions with OO staff and minutes. appendix C. Letter of receipt of the POI to the satisfaction of the OO.

Annex D. Control Board

Annex A. Quality of information

The information was integrated from visits to **OOMSAPA in Loreto**, where interviews were conducted and information was requested, which was collected physically and digitally in the offices of the operating agency, there was also information received by e-mail, upon request at the meeting to initiate the work for the preparation of the IMP, which was delivered by staff in charge of the different areas of the agency, as well as field visits were made to the different systems that are part of the hydraulic infrastructure. Therefore, based on the above, the following evaluation criteria were used:

Quality: according to the information received, the evaluation of the information was carried out and the

The way it correlates with information from different areas, as it is a matter of several systems that work together in an integral way.

Value: It is characterized by the degree of importance, intelligent storage.

Coherence: correct relationship between the values of a variable at different times or between different but related variables. each other.

Integrity: complete information complete, corresponds to the total set.

Therefore, most of the information collected is acceptable, with the exception of some data that were estimated.

Table 24.- EVALUATION MATRIX

Format No.	Index information board	Information area	Quality	Value	Consistency	Integrity	Comments
2	DATA NECESSARY FOR DETERMINE MANAGEMENT INDICATORS	Data General	A	0.9	Some deficiencies minors	Some omissions localized and with causes identified	
5	MANAGEMENT PRACTICES	Data General	A	0.9	Some deficiencies minors	Some omissions localized and with causes identified	
6	POPULATION SERVED	Data General	A	0.9	Some deficiencies minors	Some omissions localized and with causes identified	
7	PRODUCTION BY SOURCE	Data Operations	M	0.7	Some deficiencies minors	Some omissions localized and with causes identified	Does not exist macro-measurement, therefore which the information from volume produced was estimated.
8.a.	REGISTER OF INTAKES AND CONNECTIONS	Data Commercials	M	0.7	Some deficiencies minors	Some omissions localized and with causes identified	The user registry is find outdated

LORETO OOMSAPA INTEGRATED DEVELOPMENT PLAN

Format No.	Index information board	Information area	Quality	Value	Consistency	Integrity	Comments
8.b.	DATA FOR COVERAGE CALCULATION	Commercial Data	A	0.9	Some minor deficiencies	Some localized and causal omissions identified	
9.a.	WATER TREATMENT RESIDUALS	Data Operations	B	1	ALTA	TOTAL	
9.b.	PLANTS WATER PURIFIERS	Data Operations	B	1	ALTA	TOTAL	
10.a.	BILLING OF POTABLE WATER, SEWERAGE AND SANITATION	Administrative Data	A	0.9	Some minor deficiencies	Some localized omissions with identified causes	
10.b.	INCOME (Invoicing of APAS and other services)	Administrative Data	A	0.9	Some minor deficiencies	Some localized and causal omissions identified	
11	ANALYSIS OF ELECTRIC ENERGY EXPENDITURE	Administrative Data and Data Operations	B	1	Some minor deficiencies	Some localized omissions with identified causes	Some records of consumption points are not available.
12	CONTINUITY OF SERVICE	Commercial Data	B	1	Some minor deficiencies	Some localized and causal omissions identified	
13	REPORT OF BROKEN METERS	Commercial Data and Data Operations	A	0.9	Some minor deficiencies	Some localized omissions with identified causes	
14	SERVICE DEBTORS	Commercial Data	B	1	Some minor deficiencies	Some localized and causal omissions identified	
15	STAFF	Administrative Data	B	1	ALTA	TOTAL	
16	EXPENDITURES (EXPENSES)	Administrative Data	B	1	ALTA	TOTAL	
17	BALANCE SHEET	Administrative Data	B	1	ALTA	TOTAL	
18	DETERMINATION OF NON-VISIBLE LEAKS	Operating Data	A	0.9	Some minor deficiencies	Some localized and causal omissions identified	The Agency needs a cadastre of the network infrastructure, for the determination of leaks
19	DETERMINATION OF TANK LEAKAGE	Operating Data	B	1	ALTA	TOTAL	
20	OTHER REQUIRED INVESTMENTS	Operating Data	A	0.9	Some minor deficiencies	Some localized and causal omissions identified	They only have investments in the operating area.
	NOTE: Quality of information: B = Good, A = Acceptable, M = Medium, D = Poor, NE= Does not exist						

Annex B. Beginning of activities that are part of the PDI, Request for information to OOMSAPA of Loreto and Minutes.



Service contract No. IA-903017989-E7-2022
ELABORATION OF AN INTEGRAL DEVELOPMENT PLAN FOR THE OOMSAPA OF LORETO
Request for information
OF-PDI-02

La Paz, Baja California Sur, July 4th, 2022

L.C. Martín Guadalupe Lereé Arce
General **Director of Organismo Operador de Agua
Potable y Alcantarillado de Loreto**
PRESENT

According to the Service Agreement No. IA-903017989-E7-2022, entered into by the Government of the State of Baja California Sur, through the State Water Commission of Baja California Sur, represented by Lesvia Tatiana Davis Monzón, in her capacity as General Director, and the undersigned, to perform the action called:

ELABORATION OF AN INTEGRAL DEVELOPMENT PLAN FOR THE OOMSAPA OF LORETO

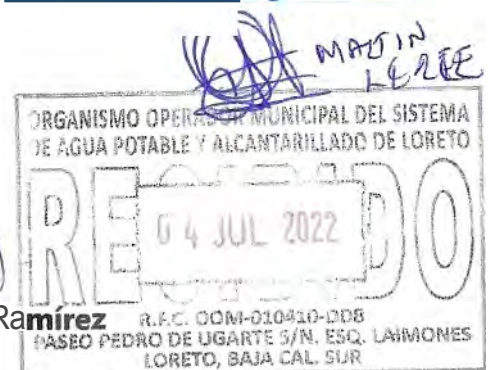
Fundamentally, the purpose is to develop an Integral Development Plan (PDI) for the Loreto Water and Sewerage Operator, with Action and Investment Packages (PAI) that will allow its transformation in order to improve the quality of the service offered to users. This will be achieved by promoting the operational and financial sustainability of the water utility.

Therefore, we kindly request your authorization and management to carry out the compilation of the relevant information of the organization, as well as to provide the necessary personnel to conduct interviews and planning sessions. Likewise, it is requested that all information in digital format be provided only to a servant to the c next email: zula@gmail.com

ATEN A IIIENTE

Zulema Gu

adalupe Lazos Ramirez



Zulema Guadalupe Lazos Ramirez



consulting

Service Contract No. **IIA-9030J7989-E7-2022** ELABORATION
OF INTEGRAL DEVELOPMENT PLAN OF OOMSAPA OF LORETO

Request for information
OF-PDI-03

La Paz, Baja California Sur, July 4th, 2022

LC. Martín Guadalupe Lereé Arce
General Director of Organismo Operador de
Agua Potable y Alcantarillado de Loreto
PRESENT

Regarding the service contract No. IA-903017989-E7-2022, entered into by the Government of the State of Baja California Sur, through the State Water Commission of Baja California Sur, represented by Lesvia Tatiana Davis Monzón, in her capacity as General Director, and the undersigned, in my capacity as responsible consultant, to perform the action called:

ELABORATION OF AN INTEGRAL DEVELOPMENT PLAN FOR THE OOMSAPA OF LORETO

I hereby inform you that on July 4 of this year, we started the activities that are part of this contract, moving from the city of La Paz to the town of Loreto, four specialists to carry out the activities committed in the contract.

AT NT MENTE

Eng. Zulema Guadalupe Lazos Ramirez





Service Contract No. fA-903017989-E7 2022
ELABORATION OF AN INTEGRATED DEVELOPMENT PLAN FOR THE LORSTO OOMSAPA

Loreto. Baja California Sur, July 06th, 2022

MINUTES OF ACTIVITIES CARRIED OUT IN THE OOMSAPA OF LORETO

TARGET

To initiate the first *stage* of Jos works derived from contract No. fA-903017989-E7-2022, for the ELABORATION OF OOMSAPA'S COMPREHENSIVE DEVELOPMENT PLAN OF LORETO with the on-site visit to the facilities of Organismo Operador de Loreto, Baja California Sur, providing the required information and work plan in accordance with the terms of reference of the PDI, which consists of gathering relevant information to develop the Control and Evaluation Dashboard, which will identify areas of opportunity to improve the performance of the Operator Agency.

DEVELOPMENT

July 4th of this year - By means of a presentation in the town hall of the Municipal Palace of Loreto, the activities to be carried out by the consultant for the elaboration of the PDI began, and the OOMSAPAS staff was informed of the information required by the consultant team to successfully complete the elaboration of the PDI of OOMSAPAS Loreto.

The parties involved in the PDI were introduced, both officials of the State Water Commission, OOMSAPAL, as well as the consultant team, to carry out the



planning *and* information gathering activities for the creation of the Control and Evaluation Dashboard.

July 5 of the present Afro -

Work teams were formed for each specific area of the operating agency, where interviews and delivery of requested information were carried out, which some areas attended as the first delivery and agreed to deliver the missing information for the following week. In the same way, field activities were carried out to gather information with the technical and operational area of the Agency. Diana Isabel Aguilar Gámez, from the Baja California Sur State Water Commission.

[Handwritten signature]

July 6 of this year - continuation of interviews and delivery of information requested for the Elaboration of the Integral Development Plan of the Loreto Operator Agency.

JRM

Participants

Participants from the State Water Commission of Baja California Sur

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Name	Cargo	Signature
mp. Diana Isabel Aguilar Gámez	Department Head	<i>[Handwritten signature]</i>

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

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Isabel

[Handwritten signature]



Participants on behalf of the Organismo Operador Municipal del Sistema de Agua Potable y Alcantarillado de

Name	Caroo	Signature
LC Martín Guadalupe Leeré Arce	Chief Executive Officer	
C Josefina Figueroa Redona	Technical Secretary	
Jesús GeQemaní López Rubio	Technical and Operational Area Director	
Architect Jazmín Murillo Mayoral	Coordination of planning - Technical and Operational Management	
Jesús Rodríguez Manríquez	Head of the Department of Computing	Jesús Rodríguez Manríquez

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Zulomn Guad- lupe Lazos Ramfr *



C. Pablo Davis Vargas

Marketing Department

Pablo Davis V.

LC. Elizabeth Martinez Suastepui

Head of the Department of Accounting

C. Álvaro Amador Murillo

Head of the Material Resources Department

JAM

C. Francisco Javier Álvarez Murillo

Water Culture Department Services

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C. Miriam Guadalupe Culture Baeza

Amador Department of Water

[Handwritten signature]

Virgínia Isabel Cafiedo López, Esq.

Head of the Department of Human Resources




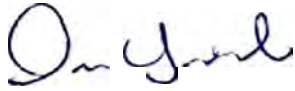
Virgínia Isabel Cafiedo López

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consulting

Participants from the Consultant

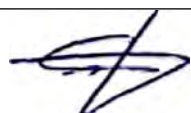
f Jombre	Cargo	Fire
Zulema Guadalupe Lazos Ramirez	Consultant and Coordinator for the preparation of the Integral Development Plan of the Municipal Water and Sewerage System Operator Organization. Loreto Sewerage.	
Architect Patricia Edith Velderrain Lagarda	Hydraulic and financial specialist.	
PLA. Iسس Patricia Galindo Castillo	Specialist in Hydraulics and Water Management.	
Juan Alejandro Corona Vargas	Specialist in hydraulics, electromechanics and commercial area.	

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Service Contract No. IA-903017989-E7-2022 ELABORATION OF INTEGRAL DEVELOPMENT PLAN OF OOMSAPA OF LORETO

Loreto, Baja California Sur, July 18, 2022

MINUTES OF ACTIVITIES CARRIED OUT IN THE OOMSAPA OF LORETO TARGET

Continuation of the work derived from contract No. IIA-903017989-E7-2022 for the ELABORATION OF THE INTEGRAL DEVELOPMENT PLAN OF OOMSAPA OF LORETO with the on-site visit to the facilities of the Loreto, Baja California Sur Operator, requesting additional information to that provided in the previous visit, in accordance with the terms of reference of the PDI, for the development of the Control and Evaluation Dashboard, which will identify areas of opportunity to improve the performance of the Operator.

DEVELOPMENT

July 18 of this year - Complementary information was requested from the Marketing, IT, Technical Secretariat, Operational and Technical areas, where interviews were conducted and information was provided.

missing information would be sent by e-mail. Photographic annex.



The activities were carried out through the follow-up of Eng. Diana Isabel Aguilar G3mez, from the Baja California Sur State Water Commission.

Revisión - 18/07/2022

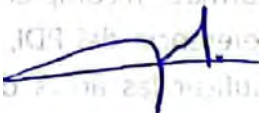

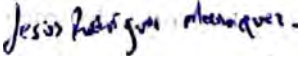


Participants

Participants from the State Water Commission of Baja California Sur

Name	Cargo	Signature
Diana Isabel Aguilar Gámez 	Department Head	


Participants from the Organismo Operador Municipal del Sistema de Agua Potable y Alcantarillado de Loreto.

Name	Cargo	Signature
C. Josefina Figueroa Redona	Technical Secretary	
Ing. Jesús GeQeman(López Rubio	Director of the Technical and Operational Area	
Jesús Rodríguez Manríquez	Head of the Department of Computing	







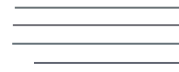
consultancy

L.C. Elizabeth Martínez Suastegui	Head of the Department of Accounting	
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Participants from the Consultant

Name	Cargo	Firma
Zulema Guadalupe Lazos Ramirez	Consultant and Coordinator for the preparation of the Integral Development Plan of the Municipal Water and Sewerage System Operator Organization. Loreto Sewerage.	
Maria Josse Gutierrez Romero	Hydraulics Specialist	





Service Contract No. IA-903017989-E7-202g
EkAeowció oE PRH FOR INTEGRAL DEVELOPMENT OF OOMSAPA DE LORETO

Loreto, Baja California Sur, July 18, 2022

ANNEX



Zulema Guadalupe Laxos Ramírez



Service Contract No. IIA-9030f7989-E7-2022 ELABORATION OF INTEGRAL DEVELOPMENT PLAN OF1 OOMSAPA DE LORETO

Loreto. Baja California Sur, July 29, 2022

MINUTES OF ACTIVITIES CARRIED OUT IN THE OOMSAPA OF LORETO

OBJECTIVE

The activities corresponding to the first stage of the works derived from the contract No. IA-903017989-E7-2022, for the DEVELOPMENT PLAN ELABORATION INTEGRAL OF OOMSAPA DE LORETO with the visit to the facilities of Organismo Operador de Loreto, Baja California Sur, fulfilling the objective of the first stage of the PDI that through the interview and collection of information from each of the areas involved, the Basic Data Sheet, the Additional Data Sheet and the Practices Sheet were obtained as the first inputs. Subsequently, the information was completed in the Control Board where the indicators structured by modules and relevant practices were obtained, and areas for improvement were identified for each of the modules and validated with 00 personnel.

DEVELOPMENT

July 29th of this year -First part of the Workshop for the validation of the information,

The first part of the workshop for the validation of the information, which was

completed with the Control Board that was presented with the information gathered, which was validated by personnel from the different areas of the 00, This information contains a succinct description of the situation of 00 and additional relevant data. Annex A, Dashboard and Photographic Information

Zulema Guadalupe Laxos Ramírez



July 29th of this year - Second part of the workshop where the value of the indicators was explained, presented through the modules where areas of improvement for each one of these modules were proposed, as well as the actions that the control board showed and that will be deepened in the next stage. Annex B, Modules and photographs

Participants

Participants from the Organismo Operador Municipal del Sistema de Agua Potable y Alcantarillado de Loreto.

Name	Cargo	Signature
LC. Martín Guadalupe Leeré Arce	Chief Executive Officer	
C. Josefina Figueroa Redona	Technical Secretary	
Jesús Geoemaní López Rubio	Technical and Operational Area Director	
A g *d* -i .l MuFillo Mayoral	Coordination of planning - Technical and Operational Management	


Redones

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Ing. Jesús Rodríguez Manríquez	Head of the IT Department	
C. Pablo Davis Vargas	Commercialization Departments	
LC. Elizabeth Martínez Suastequi	Head of the Department of Accounting	
C. Álvaro Amador Murillo	Head of the Department of Material Resources	
C. Francisco Javier Álvarez Murillo	Culture Department Del Agua Services	
C. Miriam Guadalupe Amador Baeza	Water Culture Department	



Virginia Isabel Cañedo López	Head of Human Resources Department	
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Participants from the Consultant

Name	Cargo	irma
Zulema Guadalupe Lazos Ramirez	Consultant and Coordinator of the preparation of the Integral Development Plan of the Municipal Water and Sewage System of Loreto.	
Architect Patricia Edith Velderrain Lagarda	Specialist Hydraulics and financial.	







**Service Contract No. IA-903B17989-E7-2022 ELABORATION OF
INTEGRAL DEVELOPMENT PLAN DM OOMSAPA OF LORETO**

Loreto, Baja Ca'srornia sur, on the zg of;ufio, 2022

ANNEXA



Format SUMMARY

NAME: OPERATING AGENCY MUh
 AUG: 2022



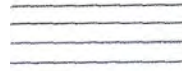
Efficiency Commercial	68.99%
Average Rate	18.30
% of effective capacity	16.30%
% Meters to be replaced	51.58%

Efficiency Physical	31.85%
Efficiency Staffing Ratio/1000	13.98
% Gastos de personal	62.23%
Personnel Expenses	29.00%

There are 16 bridges that extract more flow than authorized, totaling 233.32 lps extracted in excess of these. In the total balance (adding the more and the less), it indicates that **the Agency** extracts 54.4083333333334 lps more than the total allocated.

Brief description of the situation of the Operating Agency:

In summary and according to the figure, it is shown 10 principal Indicators that have an impact on the operating margin of the Operating Organization under study, it is shown that the indicators that support the Revenues with area 8 of improvement to increase the operating margin, with a Commercial Efficiency of 68.99%, related to the low percentage of effective measurement which is 18.30% and with 51.58% of meters that have to be replaced. It is also shown that the OO does not have the capacity to finance the investments for its growth. It is highlighted that the electric energy has a strong impact on the Expenditures due to its high cost, it also reflects a very low fiscal efficiency that barely reaches 31.85%, a very high ratio of personnel per 1,000 taps and a high percentage of personnel expenses, which points out the areas of opportunity to carry out measurement actions in production sources, reduction of physical losses, energy efficiency actions, among others, which will allow cost reduction. Balance contemplates the cost of EE that Fonatur currently pays and that will cease to do so as of the next fiscal year.



Service Contract No. IIA-903017989-E7-2022
ELABORATION OF AN INTEGRAL DEVELOPMENT PLAN FOR THE OONISAPA OF LORETO

Loreto, Bai° California Sur, July 2nd, 2022

ANNEX B



Formato 2. DATOS NECESARIOS PARA DETERMINAR INDICADORES DE GESTIÓN



NOMBRE: ORGANISMO OPERADOR MUNICIPAL DEL SISTEMA DE AGUA POTABLE Y ALCANTARILLADO DE LORETO

AÑO: 2022 MES:

AÑO BASE: 2021

DATOS PARA EL CÁLCULO DE LOS INDICADORES BÁSICOS				
Número	Datos	Unidad	Cantidad	Año de reporte
1	Población Total	Habitantes	17,489	2021
2	Población con servicio de agua potable	Habitantes	16,895	2021
3	Índice de hacinamiento	Habitantes	3	2021
4	Total de tomas activas registradas	Tomas	7,509	2021
4.1	Tomas domésticas	Tomas	6,758	2021
4.1.1	Tomas domésticas con medidor	Tomas	2,081	2021
4.2	Tomas comerciales	Tomas	680	2021
4.2.1	Tomas comerciales con medidor	Tomas	363	2021
4.3	Tomas industriales	Tomas	71	2021
4.3.1	Tomas industriales con medidor	Tomas	55	2021
4.4	Tomas servicio público	Tomas	0	2021
4.4.1	Tomas servicios públicos con medidor	Tomas	0	2021
4.5	Otras	Tomas	0	2021
4.5.1	Otras tomas con medidor	Tomas	0	2021
4.6	Micromedidores instalados funcionando	Unidad	1,224	2021
4.6.1	Medidores hasta con 5 años de antigüedad	Tomas	1,210	2021
4.6.2	Medidores entre 6 y 10 años de antigüedad	Tomas	1,287	2021
4.6.3	Medidores con antigüedad mayor a 10 años	Tomas	2	2021
5	Tomas con servicio continuo	Tomas	5,553	2021
6	Tomas conectadas al alcantarillado	Tomas	6,680	2021
7	Volumen producido	m ³ /año	6,361,074	2021
7.1	Producción anual de agua subterránea	m ³ /año	6,298,002	2021
7.2	Producción anual de agua superficial	m ³ /año	63,072	2021
8	Fuentes de abastecimiento activas	Unidad	20	2021
8.1	Macromedidores instalados funcionando	Unidad	0	2021
9	Volumen macromedido	m ³ /año	0	2021
10	Volumen de agua facturado	m ³ /año	2,026,234	2021
11	Volumen de agua residual tratado	m ³ /año	1,166,832	2021
12	Consumo medio	m ³ /mes	22.49	2021
12.1	Consumo medio doméstico	m ³ /mes	18.44	2021
12.2	Consumo medio comercial	m ³ /mes	39.03	2021
12.3	Consumo medio industrial	m ³ /mes	248.98	2021
12.4	Consumo medio servicio público	m ³ /mes	0.00	2021
12.5	Consumo medio otros	m ³ /mes	0.00	2021
12	Gastos operacionales	\$	50,207,972	2021
13	Gastos de energía eléctrica	\$	14,559,800	2021
14	Sueldos y prestaciones	\$	31,245,245	2021
15	Materiales	\$	4,061,432	2021
16	Cloro y reactivos	\$	341,495	2021
17	Derechos de explotación, uso o aprovechamiento de agua	\$	0	2021
18	Otros gastos operacionales	\$	0	2021
19	Otros gastos no operacionales (pagos de créditos u otros)	\$	0	2021
20	Número de empleados	empleados	105	2021
21	Capacidad instalada de tratamiento	gas	80	2021
22	Importe de agua, alcantarillado y saneamiento facturado	\$	37,070,606	2021
23	Importe de agua, alcantarillado y saneamiento recaudado	\$	25,575,950	2021
24	Facturación por agua potable (\$)	\$	28,935,770	2021
25	Facturación por alcantarillado (\$)	\$	5,055,758	2021
26	Facturación por saneamiento (\$)	\$	3,079,078	2021
27	Ingresos por derechos de conexión	\$	465,318	2021
28	Ingresos por factibilidades	\$	0	2021
29	Otros ingresos	\$	3,254,641	2021
30	Ingresos por aportaciones federales, estatales o municipales	\$	0	2021
31	Ingresos no operacionales (intereses u otros)	\$	0	2021
32	Facturación total	\$	40,790,565	2021
33	Cuentas por Cobrar de más de 360 días	\$	9,595,883	2021
34	Número de PTARs	unidad	2	2021
35	Número de Plantas potabilizadoras	unidad	1	2021
36	Muestras totales bacteriológicas analizadas	unidad	0	2021
37	Muestras bacteriológicas con cumplimiento de normatividad	unidad	0	2021
38	Porcentaje de reposición a aplicar	%	1.0%	2021
39	Valor Nuevo de Reposición por toma (VNR)	\$/Toma	34,000	2021
40	Crecimiento Anual de las tomas	%	2.28%	2021
41	% de financiamiento por el organismo del crecimiento	%	60.00%	2021
42	Pérdidas físicas no perceptibles en red	%	2.75%	2021
43	Pérdidas físicas no perceptibles en tomas	%	0.03%	2021
44	Pérdidas Comerciales respecto al total de pérdidas	%	32.00%	2021
45	Aporte a fondo perdido PRODI	%	50.00%	2021

NOTAS: No se tiene contemplado el consumo de servicios públicos y otros consumos.

NOMBRE:

CUBA POTABLE Y ALCANTARILLADO DE COBERTURA

MÓDULO DE COBERTURAS		
Número	Indicador	Resultado
1	Cobertura de agua potable	96.60%
2	Cobertura de alcantarillado	85.94%
3	Cobertura de tratamiento	56.29%
4	Eficiencia global	21.98%
5	Capacidad instalada de tratamiento de aguas residuales (lps)	80
6	% de Cumplimiento de calidad bacteriológica de agua potable	0.00%

Enter areas for improvement:

The coverage of drinking water to the population has a good result, as follows
 - The drainage rate is above the national average, without the 'eaaa - o
 , w.w ce.low. for which it should be put
 - The number of places of --- residuales (80 lps instalada and only
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 Özmglmliemo in the --- Dacteorológica de poble water. due to the fact
 that the analyses are not carried out.

MÓDULO DE EFICIENCIA ENERGÉTICA		
Número	Indicador	Resultado
7	Incidencia de la energía eléctrica	29.00%
8	Gasto unitario de la energía eléctrica (\$/kWh)	8.84
9	Gasto de EE por metro cúbico producido (\$/m ³) (No considera Agua en bloque)	2.29
10	Indicador energético (kWh/m ³ producido) (No considera Agua en bloque)	0.26
11	Porcentaje de Consumo en Punta (promedio)	59.67%
12	Factor de Carga	39.34
13	Factor de Potencia	56.87

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Incóndencia energética de 2021 aicaczu el 10 9", however for the situation
 æz paa et . ax<le Freætur no longer paya
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 which was taken.en cuen@ the electric energy charge for a better
 estimación.

MÓDULO DE ADMINISTRACIÓN Y MANEJO DE PERSONAL		
Número	Indicador	Resultado
14	Índice laboral (empleados /1000 tomas)	13.96
15	Sueldo mensual promedio por empleado (\$/empleado/mes)	24,798
16	Recaudación mensual promedio por empleado (\$/empleado/mes)	20,298
17	Proporción de personal operativo	68.57%
18	Gastos en remuneraciones (sueldos, salarios y prestaciones)	\$ 31,245,245
19	Proporción de gastos en remuneraciones respecto al gastos operacionales	62.73%
20	El consejo de administración y/o el directorio del organismo tienen "autonomía empresarial" en temas relacionados con la fijación de remuneraciones y dotación de personal	si

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 and.

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MÓDULO DE GESTIÓN COMERCIAL		
Número	Indicador	Resultado
21	Eficiencia comercial	68.99%
22	Cobertura de micromedición instalada	33.28%
23	Cobertura de volumen micromedido	31.03%
24	Cobertura de micromedición con lectura	15.30%
25	Recaudación anual por toma (\$/toma/año)	3,406
26	Facturación anual por toma (\$/toma/año) INTEGRADA	4,937
27	Tarifa media facturada (\$/m ³) INTEGRADA	18.30
28	Tarifa media facturada domésticos (\$/m ³) INTEGRADA	10.54
29	Tarifa media facturada comercios e industrias (\$/m ³) INTEGRADA	48.16
30	Tarifa media cobrada (\$/m ³) INTEGRADA	12.62
31	Facturación anual por toma servicio medido (\$/toma/año) INTEGRADA	7,722
32	Facturación anual por toma cuota fija (\$/toma/año) INTEGRADA	3,547
33	% Volumen de agua facturada con micromedición	31.03%
34	Volumen de agua facturada con cuota fija	68.97%
35	Consumo medio (m ³ /toma/mes)	22.49
36	Tomas activas sin micromedidor leído	6,285
37	% Medidores con mas de 5 años de antigüedad	51.58%
38	% Medidores con mas de 10 años de antigüedad	0.08%
39	% de pérdidas comerciales sobre pérdidas totales	32.00%
40	Potencial de cobranza en agua suministrada (agua suministrada no facturada)	25,378,336
41	Potencial de cobranza en lo facturado (por agua facturada no cobrada)	11,494,656
42	El consejo de administración y/o el directorio del organismo tienen "autonomía empresarial" para fijar las tarifas por los servicios que presta el OO	no
43	Las tarifas por los servicios que presta el OO son actualizadas anualmente (por medio de indexación o algún proceso de revisión continua)	no

The --- is 66.99 56, so it is highly recommended to carry out an
 axuatuaón det Paddy of Users and extend the coverage of
 mxzome'fx>on, oen in order to collect et greater volume produced.
 --- eg vae; se oeda Córi aciones de

MÓDULO DE EFICIENCIA FÍSICA		
Número	Indicador	Resultado
44	Eficiencia física	31.85%
45	Continuidad en el servicio	86.98%
46	% de tomas con servicio continuo	73.95%
47	Dotación a nivel de producción por habitante (l/hab/día)	1,032
48	Consumo por habitante (l/hab/día)	329
49	% Agua no contabilizada	68.15%
50	Tiempo promedio de servicio (horas diarias)	20.87
51	Cobertura de volumen macromedido	0.00%
52	Relación de Agua residual tratada respecto a agua potable facturada	57.59%
53	Pérdidas físicas no perceptibles en la red y tomas	2.78%
54	Pérdidas físicas en tanques	0.10%
55	Longitud de la red (Kms)	411.47

Ingreso Areas de

El --- producido es la eficiencia física, la cual
 es baja. La --- entre la --- y consumo es grande por lo que es
 necesario la medición desde las fuentes de producción, la detección y
 --- de fugas de agua de la red de tubería y tanques. La continuidad
 de servicio tiene un alto porcentaje, así como el porcentaje de toma con
 servicio continuo. Se tiene una --- de 1,032 l/hab/día, el cual es un valor
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MÓDULO FINANCIERO		
Número	Indicador	Resultado
56	Margen operativo (\$)	20,912,063
57	Margen Operativo sobre Ingresos (Cobranza) (%)	-81.76%
58	Costo unitario de operación por metro cúbico producido (\$/m ³)	7.89
59	Costo unitario de operación por metro cúbico facturado (\$/m ³)	24.78
60	Costo total promedio mensual por toma (\$/toma/mes)	557.20
61	Liquidez	0.35
62	Prueba del ácido	0.35
63	Capital de Trabajo	-26,005,460
64	Indice de endeudamiento	80.72%
65	Apalancamiento	5.19
66	Rentabilidad	-217.98%
67	Productividad	-42.03%
68	Infraestructura por usuario	4,741
69	Relación de operación	0.58

MÓDULO FINANCIERO CORREGIDO		
Número	Indicador	Resultado
70	Reposición anual	2,553,060
71	Inversión por crecimiento	3,483,297
72	Descuento de cuentas por cobrar del activo circulante	3,595,863
73	Margen operativo (\$)	(26,954,420)
74	Margen Operativo sobre Ingresos (Cobranza) (%)	-105.39%
75	Gasto unitario de operación por metro cúbico producido (\$/m ³)	8.84
76	Gasto unitario de operación por metro cúbico facturado (\$/m ³)	27.76
77	Gasto total promedio mensual por toma (\$/toma/mes)	624.25
78	Liquidez	0.11
79	Prueba del ácido	0.11
80	Capital de Trabajo	-35,601,343
81	Indice de endeudamiento	100.03%
82	Apalancamiento	4.19
83	Rentabilidad	-314.88%
84	Productividad	-75.22%
85	Infraestructura por usuario (a 20 años)	20,835
86	Relación de operación	0.46
87	Requerimiento de Financiamiento	24,834,000
88	% de Financiamiento requerido sobre ingresos	84.77%

B m opei vo is the sum of the amount tecauuao ue ABAS, r e- and qbqs may, s n'm, Ms operadonNes expenses and is negative -0.066f uei operating on 105 3996, the Company's operating expenses are n't included in the operating income for the year. The gzeas aaar'a:af operation per in3 prxiuódo is 8.84 and the is 27.76; this is influenced by the cost of the EE. With an ILjuió-z of o.11 it is ?i-s 'al'za that the 00 cannot cover all its obfgancmes, asiconlmnesWtados0eDaPweba doyCap#aldeTabor o bqata da'DO.G de00t (Xdeln#oede que el OO está soportando un ex volumen de g# State and Municipal to continue to operate.



No.	DESCRIPCIÓN	PAI	TIPO	FINANCIADA POR PRODI	COMENTARIOS	CRITERIOS DE SEMAFORIZACION	SEMAFORO
1	Solicitud de cambio de tarifa eléctrica para reducir gasto por concepto de energía eléctrica.	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	no	Se pueden apegar a los lineamientos de la ISO 50001 de eficiencia energética, uso y consumo de energía.	Si la incidencia de energía es superior a 10.0% de los gastos operacionales y el factor de carga se encuentra por debajo del 90.0% se debe realizar la actividad. Si la incidencia de energía se encuentra entre 5.0% y 10.0% y el factor de carga se encuentra por debajo del 90.0% se debe revisar por el consultor	NO
2	Reducción de la potencia reactiva (reducción del factor de potencia)	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	sí	Evaluación de equipos existentes, y priorización de nuevas tecnologías	Si la incidencia de energía es superior a 10.0% de los gastos operacionales y el factor de potencia se encuentra por debajo del 80.0% se debe realizar la actividad. Si la incidencia de energía se encuentra entre 5.0% y 10.0% y el factor de potencia se encuentra por debajo del 80.0% se debe revisar por el consultor	NO
3	Sustitución de equipos de bombeo de agua potable para reducir consumo de energía	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	sí	Evaluación y diagnóstico de equipos existentes, y priorización de nuevas tecnologías	Si la incidencia de energía es superior a 20.0% de los gastos operacionales se debe realizar la actividad. Si la incidencia de energía se encuentra entre 10.0% y 20.0% se debe revisar por el consultor	SI
4	Sustitución o construcción de tanques de almacenamiento de agua para modificar políticas de operación del equipo de bombeo	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	sí	Se recomienda diagnóstico	Si la incidencia de energía es superior a 10.0% de los gastos operacionales y el consumo de energía en punta es superior al 10.0% se debe realizar la actividad. Si la incidencia de energía se encuentra entre 5.0% y 10.0% y el consumo de energía en punta es superior al 10.0% se debe revisar por el consultor	SI
5	Automatización de equipos de bombeo para modificar políticas de operación	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	sí	El contar con automatización a través de telemetría con nuevas políticas de distribución, eficientiza los procesos y consumos.	Si la incidencia de energía es superior a 20.0% de los gastos operacionales se debe realizar la actividad. Si la incidencia de energía se encuentra entre 10.0% y 20.0% se debe revisar por el consultor	SI
6	Sustitución de bombas de alcantarillado	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	no	Evaluación de equipos existentes, y priorización de nuevas tecnologías	Si la incidencia de energía es superior a 20.0% de los gastos operacionales se debe realizar la actividad. Si la incidencia de energía se encuentra entre 10.0% y 20.0% se debe revisar por el consultor	SI
7	Reducción de gastos de energía en plantas de tratamiento de aguas residuales (PTAR)	1. Reducción de gastos de energía eléctrica	1. Acción o inversión	no	Evaluación de equipos existentes, y priorización de nuevas tecnologías.	Si la incidencia de energía es superior a 20.0% de los gastos operacionales se debe realizar la actividad. Si la incidencia de energía se encuentra entre 10.0% y 20.0% se debe revisar por el consultor	SI
8	Elaboración de una auditoría energética	1. Reducción de gastos de energía eléctrica	0. Estudio previo	con justificación	Es necesario se realice una inspección, estudio y análisis de los flujos de energía en el sistema con el objetivo de comprender la energía dinámica, para llegar a la implantación de medidas específicas para hacer mas eficiente el consumo de energía eléctrica.	Si la incidencia de energía es superior a 10.0% de los gastos operacionales, se debe realizar la actividad. Si la incidencia de energía se encuentra entre 5.0% y 10.0%, se debe revisar por el consultor	SI
9	Programa de capacitación y profesionalización para incrementar la productividad del personal.	2. Reducción de gastos de personal	2. Sostenibilidad	no	La capacitación laboral es muy recomendable, ya que permite aumentar el conocimiento de los equipos y maquinaria que se usa diariamente, para incrementar la eficiencia laboral. Se dan en Escuela del Agua, por lo tanto no son financiables por el PRODI	Si el índice de personal está por sobre 6.0 empleados por cada 1,000 tomas, se debe realizar la actividad. Si el índice de personal está entre 4.0 y 6.0 empleados por cada mil tomas, se debe revisar por el consultor	SI
10	Revisión del manual de funciones y cargos del personal del OO	2. Reducción de gastos de personal	0. Estudio previo	con justificación	Es prioritario realizar manual de procesos y funciones del personal, para disminuir duplicidad y tiempos muertos, que están afectando los costos y operación de las actividades diarias.	Si el índice de personal está por sobre 6.0 empleados por cada 1,000 tomas o el personal operativo es menos del 30.0%, se debe realizar la actividad. Si el índice de personal está entre 4.0 y 6.0 empleados por cada mil tomas o el % de personal operativo está entre el 30.0% y el 50.0%, se debe revisar por el consultor	SI
11	Establecimiento de un programa de retiro voluntario y obligado	2. Reducción de gastos de personal	1. Acción o inversión	no	Existen vicios laborales que elevan los costos de servicios personales, reparable con la disminución de la plantilla. La cual esta casi 3 veces sobre la media nacional	Si el índice de personal está por sobre 6.0 empleados por cada 1,000 tomas, se debe realizar la actividad. Si el índice de personal está entre 4.0 y 6.0 empleados por cada mil tomas, se debe revisar por el consultor	SI
12	Ajuste de consumos de cuota fija	3. Mejora de la gestión comercial	1. Acción o inversión	sí	Es necesario un ajuste en la tarifa fija.	Cuando el valor de la cuota fija se encuentra entre el 90% y el 110% del valor del servicio medido se revisa a criterio del consultor. Si el valor es menor al 90% se lleva a cabo la actividad	SI
13	Corrección de errores de micromedición mediante sustitución de medidores.	3. Mejora de la gestión comercial	1. Acción o inversión	sí	Sustitución de medidores adecuados para la zona.	Si del total del parque de medidores se tiene que entre el 60% y 80% de ellos tienen una antigüedad menor a 5 años se revisa a criterio del consultor. Si el valor es menor al 60% se lleva a cabo la actividad.	REVISAR

14	Impartición de cursos de formación de recursos humanos en eficiencia comercial	3. Mejora de la gestión comercial	2.Sostenibilidad	no	Se recomiendan cursos espacializados en el tema	Si la eficiencia comercial se encuentra en un rango entre 70.0% y 90.0% y no esta facultado para llevar a cabo el corte del servicio en usuarios domésticos, se revisa a criterio del consultor. Si la eficiencia comercial es inferior al 70.0%y no está facultado para ejecutar los cortes de servicio a usuarios domésticos se lleva a cabo la actividad.	SI
15	Impartición de cursos de formación de recursos humanos en atención a usuarios	3. Mejora de la gestión comercial	2.Sostenibilidad	no	La atención a usuarios se recomienda estandar de competencia EC0905	Si la eficiencia comercial se encuentra en un rango entre 70.0% y 90.0% y no esta facultado para llevar a cabo el corte del servicio en usuarios domésticos, se revisa a criterio del consultor. Si la eficiencia comercial es inferior al 70.0%y no está facultado para ejecutar los cortes de servicio a usuarios domésticos se lleva a cabo la actividad.	SI
16	Firma de convenios con bancos y otras instituciones para ampliar las opciones de pago de los servicios de agua y saneamiento	3. Mejora de la gestión comercial	1.Acción o inversión	sí	En proceso de acuerdo a entrevistas.	Si la eficiencia comercial se encuentra en un rango entre 70.0% y 90.0% y no esta facultado para llevar a cabo el corte del servicio en usuarios domésticos, se revisa a criterio del consultor. Si la eficiencia comercial es inferior al 70.0%y no está facultado para ejecutar los cortes de servicio a usuarios domésticos se lleva a cabo la actividad.	SI
17	Mejoras a la facturación mediante un nuevo sistema comercial	3. Mejora de la gestión comercial	1.Acción o inversión	sí	de acuerdo al esquema tarifario actual, solo se "factura" bajo el criterio de cuota fija, se sugiere un nuevo sistema que permita el uso de criterios de facturación del servicio, bajo los criterios de servicio medido o cuota fija, desagregado servicio y llevando control de la gestión el a cobranza	Si la calidad de la información, la facilidad de obtención y el grado de confiabilidad de la misma se encuentra entre 4 y 6, se revisa a criterio del consultor la necesidad de la implementación de un sistema comercial. Si la calidad de la información, la facilidad de obtención y el grado de confiabilidad es menor a 4, se debe considerar el cambio del sistema comercial.	NO
18	Mejoras en la cobranza mediante esquemas que faciliten el pago.	3. Mejora de la gestión comercial	1.Acción o inversión	sí	Es necesario se establezcan estrategias proactivas para lograr pagos oportunos en los tiempos estimados, según lo dicho por el OO se está realizando el proceso para cobro a través de un banco.	Si la eficiencia comercial se encuentra en un rango entre 70.0% y 90.0% y no esta facultado para llevar a cabo el corte del servicio en usuarios domésticos, se revisa a criterio del consultor. Si la eficiencia comercial es inferior al 70.0%y no está facultado para ejecutar los cortes de servicio a usuarios domésticos se lleva a cabo la actividad.	SI
19	Localización y regularización de tomas clandestinas	3. Mejora de la gestión comercial	1.Acción o inversión	sí	Con la sectorización, medición y balances hidrométricos será más fácil identificar los sectores que presentan pérdidas físicas para focalizar los esfuerzos de detección y corrección.	Si el volumen de agua tratada es mayor al 110.0% del volumen de agua potable facturada o la cobertura de agua potable es menor al 90.0% o la eficiencia física es menor al 60.0%, se lleva a cabo la actividad. Si el producto de estos tres factores resulta entre 0.4 y 0.6 el factor máximo del volumen de agua facturada y el volumen de agua tratada es 1.1, se debe revisar	SI
20	Censo de usuarios para mejorar el padrón. Establecimiento de esquemas de actualización continua del padrón.	3. Mejora de la gestión comercial	1.Acción o inversión	sí	Es muy recomendable llevar a cabo un actualización del Padrón de Usuarios, para validar el giro, uso y localización georeferenciada de cada uno de los usuarios, así como la cantidad real de tomas, el Padrón de Usuarios refleja el conocimiento y confiabilidad que se tiene sobre el registro de los usuarios y sus tomas, es parte importante de la operación comercial.	Si el volumen de agua tratada es mayor al 110.0% del volumen de agua potable facturada o la cobertura de agua potable es menor al 90.0% o la eficiencia física es menor al 60.0%, se lleva a cabo la actividad. Si el producto de estos tres factores resulta entre 0.4 y 0.6 el factor máximo del volumen de agua facturada y el volumen de agua tratada es 1.1, se debe revisar	SI
21	Sistema de cómputo para altas y bajas del padrón de usuarios.	3. Mejora de la gestión comercial	1.Acción o inversión	sí	Como complemento a la actualización el padrón y como un módulo del Sistema comercial a implementar, se sugiere el facilitar la gestión de la actualización cotidiana del Padrón.	Si el volumen de agua tratada es mayor al 110.0% del volumen de agua potable facturada o la cobertura de agua potable es menor al 90.0% o la eficiencia física es menor al 60.0%, se lleva a cabo la actividad. Si el producto de estos tres factores resulta entre 0.4 y 0.6 el factor máximo del volumen de agua facturada y el volumen de agua tratada es 1.1, se debe revisar	SI
22	Estudio tarifario con el fin de realizar la actualización de las tarifas de agua	3. Mejora de la gestión comercial	0.Estudio previo	con justifi	Se requiere un estudio tarifario de acuerdo a los costos de operación y producción. Considerando todos los factores relacionados con la comunidad	Si la tarifa media por m3 esta entre 10.0 y 15.0 pesos, será revisada a criterio del consultor. Si es inferior a 10.0 se realiza la acción.	NO
23	Modificaciones a la estructura tarifaria	3. Mejora de la gestión comercial	1.Acción o inversión	no	Ampliar la clasificación de usuarios permitiendo segregar mejor usos mixtos.	Si la tarifa media de los clientes no domésticos se encuentra entre una relación de 1.5 a 2.5 respecto a la tarifa media de los clientes domésticos, se deja a criterio del consultor la revisión de la estructura tarifaria. Si la relación es mayor al 2.5, se realiza la actividad.	SI
24	Reformas para lograr que las tarifas se actualicen de manera continua	3. Mejora de la gestión comercial	4.Estructural	sí	Apegarse a sistemas de actualización anual o mensual. Junta de Gobierno y Congreso		SI

25	Reform of the legal framework to ensure that the OO can establish appropriate rates	3. Mejora de la gestión	Structural	si	Ac, sg; sg; rajuntadegobiernoy with reso	Glaefciendõauska is less than 60.0B and these losses in @gques are greater than
26	Location and repair of leaks in tanks	4. Reducción de pérdidas físicas de agua	1. Share or investment in		Mantenimiento preventivo, reflejado in l'OA and PED	1.0% should be performed activity. If the physical efficiency is less than 60.0% and the losses in @gques are less than 1.0%, you should analyze by the consultant.
27	Modernization and replacement of main and secondary pipelines	4. Reducción de pérdidas físicas de agua	1. Acción o inversión	with justification	Programa de mantenimiento preventivo y correctivo POA	If the physical efficiency is less than 60% and the losses in @gques are less than 1.0%, you should analyze by the consultant.
28	Installation of micro-meters in the reading systematization of	4. Reducción de pérdidas físicas de agua	Feasibility	si	Prioritario un programa total de instalación de micromedidores en tomas representativas	If the physical efficiency is less than 60% and the losses in @gques are less than 1.0%, you should analyze by the consultant.
29	Installation of micrometers in intakes and incorporation of readings to the billing system and collections	4. Reducción de pérdidas físicas de agua	2. Feasibility	YES	Apegarse a sistemas eficientes de medición, facturación según la necesidad de los sectores.	If the micro-metering coverage is between 50% and 60% is reviewed at the discretion of the consultant. If the physical efficiency is less than 60% and the losses in @gques are less than 1.0%, you should analyze by the consultant.
30	Hydraulic optimization: distribution network sectorization, pressure control, of acidity or acidity or acidity or acidity or maceration.	4. Reducción de pérdidas físicas de agua	2. Feasibility	si	Consejo con hidrometro balance	If the physical efficiency is less than 60% and the losses in @gques are less than 1.0%, you should analyze by the consultant.
31	Water infrastructure cadastre and networks	4. Reducción de pérdidas físicas de agua	Sustainability	si	Necesario conocer la composición de las redes, características sanitarias y de calidad de la red.	If the physical efficiency is less than 60% and the losses in @gques are less than 1.0%, you should analyze by the consultant.
32	Installation of macro-meters in catchments	4. Reducción de pérdidas físicas de agua	1. Feasibility	si	Proyecto para estimar el volumen de producción y apegarse a las normas oficiales	If the macro-measured volumes are less than 100%, this action must be performed.
33	Installation of macro-meters at sectors	4. Reducción de pérdidas físicas de agua	2. Feasibility	si	Helps to detect and control losses	If the physical efficiency is less than 60% and the reliability of the sectorization is less than 70%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.
34	System of macro-measurements and meters in the network	4. Reducción de pérdidas físicas de agua	1. Feasibility	si	If the physical efficiency is less than 60% and the reliability of the sectorization is less than 70%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.	If the macro-measured volume is higher than 80%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.
35	Replacement of pipes with high leakage rate	4. Reducción de pérdidas físicas de agua	2. Feasibility	si	Resultado de la inspección de las redes	If the physical efficiency is less than 60% and the reliability of the sectorization is less than 70%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.
36	Training of OO personnel on equipment operation	4. Reducción de pérdidas físicas de agua	2. Sostenibilidad	yes	La capacitación constante mejora la eficiencia operativa,	If the physical efficiency is less than 60% and the reliability of the sectorization is less than 70%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.
37	Geographic Information System	4. Reducción de pérdidas físicas de agua	Sustainability	yes	Contribuye a mejorar la eficiencia operativa,	If the physical efficiency is less than 60% and the reliability of the sectorization is less than 70%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.
38	Establishment of a citizenship committee of the operating agency	5. Sostenibilidad de inversiones	2. Sostenibilidad	no	del organismo, no requiere inversión de parte del organismo.	If the physical efficiency is less than 60% and the reliability of the sectorization is less than 70%, this activity should be performed. If the physical efficiency is less than 60% and the reliability of the sectorization is equal to or greater than 70%, the consultant should analyze.



39	Evelopment of a code of ethics and susription by the OO staff.	5.Gosteniblhdade	ikstenliüdad	'f10	tenga conciencia de las buenas internships in the sector	
40	Sistema informático de contabilidad	5.Gosteniblhdade inversiones	Sustainability	si		
d1	Integrated planning system	5.	2.5 sustainability	si	The long-term vision of the company allows us to focus our efforts in a prioritized and orderly manner.	
	essorship for financing of	5.SostenibLded of investments	2'sustainability	si		If the financing needs are more than 30% of the annual revenues, the following should be done
42	counterpart	5. Sustainability of inversiones				activity. Between 1096 and 309ä is at the discretion of the consultant.



Service Contract No. IA-903017989-E7-2022 ELABORATION OF INTEGRAL DEVELOPMENT PLAN OF OOMSAPA OF LORETO

La Paz, Baja California Sur, August 29th, 2022

MINUTES OF ACTIVITIES

In relation to contract No. IA-903017989-E7-2022, for the ELABORATION OF THE INTEGRAL DEVELOPMENT PLAN OF OOMSAPA DE LORETO, the preliminary document derived from the aforementioned contract was presented for review by both the State Water Commission and the Municipal Water and Sewage System Operator of Loreto, in order to fine tune details for its final delivery, for which a meeting was held at the CEA's facilities. The document was sent digitally to the e-mails of the interested parties.

Participants

Participants from the Organismo Operador Municipal del Sistema de Agua Potable y Alcantarillado de Loreto.

Name	Cargo	Firma
L.C. Martin Guadalupe Leeré Arce	Director of OOMSAPA of Loreto	
Eng. Lesvia Tatiana Davis Monzon	General Director of the State Water Commission	
Diana Isabel Aguilar Gámez	State Water Commission	
Ing. Zulema Guadalupe Lazos Ramirez	Consultant and PDI Coordinator	

annex C. Letter of receipt of the POI to the satisfaction of OO

Annex D. Control Board

The objective of the Dashboard is to take quick knowledge of the current comprehensive situation of **OOMSAPA of Loreto** based on the information gathered and interviews with the Agency's management and area managers, obtaining the Basic Data Sheet, the Additional Data Sheet and the Practices Sheet, integrating this information into the indicators structured by modules and the relevant practices where the areas for improvement of each module were identified and validated with the OO's personnel, in order to identify the Action and Investment Packages with the greatest impact on the financial and operational balance.

The Dashboard is the basis for measuring the progress achieved once the Integrated Development Plan is implemented, so the reference of each of the information sheets is available in the Loreto OOMSAPA Dashboard in Excel file.



Formato 11. ANÁLISIS DEL COSTO DE ENERGÍA ELÉCTRICA

NOMBRE: ORGANISMO OPERADOR MUNICIPAL DEL SISTEMA DE AGUA POTABLE Y ALCANTARILLADO DE LORETO
AÑO: 2022

Número	Nombre de la captación	Capacidad instalada (lps)	Horas de bombeo	Días al mes	Producción mensual (M3)	Lectura actual	Lectura anterior	Consumo (KWh)	Importe de consumo
1	Pozo A Las Parras	26.0	0	0	0	0	0	-	-
2	Pozo B Las Parras	26.0	0	0	0	0	0	-	-
3	Pozo 8 San Juan B	20.0	20	30.4	43,800	0	0	-	-
4	Pozo 7 San Juan B	32.0	20	30.4	70,080	0	0	-	-
5	Pozo 6 San Juan B	50.0	20	30.4	109,500	0	0	-	-
6	Pozo 10 San Juan E	50.0	20	30.4	109,500	0	0	-	825
7	Pozo 2 Ejido Loreto	25.0	15.4	30.4	42,158	12,335	644	12,291.00	35
8	Pozo Ligua - Ensena	7.5	24	30.4	19,710	7,503	0	7,503.00	24
9	Pozo San Javier	10.0	7	30.4	7,685	2,941	0	2,941.00	10
10	Pozo San Cosme	0.0	0	30.4	0			-	-
11	Noria Agua Escond	40.0	6	30.4	26,280			-	-
12	Noria San Nicolas	15	6	30.4	986			-	-
13	Pozo El Peloteado	40.0	6	30.4	26,280			-	-
14	Pozo Tabor El Jun	15.0	24	30.4	39,420	10,258		10,258.00	35
15	Noria Tembabichi	15	6	30.4	986			-	-
16	Manantial Los Dolor	1.0	6	30.4	657			-	-
17	Manantial Agua Verd	18	24	30.4	4,539	12,345		12,345.00	5
18	Noria San Juaniquil	1.0	6	30.4	657			-	-

ORGANISMO OPERADOR MUNICIPAL DEL SISTEMA DE AGUA POTABLE Y ALCANTARILLADO DE LORETO
2022

Número de empleados	Número de empleados sindicalizados	Número de empleados de confianza	Número de empleados que no dependen del OO (outsourcing)
19	10	9	
4	2	2	
10	3	7	
8	6	2	
21	7	14	
72	24	48	0
29	13	16	0

SEPTEMBER 2022



Abstract

Integral Development Plan (PDI) of the Municipal Water, Sewerage, and Sanitation System of Loreto (OOMSAPA de Loreto). November 2022.

The Integral Development Plan (PDI) aims to identify areas of opportunity for the management of OOMSAPA of Loreto to contribute to operational and financial efficiency and solve problems related to the provision of service and the reduction of economic resources for its operation. Its legal basis is compliance with article 115 of the Political Constitution of the United Mexican States, the General Water Law, and public policy instruments such as the National Development Plan 2019-2024, the Environment and Natural Resources Program 2020-2024, and the Program for the Integral Development of Water and Sanitation Operating Agencies (PRODI, for its acronym in Spanish). The PDI was prepared by Zulema Guadalupe Lazos Ramírez of Hidrata BCS, a consulting firm with funds from the State Water Commission (CEA) and the National Water Commission (CONAGUA).

As a result of the analysis of indicators by implementing the methodology of prioritization of actions, the following challenges faced by OOMSAPA of Loreto were identified:

- Reduce the high cost of electricity, which has a direct impact on the total operation cost.
- Decrease the number of personnel since it is above the national standard of between 3 and 4 employees per 1,000 water intakes, with more than 13 employees per unit. This fact increases the annual operating expenditure by 59.17%.
- Expand the installed capacity of effective macro- and micro-metering to reduce physical water losses.
- Reverse the negative numbers in the operation of OOMSAPA of Loreto at the rate of 28 million pesos.
- Global inefficiency due to the above causes limit the agency's financial sustainability and impact the ability to generate resources needed for investment actions to improve and evolve the service and operation.

From the diagnosis of challenges, a Portfolio of Actions and Investment Programs (PAI) is generated to address the problems and identify the need to manage resources from the Program for the Integral Development of Water and Sanitation Operating Agencies (PRODI) for \$ 36.80 million pesos in the following areas:

- \$6.0 million pesos for energy efficiency.
- \$7.78 million pesos to increase personnel productivity.
- \$2.40 million pesos to improve commercial management.
- \$19.62 million pesos for the reduction of physical water losses; and
- \$1.00 million pesos for sustainability actions.

In conclusion, OOMSAPA of Loreto is limited in accessing its investment needs. Its capacity will be limited to a greater extent in 2023 because FONATUR will stop subsidizing 10 million pesos in the payment of electric energy derived from the pumping of water from the San Juan B. Londó wells. The negative numbers, at the rate of 28.07 million pesos, show that it is not in a position to have resources and cover the counterpart to access PRODI without being able to finance investments in replacement and expansion. To meet these challenges, it must rely on the following:

- Increased revenue from the collection of water rights payments or fiscal resources.

- Take advantage of the benefits of carrying out actions to improve efficiency (many of which are low-cost).
 - Updating the Water User Register and extending the micro-metering coverage, which will improve revenues and allow for a better tariff study.
 - Reduce operating costs, leaving a greater margin of resources to allocate them to other investments with the potential for savings in less than a year.
 - Improve collection through schemes that facilitate payment, modifications to the tariff structure, and the signing of agreements with banks and other institutions to expand payment options for water and sanitation services.
-

SUMMARY PORTFOLIO OF ACTIONS AND INVESTMENT PROGRAMS (PAI)

Reduction of operating costs

1. Replacement of potable water pumping equipment to reduce energy consumption.
2. Replacement or construction of water storage tanks to modify pumping equipment operating policies.
3. Automation of pumping equipment to change operating procedures.
4. Replacement of sump pumps in sewer systems.
5. Reduction of energy costs at the wastewater treatment plant.
6. Preparation of energy audit.

Staff efficiency

1. Training and professionalization programs to increase personnel productivity.
2. Revision of the manual of functions and positions of the Agency's personnel.
3. Establishment of a voluntary retirement program following the applicable law.

Increase in revenues from the commercial management

1. Adjustment of fixed fee consumption.
2. Correction of micro-metering errors by replacing meters.
3. Training courses for human resources on commercial efficiency.
4. Training courses for human resources in customer service.
5. The signing of agreements with banks and other institutions to expand the payment options for water and sanitation services.
6. Improvements in the collection through schemes that facilitate payment.
7. Locating and regulating clandestine connections.
8. Census of users to improve the register. Establishment of schemes to update the record.
9. A computing system for the registration of users.
10. Modifications to the fee structure.
11. Reforms to ensure that tariffs are updated continuously.
12. Reduction of physical losses.
13. Location and repair of leaks and tanks.
14. Location and repair of leaks in primary and secondary pipelines.
15. Installation of micro-meters in the intakes.
16. Systematization of micro-meter readings at intakes and incorporation of readings into the billing and collection system.

17. Hydraulic optimization: sectorize the distribution network, pressure control, and storage capacity optimization.
18. Cadastre of hydraulic infrastructure and networks.
19. Installation of macro meters in catchments.
20. Installation of macro meters in sectors.
21. Systematization of reading of macro meters in catchments and sectors through telemetry.
22. Replacement of pipes with a high incidence of leaks.
23. Training of the Agency's personnel in equipment operation.
24. Geographic information system.

Access to financing

1. Integral planning system
2. Advisory services for counterpart financing.

SUMMARY OF SERVICE CONTROL INDICATORS USED IN THE PDI

- A) **Coverage** (drinking water, sewerage, drinking water treatment, overall efficiency, installed capacity for sewage treatment, and compliance with bacteriological quality of drinking water).
- B) **Energy Efficiency** (Incidence, unit cost, energy cost per cubic meter, percentage of consumption, load factor, and power).
- C) **Administration and personnel management** (labor index, average monthly salary per employee, average collection, operational personnel, operational personnel remuneration expenses, administrative council data, among others).
- D) **Commercial Management** (commercial efficiency, installed micro-metering, micro-metered volume, micro-metering with reading, collection per water intake, invoiced tariffs for domestic, industrial, and commercial use, tariffs charged, annual invoice for a fixed fee, age of meters).
- E) **Physical efficiency** (length of the network, physical losses in tanks, undetectable physical losses in the network and intakes, ratio of treated wastewater, macro-measured volume, average time of service, consumption per inhabitant, and percentage of unaccounted-for water).
- F) **Financial indicators** (operating margin costs, income, unit operating cost per cubic meter produced and billed, the average monthly cost per tap, liquidity, acid test, working capital, debt ratio, profitability, productivity, infrastructure per user, operating ratio).

Link to the full report of the PDI:

https://drive.google.com/file/d/1sCKoH5xMRC-7oM7of5_CrzHAKPgq7XzJ/view?usp=share_link

SECOND SECTION
EXECUTIVE BRANCH
SECRETARY OF ENVIRONMENT AND NATURAL RESOURCES

AGREEMENT by which the summary of the Management Program of the Bahía de Loreto National Park is made public.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Secretaría de Medio Ambiente y Recursos Naturales.

JOSEFA GONZÁLEZ BLANCO ORTÍZ MENA, Secretary of the Environment and Natural Resources, based on the provisions of Articles 32 bis section VII of the Organic Law of the Federal Public Administration; 66, last paragraph, of the General Law of Ecological Balance and Environmental Protection; 76, 77 and 79 of its Regulations on Natural Protected Areas and 5th, section XXV, of the Internal Regulations of the Secretariat of the Environment and Natural Resources, and

WHEREAS

That by means of "Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, with a total area of 206,580-75-00 hectares, as a National Marine Park", published in the Official Gazette of the Federation on July 19, 1996, the then Bahía de Loreto National Marine Park was established, which was recategorized as a National Park in the "Agreement that aims to provide a category in accordance with current legislation to the areas that were the subject of various declarations of protected natural areas issued by the Federal Executive", published in the Official Gazette of the Federation on June 7, 2000.

That on November 11, 2002, the "Notice by means of which the general public is informed about the conclusion of the Management Program of the Natural Protected Area with the character of Loreto Bay National Park, located in front of the coasts of the Municipality of Loreto, Baja California Sur" was published in the Official Gazette of the Federation. The text of the Summary of the referred Management Program was modified through the "Notice by means of which the general public is informed of the modified text of the annex published on November 11, 2002, corresponding to the summary of the Management Program of the Natural Protected Area with the character of Loreto Bay National Park", published in the Official Gazette of the Federation on January 6, 2003.

Since the Management Program is the guiding instrument for planning and regulation, based on knowledge of the area's problems, its natural resources, and their use, it must be updated and adapted to the current conditions of the National Park, based on the application of the best management and conservation policies that guarantee its effectiveness, in order to fully comply with the objectives of the establishment of Loreto Bay National Park.

Article 77 of the Regulations of the General Law of Ecological Balance and Environmental Protection for Natural Protected Areas states that "The management program will be reviewed at least every five years to evaluate its effectiveness and propose possible modifications." Therefore, after reviewing the management program, the National Commission of Natural Protected Areas determined that it is technically necessary to modify the Management Program for the Bahía de Loreto National Park.

That the modifications that are the subject of this instrument updated and, if necessary, incorporated the information related to the specific objectives of said instrument; the diagnosis and problems, the short, medium and long term strategic planning lines in some of the subprograms and components that needed to be updated; a specific component of adaptation and mitigation to climate change within the Protection Subprogram.

Considering that the subzoning is a technical and dynamic instrument, the corresponding section was updated, as well as the administrative rules, which were modified in response to changes in the applicable legal framework, since the publication of the last modification of the management program to the date on which the National Commission of Natural Protected Areas concluded the corresponding review and update procedure, to better regulate the permitted uses and exploitation that are developed within the Bahía de Loreto National Park, without affecting the categories of protection and management of the natural protected area.

For a better understanding of the content of the management program for Loreto Bay National Park, it is necessary to publish the entire modified version of the corresponding summary and not only the sections described in the preceding paragraph.

Consequently, the National Commission of Natural Protected Areas, in terms of the provisions of Articles 76 and 77 of the Regulations of the General Law of Ecological Balance and Environmental Protection on Natural Protected Areas, has concluded the review and modification process of the Management Program of the Loreto Bay National Park, located off the coast of the Municipality of Loreto, Baja California Sur, created by Presidential Decree published in the Official Gazette of the Federation on July 19, 1996.

Article 79 of the Regulations of the General Law of Ecological Equilibrium and Environmental Protection in Natural Protected Areas provides that the modifications to the management program that may be necessary shall follow the same procedure established for its preparation and a summary thereof shall be published in the Official Gazette of the Federation, therefore, I have had the pleasure to issue the following:

**AGREEMENT DISCLOSING THE SUMMARY OF THE MANAGEMENT PROGRAM FOR THE BAHIA
DE LORETO NATIONAL PARK**

ARTICLE ONE. The Summary of the Management Program of the natural protected area, with the character of Loreto Bay National Park, located in front of the coasts of the Municipality of Loreto, Baja California Sur, whose Summary is annexed to the present for its legal effects.

The Summary of the modifications to the Management Program is available for consultation at the offices of the National Commission of Natural Protected Areas, located at Ejército Nacional 223, colonia Anáhuac I sección, Alcaldía Miguel Hidalgo, postal code 11320, in Mexico City, at the offices of the Regional Directorate of the Baja California Peninsula and North Pacific, located at Avenida Constituyentes without number, corner with Ballenas, Fraccionamiento Fidepaz, postal code 23094, La Paz, Baja California Sur, located at Avenida Constituyentes sin número esquina con Ballenas, Fraccionamiento Fidepaz, zip code 23094, La Paz, Baja California Sur, and at the offices of the Federal Delegation of the Secretariat in the State of Baja California Sur, located at Melchor Ocampo number 1045, colonia Centro, zip code 23000, La Paz, Baja California Sur.

TRANSITIONS

FIRST. This Agreement and its Annex shall enter into force on the day following its publication in the Official Gazette of the Federation.

SECOND. The notice by means of which the modified text of the annex published on November 11, 2002, corresponding to the summary of the management program of the Natural Protected Area with the character of Loreto Bay National Park, published in the Official Gazette of the Federation on January 6, 2003, is abrogated.

THIRD. In order to comply with the provisions of Articles 68, last paragraph, and 78 of the General Law of Regulatory Improvement, the Secretariat of the Environment and Natural Resources shall modify, abrogate or repeal the regulatory obligations or acts specified in the corresponding Regulatory Impact Analysis; consisting of the deregulation, simplification and digitalization actions applicable to this Agreement, with respect to the procedure "CONAGUA-01-021, Extension of concession titles, assignment and/or discharge permits", referred to in the "Agreement establishing the procedures that will be presented, attended and resolved through the Conagua@-Digital System, the electronic notification in the Water Mailbox, the non-requirement of requirements or the way in which they will be considered as fulfilled and the general public is informed of the days that will be considered as non-working days for the purposes of the proceedings substantiated by the National Water Commission" published in the Official Gazette of the Federation on October 1, 2018.

Given in Mexico City, on the sixteenth day of April of the year two thousand nineteen, the Secretary of the Environment and Natural Resources, **Josefa González Blanco Ortíz Mena**.

SUMMARY OF THE BAHÍA DE LORETO NATIONAL PARK MANAGEMENT PROGRAM**INTRODUCTION**

Bahía de Loreto National Park has a great variety of coastal-marine environments with rocky and sandy bottoms, beaches, canyons, submarine canyons, and marine terraces. Its geographic location has favored the establishment of a variety of habitats with high biological diversity. It includes a general polygon that delimits a marine area and five islands. The insular environment is also characterized by its endemic species of plants, reptiles, insects and mammals.

By means of a "Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, with a total area of 206,580-75-00 hectares, as a National Marine Park", published in the Official Gazette of the Federation on July 19, 1996, the then Loreto Bay National Marine Park was established, because it represents a particular type of habitat, where ecological processes, biological communities and particular physiographic characteristics concur; This gives it national relevance, as well as the importance of the islands found in Loreto Bay, which have numerous endemic species, which are of great value for the conservation of the balance of ecosystems, as well as a fauna rich in mammals, reptiles, amphibians and insects that have marked endemism, and includes five islands: Isla Coronados, Isla Carmen, Isla Danzante, Isla Montserrat, Isla Catalana or Santa Catalina, as well as numerous islets.

With the "Agreement that aims to provide a category in accordance with current legislation to the areas that were the subject of various declarations of protected natural areas issued by the Federal Executive", published in the Official Gazette of the Federation on June 7, 2000, the Natural Protected Area was recategorized as "Bahía de Loreto" National Park.

On November 11, 2002, a notice was published in the Official Gazette of the Federation informing the general public of the conclusion of the Management Program for the Natural Protected Area of the Bahía de Loreto National Park, located off the coast of the Municipality of Loreto, Baja California Sur.

Subsequently, on January 6, 2003, a notice was published in the Official Gazette of the Federation announcing to the general public the modified text of the annex published on November 11, 2002, corresponding to the summary of the Management Program of the Natural Protected Area as Bahía de Loreto National Park, in order to integrate clarifications and adjustments to the text of the annex published in the Official Gazette of the Federation on November 11, 2002, replacing said annex and leaving it without effect.

Since the implementation of the Bahía de Loreto National Park Management Program, the National Commission of Natural Protected Areas has carried out various actions to protect, conserve and preserve the natural resources in the Natural Protected Area, through inspection and surveillance. We worked in coordination with authorities from the Federal Attorney's Office for Environmental Protection and the National Commission of Fishing and Aquaculture, with whom we carried out land and marine inspections throughout the entire polygon of the Loreto Bay National Park, in the areas of commercial, recreational-sport and aquaculture fishing, as well as the surveillance of all tourist activities. However, it is necessary to reinforce the Management Program by integrating new strategies to prevent the extraction of the different species present in the Natural Protected Area, especially the species included in Mexican Official Standard NOM-059-SEMARNAT-2010, Environmental Protection-Mexican Native Species of Wild Flora and Fauna-Risk Categories and Specifications for their inclusion, exclusion, or change-List of Species at Risk, such as the extraction of sea cucumbers, a species considered in the special protection category.

Similarly, the National Commission of Natural Protected Areas has carried out a permanent evaluation of the conservation policies of the National Park in accordance with the objectives and technical foundations that gave rise to it, and as a result, the integral revision of the Management Program and, after applying the corresponding procedure, it was detected that several of the committed actions were fulfilled, such is the case of the activities related to fishing. However, new needs of the National Park were detected, such as strengthening the subzoning, ordering productive activities in the area in order to keep the activities carried out there orderly and prevent them from generating negative impacts on the ecosystems.

Likewise, an analysis of the other components that make up the Program led to the conclusion that it is necessary to update the document so that it responds to the current needs of protection, conservation and restoration of the Natural Protected Area within the framework of the changes in the legislation applicable to these resources since the last update of the Management Program and until the conclusion of the review procedure. The purpose of this is to have an updated planning and regulation instrument that provides the authorities with the elements to act with concrete actions, since some of the components, subcomponents, and actions were no longer sufficient to achieve the National Park's protection objectives.

While it is true that the 2003 Management Program has "management zones" that at the time were useful to assist with the conservation and management of Loreto Bay National Park, it should be adjusted considering the reforms to the General Law of Ecological Balance and Environmental Protection, in terms of zoning and subzoning of protected natural areas, published in the Official Gazette of the Federation on February 23, 2005 and May 24, 2013; as well as to clarify the content of said section in order to make it operationally more efficient and provide legal certainty to users.

By virtue of the foregoing, with the opinion of its Advisory Council, in accordance with the provisions of Articles 65 of the General Law of Ecological Balance and Environmental Protection and 77, 78 and 79 of its Regulations on Natural Protected Areas and derived from the aforementioned review, It was determined that based on the information generated in recent years, it was necessary to rethink the conservation actions of the Natural Protected Area, in order to respond to the conservation needs of the area, by modifying the subzoning of the National Park, and in such a way that it would be more understandable to users.

The Management Program is the guiding instrument for planning and regulation, based on knowledge of the area's problems, its natural resources, and their use, and should be adapted to the current conditions of the National Park in the short, medium, and long term. Adaptation must be based on the application of the best management and conservation policies that guarantee its effectiveness in order to fully comply with the objectives of the Natural Protected Area's establishment.

OBJECTIVES OF THE MANAGEMENT PROGRAM

General Objective

Constitute the guiding instrument for planning and regulation that establishes the activities, actions and basic guidelines for the management and administration of Loreto Bay National Park.

Specific Objectives

Protection: To favor the permanence and conservation of the biological diversity of the National Park, through the establishment and promotion of a set of policies and measures to improve the environment and control the deterioration of the ecosystems.

Management: Establish policies, strategies and programs, in order to determine activities and actions aimed at fulfilling the objectives of conservation, protection, restoration, training and education of the National Park, through sustainable projects.

Restoration: To recover and reestablish the ecological conditions prior to the modifications caused by human activities or natural phenomena, allowing the continuity of natural processes in the National Park's ecosystems.

Knowledge: Generate, rescue and disseminate knowledge, practices and technologies, traditional or new, that allow the preservation, decision making and sustainable use of the biodiversity of Loreto Bay National Park.

Culture: Disseminate conservation actions of the Loreto Bay National Park, encouraging the active participation of the surrounding communities that generate the valuation of environmental services, through identity, dissemination and education for the conservation of the biodiversity it contains.

Management: Establish the ways in which the administration of the National Park will be organized and the mechanisms for the participation of the three levels of government, the individuals and communities surrounding the park, as well as all those individuals, institutions, groups, and social organizations interested in its conservation and sustainable use.

Subzones and Management

Policies Subzoning

In accordance with the provisions of section XXXIX of Article 3 of the General Law of Ecological Equilibrium and Environmental Protection, zoning is the technical planning instrument that can be used in the establishment of natural protected areas, which allows for ordering their territory according to the degree of conservation and representativeness of their ecosystems, the natural vocation of the land, and their current and potential use, in accordance with the objectives set forth in the same declaration. Likewise, subzoning is a technical and dynamic planning instrument that will be established in the management program and is used in the management of natural protected areas in order to organize in detail the core and buffer zones previously established in the corresponding declaration.

Sub-zoning criteria

Although Bahía de Loreto National Park foresaw a subzoning established in 2003, as a result of the revision of the Management Program, it was considered appropriate to modify it so that it responds to the current management needs of the Natural Protected Area. Thus, for the establishment of the subzoning of the present instrument, the category of the Natural Protected Area was taken into consideration in the first place, as well as that established in the Decree by which the zone known as Bahía de Loreto, located in front of the coasts of the Municipality of Loreto, State of Baja California Sur, with a total surface of 206,580-75-00 hectares, and secondly, the provisions of article 47 BIS 1 of the General Law of Ecological Balance and Environmental Protection were considered, which establishes that in the case that the corresponding declaration only foresees a general polygon, this may be subdivided by one or more subzones foreseen for the buffer zones, according to the corresponding management category, such is the case of the Bahía de Loreto National Park.

The following criteria were used to establish the subzoning of the National Park:

Ecological: The different ecosystems present in the National Park were considered, with emphasis on the degree of conservation, the presence of endemic species and the aggregation areas occupied by species for reproduction, feeding and/or nesting.

Use: Respond to the use needs of the different sectors of the population that develop activities within the National Park, such as fishermen (commercial and sport fishing), service providers, tourists, local visitors, and researchers.

Methodology

In order to define more precisely the management criteria for Bahía de Loreto National Park, a detailed subzoning of the areas that require specific management was developed using the opinions and proposals of the Natural Protected Area's users regarding land uses and knowledge of the main elements of protection, conservation, and sustainable use.

The available cartography was used, subjecting it to the treatment allowed by the conventional geographic information systems package and satellite georeferencing processes.

Using panchromatic satellite images and a mosaic of aerial photographs, the main physical and biological characteristics of the national park were identified and verified in the field. Subsequently, the areas that require greater protection attention were identified.

Subzones and management policies

Considering the above criteria, three subzones are proposed for the territorial delimitation of the activities carried out in Loreto Bay National Park:

- I. **Los Islotes and Catalana Island Terrestrial Preservation Subzone (PreTI).** It is made up of 10 polygons with a total area of 3,957.60 hectares.
- II. **Marine and Wetlands Preservation Subzone (PreMH).** It is made up of 15 polygons with a total area of 6,219.30 hectares.
- III. **Traditional Land Use Subzone (UTT).** It is made up of 4 polygons with a total area of 17,307.20 hectares.
- IV. **Subzone of Traditional Marine Use I (UTM-I).** It is composed of 16 polygons with a total area of 9,702.48 hectares.
- V. **Subzone of Traditional Marine Use II (UTM-II).** It is composed of 2 polygons with a total area of 7,803.24 hectares.

- VI. Subzone of Traditional Marine Use III (UTM-III).** It is integrated by 1 polygon with a total area of 2,208.14 hectares.
- VII. Subzone of Sustainable Use of Marine Natural Resources (ASRNM).** It is made up of 2 polygons with a total area of 159,382.79 hectares.

Preservation Subzones

These areas are located in areas of the National Park that have suffered no or minimal habitat alteration and ecological values such as: high biodiversity, presence of endemic species, significant contribution to other ecosystems due to their high productivity or because they are areas of relevance as a genetic reservoir and propagule contribution (larval stage, fry, juveniles and nesting areas). They are intended to maintain the conditions of the representative ecosystems of the National Park in their natural state, as well as the continuity of their ecological processes and the germplasm contained in them.

Terrestrial Preservation Subzone, Los Islotes and Catalana Island (PreTI)

This subzone covers a total area of 3,957.60 hectares, and includes 10 polygons named as follows: La Islita, La Mestiza, Islote Blanco, Las Islitas, Islote Candeleros, Islote Las Tijeras, Islote Pardo, Las Galeras I, Las Galeras II, Isla Catalana or Santa Catalina, which due to their small size are areas very vulnerable to human disturbance and some of them have aggregation zones of California sea lion (*Zalophus californianus*), which uses these areas as resting and breeding sites, and is a species in the category of Special Protection according to the Mexican Official Norm NOM-059- SEMARNAT-2010.

Polygon 1 La Islita (Coronados Island). It covers an area of 2.95 hectares, located in the northwestern end of the National Park, and is an area with sparse vegetation, mainly low scrub and cactus. This site is very important because it is a nesting area for the yellow-legged gull (*Larus livens*), which appears in the Mexican Official Standard NOM-059-SEMARNAT-2010, Environmental Protection-Mexican native species of wild flora and fauna-Categories of risk and specifications for their inclusion, exclusion or change-List of species at risk, under special protection status. They make nests on the sand or rocks, it is an area of high vulnerability and easy to disturb. The surrounding sea surface is made up of rocky bottoms, so it is not considered appropriate for tourism, as it has a gentle slope, besides being between two channels that generate strong currents.

Polygon 2 La Mestiza. It covers an area of 1.40 hectares and corresponds to a site where an islet emerges and forms a cliff where birds such as brown pelicans, brown pelicans, and gray pelicans (*Pelecanus occidentalis californicus*) with threatened status, according to the Mexican Official Standard NOM-059-SEMARNAT-2010, rest on top of this rock. In the lower part there is a rocky beach known as a nesting area for the American oystercatcher (*Haematopus palliatus*) and the yellow-legged gull (*Larus livens*), the latter species subject to special protection according to the aforementioned Mexican Official Norm. Unlike other islets, the upper part of this subzone has sparse sarcocaulescent scrub vegetation and some specimens of choya (*Opuntia cholla*) and cardón (*Stenocereus gummosus*), among other xerophilous species. The beach located to the southeast of this subzone allows birds to nest, so it is considered highly vulnerable and because of its physiographic characteristics it is not suitable for tourism activities.

Polygon 3 Islote Blanco. It covers an area of 0.77 hectares, made up of rock and stone beaches, although the slope of the beach is gentle, it becomes a deep area a few meters from the beach. This polygon is exposed to winds and tides, so it is not considered a tourist site, it is also a site of high vulnerability for bird species such as the oystercatcher (*Haematopus palliatus*), earwigs (*Fregata magnificens*) and the yellow-legged gull (*Larus livens*), the latter species subject to special protection according to the Mexican Official Standard NOM-059-SEMARNAT-2010.

Polygon 4 Las Islitas. It covers an area of 2.39 hectares and consists of small islands of emergent rock, where vegetation is sparse, allowing the establishment of nesting birds such as the yellow-legged gull (*Larus livens*) species subject to special protection according to the Mexican Official Standard NOM-059-SEMARNAT-2010, and in its upper part nesting bird species such as osprey or osprey hawk (*Pandion haliaetus*). The rocky characteristics of this site make it difficult to access for tourists, and it is also a vulnerable area for nesting birds.

Polygon 5 Candeleros Islet. It covers an area of 0.67 hectares and is a site made up of a rocky outcrop to which there is no access because it lacks a beach. However, it is a nesting or resting site for birds, including the osprey or osprey hawk (*Pandion haliaetus*), which nests on elevated surfaces.

Polygon 6 Las Tijeras Islet. It covers an area of 2.59 hectares and is a site where the oystercatcher (*Haematopus palliatus*) has been recorded nesting on the portion of the beach that is short in width; it is also considered a resting place for earwig birds (*Fregata magnificens*). This polygon is difficult to access and because of its geomorphological characteristics, it is not suitable for tourism activities.

Polygon 7 Brown Islet. It covers an area of 2.87 hectares, it is a rock that emerges from the sea, which has no access for tourism activities, and is considered a nesting site of the oystercatcher (*Haematopus palliatus*) and the yellow-legged gull (*Larus livens*) species subject to special protection according to the Mexican Official Standard NOM-059-SEMARNAT-2010.

Polygon 8 Las Galeras I. It covers an area of 2.20 hectares, is an area composed of an emerged rock which forms cliffs and around it has large detached rocks in which there is a large number of nesting birds, among them are the yellow-legged gull (*Larus livens*) species subject to special protection according to the Mexican Official Standard NOM-059-SEMARNAT-2010. The surrounding area is a resting area for the California sea lion (*Zalophus californianus*), a species under special protection according to the aforementioned Official Mexican Standard. Likewise, this polygon is not considered a suitable site for tourism activities because of the difficult access and the high vulnerability of the bird species that nest there.

Polygon 9 Las Galeras II. This islet covers an area of 3.36 hectares, where there are a large number of nesting birds, including the yellow-legged gull (*Larus livens*) under special protection and the brown pelican (*Pelecanus occidentalis californicus*), a species in the endangered category according to Mexican Official Norm NOM-059-SEMARNAT-2010. The surrounding area is a resting area for the California sea lion (*Zalophus californianus*), which is under special protection according to the same Official Mexican Standard. Also, this polygon is not considered a site for tourism activities because of the difficult access and the high vulnerability of the bird species that nest there.

Polygon 10 Catalana or Santa Catalina Island, which covers an area of 3,938.40 hectares, located southeast of the city of Loreto. On this island there is a great diversity of flora and fauna species, characterized by giant biznagas (*Ferocactus digueti* var. *digueti*), the tallest in the Gulf of California, present on the islands. Its oceanic characteristics make it different in vegetation and fauna from the rest of the other four islands within the National Park, and it is one of the islands with the greatest endemism and biodiversity. Likewise, the beaches found on this island are short and steeply sloping, and are characterized by little sand and rocks in most of its formation of granitic basements, characterized by plutonic type rocks.

From the above, it is clear that this subzone contains nests, breeding and feeding sites of endemic species and species at risk according to the Mexican Official Standard NOM-059-SEMARNAT-2010, as well as several species of high scientific interest, so it is considered that the activities that can be carried out will be those that allow specific management, to achieve their proper preservation, which will benefit the ecosystems present in Loreto Bay National Park.

This polygon, corresponding to one of the islands farthest from the coast, is used by fishermen of the region to clean the product caught, saturating the sand of the beaches of the island of organic waste, known as "sanguaza", it should be noted that in some areas of the islands and islets, it is a common practice that fishermen arrive to the beaches to clean the marine products, however given the impacts generated by this activity such as: generation of solid waste, accumulation of organic matter, trophic modifications and bonfires, it has caused birds and sea turtles to no longer use these beaches for nesting, as had been recorded for previous years, so these activities should be restricted. However, given that the characteristics of these islets and islands have beaches that allow, in most cases, shelter from bad weather such as strong winds and tides, which can cause boats to capsize, disembarkation will be allowed only in the situations described above.

Some beaches are located in this subzone, which contain biogenic elements such as corals, bivalves and rhodoliths, as well as stone resources. These are attributes that support ecological processes such as reproduction, feeding and habitat for various bird species.

Although it is true that Article 47 BIS 1, fourth paragraph, of the General Law of Ecological Balance and Environmental Protection provides that subzones for public use and recovery may be established in national parks, it is also true that the characteristics that the Law itself attributes to this type of subzone do not fully contemplate the conservation objectives established in the declaration of the National Park, particularly with regard to the characteristics of the area described in the previous paragraph.

Therefore, the Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, considers that it is appropriate to use the alternative scheme provided for in the Third Transitory Article of the Decree reforming Articles 28 and 48, and adding a section XXXVII to Article 3, on the one hand, and Articles 47 BIS and 47 BIS 1, on the other hand, in order to make compatible the provisions of the General Law of Ecological Balance and Environmental Protection, published in the Official Gazette of the Federation on February 23, 2005. and articles 47 BIS and 47 BIS 1 of the General Law of Ecological Balance and Environmental Protection, published in the Official Gazette of the Federation on February 23, 2005, in order to make the conservation objectives of Loreto Bay National Park compatible with the activities that have been developed in the area, which correspond to those regulated under the preservation subzone regime of the General Law of Ecological Balance and Environmental Protection.

Due to the characteristics described above, the reasons mentioned in the preceding paragraphs and in accordance with the provisions of Article 47 BIS, section II, paragraph a) of the General Law of Ecological Balance and Environmental Protection, which states that Preservation subzones are those areas in a good state of conservation that contain relevant or fragile ecosystems, or relevant natural phenomena, in which the development of activities requires specific management, in order to achieve their adequate preservation; and where only scientific research and environmental monitoring, environmental education activities and productive activities of low environmental impact that do not imply substantial modifications of the original natural characteristics or conditions, promoted by the local communities or with their participation, and that are subject to constant supervision of the possible negative impacts they may cause, in accordance with the provisions of the applicable legal and regulatory ordinances, will be allowed, in correlation with the Third, Fourth, Fifth, Sixth and Seventh Articles of the Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, as a National Marine Park, published in the Official Gazette of the Federation on July 19, 1996, as a natural protected area, the following activities are determined as permitted and not permitted in this Subzone of Terrestrial Preservation Los Islotes and Catalana Island:

Los Islotes and Catalana Island Terrestrial Preservation Subzone (Pre-TIP)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Collection collection from resources biological forest resources 2. Scientific collection of wildlife specimens 3. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 4. Scientific research and environmental monitoring <p>Signage for management purposes and delimitation of the National Park.</p>	<ol style="list-style-type: none"> 1. Altering or destroying by any means or action the feeding, nesting, shelter or reproduction sites of wild species 2. Opening of new trails 3. Extractive use of wildlife, except for scientific collection. 4. Construction of public and private works 5. Landing, except for scientific research and National Park management activities; and for fishermen's refuge, exclusively on Catalana or Santa Catalina Island. 6. Extraction of biogenic elements, such as corals, bivalves and rhodoliths, as well as stone resources. 7. Installation of camps and fishing camps 8. Introduce exotic species, including invasive species. Cleaning, processing or disposing of products from fishing activities. 10. Modify the coastline 11. Attaching boats to the rocks or cliffs of the islets as a method of anchoring. 12. Motor vehicle traffic 13. Tourism 14. Use lamps or any other light source to exploit or observe wildlife specimens, except for scientific collection, scientific research and environmental monitoring. 15. Dumping or discharge of pollutants, as well as any other polluting activity. 16. Making bonfires

Marine and Wetlands Preservation Subzone (PreMH)

This subzone covers an area of 6,219.30 hectares, is formed by 15 polygons, and includes different marine ecosystems such as rocky reefs and wetlands (estuaries and mangroves). These environments are important because they constitute areas of species aggregation (of commercial and ecological importance), reproduction, reservoir, breeding and genetic dispersion zones, that is to say, they are sites where there are ideal environments for species to multiply, lodge, ensure the exchange of genes and genetic flows between species for their improvement as well as their dispersion and colonization of new sites, so that once they reach maturity they can move to other areas where they are exploited, in addition to providing nutrients to other ecosystems. The protection measures in this subzone seek to ensure the continuity of ecological and biological processes that generate or facilitate the recovery of commercially and ecologically important species. The polygons that comprise this subzone are:

Polygon 1 Manglares de los Metates (Isla Coronados). It covers an area of 2.94 hectares and is located to the west of Coronados Island. The dominant vegetation is mangrove with black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and red mangrove (*Rhizophora mangle*), threatened species according to the Mexican Official Norm NOM-059-SEMARNAT-2010, as well as sweet mangrove (*Maythenus phyllanthoides*). This ecosystem is ecologically important because it is a nursery habitat for numerous species of commercial interest, such as yellowtail snapper (*Lutjanus argentiventris*) and red snapper (*Lutjanus novemfasciatus*), as well as a resting area for herons, shorebirds, and numerous species of migratory birds that stop to feed in the surrounding area. In this polygon, fishermen from the region usually clean the product they catch, leaving organic waste, known as "sanguaza", on the island's beaches.

Polygon 2 Punta El Bajo (Isla Coronados), covers an area of 14.06 hectares and is located in the extreme southwest of Coronados Island, it contains mangrove patches with the species black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), red mangrove (*Rhizophora mangle*), threatened species according to the Mexican Official Norm NOM-059-SEMARNAT-2010, as well as sweet mangrove (*Maythenus phyllanthoides*). The area is ecologically important because it is a breeding habitat for numerous species of commercial interest, such as yellowtail snapper (*Lutjanus argentiventris*) and red snapper (*Lutjanus novemfasciatus*), as well as a resting area for herons, shorebirds, and numerous species of migratory birds that stop to feed in the surrounding area. This polygon also includes the beach known as Bahía Onda.

Polygon 3 Estero las Garzas, covers an area of 10.30 hectares located in the peninsular zone, south of the population center of the city of Loreto, in the southwestern portion of the Natural Protected Area and adjacent to the town of Colonia Zaragoza. This polygon corresponds to one of the pluvial tributaries that flows into the Natural Protected Area, and includes relicts of what was once the wetland where the Loreto mission was founded, which receives one of the most important freshwater flows in the region during the rainy season. It is an important habitat for migratory species such as the American wigeon (*Anas americana*) and the reddish egret (*Egretta rufescens*), the latter species is under special protection according to Mexican Official Norm NOM-059-SEMARNAT-2010. It is also a culturally important site for developing environmental education activities with members of the Loreto community.

Polygon 4 Estero Nopoló-Los Nidos, covers an area of 460.20 hectares, located in the peninsular coastal zone, in the western portion of the Natural Protected Area, to the south of the city of Loreto and adjacent to the Nopoló tourist complex. It includes a set of intertidal and subtidal coastal ecosystems of great ecological and economic importance, and a small estuary with the three species of mangrove that characterize the small wetlands of Loreto: black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and red mangrove (*Rhizophora mangle*), all threatened species according to the Mexican Official Norm NOM-059-SEMARNAT-2010. This polygon also has subtidal rock formations typical of Loreto's reef community, which despite having been exploited over time, have a great capacity for recovery, given the complexity of the structure of their habitat.

Polygon 5 Estero Puerto Escondido - Barco Hundido, covers an area of 613.20 hectares, located to the west of the National Park's polygon, approximately 17 km south of the city of Loreto. It represents one of the largest and best preserved estuaries in Loreto Bay National Park. Because of its size, this polygon plays a very important role as a nursery habitat for numerous marine species. This estuary is home to the three mangrove species that characterize Loreto's small wetlands: black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and red mangrove (*Rhizophora mangle*), all of which are threatened species according to Mexican Official Norm NOM-059- SEMARNAT-2010. It is also habitat for numerous species of fish and invertebrates of commercial interest in their juvenile and larval stages, which take refuge in the rhodoliths, sargassum, and mangroves. It should be noted that this polygon includes an artificial reef, formed by a navy ship that was sunk at the beginning of the century.

Polygon 6 Ligüi Mangroves. This polygon covers an area of 6.56 hectares and is located at the southern end of the coastal portion of the National Park. The main vegetation in this polygon is red mangrove (*Rhizophora mangle*) and black mangrove (*Avicennia germinans*), threatened species according to the Mexican Official Norm NOM-059-SEMARNAT-2010 and of relevant ecological importance because it is a breeding habitat for numerous species of commercial interest such as yellowtail snapper (*Lutjanus argentiventris*) and red snapper (*Lutjanus novemfasciatus*). It is also a resting area for herons, shorebirds, and numerous species of migratory birds such as the black-necked grebe (*Podiceps nigricollis*) and western sandpiper (*Calidris mauri*) that stop to feed in the area.

Polygon 7 Punta Lobos (Carmen Island), covers an area of 102.40 hectares, and is located in the northeastern end of Carmen Island, and includes one of the most exploited sites of garropa (*Mycteroperca jordani*), a species whose reproductive populations are located in the rocks at depths greater than 30 meters, which have the potential to recover this species in the surrounding area. Likewise, this polygon includes an exceptionally rich site in relation to reef fish, and is also one of the most important colonies of the California sea lion (*Zalophus californianus*), a species subject to special protection according to the Mexican Official Norm NOM-059- SEMARNAT-2010.

Polygon 8 Piedra de La Choya, covers an area of 121.99 hectares, and is located on the northeastern tip of Isla del Carmen, includes one of the most productive underwater formations of Loreto Bay National Park, comprised by a reef that runs from north to south, along more than two kilometers, has steep formations of high relief. It is a site of great importance for species considered vulnerable by the International Union for Conservation of Nature, such as the garropa (*Mycteroperca jordani*), the cabrilla pinta (*Mycteroperca prionura*), and the cabrilla sardinera (*Mycteroperca rosacea*). It is also an area of great importance for species of ornamental interest listed as species subject to special protection in the Mexican Official Norm NOM-059-SEMARNAT-2010, such as the king angel (*Holocanthus passer*), the blue and yellow damselfish, and the Mexican castanet (*Chromis limbaughi*). This polygon includes the islet known as La Choya.

Polygon 9 Estero de Bahía Balandra, covers an area of 6.07 hectares, it is located northwest of Carmen Island, and includes extremely small mangrove patches, but they are ecologically important because they are the breeding habitat for numerous species of commercial interest such as yellowtail snapper (*Lutjanus argentiventris*) and red snapper (*Lutjanus novemfasciatus*), as well as a resting place for herons, shorebirds and numerous species of migratory birds that stop to feed in the surrounding area. In this polygon, fishermen from the region usually clean the product they catch, leaving organic waste, known as "sanguaza", on the estuary beach, causing solid waste generation, accumulation of organic matter, trophic modifications, and bonfires, a situation that has caused birds to stop using these sites, which is why these activities should be restricted.

Polygon 10 Bahía Márquez - Bajo El Murciélago (Isla del Carmen), covers an area of 1,032.77 hectares, is located in the southwestern portion of Isla del Carmen, and stands out for the importance of two unique underwater areas in the Loreto Bay National Park: Los Picachos and Bajo del Murciélago. The Picachos area, in addition to being a site of spectacular beauty for recreational diving activities, has the most important populations so far studied of the mother-of-pearl (*Pinctada mazatlanica*) and the burra clam, known locally as callo escarlopa (*Spondylus calcifer*), both species under special protection according to the Mexican Official Norm NOM-059-SEMARNAT-2010. Also present in this subzone is Bajo El Murciélago, which is a site about 30 meters deep where hammerhead shark (*Sphyrna lewini*) breeding grounds are frequently found, a species included in the Red List of the International Union for Conservation of Nature (IUCN) as endangered (IUCN,2017), as well as habitat for the blue and yellow castanet, Castañeta mexicana (*Chromis limbaughi*), a species subject to special protection according to the Mexican Official Norm NOM-059- SEMARNAT-2010.

Polygon 11 Punta Faro Norte (Isla Danzante), covering an area of 52.23 hectares, is located at the northern tip of Isla Danzante, in the southwestern portion of the National Park, and represents one of the most structured and complex habitat zones in the region. In addition to the Choya rock, the northern tip of Danzante Island is the only site in the National Park where the spotted goatfish (*Mycteroperca prionura*), listed by the IUCN as a vulnerable species, has been observed. Because of its steep formations and rapid bathymetric slope, this point has one of the most important populations of black coral (*Antiphathe galapagensis*), and is important habitat for the olive ridley turtle (*Lepidochelone olivacea*), and the black turtle (*Chelonia mydas agazis*), endangered species according to the Mexican Official Norm NOM-059-SEMARNAT-2010.

Polygon 12 Bajo El Currigan, with an area of 3,146.34 hectares, is located south of Carmen Island and southwest of Danzante Island, also known as Bajo del finado Cuco. It is a range of submarine mountains that runs for more than six kilometers in a north-south direction and on its west side has a cliff of more than 800 meters deep, separated from Danzante Island. These bathymetric features result in a site for important nutrient blooms, which represent an important food source for species that visit the site. Large families of short-sided common dolphins (*Delphinus delphis*), blue whales (*Balaenoptera musculus*), fin whales (*Balaenoptera physalus*), Bryde's whales (*B. edeni*), and humpback whales (*Megaptera novaengliae*), among others, are frequently found feeding in the area. These species are subject to special protection according to Mexican Official Norm NOM-059-SEMARNAT-2010. This polygon also stands out for the presence of large sargassum meadows (*Sargassum* spp.), which represent an important recruitment habitat for fish, whose fry travel great distances to recolonize other environments. It is one of the areas where the largest reproductive aggregations of sardine grunts and the largest population of garropa within the National Park have been observed. On the eastern side of Isla Danzante, the slope gently slopes downward forming long fields of rhodoliths (calcareous algae), of great importance for the recruitment of numerous species of ecological and commercial importance.

Polygon 13 Blanquizal (Montserrat Island), covering an area of 103.98 hectares, located west of Montserrat Island, is composed of a sandy area that represents one of the last refuges for the queen clam (*Megapitaria aurantiaca*) and the donkey snail (*Strombus galeatus*), both species reported in regional environmental history studies as abundant in the past and very scarce in the present. Similarly, this polygon is also an important refuge for the sea cucumber (*Isostichopus fuscus*), a species of great importance in the regional fishing economy and subject to special protection according to the Mexican Official Norm NOM-059-SEMARNAT-2010.

Polygon 14 West Zone Santa Catalana Island or Santa Catalina, covers an area of 542.43 hectares, located west of Catalana Island, in the easternmost portion of the polygon of the protected natural area, and represents the only site in the region where the solitary coral (*Fungia distorta*) belonging to the genus *Fungia* is found.

Polygon 15 La Lobera (Catalana or Santa Catalina Island), covers an area of 3.83 hectares, located on the northeast end of Catalana or Santa Catalina Island, and represents the second most important permanent colony in Loreto Bay National Park where the California sea lion (*Zalophus californianus*), a species subject to special protection according to Mexican Official Norm NOM-059-SEMARNAT-2010, breeds and feeds.

This subzone includes refuge sites for birds and sea turtles; and because of the presence of mangroves, it should be noted that the waters of this subzone serve as habitat and refuge for numerous species of fish, mollusks and crustaceans, mainly during the early larval stages of many marine species. Therefore, it represents an attraction for flora and fauna observation.

The geophysical characteristics of the subzone provide refuge and rest areas for fishermen in bad weather; however, it is necessary to specify that fishing is not allowed in this subzone. In this sense, these environments are important as areas of species aggregation, reproduction, reservoir and genetic dispersion zones, in addition to providing nutrients to other ecosystems, therefore it is necessary that the activities that are developed in this subzone allow for specific management, to achieve its adequate preservation. Therefore, it is necessary to restrict the cleaning activities of fishing products on the beach, since the generation of such waste has a negative impact on the species that use the beaches as nesting or reproduction areas. On the other hand, the use of motorized boats such as jet skis or jet skis represent a high risk because accidents can be generated negatively impacting the ecosystems of the subzone, which consist of rocky and steep reefs, as well as the harassment of wildlife such as cetaceans and dolphins, approaching areas of loberas, and landing on islets that are bird nesting areas; in addition, this restriction serves to protect the integrity of visitors who perform the activity.

Although it is true that Article 47 BIS 1, fourth paragraph, of the General Law of Ecological Balance and Environmental Protection provides that subzones for public use and recovery may be established in national parks, it is also true that the characteristics that the Law itself attributes to this type of subzone do not fully contemplate the conservation objectives established in the declaration of the National Park, particularly with regard to the characteristics of the area described in the previous paragraph.

Therefore, the Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, considers that it is appropriate to use the alternative scheme provided for in the Third Transitory Article of the Decree amending Articles 28 and 48, and adding a section XXXVII to Article 3 and Articles 47 BIS and 47 BIS 1 of the General Law of Natural Protected Areas, as well as Articles 47 BIS and 47 BIS 1 of the General Law of Natural Protected Areas.

The purpose of this law is to make the conservation objectives of Loreto Bay National Park compatible with the activities that have been carried out in the area, which correspond to those regulated under the preservation subzone regime of the General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente).

Due to the characteristics described above, and the reasons mentioned in the preceding paragraphs, and in accordance with the provisions of Article 47 BIS, section II, paragraph a) of the General Law of Ecological Balance and Environmental Protection, which states that Preservation subzones are those areas in a good state of conservation that contain relevant or fragile ecosystems, or relevant natural phenomena, in which the development of activities requires specific management, in order to achieve their adequate preservation; and where only scientific research and environmental monitoring, environmental education activities and productive activities of low environmental impact that do not imply substantial modifications of the original natural characteristics or conditions, promoted by the local communities or with their participation, and that are subject to constant supervision of the possible negative impacts they may cause, in accordance with the provisions of the applicable legal and regulatory ordinances, will be allowed, in correlation with the Third, Fifth, Sixth and Seventh Articles of the Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, as a National Marine Park, published in the Official Gazette of the Federation on July 19, 1996, as a natural protected area, the following activities are determined as permitted and not permitted in this Marine and Wetlands Preservation Subzone:

Marine and Wetland Preservation Subzone (Pre-MH)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Activities activities from low environmental impact 2. Scientific collection of wildlife specimens 3. Environmental education 4. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 5. Scientific research and environmental monitoring 6. Transit of vessels 	<ol style="list-style-type: none"> 1. Aquaculture 2. Anchoring on reefs, as well as removal of sediments from the seabed 3. Extractive use of wildlife, except for scientific collection. 4. Sea water extraction 5. Install platforms or any other type of infrastructure that affects or represents a risk for the preservation of the area. 6. Introduce exotic species, including invasive species. 7. Cleaning, processing or disposing of products from fishing activities 8. Fishing in all its modalities 9. Carry out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the protected natural area or in neighboring zones. 10. Motorized boat tours, except for activities with low environmental impact. 11. Dumping or abandoning waste on adjacent beaches. 12. Tourism 13. Use any sound device that alters the behavior of wildlife populations or specimens. 14. Use lamps or any other light source to exploit or observe wildlife specimens, except for scientific research and environmental monitoring. 15. Dumping or discharge of pollutants, as well as the development of any polluting activity. 16. Tours in motorized vehicles such as jet skis or jet skis

Traditional Use Subzones

There are four Traditional Use Subzones in Loreto Bay National Park: Terrestrial Traditional Use Subzone, Marine Traditional Use Subzone I, Marine Traditional Use Subzone II, and Marine Traditional Use Subzone III, which are described below:

Traditional Land Use Subzone (UTT)

This subzone comprises a total area of 17,307.20 hectares, divided into 4 polygons, which are described below:

Polygon 1 Isla Coronados, covers an area of 597.45 hectares, located northwest of the Natural Protected Area and northeast of the city of Loreto. It is a cone-shaped island of volcanic origin; in the west it contains beaches of biotic origin with shells and corals. Given its geological characteristics and proximity to the city of Loreto, it is one of the most visited by tourism, particularly the beaches of Ensenada Blanca, Ensenada Los Metates, as well as the trails El Volcán and Atracadero Blanco.

Polygon 2 Isla del Carmen, covers an area of 14,433.56 hectares, located in the central portion of the National Park, east of the city of Loreto. On this island, the main human activities carried out in the Federal Maritime Terrestrial Zone are those related to low-impact tourism, such as on El Faro, Punta Baja and Punta Arena beaches, as well as research and temporary camps (camping and fishing). Some sites on this island serve as a refuge for visitors to the national park, because when they carry out activities at sea and in adverse weather conditions, such as meteorological or tidal phenomena, it is necessary to have a shelter. In the tidal zone of this island there are fossil deposits and geological formations of caves or caverns where sedimentary deposits and the marine and insular landscape can be appreciated.

Polygon 3 Isla Danzante, covering an area of 407.74 hectares, located in the central part of the National Park, is located south of Isla del Carmen, in front of the coastal area of Puerto Escondido. This island is composed of basaltic rocks, generally made up of rocky areas on its slopes and steep cliffs. Only the western portion of the island has narrow sandy beaches. Given its location, it is an attractive site for tourists because of its scenery, allowing to observe the four cardinal points of the National Park. It is considered a strategic point for observing the activities that take place in the National Park, since it is located in a central point and also provides shelter for boats, sailboats and tourists in low-impact activities, particularly on the beaches of El Arroyo and Luna de Miel. From the top, which is accessed by interpretive trails known as Luna de Miel and Arroyo Blanco, you can see the passage of dolphins and whales, as well as appreciate the Sierra la Giganta and the islands and islets of the National Park.

Polygon 4 Montserrat Island, covers an area of 1,868.45 hectares, located south of the Carmen and Danzante Islands, and west of Catalana or Santa Catalina Island. It is an island formed by rising seabed, formed by volcanic rocks with a high degree of erosion, presenting areas of stony slopes and cliffs. Given the scarce vegetation on this island, it is less attractive to tourists. However, 5 of the beaches are sandy and 7 are rocky, offering diverse habitats for marine species. This island, due to its geological origin, formed by sediments, is the only one with a plain at the top and is distinguished from the other four (Coronados, Carmen, Danzante and Catalana or Santa Catalina).

Due to the characteristics of the islands, and in order to maintain their ecological conditions, only vessels up to 12 meters in length will be allowed to anchor and disembark, since allowing larger vessels to do so increases the risk of impacts on the islands, such as groundings. It should be noted that the disembarkation should not be done in bird nesting areas and loberas, so as not to alter the behavior of the fauna.

Due to the characteristics described above, the reasons mentioned in the preceding paragraphs and in accordance with the provisions of Article 47 BIS, section II, paragraph b) of the General Law of Ecological Balance and Environmental Protection, which provides that the Traditional Use subzones are those areas where the natural resources have been used in a traditional and continuous manner, without causing significant alterations to the ecosystem. They are particularly related to the satisfaction of the socioeconomic and cultural needs of the inhabitants of the Natural Protected Area; and where activities that threaten or disturb the natural structure of the populations and ecosystems or the mechanisms for their recovery may not be carried out. Only scientific research, environmental education and low environmental impact tourism activities may be carried out, as well as, where appropriate, artisanal fishing with low environmental impact gear; as well as the required support infrastructure, using eco-techniques and traditional construction materials of the region, use of natural resources to satisfy the basic economic needs and self-consumption of the inhabitants.

The area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, is declared a protected natural area, with the character of National Marine Park, using traditional methods focused on sustainability, in accordance with the applicable legal and regulatory provisions, in correlation with the provisions of the Second, Third, Fifth, Sixth and Seventh Articles of the Decree declaring it a National Marine Park, the zone known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, published in the Official Gazette of the Federation on July 19, 1996, the following activities are determined as permitted and not permitted in this Traditional Land Use Subzone:

Traditional Land Use Subzone (UTT)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Anchoring of vessels up to 12 meters in length and disembarkation, except in bird nesting areas and loberas. 2. Scientific collection of wildlife specimens 3. Scientific collection of forest biological resources 4. Construction of infrastructure for the administration and operation of the National Park. 5. Environmental education 6. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 7. Installation of camps temporary fishing, tourist or research camps 8. Research research y monitoring of the environment 9. Signage for the operation and management of the National Park 10. Low environmental impact tourism 	<ol style="list-style-type: none"> 1. Opening of new trails 2. Dumping, dumping or discharging any type of organic or inorganic waste, solid or liquid waste, or any other type of pollutant. 3. Capturing, removing, extracting, retaining, or appropriating wildlife and wildlife products, except for scientific research and collection. 4. Construction of infrastructure, except for the administration and operation of the National Park. 5. Exploration and mining 6. Extraction o transfer from remains paleo-archeological 7. Introduce exotic species, including invasive species. 8. Modify the coastline 9. Carrying out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the Natural Protected Area or in neighboring areas. 10. Motor vehicle traffic 11. Use explosives 12. Use lamps or any other light source to exploit or observe wildlife specimens, except for scientific research and environmental monitoring.

Marine Traditional Use Subzone I (UTM-I)

This subzone comprises a total area of 9,702.48 hectares, made up of 16 polygons, which are sites of great importance for sport fishermen, commercial fishermen, and tourism. This subzone also includes aggregation sites for numerous species of fish, mollusks, crustaceans, marine mammals, and birds, among others. This subzone is of great importance for fishing due to the presence of marine species of high commercial value, and such activity can be developed as long as the nets are not trapped on the bottom or rocks, because the abandoned fishing gear represents a threat to marine fauna, which can be trapped in them. The polygons of this subzone are described below:

Polygon 1 East Coronados. Conformed by an area of 130.88 hectares, located in the eastern portion of Coronados Island, which is one of the best preserved marine sites of the National Park, because of the physical conditions that have allowed the blooming of large beds of calcareous algae known as Rodolitos. These calcareous algae form a transition zone between the rocky reefs and the sandy zone, providing a habitat rich in biodiversity. They are extremely important for the recruitment of juvenile clams and scallops for the commercial activities of the National Park.

Polygon 2 La Islita (Coronados). It covers an area of 68.68 hectares and is located to the northwest of the National Park. It has a relatively gentle and shallow slope and a transition zone between the rocky reef and the sand. It is composed of layers of rhodoliths and is home to juveniles of numerous species of fish and invertebrates, which are the basis of the diet of the colony of yellow-legged gulls (*Larus livens*) that reside on the islet, which is one of the largest colonies in the National Park.

Polygon 3 Bajo de La Choya. Comprising an area of 373.65 hectares, it is located northwest of the tip of Isla del Carmen, on the extreme side of Punta Tintorera. The Bajo de La Choya is a system of submarine mountains that runs from south to north from the rock known as "La Piedra de la Choya", along more than five kilometers towards Coronados Island. Given the effect of currents and wave energy during the cold front season, it is a reef of high relief and complex structure, with a steep slope that quickly reaches depths of up to 200 meters. This site is home to shallow-water garropias and cabrillas, as well as deep-water serranids, which are extremely vulnerable to commercial fishing, such as the stacuda (*Hyporthodus acanthistius*) and the plumbeous drumstick (*Hyporthodus niphobles*).

Polygon 4 Punta Tintorera (North Isla del Carmen). It comprises an area of 91.52 hectares, to the North of Carmen Island.

Punta Tintorera was one of the most productive fishing sites in Loreto Bay National Park and continues to be a site of high diversity of commercially important fish. Punta Tintorera is a rock face that drops rapidly to 20 meters and runs on a small basalt structure to the north for about 100 meters. These basalt structures, called tepetates by fishermen, have numerous caves, which serve as protection for fish and invertebrates. This is one of the areas where large concentrations of parrotfish (*Scarus* spp.), as well as groups of killer whales (*Orcinus orca*), and Cuvier's beaked whale (*Ziphius cavirostris*) have been recorded, the latter two species are subject to special protection according to the Mexican Official Norm NOM-059-SEMARNAT-2010.

Polygon 5 Puerto La Vaca (North Isla del Carmen). It covers an area of 107.76 hectares, located northeast of Carmen Island. Because of its geographic position, it is a site with steep rocky reefs of great relief. These conditions make it one of the most diverse sites in the National Park. The species richness is one of the highest in the region, and its proximity to Punta Lobos makes it an area of sardine aggregation, the base of the trophic chain of the reef and neritic ecosystem of the Gulf of California. It is an area with high oceanographic dynamics influenced by winds and tides, especially in times of northerly winds as occurs in winter and spring.

Polygon 6 North Marquez Bay (Carmen Island). It covers an area of 1,907.95 hectares, located in the central portion of the National Park, west of Carmen Island. This polygon is protected from the strong currents and waves that characterize the northwestern region of the National Park, and is composed of long basalt terraces with a rocky reef. Sand predominates in some small areas near the island.

Polygon 7 Punta Perico (East of Isla del Carmen). It covers an area of 2,269.19 hectares, located in the central eastern portion of the National Park. This polygon arises from Punta Perico, a long basalt bar of more than seven kilometers that runs from south to north and has a great diversity of reef fish species, being one of the sites with the highest biological richness recorded in the National Park. The seafloor structure is of high relief with a slight gradual slope. The shallows system that runs from Punta Perico has the largest populations of red snapper or red snapper (*Lutjanus novemfasciatus*), sardine grunt (*Mycteroperca rosacea*), garropa (*Mycteroperca jordani*), donkey snail (*Strombus galaetus*) and sea cucumber (*Isostichopus fuscus*). The latter two species are subject to special protection according to Mexican Official Norm NOM-059-SEMARNAT-2010.

Polygon 8 Punta Baja (Southwest Isla del Carmen). It covers an area of 506.71 hectares, located in the central eastern portion of the National Park, surrounding the southern tip of Isla del Carmen. This polygon is composed of sandstone conglomerates, andesites and marine sediments, which are submerged with the same composition to the marine part. This structure, although of low relief, has numerous cavities, which offer refuge for marine species. Punta Baja has important populations of king angel (*Holacanthus passer*), burra clam or also known as callo scarlopa (*Spondylus calcifer*) and sea cucumber (*Isostichopus fuscus*). These three species are subject to special protection according to Mexican Official Norm NOM-059-SEMARNAT-2010. There are also large populations of coconaco snapper (*Hoplopagrus guentherii*) and red snapper (*Lutjanus novemfasciatus*) in this polygon. There are also invertebrate species of great importance for ornamental fishing, such as the purple star (*Linckia columbiae*) and black-tipped star (*Nidorellia armata*). Being close to the deep submarine canyons found between Isla del Carmen and Danzante, it is an area that benefits from upwelling in spring, becoming a feeding ground for smaller pelagic species such as sardines.

Polygon 9 Danzante Island. It covers an area of 618.14 hectares, located in the central western portion of the National Park, and surrounds Isla Danzante. The reefs of this polygon are one of the most versatile environments in the National Park. In its northeastern portion it has vertical walls that drop abruptly to 30 meters, where large beds of black coral of yellow polyps (*Antipathes spp*) begin. A few meters from the coastline there are rocky reefs of more than 80 meters deep where there are important schools of red snapper (*Lutjanus peru*), the stacuda (*Hyporthodus acanthistius*) and the lead whale (*Hyporthodus niphobles*). In the points of the eastern region, there are reefs with stone blocks of greater relief, which provide the ideal habitat for a great diversity of fish and invertebrates.

Polygon 10 White Islet. It covers an area of 52.24 hectares, located west of the National Park, surrounding a small islet located southwest of the tip of Isla Danzante and approximately 900 meters from the mainland coast. Given the strong tidal currents, high densities of soft corals of the genus *Muricea* are found on this wall. In the western part of the islet there are large populations of purple star (*Linckia columbiae*) and burra clam or also known as callo scarlopa (*Spondylus calcifer*), this species is subject to special protection under the standard indicated, as well as small patches of black coral (*Antipathes spp.*).

Polygon 11 Las Islitas (Danzante). It covers an area of 55.83 hectares, located in the western portion of the National Park. It has a relatively gentle and shallow slope in the southern part. It is composed of rhodolith beds, this is an area that houses juveniles of numerous species of fish and invertebrates. These fish and invertebrates are in turn the basis of the diet of the colony of yellow-legged gull (*Larus livens*), a species subject to protection according to the Mexican Official Norm NOM-059- SEMARNAT-2010, which resides on the islet.

Polygon 12 Islotes Los Candeleros. It covers an area of 43.43 hectares, located southwest of the National Park, in the southern part of Isla Danzante. This polygon has a wall that drops deeply and steeply, forming the ideal habitat for large beds of black coral (*Antipathes spp.*), it is an important habitat that provides protection for the highly vulnerable pinta cabrilla (*Mycteroperca prionura*) and the garropa (*Mycteroperca jordani*).

Polygon 13 Islotes las Tijeras (Danzante). It covers an area of 51.37 hectares, located south of the National Park, southeast of Los Candeleros islets, surrounding small islets which are formed by boulders of regular size that provide shelter to juvenile species of cabrillas (*Mycteroperca spp.*), parakeets (*Scarus spp.*) and snappers (*Lutjanus spp.*).

Polygon 14 Islote Pardo. It covers an area of 56.69 hectares, located south of the National Park and south of Isla Danzante. This islet is composed of a steep wall that dips into the subtidal zone up to 20 meters. The wall is exposed to tidal currents and waves. In the marine zone there are soft corals of the *Muricea* genus, and due to the rocky characteristics of the polygon, it is home to a large number of organisms such as the sea cucumber (*Isostichopus fuscus*), a species subject to special protection according to the aforementioned Mexican Official Norm, as well as other species of fish and mollusks. This polygon is also a larval aggregation site and allows the growth of sessile organisms and fish of high commercial value for aquariums.

Polygon 15 Bajo El Cochi. It covers an area of 2,952.62 hectares to the south of the National Park. It is composed of part of the chain of submarine mountains that runs from the north of Montserrat Island and surrounds the Galeras islets. This polygon, like the Punta Perico chain of shallows, is one of the most structured reefs in the National Park, which concentrates a great diversity of: reef fishes (perico, cabrillas, angel fish, damsels, snappers, sharks, mantas), soft corals, marine mammals, turtles, and some other migratory fish species such as sailfish and mahi-mahi.

Polygon 16 Punta Cuervitos-Lighthouse (East Coast of Montserrat Island). Comprises an area of 415.82 hectares, located south of the National Park, east of Montserrat Island. This polygon is composed of small boulders of up to half a meter, which provide refuge for reef fish species such as snappers, cabrillas, and pericos. Several migratory species have also been observed, such as manta rays, sharks, jack mackerel (*Seriola lalandi*), sierra (*Scomberomorus sierra*) and black turtle (*Chelonia agassizi*). The latter species is in danger of extinction according to Mexican Official Standard NOM-059- SEMARNAT-2010.

Given the oceanographic conditions that persist in the submarine points and shallows of this subzone, which are subject to strong current and wave energy, these surfaces are dominated by steep, rocky reefs. As a result of these physiographic characteristics, fishing nets are vulnerable to becoming entangled in the rocks and remain as traps for many years, where different species of fauna, including marine mammals, can become trapped. Consequently, in this subzone, only fishing for domestic consumption, artisanal, promotion, didactic and sport fishing can be carried out.

recreational. The fishing gear used in this subzone will be exclusively jig, line, and hook, due to their high selectivity. Likewise, the use of motorized vehicles such as jet skis or jet skis represents a high risk, because accidents can occur, negatively impacting the ecosystems of the subzone, which consist of rocky and steep reefs, as well as harassment of wildlife such as cetaceans, dolphins, and the approach to sea lion areas, and the landing on islets that are bird nesting areas; additionally, this restriction serves to protect the integrity of visitors who carry out other activities.

Due to the characteristics described above, and the reasons mentioned in the preceding paragraphs, and in accordance with the provisions of Article 47 BIS, section II, paragraph b) of the General Law of Ecological Balance and Environmental Protection, which provides that the Traditional Use subzones are those areas where natural resources have been used in a traditional and continuous manner, without causing significant alterations to the ecosystem. They are particularly related to the satisfaction of the socioeconomic and cultural needs of the inhabitants of the Natural Protected Area; and where activities that threaten or disturb the natural structure of the populations and ecosystems or the mechanisms for their recovery may not be carried out. Only scientific research, environmental education and low environmental impact tourism activities may be carried out, as well as, if applicable, artisanal fishing with low environmental impact gear; as well as the support infrastructure that is required, using eco-techniques and traditional construction materials of the region, use of natural resources to satisfy the basic economic needs and self-consumption of the inhabitants, using traditional methods focused on sustainability, in accordance with the provisions of the applicable legal and regulatory provisions, in correlation with the provisions of Articles Two, Third, Fifth, Sixth and Seventh of the Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, as a National Marine Park, published in the Official Gazette of the Federation on July 19, 1996, as a protected natural area, the following activities are determined as permitted and not permitted in this Subzone of Traditional Marine Use I:

Marine Traditional Use Subzone I (UTM - I)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Scientific collection of wildlife specimens 2. Environmental education 3. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 4. Scientific research and environmental monitoring 5. Commercial fishing, only with the use of jig, line and hook. 6. Fishing for domestic consumption, only with the use of hook and line. 7. Fishing promotion 8. Fishing sport-recreational, only by hook and line 9. Didactic fishing 10. Low environmental impact tourism 	<ol style="list-style-type: none"> 1. Dumping or discharge of pollutants, wastes or any other type of material 2. Capturing, removing, extracting, retaining, or appropriating wildlife and wildlife products, except for research, scientific collection and fishing. 3. Installation of artificial reefs 4. Introduce exotic species, including invasive species. 5. Bilge cleaning 6. Modification of the seabed 7. Commercial fishing, except by jig, line and hook. 8. Trap, net and longline fishing 9. Carrying out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the Natural Protected Area or in neighboring areas. 10. Use explosives 11. Tours in motorized vehicles such as jet skis or jet skis

Marine Traditional Use Subzone II (UTM - II)

This subzone covers a total area of 7,803.24 hectares, made up of two polygons, in which fishing is traditionally carried out by communities settled in the area of influence of the National Park. Sport-recreational fishing activities are also carried out in this subzone because of the presence of migratory fish species such as dorado, swordfish, and sailfish. It is also the aggregation site for jack mackerel, which aggregate in schools and allow fishermen to take advantage of the resource during these migration runs. The polygons that make up this subzone are described below:

Polygon 1 Punta Raza (Catalana or Santa Catalina Island). It covers an area of 5,410.39 hectares, located in the central-northern portion of Catalana or Santa Catalina Island, southeast of the National Park. This polygon corresponds to a deep surface where the oceanic slope of the island is pronounced. In times of easterly or northerly winds, strong swell is common and hits the island powerfully, causing high waves. At the tip of the island, swells form, causing instability for navigation and difficulties in accessing the island. On the outer side of the island on the northwest side, there is only a beach made of boulders, but with wind, the swell increases, making it difficult to reach the shore of the island.

The rocky reefs of this polygon are the best preserved in the National Park. In the western region of Catalana Island or Santa Catalina, biological monitoring indicates the highest abundance of black turtles (*Chelonia agassizii*) in the National Park. This species is in danger of extinction according to the Mexican Official Norm NOM-059-SEMARNAT-2010.

Polygon 2 Palo Parado (Catalana or Santa Catalina Island). It covers an area of 2,392.85 hectares, located in the southern portion of Catalana or Santa Catalina Island, southeast of the National Park. This polygon has steep slopes and its bathymetry is abrupt, which allows the capture of migratory species such as jack mackerel and goldfish. Its surface allows for sheltering boats in the event of adverse weather conditions for navigation. This polygon is also considered a diving site, since there is a gentle slope with rocks that make it a rocky reef area. Likewise, it has rocky walls that fall deeply with high stones. These rocks can reach up to 20 meters high, providing a very particular structure to the region, where large groups of garropas (*Mycteroperca jordani*) and hammerhead sharks (*Sphyrna lewini*) have been reported.

It is important to note that its oceanographic characteristics, deep and narrow submarine canyons, with a continental shelf and a very steep slope, make this subzone a site rich in primary productivity. This productivity is the basis of a trophic chain in which migratory large pelagic fish, such as the jack mackerel (*Seriola lalandi*), visit the area every year to feed. Because of its remoteness from the population centers, it is also one of the best preserved reefs in the National Park, where there are still healthy populations of garropa (*Mycteroperca jordani*), cabrilla (*Mycteroperca rosacea*) and red snapper (*Lutjanus novemfasciatus*), as well as important populations of mollusks. As mentioned above, sport-recreational fishing activities are carried out in this subzone; however, in order to preserve the good conservation conditions of the National Park, it is necessary to use hook and line in this subzone. Likewise, for commercial fishing in its encirclement modality, nets with a mesh size larger than 4 inches must be used in order to avoid impacting other marine resources, reducing the risk of incidental fishing of non-target species, mainly sea turtles. Likewise, the use of motorized vehicles such as jet skis or jet skis represent a high risk because they can generate accidents negatively impacting the ecosystems of the subzone, which consist of rocky and steep reefs, as well as harassment of wildlife such as cetaceans, dolphins, and approaching areas of sea lion colonies, and encourage landing on islets that are bird nesting areas; additionally, this restriction serves to protect the integrity of visitors who perform other activities.

Due to the characteristics described above, the reasons mentioned in the preceding paragraphs and in accordance with the provisions of Article 47 BIS, section II, paragraph b) of the General Law of Ecological Balance and Environmental Protection, which provides that the Traditional Use subzones are those areas where the natural resources have been used in a traditional and continuous manner, without causing significant alterations to the ecosystem. They are particularly related to the satisfaction of the socioeconomic and cultural needs of the inhabitants of the Natural Protected Area; and where activities that threaten or disturb the natural structure of the populations and ecosystems or the mechanisms for their recovery may not be carried out. Only the following activities may be carried out

scientific research, environmental education and low environmental impact tourism, as well as, where appropriate, artisanal fishing with low environmental impact gear; as well as the support infrastructure required, using eco-techniques and traditional construction materials of the region, use of natural resources to satisfy the basic economic needs and self-consumption of the inhabitants, using traditional methods focused on sustainability, in accordance with the provisions of the applicable legal and regulatory provisions, in correlation with the provisions of Articles Three, Four, Five, Six and Seven of the Decree declaring the area to be a protected area, Fourth, Fifth, Sixth and Seventh of the Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, as a National Marine Park, published in the Official Journal of the Federation on July 19, 1996, is that the following activities are determined as permitted in this Subzone of Traditional Marine Use II:

Marine Traditional Use Subzone II (UTM - II)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Scientific collection of wildlife specimens 2. Environmental education 3. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 4. Scientific research and environmental monitoring 5. Commercial fishing, only with the use of jig, line and hook, and nets with mesh size greater than 4 inches (exclusively for enclosure). 6. Fishing for ornamental species 7. Sport-recreational fishing, only with the use of hook and line. 8. Low environmental impact tourism 	<ol style="list-style-type: none"> 1. Dumping or discharging pollutants, wastes or any other type of material 2. Installation of artificial reefs 3. Introduce exotic species, including invasive species. 4. Cleaning and disposal of waste from bilges 5. Modification of the seabed 6. Capturing, removing, extracting, retaining, or appropriating wildlife and its products, except for research, scientific collection and fishing. 7. Commercial fishing, unless it is carried out with the use of jig, line and hook, and nets with mesh size greater than 4 inches. 8. Sport-recreational fishing, except when using hook and line. 9. Carrying out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the Natural Protected Area or in neighboring areas. 10. Use explosives 11. Tours in motorized vehicles, such as jet skis or jet skis

Traditional Marine Use Subzone III (UTM - III)

This subzone covers an area of 2,208.14 hectares and includes a polygon known as Whale Channel, which is located in the channel between Danzante and Carmen islands, southwest of the National Park. This subzone includes deep submarine canyons that divide the islands of Carmen and Danzante Island and the chain of shallows: Cuco, Currigan and Tijeras. These submarine canyons promote strong nutrient blooms during the spring.

During the months of February to May, this subzone is visited by hundreds of short-sided common dolphins (*Delphinus delphis*), bottlenose dolphins (*Tursiops truncatus*), orcas (*Orcinus orca*), large groups of blue whales (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale (*Balaenoptera novaeangliae*), Bryde's whale (*Balaenoptera edeni*), Minke's whale (*Balaenoptera acutorostrata*) among other marine mammals. These species are subject to special protection listed in the Mexican Official Norm NOM-059-SEMARNAT-2010. Likewise, sport-recreational fishing activities are carried out in this subzone, which must be done only with the use of hook and line, because they are highly selective fishing gear in order to avoid impacting other marine resources and reduce the risk of incidental fishing of non-target species, mainly sea turtles.

Due to the impact of boat noise on the survival, behavior and habitat use of the mammals described above, in this subzone it is necessary to restrict the transit of boats larger than 12 meters in length. In addition, the use of motorized vehicles such as jet skis or jet skis represents a high risk because accidents can occur, negatively impacting the ecosystems of the subzone, which consist of rocky and steep reefs, as well as harassment of wildlife such as cetaceans, especially blue whales (*Balaenoptera musculus*), fin whales (*Balaenoptera physalus*), and dolphins.

Due to the characteristics described above, the reasons mentioned in the preceding paragraphs and in accordance with the provisions of article 47 BIS, section II, paragraph b) of the General Law of Ecological Balance and Environmental Protection, which states that the Traditional Use subzones are those areas where the natural resources have been used in a traditional and continuous manner, without causing significant alterations to the ecosystem. They are particularly related to the satisfaction of the socioeconomic and cultural needs of the inhabitants of the Natural Protected Area; and where activities that threaten or disturb the natural structure of the populations and ecosystems or the mechanisms for their recovery may not be carried out. Only scientific research, environmental education and low environmental impact tourism activities may be carried out, as well as, if applicable, artisanal fishing with low environmental impact gear; as well as the support infrastructure that is required, using eco-techniques and traditional construction materials of the region, use of natural resources to satisfy the basic economic needs and self-consumption of the inhabitants, using traditional methods focused on sustainability, in accordance with the provisions of the applicable legal and regulatory provisions, in correlation with the provisions of Articles Two, Third, Fifth, Sixth, Sixth, Sixth, Sixth and Sixth, Third, Fifth, Sixth and Seventh of the Decree declaring the area known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, as a National Marine Park, published in the Official Journal of the Federation on July 19, 1996, is that the following activities are determined as permitted in this Subzone of Traditional Marine Use III:

Traditional Marine Use Subzone III (UTM - III)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Scientific collection of wildlife specimens 2. Environmental education 3. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 4. Scientific research and environmental monitoring 5. Sport-recreational fishing, only with the use of hook and line. 6. Transit of vessels up to 12 meters in length 7. Low environmental impact tourism 	<ol style="list-style-type: none"> 1. Dumping or discharge of pollutants, wastes or any other type of material 2. Capturing, removing, extracting, retaining, or appropriating wildlife and its products, except for research, scientific collection and sport-recreational fishing. 3. Installation of artificial reefs 4. Introduce exotic species, including invasive species. 5. Cleaning and disposal of waste from bilges 6. Modification of the seabed 7. Fishing, except sport-recreational fishing, using hook and line. 8. Carrying out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the Natural Protected Area or in neighboring areas. 9. Transit of vessels over 12 meters in length 10. Tours in motorized vehicles, such as jet skis or jet skis

Subzone for Sustainable Use of Marine Natural Resources (ASRNM)

This subzone covers an area of 159,382.79 hectares, made up of two polygons and represents the largest portion of the Natural Protected Area. It exclusively covers the marine zone that maintains the conditions and functions necessary for the conservation of biodiversity and the provision of environmental services. It includes sites that present varying degrees of modification. This subzone, given its natural complexity, such as bathymetry, marine currents, coastal environment, biotic characteristics and tourist uses, constitutes the site of greatest productive activity. This area is where the various tourist, recreational-sport fishing and commercial fishing activities converge. It includes open sea, canals, deep and coastal zones. The polygons that make up this subzone are:

Polygon 1 Loreto Bay I. This polygon has an area of 158,258.01 hectares, and corresponds to the largest marine area of the National Park, extending over the entire park, which is used for commercial fishing, recreational sport fishing, low-impact tourism (kayaking, free and autonomous diving, sailing, boat rides), among many other recreational tourism activities and use of marine resources. This polygon includes shallow and deep surfaces, as well as submarine plains and seamounts where numerous species of fish, mollusks, echinoderms and migratory species such as cetaceans feed in the deep zones and in areas considered productive due to their oceanographic characteristics, Such is the case of the channel between Isla del Carmen and Isla Danzante where the blue whale (*Balaenoptera musculus*) and the fin whale (*Balaenoptera physalus*) feed, both species under special protection according to the Mexican Official Norm NOM-059-SEMARNAT-2010.

Polygon 2 Loreto Bay II. This polygon has an area of 1,124.78 hectares, and is located on the eastern outer side of Catalana or Santa Catalina Island, to the southeast of the National Park. Its remoteness from population centers, exposure to inclement weather, cliff walls and lack of landing sites make this polygon an area of difficult access, so the ecosystem remains in a good state of conservation. In this polygon, tourist activities are reduced and generally commercial fishing and recreational fishing activities are observed, being an ideal site for diving in the area adjacent to the island.

Although this subzone is subject to fishing activities, it is necessary that they are carried out using fishing gear that reduces impacts on non-target species, such as those listed in a risk category according to the Official Mexican Standard NOM-059-SEMARNAT-2010, in this sense, the fishing gear that may be used in the subzone for commercial fishing are: Poteras, piola, hook, gill nets and compressor or hooka; for sport-recreational fishing only piola and hook, since they are fishing gears that do not drag on the seabed, avoiding the impact on the sargassum beds, sediment suspension and have a low level of bycatch. Likewise, for commercial fishing in its encirclement modality, nets with a mesh size larger than 4 inches must be used in order to avoid impacting other marine resources, reducing the risk of incidental fishing of non-target species, mainly sea turtles. On the other hand, for commercial fishing of bivalves, the selective method of compressor or hooka previously authorized by the competent authority may be used.

However, it is considered appropriate to allow the installation of artificial reefs within this subzone, since they are structures incorporated into the aquatic environment, strategically positioned to provide habitat, shelter and growth to species of marine flora and fauna, generate new ecological niches, communities and ecosystems by providing suitable surfaces for the colonization of numerous species of corals, macroalgae, sponges and invertebrates, and contribute to increasing the population of species representative of the Park. Also, the use of motorized vehicles such as jet skis or jet skis represent a high risk because accidents can occur, negatively impacting the ecosystems of the subzone, which consist of rocky and steep reefs, as well as the harassment of wildlife such as cetaceans, especially blue whales (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), and dolphins. Additionally, this restriction serves to protect the integrity of mother and calf whales during the months of January through April, as well as visitors engaged in other activities.

Due to the characteristics described above, the reasons mentioned in the preceding paragraphs and in accordance with the provisions of article 47 BIS, section II, paragraph c) of the General Law of Ecological Balance and Environmental Protection, which provides that the subzones of Sustainable Use of Natural Resources are those areas in which natural resources may be used, and that, for reasons of use and conservation of their ecosystems in the long term, it is necessary that all productive activities be carried out under sustainable use schemes; and where only the use and management of renewable natural resources will be allowed, as long as these actions generate benefits preferably for the local inhabitants, scientific research, environmental education and the development of tourism activities with low environmental impact. Likewise, the sustainable use of wildlife may be carried out as long as its controlled reproduction is guaranteed or the populations of the species used and the habitat on which they depend are maintained or increased; and are supported by the corresponding plans authorized by the Secretariat, in accordance with the applicable legal and regulatory provisions, in correlation with the provisions of the Second, Third, Fifth, Sixth, and Seventh Articles of the Decree declaring a natural protected area, with the character of National Marine Park, the zone known as Loreto Bay, located off the coast of the Municipality of Loreto, State of Baja California Sur, published in the Official Gazette of the Federation on July 19, 1996, is that the following activities are determined as permitted in this Subzone of Sustainable Use of Marine Natural Resources:

Subzone for Sustainable Use of Marine Natural Resources (ASRNM)	
Permitted activities	Activities not allowed
<ol style="list-style-type: none"> 1. Aquaculture 2. Anchoring of vessels 3. Scientific collection of wildlife specimens 4. Environmental education 5. Sea water extraction 6. Filming, photography activities, capturing images or sounds by any means, which do not require equipment composed of more than one specialized technician to support the person operating the main equipment. 7. Installation of artificial reefs to provide habitat, shelter and growth for marine flora and fauna species. 8. Scientific research and environmental monitoring 9. Maintenance of existing port facilities 10. Commercial fishing, only through the use of jigging, hook and line, compressor, as well as the use of gill nets and light nets with mesh size greater than 4 inches. 11. Fishing promotion 12. Sport-recreational fishing, only with hook and line. 13. Didactic fishing 14. Low environmental impact tourism 	<ol style="list-style-type: none"> 1. Feeding, touching, or making loud noises that alter the natural behavior of wildlife specimens 2. Dumping or discharging pollutants, wastes or any other type of material 3. Capturing, removing, extracting, retaining, or appropriating wildlife and wildlife products, except for scientific research and collection. 4. Introduce exotic species, including invasive species. 5. Cleaning and disposal of waste from bilges 6. Commercial fishing, except when using jigging, hook and line, compressor and light nets with a mesh size greater than 4 inches. 7. Sport-recreational fishing, except when using hook and line. 8. Carrying out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the Natural Protected Area or in neighboring areas. 9. Tours in motorized vehicles, such as jet skis or jet skis

Zone of Influence

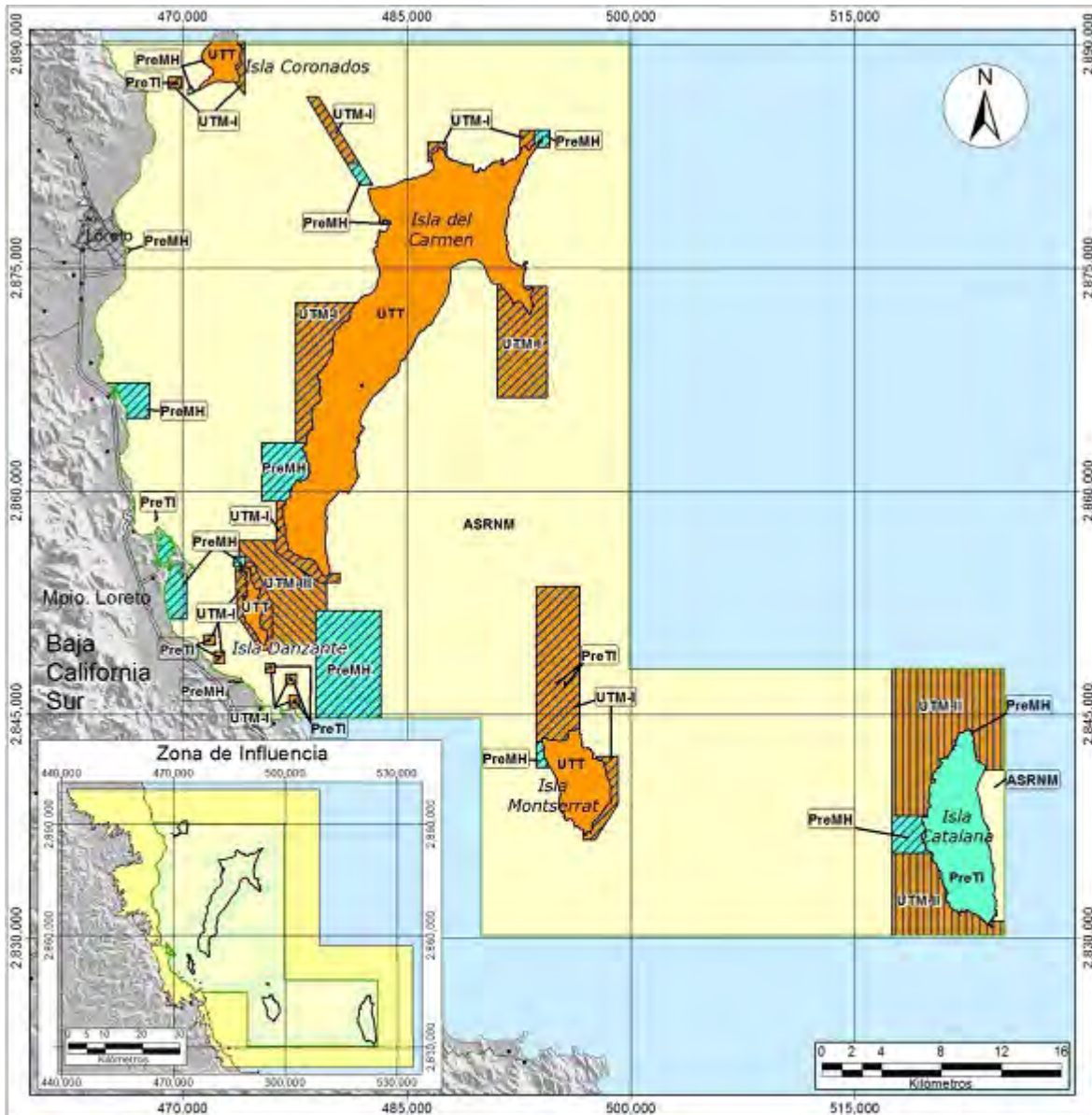
Bahía de Loreto National Park's zone of influence covers an area of 219,541.285768 hectares. The terrestrial portion includes several sub-basins from Sierra La Giganta to the basin's watershed, which is considered a rapid response basin and includes streams and creeks whose runoff is essential for the supply of minerals and nutrients to the marine environment, necessary for the preservation of the mangroves and wetlands of Loreto Bay National Park, as well as the vegetation cover of the coastal plain, mainly composed of xerophytic scrub and sarcocaulous scrub.

This zone includes the following communities: Ensenada Blanca, where there is a fishing community, and a tourist development with golf courses adjacent to the National Park. Agua Verde, San Cosme, Ligüí, Juncalito, Puerto Escondido, Nopoló, Loreto and San Bruno; these communities are users of the National Park, where the use and exploitation of natural resources is oriented towards sustainability, which has direct repercussions on the administration and management of this Protected Natural Area.

In a large part of the area of influence, especially between Puerto Escondido and Loreto, there are real estate development plans that would be adjacent to the national park. The demand for services, as well as inputs such as water, could represent future impacts such as: discharge of brine or wastewater, increased sediment contribution due to loss of vegetation cover, loss of wetlands (critical breeding areas for species of commercial and ecological importance), modifications to the coastline, as well as alterations in the physical-chemical parameters of the water, benthic habitats including rhodolith beds and sargassum forests, among others.

Its marine portion includes surfaces where there is displacement of aggregations of jack mackerel and populations of sea turtles and marine mammals such as whales that exist within the National Park, and where commercial fishing is carried out intensively, which could endanger the marine fauna populations present in the Protected Natural Area. To the north, this zone extends up to 5 nautical miles from the limits of the National Park's polygonal zone. In the eastern part, it also includes an incidence of 5 nautical miles. In the southern part, it includes a strip of 3 nautical miles. These marine limits of the area of influence allow for long-term conservation activities.

LOCATION AND SUBZONING MAP OF THE BAY OF LORETO NATIONAL PARK



<p>Parque Nacional Bahía de Loreto</p> <p>Macrolocalización</p>	<p>Subzonificación</p> <p>Subzona de:</p> <ul style="list-style-type: none"> Subzona de Preservación Terrestre los Islotes e Isla Catalana (PreTI) Preservación Marina y Humedales (PreMH) Uso Tradicional Terrestre (UTT) Uso Tradicional Marina I (UTM-I) Uso Tradicional Marina II (UTM-II) Uso Tradicional Marina III (UTM-III) Aprovechamiento Sustentable de los Recursos Naturales Marinos (ASRNM) Zona de Influencia <p>Simbología</p> <p>General</p> <ul style="list-style-type: none"> Limite del Área Natural Protegida Localidades Rurales Terracería Carretera Pavimentada Localidades Urbanas 	<p>Fuentes de Información Cartográfica</p> <p>CONANP INEGI Especificaciones Cartográficas Zona UTM 12 N. Cuadrícula: 15,000 metros Elipsoide: GRS80 Datum Horizontal: ITRF2008 Meridiano Central: -111</p> <p> Subzonificación</p>
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Coordinates of the vertices of the subzoning of Loreto Bay National Park.

UTM Zone 12 coordinate system with reference Datum ITRF 2008 epoch 2010.0 and a GRS80 Ellipsoid. For the construction of the polygons, the vertices of all categories must be integrated, because one or more polygons are presented within a larger polygon of different category.

Subzone of Terrestrial Preservation Los Islotes and Catalana Island

(PreTI) Polygon 1 La Islita (Coronados Island), with an area of 2.95 ha.

Vertex	X	Y
1	469,384.93	2,887,288.58
2	469,384.93	2,887,311.08
3	469,390.43	2,887,368.33
4	469,407.71	2,887,431.33
5	469,412.43	2,887,449.33
6	469,454.90	2,887,478.58
7	469,509.18	2,887,480.08
8	469,557.93	2,887,460.08
9	469,582.30	2,887,450.08
10	469,654.65	2,887,391.33

Vertex	X	Y
11	469,661.71	2,887,367.58
12	469,654.65	2,887,329.08
13	469,643.65	2,887,304.83
14	469,607.46	2,887,330.58
15	469,558.71	2,887,362.83
16	469,528.05	2,887,361.33
17	469,473.77	2,887,348.83
18	469,419.52	2,887,335.33
1	469,384.93	2,887,288.58

Subzone of Terrestrial Preservation Los Islotes and Catalana Island

(PreTI) Polygon 2 La Mestiza, with an area of 1.40 ha.

Vertex	X	Y
1	468,214.26	2,858,002.58
2	468,204.48	2,858,006.58
3	468,198.83	2,858,011.33
4	468,194.73	2,858,024.08
5	468,183.95	2,858,032.33
6	468,169.61	2,858,046.58
7	468,169.61	2,858,050.33
8	468,171.14	2,858,058.83
9	468,180.36	2,858,062.08
10	468,187.55	2,858,068.58
11	468,193.70	2,858,075.33
12	468,198.33	2,858,081.58
13	468,197.83	2,858,088.58
14	468,201.39	2,858,100.58
15	468,201.92	2,858,111.83
16	468,204.99	2,858,123.58
17	468,220.39	2,858,136.33
18	468,235.27	2,858,139.58
19	468,257.83	2,858,138.33
20	468,270.67	2,858,139.58
21	468,279.89	2,858,140.58

Vertex	X	Y
22	468,284.02	2,858,148.83
23	468,292.74	2,858,152.83
24	468,299.92	2,858,155.83
25	468,300.42	2,858,161.08
26	468,298.89	2,858,168.33
27	468,298.89	2,858,176.33
28	468,302.99	2,858,184.08
29	468,310.18	2,858,191.83
30	468,312.74	2,858,201.58
31	468,314.80	2,858,210.83
32	468,308.64	2,858,226.08
33	468,308.11	2,858,235.83
34	468,316.33	2,858,239.58
35	468,316.83	2,858,231.83
36	468,319.43	2,858,223.58
37	468,322.71	2,858,213.83
38	468,332.55	2,858,203.83
39	468,335.86	2,858,198.08
40	468,333.39	2,858,183.33
41	468,337.49	2,858,177.58
42	468,332.55	2,858,168.58

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Vertex	X	Y
43	468,322.71	2,858,167.08
44	468,312.86	2,858,160.33
45	468,304.64	2,858,137.33
46	468,286.55	2,858,069.33
47	468,275.05	2,858,031.33
48	468,261.92	2,858,015.08

Vertex	X	Y
49	468,252.89	2,858,010.83
50	468,238.11	2,858,011.83
51	468,226.61	2,858,013.33
52	468,220.03	2,858,007.60
1	468,214.26	2,858,002.58

Subzone of Terrestrial Preservation Los Islotes e Isla Catalana (PreTI)

Polygon 3 Islote Blanco, with an area of 0.77 ha.

Vertex	X	Y
1	471,784.44	2,849,946.29
2	471,784.44	2,849,958.04
3	471,784.44	2,849,963.29
4	471,786.63	2,849,974.79
5	471,790.26	2,849,986.54
6	471,788.82	2,849,991.03
7	471,782.97	2,850,000.28
8	471,776.41	2,850,008.53
9	471,771.32	2,850,015.03
10	471,765.51	2,850,025.28
11	471,769.13	2,850,032.53
12	471,772.79	2,850,047.03
13	471,780.79	2,850,050.78
14	471,793.91	2,850,051.28
15	471,799.01	2,850,052.78
16	471,809.23	2,850,058.78
17	471,817.23	2,850,062.28
18	471,829.60	2,850,058.03
19	471,839.82	2,850,052.03
20	471,846.35	2,850,046.28

Vertex	X	Y
21	471,858.76	2,850,041.28
22	471,865.32	2,850,038.29
23	471,869.66	2,850,028.79
24	471,876.98	2,850,023.79
25	471,884.98	2,850,024.54
26	471,895.16	2,850,015.79
27	471,889.35	2,850,007.79
28	471,886.44	2,849,993.79
29	471,878.41	2,849,983.54
30	471,866.76	2,849,976.29
31	471,860.94	2,849,988.04
32	471,863.85	2,849,991.79
33	471,859.48	2,849,995.29
34	471,854.38	2,849,993.79
35	471,841.26	2,849,985.04
36	471,822.32	2,849,977.79
37	471,809.22	2,849,969.79
38	471,793.91	2,849,963.29
1	471,784.44	2,849,946.29

Subzone of Terrestrial Preservation Los Islotes and Catalana Island

(PreTI) Polygon 4 Las Islitas, with an area of 2.39 ha.

Vertex	X	Y
1	472,439.87	2,848,744.32
2	472,434.93	2,848,734.82
3	472,428.55	2,848,731.57
4	472,418.52	2,848,731.07

Vertex	X	Y
5	472,411.71	2,848,727.32
6	472,400.80	2,848,715.57
7	472,392.61	2,848,709.32
8	472,386.24	2,848,703.82

Vertex	X	Y
9	472,384.40	2,848,702.82
10	472,381.24	2,848,694.57
11	472,382.58	2,848,683.82
12	472,383.05	2,848,676.07
13	472,383.05	2,848,665.07
14	472,382.58	2,848,654.57
15	472,381.24	2,848,647.82
16	472,375.30	2,848,644.07
17	472,366.68	2,848,647.32
18	472,363.49	2,848,651.82
19	472,357.11	2,848,654.57
20	472,346.18	2,848,656.07
21	472,339.83	2,848,661.57
22	472,333.89	2,848,667.32
23	472,333.46	2,848,680.07
24	472,333.46	2,848,695.57
25	472,337.99	2,848,702.32
26	472,347.55	2,848,709.57
27	472,357.55	2,848,716.57
28	472,360.30	2,848,718.32
29	472,364.40	2,848,724.32
30	472,370.77	2,848,729.32
31	472,383.49	2,848,739.32
32	472,393.52	2,848,749.32
33	472,402.62	2,848,753.82
34	472,408.99	2,848,757.57
35	472,410.33	2,848,762.82
36	472,412.18	2,848,771.57
37	472,414.90	2,848,783.82
38	472,411.46	2,848,802.57
39	472,407.09	2,848,815.81
40	472,402.71	2,848,826.81
41	472,396.87	2,848,838.31
42	472,395.40	2,848,850.81
43	472,391.77	2,848,863.06
44	472,387.40	2,848,877.06
45	472,387.40	2,848,891.56
46	472,390.31	2,848,901.06

Vertex	X	Y
47	472,396.87	2,848,909.06
48	472,407.09	2,848,914.81
49	472,419.46	2,848,920.06
50	472,427.49	2,848,918.56
51	472,435.49	2,848,917.81
52	472,444.24	2,848,917.81
53	472,460.28	2,848,915.56
54	472,469.03	2,848,920.06
55	472,471.96	2,848,924.31
56	472,483.62	2,848,928.81
57	472,496.00	2,848,931.06
58	472,512.78	2,848,927.31
59	472,528.09	2,848,921.56
60	472,531.00	2,848,914.06
61	472,533.18	2,848,904.82
62	472,533.18	2,848,895.32
63	472,539.03	2,848,885.82
64	472,533.90	2,848,867.57
65	472,530.28	2,848,853.07
66	472,531.71	2,848,845.57
67	472,527.37	2,848,836.07
68	472,515.68	2,848,844.82
69	472,513.49	2,848,843.57
70	472,512.06	2,848,832.57
71	472,512.77	2,848,823.07
72	472,515.68	2,848,813.57
73	472,513.49	2,848,799.07
74	472,504.02	2,848,793.07
75	472,499.65	2,848,790.32
76	472,494.55	2,848,784.32
77	472,487.27	2,848,778.57
78	472,478.52	2,848,774.32
79	472,474.15	2,848,765.57
80	472,465.40	2,848,758.07
81	472,454.46	2,848,759.57
82	472,449.37	2,848,755.32
1	472,439.87	2,848,744.32

Los Islotes and Catalana Island Terrestrial Preservation Subzone (PreTI)

Polygon 5 Candeleros Islet, with an area of 0.67 ha.

Vertex	X	Y
1	475,839.46	2,848,087.62
2	475,859.90	2,848,133.62
3	475,893.47	2,848,178.12
4	475,927.81	2,848,201.37
5	475,958.22	2,848,206.87
6	475,932.47	2,848,167.87

Vertex	X	Y
7	475,912.18	2,848,133.62
8	475,902.84	2,848,103.13
9	475,897.37	2,848,065.63
10	475,888.78	2,848,060.13
11	475,859.12	2,848,071.13
1	475,839.46	2,848,087.62

Los Islotes and Catalana Island Terrestrial Preservation Subzone (PreTI)

Polygon 6 Las Tijeras Islet, with an area of 2.59 ha.

Vertex	X	Y
1	477,148.25	2,847,400.40
2	477,167.66	2,847,413.90
3	477,197.97	2,847,434.90
4	477,222.81	2,847,464.65
5	477,238.56	2,847,457.40
6	477,262.22	2,847,460.41
7	477,285.85	2,847,453.16
8	477,287.06	2,847,438.16
9	477,288.28	2,847,411.91
10	477,307.06	2,847,408.91
11	477,329.50	2,847,406.41
12	477,338.60	2,847,427.16
13	477,348.28	2,847,412.66
14	477,348.28	2,847,400.41

Vertex	X	Y
15	477,336.78	2,847,387.16
16	477,336.19	2,847,359.16
17	477,333.16	2,847,347.66
18	477,308.28	2,847,329.66
19	477,341.03	2,847,299.16
20	477,345.25	2,847,284.66
21	477,328.91	2,847,276.91
22	477,253.12	2,847,270.16
23	477,224.03	2,847,275.66
24	477,205.84	2,847,291.91
25	477,192.50	2,847,330.16
26	477,170.06	2,847,340.41
27	477,157.34	2,847,354.91
1	477,148.25	2,847,400.40

Subzone of Terrestrial Preservation Los Islotes e Isla Catalana (PreTI)

Polygon 7 Islote Pardo, with an area of 2.87 ha.

Vertex	X	Y
1	477,392.79	2,845,837.44
2	477,391.69	2,845,871.44
3	477,400.44	2,845,887.94
4	477,427.88	2,845,933.94
5	477,456.38	2,846,009.69
6	477,486.01	2,846,010.69
7	477,523.29	2,845,992.19
8	477,544.13	2,845,960.19
9	477,555.10	2,845,921.94

Vertex	X	Y
10	477,552.91	2,845,835.19
11	477,564.97	2,845,807.94
12	477,562.79	2,845,757.44
13	477,538.63	2,845,751.94
14	477,511.22	2,845,757.44
15	477,493.69	2,845,777.19
16	477,483.82	2,845,804.44
1	477,392.79	2,845,837.44

Los Islotes and Catalana Island Terrestrial Preservation Subzone (PreTI)

Polygon 8 Las Galeras I, with an area of 2.20 ha.

Vertex	X	Y
1	495,109.32	2,846,993.08
2	495,092.64	2,847,002.83
3	495,077.42	2,847,022.58
4	495,059.23	2,847,041.58
5	495,034.20	2,847,057.83
6	495,016.54	2,847,080.33
7	495,005.73	2,847,104.58
8	494,995.42	2,847,134.33
9	494,993.95	2,847,167.33
10	494,995.92	2,847,186.33
11	495,004.76	2,847,186.83
12	495,014.58	2,847,196.83
13	495,028.33	2,847,195.83
14	495,040.58	2,847,194.33
15	495,046.98	2,847,194.33
16	495,057.26	2,847,191.83
17	495,065.14	2,847,187.83

Vertex	X	Y
18	495,072.98	2,847,177.58
19	495,084.26	2,847,172.08
20	495,089.20	2,847,179.58
21	495,092.64	2,847,185.58
22	495,101.45	2,847,180.58
23	495,117.67	2,847,175.58
24	495,123.04	2,847,167.33
25	495,124.04	2,847,154.58
26	495,132.39	2,847,141.83
27	495,139.76	2,847,126.08
28	495,153.01	2,847,117.33
29	495,155.45	2,847,110.33
30	495,159.89	2,847,080.33
31	495,157.42	2,847,053.33
32	495,153.01	2,847,040.08
33	495,135.82	2,847,013.58
1	495,109.32	2,846,993.08

Los Islotes and Catalana Island Terrestrial Preservation Subzone (PreTI)

Polygon 9 Las Galeras II, with an area of 3.36 ha.

Vertex	X	Y
1	495,605.14	2,846,791.34
2	495,592.36	2,846,798.59
3	495,576.67	2,846,820.34
4	495,560.95	2,846,847.84
5	495,553.11	2,846,861.59
6	495,553.11	2,846,870.84
7	495,553.58	2,846,902.34
8	495,553.58	2,846,913.59
9	495,552.11	2,846,924.34
10	495,553.11	2,846,933.59
11	495,557.01	2,846,943.84
12	495,562.42	2,846,960.09
13	495,564.89	2,846,972.84
14	495,563.89	2,846,987.59
15	495,559.48	2,847,015.09
16	495,557.02	2,847,034.34
17	495,552.61	2,847,043.09
18	495,547.70	2,847,054.34

Vertex	X	Y
19	495,547.20	2,847,071.08
20	495,552.61	2,847,082.33
21	495,551.14	2,847,094.08
22	495,548.17	2,847,108.83
23	495,544.27	2,847,116.83
24	495,541.30	2,847,131.83
25	495,541.80	2,847,142.83
26	495,545.74	2,847,150.08
27	495,548.17	2,847,158.08
28	495,553.58	2,847,164.83
29	495,557.52	2,847,174.08
30	495,559.96	2,847,184.08
31	495,562.92	2,847,197.33
32	495,563.39	2,847,209.08
33	495,568.80	2,847,218.83
34	495,577.64	2,847,225.83
35	495,589.42	2,847,225.83
36	495,594.33	2,847,221.33

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Vertex	X	Y
37	495,598.27	2,847,213.83
38	495,609.55	2,847,204.58
39	495,620.36	2,847,191.83
40	495,623.30	2,847,183.58
41	495,628.71	2,847,175.08
42	495,633.61	2,847,160.83
43	495,639.02	2,847,149.58
44	495,641.96	2,847,138.83
45	495,641.96	2,847,128.58
46	495,632.14	2,847,119.58
47	495,634.58	2,847,108.83
48	495,639.02	2,847,101.58
49	495,641.95	2,847,082.34
50	495,637.52	2,847,070.59
51	495,636.55	2,847,060.84
52	495,642.45	2,847,053.84
53	495,643.92	2,847,043.59

Vertex	X	Y
54	495,631.64	2,847,039.59
55	495,623.80	2,847,030.34
56	495,622.80	2,847,017.09
57	495,628.70	2,847,006.34
58	495,636.05	2,846,996.84
59	495,637.05	2,846,984.59
60	495,644.39	2,846,979.34
61	495,652.27	2,846,964.09
62	495,649.30	2,846,951.34
63	495,646.86	2,846,935.09
64	495,650.30	2,846,920.84
65	495,654.70	2,846,906.59
66	495,651.76	2,846,889.34
67	495,652.26	2,846,869.34
68	495,644.39	2,846,854.09
69	495,625.73	2,846,817.34
1	495,605.14	2,846,791.34

Subzone of Terrestrial Preservation Los Islotes and Catalana Island (PreTI)

Polygon 10 Catalana Island or Santa Catalina, with an area of 3,938.40 ha.

Vertex	X	Y
1	522,776.96	2,843,903.48
2	522,777.30	2,843,900.48
3	522,780.83	2,843,878.23
4	522,784.33	2,843,861.98
5	522,785.52	2,843,847.73
6	522,793.71	2,843,830.23
7	522,790.21	2,843,813.98
8	522,790.21	2,843,792.73
9	522,792.55	2,843,779.98
10	522,801.89	2,843,770.48
11	522,807.77	2,843,761.23
12	522,808.92	2,843,739.98
13	522,793.71	2,843,727.23
14	522,800.74	2,843,716.73
15	522,808.92	2,843,704.98
16	522,818.30	2,843,687.48

Vertex	X	Y
17	522,845.27	2,843,681.48
18	522,856.96	2,843,686.23
19	522,871.02	2,843,697.98
20	522,882.74	2,843,684.98
21	522,892.11	2,843,666.23
22	522,890.92	2,843,655.73
23	522,887.42	2,843,653.48
24	522,875.71	2,843,648.73
25	522,875.71	2,843,635.73
26	522,882.74	2,843,620.48
27	522,897.96	2,843,611.23
28	522,900.64	2,843,606.24
29	522,906.17	2,843,595.99
30	522,910.86	2,843,570.24
31	522,906.17	2,843,552.74
32	522,897.95	2,843,543.24

Vertex	X	Y
33	522,903.83	2,843,530.49
34	522,917.89	2,843,532.74
35	522,941.30	2,843,537.49
36	522,953.02	2,843,530.49
37	522,972.95	2,843,518.74
38	522,974.11	2,843,496.49
39	522,979.99	2,843,470.74
40	522,997.55	2,843,413.24
41	523,011.61	2,843,390.99
42	523,013.95	2,843,363.99
43	522,997.55	2,843,347.74
44	522,999.89	2,843,311.24
45	522,988.17	2,843,305.49
46	522,954.20	2,843,308.99
47	522,955.36	2,843,283.25
48	522,948.33	2,843,270.25
49	522,934.30	2,843,262.25
50	522,923.73	2,843,244.50
51	522,917.89	2,843,225.75
52	522,927.26	2,843,221.25
53	522,937.80	2,843,211.75
54	522,948.33	2,843,215.25
55	522,962.39	2,843,223.50
56	522,971.76	2,843,221.25
57	522,955.36	2,843,201.25
58	522,942.48	2,843,195.25
59	522,945.98	2,843,183.75
60	522,950.67	2,843,145.00
61	522,956.54	2,843,114.50
62	522,965.92	2,843,087.50
63	522,974.11	2,843,068.75
64	523,001.04	2,843,060.75
65	522,968.26	2,843,049.00
66	522,968.26	2,843,037.25

Vertex	X	Y
67	522,976.45	2,843,025.50
68	522,983.48	2,843,004.50
69	522,999.89	2,843,002.00
70	523,004.58	2,842,990.26
71	522,990.51	2,842,977.51
72	522,985.82	2,842,961.01
73	522,984.64	2,842,947.01
74	522,996.36	2,842,936.51
75	523,012.76	2,842,936.51
76	523,030.33	2,842,940.01
77	523,056.11	2,842,941.26
78	523,066.67	2,842,927.01
79	523,065.48	2,842,914.26
80	523,054.95	2,842,902.51
81	523,035.01	2,842,908.26
82	523,023.32	2,842,897.76
83	523,005.73	2,842,865.01
84	523,004.57	2,842,835.76
85	523,004.57	2,842,804.01
86	523,003.39	2,842,777.26
87	523,012.76	2,842,756.01
88	523,024.48	2,842,732.76
89	523,018.64	2,842,722.01
90	523,006.92	2,842,703.26
91	523,004.57	2,842,685.76
92	523,020.98	2,842,674.02
93	523,035.01	2,842,661.27
94	523,025.63	2,842,654.27
95	523,003.38	2,842,646.02
96	523,004.57	2,842,627.27
97	523,025.63	2,842,619.02
98	523,029.17	2,842,615.52
99	523,053.76	2,842,599.02
100	523,057.29	2,842,573.27

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Vertex	X	Y
101	523,060.79	2,842,558.02
102	523,072.51	2,842,551.02
103	523,080.70	2,842,539.27
104	523,073.67	2,842,524.02
105	523,067.82	2,842,501.77
106	523,043.23	2,842,482.02
107	523,044.38	2,842,463.27
108	523,046.73	2,842,438.52
109	523,056.10	2,842,424.52
110	523,070.16	2,842,428.02
111	523,088.91	2,842,439.77
112	523,101.79	2,842,427.02
113	523,110.01	2,842,404.52
114	523,111.16	2,842,374.27
115	523,097.10	2,842,348.53
116	523,079.54	2,842,337.78
117	523,080.69	2,842,315.53
118	523,081.88	2,842,292.28
119	523,098.29	2,842,274.53
120	523,112.35	2,842,265.28
121	523,119.35	2,842,241.78
122	523,140.44	2,842,226.53
123	523,136.94	2,842,186.78
124	523,131.07	2,842,154.03
125	523,091.26	2,842,123.53
126	523,101.79	2,842,052.04
127	523,119.35	2,841,984.04
128	523,161.54	2,841,901.04
129	523,237.69	2,841,847.04
130	523,389.97	2,841,789.54
131	523,501.25	2,841,731.04
132	523,618.41	2,841,655.05
133	523,694.57	2,841,598.80
134	523,743.75	2,841,537.80

Vertex	X	Y
135	523,760.16	2,841,519.05
136	523,767.19	2,841,474.55
137	523,753.13	2,841,448.80
138	523,727.35	2,841,425.30
139	523,727.35	2,841,403.05
140	523,733.22	2,841,385.56
141	523,736.72	2,841,365.56
142	523,735.56	2,841,348.06
143	523,715.63	2,841,334.06
144	523,688.69	2,841,310.56
145	523,686.34	2,841,291.81
146	523,687.25	2,841,276.81
147	523,688.69	2,841,253.06
148	523,654.72	2,841,205.06
149	523,593.81	2,841,088.07
150	523,510.62	2,840,933.32
151	523,460.25	2,840,846.57
152	523,400.49	2,840,710.83
153	523,306.77	2,840,484.59
154	523,232.99	2,840,300.84
155	523,184.96	2,840,185.84
156	523,148.64	2,840,074.60
157	523,148.64	2,839,984.35
158	523,166.20	2,839,924.85
159	523,193.14	2,839,845.11
160	523,215.39	2,839,807.61
161	523,241.17	2,839,771.36
162	523,247.05	2,839,757.11
163	523,256.39	2,839,713.86
164	523,266.95	2,839,679.86
165	523,265.76	2,839,627.11
166	523,281.01	2,839,552.11
167	523,298.58	2,839,531.12
168	523,307.95	2,839,510.12

Vertex	X	Y
169	523,313.79	2,839,481.87
170	523,329.04	2,839,442.12
171	523,338.42	2,839,419.87
172	523,347.76	2,839,394.12
173	523,350.11	2,839,357.87
174	523,355.98	2,839,331.87
175	523,364.17	2,839,295.62
176	523,358.32	2,839,231.12
177	523,365.35	2,839,163.38
178	523,370.04	2,839,123.38
179	523,380.57	2,839,084.88
180	523,389.95	2,839,044.88
181	523,406.35	2,838,999.38
182	523,430.95	2,838,927.88
183	523,442.67	2,838,889.14
184	523,447.35	2,838,851.64
185	523,447.35	2,838,809.64
186	523,452.04	2,838,779.14
187	523,462.57	2,838,754.39
188	523,464.91	2,838,727.64
189	523,464.91	2,838,678.39
190	523,470.79	2,838,625.64
191	523,478.98	2,838,599.89
192	523,477.79	2,838,578.64
193	523,494.19	2,838,511.90
194	523,497.72	2,838,469.90
195	523,505.91	2,838,428.90
196	523,528.16	2,838,338.65
197	523,543.41	2,838,246.16
198	523,557.47	2,838,174.66
199	523,568.00	2,838,090.16
200	523,586.75	2,838,014.16
201	523,609.00	2,837,941.41
202	523,632.44	2,837,889.92

Vertex	X	Y
203	523,658.19	2,837,847.67
204	523,668.75	2,837,824.42
205	523,675.78	2,837,805.67
206	523,688.66	2,837,779.92
207	523,696.87	2,837,750.67
208	523,720.28	2,837,727.17
209	523,730.84	2,837,714.17
210	523,742.53	2,837,691.92
211	523,763.62	2,837,669.67
212	523,781.22	2,837,647.42
213	523,790.56	2,837,622.92
214	523,812.84	2,837,597.17
215	523,832.75	2,837,574.93
216	523,838.59	2,837,552.68
217	523,849.16	2,837,529.18
218	523,864.37	2,837,504.68
219	523,867.90	2,837,481.18
220	523,877.25	2,837,459.93
221	523,884.28	2,837,440.18
222	523,905.37	2,837,414.43
223	523,926.47	2,837,406.18
224	523,940.53	2,837,389.68
225	523,946.37	2,837,362.93
226	523,940.53	2,837,349.93
227	523,937.00	2,837,322.93
228	523,941.68	2,837,303.18
229	523,956.93	2,837,291.43
230	523,972.15	2,837,276.18
231	524,000.28	2,837,251.44
232	523,983.87	2,837,223.44
233	523,981.53	2,837,180.19
234	523,979.18	2,837,157.69
235	523,968.62	2,837,117.94
236	523,967.46	2,837,072.19

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Vertex	X	Y
237	523,968.62	2,837,030.19
238	523,955.74	2,836,972.69
239	523,954.59	2,836,939.94
240	523,954.59	2,836,885.95
241	523,944.02	2,836,795.95
242	523,936.99	2,836,769.95
243	523,935.84	2,836,731.45
244	523,927.62	2,836,691.70
245	523,921.77	2,836,662.20
246	523,924.12	2,836,615.45
247	523,915.93	2,836,589.71
248	523,903.02	2,836,557.96
249	523,898.33	2,836,482.96
250	523,900.68	2,836,402.21
251	523,915.93	2,836,336.71
252	523,919.43	2,836,323.71
253	523,927.61	2,836,294.46
254	523,938.18	2,836,273.47
255	523,935.83	2,836,259.22
256	523,954.58	2,836,222.97
257	523,983.86	2,836,186.72
258	524,009.64	2,836,165.72
259	524,035.39	2,836,135.22
260	524,056.49	2,836,109.47
261	524,067.02	2,836,075.47
262	524,056.49	2,836,034.47
263	524,050.64	2,835,993.47
264	524,051.80	2,835,964.22
265	524,063.52	2,835,935.98
266	524,072.89	2,835,908.98
267	524,077.58	2,835,890.23
268	524,083.42	2,835,869.23
269	524,089.30	2,835,852.73
270	524,090.45	2,835,829.48

Vertex	X	Y
271	524,095.14	2,835,801.23
272	524,092.80	2,835,775.48
273	524,078.73	2,835,742.73
274	524,077.58	2,835,709.98
275	524,091.64	2,835,687.73
276	524,097.48	2,835,669.98
277	524,091.64	2,835,655.98
278	524,084.61	2,835,620.98
279	524,083.42	2,835,568.24
280	524,090.45	2,835,550.49
281	524,109.20	2,835,539.99
282	524,103.33	2,835,514.24
283	524,093.98	2,835,491.99
284	524,085.76	2,835,470.99
285	524,085.76	2,835,447.49
286	524,089.29	2,835,426.49
287	524,089.29	2,835,401.74
288	524,082.26	2,835,363.24
289	524,086.95	2,835,327.99
290	524,089.29	2,835,291.74
291	524,090.45	2,835,253.00
292	524,111.54	2,835,145.25
293	524,133.79	2,835,092.50
294	524,144.35	2,835,086.75
295	524,160.73	2,835,075.00
296	524,181.82	2,835,065.75
297	524,206.42	2,835,049.25
298	524,211.10	2,835,039.75
299	524,180.67	2,835,021.00
300	524,192.35	2,834,980.00
301	524,202.91	2,834,942.76
302	524,221.66	2,834,901.76
303	524,238.04	2,834,868.76
304	524,253.29	2,834,864.26

Vertex	X	Y
305	524,269.70	2,834,844.26
306	524,288.41	2,834,837.26
307	524,288.41	2,834,820.76
308	524,274.38	2,834,817.26
309	524,261.48	2,834,805.51
310	524,259.13	2,834,788.01
311	524,267.35	2,834,764.51
312	524,282.54	2,834,743.51
313	524,296.60	2,834,726.01
314	524,315.35	2,834,711.76
315	524,330.60	2,834,700.26
316	524,336.48	2,834,674.26
317	524,338.79	2,834,652.01
318	524,315.35	2,834,645.01
319	524,324.72	2,834,628.76
320	524,321.22	2,834,606.52
321	524,315.35	2,834,577.27
322	524,315.35	2,834,551.27
323	524,301.29	2,834,506.77
324	524,284.91	2,834,457.77
325	524,257.97	2,834,386.27
326	524,245.07	2,834,331.02
327	524,228.69	2,834,275.03
328	524,216.97	2,834,214.03
329	524,215.78	2,834,169.53
330	524,218.13	2,834,136.78
331	524,224.00	2,834,119.03
332	524,235.72	2,834,103.78
333	524,240.38	2,834,084.03
334	524,241.56	2,834,062.78
335	524,248.59	2,834,054.78
336	524,250.94	2,834,039.53
337	524,253.28	2,834,016.03
338	524,250.94	2,833,977.28

Vertex	X	Y
339	524,259.12	2,833,951.53
340	524,259.12	2,833,924.54
341	524,260.31	2,833,895.29
342	524,275.53	2,833,865.04
343	524,286.09	2,833,835.54
344	524,293.09	2,833,809.79
345	524,297.78	2,833,780.54
346	524,302.47	2,833,758.29
347	524,314.22	2,833,733.79
348	524,314.22	2,833,690.29
349	524,317.72	2,833,649.29
350	524,324.72	2,833,622.54
351	524,338.78	2,833,590.80
352	524,348.15	2,833,553.30
353	524,352.84	2,833,521.80
354	524,365.71	2,833,493.55
355	524,365.71	2,833,454.80
356	524,375.09	2,833,416.30
357	524,387.96	2,833,385.80
358	524,390.34	2,833,354.05
359	524,402.03	2,833,333.05
360	524,403.21	2,833,299.05
361	524,385.65	2,833,248.81
362	524,366.90	2,833,183.06
363	524,349.34	2,833,110.56
364	524,320.02	2,833,041.31
365	524,291.90	2,832,948.81
366	524,289.58	2,832,907.82
367	524,295.46	2,832,880.82
368	524,300.15	2,832,846.82
369	524,303.65	2,832,813.07
370	524,321.21	2,832,786.07
371	524,352.83	2,832,767.32
372	524,371.58	2,832,733.32

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Vertex	X	Y
373	524,382.14	2,832,716.82
374	524,390.33	2,832,694.57
375	524,399.71	2,832,684.07
376	524,405.58	2,832,660.57
377	524,406.71	2,832,629.07
378	524,419.58	2,832,595.07
379	524,431.33	2,832,571.57
380	524,445.39	2,832,552.83
381	524,457.08	2,832,528.33
382	524,460.58	2,832,500.08
383	524,485.21	2,832,483.83
384	524,462.96	2,832,485.08
385	524,452.39	2,832,461.58
386	524,437.20	2,832,426.33
387	524,432.52	2,832,380.83
388	524,439.52	2,832,358.33
389	524,430.14	2,832,338.58
390	524,410.27	2,832,332.58
391	524,405.58	2,832,313.83
392	524,441.89	2,832,312.83
393	524,453.58	2,832,311.58
394	524,468.83	2,832,299.83
395	524,446.58	2,832,294.08
396	524,440.70	2,832,219.09
397	524,443.02	2,832,183.84
398	524,438.33	2,832,165.09
399	524,453.58	2,832,155.84
400	524,472.33	2,832,157.09
401	524,472.33	2,832,134.59
402	524,451.26	2,832,138.34
403	524,434.83	2,832,131.09
404	524,430.14	2,832,116.09
405	524,416.08	2,832,077.34
406	524,409.08	2,832,052.59

Vertex	X	Y
407	524,404.39	2,832,023.34
408	524,414.95	2,832,015.34
409	524,418.45	2,831,994.09
410	524,418.45	2,831,977.84
411	524,406.70	2,831,951.84
412	524,379.76	2,831,966.09
413	524,379.76	2,831,956.59
414	524,402.01	2,831,941.34
415	524,418.45	2,831,918.09
416	524,418.45	2,831,891.09
417	524,439.51	2,831,884.09
418	524,453.57	2,831,874.60
419	524,457.07	2,831,864.10
420	524,475.82	2,831,850.10
421	524,477.24	2,831,853.35
422	524,482.89	2,831,866.35
423	524,492.26	2,831,865.35
424	524,499.26	2,831,875.85
425	524,504.72	2,831,859.51
426	524,507.45	2,831,851.35
427	524,492.26	2,831,850.10
428	524,492.26	2,831,833.60
429	524,486.39	2,831,823.10
430	524,491.07	2,831,806.60
431	524,496.95	2,831,784.35
432	524,493.39	2,831,766.85
433	524,474.64	2,831,764.60
434	524,471.14	2,831,754.10
435	524,480.51	2,831,735.35
436	524,492.26	2,831,728.10
437	524,488.70	2,831,716.60
438	524,477.01	2,831,710.60
439	524,469.95	2,831,718.85
440	524,451.26	2,831,727.10

Vertex	X	Y
441	524,443.01	2,831,713.10
442	524,451.26	2,831,697.85
443	524,464.14	2,831,681.35
444	524,475.82	2,831,663.85
445	524,443.01	2,831,666.10
446	524,432.51	2,831,653.35
447	524,443.01	2,831,633.35
448	524,457.07	2,831,619.35
449	524,481.70	2,831,611.10
450	524,503.95	2,831,606.35
451	524,508.63	2,831,591.10
452	524,515.63	2,831,573.60
453	524,510.95	2,831,554.85
454	524,501.63	2,831,550.10
455	524,501.63	2,831,537.35
456	524,512.13	2,831,526.86
457	524,513.32	2,831,492.86
458	524,494.57	2,831,489.36
459	524,450.07	2,831,504.36
460	524,425.45	2,831,522.11
461	524,391.51	2,831,543.10
462	524,379.20	2,831,540.73
463	524,366.88	2,831,538.35
464	524,328.20	2,831,515.11
465	524,288.38	2,831,479.86
466	524,270.82	2,831,451.86
467	524,277.85	2,831,435.36
468	524,300.13	2,831,441.11
469	524,313.01	2,831,418.86
470	524,309.51	2,831,404.86
471	524,281.38	2,831,417.86
472	524,280.19	2,831,395.61
473	524,264.97	2,831,382.61
474	524,222.79	2,831,383.86

Vertex	X	Y
475	524,231.01	2,831,366.36
476	524,256.76	2,831,349.86
477	524,276.69	2,831,345.11
478	524,316.51	2,831,318.11
479	524,303.63	2,831,307.61
480	524,270.82	2,831,325.36
481	524,263.01	2,831,307.65
482	524,261.44	2,831,304.11
483	524,223.97	2,831,314.61
484	524,215.75	2,831,308.86
485	524,194.66	2,831,273.61
486	524,185.32	2,831,259.61
487	524,204.04	2,831,251.36
488	524,190.00	2,831,247.86
489	524,161.88	2,831,253.86
490	524,172.41	2,831,239.61
491	524,220.44	2,831,212.86
492	524,209.91	2,831,206.86
493	524,179.44	2,831,209.36
494	524,164.22	2,831,198.61
495	524,157.19	2,831,177.61
496	524,149.47	2,831,173.11
497	524,133.75	2,831,163.62
498	524,109.16	2,831,164.87
499	524,072.85	2,831,136.62
500	524,038.88	2,831,083.87
501	524,028.31	2,831,028.87
502	524,038.88	2,831,000.87
503	524,058.78	2,830,977.37
504	524,066.97	2,830,952.62
505	524,049.41	2,830,958.62
506	524,025.97	2,830,958.62
507	524,024.81	2,830,945.62
508	524,021.28	2,830,930.37

Vertex	X	Y
509	524,035.34	2,830,919.87
510	524,049.41	2,830,916.37
511	524,063.47	2,830,903.62
512	524,076.34	2,830,911.62
513	524,102.13	2,830,896.62
514	524,118.53	2,830,870.62
515	524,140.78	2,830,861.37
516	524,144.31	2,830,835.62
517	524,120.87	2,830,822.62
518	524,137.28	2,830,800.38
519	524,147.81	2,830,814.63
520	524,161.87	2,830,802.88
521	524,165.37	2,830,779.38
522	524,170.06	2,830,762.88
523	524,167.72	2,830,744.13
524	524,177.09	2,830,724.38
525	524,158.34	2,830,734.88
526	524,141.97	2,830,743.13
527	524,131.40	2,830,734.88
528	524,110.31	2,830,752.38
529	524,088.06	2,830,773.63
530	524,054.09	2,830,784.13
531	524,021.28	2,830,827.37
532	523,994.34	2,830,842.62
533	523,953.34	2,830,840.37
534	523,934.59	2,830,869.62
535	523,899.47	2,830,877.87
536	523,892.44	2,830,851.87
537	523,872.53	2,830,910.62
538	523,858.47	2,830,950.37
539	523,777.62	2,831,038.37
540	523,709.22	2,831,093.12
541	523,666.87	2,831,108.12
542	523,634.06	2,831,116.62

Vertex	X	Y
543	523,607.59	2,831,129.12
544	523,590.69	2,831,157.87
545	523,583.25	2,831,180.11
546	523,569.50	2,831,200.11
547	523,556.81	2,831,219.11
548	523,543.06	2,831,239.36
549	523,531.41	2,831,261.61
550	523,520.81	2,831,291.11
551	523,507.06	2,831,301.61
552	523,480.59	2,831,318.61
553	523,465.78	2,831,338.86
554	523,442.50	2,831,359.86
555	523,426.62	2,831,376.86
556	523,404.41	2,831,391.61
557	523,372.66	2,831,406.36
558	523,353.59	2,831,422.36
559	523,336.69	2,831,427.61
560	523,319.75	2,831,434.11
561	523,311.28	2,831,444.61
562	523,293.28	2,831,459.36
563	523,276.34	2,831,465.86
564	523,272.12	2,831,487.86
565	523,267.87	2,831,502.86
566	523,244.59	2,831,505.85
567	523,229.78	2,831,498.61
568	523,208.62	2,831,501.61
569	523,178.97	2,831,536.60
570	523,158.87	2,831,554.60
571	523,140.87	2,831,564.10
572	523,122.87	2,831,575.85
573	523,096.44	2,831,583.10
574	523,067.84	2,831,585.35
575	523,035.03	2,831,586.35
576	523,004.34	2,831,586.35

Vertex	X	Y
577	522,977.90	2,831,588.60
578	522,965.19	2,831,580.10
579	522,953.56	2,831,585.35
580	522,938.75	2,831,586.35
581	522,922.87	2,831,574.85
582	522,893.22	2,831,574.85
583	522,877.34	2,831,556.85
584	522,865.72	2,831,574.85
585	522,853.00	2,831,599.10
586	522,837.12	2,831,612.85
587	522,832.90	2,831,629.85
588	522,848.78	2,831,632.85
589	522,836.09	2,831,642.60
590	522,824.44	2,831,663.60
591	522,806.44	2,831,681.60
592	522,796.90	2,831,672.10
593	522,788.47	2,831,691.10
594	522,785.28	2,831,713.35
595	522,773.62	2,831,730.35
596	522,762.00	2,831,733.60
597	522,750.34	2,831,725.10
598	522,742.94	2,831,745.10
599	522,716.50	2,831,758.85
600	522,691.09	2,831,767.35
601	522,686.84	2,831,784.35
602	522,651.94	2,831,808.60
603	522,624.40	2,831,839.35
604	522,576.78	2,831,881.59
605	522,510.12	2,831,879.59
606	522,481.53	2,831,874.34
607	522,449.78	2,831,862.59
608	522,413.81	2,831,848.84
609	522,388.40	2,831,835.09
610	522,371.46	2,831,820.35

Vertex	X	Y
611	522,371.46	2,831,800.10
612	522,376.75	2,831,792.85
613	522,381.00	2,831,781.10
614	522,375.71	2,831,766.35
615	522,370.40	2,831,750.35
616	522,352.40	2,831,743.10
617	522,344.99	2,831,730.35
618	522,324.90	2,831,730.35
619	522,302.68	2,831,720.85
620	522,287.87	2,831,718.60
621	522,284.68	2,831,734.60
622	522,283.62	2,831,746.10
623	522,279.40	2,831,768.35
624	522,259.28	2,831,784.35
625	522,248.71	2,831,802.35
626	522,227.53	2,831,820.35
627	522,209.53	2,831,822.35
628	522,185.21	2,831,823.35
629	522,170.37	2,831,820.35
630	522,165.09	2,831,805.35
631	522,156.62	2,831,793.85
632	522,134.40	2,831,799.10
633	522,128.06	2,831,815.10
634	522,115.34	2,831,829.84
635	522,102.65	2,831,827.59
636	522,080.43	2,831,818.10
637	522,075.12	2,831,800.10
638	522,075.12	2,831,777.85
639	522,077.24	2,831,763.10
640	522,070.90	2,831,748.35
641	522,065.62	2,831,736.60
642	522,056.09	2,831,733.60
643	522,046.56	2,831,733.60
644	522,025.40	2,831,735.60

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Vertex	X	Y
645	522,006.34	2,831,738.85
646	521,998.93	2,831,722.85
647	522,004.21	2,831,704.85
648	521,999.99	2,831,688.10
649	522,004.21	2,831,668.85
650	522,014.80	2,831,659.35
651	522,031.74	2,831,643.60
652	522,035.96	2,831,630.85
653	522,044.43	2,831,618.10
654	522,070.90	2,831,611.85
655	522,082.52	2,831,591.60
656	522,070.90	2,831,580.10
657	522,063.49	2,831,570.60
658	522,061.37	2,831,557.85
659	522,064.55	2,831,538.85
660	522,058.21	2,831,516.60
661	522,046.55	2,831,543.10
662	522,026.43	2,831,562.10
663	522,007.40	2,831,586.35
664	521,986.24	2,831,607.60
665	521,957.65	2,831,622.35
666	521,930.15	2,831,631.85
667	521,917.43	2,831,639.35
668	521,903.68	2,831,649.85
669	521,883.55	2,831,662.60
670	521,870.87	2,831,674.35
671	521,859.24	2,831,690.10
672	521,839.12	2,831,709.10
673	521,831.71	2,831,728.10
674	521,834.90	2,831,746.10
675	521,841.24	2,831,757.85
676	521,845.46	2,831,771.60
677	521,841.24	2,831,799.10
678	521,834.90	2,831,810.84

Vertex	X	Y
679	521,806.30	2,831,827.59
680	521,785.15	2,831,830.84
681	521,771.40	2,831,822.34
682	521,756.55	2,831,818.09
683	521,744.93	2,831,809.59
684	521,733.27	2,831,810.84
685	521,726.93	2,831,829.84
686	521,704.71	2,831,842.59
687	521,692.02	2,831,836.09
688	521,674.02	2,831,844.59
689	521,649.68	2,831,871.09
690	521,632.74	2,831,888.09
691	521,609.46	2,831,909.09
692	521,580.90	2,831,927.09
693	521,555.49	2,831,945.09
694	521,529.02	2,831,974.84
695	521,500.46	2,831,994.84
696	521,479.27	2,832,017.09
697	521,454.93	2,832,038.34
698	521,430.62	2,832,056.34
699	521,407.30	2,832,069.09
700	521,377.68	2,832,101.84
701	521,363.93	2,832,115.59
702	521,356.52	2,832,135.59
703	521,340.65	2,832,148.33
704	521,327.93	2,832,157.83
705	521,313.12	2,832,175.83
706	521,311.02	2,832,194.83
707	521,319.49	2,832,207.58
708	521,322.65	2,832,233.08
709	521,332.18	2,832,257.33
710	521,343.81	2,832,266.83
711	521,357.59	2,832,270.08
712	521,364.99	2,832,282.83

Vertex	X	Y
713	521,364.99	2,832,306.08
714	521,360.74	2,832,336.83
715	521,338.52	2,832,351.58
716	521,312.06	2,832,357.83
717	521,284.56	2,832,363.08
718	521,259.15	2,832,366.33
719	521,237.99	2,832,361.08
720	521,215.77	2,832,360.08
721	521,210.46	2,832,379.08
722	521,206.24	2,832,392.83
723	521,196.71	2,832,416.08
724	521,179.77	2,832,430.83
725	521,181.90	2,832,445.83
726	521,188.24	2,832,466.83
727	521,174.49	2,832,481.83
728	521,159.68	2,832,505.07
729	521,151.21	2,832,529.32
730	521,135.34	2,832,551.57
731	521,120.53	2,832,575.82
732	521,118.40	2,832,611.82
733	521,119.46	2,832,637.32
734	521,125.81	2,832,663.82
735	521,131.09	2,832,691.32
736	521,145.90	2,832,729.32
737	521,155.43	2,832,754.82
738	521,156.50	2,832,777.07
739	521,146.97	2,832,801.32
740	521,142.75	2,832,828.82
741	521,140.62	2,832,860.56
742	521,142.75	2,832,879.56
743	521,149.09	2,832,904.06
744	521,155.44	2,832,929.31
745	521,170.25	2,832,943.06
746	521,185.06	2,832,938.81

Vertex	X	Y
747	521,203.06	2,832,935.81
748	521,225.28	2,832,930.31
749	521,238.00	2,832,936.81
750	521,244.34	2,832,949.56
751	521,247.53	2,832,966.31
752	521,239.06	2,832,981.31
753	521,225.28	2,832,984.31
754	521,210.47	2,832,990.81
755	521,195.66	2,833,001.31
756	521,188.25	2,833,006.56
757	521,185.06	2,833,019.31
758	521,169.19	2,833,020.31
759	521,164.97	2,833,043.56
760	521,168.16	2,833,058.56
761	521,167.09	2,833,078.56
762	521,160.75	2,833,101.81
763	521,150.16	2,833,135.81
764	521,154.38	2,833,158.06
765	521,162.84	2,833,190.81
766	521,163.91	2,833,223.55
767	521,160.75	2,833,256.30
768	521,146.97	2,833,281.80
769	521,127.94	2,833,297.55
770	521,107.81	2,833,311.30
771	521,088.78	2,833,319.80
772	521,059.13	2,833,334.80
773	521,039.03	2,833,343.05
774	521,016.81	2,833,362.30
775	520,997.75	2,833,384.55
776	520,993.53	2,833,414.05
777	520,984.00	2,833,444.80
778	520,978.69	2,833,463.80
779	520,970.22	2,833,493.55
780	520,962.82	2,833,530.55

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Vertex	X	Y
781	520,969.19	2,833,551.54
782	520,975.53	2,833,586.54
783	520,975.53	2,833,614.04
784	520,968.13	2,833,628.79
785	520,954.35	2,833,650.04
786	520,923.66	2,833,664.79
787	520,900.38	2,833,682.79
788	520,878.16	2,833,690.29
789	520,884.50	2,833,705.04
790	520,872.88	2,833,722.04
791	520,858.07	2,833,745.29
792	520,865.47	2,833,759.04
793	520,872.88	2,833,790.79
794	520,895.10	2,833,827.79
795	520,900.38	2,833,849.04
796	520,889.82	2,833,882.79
797	520,877.10	2,833,908.28
798	520,858.07	2,833,924.28
799	520,834.79	2,833,927.28
800	520,812.54	2,833,927.28
801	520,792.44	2,833,924.28
802	520,764.91	2,833,929.53
803	520,744.82	2,833,961.28
804	520,738.47	2,833,985.53
805	520,735.29	2,834,014.03
806	520,733.16	2,834,033.28
807	520,738.48	2,834,050.03
808	520,752.23	2,834,059.53
809	520,752.23	2,834,073.28
810	520,746.94	2,834,087.28
811	520,770.23	2,834,103.03
812	520,801.98	2,834,160.28
813	520,813.60	2,834,216.28
814	520,821.01	2,834,280.77

Vertex	X	Y
815	520,819.95	2,834,335.77
816	520,807.26	2,834,396.27
817	520,777.64	2,834,436.52
818	520,750.10	2,834,462.77
819	520,706.73	2,834,489.27
820	520,670.73	2,834,501.02
821	520,644.29	2,834,508.27
822	520,607.23	2,834,528.52
823	520,597.70	2,834,547.52
824	520,601.95	2,834,567.52
825	520,603.01	2,834,589.76
826	520,592.42	2,834,606.76
827	520,601.95	2,834,627.01
828	520,598.76	2,834,658.76
829	520,587.14	2,834,677.76
830	520,575.48	2,834,701.01
831	520,560.67	2,834,730.51
832	520,552.20	2,834,762.26
833	520,541.61	2,834,791.01
834	520,527.86	2,834,817.51
835	520,519.39	2,834,830.01
836	520,505.64	2,834,847.01
837	520,503.51	2,834,863.01
838	520,493.98	2,834,899.01
839	520,486.58	2,834,924.26
840	520,470.70	2,834,942.25
841	520,443.20	2,834,976.25
842	520,425.20	2,835,010.00
843	520,407.20	2,835,037.50
844	520,386.05	2,835,059.75
845	520,363.83	2,835,077.75
846	520,340.55	2,835,093.50
847	520,314.08	2,835,117.00
848	520,289.73	2,835,126.50

Vertex	X	Y
849	520,272.80	2,835,138.00
850	520,255.86	2,835,162.50
851	520,230.48	2,835,188.75
852	520,229.42	2,835,201.50
853	520,226.23	2,835,219.50
854	520,218.83	2,835,230.25
855	520,208.23	2,835,246.00
856	520,199.80	2,835,260.75
857	520,201.89	2,835,281.99
858	520,208.23	2,835,301.99
859	520,199.80	2,835,328.49
860	520,186.02	2,835,352.99
861	520,169.08	2,835,359.24
862	520,152.17	2,835,370.99
863	520,145.80	2,835,396.24
864	520,160.61	2,835,404.74
865	520,177.55	2,835,409.99
866	520,191.33	2,835,428.99
867	520,213.55	2,835,470.49
868	520,230.49	2,835,510.49
869	520,231.55	2,835,562.49
870	520,224.11	2,835,627.98
871	520,206.14	2,835,680.98
872	520,175.46	2,835,712.73
873	520,126.77	2,835,722.23
874	520,072.80	2,835,707.48
875	520,044.55	2,835,711.98
876	520,008.24	2,835,717.98
877	519,981.77	2,835,749.73
878	519,955.30	2,835,808.98
879	519,935.21	2,835,841.73
880	519,905.58	2,835,885.23
881	519,854.77	2,835,920.23
882	519,827.24	2,835,946.73

Vertex	X	Y
883	519,799.74	2,835,954.97
884	519,790.21	2,835,980.47
885	519,776.46	2,836,004.72
886	519,753.18	2,836,010.22
887	519,751.05	2,836,029.22
888	519,766.93	2,836,035.47
889	519,760.58	2,836,075.72
890	519,751.05	2,836,121.22
891	519,757.40	2,836,139.22
892	519,767.99	2,836,143.47
893	519,774.33	2,836,169.97
894	519,779.62	2,836,199.47
895	519,761.65	2,836,239.72
896	519,728.83	2,836,274.72
897	519,683.33	2,836,310.71
898	519,643.12	2,836,333.96
899	519,620.87	2,836,358.21
900	519,612.40	2,836,403.71
901	519,616.65	2,836,433.46
902	519,620.87	2,836,447.21
903	519,619.84	2,836,465.21
904	519,616.65	2,836,480.96
905	519,601.84	2,836,491.71
906	519,588.09	2,836,502.21
907	519,572.21	2,836,524.46
908	519,569.02	2,836,546.71
909	519,558.43	2,836,563.71
910	519,548.90	2,836,597.46
911	519,556.34	2,836,621.71
912	519,574.31	2,836,647.20
913	519,604.99	2,836,652.45
914	519,634.65	2,836,659.95
915	519,650.53	2,836,668.45
916	519,674.87	2,836,677.95

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Vertex	X	Y
917	519,696.03	2,836,691.70
918	519,709.78	2,836,706.45
919	519,741.53	2,836,742.45
920	519,757.40	2,836,754.20
921	519,766.93	2,836,777.45
922	519,774.34	2,836,803.95
923	519,772.22	2,836,828.20
924	519,770.12	2,836,854.70
925	519,765.87	2,836,873.70
926	519,753.18	2,836,907.45
927	519,740.47	2,836,940.45
928	519,739.40	2,836,962.70
929	519,744.72	2,836,987.94
930	519,758.47	2,837,001.69
931	519,765.87	2,837,022.94
932	519,777.53	2,837,041.94
933	519,781.75	2,837,059.94
934	519,790.22	2,837,063.19
935	519,799.75	2,837,076.94
936	519,810.34	2,837,114.94
937	519,809.28	2,837,150.94
938	519,788.09	2,837,199.69
939	519,755.28	2,837,237.69
940	519,714.03	2,837,281.19
941	519,694.97	2,837,319.18
942	519,687.56	2,837,379.43
943	519,682.28	2,837,434.68
944	519,662.16	2,837,480.18
945	519,617.72	2,837,569.93
946	519,600.78	2,837,612.43
947	519,596.53	2,837,639.93
948	519,594.44	2,837,664.17
949	519,600.79	2,837,684.42
950	519,597.60	2,837,724.67

Vertex	X	Y
951	519,588.10	2,837,760.42
952	519,578.57	2,837,791.17
953	519,542.57	2,837,848.42
954	519,526.69	2,837,888.67
955	519,501.29	2,837,957.42
956	519,503.41	2,837,982.67
957	519,505.54	2,838,002.91
958	519,509.76	2,838,030.41
959	519,512.94	2,838,058.91
960	519,530.94	2,838,079.16
961	519,539.41	2,838,092.91
962	519,558.45	2,838,098.16
963	519,581.73	2,838,104.41
964	519,595.51	2,838,119.41
965	519,613.48	2,838,134.16
966	519,635.73	2,838,139.41
967	519,671.70	2,838,135.16
968	519,694.98	2,838,131.91
969	519,711.92	2,838,116.16
970	519,723.54	2,838,104.41
971	519,734.13	2,838,089.66
972	519,744.73	2,838,092.91
973	519,754.26	2,838,097.16
974	519,762.73	2,838,104.41
975	519,768.01	2,838,107.66
976	519,776.48	2,838,110.91
977	519,786.01	2,838,117.16
978	519,806.10	2,838,128.91
979	519,842.10	2,838,166.91
980	519,861.14	2,838,193.41
981	519,862.07	2,838,196.91
982	519,865.39	2,838,209.16
983	519,868.54	2,838,237.91
984	519,868.54	2,838,270.66

Vertex	X	Y
985	519,866.42	2,838,305.66
986	519,856.92	2,838,346.90
987	519,842.11	2,838,378.65
988	519,835.73	2,838,414.65
989	519,836.79	2,838,440.90
990	519,844.20	2,838,480.15
991	519,853.73	2,838,506.65
992	519,863.26	2,838,527.90
993	519,869.61	2,838,544.65
994	519,879.14	2,838,560.65
995	519,881.26	2,838,576.40
996	519,880.20	2,838,597.65
997	519,873.86	2,838,614.65
998	519,867.48	2,838,636.90
999	519,865.39	2,838,653.64
1000	519,875.95	2,838,663.14
1001	519,890.77	2,838,673.89
1002	519,903.48	2,838,686.64
1003	519,918.30	2,838,697.14
1004	519,923.58	2,838,707.64
1005	519,954.27	2,838,733.14
1006	519,971.20	2,838,736.39
1007	519,986.02	2,838,736.39
1008	519,999.80	2,838,744.64
1009	520,016.74	2,838,743.64
1010	520,030.49	2,838,758.39
1011	520,054.83	2,838,778.64
1012	520,073.86	2,838,812.39
1013	520,084.46	2,838,844.14
1014	520,090.80	2,838,882.39
1015	520,069.64	2,838,919.39
1016	520,046.36	2,838,937.39
1017	520,025.21	2,838,954.39
1018	519,998.74	2,838,972.39

Vertex	X	Y
1019	519,979.68	2,838,994.63
1020	519,957.46	2,839,008.38
1021	519,942.64	2,839,020.88
1022	519,929.93	2,839,040.13
1023	519,919.36	2,839,068.63
1024	519,922.52	2,839,079.13
1025	519,922.52	2,839,102.38
1026	519,923.58	2,839,121.63
1027	519,940.52	2,839,131.13
1028	519,952.18	2,839,158.63
1029	519,957.46	2,839,177.63
1030	519,957.46	2,839,200.88
1031	519,950.05	2,839,224.13
1032	519,944.77	2,839,247.38
1033	519,942.65	2,839,267.63
1034	519,943.71	2,839,289.88
1035	519,940.52	2,839,315.12
1036	519,948.99	2,839,327.87
1037	519,953.24	2,839,342.62
1038	519,962.74	2,839,349.12
1039	519,978.62	2,839,361.87
1040	519,990.27	2,839,390.37
1041	519,991.34	2,839,421.12
1042	519,987.09	2,839,448.62
1043	519,977.59	2,839,497.12
1044	519,976.52	2,839,519.37
1045	520,006.15	2,839,550.12
1046	520,028.37	2,839,572.37
1047	520,053.78	2,839,593.62
1048	520,069.65	2,839,612.62
1049	520,076.00	2,839,643.36
1050	520,070.71	2,839,678.11
1051	520,049.53	2,839,711.11
1052	520,016.75	2,839,748.11

Vertex	X	Y
1053	519,998.75	2,839,778.61
1054	519,979.68	2,839,805.11
1055	519,961.72	2,839,858.11
1056	519,954.28	2,839,905.61
1057	519,961.72	2,839,935.36
1058	519,978.62	2,839,962.86
1059	519,994.50	2,839,978.85
1060	520,004.03	2,840,002.10
1061	520,023.09	2,840,024.35
1062	520,028.37	2,840,049.60
1063	520,026.25	2,840,072.85
1064	520,022.03	2,840,094.10
1065	520,024.16	2,840,114.10
1066	520,024.16	2,840,127.85
1067	520,020.97	2,840,147.10
1068	520,023.09	2,840,174.60
1069	520,034.72	2,840,194.60
1070	520,040.03	2,840,221.10
1071	520,042.13	2,840,245.35
1072	520,047.44	2,840,270.85
1073	520,051.66	2,840,289.85
1074	520,053.78	2,840,317.34
1075	520,081.28	2,840,344.84
1076	520,090.82	2,840,368.09
1077	520,112.00	2,840,388.34
1078	520,146.91	2,840,410.59
1079	520,173.38	2,840,424.34
1080	520,200.88	2,840,427.34
1081	520,227.35	2,840,428.59
1082	520,256.97	2,840,427.34
1083	520,284.50	2,840,434.84
1084	520,310.97	2,840,434.84
1085	520,340.60	2,840,438.09
1086	520,358.60	2,840,455.09

Vertex	X	Y
1087	520,373.41	2,840,478.34
1088	520,385.04	2,840,506.84
1089	520,398.79	2,840,541.84
1090	520,403.04	2,840,564.09
1091	520,400.91	2,840,591.59
1092	520,400.91	2,840,624.33
1093	520,388.23	2,840,640.08
1094	520,374.48	2,840,653.83
1095	520,340.60	2,840,659.33
1096	520,310.98	2,840,660.33
1097	520,279.23	2,840,668.83
1098	520,246.41	2,840,685.58
1099	520,221.01	2,840,699.33
1100	520,200.88	2,840,731.08
1101	520,194.54	2,840,772.58
1102	520,194.54	2,840,800.08
1103	520,196.66	2,840,829.58
1104	520,199.85	2,840,849.83
1105	520,203.01	2,840,871.83
1106	520,203.01	2,840,892.08
1107	520,207.26	2,840,906.83
1108	520,214.67	2,840,925.83
1109	520,227.35	2,840,948.07
1110	520,236.88	2,840,964.07
1111	520,255.92	2,840,978.82
1112	520,256.98	2,840,988.32
1113	520,262.29	2,841,003.07
1114	520,264.39	2,841,020.07
1115	520,269.70	2,841,032.82
1116	520,274.98	2,841,048.57
1117	520,280.26	2,841,062.32
1118	520,286.64	2,841,073.07
1119	520,292.98	2,841,085.82
1120	520,301.45	2,841,106.82

Vertex	X	Y
1121	520,323.04	2,841,123.07
1122	520,335.92	2,841,136.07
1123	520,357.01	2,841,157.07
1124	520,382.79	2,841,177.07
1125	520,416.76	2,841,187.57
1126	520,433.17	2,841,201.57
1127	520,434.33	2,841,216.82
1128	520,433.17	2,841,241.32
1129	520,440.20	2,841,267.31
1130	520,448.39	2,841,309.31
1131	520,453.08	2,841,343.31
1132	520,454.26	2,841,362.06
1133	520,475.33	2,841,380.81
1134	520,501.11	2,841,401.81
1135	520,536.27	2,841,423.06
1136	520,563.20	2,841,427.56
1137	520,581.95	2,841,419.56
1138	520,599.52	2,841,407.81
1139	520,615.92	2,841,399.56
1140	520,632.33	2,841,401.81
1141	520,638.17	2,841,416.06
1142	520,644.05	2,841,432.31
1143	520,660.42	2,841,455.81
1144	520,672.14	2,841,468.56
1145	520,692.08	2,841,482.81
1146	520,714.33	2,841,489.81
1147	520,728.39	2,841,507.31
1148	520,723.71	2,841,523.81
1149	520,719.02	2,841,541.31
1150	520,716.67	2,841,565.80
1151	520,734.24	2,841,590.55
1152	520,752.99	2,841,619.80
1153	520,774.08	2,841,646.80
1154	520,797.49	2,841,677.30

Vertex	X	Y
1155	520,826.80	2,841,681.80
1156	520,849.05	2,841,699.55
1157	520,853.74	2,841,729.80
1158	520,840.83	2,841,772.05
1159	520,817.43	2,841,800.30
1160	520,793.99	2,841,824.80
1161	520,777.58	2,841,841.30
1162	520,754.15	2,841,865.80
1163	520,737.74	2,841,886.79
1164	520,717.83	2,841,912.54
1165	520,722.52	2,841,938.54
1166	520,731.90	2,841,973.54
1167	520,747.12	2,841,991.04
1168	520,779.93	2,842,004.04
1169	520,809.21	2,842,016.79
1170	520,843.18	2,842,021.54
1171	520,872.46	2,842,022.79
1172	520,902.93	2,842,033.29
1173	520,913.49	2,842,055.54
1174	520,938.09	2,842,066.04
1175	520,968.52	2,842,081.29
1176	521,011.87	2,842,090.79
1177	521,038.84	2,842,100.04
1178	521,057.56	2,842,114.04
1179	521,070.46	2,842,136.29
1180	521,085.68	2,842,157.54
1181	521,104.43	2,842,150.54
1182	521,111.46	2,842,124.79
1183	521,112.62	2,842,103.54
1184	521,125.53	2,842,080.29
1185	521,145.43	2,842,057.79
1186	521,168.87	2,842,032.04
1187	521,192.28	2,842,020.54
1188	521,216.90	2,842,020.54

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Vertex	X	Y
1189	521,232.12	2,842,031.04
1190	521,248.53	2,842,046.29
1191	521,243.84	2,842,063.79
1192	521,229.78	2,842,076.54
1193	521,225.09	2,842,095.29
1194	521,229.78	2,842,106.04
1195	521,237.96	2,842,131.79
1196	521,248.53	2,842,139.79
1197	521,264.93	2,842,137.54
1198	521,266.09	2,842,148.04
1199	521,274.31	2,842,164.53
1200	521,294.21	2,842,180.78
1201	521,288.34	2,842,212.53
1202	521,270.78	2,842,238.28
1203	521,270.78	2,842,267.53
1204	521,274.31	2,842,277.03
1205	521,276.62	2,842,288.78
1206	521,274.31	2,842,314.53
1207	521,270.78	2,842,343.78
1208	521,296.56	2,842,389.53
1209	521,330.53	2,842,401.03
1210	521,349.28	2,842,390.53
1211	521,373.87	2,842,381.28
1212	521,403.15	2,842,375.28
1213	521,413.69	2,842,383.53
1214	521,417.22	2,842,410.53
1215	521,406.69	2,842,439.78
1216	521,405.50	2,842,468.03
1217	521,405.50	2,842,486.52
1218	521,409.03	2,842,498.27
1219	521,427.75	2,842,506.52
1220	521,437.12	2,842,514.77
1221	521,441.81	2,842,531.27
1222	521,446.50	2,842,548.77

Vertex	X	Y
1223	521,460.56	2,842,569.77
1224	521,479.31	2,842,602.52
1225	521,502.72	2,842,614.27
1226	521,512.10	2,842,624.77
1227	521,536.72	2,842,621.27
1228	521,551.94	2,842,615.52
1229	521,558.97	2,842,626.02
1230	521,564.81	2,842,639.02
1231	521,578.88	2,842,653.02
1232	521,595.28	2,842,658.77
1233	521,611.69	2,842,668.27
1234	521,617.53	2,842,680.02
1235	521,619.88	2,842,691.77
1236	521,622.22	2,842,708.02
1237	521,617.53	2,842,725.52
1238	521,617.53	2,842,757.27
1239	521,623.41	2,842,788.76
1240	521,631.60	2,842,812.26
1241	521,632.79	2,842,842.76
1242	521,633.94	2,842,863.76
1243	521,639.79	2,842,876.76
1244	521,649.16	2,842,892.01
1245	521,664.41	2,842,907.26
1246	521,680.79	2,842,908.26
1247	521,696.04	2,842,910.76
1248	521,719.47	2,842,899.01
1249	521,740.54	2,842,894.26
1250	521,745.22	2,842,913.01
1251	521,748.76	2,842,942.26
1252	521,765.16	2,842,957.51
1253	521,778.04	2,842,941.26
1254	521,794.44	2,842,938.76
1255	521,802.63	2,842,955.26
1256	521,789.76	2,842,986.76

Vertex	X	Y
1257	521,776.85	2,843,011.51
1258	521,755.79	2,843,058.26
1259	521,759.29	2,843,083.00
1260	521,747.57	2,843,101.75
1261	521,722.98	2,843,124.00
1262	521,703.07	2,843,143.75
1263	521,701.88	2,843,166.00
1264	521,696.04	2,843,182.50
1265	521,680.79	2,843,200.00
1266	521,674.95	2,843,229.25
1267	521,685.48	2,843,257.50
1268	521,707.76	2,843,269.25
1269	521,740.54	2,843,282.00
1270	521,749.91	2,843,261.00
1271	521,761.63	2,843,235.25
1272	521,774.51	2,843,218.75
1273	521,776.85	2,843,193.00
1274	521,795.60	2,843,202.50
1275	521,842.48	2,843,214.00
1276	521,817.85	2,843,263.25
1277	521,802.63	2,843,296.00
1278	521,804.98	2,843,324.25
1279	521,815.51	2,843,348.75
1280	521,831.92	2,843,381.74
1281	521,840.14	2,843,408.49
1282	521,853.01	2,843,424.99
1283	521,864.73	2,843,430.74
1284	521,876.45	2,843,434.24
1285	521,885.82	2,843,450.74
1286	521,890.51	2,843,464.74
1287	521,886.98	2,843,481.24

Vertex	X	Y
1288	521,871.76	2,843,486.99
1289	521,861.20	2,843,500.99
1290	521,874.11	2,843,518.74
1291	521,889.32	2,843,524.49
1292	521,904.54	2,843,515.24
1293	521,910.42	2,843,499.99
1294	521,927.98	2,843,499.99
1295	521,944.39	2,843,510.49
1296	521,960.79	2,843,527.99
1297	521,960.79	2,843,545.74
1298	521,964.29	2,843,579.49
1299	521,957.26	2,843,601.74
1300	521,956.11	2,843,633.49
1301	521,947.92	2,843,650.99
1302	521,943.23	2,843,682.73
1303	521,951.42	2,843,702.48
1304	521,958.45	2,843,731.98
1305	521,970.17	2,843,759.98
1306	521,980.70	2,843,771.73
1307	521,998.26	2,843,789.23
1308	522,014.67	2,843,819.73
1309	522,036.95	2,843,826.73
1310	522,063.89	2,843,824.48
1311	522,090.83	2,843,814.98
1312	522,097.86	2,843,797.48
1313	522,108.39	2,843,785.73
1314	522,132.98	2,843,778.73
1315	522,155.27	2,843,778.73
1316	522,162.30	2,843,775.86
1317	522,169.33	2,843,772.98
1318	522,186.89	2,843,762.23

Vertex	X	Y
1319	522,210.33	2,843,759.98
1320	522,213.83	2,843,762.23
1321	522,224.36	2,843,779.98
1322	522,230.23	2,843,798.73
1323	522,245.45	2,843,810.48
1324	522,264.20	2,843,802.23
1325	522,267.70	2,843,805.73
1326	522,277.08	2,843,824.48
1327	522,286.45	2,843,843.23
1328	522,294.67	2,843,865.48
1329	522,300.52	2,843,878.23
1330	522,304.05	2,843,896.98
1331	522,314.58	2,843,916.98
1332	522,327.46	2,843,926.23
1333	522,347.39	2,843,925.23
1334	522,353.24	2,843,918.23
1335	522,364.96	2,843,899.48
1336	522,394.24	2,843,895.98
1337	522,403.61	2,843,900.48
1338	522,411.80	2,843,906.48
1339	522,429.39	2,843,908.73
1340	522,449.30	2,843,919.23
1341	522,468.05	2,843,927.48

Vertex	X	Y
1342	522,491.46	2,843,932.23
1343	522,516.08	2,843,935.73
1344	522,535.99	2,843,936.98
1345	522,562.93	2,843,936.98
1346	522,582.83	2,843,941.47
1347	522,591.05	2,843,952.22
1348	522,596.89	2,843,956.72
1349	522,606.27	2,843,966.22
1350	522,609.80	2,843,980.22
1351	522,613.30	2,843,993.22
1352	522,622.68	2,844,004.72
1353	522,634.40	2,844,022.47
1354	522,637.90	2,844,030.47
1355	522,653.15	2,844,021.22
1356	522,658.99	2,844,010.72
1357	522,663.68	2,843,998.97
1358	522,666.02	2,843,983.72
1359	522,677.74	2,843,956.72
1360	522,690.61	2,843,949.72
1361	522,714.05	2,843,943.97
1362	522,740.99	2,843,940.47
1363	522,773.80	2,843,918.23
1	522,776.96	2,843,903.48

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 1 Manglares de los Metates (Isla Coronados), with an area of 2.94 ha.

Vertex	X	Y
1	471,416.24	2,888,824.29
2	471,238.80	2,888,821.54
3	471,237.71	2,888,964.03
4	471,259.21	2,888,963.78

Vertex	X	Y
5	471,448.56	2,888,962.78
6	471,449.65	2,888,824.79
1	471,416.24	2,888,824.29

Marine and Wetland Preservation Subzone (Pre-MH)

Polygon 2 Punta El Bajo (Isla Coronados), with an area of 14.06 ha.

Vertex	X	Y
1	470,719.71	2,886,808.10
2	470,722.18	2,886,800.60
3	470,293.77	2,886,586.36
4	470,296.17	2,886,605.36
5	470,295.99	2,886,606.61
6	470,336.62	2,886,921.60
7	470,356.55	2,886,954.60
8	470,378.40	2,886,990.34
9	470,407.84	2,887,029.84
10	470,446.99	2,887,083.34
11	470,460.53	2,887,101.84

Vertex	X	Y
12	470,499.12	2,887,130.34
13	470,509.50	2,887,138.09
14	470,555.71	2,887,166.59
15	470,567.68	2,887,167.09
16	470,581.59	2,887,167.59
17	470,598.25	2,887,150.84
18	470,598.15	2,887,149.34
19	470,608.56	2,887,143.34
20	470,711.21	2,886,833.60
1	470,719.71	2,886,808.10

Marine and Wetlands Preservation Subzone (PreMH) Polygon 3

Estero las Garzas, with an area of 10.30 ha.

Vertex	X	Y
1	466,224.92	2,875,871.15
2	466,210.95	2,875,922.40
3	466,195.17	2,875,988.89
4	466,179.39	2,876,060.89
5	466,179.39	2,876,102.89
6	466,026.95	2,876,148.39
7	466,121.58	2,876,218.64
8	466,203.92	2,876,267.64
9	466,264.96	2,876,353.13
10	466,312.30	2,876,358.63
11	466,391.68	2,876,329.14
12	466,437.18	2,876,208.39
13	466,459.39	2,876,124.89

Vertex	X	Y
14	466,464.67	2,876,082.39
15	466,455.17	2,876,057.14
16	466,405.42	2,876,038.14
17	466,385.30	2,876,020.14
18	466,349.33	2,875,981.89
19	466,334.51	2,875,969.15
20	466,286.89	2,875,948.15
21	466,240.33	2,875,905.65
22	466,225.48	2,875,881.40
1	466,224.92	2,875,871.15

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 4 Estero Nopoló-Los Nidos, with an area of 460.20 ha.

Vertex	X	Y
1	466,209.08	2,864,902.66
It continues along the coastline with a general course North until it reaches vertex 2.		
2	464,926.73	2,867,250.85

Vertex	X	Y
3	467,808.80	2,867,250.87
4	467,808.76	2,864,902.68
1	466,209.08	2,864,902.66

Marine and Wetland Preservation Subzone (PreMH)

Polygon 5 Estero Puerto Escondido-Barco Hundido, with an area of 613.20 ha.

Vertex	X	Y
1	469,200.06	2,851,368.97
It continues along the coastline with a general course North until it reaches vertex 2.		

Vertex	X	Y
2	470,255.35	2,854,479.93
3	470,255.29	2,851,368.99
1	469,200.06	2,851,368.97

Marine and Wetlands Preservation Subzone (PreMH) Polygon 6

Manglares de Ligüi, with an area of 6.56 ha.

Vertex	X	Y
1	474,108.89	2,847,122.87
2	474,080.42	2,847,120.62
3	474,026.54	2,847,143.87
4	473,962.95	2,847,181.37
5	473,893.86	2,847,217.11
6	473,867.61	2,847,195.11
7	473,817.85	2,847,148.11
8	473,798.51	2,847,108.12
9	473,768.10	2,847,058.37
10	473,708.69	2,846,974.12
11	473,633.16	2,846,988.87
12	473,684.76	2,847,108.61

Vertex	X	Y
13	473,741.85	2,847,207.61
14	473,786.08	2,847,294.61
15	473,892.52	2,847,429.36
16	473,936.24	2,847,430.36
17	473,962.17	2,847,405.86
18	473,965.08	2,847,366.86
19	473,956.42	2,847,333.86
20	473,969.39	2,847,270.36
21	473,995.33	2,847,230.12
22	474,068.83	2,847,155.12
1	474,108.89	2,847,122.87

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 7 Punta Lobos (Isla Carmen), with an area of 102.40 ha.

Vertex	X	Y
1	493,559.41	2,884,202.40
2	494,560.54	2,884,201.90
3	494,560.03	2,883,059.69
4	493,650.24	2,883,059.94

Vertex	X	Y
It continues along the coastline with a general course North until it reaches vertex 5.		
5	493,558.87	2,883,333.43
1	493,559.41	2,884,202.40

Marine and Wetlands Preservation Subzone (PreMH) Polygon 8

Piedra de La Choya, with an area of 121.99 ha.

Vertex	X	Y
1	481,842.16	2,881,996.51
2	482,724.65	2,880,543.80
3	481,875.08	2,880,545.05

Vertex	X	Y
4	481,005.75	2,881,997.76
1	481,842.16	2,881,996.51

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 9 Estero de Bahía Balandra, with an area of 6.07 ha.

Vertex	X	Y
1	483,431.49	2,878,085.52
2	483,429.03	2,878,149.38
3	483,487.94	2,878,195.88
4	483,630.28	2,878,209.38
5	483,767.69	2,878,127.13
6	483,837.63	2,878,113.63
7	483,923.53	2,878,062.13
8	483,930.90	2,877,907.64

Vertex	X	Y
9	483,892.84	2,877,897.64
10	483,836.40	2,877,910.14
11	483,794.69	2,877,925.89
12	483,745.71	2,877,922.48
It continues along the coastline with a general course North until it reaches vertex 1.		
1	483,431.49	2,878,085.52

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 10 Bahía Márquez-Bajo El Murciélagos (Isla del Carmen), with an area of 1,032.77 ha.

Vertex	X	Y
1	478,245.75	2,863,218.55
It continues along the coastline with a general course South until it reaches vertex 2.		
2	476,917.19	2,859,320.99
3	476,263.23	2,859,322.14

Vertex	X	Y
4	475,272.47	2,859,323.88
5	475,279.84	2,863,223.78
6	477,560.43	2,863,219.80
1	478,245.75	2,863,218.55

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 11 Punta Faro Norte (Isla Danzante), with an area of 52.23 ha.

Vertex	X	Y
1	474,206.32	2,855,236.71
2	474,205.69	2,854,918.97
3	473,937.37	2,854,919.46
It continues along the coastline on a general southerly course until it reaches vertex 4.		
4	473,920.59	2,854,919.21

Vertex	X	Y
5	473,508.18	2,854,920.46
6	473,410.34	2,854,920.71
7	473,411.79	2,855,623.44
8	473,748.63	2,855,622.95
9	474,207.08	2,855,621.95
1	474,206.32	2,855,236.71

Marine and Wetlands Preservation Subzone (PreMH) Polygon

12 Bajo El Currigan, with an area of 3,146.34 ha.

Vertex	X	Y
1	479,639.64	2,851,978.84
2	483,285.50	2,851,973.62
3	483,275.94	2,844,756.03
4	478,902.94	2,844,761.23

Vertex	X	Y
5	478,910.81	2,849,641.38
6	478,914.60	2,851,979.83
1	479,639.64	2,851,978.84

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Marine and Wetland Preservation Subzone (PreMH)

Polygon 13 Blanquizal (Montserrat Island), with an area of 103.98 ha.

Vertex	X	Y
1	494,055.66	2,843,174.67
It continues along the coastline with a general course South until it reaches vertex 2.		
2	494,534.24	2,841,538.96

Vertex	X	Y
3	494,554.52	2,841,444.97
4	493,669.88	2,841,446.46
5	493,670.06	2,843,174.67
1	494,055.66	2,843,174.67

Marine and Wetland Preservation Subzone (Pre-MH)

Polygon 14 West Zone Catalana Island or Santa Catalina, with an area of 542.43 ha.

Vertex	X	Y
1	519,862.07	2,838,196.91
It continues along the coastline with a general course South until it reaches vertex 2.		
2	520,044.55	2,835,711.98

Vertex	X	Y
3	517,515.09	2,835,708.48
4	517,508.90	2,838,194.16
1	519,862.07	2,838,196.91

Marine and Wetlands Preservation Subzone (PreMH)

Polygon 15 La Lobera (Catalana Island or Santa Catalina), with an area of 3.83 ha.

Vertex	X	Y
1	522,900.64	2,843,606.24
It continues along the coastline with a general course North until it reaches vertex 2.		
2	522,776.96	2,843,903.48

Vertex	X	Y
3	522,948.18	2,843,903.73
4	522,948.67	2,843,606.49
1	522,900.64	2,843,606.24

Traditional Land Use Subzone (UTT)

Polygon 1 Isla Coronados, with an area of 597.45 ha.

Vertex	X	Y
1	471,879.89	2,890,181.49
2	473,716.47	2,890,178.99
It continues along the coastline in a general southerly direction until it reaches vertex 3.		
3	470,719.71	2,886,808.10
4	470,711.21	2,886,833.60
Continue along the coastline in a general northerly direction until you reach vertex 5.		

Vertex	X	Y
5	471,416.24	2,888,824.29
6	471,449.65	2,888,824.79
7	471,448.56	2,888,962.78
8	471,259.21	2,888,963.78
Continue along the coastline in a general northerly direction until you reach vertex 1.		
1	471,879.89	2,890,181.49

Traditional Land Use Subzone (UTT)

Polygon 2 Isla del Carmen, with an area of 14,433.56 ha.

Vertex	X	Y
1	483,745.71	2,877,922.48
2	483,794.69	2,877,925.89
3	483,836.40	2,877,910.14
4	483,892.84	2,877,897.64
5	483,930.90	2,877,907.64
6	483,923.53	2,878,062.13
7	483,837.63	2,878,113.63
8	483,767.69	2,878,127.13

Vertex	X	Y
9	483,630.28	2,878,209.38
10	483,487.94	2,878,195.88
11	483,429.03	2,878,149.38
12	483,431.49	2,878,085.52
Continue along the coastline in a general southerly direction until you reach vertex 1.		
1	483,745.71	2,877,922.48

Traditional Land Use Subzone (UTT)

Polygon 3 Isla Danzante, with an area of 407.74 ha.

Vertex	X	Y
1	473,937.37	2,854,919.46
2	473,937.37	2,854,917.21
3	473,935.41	2,854,900.46
4	473,938.37	2,854,877.71
5	473,940.34	2,854,858.96
6	473,950.22	2,854,854.97
7	473,982.28	2,854,861.47
8	474,000.09	2,854,852.72
9	474,021.87	2,854,838.72
10	474,042.69	2,854,832.72
11	474,052.59	2,854,820.97
12	474,055.56	2,854,788.22
13	474,106.06	2,854,766.47
14	474,133.78	2,854,764.47
15	474,146.66	2,854,775.47
16	474,161.50	2,854,793.22
17	474,170.41	2,854,809.97
18	474,199.13	2,854,838.72
19	474,213.97	2,854,853.72
20	474,239.72	2,854,868.47
21	474,265.47	2,854,865.47
22	474,296.16	2,854,853.72
23	474,320.94	2,854,846.72
24	474,347.66	2,854,835.72
25	474,379.35	2,854,829.72
26	474,395.19	2,854,831.72
27	474,409.07	2,854,843.72
28	474,412.04	2,854,858.47
29	474,414.01	2,854,884.22
30	474,416.97	2,854,908.97
31	474,444.69	2,854,897.22
32	474,464.51	2,854,875.47
33	474,480.35	2,854,857.47
34	474,490.26	2,854,840.72
35	474,491.25	2,854,824.97
36	474,497.19	2,854,794.22

Vertex	X	Y
37	474,508.07	2,854,789.22
38	474,527.88	2,854,780.22
39	474,527.88	2,854,766.47
40	474,541.75	2,854,748.72
41	474,557.57	2,854,732.72
42	474,566.50	2,854,720.97
43	474,548.66	2,854,726.97
44	474,534.82	2,854,727.97
45	474,519.94	2,854,722.97
46	474,510.07	2,854,705.97
47	474,504.10	2,854,687.22
48	474,504.10	2,854,662.48
49	474,506.10	2,854,635.73
50	474,514.00	2,854,624.98
51	474,533.81	2,854,618.98
52	474,555.60	2,854,601.23
53	474,563.53	2,854,584.23
54	474,572.44	2,854,573.48
55	474,579.38	2,854,558.48
56	474,581.34	2,854,538.73
57	474,584.31	2,854,519.98
58	474,593.22	2,854,504.98
59	474,595.22	2,854,484.23
60	474,596.19	2,854,470.48
61	474,603.12	2,854,453.48
62	474,610.06	2,854,446.73
63	474,612.03	2,854,461.48
64	474,622.94	2,854,470.48
65	474,622.94	2,854,446.73
66	474,619.97	2,854,426.73
67	474,599.16	2,854,411.98
68	474,587.28	2,854,403.98
69	474,581.34	2,854,375.23
70	474,580.34	2,854,353.48
71	474,576.40	2,854,335.73
72	474,565.50	2,854,311.98

Vertex	X	Y
73	474,554.59	2,854,285.23
74	474,553.62	2,854,259.48
75	474,557.56	2,854,235.74
76	474,565.50	2,854,218.99
77	474,569.46	2,854,203.99
78	474,572.43	2,854,178.24
79	474,569.46	2,854,151.49
80	474,579.37	2,854,120.99
81	474,580.34	2,854,091.24
82	474,584.31	2,854,054.49
83	474,585.30	2,854,026.74
84	474,597.18	2,854,003.99
85	474,601.15	2,853,975.24
86	474,611.05	2,853,949.49
87	474,625.90	2,853,939.74
88	474,638.77	2,853,928.74
89	474,644.71	2,853,899.99
90	474,671.43	2,853,841.74
91	474,680.36	2,853,817.00
92	474,693.21	2,853,797.00
93	474,711.05	2,853,790.25
94	474,729.86	2,853,777.25
95	474,738.77	2,853,753.50
96	474,747.68	2,853,734.75
97	474,765.52	2,853,705.00
98	474,778.36	2,853,689.25
99	474,795.21	2,853,669.25
100	474,805.11	2,853,673.25
101	474,806.11	2,853,657.50
102	474,801.14	2,853,632.75
103	474,803.14	2,853,613.00
104	474,802.14	2,853,593.00
105	474,817.99	2,853,565.50
106	474,832.83	2,853,559.50
107	474,845.71	2,853,540.75
108	474,851.64	2,853,524.75
109	474,856.61	2,853,500.00
110	474,876.39	2,853,475.25

Vertex	X	Y
111	474,889.27	2,853,467.26
112	474,910.08	2,853,451.51
113	474,928.89	2,853,427.76
114	474,935.83	2,853,408.01
115	474,954.64	2,853,398.01
116	474,977.39	2,853,388.26
117	474,995.24	2,853,395.01
118	475,011.08	2,853,397.01
119	475,029.89	2,853,398.01
120	475,046.71	2,853,397.01
121	475,063.55	2,853,400.01
122	475,088.30	2,853,415.01
123	475,098.21	2,853,424.76
124	475,117.02	2,853,439.76
125	475,133.86	2,853,441.51
126	475,145.74	2,853,437.76
127	475,159.61	2,853,433.76
128	475,175.46	2,853,432.76
129	475,191.30	2,853,439.76
130	475,221.99	2,853,437.76
131	475,236.83	2,853,436.76
132	475,241.80	2,853,424.76
133	475,242.77	2,853,408.01
134	475,245.74	2,853,397.01
135	475,241.80	2,853,373.26
136	475,238.83	2,853,349.51
137	475,227.93	2,853,342.51
138	475,214.05	2,853,346.51
139	475,194.27	2,853,348.51
140	475,179.39	2,853,337.76
141	475,168.52	2,853,323.76
142	475,165.55	2,853,300.01
143	475,174.45	2,853,274.26
144	475,183.36	2,853,256.51
145	475,190.30	2,853,240.51
146	475,193.27	2,853,218.76
147	475,192.27	2,853,196.01
148	475,178.42	2,853,185.26

Vertex	X	Y
149	475,166.52	2,853,175.26
150	475,147.70	2,853,155.51
151	475,137.83	2,853,131.76
152	475,128.89	2,853,113.02
153	475,135.83	2,853,089.02
154	475,134.83	2,853,073.27
155	475,128.89	2,853,062.52
156	475,121.98	2,853,051.52
157	475,102.17	2,853,045.52
158	475,083.36	2,853,048.52
159	475,068.51	2,853,046.52
160	475,067.51	2,853,033.77
161	475,061.57	2,853,004.02
162	475,055.64	2,852,981.27
163	475,053.64	2,852,960.52
164	475,047.70	2,852,949.52
165	475,038.79	2,852,936.52
166	475,031.85	2,852,924.77
167	475,017.01	2,852,911.02
168	475,001.16	2,852,887.02
169	474,975.41	2,852,865.27
170	474,964.51	2,852,855.52
171	474,967.51	2,852,832.77
172	474,976.41	2,852,810.77
173	474,993.23	2,852,804.02
174	475,019.98	2,852,801.02
175	475,061.57	2,852,795.02
176	475,087.32	2,852,786.02
177	475,111.07	2,852,775.27
178	475,111.07	2,852,759.52
179	475,103.16	2,852,747.52
180	475,099.19	2,852,732.77
181	475,104.13	2,852,697.02
182	475,119.97	2,852,630.78
183	475,135.82	2,852,621.78
184	475,153.66	2,852,611.78
185	475,178.41	2,852,599.03
186	475,196.22	2,852,584.03

Vertex	X	Y
187	475,218.01	2,852,565.28
188	475,233.85	2,852,554.53
189	475,245.72	2,852,567.28
190	475,272.47	2,852,576.28
191	475,296.22	2,852,552.53
192	475,321.97	2,852,534.53
193	475,340.79	2,852,496.03
194	475,350.69	2,852,471.28
195	475,369.51	2,852,466.28
196	475,384.35	2,852,467.28
197	475,391.29	2,852,480.28
198	475,405.16	2,852,488.03
199	475,416.04	2,852,483.03
200	475,424.94	2,852,460.28
201	475,435.85	2,852,447.53
202	475,466.54	2,852,440.53
203	475,493.29	2,852,440.53
204	475,518.04	2,852,438.53
205	475,555.66	2,852,426.78
206	475,581.41	2,852,410.79
207	475,618.04	2,852,389.04
208	475,623.98	2,852,370.29
209	475,635.88	2,852,357.29
210	475,640.82	2,852,339.54
211	475,637.85	2,852,313.79
212	475,638.85	2,852,287.04
213	475,631.91	2,852,268.29
214	475,620.04	2,852,263.29
215	475,604.19	2,852,253.54
216	475,600.22	2,852,235.54
217	475,593.28	2,852,217.79
218	475,597.25	2,852,206.79
219	475,606.16	2,852,204.04
220	475,614.10	2,852,193.04
221	475,614.10	2,852,175.29
222	475,608.13	2,852,161.29
223	475,601.22	2,852,145.54
224	475,590.31	2,852,131.54

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Vertex	X	Y
225	475,581.41	2,852,123.79
226	475,574.47	2,852,113.79
227	475,566.56	2,852,103.79
228	475,557.63	2,852,095.04
229	475,542.78	2,852,094.04
230	475,535.84	2,852,089.04
231	475,533.88	2,852,074.29
232	475,521.00	2,852,061.29
233	475,514.06	2,852,048.54
234	475,526.94	2,852,031.54
235	475,516.06	2,852,006.79
236	475,489.31	2,851,989.04
237	475,472.47	2,851,982.04
238	475,461.59	2,851,992.04
239	475,440.78	2,851,994.04
240	475,425.93	2,851,983.04
241	475,403.15	2,851,976.29
242	475,389.31	2,851,980.04
243	475,373.47	2,851,972.29
244	475,351.68	2,851,956.29
245	475,326.93	2,851,927.54
246	475,299.18	2,851,874.29
247	475,288.31	2,851,835.54
248	475,272.46	2,851,800.04
249	475,243.74	2,851,743.54
250	475,198.18	2,851,617.80
251	475,179.36	2,851,535.55
252	475,171.45	2,851,496.05
253	475,175.42	2,851,474.05
254	475,184.33	2,851,454.30
255	475,185.30	2,851,435.55
256	475,185.30	2,851,407.80
257	475,186.30	2,851,382.05
258	475,196.20	2,851,361.30
259	475,216.01	2,851,346.55
260	475,228.89	2,851,337.55
261	475,247.70	2,851,334.55
262	475,260.58	2,851,326.55

Vertex	X	Y
263	475,302.14	2,851,316.80
264	475,299.17	2,851,304.80
265	475,296.20	2,851,290.05
266	475,288.30	2,851,283.05
267	475,278.39	2,851,283.05
268	475,271.45	2,851,285.05
269	475,266.51	2,851,292.05
270	475,266.51	2,851,305.80
271	475,254.61	2,851,313.80
272	475,249.67	2,851,305.80
273	475,235.80	2,851,302.80
274	475,221.95	2,851,296.80
275	475,205.11	2,851,291.05
276	475,192.23	2,851,284.05
277	475,182.33	2,851,273.05
278	475,172.45	2,851,257.30
279	475,168.48	2,851,239.55
280	475,167.48	2,851,222.55
281	475,169.45	2,851,201.81
282	475,157.57	2,851,177.06
283	475,141.73	2,851,140.56
284	475,149.67	2,851,124.56
285	475,167.48	2,851,109.81
286	475,183.32	2,851,086.06
287	475,192.23	2,851,071.06
288	475,192.23	2,851,046.31
289	475,193.23	2,851,031.56
290	475,205.10	2,851,020.56
291	475,222.95	2,851,012.81
292	475,230.82	2,850,990.06
293	475,224.69	2,850,950.31
294	475,224.69	2,850,902.56
295	475,230.82	2,850,857.81
296	475,252.16	2,850,820.31
297	475,284.69	2,850,775.57
298	475,297.91	2,850,762.32
299	475,316.22	2,850,749.07
300	475,336.57	2,850,740.82

Vertex	X	Y
301	475,373.16	2,850,734.82
302	475,401.63	2,850,740.82
303	475,427.07	2,850,749.07
304	475,461.63	2,850,751.07
305	475,493.16	2,850,739.82
306	475,501.29	2,850,725.57
307	475,515.54	2,850,714.57
308	475,543.01	2,850,703.32
309	475,569.44	2,850,685.07
310	475,590.79	2,850,675.82
311	475,608.07	2,850,663.57
312	475,619.26	2,850,642.32
313	475,632.48	2,850,623.07
314	475,638.57	2,850,604.57
315	475,636.54	2,850,586.32
316	475,629.44	2,850,560.82
317	475,629.44	2,850,538.57
318	475,639.60	2,850,520.32
319	475,646.72	2,850,500.83
320	475,661.97	2,850,489.83
321	475,668.07	2,850,476.58
322	475,658.16	2,850,456.58
323	475,665.44	2,850,426.08
324	475,680.00	2,850,395.58
325	475,690.19	2,850,373.83
326	475,700.38	2,850,350.33
327	475,709.13	2,850,341.58
328	475,713.47	2,850,331.58
329	475,714.94	2,850,312.58
330	475,716.41	2,850,296.58
331	475,706.19	2,850,286.33
332	475,693.09	2,850,263.08
333	475,685.81	2,850,254.33
334	475,669.81	2,850,250.08
335	475,661.56	2,850,229.33
336	475,668.44	2,850,223.58
337	475,677.31	2,850,200.58
338	475,666.66	2,850,177.33

Vertex	X	Y
339	475,645.34	2,850,141.83
340	475,634.65	2,850,108.08
341	475,638.22	2,850,067.33
342	475,640.00	2,850,047.58
343	475,627.56	2,850,033.33
344	475,599.12	2,850,022.83
345	475,583.12	2,849,994.33
346	475,588.43	2,849,974.83
347	475,584.87	2,849,942.84
348	475,574.21	2,849,916.09
349	475,559.99	2,849,868.09
350	475,551.12	2,849,827.34
351	475,543.99	2,849,788.09
352	475,545.77	2,849,747.34
353	475,517.33	2,849,686.84
354	475,479.99	2,849,661.84
355	475,419.55	2,849,633.59
356	475,375.11	2,849,628.09
357	475,336.02	2,849,638.84
358	475,309.33	2,849,663.59
359	475,289.80	2,849,688.59
360	475,282.67	2,849,725.84
361	475,252.45	2,849,765.08
362	475,216.89	2,849,802.33
363	475,197.36	2,849,830.83
364	475,179.58	2,849,891.33
365	475,177.80	2,849,930.33
366	475,170.68	2,849,965.83
367	475,131.58	2,849,999.58
368	475,094.24	2,850,021.08
369	475,078.24	2,850,042.33
370	475,067.58	2,850,067.33
371	475,062.24	2,850,085.08
372	475,072.93	2,850,106.33
373	475,080.02	2,850,129.33
374	475,065.80	2,850,157.82
375	475,044.49	2,850,182.82
376	475,016.02	2,850,209.32

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Vertex	X	Y
377	474,975.15	2,850,239.57
378	474,936.05	2,850,262.82
379	474,916.49	2,850,287.57
380	474,925.37	2,850,323.07
381	474,932.49	2,850,349.82
382	474,930.71	2,850,369.32
383	474,918.27	2,850,390.82
384	474,880.93	2,850,429.82
385	474,855.24	2,850,430.32
386	474,834.49	2,850,469.82
387	474,794.03	2,850,517.06
388	474,782.18	2,850,558.56
389	474,784.15	2,850,599.06
390	474,750.62	2,850,624.81
391	474,722.00	2,850,655.31
392	474,713.09	2,850,678.06
393	474,715.09	2,850,688.81
394	474,705.22	2,850,722.56
395	474,662.78	2,850,776.81
396	474,627.25	2,850,825.06
397	474,582.81	2,850,858.55
398	474,539.40	2,850,886.30
399	474,513.72	2,850,896.05
400	474,497.93	2,850,915.80
401	474,483.12	2,850,967.30
402	474,471.28	2,850,989.80
403	474,432.78	2,851,038.30
404	474,387.41	2,851,077.80
405	474,339.03	2,851,124.05
406	474,278.81	2,851,158.80
407	474,246.25	2,851,171.54
408	474,216.65	2,851,189.29
409	474,208.75	2,851,219.79
410	474,215.66	2,851,243.54
411	474,228.50	2,851,294.79
412	474,230.47	2,851,342.29
413	474,221.56	2,851,381.79
414	474,199.88	2,851,420.29

Vertex	X	Y
415	474,182.10	2,851,444.04
416	474,170.25	2,851,502.29
417	474,148.54	2,851,535.79
418	474,116.97	2,851,563.29
419	474,070.57	2,851,599.78
420	474,044.91	2,851,629.53
421	474,030.10	2,851,661.03
422	474,015.29	2,851,709.53
423	474,018.26	2,851,731.03
424	474,022.19	2,851,752.78
425	474,024.19	2,851,769.53
426	474,034.04	2,851,778.53
427	474,042.95	2,851,806.03
428	474,044.91	2,851,837.78
429	474,030.10	2,851,867.28
430	474,036.04	2,851,881.28
431	474,049.85	2,851,907.78
432	474,082.42	2,851,947.28
433	474,091.29	2,851,968.03
434	474,101.17	2,851,995.78
435	474,104.14	2,852,047.03
436	474,104.14	2,852,079.52
437	474,112.05	2,852,108.27
438	474,130.80	2,852,147.77
439	474,149.55	2,852,181.27
440	474,159.42	2,852,204.02
441	474,164.36	2,852,234.52
442	474,159.42	2,852,273.02
443	474,168.30	2,852,311.52
444	474,171.27	2,852,358.77
445	474,177.18	2,852,390.52
446	474,173.24	2,852,424.02
447	474,164.36	2,852,460.52
448	474,152.52	2,852,488.27
449	474,136.71	2,852,501.02
450	474,122.90	2,852,513.77
451	474,107.12	2,852,521.77
452	474,090.33	2,852,532.52

Vertex	X	Y
453	474,084.40	2,852,555.26
454	474,075.52	2,852,573.01
455	474,059.74	2,852,592.76
456	474,041.96	2,852,611.51
457	474,021.24	2,852,637.26
458	474,028.15	2,852,663.76
459	474,044.93	2,852,690.51
460	474,065.65	2,852,702.26
461	474,097.24	2,852,708.26
462	474,125.87	2,852,721.01
463	474,160.40	2,852,743.76
464	474,168.31	2,852,755.51
465	474,175.21	2,852,769.51
466	474,178.18	2,852,783.26
467	474,175.21	2,852,792.26
468	474,161.40	2,852,805.01
469	474,164.37	2,852,818.76
470	474,164.37	2,852,828.76
471	474,142.65	2,852,831.51
472	474,129.81	2,852,836.51
473	474,115.00	2,852,842.51
474	474,105.15	2,852,841.51
475	474,095.28	2,852,838.51
476	474,084.40	2,852,852.26
477	474,083.43	2,852,868.26
478	474,087.37	2,852,874.01
479	474,087.37	2,852,885.01
480	474,078.50	2,852,898.76
481	474,061.72	2,852,909.51
482	474,055.78	2,852,929.26
483	474,050.84	2,852,955.01
484	474,057.75	2,852,975.76
485	474,080.47	2,852,980.76
486	474,092.31	2,852,974.76
487	474,117.00	2,852,964.76
488	474,135.75	2,852,953.01
489	474,155.47	2,852,942.26
490	474,168.31	2,852,914.51

Vertex	X	Y
491	474,187.06	2,852,895.76
492	474,198.90	2,852,882.01
493	474,203.84	2,852,883.01
494	474,212.72	2,852,870.01
495	474,231.47	2,852,861.26
496	474,257.12	2,852,858.26
497	474,275.90	2,852,870.01
498	474,299.59	2,852,882.01
499	474,322.28	2,852,898.76
500	474,332.16	2,852,917.51
501	474,330.19	2,852,937.26
502	474,325.25	2,852,959.01
503	474,310.44	2,852,982.76
504	474,313.41	2,852,996.51
505	474,315.38	2,853,021.26
506	474,323.28	2,853,038.01
507	474,330.19	2,853,051.76
508	474,329.19	2,853,069.51
509	474,332.16	2,853,088.26
510	474,337.10	2,853,105.01
511	474,332.16	2,853,119.76
512	474,332.16	2,853,140.51
513	474,334.13	2,853,162.26
514	474,342.04	2,853,171.26
515	474,345.97	2,853,192.75
516	474,357.82	2,853,217.50
517	474,360.79	2,853,231.25
518	474,366.69	2,853,254.00
519	474,361.76	2,853,287.50
520	474,357.82	2,853,302.50
521	474,342.04	2,853,321.25
522	474,332.16	2,853,324.25
523	474,319.32	2,853,325.00
524	474,303.54	2,853,339.00
525	474,294.66	2,853,354.75
526	474,299.60	2,853,376.50
527	474,308.48	2,853,385.25
528	474,311.45	2,853,402.00

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Vertex	X	Y
529	474,310.45	2,853,416.00
530	474,289.73	2,853,417.00
531	474,278.85	2,853,432.75
532	474,274.92	2,853,460.25
533	474,271.95	2,853,481.00
534	474,269.01	2,853,490.00
535	474,254.20	2,853,502.75
536	474,243.32	2,853,523.50
537	474,243.32	2,853,541.25
538	474,242.35	2,853,563.00
539	474,241.35	2,853,579.75
540	474,235.45	2,853,597.49
541	474,232.48	2,853,618.24
542	474,222.61	2,853,638.99
543	474,214.70	2,853,665.74
544	474,226.54	2,853,680.49
545	474,246.29	2,853,701.24
546	474,267.01	2,853,704.24
547	474,280.86	2,853,704.24
548	474,299.61	2,853,706.99
549	474,305.51	2,853,708.99
550	474,323.30	2,853,712.99
551	474,343.01	2,853,723.74
552	474,354.86	2,853,739.74
553	474,372.64	2,853,755.49
554	474,381.52	2,853,765.24
555	474,382.52	2,853,776.24
556	474,379.55	2,853,800.74
557	474,370.67	2,853,824.49
558	474,372.64	2,853,846.24
559	474,375.61	2,853,864.99
560	474,373.61	2,853,878.74
561	474,369.67	2,853,898.49
562	474,357.83	2,853,912.49
563	474,335.14	2,853,921.24
564	474,317.36	2,853,934.99
565	474,306.52	2,853,950.99
566	474,303.55	2,853,972.49

Vertex	X	Y
567	474,295.64	2,853,992.24
568	474,273.93	2,854,011.99
569	474,252.24	2,854,013.99
570	474,231.49	2,854,016.99
571	474,220.64	2,854,028.74
572	474,205.83	2,854,061.48
573	474,189.05	2,854,097.98
574	474,176.24	2,854,125.48
575	474,172.27	2,854,156.23
576	474,186.08	2,854,181.73
577	474,204.87	2,854,199.48
578	474,225.58	2,854,205.48
579	474,236.43	2,854,201.48
580	474,251.24	2,854,192.73
581	474,267.02	2,854,201.48
582	474,272.96	2,854,210.48
583	474,278.87	2,854,232.23
584	474,296.65	2,854,232.23
585	474,316.40	2,854,234.23
586	474,327.24	2,854,237.98
587	474,336.12	2,854,261.73
588	474,343.02	2,854,283.48
589	474,345.99	2,854,302.23
590	474,340.09	2,854,322.98
591	474,316.40	2,854,338.73
592	474,291.71	2,854,354.48
593	474,275.93	2,854,354.48
594	474,266.06	2,854,363.48
595	474,250.24	2,854,367.48
596	474,239.40	2,854,386.23
597	474,237.43	2,854,434.48
598	474,243.34	2,854,453.23
599	474,259.15	2,854,466.98
600	474,283.81	2,854,482.98
601	474,296.65	2,854,498.73
602	474,301.59	2,854,521.48
603	474,288.75	2,854,544.98
604	474,269.03	2,854,573.72

Vertex	X	Y
605	474,244.34	2,854,588.47
606	474,217.69	2,854,603.22
607	474,194.00	2,854,616.97
608	474,173.28	2,854,629.97
609	474,144.65	2,854,638.72
610	474,126.87	2,854,643.72
611	474,113.06	2,854,642.72
612	474,104.18	2,854,631.97
613	474,097.28	2,854,619.97
614	474,094.31	2,854,603.22
615	474,086.40	2,854,589.47
616	474,079.50	2,854,586.47
617	474,068.65	2,854,599.22
618	474,060.75	2,854,610.22
619	474,050.87	2,854,613.22
620	474,043.00	2,854,613.22
621	474,035.09	2,854,605.22
622	474,023.25	2,854,606.22
623	474,020.28	2,854,609.22
624	474,013.37	2,854,628.97
625	474,006.46	2,854,652.72
626	474,006.47	2,854,670.47
627	474,005.50	2,854,683.22
628	473,999.56	2,854,701.97
629	473,989.68	2,854,712.72
630	473,968.97	2,854,713.72
631	473,945.28	2,854,711.72
632	473,933.43	2,854,705.97
633	473,935.40	2,854,690.22
634	473,937.37	2,854,662.47
635	473,936.40	2,854,630.97
636	473,938.37	2,854,606.22
637	473,941.34	2,854,579.47
638	473,934.40	2,854,557.97
639	473,914.68	2,854,541.97
640	473,910.71	2,854,526.22

Vertex	X	Y
641	473,912.71	2,854,511.47
642	473,914.68	2,854,484.72
643	473,912.71	2,854,448.22
644	473,903.80	2,854,444.47
645	473,891.96	2,854,445.47
646	473,869.27	2,854,482.97
647	473,837.68	2,854,546.97
648	473,825.84	2,854,587.47
649	473,819.93	2,854,630.97
650	473,830.78	2,854,652.72
651	473,853.49	2,854,674.22
652	473,872.25	2,854,698.97
653	473,888.03	2,854,711.72
654	473,895.93	2,854,725.72
655	473,909.75	2,854,771.97
656	473,899.87	2,854,805.72
657	473,916.65	2,854,835.22
658	473,924.56	2,854,854.96
659	473,924.56	2,854,879.71
660	473,920.59	2,854,919.21
661	473,911.72	2,854,931.96
662	473,901.84	2,854,941.71
663	473,890.00	2,854,964.46
664	473,877.19	2,854,988.21
665	473,849.53	2,855,017.71
666	473,823.88	2,855,044.46
667	473,809.06	2,855,069.21
668	473,778.47	2,855,111.46
669	473,768.60	2,855,141.21
670	473,755.78	2,855,168.71
671	473,746.88	2,855,201.46
672	473,743.94	2,855,228.95
673	473,744.91	2,855,247.70
674	473,754.78	2,855,250.70
675	473,765.66	2,855,249.70
676	473,778.47	2,855,247.70

Vertex	X	Y
677	473,796.25	2,855,245.71
678	473,814.00	2,855,255.71
679	473,831.79	2,855,261.71
680	473,854.47	2,855,255.71
681	473,872.25	2,855,238.96
682	473,897.91	2,855,227.96
683	473,916.66	2,855,224.96
684	473,919.63	2,855,205.21
685	473,908.75	2,855,194.46
686	473,894.94	2,855,171.71
687	473,898.88	2,855,144.21
688	473,911.72	2,855,122.46
689	473,920.60	2,855,098.71

Vertex	X	Y
690	473,923.57	2,855,087.96
691	473,922.56	2,855,069.21
692	473,919.63	2,855,049.46
693	473,922.56	2,855,037.46
694	473,917.66	2,855,020.71
695	473,927.50	2,855,009.96
696	473,931.47	2,855,005.96
697	473,938.38	2,855,004.96
698	473,938.38	2,854,989.21
699	473,927.50	2,854,969.46
700	473,932.44	2,854,952.71
701	473,937.38	2,854,933.96
1	473,937.37	2,854,919.46

Traditional Land Use Subzone (UTT)

Polygon 4 Montserrat Island, with an area of 1,868.45 ha.

Vertex	X	Y
1	496,603.39	2,844,016.42
2	496,604.39	2,844,016.42
3	496,610.73	2,844,004.67
4	496,626.61	2,843,978.42
5	496,626.61	2,843,969.92
6	496,610.73	2,843,972.92
7	496,599.08	2,843,980.42
8	496,576.86	2,843,988.92
9	496,562.04	2,843,970.92
10	496,553.57	2,843,948.67
11	496,552.51	2,843,923.17
12	496,559.92	2,843,905.17
13	496,567.32	2,843,892.67
14	496,569.45	2,843,868.17
15	496,574.73	2,843,822.67
16	496,580.04	2,843,796.17
17	496,585.32	2,843,770.93
18	496,588.51	2,843,732.68

Vertex	X	Y
19	496,598.01	2,843,710.43
20	496,620.26	2,843,699.93
21	496,652.01	2,843,682.93
22	496,666.82	2,843,669.18
23	496,675.29	2,843,649.18
24	496,665.76	2,843,627.93
25	496,648.82	2,843,611.18
26	496,642.48	2,843,578.18
27	496,639.29	2,843,551.68
28	496,637.19	2,843,525.43
29	496,640.35	2,843,496.68
30	496,635.07	2,843,464.93
31	496,640.35	2,843,449.18
32	496,652.01	2,843,445.93
33	496,657.29	2,843,427.93
34	496,661.51	2,843,403.68
35	496,671.04	2,843,361.19
36	496,685.85	2,843,319.94

Vertex	X	Y
37	496,699.63	2,843,290.44
38	496,699.63	2,843,265.94
39	496,723.97	2,843,242.69
40	496,722.91	2,843,206.69
41	496,722.91	2,843,168.69
42	496,731.38	2,843,140.19
43	496,744.06	2,843,108.44
44	496,755.72	2,843,088.19
45	496,758.88	2,843,066.94
46	496,759.94	2,843,035.19
47	496,779.00	2,843,019.45
48	496,763.13	2,843,010.95
49	496,749.34	2,843,010.95
50	496,737.72	2,842,995.20
51	496,734.53	2,842,984.45
52	496,725.00	2,842,957.95
53	496,722.91	2,842,913.70
54	496,730.31	2,842,891.45
55	496,748.28	2,842,875.45
56	496,759.94	2,842,859.70
57	496,773.69	2,842,824.70
58	496,783.22	2,842,801.45
59	496,799.09	2,842,779.20
60	496,823.44	2,842,764.45
61	496,855.19	2,842,749.45
62	496,896.47	2,842,738.95
63	496,931.37	2,842,729.45
64	496,982.19	2,842,723.20
65	497,022.41	2,842,719.95
66	497,050.97	2,842,729.45
67	497,074.25	2,842,745.45
68	497,100.72	2,842,754.95
69	497,114.47	2,842,769.70
70	497,128.22	2,842,771.70

Vertex	X	Y
71	497,148.34	2,842,762.20
72	497,163.16	2,842,762.20
73	497,186.44	2,842,765.45
74	497,195.97	2,842,754.95
75	497,189.63	2,842,737.96
76	497,197.03	2,842,720.96
77	497,219.25	2,842,699.71
78	497,235.13	2,842,685.96
79	497,266.88	2,842,673.46
80	497,288.03	2,842,691.46
81	497,315.56	2,842,679.71
82	497,325.06	2,842,662.71
83	497,335.66	2,842,641.71
84	497,353.66	2,842,620.46
85	497,370.59	2,842,605.71
86	497,374.81	2,842,592.96
87	497,372.69	2,842,574.96
88	497,369.53	2,842,548.46
89	497,379.06	2,842,519.96
90	497,398.09	2,842,491.21
91	497,430.91	2,842,476.46
92	497,455.25	2,842,472.21
93	497,473.25	2,842,458.46
94	497,481.72	2,842,438.46
95	497,475.34	2,842,424.71
96	497,476.41	2,842,407.72
97	497,482.78	2,842,389.72
98	497,495.47	2,842,379.22
99	497,509.22	2,842,368.47
100	497,520.87	2,842,354.72
101	497,529.34	2,842,336.72
102	497,511.34	2,842,308.22
103	497,487.00	2,842,288.22
104	497,478.53	2,842,260.72

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Vertex	X	Y
105	497,475.34	2,842,238.47
106	497,469.00	2,842,218.22
107	497,457.37	2,842,195.97
108	497,446.78	2,842,170.72
109	497,434.09	2,842,156.97
110	497,429.84	2,842,121.97
111	497,426.68	2,842,082.72
112	497,443.59	2,842,054.22
113	497,465.84	2,842,036.22
114	497,485.93	2,842,037.22
115	497,516.62	2,842,043.72
116	497,536.74	2,842,041.47
117	497,574.84	2,842,028.73
118	497,606.59	2,842,020.48
119	497,634.09	2,842,036.23
120	497,648.93	2,842,058.47
121	497,664.65	2,842,095.22
122	497,667.97	2,842,102.97
123	497,688.09	2,842,118.72
124	497,703.97	2,842,102.97
125	497,734.65	2,842,079.73
126	497,749.47	2,842,059.48
127	497,746.28	2,842,028.73
128	497,753.68	2,841,999.23
129	497,771.68	2,841,986.48
130	497,763.21	2,841,963.23
131	497,774.87	2,841,945.23
132	497,791.78	2,841,932.48
133	497,811.90	2,841,922.98
134	497,830.96	2,841,919.73
135	497,846.81	2,841,928.23
136	497,863.75	2,841,946.23
137	497,886.00	2,841,977.98
138	497,897.62	2,841,975.98

Vertex	X	Y
139	497,900.81	2,841,959.98
140	497,902.90	2,841,935.73
141	497,909.28	2,841,911.23
142	497,910.31	2,841,881.73
143	497,929.37	2,841,868.98
144	497,947.37	2,841,861.73
145	497,965.34	2,841,869.98
146	497,989.68	2,841,883.73
147	498,007.68	2,841,893.48
148	498,033.09	2,841,910.23
149	498,048.97	2,841,918.73
150	498,081.78	2,841,932.48
151	498,094.47	2,841,923.98
152	498,108.22	2,841,908.23
153	498,111.40	2,841,894.48
154	498,143.15	2,841,863.73
155	498,163.25	2,841,849.98
156	498,185.50	2,841,835.23
157	498,200.31	2,841,813.98
158	498,213.00	2,841,799.24
159	498,225.72	2,841,778.99
160	498,236.28	2,841,767.49
161	498,265.90	2,841,776.99
162	498,286.03	2,841,780.24
163	498,292.37	2,841,763.24
164	498,288.15	2,841,742.99
165	498,287.09	2,841,721.99
166	498,257.47	2,841,698.74
167	498,232.06	2,841,687.99
168	498,224.65	2,841,663.74
169	498,225.71	2,841,628.74
170	498,239.46	2,841,596.99
171	498,264.87	2,841,586.49
172	498,279.68	2,841,560.99

Vertex	X	Y
173	498,275.43	2,841,538.74
174	498,271.21	2,841,508.24
175	498,271.21	2,841,475.24
176	498,273.34	2,841,447.74
177	498,292.37	2,841,409.75
178	498,307.18	2,841,366.25
179	498,302.96	2,841,341.00
180	498,294.49	2,841,320.75
181	498,294.49	2,841,305.00
182	498,302.96	2,841,284.75
183	498,311.43	2,841,260.50
184	498,326.24	2,841,236.25
185	498,348.46	2,841,208.50
186	498,379.15	2,841,200.25
187	498,402.43	2,841,194.75
188	498,405.62	2,841,170.50
189	498,389.74	2,841,153.50
190	498,379.15	2,841,134.50
191	498,375.99	2,841,110.25
192	498,375.99	2,841,082.75
193	498,354.80	2,841,051.00
194	498,347.39	2,841,009.76
195	498,357.99	2,840,963.01
196	498,380.21	2,840,928.26
197	498,397.14	2,840,910.26
198	498,419.36	2,840,892.26
199	498,426.77	2,840,858.26
200	498,417.24	2,840,835.01
201	498,411.95	2,840,822.26
202	498,419.36	2,840,798.01
203	498,433.11	2,840,771.51
204	498,457.45	2,840,755.51
205	498,478.64	2,840,747.26
206	498,495.55	2,840,740.76

Vertex	X	Y
207	498,507.20	2,840,719.76
208	498,514.61	2,840,698.51
209	498,518.83	2,840,677.26
210	498,528.36	2,840,650.77
211	498,538.95	2,840,622.27
212	498,511.42	2,840,600.02
213	498,505.08	2,840,580.02
214	498,514.61	2,840,545.02
215	498,533.67	2,840,527.02
216	498,567.51	2,840,515.27
217	498,566.45	2,840,485.77
218	498,556.95	2,840,453.02
219	498,558.01	2,840,420.02
220	498,567.51	2,840,388.27
221	498,586.57	2,840,351.27
222	498,603.51	2,840,311.02
223	498,626.79	2,840,278.28
224	498,649.01	2,840,238.03
225	498,656.42	2,840,197.78
226	498,657.48	2,840,157.78
227	498,671.23	2,840,122.78
228	498,676.54	2,840,094.28
229	498,681.82	2,840,042.28
230	498,675.48	2,840,013.78
231	498,674.41	2,839,959.78
232	498,661.69	2,839,899.53
233	498,637.35	2,839,821.04
234	498,634.19	2,839,770.29
235	498,646.88	2,839,741.79
236	498,663.82	2,839,714.29
237	498,670.16	2,839,680.29
238	498,668.07	2,839,650.79
239	498,659.60	2,839,588.29
240	498,657.94	2,839,535.54

Vertex	X	Y
241	498,663.22	2,839,518.54
242	498,666.41	2,839,495.29
243	498,674.88	2,839,472.04
244	498,685.47	2,839,454.05
245	498,686.50	2,839,427.55
246	498,679.09	2,839,404.30
247	498,674.87	2,839,368.30
248	498,669.59	2,839,337.55
249	498,666.40	2,839,321.80
250	498,665.34	2,839,272.05
251	498,679.09	2,839,238.05
252	498,686.50	2,839,235.05
253	498,697.09	2,839,191.55
254	498,697.09	2,839,178.80
255	498,691.81	2,839,170.30
256	498,703.43	2,839,148.05
257	498,697.09	2,839,122.80
258	498,683.34	2,839,115.30
259	498,664.28	2,839,101.55
260	498,655.81	2,839,081.55
261	498,645.24	2,839,068.80
262	498,642.06	2,839,062.30
263	498,624.06	2,839,048.55
264	498,621.96	2,839,063.55
265	498,612.43	2,839,065.55
266	498,591.24	2,839,063.55
267	498,560.56	2,839,050.80
268	498,525.65	2,839,040.30
269	498,503.43	2,839,028.55
270	498,498.12	2,839,018.05
271	498,488.58	2,838,991.55
272	498,462.15	2,838,963.06
273	498,445.21	2,838,952.31
274	498,428.27	2,838,931.06

Vertex	X	Y
275	498,375.36	2,838,895.31
276	498,348.89	2,838,876.06
277	498,339.36	2,838,859.31
278	498,324.55	2,838,837.06
279	498,320.33	2,838,794.56
280	498,327.74	2,838,785.06
281	498,322.42	2,838,779.81
282	498,304.45	2,838,759.81
283	498,299.14	2,838,743.81
284	498,279.05	2,838,732.31
285	498,264.23	2,838,713.06
286	498,255.77	2,838,683.56
287	498,242.01	2,838,669.81
288	498,224.01	2,838,656.06
289	498,206.01	2,838,632.81
290	498,202.86	2,838,614.81
291	498,195.45	2,838,604.06
292	498,185.92	2,838,571.31
293	498,172.14	2,838,567.06
294	498,161.58	2,838,569.31
295	498,144.64	2,838,547.06
296	498,126.64	2,838,511.06
297	498,115.01	2,838,490.81
298	498,109.70	2,838,465.56
299	498,086.42	2,838,466.56
300	498,062.07	2,838,448.56
301	498,029.29	2,838,417.81
302	498,020.82	2,838,395.57
303	498,020.82	2,838,375.57
304	498,025.04	2,838,358.57
305	498,031.38	2,838,347.07
306	498,033.51	2,838,337.32
307	498,027.16	2,838,314.07
308	498,022.91	2,838,291.82

Vertex	X	Y
309	498,010.23	2,838,287.82
310	498,000.69	2,838,270.82
311	497,986.94	2,838,272.82
312	497,973.19	2,838,285.57
313	497,947.79	2,838,276.07
314	497,926.63	2,838,259.07
315	497,917.10	2,838,231.57
316	497,901.22	2,838,222.07
317	497,877.94	2,838,194.57
318	497,852.53	2,838,142.82
319	497,848.28	2,838,090.82
320	497,855.72	2,838,064.32
321	497,840.88	2,838,065.32
322	497,776.34	2,838,033.57
323	497,737.19	2,838,009.32
324	497,722.34	2,837,997.82
325	497,714.94	2,837,975.57
326	497,696.97	2,837,985.07
327	497,663.09	2,837,973.32
328	497,615.47	2,837,935.32
329	497,553.03	2,837,863.32
330	497,501.15	2,837,789.32
331	497,500.12	2,837,753.33
332	497,490.59	2,837,721.58
333	497,466.24	2,837,702.33
334	497,431.30	2,837,665.33
335	497,419.68	2,837,601.83
336	497,410.15	2,837,572.33
337	497,406.96	2,837,496.08
338	497,428.14	2,837,473.83
339	497,447.18	2,837,452.58
340	497,465.17	2,837,423.08
341	497,467.30	2,837,398.58
342	497,479.99	2,837,366.83

Vertex	X	Y
343	497,479.99	2,837,350.08
344	497,447.17	2,837,344.58
345	497,409.08	2,837,323.58
346	497,382.61	2,837,292.83
347	497,398.48	2,837,257.84
348	497,402.73	2,837,237.84
349	497,388.98	2,837,215.59
350	497,369.92	2,837,215.59
351	497,358.26	2,837,199.59
352	497,356.17	2,837,148.84
353	497,345.58	2,837,128.84
354	497,337.11	2,837,100.09
355	497,339.23	2,837,074.84
356	497,356.17	2,837,031.34
357	497,345.57	2,837,029.34
358	497,323.36	2,837,061.09
359	497,300.07	2,837,069.59
360	497,272.54	2,837,096.09
361	497,234.45	2,837,112.84
362	497,202.70	2,837,125.59
363	497,172.01	2,837,123.59
364	497,151.92	2,837,136.09
365	497,123.32	2,837,115.09
366	497,100.04	2,837,102.34
367	497,061.95	2,837,058.84
368	497,046.07	2,837,026.09
369	497,046.07	2,837,001.84
370	497,053.48	2,836,997.59
371	497,053.48	2,836,973.09
372	497,036.54	2,836,952.09
373	497,035.47	2,836,912.84
374	497,021.72	2,836,897.09
375	497,005.85	2,836,900.09
376	496,985.76	2,836,897.09

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Vertex	X	Y
377	496,964.57	2,836,891.59
378	496,956.69	2,836,910.59
379	496,954.57	2,836,924.34
380	496,961.97	2,836,940.34
381	496,945.07	2,836,949.84
382	496,924.94	2,836,954.09
383	496,901.66	2,836,960.34
384	496,879.44	2,836,978.34
385	496,864.63	2,836,988.84
386	496,848.75	2,836,969.84
387	496,838.16	2,836,983.59
388	496,828.63	2,836,999.59
389	496,823.35	2,837,022.84
390	496,826.54	2,837,038.59
391	496,829.69	2,837,053.59
392	496,839.22	2,837,067.33
393	496,849.82	2,837,091.58
394	496,852.98	2,837,114.83
395	496,845.57	2,837,147.58
396	496,832.88	2,837,182.58
397	496,823.35	2,837,222.83
398	496,811.70	2,837,254.58
399	496,805.54	2,837,258.08
400	496,790.54	2,837,266.33
401	496,750.32	2,837,283.08
402	496,711.16	2,837,300.08
403	496,675.20	2,837,314.83
404	496,625.45	2,837,323.33
405	496,588.41	2,837,340.33
406	496,559.82	2,837,359.33
407	496,535.48	2,837,362.58
408	496,524.91	2,837,374.08
409	496,525.98	2,837,397.57
410	496,529.13	2,837,427.07

Vertex	X	Y
411	496,499.51	2,837,458.82
412	496,442.35	2,837,492.82
413	496,409.54	2,837,506.57
414	496,367.23	2,837,513.82
415	496,341.82	2,837,505.32
416	496,312.19	2,837,489.57
417	496,306.88	2,837,472.57
418	496,291.01	2,837,457.82
419	496,259.26	2,837,451.32
420	496,232.82	2,837,482.07
421	496,220.10	2,837,521.32
422	496,194.69	2,837,607.07
423	496,191.54	2,837,643.07
424	496,196.82	2,837,688.57
425	496,195.76	2,837,744.56
426	496,173.54	2,837,781.56
427	496,143.92	2,837,836.56
428	496,103.70	2,837,887.56
429	496,066.67	2,837,918.06
430	496,039.14	2,837,954.06
431	496,017.98	2,837,966.81
432	495,986.23	2,837,984.81
433	495,962.95	2,837,990.06
434	495,933.32	2,837,989.06
435	495,916.38	2,837,988.06
436	495,892.04	2,837,984.81
437	495,862.38	2,837,990.06
438	495,841.23	2,837,980.56
439	495,823.23	2,837,980.56
440	495,807.35	2,837,965.81
441	495,797.85	2,837,949.81
442	495,785.13	2,837,938.31
443	495,771.38	2,837,933.06
444	495,762.91	2,837,920.31

Vertex	X	Y
445	495,747.04	2,837,898.06
446	495,730.10	2,837,881.06
447	495,708.94	2,837,872.56
448	495,690.94	2,837,874.81
449	495,672.94	2,837,899.06
450	495,664.51	2,837,923.56
451	495,657.07	2,837,959.55
452	495,651.79	2,837,985.80
453	495,635.91	2,838,003.80
454	495,617.91	2,838,027.05
455	495,584.07	2,838,049.30
456	495,563.94	2,838,055.80
457	495,534.32	2,838,063.05
458	495,530.10	2,838,086.55
459	495,535.38	2,838,108.55
460	495,542.79	2,838,137.30
461	495,547.01	2,838,172.05
462	495,545.98	2,838,196.55
463	495,552.32	2,838,203.80
464	495,555.48	2,838,225.05
465	495,557.60	2,838,245.30
466	495,557.60	2,838,273.80
467	495,550.20	2,838,291.80
468	495,532.20	2,838,301.30
469	495,506.79	2,838,327.79
470	495,503.64	2,838,347.79
471	495,479.29	2,838,369.04
472	495,440.14	2,838,383.79
473	495,417.92	2,838,396.54
474	495,385.10	2,838,415.54
475	495,333.23	2,838,459.04
476	495,315.26	2,838,477.04
477	495,301.48	2,838,496.04
478	495,284.57	2,838,520.29

Vertex	X	Y
479	495,291.98	2,838,540.54
480	495,294.07	2,838,568.04
481	495,261.29	2,838,620.79
482	495,246.45	2,838,649.54
483	495,234.83	2,838,681.28
484	495,233.76	2,838,725.78
485	495,223.17	2,838,756.28
486	495,207.30	2,838,781.78
487	495,206.23	2,838,809.28
488	495,214.70	2,838,826.28
489	495,215.77	2,838,854.78
490	495,215.77	2,838,881.28
491	495,207.30	2,838,903.53
492	495,194.61	2,838,935.28
493	495,175.55	2,838,968.03
494	495,176.61	2,838,984.03
495	495,191.42	2,839,002.03
496	495,198.83	2,839,028.28
497	495,205.21	2,839,058.03
498	495,192.49	2,839,108.77
499	495,190.39	2,839,148.02
500	495,198.83	2,839,190.27
501	495,206.24	2,839,218.77
502	495,218.96	2,839,244.27
503	495,212.62	2,839,279.27
504	495,197.80	2,839,314.02
505	495,204.15	2,839,333.27
506	495,216.84	2,839,343.77
507	495,236.96	2,839,335.27
508	495,246.46	2,839,344.77
509	495,252.84	2,839,363.77
510	495,250.71	2,839,397.77
511	495,246.46	2,839,425.27
512	495,241.18	2,839,472.77

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Vertex	X	Y
513	495,241.18	2,839,503.52
514	495,233.78	2,839,526.77
515	495,217.90	2,839,547.02
516	495,224.24	2,839,565.01
517	495,245.43	2,839,576.51
518	495,271.87	2,839,591.51
519	495,288.81	2,839,592.51
520	495,301.50	2,839,613.76
521	495,311.03	2,839,648.51
522	495,305.75	2,839,684.51
523	495,301.50	2,839,705.76
524	495,306.81	2,839,778.76
525	495,286.69	2,839,845.51
526	495,270.81	2,839,905.76
527	495,248.60	2,839,965.01
528	495,254.94	2,840,014.75
529	495,213.69	2,840,064.50
530	495,192.50	2,840,121.75
531	495,159.69	2,840,171.50
532	495,147.00	2,840,219.00
533	495,117.38	2,840,285.75
534	495,082.44	2,840,363.00
535	495,057.04	2,840,469.74
536	495,039.07	2,840,604.24
537	495,045.42	2,840,671.99
538	494,973.45	2,840,821.23
539	494,929.01	2,840,915.48
540	494,869.73	2,841,010.73
541	494,834.79	2,841,059.48
542	494,808.36	2,841,100.73
543	494,803.08	2,841,144.97
544	494,761.80	2,841,212.72
545	494,670.77	2,841,330.22
546	494,611.52	2,841,408.72

Vertex	X	Y
547	494,589.30	2,841,448.72
548	494,565.99	2,841,484.72
549	494,538.49	2,841,532.46
550	494,534.24	2,841,538.96
551	494,503.55	2,841,585.46
552	494,477.11	2,841,644.71
553	494,466.52	2,841,690.21
554	494,445.36	2,841,746.21
555	494,436.90	2,841,795.96
556	494,423.15	2,841,841.46
557	494,397.74	2,841,876.45
558	494,381.87	2,841,902.95
559	494,364.93	2,841,934.70
560	494,339.52	2,841,963.20
561	494,315.18	2,841,974.70
562	494,284.49	2,841,985.45
563	494,262.27	2,842,026.70
564	494,244.27	2,842,076.45
565	494,234.74	2,842,126.20
566	494,233.71	2,842,156.95
567	494,237.93	2,842,200.20
568	494,241.12	2,842,224.70
569	494,233.71	2,842,266.94
570	494,233.71	2,842,296.44
571	494,234.75	2,842,335.69
572	494,226.28	2,842,379.19
573	494,219.93	2,842,400.19
574	494,189.25	2,842,439.44
575	494,152.22	2,842,494.44
576	494,145.87	2,842,545.19
577	494,161.75	2,842,571.69
578	494,177.62	2,842,589.69
579	494,195.59	2,842,627.94
580	494,190.31	2,842,649.93

Vertex	X	Y
581	494,197.72	2,842,678.68
582	494,204.06	2,842,711.43
583	494,203.00	2,842,763.18
584	494,198.78	2,842,810.93
585	494,180.78	2,842,856.43
586	494,156.44	2,842,883.93
587	494,137.41	2,842,904.18
588	494,125.75	2,842,929.43
589	494,124.69	2,842,952.68
590	494,140.57	2,842,992.93
591	494,141.63	2,843,041.68
592	494,143.76	2,843,100.92
593	494,123.63	2,843,124.17
594	494,098.26	2,843,136.92
595	494,072.85	2,843,162.42
596	494,055.66	2,843,174.67
597	494,046.38	2,843,181.42
598	494,027.35	2,843,202.42
599	494,018.88	2,843,245.92
600	494,026.29	2,843,279.67
601	494,032.63	2,843,298.92
602	494,045.32	2,843,318.92
603	494,065.45	2,843,330.67
604	494,076.01	2,843,343.17
605	494,082.38	2,843,376.17
606	494,086.60	2,843,400.42
607	494,090.85	2,843,430.17
608	494,088.73	2,843,456.41
609	494,104.60	2,843,467.16
610	494,124.70	2,843,469.16
611	494,132.11	2,843,456.42
612	494,147.98	2,843,441.67
613	494,162.79	2,843,425.92
614	494,191.39	2,843,417.42

Vertex	X	Y
615	494,217.86	2,843,422.67
616	494,243.23	2,843,420.42
617	494,271.82	2,843,438.42
618	494,297.20	2,843,445.92
619	494,315.20	2,843,441.67
620	494,327.92	2,843,426.92
621	494,344.83	2,843,414.17
622	494,375.54	2,843,416.42
623	494,398.83	2,843,415.17
624	494,411.51	2,843,396.17
625	494,435.86	2,843,366.67
626	494,461.26	2,843,317.92
627	494,490.89	2,843,305.17
628	494,516.29	2,843,289.42
629	494,574.48	2,843,283.92
630	494,654.92	2,843,275.67
631	494,725.83	2,843,273.42
632	494,810.52	2,843,271.42
633	494,858.14	2,843,267.18
634	494,936.45	2,843,258.68
635	494,997.83	2,843,247.93
636	495,057.08	2,843,247.93
637	495,114.24	2,843,241.68
638	495,165.05	2,843,231.18
639	495,231.71	2,843,231.18
640	495,250.77	2,843,241.68
641	495,279.33	2,843,271.43
642	495,293.11	2,843,262.93
643	495,325.90	2,843,253.43
644	495,357.65	2,843,238.43
645	495,395.77	2,843,232.18
646	495,450.80	2,843,236.43
647	495,475.12	2,843,243.68
648	495,500.52	2,843,255.43

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Vertex	X	Y
649	495,537.59	2,843,257.68
650	495,562.96	2,843,260.68
651	495,593.68	2,843,262.93
652	495,622.24	2,843,267.18
653	495,648.71	2,843,286.18
654	495,671.99	2,843,300.93
655	495,684.68	2,843,313.68
656	495,712.21	2,843,334.93
657	495,740.78	2,843,351.68
658	495,756.65	2,843,365.43
659	495,767.25	2,843,380.43
660	495,778.87	2,843,406.68
661	495,785.22	2,843,422.68
662	495,790.53	2,843,438.43
663	495,802.15	2,843,456.43
664	495,809.56	2,843,474.43
665	495,811.69	2,843,496.68
666	495,819.09	2,843,514.68
667	495,821.22	2,843,541.18
668	495,831.78	2,843,564.43
669	495,833.91	2,843,593.17
670	495,824.37	2,843,614.17
671	495,809.56	2,843,640.67
672	495,809.56	2,843,659.67
673	495,805.34	2,843,689.42
674	495,791.56	2,843,703.17
675	495,768.28	2,843,722.17
676	495,759.81	2,843,748.67
677	495,770.41	2,843,791.92
678	495,775.69	2,843,815.42
679	495,797.94	2,843,839.67
680	495,807.44	2,843,861.92
681	495,814.88	2,843,885.17
682	495,834.97	2,843,892.67

Vertex	X	Y
683	495,876.25	2,843,896.92
684	495,899.54	2,843,912.67
685	495,928.10	2,843,912.67
686	495,967.26	2,843,932.92
687	495,995.85	2,843,949.67
688	496,014.88	2,843,959.17
689	496,048.76	2,843,971.92
690	496,075.23	2,843,986.67
691	496,096.38	2,843,986.67
692	496,117.54	2,843,980.42
693	496,141.88	2,843,968.67
694	496,156.70	2,843,954.92
695	496,176.82	2,843,939.17
696	496,201.16	2,843,929.67
697	496,220.20	2,843,941.17
698	496,236.07	2,843,948.67
699	496,262.54	2,843,941.17
700	496,292.17	2,843,944.42
701	496,302.76	2,843,951.92
702	496,310.17	2,843,972.92
703	496,317.57	2,843,994.17
704	496,334.51	2,844,008.92
705	496,351.45	2,844,018.42
706	496,373.67	2,844,039.67
707	496,392.70	2,844,057.67
708	496,411.76	2,844,069.42
709	496,448.79	2,844,071.42
710	496,459.39	2,844,075.67
711	496,479.48	2,844,063.92
712	496,491.14	2,844,058.67
713	496,501.73	2,844,056.67
714	496,505.95	2,844,049.17
715	496,504.89	2,844,038.67
716	496,508.08	2,844,026.92

Vertex	X	Y
717	496,520.76	2,844,021.67
718	496,539.83	2,844,020.67
719	496,560.98	2,844,019.67

Vertex	X	Y
720	496,584.26	2,844,016.42
1	496,603.39	2,844,016.42

Marine Traditional Use Subzone I (UTM-I)

Polygon 1 East Coronados, with an area of 130.88 ha.

Vertex	X	Y
1	473,716.47	2,890,178.99
2	474,157.28	2,890,178.43
3	474,157.24	2,886,614.61
4	473,461.05	2,887,473.33

Vertex	X	Y
Continue along the coastline in a general northerly direction until you reach vertex 1.		
1	473,716.47	2,890,178.99

Marine Traditional Use Subzone I (UTM-I)

Polygon 2 La Islita (Coronados), with an area of 68.68 ha.

It includes the polygon corresponding to the Terrestrial Preservation subzone Los Islotes and Catalana or Santa Catalina Island (PreTI) polygon 1 La Islita (Coronados Island); therefore, when generating polygon 2 La Islita (Coronados) of the Traditional Marine Use subzone I (UTM-I), it should be included.

Vertex	X	Y
1	469,950.81	2,887,803.57
2	469,948.96	2,886,997.84
3	469,057.23	2,886,999.84

Vertex	X	Y
4	469,059.15	2,887,805.57
1	469,950.81	2,887,803.57

Marine Traditional Use Subzone I (UTM-I)

Polygon 3 Bajo de La Choya with an area of 373.65 ha.

Vertex	X	Y
1	481,842.16	2,881,996.51
2	481,005.75	2,881,997.76
3	478,284.17	2,886,483.11

Vertex	X	Y
4	479,120.33	2,886,481.86
1	481,842.16	2,881,996.51

Marine Traditional Use Subzone I (UTM-I)

Polygon 4 Punta Tintorera (North Isla del Carmen), with an area of 91.52 Ha.

Vertex	X	Y
1	486,735.35	2,882,127.25
2	486,407.13	2,882,127.25
3	486,408.18	2,883,421.20
4	487,674.62	2,883,418.20
5	487,674.52	2,882,427.23

Vertex	X	Y
Continue along the coastline in a general westerly direction until you reach vertex 1.		
1	486,735.35	2,882,127.25

Marine Traditional Use Subzone I (UTM-I)

Polygon 5 Puerto La Vaca (North Isla del Carmen), with an area of 107.76 ha.

Vertex	X	Y
1	493,559.41	2,884,202.40
2	493,558.87	2,883,333.43
Continue along the coastline in a general westerly direction until you reach vertex 3.		

Vertex	X	Y
3	492,597.20	2,882,645.46
4	492,599.59	2,884,203.90
1	493,559.41	2,884,202.40

Marine Traditional Use Subzone I (UTM-I)

Polygon 6 North Bahía Márquez (Isla del Carmen), with an area of 1,907.95 ha.

Vertex	X	Y
1	481,738.82	2,872,668.98
It continues along the coastline in a general southerly direction until it reaches vertex 2.		
2	478,245.75	2,863,218.55

Vertex	X	Y
3	477,560.43	2,863,219.80
4	477,576.72	2,872,675.54
1	481,738.82	2,872,668.98

Marine Traditional Use Subzone I (UTM-I)

Polygon 7 Punta Perico (East of Isla del Carmen), with an area of 2,269.19 ha.

Vertex	X	Y
1	492,847.03	2,873,706.02
2	494,391.07	2,873,705.27
3	494,387.82	2,866,297.52
4	491,062.55	2,866,299.27
5	491,066.21	2,871,584.85

Vertex	X	Y
6	491,067.80	2,873,890.27
Continue along the coastline in a general easterly direction until you reach vertex 1.		
1	492,847.03	2,873,706.02

Marine Traditional Use Subzone I (UTM-I)

Polygon 8 Punta Baja (Southwest Isla del Carmen), with an area of 506.71 ha.

Vertex	X	Y
1	476,917.19	2,859,320.99
It continues along the coastline in a general southerly direction until it reaches vertex 2.		
2	479,807.47	2,854,470.03
3	480,524.94	2,854,469.04
4	480,524.00	2,853,833.55
5	479,643.20	2,853,834.80

Vertex	X	Y
6	479,165.70	2,853,835.54
7	476,244.86	2,855,935.72
8	476,248.81	2,856,664.20
9	476,263.23	2,859,322.14
1	476,917.19	2,859,320.99

Marine Traditional Use Subzone I (UTM-I)

Polygon 9 Isla Danzante, with an area of 618.14 ha.

Vertex	X	Y
1	473,920.59	2,854,919.21
It continues along the coastline in a general southerly direction until it reaches vertex 2.		
2	473,937.37	2,854,919.46
3	474,205.69	2,854,918.97
4	474,206.32	2,855,236.71
5	474,701.86	2,855,235.72

Vertex	X	Y
6	476,012.08	2,852,428.29
7	476,012.46	2,849,638.10
8	476,012.52	2,849,332.85
9	475,210.70	2,849,334.09
10	473,691.28	2,851,628.53
11	473,508.18	2,854,920.46
1	473,920.59	2,854,919.21

Marine Traditional Use Subzone I (UTM-I)

Polygon 10 Islote Blanco, with an area of 52.24 ha.

It includes the polygon corresponding to the Terrestrial Preservation subzone Los Islotes e Isla Catalana or Santa Catalina (PreTI) polygon 3 Islote Blanco, therefore, when generating polygon 10 Islote Blanco of the Traditional Marine Use subzone I (UTM-I), it should be included.

Vertex	X	Y
1	472,177.05	2,850,367.53
2	472,175.50	2,849,637.55
3	471,447.18	2,849,639.04

Vertex	X	Y
4	471,448.76	2,850,369.02
1	472,177.05	2,850,367.53

Marine Traditional Use Subzone I (UTM-I)

Polygon 11 Las Islitas (Danzante), with an area of 55.83 ha.

It includes the polygon corresponding to the Terrestrial Preservation subzone Los Islotes and Catalana Island (PreTI) polygon 4 Las Islitas; therefore, when generating polygon 11 Las Islitas (Danzante) of the Traditional Marine Use subzone I (UTM-I), it should be included.

Vertex	X	Y
1	472,819.10	2,849,221.81
2	472,817.61	2,848,426.08
3	472,083.64	2,848,427.32

Vertex	X	Y
4	472,085.34	2,849,223.30
1	472,819.10	2,849,221.81

Marine Traditional Use Subzone I (UTM-I)

Polygon 12 Islotes Los Candeleros, with an area of 43.43 ha.

It includes the polygon corresponding to the Terrestrial Preservation subzone Los Islotes e Isla Catalana (PreTI) polygon 5 Islote Candeleros; therefore, when generating polygon 12 Islotes Los Candeleros of the Traditional Marine Use subzone (UTM-I), it should be included.

Vertex	X	Y
1	476,209.01	2,848,432.37
2	476,207.93	2,847,748.89
3	475,560.80	2,847,749.88

Vertex	X	Y
4	475,562.06	2,848,433.61
1	476,209.01	2,848,432.37

Marine Traditional Use Subzone I (UTM-I)

Polygon 13 Islote Las Tijeras (Danzante), with an area of 51.37 ha.

It includes the polygon corresponding to the Terrestrial Preservation subzone Los Islotes e Isla Catalana (PreTI) polygon 6 Islote Las Tijeras; therefore, when generating polygon 13 Islote Las Tijeras (Danzante) of the Traditional Marine Use subzone (UTM-I), it should be included.

Vertex	X	Y
1	477,628.48	2,847,700.66
2	477,627.40	2,846,973.17
3	476,883.49	2,846,974.16

Vertex	X	Y
4	476,884.78	2,847,701.90
1	477,628.48	2,847,700.66

Marine Traditional Use Subzone I (UTM-I)

Polygon 14 Islote Pardo, with an area of 56.69 ha.

It includes the polygon corresponding to the Terrestrial Preservation subzone Los Islotes e Isla Catalana (PreTI) polygon 7 Islote Pardo; therefore, when generating polygon 14 Islote Pardo of the Traditional Marine Use subzone (UTM-I), it should be included.

Vertex	X	Y
1	477,842.93	2,846,306.93
2	477,841.66	2,845,461.45
3	477,135.18	2,845,462.44

Vertex	X	Y
4	477,136.67	2,846,308.18
1	477,842.93	2,846,306.93

Marine Traditional Use Subzone I (UTM-I)

Polygon 15 Bajo El Cochi, with an area of 2,952.62 ha.

It includes the polygons corresponding to the Terrestrial Preservation subzone Los Islotes and Catalana Island (PreTI) polygon 8 Las Galeras I and 9 Las Galeras II; therefore, when generating polygon 15 Bajo El Cochi of the Traditional Marine Use subzone I (UTM-I), these should be included.

Vertex	X	Y
1	496,603.39	2,844,016.42
Continue along the coastline in a general westerly direction until you reach vertex 2.		
2	494,055.66	2,843,174.67

Vertex	X	Y
3	493,670.06	2,843,174.67
4	493,677.81	2,853,585.90
5	496,612.61	2,853,584.91
1	496,603.39	2,844,016.42

Marine Traditional Use Subzone I (UTM-I)

Polygon 16 Punta Cuervitos-Lighthouse (East Coast of Monserrat Island), with an area of 415.82 ha.

Vertex	X	Y
1	497,664.65	2,842,095.22
2	497,665.75	2,842,173.97
3	499,178.33	2,842,173.98
4	499,178.09	2,839,010.81
5	497,566.66	2,836,598.10

Vertex	X	Y
6	496,806.97	2,836,598.34
7	496,805.54	2,837,258.08
Continue along the coastline in a general northerly direction until you reach vertex 1.		
1	497,664.65	2,842,095.22

Traditional Marine Use Subzone II (UTM-II)

Polygon 1 Punta Raza (Catalana or Santa Catalina Island), with an area of 5,410.39 ha.

Vertex	X	Y
1	522,900.64	2,843,606.24
2	522,948.67	2,843,606.49
3	522,948.18	2,843,903.73
4	522,776.96	2,843,903.48
Continue along the coastline in a general westerly direction until you reach vertex 5.		
5	519,862.07	2,838,196.91
6	517,508.90	2,838,194.16

Vertex	X	Y
7	517,484.38	2,848,058.85
8	525,007.16	2,848,065.83
9	525,019.91	2,841,279.81
10	523,687.25	2,841,276.81
Continue along the coastline in a general northerly direction until you reach vertex 1.		
1	522,900.64	2,843,606.24

Traditional Marine Use Subzone II (UTM-II)

Polygon 2 Palo Parado (Catalana Island or Santa Catalina), with an area of 2,392.85 ha.

Vertex	X	Y
1	520,044.55	2,835,711.98
Continue along the coastline in a general easterly direction until you reach vertex 2.		
2	524,149.47	2,831,173.11
3	524,161.94	2,831,095.12
4	525,039.07	2,831,092.37

Vertex	X	Y
5	525,040.81	2,830,176.89
6	517,514.88	2,830,172.63
7	517,507.62	2,835,708.48
8	517,515.09	2,835,708.48
1	520,044.55	2,835,711.98

Traditional Marine Use Subzone III (UTM-III)

Polygon 1 Canal de Ballenas, with an area of 2,208.14 ha.

Vertex	X	Y
1	476,248.81	2,856,664.20
2	476,244.86	2,855,935.72
3	479,165.70	2,853,835.54
4	479,643.20	2,853,834.80
5	479,639.64	2,851,978.84
6	478,914.60	2,851,979.83
7	478,910.81	2,849,641.38
8	476,012.46	2,849,638.10

Vertex	X	Y
9	476,012.08	2,852,428.29
10	474,701.86	2,855,235.72
11	474,206.32	2,855,236.71
12	474,207.08	2,855,621.95
13	473,748.63	2,855,622.95
14	473,748.65	2,856,666.42
1	476,248.81	2,856,664.20

Subzone of Sustainable Use of Marine Natural Resources (ASRNM) Polygon 1 Bahía

Loreto I, with an area of 158,258.01 ha.

Includes the polygons corresponding to the subzones of: Preservación Terrestre los Islotes e Isla Catalana (PreTI), polygons 1 La Islita (Isla Coronados), 2 La Mestiza, 3 Islote Blanco, 4 Las Islitas, 5 Islote Candeleros, 6 Islote Las Tijeras, 7 Islote Pardo, 8 Las Galeras I and 9 Las Galeras II; Preservación Marina y Humedales (PreMH), polygon 8 Piedra de La Choya; Uso Tradicional Terrestre (UTT) polygon 4 Isla Montserrat; Traditional Marine Use I (UTM-I), polygons 2 La Islita (Coronados), 3 Bajo de La Choya, 10 Islote Blanco, 11 Las Islitas (Danzante), 12 Islotes Los Candeleros, 13 Islote Las Tijeras, 14 Islote Pardo, 15 Bajo El Cochi and 16 Punta Cuervitos-Faro (East Coast of Monserrat Island), so at the time of generating polygon 1 Bahía de Loreto I of the subzone of Sustainable Use of Marine Natural Resources (ASRNM) these should be included.

Vertex	X	Y
1	464,613.24	2,890,191.24
2	471,879.89	2,890,181.49
It continues along the coastline in a general southerly direction until it reaches vertex 3.		
3	471,259.21	2,888,963.78
4	471,237.71	2,888,964.03
5	471,238.80	2,888,821.54
6	471,416.24	2,888,824.29
It continues along the coastline in a general southerly direction until it reaches vertex 7.		
7	470,711.21	2,886,833.60
8	470,608.56	2,887,143.34

Vertex	X	Y
9	470,598.15	2,887,149.34
10	470,598.25	2,887,150.84
11	470,581.59	2,887,167.59
12	470,567.68	2,887,167.09
13	470,555.71	2,887,166.59
14	470,509.50	2,887,138.09
15	470,499.12	2,887,130.34
16	470,460.53	2,887,101.84
17	470,446.99	2,887,083.34
18	470,407.84	2,887,029.84
19	470,378.40	2,886,990.34

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Vertex	X	Y
20	470,356.55	2,886,954.60
21	470,336.62	2,886,921.60
22	470,295.99	2,886,606.61
23	470,296.17	2,886,605.36
24	470,293.77	2,886,586.36
25	470,722.18	2,886,800.60
26	470,719.71	2,886,808.10
It continues along the coastline in a general easterly direction until it reaches vertex 27.		
27	473,461.05	2,887,473.33
28	474,157.24	2,886,614.61
29	474,157.28	2,890,178.43
30	499,934.85	2,890,143.39
31	499,934.35	2,848,042.08
32	517,484.38	2,848,058.85
33	517,508.90	2,838,194.16
34	517,515.09	2,835,708.48
35	517,507.62	2,835,708.48
36	517,514.88	2,830,172.63
37	489,981.48	2,830,156.89
38	489,992.67	2,844,747.85
39	483,275.94	2,844,756.03
40	483,285.50	2,851,973.62
41	479,639.64	2,851,978.84
42	479,643.20	2,853,834.80
43	480,524.00	2,853,833.55
44	480,524.94	2,854,469.04
45	479,807.47	2,854,470.03
It continues along the coastline in a general northerly direction until it reaches vertex 46.		
46	491,067.80	2,873,890.27
47	491,066.21	2,871,584.85
48	491,062.55	2,866,299.27
49	494,387.82	2,866,297.52
50	494,391.07	2,873,705.27
51	492,847.03	2,873,706.02
It continues along the coastline in a general northerly direction until it reaches vertex 52.		
52	493,650.24	2,883,059.94
53	494,560.03	2,883,059.69
54	494,560.54	2,884,201.90
55	493,559.41	2,884,202.40

Vertex	X	Y
56	492,599.59	2,884,203.90
57	492,597.20	2,882,645.46
It continues along the coastline in a general westerly direction until it reaches vertex 58.		
58	487,674.52	2,882,427.23
59	487,674.62	2,883,418.20
60	486,408.18	2,883,421.20
61	486,407.13	2,882,127.25
62	486,735.35	2,882,127.25
It continues along the coastline in a general southerly direction until it reaches vertex 63.		
63	481,738.82	2,872,668.98
64	477,576.72	2,872,675.54
65	477,560.43	2,863,219.80
66	475,279.84	2,863,223.78
67	475,272.47	2,859,323.88
68	476,263.23	2,859,322.14
69	476,248.81	2,856,664.20
70	473,748.65	2,856,666.42
71	473,748.63	2,855,622.95
72	473,411.79	2,855,623.44
73	473,410.34	2,854,920.71
74	473,508.18	2,854,920.46
75	473,691.28	2,851,628.53
76	475,210.70	2,849,334.09
77	476,012.52	2,849,332.85
78	476,012.46	2,849,638.10
79	478,910.81	2,849,641.38
80	478,902.94	2,844,761.23
81	477,843.02	2,844,762.46
It continues along the coastline in a general northerly direction until it reaches vertex 82.		
82	474,108.89	2,847,122.87
83	474,068.83	2,847,155.12
84	473,995.33	2,847,230.12
85	473,969.39	2,847,270.36
86	473,956.42	2,847,333.86
87	473,965.08	2,847,366.86
88	473,962.17	2,847,405.86
89	473,936.24	2,847,430.36
90	473,892.52	2,847,429.36

Vertex	X	Y
It continues along the coastline in a general northerly direction until it reaches vertex 91.		
91	469,200.06	2,851,368.97
92	470,255.29	2,851,368.99
93	470,255.35	2,854,479.93
It continues along the coastline in a general northerly direction until it reaches vertex 94.		
94	466,209.08	2,864,902.66
95	467,808.76	2,864,902.68
96	467,808.80	2,867,250.87
97	464,926.73	2,867,250.85
It continues along the coastline in a general northerly direction until it reaches vertex 98.		
98	466,224.92	2,875,871.15
99	466,225.48	2,875,881.40
100	466,240.33	2,875,905.65
101	466,286.89	2,875,948.15

Vertex	X	Y
102	466,334.51	2,875,969.15
103	466,349.33	2,875,981.89
104	466,385.30	2,876,020.14
105	466,405.42	2,876,038.14
106	466,455.17	2,876,057.14
107	466,464.67	2,876,082.39
108	466,459.39	2,876,124.89
109	466,437.18	2,876,208.39
110	466,391.68	2,876,329.14
111	466,312.30	2,876,358.63
112	466,264.96	2,876,353.13
Continue along the coastline in a general northerly direction until you reach vertex 1.		
1	464,613.24	2,890,191.24

Subzone of Sustainable Use of Marine Natural Resources (ASRNM) Polygon 1 Bahía Loreto II
with an area of 1,124.78 ha.

Vertex	X	Y
1	525,019.91	2,841,279.81
2	525,039.07	2,831,092.37
3	524,161.94	2,831,095.12
4	524,149.47	2,831,173.11

Vertex	X	Y
Continue along the coastline in a general northerly direction until you reach vertex 5.		
5	523,687.25	2,841,276.81
1	525,019.91	2,841,279.81

ADMINISTRATIVE RULES

Introduction

The Bahía de Loreto National Park Management Program and its Administrative Rules are based on the following provisions of the Political Constitution of the United Mexican States:

Article 4, fifth paragraph, which establishes the right of all persons to a healthy environment for their development and well-being and the duty of the State to guarantee this fundamental right. The same constitutional article establishes that environmental damage and deterioration will generate liability for whoever causes it in terms of the law.

Article 25, first paragraph, which establishes the duty of the State to lead a process of integral and sustainable national development. The sixth paragraph of the same article provides, under criteria of social equity and productivity, the support and promotion of enterprises in the social and private sectors of the economy, subject to the modalities dictated by the public interest and the use, for the general benefit, of productive resources, taking care of their conservation and the environment.

Article 27, whose third paragraph establishes the right of the Nation to regulate, for the benefit of society, the use of natural elements susceptible of appropriation, in order to make an equitable distribution of public wealth and take care of its conservation. Consequently, the necessary measures will be dictated to establish adequate provisions, uses, reserves and destinations of lands, waters and forests, to preserve and restore the ecological balance and avoid the destruction of the natural elements and the damages that the property may suffer to the detriment of society.

Likewise, Article 2 of the United Nations Framework Convention on Climate Change establishes as a fundamental objective to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system; a level that should allow ecosystems to adapt naturally to climate change and economic development to continue in a sustainable manner.

Natural protected areas contribute to achieving this objective.

The existence of protected ecosystems reduces the impact that anthropogenic activities have on the climate and constitute a natural mechanism or process that absorbs a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere. Therefore, it can be considered that natural protected areas are effective instruments for the conservation and strengthening of carbon sinks, including biomass, forests and oceans, as well as other terrestrial, coastal and marine ecosystems, whose sustainable management is a commitment adopted by our country within the framework of the aforementioned Convention.

Similarly, Article 50 of the General Law of Ecological Balance and Environmental Protection provides that national parks shall be constituted as biogeographic representations, at the national level, of one or more ecosystems that are significant for their scenic beauty, their scientific, educational, recreational, historical value, the existence of flora and fauna, their suitability for the development of tourism, or for other similar reasons of general interest.

This category of protection determines that only activities related to the protection of its natural resources, the increase of its flora and fauna and, in general, the preservation of ecosystems and their elements, as well as ecological research, recreation, tourism and education, may be permitted.

Likewise and in accordance with Article 51 of the General Law of Ecological Balance and Environmental Protection mentioned above, in order to protect and preserve the marine ecosystems and regulate the sustainable use of the aquatic flora and fauna, in the Mexican marine zones, which may include the contiguous federal maritime-terrestrial zone, natural protected areas of the types referred to in sections I, III, IV, VII and VIII of article 46 may be established, III, IV, VII and VIII of article 46, according to the particular characteristics of each case, such as the National Park in question. In this sense, the national parks established in the Mexican marine zones have the purpose of protecting and preserving the marine ecosystems and regulating the sustainable use of the aquatic flora and fauna.

In these areas, the appropriate activities or uses shall be permitted and, if applicable, restricted or prohibited, in accordance with the provisions of the General Law of Ecological Balance and Environmental Protection, the General Law of Sustainable Fisheries and Aquaculture, the General Law of Wildlife, the Federal Law of the Sea, the international conventions to which Mexico is a party and other applicable legal provisions.

In the same vein, this provision states that authorizations, concessions or permits for the use of natural resources in these natural protected areas, as well as the transit of vessels in the area or the construction or use of infrastructure within the area, will be subject to the provisions of the Management Programs and the corresponding declarations.

According to the second paragraph of Article 44 of the General Law of Ecological Balance and Environmental Protection, owners, possessors, or holders of other rights to land, water, and forests within protected natural areas must abide by the terms established in the decrees creating such areas, as well as other provisions contained in the Management Program, which identifies and determines the activities that may or may not be carried out within Bahía de Loreto National Park.

Article 47 BIS of the General Law of Ecological Equilibrium and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente), which states that the division and subdivision of a natural protected area must allow for the identification and delimitation of the portions of the territory that make up the area, in accordance with its biological, physical, and socioeconomic elements, This correlates with Article 47 BIS 1, second and fourth paragraph, which states that in the case that the corresponding declaration only provides for a general polygon, it may be subdivided into one or more subzones for the buffer zones, according to the corresponding management category.

The aforementioned provision also states that national parks may establish protection and restricted use subzones in their core zones, and traditional use, public use, and recovery subzones in their buffer zones.

In the case of national parks located in Mexican marine zones, in addition to the traditional use, public use and recovery subzones in the buffer zones, subzones for the sustainable use of natural resources will be established.

Based on the legal provisions mentioned in the preceding paragraphs and in accordance with Article 66, section VII, of the General Law of Ecological Balance and Environmental Protection, which states that the Management Program for natural protected areas must contain the administrative rules to which the activities carried out in a natural protected area are subject, the Administrative Rules are determined as follows, based on the following technical considerations:

It is important to highlight that five of the seven species of sea turtles that exist in the world have been registered in the Loreto Bay National Park, which are threatened as a direct or indirect consequence of human activities such as excessive looting of eggs for commercialization, incidental fishing of the females in front of the nesting beaches, and degradation of the nesting beaches as well as the coastal environments, Therefore, this instrument contributes to compliance with the Inter-American Convention for the Protection and Conservation of Sea Turtles, whose objective is to promote the protection, conservation and recovery of sea turtle populations and the habitats on which they depend, based on the most reliable scientific data available and considering the environmental, socioeconomic and cultural characteristics of the Parties. It should be noted that the Protected Natural Area is also an important feeding site for these chelonians (IAC, 2004). The marine reptiles that can be observed in the National Park are represented by turtles: Loggerhead turtle (*Caretta caretta*), black turtle (*Chelonia agassizi*), leatherback turtle (*Dermochelys coriacea*), hawksbill turtle (*Eretmochelys imbricata*) and olive ridley turtle (*Lepidochelys olivacea*), their importance is considerable because they are permanently banned and are under the category of endangered, according to Mexican Official Standard NOM-059-SEMARNAT-2010, Environmental protection-Mexican native species of wild flora and fauna-Categories of risk and specifications for their inclusion, exclusion, or change-List of species at risk.

Taking into account that the islands in Loreto Bay National Park have numerous endemic species, which are of great value for the conservation of the ecosystem balance, as well as a fauna rich in mammals, reptiles, amphibians and insects that have marked endemism, it is necessary to make human activities compatible with the ecological importance of the National Park, which is the main source of food for the seabirds of the islands surrounding the Protected Natural Area.

In addition, these Administrative Rules establish a series of provisions that visitors or users must observe during their activities within the National Park. It should be noted that there are communities that traditionally carry out their activities in the park.

The park's management is based on the principles of sustainable use, in accordance with the terms of the Decree that established the National Park, and the objectives, criteria, and programs of sustainable use.

Regarding the use of autonomous flight devices known as "drones", they may be used for recreational purposes except in areas of sea lion colonies, bird nesting sites and over whales. For scientific research and environmental monitoring, these must maintain a minimum height of 50 meters over the different species of pinnipeds to avoid stampedes and behavioral changes due to the presence of the drone. In the case of scientific research and environmental monitoring of the whales, the minimum distance will be 10 meters, since this allows obtaining samples of the whales' blow, which is done in a minimally invasive way for these animals. The blow contains biological material that can be analyzed in the laboratory for the genetic identification of the individuals, the approaches will be maximum twice a day, with the purpose of avoiding stress and modifications in the behavior of the specimen. This restriction serves to protect the integrity of the fauna, such as mother and calf whales during the months of January to April, as well as the visitors who carry out the activity.

Drones may be used for observation and scientific research and monitoring of the bird environment, provided that, under precautionary principle, they are used at a minimum distance of 100 meters. It is considered that at this distance the information that can be obtained will be sufficient to study the various species of birds present in Loreto Bay National Park, it should be noted that this distance is intended to reduce disturbances by unmanned equipment, such as increased stress in these species.

Considering that the Natural Protected Area has an important maritime surface, it is necessary to include regulations on boats in order to protect the species that inhabit it. Therefore, it is necessary to establish mechanisms to ensure that those responsible for the boats carry out cleaning and repair activities, as well as the discharge of wastewater outside of the National Park, and in case of an emergency, they must take the necessary measures to avoid spilling oil, fuel, or other chemicals that could put the health of the species at risk. In the event of an emergency, the spilling of oil, fuel, or other chemicals that could endanger the health of the organisms and/or disrupt ecological processes that could result in irreparable damage or loss of the organisms, because contact with any external agent with marine or terrestrial life affects the integrity of the organisms because they are not familiar with or do not have adaptations that allow them to tolerate and therefore survive.

However, the noise caused by the transit of vessels larger than 12 meters in length near the aggregation, feeding, reproduction and breeding sites of marine mammals such as the blue whale, leads them to change their behavior and move away from these vital sites for their development, to places that do not necessarily meet the nutritional needs of the species, resulting in a decrease in the energy content necessary for migrations and the maintenance of energy for nursing and reproduction.

Whale watching activities are carried out in the National Park, mainly for the blue whale (*Balaenoptera musculus*), although the activity has been carried out according to NOM-131- SEMARNAT-2010, which establishes guidelines and specifications for the development of whale watching activities, related to the protection and conservation of their habitat. According to studies conducted by the Interdisciplinary Center of Marine Sciences of the National Polytechnic Institute in the National Park during the observation of blue whales in motorized boats, this is a species prone to modify its behavior derived from the noise of the engine of the boats, resulting in that they remain less

The time spent at the surface when the boats carrying out the activity keep the engine running, compared to when the engine is turned off. In this sense, it is recommended that the activity be carried out with the engine off, minimizing the modification to the behavior of the species, and increasing the satisfaction of tourists. It should be noted that the behavior of the blue whale is evasive, naturally moving away from the boats, which is why the integrity of the visitors is not put at risk with this provision, thus complying with numeral 4.4 of the aforementioned Standard. One of the most important measures to protect the blue whale during the observation is to maintain a speed of less than 5 knots or 9 km/h and gradually decrease it to 2 knots or 4 km/h when entering the observation zone; thus avoiding disturbances and stress conditions on this species, such as causing the whales to change their direction or changes in their breathing, and that instead of taking four breaths they only take one or two, and once the boat moves away they probably return to their normal rhythm. In the case of observation of females with calves it is important to take precautions in the approach maneuvers and always approach from the mother's side, otherwise they could leave a protected area to avoid the boats, and could force them to face predators or the calf could be separated from its mother. Approaching at high speed may be perceived as threatening behavior, and as a consequence the whales may adopt evasive or even aggressive behavior.

Similarly, it is required to restrict the transit of vessels larger than 12 meters in length in places where there are rocky shallows, aggregations of commercially important species used by fishermen in boats up to 12 meters in length, as well as activities of low environmental impact such as kayaking and diving.

On the other hand, it is considered pertinent to limit the taking of tissue samples from whales for biopsies as part of scientific research within the National Park, since this activity is done with arrows, darts or harpoons, causing the persecution of individuals of this species, altering their behavior and generating conflict with tourism activities of low environmental impact, specifically whale watching.

The Natural Protected Area is ideal for boat tours, resting or camping on its beaches and hiking on some of the trails that allow visitors to enjoy the scenery and appreciate the representative species of flora and fauna, which is why, in order to ensure the best possible protection for visitors and reduce the possibility of mishaps or accidents that threaten their integrity, the use of jet skis and jet skis must be prohibited, The number of users per instructor allows for adequate control, greater security, and control of the activity by the guide, preventing potential damage to the National Park's ecosystems, such as unauthorized extraction of flora and fauna, as well as to the physical integrity of the users; It should be noted that this regulation has been successfully applied in the national park since 2003. It is necessary to restrict the use of non-biodegradable sunscreen or sunblock by people who wish to swim in the park, in order to prevent them from releasing chemical substances that contaminate the marine environment and put the various marine populations at risk.

The shallows and the rocky and sandy bottoms that surround the islands of Loreto Bay National Park make up unique underwater landscapes, which together with the diversity of marine organisms are enjoyed by divers. However, it is necessary for this activity to be carried out without interfering with the behavior of marine mammals, manta rays and sharks; additionally, some safety risks are being foreseen for tourists who could be attacked by the aforementioned species if they get too close. On the other hand, considering that the reefs where the activity of

diving within the Natural Protected Area, are fragile ecosystems in a good state of conservation, the diving activity must be carried out without impacting such ecosystems, avoiding potential damage to the reef such as the collection of benthic organisms, semi-sessile or parts of reefs, gorgonians, among others. In addition, divers should avoid standing on the reef or removing the substrate, since these activities promote coral mortality.

There are companies that offer tours of several days within Bahía de Loreto National Park, offering low environmental impact tourism activities such as kayaking, hiking, and camping on beaches located on different islands of the Natural Protected Area. In this sense, camping is limited to specific sites adapted for this purpose, allowing the Management of the Natural Protected Area to establish mitigation or recovery measures to counteract the environmental impacts generated by such activity, mainly in terms of solid waste disposal. Therefore, in order to contribute to the organization of low environmental impact tourism activities, as well as to protect the integrity of the visitors, it is necessary that the companies that offer tourist tours that include camping on the beaches of the islands register with the National Park Directorate within a period of no more than three days. This will reduce the probability that when a group of visitors arrive at a beach it is already occupied, forcing them to move to other islands or spend the night on a beach that is not designated for that purpose, putting the integrity of the visitors at risk and generating environmental impacts.

Most of the year, the National Park is used for walks and landings on the islands, flora and fauna observation, including whale watching; the sport-recreational fishing season varies depending on the species; camping activities on the islands and kayaking are carried out during the months of October to March; diving is done from April to September; and there are three vacation periods per year during Easter, summer and part of the months of December and January, where all activities are practiced in the Protected Natural Area. The months of greatest visitation are July and August, the peak vacation period and the highest time of the year, which is why it was considered a priority to prepare the Acceptable Change Limit Study for Bahía de Loreto National Park, specifically for different tourist activities.

To determine the tourist carrying capacity, the methodology used by Cifuentes in 1999 was used to obtain the physical carrying capacity (CCF), the real carrying capacity (CCR) and the effective carrying capacity (CCE). This methodology made it possible to clearly determine, in approximate square meters, the surface area of each of the beaches, dive sites, and trails established in the National Park, which helped determine how much space a tourist should occupy to achieve total satisfaction when visiting any of the sites mentioned above. In addition, it was possible to determine the number of groups on each beach and the number of people per group, trails, and dive sites. It should be noted that the Limits of Acceptable Change Study for Loreto Bay National Park also refers to 4 beaches that are not included in the Management Program because they are located outside the polygon of the Natural Protected Area, but CONANP carries out operational work on them because they are turtle nesting sites. The beaches located outside the polygon are: Ensenada Blanca, Ligüí, Juncalito, and Vista al Mar.

Given its oceanographic (presence of deep and narrow submarine canyons) and physiographic (continental shelf with a very steep slope) characteristics, the National Park is a site rich in primary productivity. This productivity is the basis of a trophic chain in which migratory large pelagic fish such as jack mackerel (*Seriola lalandi*) migrate every year to feed. Because of its remoteness from population centers, it has one of the best-preserved reefs in Loreto Bay National Park, where healthy populations of garropa (*Mycteroperca jordani*), cabrilla (*Mycteroperca rosacea*) and red snapper (*Lutjanus novemfasciatus*) are still found, as well as important populations of mollusks.

In order to preserve the marine environment and surrounding ecosystems, such as the relictual ecosystem of the islands contained in this National Park, it is essential to establish measures to protect and safeguard these ecosystems and the species they harbor. Therefore, fishing for domestic consumption is limited to the use of pots, lines and hooks, while commercial fishing is limited to the use of pots, lines, hooks, and gill nets with a mesh size greater than 4 inches, because it is a selective fishing gear, since with an adequate mesh size it is possible to obtain more selective catches, avoid drowning sea turtles, protect juveniles and maintain the structure of the population. Likewise, for sport-recreational fishing, the use of hook and line is established for eminently preventive purposes.

In order to protect the biological diversity of marine species, aquaculture activities must be carried out only with native species to avoid the propagation and colonization of exotic species within the National Park, which could endanger the ecological processes and biological diversity of the Protected Natural Area in the event that the cultivated species are released accidentally or as a result of a meteorological phenomenon.

Finally, it is necessary to point out that the places where temporary fishing camps can be established are those sites traditionally used by fishermen on a regular basis to spend the night, clean and preserve fish products. In addition, it is necessary that each temporary fishing camp designate a person responsible to the National Park Directorate in order to establish an effective communication channel with the fishermen and to help maintain the different camps in a good state of conservation and cleanliness.

Chapter I. General Provisions

Rule 1. The present Administrative Rules are of general observance and obligatory for all those individuals or legal entities that carry out activities within the Loreto Bay National Park, located in front of the coasts of the Municipality of Loreto, in the State of Baja California Sur, in accordance with the established subzoning.

Rule 2. The application of the present rules corresponds to the Secretariat of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, in coordination with the Secretariat of the Navy, without prejudice to the attributions that correspond to other agencies of the Federal Executive, in accordance with the Decree of creation of the Area, of the present Management Program and other legal and regulatory provisions applicable in the matter.

For the purposes of these Administrative Rules, in addition to the definitions contained in the General Law of Ecological Balance and Environmental Protection and its Regulations on Natural Protected Areas, the following definitions shall apply:

- I. Productive activities with low environmental impact.** These are activities that do not imply substantial modifications to the natural characteristics or conditions, do not involve the extractive use of the natural elements that make up the protected natural area, do not alter the habits, development, or interdependent relationships between these natural elements, and do not negatively affect their existence, transformation, and development. For the purposes of this Management Program, these include snorkeling, non-motorized boat tours, and low environmental impact tourism;
- II. CONANP.** National Commission of Natural Protected Areas, a decentralized administrative agency of the Ministry of the Environment and Natural Resources;
- III. Address.** Administrative Unit of the National Commission of Natural Protected Areas, in charge of the administration and management of Bahía de Loreto National Park;

- IV. Small craft.** Vessel, boat or naval craft up to 12 meters in length;
- V. LBOGM.** Law on Biosafety of Genetically Modified Organisms;
- VI. LGEEPA.** General Law of Ecological Balance and Environmental Protection;
- VII. GMO. Genetically modified organism.** Any living organism, with the exception of human beings, that has acquired a novel genetic combination, generated through the specific use of modern biotechnology techniques defined in the LBOGM, provided that techniques established in said Law or in the official Mexican standards derived therefrom are used;
- VIII. National Park.** The natural protected area with the character of National Park established in the zone known as Loreto Bay, by Presidential Decree, published in the Official Gazette of the Federation on July 19, 1996;
- IX. Tourist service provider.** A natural or legal person dedicated to providing services, organizing and guiding groups of visitors to enter Loreto Bay National Park for recreational and cultural purposes, which requires authorization from SEMARNAT, through CONANP;
- X. PROFEPA.** Procuraduría Federal de Protección al Ambiente, a decentralized administrative agency of the Secretaría de Medio Ambiente y Recursos Naturales;
- XI. Rules.** To these Administrative Rules;
- XII. SADER.** Ministry of Agriculture and Rural Development;
- XIII. SCT.** Ministry of Communications and Transportation;
- XIV. SEMARNAT.** To the Secretariat of Environment and Natural Resources;
- XV. SEMAR.** Secretary of the Navy;
- XVI. Low environmental impact tourism.** Environmentally responsible tourism that consists of traveling or visiting natural areas, relatively undisturbed, in order to enjoy, appreciate and study the natural attractions of these areas, as well as any cultural manifestations of the present and the past that can be found there, through a process that promotes conservation, culture and induces an active and socio-economically beneficial involvement of local populations. In Loreto Bay National Park, these activities are:
- Hiking on trails
 - Camping
 - Kayaking
 - Wildlife observation
 - Swimming
 - Kitesurf
 - Free and autonomous diving
 - Sailing
 - Rowing table
 - Whale watching in boats up to 12 meters in length
 - Use of drones

XVII. User. Individual or legal entity that directly or indirectly uses or benefits from the natural resources existing in the Loreto Bay National Park.

XVIII. Visitor. A person who travels temporarily away from his or her place of residence to use and enjoy the National Park for one or more days using the services of tourism service providers or carrying out activities independently.

Rule 4. Users are obligated to provide the necessary support and facilities at all times to SEMARNAT, SADER, SEMAR, CONANP, PROFEPA, and other competent authorities that inspect, monitor, and protect the National Park, as well as in any emergency, contingency, or cleanup situation in the National Park.

Rule 5. The Management may request the following information from visitors or tourist service providers in order to make the necessary recommendations regarding solid waste management, forest fire prevention and protection of the natural elements present in the area, as well as the necessary information regarding civil protection and tourist protection:

- I. Description of the activities to be performed;
- II. Length of stay;
- III. Place to visit, and
- IV. Origin of the visitor.

Rule 6. All users and visitors should collect and carry solid waste generated during their activities and deposit it outside of the National Park in the sites designated for that purpose by the competent authorities.

Rule 7. In addition to the provisions of these Administrative Rules, users, tourism service providers, and visitors to the National Park must comply with the following obligations:

- I. Pay, if applicable, the fees established in the Federal Law of Rights;
- II. Use only the established routes and trails to travel through the National Park;
- III. Follow up on the observations and recommendations made by the National Park Directorate regarding the protection of the park's ecosystems;
- IV. Respect the signage and subzones of the National Park, and
- V. Inform the National Park Directorate or PROFEPA personnel of any irregularities observed during their stay in the area.

Chapter II. Permits, Authorizations, Concessions and Notices

Authorization will be required from SEMARNAT, through CONANP, for the following activities:

- I. Recreational tourism activities within natural protected areas, with or without vehicles, and
- II. Filming, photography activities, image or sound capture for commercial purposes in natural protected areas.

Rule 9. The validity of the authorizations referred to in the preceding paragraph shall be:

- I. Up to two years, for the realization of recreational tourism activities, and
- II. For the duration of the work, for filming, photographic activities or capturing images or sounds by any means, for commercial purposes that require more than one specialized technician.

Rule 10. The period for receiving applications for recreational tourism activities within natural protected areas, in all its modalities, shall be from April to September of each year.

Rule 11. Authorizations issued by SEMARNAT, through CONANP, for recreational tourism activities within the National Park may be extended for the same period for which they were granted, in accordance with the applicable legal provisions.

Rule 12. In order to carry out the following activities, a prior notice, accompanied by the corresponding project, must be submitted to the Park Directorate:

- I. Research without collection or handling of specimens of species not considered at risk;
- II. Environmental education that does not involve any extractive activity within the Natural Protected Area;
- III. Monitoring without collecting or handling specimens of species not considered at risk;
- IV. Filming, photography activities, the capture of images or sounds by any means, for scientific, cultural or educational purposes, which require equipment composed of more than one specialized technician to support the person operating the main equipment, and
- V. Research with collection or manipulation of specimens of wild flora and fauna. Independently of the notice referred to in this section, the interested party must have the corresponding authorization in terms of the LGVS and its Regulations.

Authorization will be required from SEMARNAT through its various administrative units for the following activities, in terms of the applicable legal provisions.

- I. Collection of specimens, parts and derivatives of wildlife for scientific research and teaching purposes, in all its modalities;
- II. Extractive exploitation of specimens, parts and derivatives of wildlife;
- III. Non-extractive use of wildlife;
- IV. Management, control and remediation of problems associated with specimens and populations that become detrimental, and
- V. Works and activities in protected natural areas under the jurisdiction of the Federation that require an Environmental Impact Assessment.

Rule 14. In order to obtain the authorizations and extensions referred to in this chapter, the interested party must comply with the terms and requirements established in the applicable legal and regulatory provisions.

Chapter III. Research and scientific collection

Rule 15. Exploration, rescue, and maintenance activities of archeological sites may be carried out in the National Park, as long as they do not cause any significant environmental impact on its natural resources, in coordination with the National Institute of Anthropology and History.

Rule 16. The establishment of camps for research activities shall be subject to the terms specified in the subzoning tables and shall be prohibited in the terrestrial preservation subzone.

Rule 17. Any researcher who enters the National Park with the purpose of collecting for scientific purposes must notify the Management of the beginning of his activities, attaching a copy of the authorization he has, and must inform of the end of his activities and send a copy of the reports required in said authorization.

Rule 18. Those who carry out scientific collection activities within the National Park, must destine at least one duplicate of the biological material collected to Mexican scientific institutions or collections, in terms of the provisions of the General Law of Wildlife.

Rule 19. For the development of scientific collection and research in the different subzones that comprise the National Park, and to safeguard the integrity of the ecosystems and the researchers, the latter should be subject to the guidelines and conditions established in the respective authorization and the NOM- 126-SEMARNAT-2000, Establishing the Specifications for Scientific Collection of Biological Material of Wild Flora and Fauna Species and other Biological Resources in the National Territory, the Decree that created the National Park, these Rules, and other applicable legal dispositions.

Rule 20. The collections shall be restricted to the sites specified in the corresponding authorization, and in accordance with the subzoning established in this instrument. In the case of accidentally captured organisms, they shall be released immediately and without prejudice, in the site where they were captured.

Rule 21. Researchers who, as part of their work, need to extract specimens of flora, fauna, fossils, rocks or minerals from the region, must have authorization from the corresponding authorities, in accordance with the applicable legislation on the matter, in order to avoid the fragmentation of ecosystems.

Rule 22. Whale research within the National Park may be conducted as long as it does not include taking tissue samples of such species and it complies with the provisions of the General Law of Wildlife, its Regulations and other applicable legal provisions.

Rule 23. The use of autonomous flight devices known as "drones" may be used for scientific studies, maintaining a minimum height of 50 meters above the pinniped colonies to avoid stampedes and separation of the mothers and their offspring; likewise, the birds must not be affected at all times in their flight and nesting activities, avoiding collisions, so in this case the minimum distance will be 100 meters.

In the case of whales, the minimum approach will be 10 meters, twice a day per individual.

Chapter IV. Tourist Activities

Rule 24. During whale watching in small boats, the activity must be carried out in accordance with the Mexican Official Rule NOM-131-SEMARNAT-2010, which establishes guidelines and specifications for the development of whale watching activities, related to the protection and conservation of their habitat.

Rule 25. For the observation of blue and fin whales in small vessels, the following must additionally be observed:

- a. It will be carried out at a distance of at least 100 meters from the observed specimen, with the engine turned off, avoiding carrying out the activity on breeding specimens;
- b. Service providers must inform tourists of the operating and safety procedures for whale and marine mammal watching, both on board the vessel and in the water before starting the activity;

- c. The use of devices that disturb or harm whales or marine mammals or the fauna of Loreto Bay National Park, whether chemical, acoustic or electrical, will not be allowed; the use of these devices is restricted to authorized operators, who may only use them in emergency cases, and
- d. In the presence of whales, the maximum allowed speed of navigation within the observation areas should be less than 5 knots or 9 km/h, decreasing this speed to 2 knots or 4 km/h when entering the observation area; at all times the boat should move at a slower speed than the slowest whale in the group. In all cases, abrupt acceleration and deceleration should be avoided.

Rule 26. During the practice of diving activities, identification or warning flags shall be carried for general recognition, in accordance with the international signage defined for that purpose.

Rule 27. On kayaking trips, there shall be at least one guide for every six users, in the case of overnight stays on the islands.

Rule 28. Freediving service providers and users of this activity must be subject to the provisions of NOM-012-TUR-2016, For the provision of diving services.

Rule 29. During the practice of diving for the purpose of observation of marine flora and fauna, it is forbidden to feed, disturb, chase, touch, harm or ride marine mammals, manta rays and sharks, as well as to damage rocky reefs.

Rule 30. Tourism service providers that intend to develop tourism activities within the National Park must make sure that their personnel and the visitors that contract their services comply with the provisions of these Rules and, in carrying out their activities, they will be subject to liability under the terms established by the applicable legal provisions.

Rule 31. The Management shall not be liable for damages suffered by visitors or users to their property, equipment or physical integrity, nor for those caused to third parties, during the performance of their activities within the same.

Rule 32. Tourist service providers should designate a guide for each group of visitors, preferably from the communities surrounding the National Park, who will be responsible for the group's behavior and who should have basic knowledge about the importance and conservation of the National Park and comply with the following Official Mexican Standards, as applicable:

- I. NOM-012-TUR-2016, For the provision of diving services;
- II. NOM-08-TUR-2002, which establishes the elements to which general and specialized guides in specific cultural themes or localities must adhere;
- III. NOM-09-TUR-2002, which establishes the elements to which guides specialized in specific activities must adhere, and
- IV. NOM-011-TUR-2001, Safety, information and operation requirements to be met by Adventure Tourism service providers.

Rule 33. Tourist service providers must have liability insurance or third-party damage insurance to cover any damage or harm to visitors' persons or property, as well as damage to vehicles and equipment, or damage caused to third parties during their stay and during activities in the National Park.

Rule 34. Temporary tourist camps will be set up during the periods established in the corresponding permit, and exclusively in the areas designated for that purpose in the National Park's subzoning.

Rule 35. For camping activities on the National Park's island beaches, service providers and individuals must register within three days in the reservation system implemented by the National Park Directorate.

Rule 36. In camping areas it is prohibited to excavate or level the ground, cut plants, or alter the site conditions in any way, nor shall permanent camping facilities be erected.

Rule 37. Camping areas shall be left clean and free of any type of waste (organic and inorganic) after use.

Chapter V. Visitors

Rule 38. Visitors shall comply with the Rules contained herein and shall have the following obligations:

- I. Do not leave materials that pose a fire risk on the islands and islets of the National Park;
- II. Not to alter the order and conditions of the site they visit (auditory disturbances, removing, extracting, retaining, collecting or appropriating wildlife and its products, appropriating fossils or archeological pieces, or altering sites with historical and cultural value);
- III. They shall carry with them the solid waste generated during the development of their activities;
- IV. Embarkation and disembarkation shall take place exclusively at the sites provided for in the subzoning section of this instrument; and
- V. Use only biodegradable suntan lotions or sunscreens.

Rule 39. In order to avoid impacting mammal and sea turtle species present in the National Park, jet skis and jet skis may not be used.

Rule 40. In order to preserve the ecosystems present on the beaches of the National Park indicated in the following table, visitors and tourism service providers must respect the carrying capacity established in the Carrying Capacity Study to regulate tourism and recreational activities in Loreto Bay National Park, as indicated below:

Beach Name	Maximum number of persons per day	Visiting hours
Ensenada Blanca Beach	319	6
Ensenada Los Metates	124	6
The Lighthouse	145	6
Punta Baja	184	6
Onda Bay	164	6
The Creek	125	6
Punta Arenas	141	6
Honeymoon	28	4

Rule 41. Based on the Carrying Capacity Study, in order to regulate tourist-recreational activities in Loreto Bay National Park, visitors and tourism service providers must respect the carrying capacity established for the trails listed below:

Trail Name	Maximum number of persons per day
The Volcano	64
White Berth	68
Honeymoon	15
Arroyo Blanco	35
La Salina	116

Rule 42. Based on the results derived from the Carrying Capacity Study, in order to regulate tourist-recreational activities in Loreto Bay National Park, visitors, as well as tourist service providers, must respect the carrying capacity established for the following sites for autonomous daytime diving:

Dive site	Maximum number of dives of day diving
The Tears	72
Las Tijeretas	69
Las Lajas	81
La Lobera	83
White Stone	72
Cabbage	63
Punta Lobos	115
La Vaca Islet	72
La Choya	86
The Bat	46
Picachos Colorados	75
Split Stone	86
The Submarine	63
Los Candeleros	35

Rule 43. The use of autonomous flight devices known as "drones" may be used for recreational purposes, except in areas of sea lion colonies, bird and whale nesting sites.

Chapter VI. Vessels

Rule 44. All the boats that enter the National Park will have to count on the indispensable elements to guarantee the security of the passengers, and to fulfill the dispositions of the SCT, according to the indicated in the corresponding National Certificate of Marine Security, as well as manuals, guides and other specifications of the local Harbormaster's Office. In the case of foreign vessels, they must comply with the applicable legal provisions on the matter. In all cases, they must carry on board the corresponding authorizations of the SCT and its offices.

Rule 45. Within the National Park, no boat cleaning activities, repairs, fueling, or any other activity that may alter the ecological balance of the Protected Natural Area may be carried out.

Rule 46. All boats with bilges inside the National Park must have grease traps or other similar mechanisms to prevent water from these devices from mixing with fuels, fats, oils and grease.

Rule 47. Vessels with sanitary services must have containers and wastewater treatment systems. It is the responsibility of service providers and boat owners to discharge wastewater at the sites designated by the competent authorities.

Rule 48. In case of emergency, the repair of engines or other equipment that may result in fuel or oil spills must be avoided in order to prevent damage to the ecosystems.

Rule 49. Due to the physical characteristics of the navigation channels, including their bathymetry, located between Isla del Carmen and Isla Danzante, within the subzones of Traditional Marine Use I and Traditional Marine Use III, the transit of vessels greater than 100 meters in length and/or greater than 8 meters in draft is prohibited.

Chapter VII. Of the uses

Those interested in carrying out productive activities related to fishing within the National Park must have the corresponding permit issued by SADER and, if applicable, SEMARNAT's environmental impact authorization.

Rule 51. Commercial fishing may be carried out in the subzones where such activity is foreseen respecting the species and fishing gear authorized in the corresponding permits or concessions granted by the competent authority.

In the Sustainable Use of Marine Natural Resources Subzone, the use of nets will be allowed, as long as they have a mesh size greater than four inches and outside of rocky shallows.

Rule 52. Sport-recreational fishing shall be carried out only by the use of hook and line, and in accordance with the provisions of the Mexican Official Rule NOM-017-PESC-1994, To regulate recreational sport fishing activities in the waters of federal jurisdiction of the United Mexican States.

Rule 53. Aquaculture activities allowed in the National Park should be carried out exclusively with native species of the Gulf of California.

Rule 54. Activities with GMOs will only be allowed in the National Park for bioremediation purposes, in cases where pests or contaminants appear that could endanger the existence of animal, plant or aquaculture species, and the GMOs have been created to avoid or combat said situation, as long as the necessary scientific and technical elements that support the environmental benefit to be obtained are available, and said activities are allowed by SEMARNAT under the terms of the LBOGM.

Rule 55. The extraction of marine water may be carried out exclusively in the Subzone of Sustainable Use of Marine Natural Resources (ASRN), as long as it does not generate the suspension of sediments or cause muddy or silty areas within the Natural Protected Area or surrounding zones, nor is it returned to the National Park, and the corresponding environmental impact has been authorized prior to its execution, under the terms of the LGEEPA and other applicable provisions.

Chapter VIII. Temporary fishing camp activities

Rule 56. The only sites determined for the installation of temporary fishing camps are the following:

Site name	Location
Islote la vaca (26° 4' 4.91" N and 111° 4' 16.69" W)	Carmen Island
El gusano (26° 3' 58.62" N and 111° 4' 11.44.69" W)	Carmen Island
Playa la vaca (26° 03' 54.6" y N 111° 4' 5.5" W)	Carmen Island
Pardo (26° 03' 54.6" N and 111° 4' 5.5" W)	Carmen Island
Yellow Cove (25° 42' 34" y N. 111° 02' 21 "W)	Montserrat Island
The Yellow Stones (25° 70' 25" and N. 110° 47' 05" W)	Montserrat Island
Las cuevitas (25° 39' 17.6" N. and 111° 2' 6.31" W.)	Montserrat Island
Mono pochi (25° 40' 57" N. and 110° 47' 39" W.)	Catalana Island or Santa Catalina
El anzueladero (25° 36' 27.98" N and 10°47' 13.75" W)	Catalana Island or Santa Catalina
Los Burritos (25° 36' 11.35" N. and 110° 46' 51.05" W.)	Catalana Island or Santa Catalina

Therefore, the temporary or permanent installation of fishing camps outside the aforementioned sites is prohibited.

Rule 57. In each temporary fishing camp, a person responsible to the National Park Directorate must be designated in order to maintain the site in a good state of conservation and cleanliness, as well as to attend to any operational management and administration recommendations from the National Park Directorate. The waste generated will be stored in appropriate receptacles to be transported away from the campsites.

Chapter IX. Subzoning

Rule 58. In order to maintain and improve the conditions of the ecosystems, as well as the continuity of the ecological processes in the National Park, the following subzones are established:

- I. **Los Islotes and Catalana Island Terrestrial Preservation Subzone (PreTI).** It is made up of 10 polygons with a total area of 3,957.60 hectares;
- II. **Marine and Wetlands Preservation Subzone (PreMH).** It is made up of 15 polygons with a total area of 6,219.30 hectares;
- III. **Traditional Land Use Subzone (UTT).** It is made up of 4 polygons with a total area of 17,307.20 hectares;
- IV. **Subzone of Traditional Marine Use I (UTM-I).** It is composed of 16 polygons with a total area of 9,702.48 hectares;

- V. Subzone of Traditional Marine Use II (UTM-II).** It is composed of 2 polygons with a total area of 7,803.24 hectares;
- VI. Subzone of Traditional Marine Use III (UTM-III).** It is integrated by 1 polygon with a total surface of 2,208.14 hectares, and
- VII. Subzone of Sustainable Use of Marine Natural Resources (ASRNM).** It is made up of 2 polygons with a total area of 159,382.79 hectares.

Rule 59. In the development of permitted and non-permitted activities within the subzones mentioned in the previous Rule, the provisions of the section entitled Subzones and Management Policies of this instrument shall apply.

Chapter X. Prohibitions

Rule 60. Within the National Park it is prohibited:

- I. Dumping or discharge of pollutants, waste or any other type of material;
- II. Use explosives;
- III. Dumping or abandoning waste on adjacent beaches;
- IV. Carry out dredging activities or of any other nature that generate the suspension of sediments, or cause areas with muddy or silty waters within the Natural Protected Area or in surrounding areas;
- V. Installing platforms or any other type of infrastructure that affects or represents a risk to the preservation of the area;
- VI. Introduction of invasive exotic species;
- VII. The extraction of biogenic elements, and
- VIII. The introduction of GMOs in natural resource use activities is expressly prohibited in the National Park. Activities with GMOs are only permitted for bioremediation purposes, in cases where pests or contaminants appear that could endanger the existence of animal, plant, or aquatic species, and the GMOs have been created to avoid or combat this situation, as long as the necessary scientific and technical elements are available to support the environmental benefit to be obtained, and these activities are permitted by SEMARNAT under the terms of the LBOGM.

Chapter XI. Inspection and Surveillance

Rule 61. The inspection and surveillance for the fulfillment of the Administrative Rules corresponds to the SEMARNAT, through the PROFEPA in coordination with the SEMAR, without prejudice to the exercise of the attributions that correspond to other dependencies of the Federal Executive.

Rule 62. Any person who has knowledge of any infraction or illicit act that could cause damage to the National Park's ecosystems should notify the competent authorities through PROFEPA or the National Park's Directorate, in order to take the corresponding actions.

Chapter XII. Sanctions

Rule 63. Violations of this instrument shall be sanctioned in accordance with the provisions of the LGEEPA and its regulations, Title Twenty-Fifth of the Federal Penal Code, and other applicable legal provisions.

SECRETARY OF ENVIRONMENT AND NATURAL RESOURCES

NOTICE by means of which the general public is informed of the conclusion of the Management Program of the Natural Protected Area with the character of Loreto Bay National Park, located off the coast of the Municipality of Loreto, Baja California Sur.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Secretaría de Medio Ambiente y Recursos Naturales.

VICTOR LICHTINGER WAISMAN, Secretary of the Environment and Natural Resources, based on the provisions of articles 32 bis of the Organic Law of the Federal Public Administration; last paragraph of article 66 of the General Law of Ecological Balance and Environmental Protection; 76 of its Regulations on Natural Protected Areas; 4th, 5th, sections I and XXV and 91 of the Internal Regulations of the Secretariat of the Environment and Natural Resources, I have the pleasure to issue the following:

NOTICE

The general public is hereby informed that the Secretary of the Environment and Natural Resources has concluded the preparation of the Management Program for the Natural Protected Area as Loreto Bay National Park, located off the coast of the Municipality of Loreto, in the State of Baja California Sur, established by Presidential Decree published in the **Official Gazette of the Federation** on July 19, 1996.

This Management Program was prepared with the participation of the Government of the State of Baja California Sur, the Municipality of Loreto, the fishing sector, environmental groups, the academic and scientific sector, and society in general, and interested parties are informed that it is available for consultation at the address indicated below.

For the aforementioned purposes, the general public is informed that the offices of the National Commission of Natural Protected Areas are located at Camino al Ajusco number 200, 3rd floor, south wing, Colonia Jardines en la Montaña, Delegación Tlalpan, postal code 014210, Mexico City, Mexico, and at the office of the Federal Delegation of the Secretariat in the State of Baja California Sur, located at Melchor Ocampo Street, Colonia Centro, postal code 23000, La Paz, Baja California Sur.

Also, attached to this Notice is the document containing a summary of the Management Program for the Natural Protected Area as Loreto Bay National Park, as well as the location and zoning plan of said area.

Given in Mexico City, Federal District, on the twenty-first day of October of the year two thousand two.- The Secretary of the Environment and Natural Resources, **Víctor Lichtinger Waisman**.- Rubric.

ANNEX**SUMMARY OF THE MANAGEMENT PROGRAM OF THE NATURAL PROTECTED AREA WITH THE CHARACTER OF NATIONAL PARK BAHIA DE LORETO, BAJA CALIFORNIA SUR****Introduction**

Loreto Bay National Park is located in the central portion of the Gulf of California and has a great variety of coastal marine environments with rocky and sandy bottoms, beaches, canyons, submarine canyons, and marine terraces. This, together with its geographic location, has favored the establishment of a variety of habitats with high biological diversity, since populations of marine species representing the Panamic (tropical) and Californian (temperate) biogeographic provinces converge here. On the other hand, the insular environment is characterized by a high level of endemism in plant, insect, reptile and mammal species.

Within the limits of the polygonal limits of the Decree of creation of the Park, published in the **Official Journal of the Federation** on July 19, 1996, with a total area of 206,580-75-00 hectares, five islands are located: Coronados, del Carmen, Danzante, Montserrat, and Santa Catalina, and some islets, all of which are part of the Islas del Golfo de California Wildlife Protection Area decreed on August 2, 1978 and recategorized on June 7, 2000, so there is complementarity in the area's protection scheme, since both the islands and the sea surrounding them are protected.

Because the Park's area of influence is inhabited by fishing communities that have a great interest in protecting natural resources and avoiding methods that degrade the seabed and life in general, the Decree creating Loreto Bay National Park establishes that activities that harm the terrestrial and marine flora and fauna are prohibited, including the activities of shrimp trawlers and shrimp trawlers, which worked in front of local communities, depleting their resources and depleting their catches.

The National Park currently has an Advisory Council (CA, formerly Technical Advisory Council), which was created on September 17, 1999. This council is a consultation and social participation body whose objective is to advise and issue recommendations to the National Commission of Natural Protected Areas regarding the park's conservation and management.

Physical characteristics

The region of the Municipality of Loreto is located within the geological structure called Sierra de La Giganta, which in its eastern part is steep and gently sloping to the west and is cut by deep canyons. The substratum of the area is volcanic, carved in granitic crystalline rocks, partially covered by accumulations of rocks of marine origin that are modeled in the coastal strip as terraces. The coast is generally cliffy and dissected by small intermittent gullies or streams with flat gravelly bottoms.

The coastline of the park, in the insular and peninsular portions, is made up of materials that are constantly being removed by the weather, which has prevented the generation of soils, and there are only incipient deposits of infertile, acidic, and lithosols of minimal thickness in the delta-banks. In general, there are poor and localized concentrations of soil with a thickness of less than one centimeter.

The hydrological region comprising the Loreto area, from Bahía Concepción to the vicinity of the city of La Paz, is made up of a thin strip whose main characteristic is that it is made up of sub-basins of very small size with little possibility of obtaining significant groundwater storage. The streams that are formed are classified as ephemeral streams, since they only transport water after a rainfall event, with a relatively short length, and those that acquire great potential are due to the steep slope determined by their proximity to the mountains, generating true mudflows.

Due to the orographic component, the region has very hot and dry conditions. The dry temperate climate is found in the large canyons and in intermountainous depressions, where temperatures range between 14°C and 22°C as annual averages. The absence of altitudinal particularities typifies the climate in the islands according to the Köppen classification modified by García (1986), as BW (h) hw (x) (e), that is, very arid, warm with a summer rainfall regime, extreme with diurnal temperature oscillations between 7°C and 14°C, with a monthly average oscillation of 12°C.

In the summer there are usually some medium-duration, low-intensity rains, while in the winter there may be sporadic, low-intensity, short-duration rains. The pluvial regime is characterized by the dry season from February to June and the rainy season from August to September. The average annual rainfall is around 190 mm with a monthly average of 16 mm.

The average annual temperature could be 23.1°C, while the average minimum temperature is 9°C and occurs during the month of January and the average maximum temperature is 37.5°C and is recorded during August and September.

In Loreto Bay the tide is predominantly diurnal mixed (CICESE, 1991). The maximum high tide recorded is 0.746 meters and the minimum low tide is 0.900 meters. Tide levels in Puerto Escondido are different from those of Loreto, since the maximum high tide recorded is 1.239 meters and the minimum low tide is 0.437 meters, according to the Fondo Nacional de Fomento al Turismo (1995).

Regarding the specific characteristics of the bay, the surface water temperature varies greatly, ranging between 26°C and 33°C. The highest temperatures are recorded in the shallowest areas. High temperatures are recorded at the shallowest depths.

Biotic characteristics

In rocky reef environments, there is a great variety of invertebrate and fish forms that have value as ornamental species. In the Gulf of California, there are at least 50 species of invertebrates and 90 species of reef fish, some of which are endemic, such as *Axoclinus nigricaudus* and *Girella simplicidens*. Among the main invertebrates are: the staghorn hydrocoral (*Janaria mirabilis*) and its host, the hermit crab (*Manucomplanus varians*); the sea fans (*Pacifigorgia media*, *Muricea apressa*, *M. fructicosa*, *Eugorgia multifida* and *E. aurantiaca*); black coral (*Antipathes galapaguensis*), fan polychaete (*Bispira rugosa monterea*), sea stars (*Pentaceraster cumingi*, *Mithrodia bradleyi* and *Nidorellia armata*); snails (*Turritella mariana*, *Thais biserialis*, *Conus princeps* and *C. nux*); cleaner shrimp (*Lysmata californica* and *L. sp.*); giant hermit crab (*Petrochirus californiensis*) and spider crab (*Stenorhynchus debilis*).

Among the demersal fishes that are considered commercial, we find the piedrilla (*Ephinephelus labriformis*), the swarming cabrilla (*E. panamensis*), and the sardine grunt (*Mycteroperca rosacea*); the snapper (*Lutjanus argentiventris*) and the coconaco (*Hoplopagrus güentheri*); the Haemulidae such as the clam burbot (*Haemulon sexfasciatum*), the rayadillo (*Microlepidotus inornatus* and *Anisotremos interruptus*); the Cortés chopa (*Kyphosus elegans*); the blue parakeet (*Scarus ghobban*); the mojarra muelona (*Calamus brachysomus*); the Chinese grouper (*Cirrihus rivulatus*) and the cochito (*Balistes polylepis*). Some rays and stingrays (*Zapteryx exasperata*, *Dasyatis brevis*, *Urolophus concentricus* and *Myliobatis californica*) are also extracted.

The species to be considered in this document, due to their importance for sport-recreational fishing, are dorado (*Coriphaena hippurus*) and roosterfish (*Nematistius pectoralis*), as well as blue marlin (*Makaira nigricans*), striped marlin (*Tetrapterus audax*), sailfish (*Istiophorus platypterus*), swordfish (*Xiphias gladius*) and jack mackerel (*Seriola lalandi*).

The marine reptiles that can be observed in the Park are represented by turtles and are: The most important turtles in the park are the Olive Ridley turtle (*Caretta caretta*), black turtle (*Chelonia agassizi*), green turtle (*Chelonia mydas*), leatherback turtle (*Dermochelys coriacea*), hawksbill turtle (*Eretmochelys imbricata*) and Olive Ridley turtle (*Lepidochelys olivacea*), which are permanently banned and are under the category of Endangered under the Mexican Official Standard NOM-059-ECOL-2001.

In Loreto Bay National Park, 30 species of marine mammals have been recorded, that is, 75% of those found on the coasts of Mexico. For this reason, it is considered that this Natural Protected Area is the one with the greatest number of marine mammals at the national level. It is important to mention that of the 30 species found in the park, nine of them are under special protection and one is threatened according to Mexican Official Norm NOM-059-ECOL-2001. Among the species under special protection are the following: blue whale (*Balaenoptera musculus*), fin whale (*B. physalus*), sei whale (*B. borealis*), Bryde's whale (*B. borealis*), Bryde's whale (*B. edeni*), humpback whale (*Megaptera novaeangliae*), gray whale (*Eschrichtius robustus*), sperm whale (*Physeter macrocephalus*), killer whale (*Orcinus orca*), sea lion (*Zalophus californianus*) and elephant seal (*Mirounga angustirostris*) are under the threatened category.

According to Wiggins (1980), the vegetation of the park's islands and coastal zone falls into two basic types: the first is designated as xerophytic scrub (Miranda and Hernández, 1964; Rzedowski, 1986) or sarcocaulous scrub (SPP-INEGI, 1981). This generic type of vegetation is the most widespread in Baja California Sur and grows on hillsides, slopes, alluvial plains, stream beds, ravines and canyons. The second corresponds to coastal vegetation, which is found within the zone of maritime influence (supralittoral) and includes vegetation of cliffs, beaches, coastal dunes, salt marshes, estuaries and marshes, including mangroves.

All of the islands in the Gulf of California are located within the biogeographic province of the Sonoran Desert. The vegetation type is composed mainly of perennial shrubs and herbaceous plants adapted to very hot and very dry climates. Of the islands that comprise Loreto Bay National Park, 262 species of higher plants have been identified, of which 120 correspond to the coastal zone.

The terrestrial fauna of the islands of Loreto Bay includes the reptile group, which is represented by 51 species, of which approximately 33 have some category of protection in the Official Mexican Standard NOM-059-ECOL-2001, either at the species or subspecies level.

Terrestrial mammals include 25 species, 12 of which are listed in the Official Mexican Standard NOM-059-ECOL-2001 under some category of protection. For example, there are two endemic species that are also considered threatened (*Peromyscus slevini* and *P. pseudocritinus*). The species *P. canipes*, in addition to being endemic at the species level, has rare status. Five are endemic at subspecies level and are under threatened category: *Chaetodipus spinatus seorus*, *Ch. spinatus occultus*, *Neotoma lepida nudicauda*, *N. lepida latirostra* and *P. eva carmeni*. The species *Ch. baileyi fornicatus* is endemic at the subspecies level and rare in the Norma Oficial Mexicana NOM-059- ECOL-2001, and the species *Ch. spinatus pullus* is not endemic but is threatened. On Coronados Island there is a species of rat called *Neotoma bunkerii* that is endangered according to Mexican Official Norm NOM-059-ECOL-2001.

Of all the birds observed in the park, 29 are considered under some category of protection in the Mexican Official Norm NOM-059-ECOL-2001: one is considered in danger of extinction, 2 are considered rare, 4 are under special protection, and 19 are under the category of threatened. In Annex II, on birds, you can consult all the bird species that can be observed in the park, whether resident or migratory, and those that are under some category of protection.

Overall objective

Define and establish management strategies and mechanisms to preserve the renewable and non-renewable natural resources present in Loreto Bay National Park and restore critical environments, promoting the social development of the communities settled in the area.

Specific objectives

- I. Define and establish guidelines and norms to guide the adequate development of productive activities such as sport-recreational fishing, commercial fishing, tourism, and extractive activities aimed at the sustainable use of the park's natural resources, compatible with its conservation.
- II. Promote the development of scientific research that provides better knowledge of the area and leads to solutions to the different problems, sustainable use alternatives, and shows the consequences of management processes, supported by environmental monitoring actions.
- III. Promote the development of environmental education and outreach programs that encourage community participation in the area's conservation.
- IV. Reinforce compliance with the objectives of natural resource conservation, user safety, and compliance with the park's current regulations through inspection and surveillance actions, with the support of community participation.

Zoning

Zoning is a tool that defines the zones of a Natural Protected Area according to criteria that allow the identification of geographic subunits where specific use norms are applied, according to particular protection requirements, which makes the conservation process more effective without diminishing the potential for sustainable use of the existing resources in the area.

In a Natural Protected Area, such as Loreto Bay National Park, there are some elements that cannot be omitted in the establishment of its zoning: different ecosystems, each with particular protection needs and different use needs, namely, the fisherman who has depended on the area's resources all his life, the tourist who seeks direct contact with nature in a good state of conservation, the tourist service provider who acts as a mediator between the tourist and the attractions that the Bay offers, and the researcher who seeks to deepen his knowledge.

It is possible to classify the activities carried out in the park according to their impact on the environment, which will make it possible to determine the zones into which the park should be divided and the activities permitted or not permitted in each one of them:

Type of activity	Activities	Fishing gear and equipment
Non-consumptive activities.	Diving.	- Free. - With autonomous equipment.
	Video and photography	- Cameras, lighting, power generators, microphones, hydrophones, nets, oceanographic instruments, transmitters.
	Research without collection.	- Transmitters.
	Education.	
	Camping.	- Tents, stoves, latrines, sound equipment.
	Observation of terrestrial and marine fauna.	- Motorized vehicles, photo and video cameras.
	Ecological restoration.	- Construction machinery and tools.

Navigation and transit activities.	Non-motorized.	<ul style="list-style-type: none"> - Sailboats. - Sailing table. - Kayak and other manual propulsion boats.
	Motorized.	- Yates.
		- Motorized slides.
		- Smaller vessels.
		- Larger vessels.
		- Automobiles, all-terrain vehicles, ATVs, etc.
Consumptive activities.	Commercial fishing.	<ul style="list-style-type: none"> - With the use of hook and line or jig. - With the use of nets (different types: gill nets, fixed nets, drift nets, trawl nets, encircling nets). - Collection with use of scuba, SCUBA or free. - Spearfishing with scuba, SCUBA or free diving. - Day or night with use of light. - Trapping.
	Sport-recreational fishing.	<ul style="list-style-type: none"> - With cane. - With harpoon (underwater, without the use of autonomous equipment).
	Scientific collection.	- With the use of nets, traps, chemicals, manual.

Zoning criteria

In order to establish the zoning of Loreto Bay National Park in this Management Program, the criteria used are as follows:

Ecological. The different ecosystems present in the park are considered, with emphasis on the areas occupied by species for reproduction, feeding and/or nesting.

Use. Respond to the use needs of the different sectors of the population that develop activities within the park, whether they are fishermen, service providers, users or researchers.

Management zones

Considering the aforementioned criteria, three zoning categories are proposed for natural resource management in the park: a) protection zone, b) zone for sustainable use of natural resources, and c) restricted use zone, in addition to the area of influence. This proposal will regulate, according to the applicable legislation and the administrative rules of this instrument, the protection and use of the park's natural resources based on the current and potential use of each of the zoning categories described and their conservation values (Zoning Map).

Protection zone

Definition: Applies to areas of the Park that have suffered no or minimal habitat alteration or with possibilities of recovery and ecological values such as high biodiversity, presence of endemic or charismatic species, significant contribution to other ecosystems due to their high productivity or because they are areas of relevance as a genetic reservoir and contribution of propagules (larval stage, fry, juveniles and nesting areas).

The park's protection zone includes different ecosystems such as rocky reefs, wetlands, estuaries, mangroves and dunes, as well as marine environments included in these zones. These

environments are of relevance as reproduction, reservoir and genetic dispersion areas, in addition to a high nutrient supply.

The main problems in these areas are the traffic of motorized vehicles in the Federal Maritime-Terrestrial Zone (ZOFEMAT) that some companies rent, which alter fragile ecosystems, such as dunes and wetlands, and also impact the diversity of species that inhabit the intertidal zone. In addition, considering the tourism development in the municipal capital of Loreto, it is very common to see some small wetlands in the ZOFEMAT being filled in. On some islands there are loberas, such as Punta Lobos on Coronados Island and Carmen Island, as well as on the islets of Las Galeras and Santa Catalina or Catalana Island, where it is common to see boats a short distance from the loberas, whose engines make noises that disturb the pups and parents of the loberas, which sometimes leave their young exposed to predators (Zoning map).

The following table shows the sites located in the protection zone:

Sites	
<p>Error! The score is not defined.</p> <p style="text-align: center;">Wetlands, estuaries and mangroves:</p> <p>Nopoló Estuary. Estero las Garzas. Estero de Bahía Balandra (Carmen Island). Mangroves of Los Metates (Coronados Island). Punta del Bajo (Coronados Island). Mangroves of Puerto Escondido. Ligüí Mangroves.</p>	
<p>Error! Marker not defined.</p> <p style="text-align: center;">Islands and Islets:</p> <p>Santa Catalina Island (except federal maritime-terrestrial zone). La Islita (Coronados). White Islotes. Scissors. Candlesticks. Brown Islet.</p>	
<p>Las Islitas. Las Galeras. La Mestiza.</p> <p>Error! Marker not defined.</p> <p style="text-align: center;">Tips:</p> <p>Punta Lobos (Coronados Island). Punta Lobos (Carmen Island). Punta Norte (Santa Catalina Island).</p> <p>Error! Marker not defined.</p> <p style="text-align: center;">Bass</p> <p>Bajo del Cochi. Bajo del Murciélago.</p>	

Objective: Maintain the conditions of the Park's representative ecosystems in their natural state, as well as the continuity of their ecological processes and the germplasm contained in them.

Guidelines: The degree of intervention by human activities is limited. Non-consumptive uses such as research, monitoring, environmental education, and supervised visits are compatible with the conservation objectives for this zone. Among the activities permitted and not permitted in this zone, the following stand out:

PROTECTION ZONE	
Permitted activities	Activities not allowed
<ul style="list-style-type: none"> Scientific research and monitoring. 	<ul style="list-style-type: none"> Any type of exploitation that involves the extraction or transfer of specimens or the modification of habitats.
<ul style="list-style-type: none"> Eradication of exotic species and repopulation with native species, with SEMARNAT defining the methods used for this purpose. 	<ul style="list-style-type: none"> Collection, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as minerals and paleoarcheological remains.
<ul style="list-style-type: none"> Environmental education. 	<ul style="list-style-type: none"> Modification of the coastline.
<ul style="list-style-type: none"> Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose. 	<ul style="list-style-type: none"> Transit of vehicles, except for operational tasks of the Park Management or emergencies.
<ul style="list-style-type: none"> Video and photography, with prior authorization. 	<ul style="list-style-type: none"> Landing in bird nesting and breeding areas, and sea lion roosting.
<ul style="list-style-type: none"> Supervised educational tourism (low-impact tourism), such as wildlife, terrestrial and aquatic flora and fauna observation, hiking, guided tours, led by specialized guides, limiting access during the reproductive period of migratory and resident birds, and sea lions. 	<ul style="list-style-type: none"> Establishment of garbage dumps.
<ul style="list-style-type: none"> Signaling for management purposes. 	<ul style="list-style-type: none"> Cleaning of bilges, dumping of liquid or solid wastes harmful to wildlife.
<ul style="list-style-type: none"> Inspection and surveillance. 	<ul style="list-style-type: none"> Dumping of fishing waste.
	<ul style="list-style-type: none"> Making bonfires.
	<ul style="list-style-type: none"> Introduction of exotic flora and fauna.
	<ul style="list-style-type: none"> Transit of jet skis and ATVs.
	<ul style="list-style-type: none"> Extraction of construction materials.
	<ul style="list-style-type: none"> Construction of infrastructure for installation of: <ul style="list-style-type: none"> Fishing, tourist and research camps. Human settlements. Marinas and artificial structures for tourism or fishing purposes.
	<p>Error! Marker not defined. Carrying firearms, with the exception of those required by the Secretariat of the Navy for the performance of its duties, as well as those necessary to carry out activities for scientific or restoration purposes, with prior authorization.</p>
	<ul style="list-style-type: none"> Exploitation of natural resources.
	<ul style="list-style-type: none"> Exploitation of the aquifer mantle.
	<ul style="list-style-type: none"> Fishing within these sites.

	<ul style="list-style-type: none"> • Transfer and transportation of flora and fauna species from one community to another.
	<ul style="list-style-type: none"> • Anchoring and mooring of ships to land.
	<ul style="list-style-type: none"> • Use of explosives.

Restricted use zone

Definition: These are those portions of the park in a good state of conservation, represented by terrestrial and marine ecosystems that maintain stable conditions and where there are populations of wild flora and fauna, terrestrial and aquatic, including species considered under some category of protection (Zoning Map). In this zone, the aim is to maintain the current conditions of the ecosystems and even improve activities that do not modify the ecosystems and are subject to strict control measures.

The zone is made up of 5 areas, which are:

Terrestrial: Includes Coronados, del Carmen, Danzante and Montserrat islands, including the ZOFEMAT of all the park's islands, except for the northern part of Montserrat Island included in Marine Zone III; it also includes the ZOFEMAT of the peninsular strip included within the park's polygon.

I. Marine: a) Includes the 300 meters offshore measured perimetrically from the coastline around the islands of Carmen, Montserrat and Santa Catalina.

b) 100 meters offshore measured perimetrically from the coastline around Danzante Island and the islets La Mestiza, Blancos, Las Islitas, Los Candeleros, Las Tijeras and Pardo.

c) On Coronados Island, it comprises an offshore strip starting 300 meters south of Punta Lobos southward to Los Metates up to the 50-meter isobath and from Los Metates northward, in a strip of 300 meters offshore to the south of Punta Lobos.

II. Marine: Conformed by the peninsular coastline up to 300 meters offshore, from vertex 1 to 8 of the polygonal zone established in the Decree creating the park, except for the sites considered as protection zones.

III. Marina: It is located north of Montserrat Island, including the northern part of the federal maritime-terrestrial zone, in an area comprising the following vertices:

Vertex 1: 25°42 23.2 N and 111°03 34.2 W (Punta Roja northwest of Montserrat Island);

Vertex 2: 25°46 26.2 N and 111°03 33.7 W (7.5 km north-northwest of vertex 1, following a course of 340°);

Vertex 3: 25°45 53.6 N and 111°00 59.5 W (4.85 km east of vertex 2, following a bearing of 93°);

Vertex 4: 25°41 35.9 N and 111°00 59.30 W (Punta Larga northeast of Montserrat Island 7.79 km south southeast of vertex 3 following a bearing of 163°).

IV. Marina: Covers the site called Bajo de Punta Baja, which is located south of Isla del Carmen, in an area that includes the following vertices:

Vertex 1: 25°47 58.92 N and 111°12 36 W.

Vertex 2: 25°48 13.68 N and 111°11 45.6 W.

Vertex 3: 25°47 53.88 N and 111°11 24 W.

Vertex 4: 25°47 39.12 N and 111°11 42 W.

The area contains ecosystems with a low or medium degree of human modification. It includes areas with a high productivity and wealth of fishing and tourism resources of relevant economic importance, susceptible to be used mainly by local communities. This zone is also intended to serve as a buffer and transition area between the protection zone and the zone for sustainable use of natural resources because it borders fragile ecosystems.

The restricted use zone is considered an area where a wide variety of activities converge, such as commercial fishing, recreational fishing, kayaking, hiking, diving, sailing, and boating. The

The problems generated by the use and exploitation of the area's resources are very varied and complex. However, they can be summarized in problems of overexploitation of fishery resources, lack of permits and authorizations to carry out these activities, plundering of species under some category of protection and fossil deposits, illegal fishing practices and exploitation of resources in closed seasons, illegal use and exploitation of the federal maritime-terrestrial zone, and scientific research and collection without the corresponding authorization.

In addition, the use of these sites brings with it pollution since many are used as garbage deposits, basically on the islands, and the most intensely used beaches present impacts on the surrounding vegetation, creation of new trails, introduction of non-native species and organic contamination from feces.

Objective: Develop diversified activities under regulations that allow the controlled use of natural resources. The goal is to generate development and use models that benefit local communities and users and that are compatible with the conservation objectives of the area's natural resources.

Guidelines: Activities compatible with the conservation objectives of this zone are research, monitoring, environmental education, low impact tourism, extractive activities applying rotational use techniques and using low impact fishing gear (examples: hooks, traps, jigging, collection by free diving), exceptionally harvesting activities that do not modify the ecosystems and the establishment of refuges or stops for fishermen, in which there are no permanent facilities or infrastructure for overnight stays or containers for storage and/or conservation of the product. All these activities must not cause significant or relevant environmental impacts to the ecosystems.

Activities permitted and not permitted in this zone include:

RESTRICTED USE ZONE: TERRESTRIAL	
Permitted activities	Activities not allowed
<ul style="list-style-type: none"> • Scientific research and monitoring, subject to authorization. 	<ul style="list-style-type: none"> • Modification of the coastline without authorization from SEMARNAT.
<ul style="list-style-type: none"> • Signage for the operation and management of the park. 	<ul style="list-style-type: none"> • Dredging activities.
<ul style="list-style-type: none"> • Maintenance of signage for (lighthouses, beacons). 	<ul style="list-style-type: none"> • Construction of permanent infrastructure for: <ul style="list-style-type: none"> - Installation of fishing and/or tourist camps. - Tourist activities. - Human settlements.
<ul style="list-style-type: none"> • Naturalist or low-impact tourism, access should be limited during the breeding period of migratory and resident birds: <ul style="list-style-type: none"> - Hiking, on trails marked for this purpose. 	<ul style="list-style-type: none"> • Bilge cleaning.
<ul style="list-style-type: none"> • Environmental education. 	<ul style="list-style-type: none"> • Introduction of exotic flora and fauna.
<ul style="list-style-type: none"> • Restoration of historical-cultural heritage and affected areas, with INAH and SEMARNAT defining the methods used for it. 	<ul style="list-style-type: none"> • Transit of motor vehicles, except for Park Management operations and those previously authorized.
<ul style="list-style-type: none"> • Landing prior authorization from SEMARNAT. 	<ul style="list-style-type: none"> • Creation of new trails for purposes other than area management.
<ul style="list-style-type: none"> • Temporary camps (with permission from CONANP): <ul style="list-style-type: none"> - Tourism. - Fishing. - For scientific research activities. 	<ul style="list-style-type: none"> • Pour: <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.

<ul style="list-style-type: none"> • Video and photography. 	<p>Error! Marker not defined. Carrying firearms, with the exception of those required by the Secretariat of the Navy for the performance of its duties, as well as those necessary to carry out activities for scientific or restoration purposes, with prior authorization.</p>
<ul style="list-style-type: none"> • Eradication of exotic species. 	<ul style="list-style-type: none"> • Use of explosives without the authorization of the competent authority. • To carry out mining operations without the required environmental authorization.
<ul style="list-style-type: none"> • Construction of infrastructure, exclusively for the administration, operation and management of the park: Biological Station, as well as that necessary for its maintenance and rehabilitation. 	<ul style="list-style-type: none"> • Transfer of flora and fauna species from one island to another, without the corresponding authorization.
	<ul style="list-style-type: none"> • Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
RESTRICTED USE ZONE: I MARINA	
Permitted activities	Activities not allowed
<ul style="list-style-type: none"> • Scientific research and monitoring, subject to authorization. 	<ul style="list-style-type: none"> • Modification of the coastline without authorization from SEMARNAT.
<ul style="list-style-type: none"> • Biological exploration and prospecting. 	<ul style="list-style-type: none"> • Dredging activities.
<ul style="list-style-type: none"> • Mariculture and restocking with native species. <p>Error! Bookmark not defined. On the west coast of Danzante Island, the development of aquaculture projects for the promotion, didactic and commercial cultivation of mollusks, such as lion's hand clam, catarina clam and oyster, among others.</p>	<ul style="list-style-type: none"> • Sport-recreational fishing. • Sport-recreational fishing within 250 meters of commercial fishing vessels. • Commercial fishing: <ul style="list-style-type: none"> - With nets and/or shoring in rocky shallows.

<p>? Maintenance of signage for (lighthouses, beacons).</p> <p>? Ecotourism (low impact tourism), access should be limited during the breeding period of migratory and resident birds:</p> <ul style="list-style-type: none"> -Recreational diving. - Kayaking. - Veleo. - Snorkeling. <p>Environmental education.</p> <p>? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.</p> <p>Disembarkation with prior authorization from SEMAR.</p> <p>? Small-scale manual removal of stones for the conditioning of temporary dry docks for small fishing boats.</p> <p>Self-consumption fishing.</p> <p>Fishing promotion.</p> <p>? Commercial fishing with low-impact methods and gear, such as jig, line, hook and traps.</p>	<ul style="list-style-type: none"> - In Isla Coronados with nets in a strip that begins 300 meters south to the Metates to the 50-meter isobath and from the Metates to the north, in a strip of 300 meters offshore to the south of Punta Lobos. Except for the capture of sandy bottom species in the months of November and December. - In the adjacent area of Isla del Carmen, with nets, from April to August. - In the southern, eastern and northern part of the adjacent area of Montserrat Island, no netting from April 1 to August 20. <p>? Alteration of the seabed. Bilge</p> <p>? cleaning</p> <p>? Introduction of exotic flora and fauna.</p> <p>? Pouring:</p> <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste. <p>Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.</p>
<ul style="list-style-type: none"> -Commercial diving. - In the adjacent area of Isla del Carmen, from September 1 to March 31, with regulatory nets with light mesh mesh of 4 upwards for flake fishing, including jack mackerel. - In Isla del Carmen within the Bajo de Punta de Baja area, bait catch for sport-recreational and commercial fishing. - In the western portion of the area adjacent to Montserrat Island with trap nets, traps and traps. 	<p>? Use of explosives without the authorization of the competent authority.</p> <p>? Transfer of flora and fauna species from one place to another without the corresponding permit.</p> <p>? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without authorizations from SEMARNAT or the competent authority.</p> <p>? To carry out mining operations without the required environmental authorization.</p>
<ul style="list-style-type: none"> - In the southern, eastern and northern part of the adjacent area of Montserrat Island, with nets of mesh size 4 upwards from September 1 to March 31, with the exception of jack mackerel, which can be caught all year round. - In the adjacent area of Santa Catalina Island the use of 4 mesh nets upwards from September 1 to March 31, with the exception of jack mackerel which can be caught all year round. 	

<p>? Sport-recreational fishing.</p> <p>? Non-motorized (kayaks, sailboats, etc.) and motorized (small boats) boating activities.</p> <p>? Video and photography.</p> <p>? Signage for the operation and management of the park.</p>	
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RESTRICTED USE ZONE: II MARINA	
Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
Mariculture and restocking with native species.	Sport-recreational spearfishing.
? Maintenance of signage for (lighthouses, beacons).	Commercial fishing: <ul style="list-style-type: none"> - With falsework. - From flake with nets, during the months of April to August of each year. - Employing night diving. - With harpoon. - With larger vessels.
? Naturalist tourism (low impact tourism), access should be limited during the breeding period of migratory and resident birds: <ul style="list-style-type: none"> - Recreational diving. - Kayaking. - Veleo. - Snorkeling. 	? Sport-recreational fishing within 250 meters of commercial fishing vessels.
Environmental education.	Alteration of the seabed.
? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.	Bilge cleaning.
? Disembarkation with prior authorization from SEMAR.	Introduction of exotic flora and fauna.
? Small-scale manual removal of stones for the conditioning of temporary dry docks for small fishing boats.	
Self-consumption fishing.	Transit of jet skis.
Fishing promotion.	? Pour: <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.

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Commercial fishing: <ul style="list-style-type: none"> - With low-impact methods and gear, such as jigging, hook and line and traps. - With authorized nets, limiting their use exclusively at night, respecting a strip of 50 meters measured from the coastline, during the months of September to March. - Commercial diving. 	? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.
Sport-recreational fishing.	Use of explosives, without the authorization of the corresponding authority.
? Non-motorized (kayaks, sailboats, etc.) and motorized (small boats, cruisers, etc.) sailing activities.	? Transfer of flora and fauna species from one community to another without the corresponding permit.
Video and photography.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Signage for the operation and management of the park.	? To carry out mining operations without the required environmental authorization.

RESTRICTED USE ZONE: III MARINA

Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
Mariculture and restocking with native species.	Sport-recreational spearfishing.
? Maintenance of signage for (lighthouses, beacons).	Commercial fishing: <ul style="list-style-type: none"> - With nets and/or falsework. - Employing night diving. - With harpoon. - With larger vessels.
? Naturalist tourism (low impact tourism), access should be limited during the breeding period of migratory and resident birds: <ul style="list-style-type: none"> - Recreational diving. - Kayaking. - Veleo. - Snorkeling. 	? Sport-recreational fishing within 250 meters of commercial fishing vessels.
Environmental education.	Alteration of the seabed.
? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.	Bilge cleaning.
Disembarkation with prior authorization from SEMAR.	Introduction of exotic flora and fauna.

Self-consumption fishing.	Transit of jet skis.
Fishing promotion.	? Pour: - Solid or liquid waste harmful to wildlife. - Fishing waste.
Commercial fishing: - With low-impact methods and gear, such as jigging, hook and line and traps. - Commercial diving.	? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.
Sport-recreational fishing.	Use of explosives, without the authorization of the corresponding authority.
? Non-motorized (kayaks, sailboats, etc.) and motorized (small boats, cruisers, etc.) sailing activities.	? Transfer and transportation of flora and fauna species from one place to another, without the corresponding permit.
Video and photography.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Signage for the operation and management of the park.	? To carry out mining operations without the required environmental authorization.

RESTRICTED USE ZONE: IV MARINA

Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
	Sport-recreational fishing.
? Maintenance of signage for (lighthouses, beacons).	Commercial fishing.
Naturalist tourism (low impact tourism): - Recreational diving. - Kayaking. - Veleo. - Snorkeling.	
Environmental education.	Alteration of the seabed.
? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.	Bilge cleaning.
	Introduction of exotic flora and fauna.
	Transit of jet skis.

	? Pour: - Solid or liquid waste harmful to wildlife. - Fishing waste.
Bait capture for commercial and sport-recreational fishing.	? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.
	Use of explosives, without the authorization of the corresponding authority.
	? Transfer and transportation of flora and fauna species from one place to another, without the corresponding permit.
Video and photography.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Signage for the operation and management of the park.	To carry out mining operations.

Sustainable use of natural resources zone

Definition: It is the area of the Park in which natural resources can be exploited, and that for reasons of use and conservation of its ecosystems in the long term, it is necessary that all productive activities are carried out under sustainable use schemes. The zone is located in those marine portions that maintain the conditions and functions necessary for the conservation of biodiversity and the provision of environmental services. It includes sites with varying degrees of human modification. It is the largest zone within the National Park and includes the pelagic and benthic zones, not considered in the protection and restricted use zones.

The problems in this area are very diverse and can be summarized in the use of encircling nets with a mesh size of less than five inches (associated with diving, use of compressor and harpoon), presence of shrimp and shark boats, illegal extraction of benthic species such as conchspina, donkey conch, giant sea cucumber, burra clam and callo de hacha, non-compliance with daily catch limits in sport-recreational fishing, development of unauthorized commercial fishing.

Objective: Develop productive activities under schemes of sustainability, strict regulation and control of the use of natural resources.

Guidelines: Activities compatible with the objectives of this zone are scientific research, monitoring, environmental education, tourism, diving, exploitation and management of natural resources, as long as these actions generate benefits for local populations and guarantee their permanence, in the long term.

Likewise, the sustainable use of wild flora and fauna may be carried out, as long as its controlled reproduction is guaranteed, the population of the species used and the habitat on which they depend are maintained or increased, with prior authorization from the corresponding authority.

ZONE FOR THE SUSTAINABLE USE OF NATURAL RESOURCES	
Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	? Commercial fishing: - Using high-impact trawls to catch shrimp and flake. - With night diving.
	? Sport-recreational fishing within 250 meters of commercial fishing vessels.

Biological exploration and prospecting.	Bilge cleaning. Dredging activities.
Environmental education.	? Pour: - Solid or liquid waste harmful to wildlife. - Fishing waste.
Mariculture and restocking with native species.	Introduction of exotic flora and fauna.
Ecotourism.	Operation of ships: - Purse seiners type tuna vessels, sardine, anchovies. - Factory. - Sargaceros. - Calamareros. - Longliners.
Sport diving.	Use of explosives without the permission of the corresponding authority.
Fishing promotion.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Self-consumption fishing.	? Transfer and transportation of flora and fauna species from one community to another without the corresponding permit.
Sport-recreational fishing.	Net banding.
Commercial fishing with authorized and regulated fishing methods and gear.	

Terrestrial and marine areas of influence

Definition: These are the terrestrial and marine areas that border the park's polygonal area. The terrestrial area of influence includes the fishing communities of Tembabiche, Agua Verde, San Cosme, Ensenada Blanca, Ligüí, Juncalito, Puerto Escondido, Nopoló, Poblado de Loreto and San Nicolás. The marine area of influence extends along the peninsular margin in the northern and southern part of the park to approximately 12 nautical miles of territorial sea.

The problems in this zone are very diverse, since they involve all aspects derived from the social and economic component, which is why, to a great extent, they generate actions that have repercussions within the park.

Objective: Involve the community in the area of influence in conservation actions through the sustainable use of the natural resources present in the park and in the area of influence.

Guidelines: It is recommended to carry out the management of fishing and tourist-recreational activities in the area, as well as the promotion of low-impact activities, to be developed in the area, such as artisanal fishing, ecotourism, mariculture, marinas, among others; compatible with the objectives of ecosystem conservation.

Components of the management program

The management components are the units of administrative-operational organization, where the objectives and actions that the Park Directorate will implement in each of the programs, functions, attributions and responsibilities with all the sectors involved in the conservation of the park are indicated.

Park. Each component is further divided into subcomponents, according to the affinity between a series of specific executive functions.

Conservation component

General Objective

Guarantee the protection and permanence of the park's biological diversity, scenic value, and natural resource use potential through coordinated management actions.

Subcomponent for the protection of natural resources

Objectives

? To conserve the diversity of wild, terrestrial and aquatic flora and fauna of the area, mainly those that are threatened, rare, under special protection, endangered and/or endemic, their habitats and the ecological processes that occur in the park.

Strategy

? Coordinate and participate in actions to obtain information on wild flora and fauna species, terrestrial and aquatic, mainly those under protection status and critical habitats. As well as implementing actions for their protection and conservation.

Ecological restoration subcomponent

Objectives

? To recover and reestablish the ecological conditions prior to the modifications caused by human activities and/or natural phenomena, allowing the continuity of the natural processes that occur there.

? Prevent disasters or actions that represent potential risks to natural resources and marine and coastal ecosystems.

Strategy

? Develop programs for solid waste management, prevention and control of introduced species, recovery of coastal dunes and associated vegetation, environmental contingency plan, studies of carrying capacity or limits of acceptable change of ecosystems.

Shares

Identify the location, dimensions and management needs of priority areas for the implementation of ecological recovery projects.

Organize and implement beach and seabed cleanup campaigns, involving institutions, government agencies and civil groups or organizations.

Implement compensatory measures for environmental impacts on shallows and reefs that have been affected by human activity or natural effects.

Execute a program for the management of waste generated by recreational and fishing activities.

Implement a program to prevent and control the introduction of exotic species to the islands. Implement programs for the recovery of dunes and associated vegetation.

Develop and implement a contingency plan for contaminating fuel or sewage spills and natural disasters (hurricanes, major floods).

Promote the implementation of studies on the carrying capacity and/or limits of acceptable change of ecosystems.

Promote, before the corresponding authorities, actions for sanitation, closures, rotation of exploitation sites and suspension of concessions when a deterioration of the state of the populations of wild, terrestrial and aquatic flora and fauna species is foreseen.

Supervision and monitoring subcomponent

Target

? Conserve the integrity of the park's natural resources, applying surveillance and control actions for their use, in accordance with the park's creation decree and applicable regulations, in coordination with the competent authorities and including social participation.

Strategy

Coordinate the systematic implementation of the inspection and surveillance program with the competent governmental agencies, involving community participation.

Shares

Conduct surveillance operations in coordination with municipal, state and federal authorities and evaluate these actions by verifying and analyzing reports of sea outings and reports of land outings.

Promote the evaluation and diagnosis of environmental modifications caused by human use and natural phenomena.

Systematize the information obtained through supervision, inspection and surveillance actions.

To collaborate in the compliance of the norms related to wild flora and fauna, terrestrial and aquatic species.

Verify compliance with regulations related to wild flora and fauna, terrestrial and aquatic species.

Collaborate with the inspection activities carried out by the competent authorities. Integrate social committees of community vigilance.

Promote community participation for preventive and social awareness purposes.

Collaborate in the compliance with the provisions of the Fisheries Law on harvesting.

Subcomponent for the protection of historical and cultural heritage

Target

Safeguarding the historical and cultural heritage of the park. Strategy

Promote the development of programs for the protection and restoration of historical and cultural heritage sites.

Shares

Support and promote research projects aimed at identifying and preserving cultural, archeological and historical values.

Establish agreements with academic institutions for the protection of sites of paleontological value.

Support research projects aimed at promoting socio-cultural development through the rescue and preservation of the traditions of local communities.

Promote the implementation of programs for the restoration of the historical and cultural heritage in coordination with the corresponding authorities.

Gather information on the empirical-traditional knowledge on natural resource management in the different communities.

Sustainable use and development component

General Objective

Establish the necessary mechanisms to guarantee the use and sustainability of the park's natural resources for the benefit of the communities settled in its area of influence.

Fisheries and aquaculture subcomponent

Objectives

Promote the orderly and sustainable use of commercial and sport fishing species and areas.

To involve users in the actions aimed at the sustainable use of fishery resources.

To protect the ecological fishing environments to facilitate the natural recovery processes of the populations.

Contribute to the regulation of fishing activities in coordination with the corresponding governmental agencies.

Promote the practice of native species aquaculture techniques.

Strategies

To promote the sustainable use of marine species in the vicinity of the park.

To promote the orderly development of fishing activities.

To promote an orderly use of the islands by fishermen.

Shares

Determine the sites destined for the establishment of fishing camps and the regulatory measures for their use.

Cancel commercial fishing activities with larger vessels.

Conduct the necessary studies to determine the selectivity and efficiency of fishing gear in different types of substrates and in different seasons in order to standardize its use.

Promote the use of low-impact fishing gear and methods with governmental and non-governmental agencies.

To prepare the fishery register and keep it updated.

Implement a system for raising economic resources for management actions, with the participation of the fishing sector.

Conduct periodic meetings with the fishing sector to agree on aspects related to the use of resources.

Distribute information on marine species: closed and catching seasons, zoning, distribution, volumes and permitted fishing gear, among others.

Implement cleanup and restoration campaigns for beaches and sites used for fishing activities.

Promote, in coordination with the competent authority, the implementation of training and environmental education workshops for the fishing sector, in coordination with other governmental and non-governmental agencies.

Generate and apply technology for the sustainable use of fishery resources, in coordination with other agencies.

Encourage the practice of low-impact aquaculture methods for native fish and invertebrates.

Recreation and tourism subcomponent

Objectives

? Ensure the compatibility of tourism activities with conservation objectives.

Promote that tourism activities, in addition to generating benefits for the region, its inhabitants, and for the park's management, have a minimal impact on the environment.

Involve the tourism sector as a promoter of environmental education and generator of funds for the conservation of the area.

Strategies

? Implement the orderly use of tourism activities.

? Elaborate tourism carrying capacity studies or limits of acceptable change.

? Consolidate the program for the use of tourist sites.

Shares

Prepare and distribute basic information about the park and its rules and regulations to visitors and tourism service providers regarding the activities to be carried out.

Establish a monitoring and evaluation system for the various tourism activities carried out in the area.

Conduct monitoring and diagnostics of sites for tourism use.

Apply management strategies such as signage and trails, rehabilitation, design and operation of tourist circuits, among others, in the areas of tourist use, according to a previous diagnosis.

Implement a system for raising funds for management actions, with the participation of the tourism sector.

Hold periodic meetings with the tourism sector to agree on actions related to the activity and management of the area.

Develop strategies to regulate tourism activities in the area, including the design, implementation and operation of tourism circuits in the zones defined for this purpose.

Determine criteria for authorizing tourism service providers to work in the area.

Promote and support training and certification actions for tourism service providers. Promote mechanisms to expedite the processing of permits for tourism service providers. Prepare a catalog of sites for tourism use with their respective diagnosis.

Develop and maintain an updated list of companies and guides that provide tourist services and evaluate the capacity and type of services they offer.

Promote environmental education programs that involve local populations in tourism. Verify compliance with the legal provisions applicable to tourism activities.

Implement projects to determine the tourism carrying capacity of tourist use sites.

Mining activities subcomponent**Objectives**

To ensure the compatibility of mining activities and the conservation objectives of this planning instrument.

Strategies

? Promote that mining activities, if authorized in the area, generate benefits for the region and its inhabitants, as well as for the management of the park and result in a minimum impact on the environment.

? Promote and coordinate with the mining sector, its participation in environmental education actions and fund management for the conservation of the area.

? Verify compliance with applicable environmental laws and regulations.

Shares

In coordination with the federal delegations of SEMARNAT and PROFEPA, and with the General Directorate of Mines of the Ministry of Economy (SE), disseminate the rules of use and applicable legal provisions within the park.

Coordinate with the General Directorate of Mines for compliance with the norms of use and administrative rules of this document, applicable to the mining activity.

Conduct periodic meetings with the mining sector to agree on actions related to the use of resources.

Supervise mining activities in coordination with the competent authorities. Promote the participation of the mining sector in financing conservation actions.

Promote environmental audits of these activities.

Involve the mining sector in environmental education programs.

Encourage the participation of the mining sector in actions that benefit local communities.

Subcomponent for potential use of natural resources

Objectives

Identify the potential use(s) of the area's natural resources, under the conservation and exploitation scheme.

Strategy

Promote programs to enhance and improve the use of wild flora and fauna species, terrestrial and aquatic, under the sustainability scheme.

Shares

Promote projects for exploration, prospecting and evaluation of natural resources to detect flora and fauna species that can be used by the inhabitants of local communities.

Promote research projects with educational institutions, research centers, universities and civil associations to broaden and disseminate knowledge of the ecological and economic values of natural resources.

Evaluate the potential use of species under the special protection category, in accordance with Mexican Official Standard NOM-059-ECOL-2001.

Prepare maps of distribution and abundance of flora and fauna species in the park area to establish possible resource potential.

Promote the development of new strategies and technologies for the use of the area's natural resources.

Respond to anthropogenic pressures, natural phenomena and ecological disasters through proven methodologies.

Verify compliance with the provisions of the Fisheries Law on harvesting.

Scientific research and environmental monitoring component

Target

? To have the elements of environmental diagnosis that, in addition to being applicable to the formulation of protection and management measures for the park, will allow us to increase the level of knowledge about the dynamics of the natural resources, to permanently monitor the environmental processes that occur there and the effects resulting from the activities developed and the management of the park.

Strategy

? Promote research on the area's natural resources.

Shares

Manage the creation of a biological station with the necessary equipment to carry out basic oceanographic, biological and climatological studies.

Define priority lines of research for the Park, in collaboration with academic institutions and non-governmental organizations.

Prepare an inventory of research, researchers and institutions that conduct or have conducted studies in the area.

Organize and encourage inter-institutional coordination around priority lines of research for the management of the ANP.

Support the management of resources to finance research related to the Park.

Manage the simplification of procedures for obtaining research permits from the different governmental agencies.

Disseminate among the academic sector the norms of use and administrative rules of the area, as well as the mechanisms for obtaining permits for research.

Promote scientific events that allow the integration of information generated around the ANP.

Evaluate the effects of management actions on the park's natural resources on an ongoing basis.

Supervise that the research activities carried out in the park are conducted in accordance with the administrative rules and regulations in force.

Support research projects aimed at promoting social development through the rescue and preservation of the cultural traditions of local communities.

Promote the evaluation and diagnosis of environmental modifications caused by human use and natural phenomena.

Implement interinstitutional programs for biological monitoring and monitoring of the impacts caused by the use of natural resources.

Conduct monitoring and diagnostics of sites for tourism use.

Promote studies that allow aquaculture management of native species.

Dissemination and environmental education component

For the proper management of the park's natural resources, it is necessary to promote a culture of conservation of the natural wealth that the park enjoys. For this reason, it is of great importance to develop environmental education activities and disseminate information about the park's activities in order to achieve the collaboration of the different social sectors.

Environmental education subcomponent

Target

To promote a culture of respect for nature among the community, competent authorities and users, through the transmission of environmental information and general knowledge of the park.

Strategy

? Promote and develop environmental education programs.

Shares

Implement environmental education projects in coastal and urban communities located in the park's terrestrial area of influence.

Promote, in coordination with the Ministry of Public Education (SEP), environmental education courses at the elementary, middle and high school levels.

Organize special events such as audiovisuals, puppet theater, music, museography, exhibitions and panels that promote human development.

Dissemination subcomponent

Objectives

Disseminate among the community, productive sectors, academics, users and the general public about the objectives and processes of conservation and management of the area's natural resources.

Encourage, through training, the active participation of the different sectors of society in the processes of conservation and sustainable use of natural resources.

Strategy

Elaborate dissemination material that promotes the ecological and conservation values of the park.

Shares

Plan and implement an interpretive visitor center to inform visitors about the park's ecological and environmental characteristics, as well as the administrative regulations for managing the area.

Plan, implement and edit publications to publicize the most relevant characteristics of the area and the importance of its conservation, as well as to disseminate the administrative rules and applicable legislation for its management.

Elaborate publications and radio and television programs related to the ANP. Design and publish guides and brochures on the flora and fauna of the ANP.

Design and edit an informative organ to disseminate the activities carried out in the Park with respect to conservation, research, courses, workshops, seminars, conferences, and cultural outreach and dissemination activities.

Organize conferences to disseminate the projects and programs carried out by the park administration.

Design and implement workshops that promote social participation in alternative activities to commercial fishing.

Promote training courses and workshops on fishing legislation and technology and productive activities in general, which imply a sustainable use of natural resources.

Promote and implement courses on aspects of the biology, ecology, conservation and management of the park's most important species.

Coordination and coordination component

Target

? Strengthen the capacity and scope of the park's administration, through the participation and collaboration of the public, social and private sectors in the implementation of actions of this planning instrument.

Strategy

Consolidate inter-institutional and intersectoral coordination.

Promote new lines of intersectoral coordination.

Shares

Consolidate the Advisory Council (AC) as a consultative and advisory body.

Train the CA in relevant aspects of the management and operation of the area, as well as in social participation and participatory planning.

Organize periodic meetings of the CA to analyze the problems and opportunities for sustainable development of the Park.

Coordinate actions with the Federal Delegation of SEMARNAT in the state in relation to environmental impact assessments, natural resource use and training programs.

Participate, through the technical opinion of the Park Directorate, in the processes prior to the environmental impact assessment of coastal processes and the granting of concessions in ZOFEMAT.

Collaborate with the competent authority in the processes of evaluation, prospecting and diagnosis of the fishery resources of the NPA, as well as in the design and implementation of fishing technologies compatible with conservation processes.

Implement coordinated maritime supervision, surveillance and signaling actions with the Federal Attorney's Office for Environmental Protection (PROFEPA), the Secretariat of the Navy (SEMAR), the Secretariat of Communications and Transportation (SCT) and judicial authorities.

Establish coordinated actions with the Ministries of the Interior (SEGOB) and Foreign Affairs (SRE) to monitor compliance with federal, state and municipal regulations by foreigners working in the ANP.

Establish coordinated actions with the Secretaría de Desarrollo Social (SEDESOL), Desarrollo Integral de la Familia (DIF) and Secretaría del Trabajo y Previsión Social (STPS) in community social benefit programs.

Develop and implement collaboration agreements with FONATUR to carry out conservation projects in the ANP.

Sign collaboration agreements with the state and municipal governments to strengthen and facilitate the ANP's own work, such as environmental education, community development, surveillance, and contingency prevention.

Work in collaboration with the State Tourism Coordination to ensure that service providers operating in the area comply with applicable regulations, as well as carry out actions to promote ecologically responsible tourism.

Promote and encourage joint work programs in the area of environmental education with the State Delegations of the SEP and the National Council for the Promotion of Education (CONAFE).

Make agreements with the Instituto Nacional Indigenista (INI) and the Instituto Nacional de Antropología e Historia (INAH) to preserve cultural traditions and historic sites in the ANP and its area of influence.

Promote and encourage health programs in collaboration with health sector agencies, based on the needs detected in local riverside communities.

Manage and sign agreements with schools and research centers to conduct research, theses, social service and internships on topics relevant to the conservation, use and sustainable exploitation of natural resources.

Manage the signing of collaboration agreements and conventions to implement programs for the protection, conservation, education, use and sustainable exploitation of natural resources with the different productive sectors and users.

Manage the signing of collaboration agreements and agreements with foundations and non-governmental organizations to support the management of the area.

Promote coordination actions with the different PNAs in the State.

Legal framework component

Target

Identify, specify, disseminate and apply current legal and regulatory instruments aimed at the sustainable use of natural resources and the adequate management and operation of the park.

Strategy

Promote the updating of the legal regulations applicable to the park.

Shares

Conduct a continuous review and update of the legal framework applicable to this PNA.

Detect loopholes, ambiguities and incompatibilities in laws, regulations and decrees, proposing amendments and corrective measures.

Apply the administrative rules of this PNA, in coordination with the corresponding authorities.

Establish coordination links with the state and municipal governments in the areas of application of their respective legal provisions.

Publish the administrative rules of the ANP and disseminate them widely among the different users and communities in the region.

Promote local and regional ecological planning in terrestrial and marine areas, in coordination with state and municipal governments.

Promote the implementation of legal mechanisms to encourage private sector participation in the region's conservation.

Negotiate actions to regularize land tenure in the park's area of influence with the Secretary of Agrarian Reform (SRA), the ejidos, landowners, and the City Council.

Management and administration component

It is aimed at seeking the consolidation of the administration of the Loreto Bay National Park, highlighting the financial, administrative and operational project planning of the area.

Objectives

Elaborate and implement the different programs and projects of the ANP, supervising their continuity.

To have the infrastructure and equipment necessary for the proper functioning of the ANP.

Develop a strategy to obtain financial funds and seek alternative sources of financing for the implementation of operational and administrative activities.

Strategy

Elaborate, execute and assist in the implementation of planning mechanisms for the park's management.

Shares

Design and implement annual operating programs.

Develop and manage an annual political agenda for the NPA with the different levels of government.

Develop planning mechanisms that include long-term conservation and management processes. Develop an administrative structure that empowers the operation of the NPA.

Develop a procedures manual for ANP personnel.

Develop mechanisms for periodic evaluation of the progress and achievements of the ANP's programs and projects.

Identify the need for infrastructure, equipment, materials and supplies of the ANP and develop strategies for their acquisition and maintenance.

Design and manage the construction and maintenance of field stations, guardhouses, and visitor and interpretation centers in the ANP.

Apply management strategies for tourist use areas such as signage and trails, rehabilitation, design and operation of tourist circuits, according to the previous diagnosis.

Develop permanent financing strategies.

Sign agreements with NGOs to channel resources from donations and other sources for the actions and operation of the ANP.

Manage and expedite the direct application of fiscal resources generated in the ANP.

Prepare and submit financing proposals to different national and international organizations.

Encourage the promotion and financing of the park through the development and sale of various articles that allude to the park's characteristics, in coordination with NGOs, private organizations, and educational institutions.

Implement a permanent campaign to obtain donations and detect potential donors.

Manage training courses and workshops for the personnel working in the Park's management in order to improve its operation.

ADMINISTRATIVE RULES**CHAPTER I****GENERAL PROVISIONS**

Rule 1.- The present Administrative Rules are of general observance and obligatory for all those individuals or legal entities that carry out activities within the Natural Protected Area with the character of Loreto Bay National Park, located in front of the coasts of the Municipality of Loreto, in the State of Baja California Sur, in accordance with the established zoning.

The application of the present Administrative Rules corresponds to the Secretariat of Environment and Natural Resources in coordination with the Secretariat of the Navy, without prejudice of the attributions that correspond to other dependencies of the Federal Executive, in accordance with the Decree of creation of the Natural Protected Area with the character of National Park Bahía de Loreto, of the present Management Program and other applicable legal dispositions in the matter.

For the purposes of these Administrative Rules, the following definitions shall apply:

- I. RECREATIONAL ACTIVITIES: Those consisting of the observation of the landscape, flora and fauna in their natural habitat, as well as guided tours and visits, including ecotourism.
- II. COMMERCIAL AQUACULTURE: It is carried out in water bodies under federal jurisdiction with the purpose of obtaining economic benefits.
- III. SPORT DIVING: It is the recreational activity carried out for the purpose of observing underwater life, using or not autonomous equipment for breathing.
- IV. SEMIPERMANENT FISHING CAMPS: Sites used by fishermen periodically to spend the night, clean and preserve fishery products, conditioned for this purpose.
- V. TEMPORARY FISHING CAMPS: Sites used temporarily by fishermen, in which there are no facilities for overnight stays or storage containers for the product of fishing activities.
- VI. TOURIST CAMP: Sites used for recreational purposes by visitors or service providers to spend the night on the islands and beaches surrounding the National Park, using tents and specialized equipment.
- VII. CANOEING OR KAYAKISM: It is the activity carried out in non-motorized boats, with paddle propulsion in observation tours of wild flora and fauna, terrestrial and marine.
- VIII. CAPITANIA: The Port Captaincy of Loreto.
- IX. CONANP: The National Commission of Natural Protected Areas.
- X. ENVIRONMENTAL CONTINGENCY: Risk situation derived from human activities or natural phenomena that may endanger the safety of users and ecosystems.
- XI. DIRECTOR: The person designated by the Secretary of the Environment and Natural Resources, in charge of coordinating the formulation, execution and evaluation of the Management Program of Loreto Bay National Park.
- XII. LARGE VESSELS FOR COMMERCIAL FISHING ACTIVITIES: Vessels for commercial fishing activities
vessels of more than ten gross tons.
- XIII. SMALLER VESSELS FOR COMMERCIAL FISHING ACTIVITIES: Those
vessels up to ten gross tons.
- XIV. MAJOR VESSELS FOR AQUATIC-RECREATIONAL ACTIVITIES: Those of
over 12 meters and up to 25 meters in length.
- XV. MINOR VESSELS FOR AQUATIC-RECREATIVE ACTIVITIES: Those of
less than 12 meters in length.
- XVI. VESSELS IN TRANSIT: Those that navigate within the polygon of the Bahía de Loreto National Park, to transfer or transport products, regardless of their point of origin and destination, and are subject to the provisions of these Administrative Rules and the applicable navigation laws.
- XVII. MOTORIZED VESSELS: Those vessels that use the power of engines for their displacement, such as: yachts, large vessels, small inflatable and rigid vessels, submarines and motorboats, among others.
- XVIII. NON-MOTORIZED VESSELS: Those using wind propulsion, such as sailboats and sailboards; paddle-propelled, such as kayaks and canoes, inflatable and rigid.
- XIX. FMAS: Mexican Federation of Underwater Activities.
- XX. COMMERCIAL PHOTOGRAPHY AND VIDEO: The generation of photographic or videographic material using the natural scenery of Loreto Bay National Park for commercial purposes.
- XXI. PHOTOGRAPHY AND VIDEO FOR CULTURAL PURPOSES: The generation of photographic or videographic material using the natural scenery of Loreto Bay National Park for cultural and educational purposes.
- XXII. RECREATIONAL PHOTOGRAPHY AND VIDEO: The generation of photographic or videographic material using the natural scenery of Loreto Bay National Park, without profit purposes.

and that do not require a permit issued by the Ministry of the Environment and Natural Resources.

- XXIII. FONATUR: National Tourism Development Fund.
- XXIV. GUIDE OR INSTRUCTOR: A natural person who provides visitors to Loreto Bay National Park with professional orientation and information about the natural and cultural attractions of the Park, as well as assistance services.
- XXV. LGEEPA: General Law of Ecological Balance and Environmental Protection.
- XXVI. MANAGEMENT: Set of policies, decisions and strategies aimed at making effective conservation, protection, sustainable development, research and recreation actions within Loreto Bay National Park.
- XXVII. NOM: Official Mexican Standard.
- XXVIII. PADRON DE USUARIOS: Administrative control established by the Secretaría de Medio Ambiente y Recursos Naturales, through the Dirección del Parque Nacional Bahía de Loreto, to identify service providers, fishermen, boats and users in general that carry out their activities within the park, which will be elaborated ex officio by the authority and at no cost to the user.
- XXIX. PARK: The area included within the polygonal zone established by the Presidential Decree published on July 19, 1996 in the **Official Gazette of the Federation**, which declares the area known as Loreto Bay, located off the coast of the Municipality of Loreto, in the State of Baja California Sur, as a National Marine Park. By Agreement, published in the Official Gazette on June 7, 2000, which aims to provide a category in accordance with current legislation to the areas that were the subject of various declarations of protected natural areas issued by the Federal Executive, the National Marine Park Loreto Bay, established by the above-mentioned Decree the area known as Loreto Bay, will have the character of National Park.
- XXX. PERMIT, AUTHORIZATION AND / OR CONCESSION: Document issued by the Ministry of Environment and Natural Resources, through its various administrative units, which authorizes the conduct of exploration activities, exploitation or use of natural resources within the polygon of Loreto Bay National Park, under the terms of the various applicable laws and regulations.
- XXXI. SELF-CONSUMPTION FISHING: Sustainable use of fishery products from the natural environment for non-commercial purposes, in order to satisfy the food needs and other traditional uses by the inhabitants of the region.
- XXXII. COMMERCIAL FISHING: Fishing carried out with the purpose of obtaining economic benefits.
- XXXIII. SPORTS-RECREATIONAL FISHING: Fishing practiced for recreational purposes, with fishing gear and characteristics authorized by the competent authority.
- XXXIV. PESCA DIDACTICA: Fishing carried out by the country's officially recognized fisheries education institutions to carry out their training and teaching programs.
- XXXV. FISHING FOR PROMOTION: The purpose of this activity is the study, scientific research, experimentation, exploration, prospecting, development, repopulation or conservation of the resources constituted by the aquatic flora and fauna and their habitat, the experimentation of equipment and methods for this activity and the collection of live specimens in waters under federal jurisdiction.
- XXXVI. SERVICE PROVIDERS: Individual or legal entity that provides tourism services for commercial purposes, and that has the corresponding permits.
- XXXVII. PREVENTION: The set of provisions and anticipated measures to avoid the deterioration of the environment.
- XXXVIII. PROFEPA: Federal Attorney's Office for Environmental Protection.
- XXXIX. MANAGEMENT PROGRAM: The guiding planning instrument for Loreto Bay National Park.
- XL. RULES: These Administrative Rules.

- XL I.** RECREATIONAL TOWING: Recreational activity based on the towing of artifacts such as bananas and/or tubes, parachutes, water skis or gliders, by means of a mechanically propelled vessel.
- XL II.** SCT: Ministry of Communications and Transportation.
- XL III.** SECTUR: Secretariat of Tourism.
- XL IV.** SEMARNAT: Secretariat of Environment and Natural Resources.
- XL V.** SEMAR: Secretariat of the Navy.
- XL VI.** MOTORIZED NAUTICAL TOURISM: It is the displacement, using boats propelled by internal combustion or electric motors, for recreational purposes.
- XL VII.** NON-MOTORIZED Nautical Tourism: It is the displacement by means of boats that use the force of the wind or the human force, with recreational purposes.
- XL VIII.** INDEPENDENT TOURISTS: Users who enter Loreto Bay National Park for recreational purposes without the assistance of a service provider.
- XL IX.** USER: Any person who enters the Park for recreational, commercial, research, service, navigation, surveillance and support activities.
- L.** ZONIFICATION: System by which the park is delimited into specific geographic zones defined according to natural vocation, current and potential use in accordance with its conservation purposes and which will be subject to differentiated management regimes and permissible activities in each zone, as well as the density, intensity, limitations, conditions, and modalities of use to which these activities are subject.

CHAPTER II

NAVIGATION AND TRANSIT

Rule 4.- All vessels operating or navigating within the Park's boundaries must have current maritime safety registrations and certificates, in accordance with the regulations set forth in the Navigation Law, and must operate in optimal mechanical, safety and cleanliness conditions in order to avoid damage to the ecosystems.

Rule 5.- All vessels with bilges inside the Park must have grease traps or other similar mechanisms to prevent water from these devices from mixing with fuels, fats, oils and grease.

Rule 6.- Vessels with sanitary services must have containers and wastewater treatment systems. It is the responsibility of service providers and boat owners to discharge wastewater at sites designated by the competent authorities.

Rule 7.- Vessels providing tourist services must have the essential elements to ensure the safety of passengers during the conduct of their activities, as well as carry on board the corresponding authorizations of the SCT and its offices.

SEMARNAT, in coordination with the SCT, may limit access to vessels that intend to enter the Park when for reasons of conservation and protection of the Park, and after studies to that effect, it is determined that there is an imminent risk of ecological imbalance of the ecosystems. These studies must be published in the **Official Journal of the Federation**.

CHAPTER III

OF PERMITS, AUTHORIZATIONS, CONCESSIONS AND NOTICES

Rule 9.- Authorization will be required from SEMARNAT through CONANP for the following activities:

- I. Provision of tourism services;
- II. Videotaping and/or photography for commercial purposes, and
- III. Exploration and exploitation of mineral resources.

Rule 10.- Authorization by SEMARNAT shall be required for the following activities, in accordance with the applicable legal and regulatory provisions:

- I. Collection of flora and fauna, as well as other biological resources, for scientific research purposes;

- II. Execution of public or private works, and
- III. Exploration and exploitation of mineral resources with respect to environmental impact.

Rule 11.- A concession from SEMARNAT shall be required for the following activities:

- I. The use, exploitation and exploitation of national waters, and
- II. Use and exploitation of the Federal Maritime Terrestrial Zone.

Rule 12.- In order to protect the park's natural resources and provide the necessary support from the park's management, those responsible for the work must notify park personnel prior to carrying out the following activities in accordance with the zoning:

- I. Environmental education, and
- II. Field practices.

Rule 13.- Permits, authorizations and/or concessions for the performance of the activities indicated below shall be issued by the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food:

- I. Sport-recreational fishing, except when conducted from land;
- II. Commercial fishing;
- III. Fisheries and aquaculture development;
- IV. Educational fishing and aquaculture, and
- V. Commercial fishing and aquaculture.

Rule 14.- In order to obtain the authorizations referred to in Section I of Rule 10, the applicant shall submit an application that complies with the following requirements:

- I. Name or company name of the applicant, address to hear and receive notifications, telephone and fax number, if applicable, copy of an official identification or articles of incorporation of the company and power of attorney for acts of administration;
- II. Type and characteristics of the vehicle(s) to be used for the activity; in the case of vessels, copies of the registration certificates issued by the SCT may be attached;
- III. Program of activities to be carried out, specifying periods, dates, departure and return times, length of stay in the park and location of the area where the activities are to be carried out;
- IV. If applicable, the type of transportation to be used to carry out the activity; the works or activities must have the corresponding environmental impact authorization under the terms of the respective regulations;
- V. Characteristics of the equipment to be used;
- VI. For individuals and/or corporations, traveler's and crew member's insurance policy;
- VII. Number of visitors, which shall not exceed 10 persons per Guide;
- VIII. Specification and management of organic and inorganic wastes generated during the tours, and
- IX. Proof of payment of the corresponding duties, under the terms established in the Federal Law of Duties.

All documents must be submitted in duplicate to the Park Directorate, addressed to the President of CONANP, located at Camino al Ajusco 200, 3rd floor, south wing, Colonia Jardines en la Montaña, Delegación Tlalpan, postal code 014210, Mexico, Distrito Federal.

SEMARNAT will grant or deny the authorization within a period of 30 working days, counted from the date on which the application is filed. Once this date has elapsed without a response from SEMARNAT, it will be understood that the requested authorization has been denied.

Rule 16.- For the granting of authorizations, CONANP shall take into account the quality of the service and compliance with the requirements set forth in Rule 14.

Rule 17.- The extension of authorizations shall be requested 30 calendar days prior to the expiration of the term of the corresponding authorization and shall be subject to:

- I. To the presentation in due time and form of the request for extension and the final report of activities before CONANP 30 calendar days prior to the termination of the validity of the authorization. Failure to present the extension request and the final report of activities during the established period, may be sanctioned with the cancellation or non-extension of the authorization, and
- II. Compliance by the authorized party with the guidelines and conditions established in the corresponding authorization.

Rule 18.- If the interested party submits in due time and form the final report of activities and complies with the obligations specified in the authorization previously granted, such authorization shall be automatically extended.

Rule 19.- For the granting of the authorizations referred to in Section II of Rule 9, the applicant shall submit an application that complies with the following requirements:

- I. Name or company name of the applicant, address to hear and receive notifications, telephone and fax number, if applicable, and copy of an official identification or articles of incorporation of the company or association;
- II. Details of the person responsible for the development of the activities;
- III. Type and characteristics of the vehicle(s) to be used for the activity;
- IV. Program of activities to be carried out, which will include dates, arrival and departure times, length of stay in the park, and location of the area or name of the localities where the activities are to be carried out;
- V. Number of assistants;
- VI. Type of equipment to be used for the activity;
- VII. Letter that justifies the reasons for the type of filming, videotaping and/or photographic shots, and
- VIII. Proof of payment of the corresponding duties, in accordance with the provisions of the Federal Law of Duties.

All documents must be submitted in duplicate to the Park Directorate, addressed to the President of CONANP, located at Camino al Ajusco 200, 3rd floor, south wing, Colonia Jardines en la Montaña, Delegación Tlalpan, postal code 014210, Mexico, Distrito Federal.

The authorizations referred to in the previous Rule must be requested 30 calendar days prior to the start of the activities. SEMARNAT, through CONANP, will grant or deny the authorization within a period of 10 working days, counted from the date on which the request is submitted.

CHAPTER IV

OF SCIENTIFIC RESEARCH AND COLLECTION

Rule 21.- In order to carry out collecting activities for scientific research purposes in the different zones of the Park, researchers must present the corresponding authorities with the current authorization as many times as required.

Rule 22.- In order to guarantee the correct execution of collection and scientific research activities and to safeguard the integrity of the ecosystems and the researchers, the latter must abide by the guidelines and conditions established in the respective authorization, and must also observe the provisions of the Decree creating the Park and other applicable legal dispositions.

Rule 23.- Researchers who, as part of their work, need to extract from the region or the country, part of the cultural and historical heritage of the Park, as well as flora, fauna, fossils, rocks, or minerals, must have the corresponding authorities' permission, in accordance with the applicable legislation.

Rule 24.- Research and manipulative experiments shall be restricted to the places indicated in the corresponding authorization.

Rule 25.- For research, collection and monitoring projects carried out on Carmen Island, researchers must have the consent of the owners or possessors of the land.

Rule 26.- Exploration, rescue, and maintenance activities of archeological sites may be carried out in the Park, as long as they do not cause a significant environmental impact on the natural resources of the Park. All activities carried out on archeological sites must be coordinated by the National Institute of Anthropology and History.

Rule 27.- The establishment of camps for research activities shall be subject to the terms specified for the case of tourist camps referred to in Rules 48, 49 and 50.

CHAPTER V

OF AQUATIC RECREATIONAL ACTIVITIES

Rule 28.- During the practice of diving activities, identification or warning flags shall be carried for general recognition, in accordance with the international signage defined for such purpose.

Rule 29.- Aquatic-recreational activities may only be carried out in the zones established for that purpose in the Management Program.

Rule 30.- Sports and activities that require vehicles such as airplanes, helicopters, gliders, and motorized or non-motorized boats for their practice shall be limited to restricted use zones and zones of sustainable use of natural resources and must be authorized by SEMARNAT.

In the event that there is an imminent risk of ecological imbalance or a significant or relevant environmental impact, SEMARNAT, based on appropriate technical studies, may reduce or suspend activities in the areas so required and for the time it deems necessary to mitigate such risk or impact. Such studies and limitations must be published in the **Official Gazette of the Federation**.

Rule 32.- SEMARNAT shall register in the Register of Users the guides and boat skippers of the companies authorized to provide kayaking services.

Rule 33.- In the kayaking trips, there shall be at least one guide for every six users, in the case of overnight stays on the islands.

Rule 34.- Freediving service providers and users of this activity must abide by the provisions of NOM-05-TUR-1995.

Rule 35.- For the practice of recreational diving, users must have the basic equipment and apparatus established in NOM-05-TUR-1995.

Rule 36.- During the practice of diving for the purpose of observation of marine flora and fauna, it is forbidden to disturb, chase, touch, harm or ride marine mammals, manta rays and sharks, as well as to damage rocky reefs.

Rule 37.- During sport-recreational fishing activities, the reproduction closed areas and seasons established by the competent authority in accordance with the applicable legal and regulatory provisions shall be respected, and shall be subject to the provisions of NOM-017-PESC-1994 and other applicable legal and regulatory provisions.

Rule 38.- The corresponding authorities, service providers and practitioners of sport-recreational fishing shall encourage the practice of catch and release of species.

Rule 39.- The service providers and sport-recreational fishermen must collaborate with the Park Management and the competent authority in the programs established for the conservation and management of the resources, such as research projects, environmental education, fishing management programs, site restoration, as well as inform the Park staff of any infraction committed against these Rules.

CHAPTER VI

OF TOURISM SERVICE PROVIDERS

Rule 40.- Tourism service providers that intend to develop recreational activities within the park must observe the following:

- I. To have the corresponding authorization issued by SEMARNAT, through CONANP;
- II. To inform users that they are entering a Natural Protected Area, as well as the conditions to visit it, as well as to divulge a condensed official version of the Administrative Rules on board of the vessels, being able to support that information with graphic and written material;
- III. Ensure that the personnel and crew responsible for acting as drivers or user guides have attended and accredited the courses given by SEMARNAT on activities in Natural Protected Areas and have a valid credential issued by the Park Director's Office. This credential will be granted to people who demonstrate their knowledge of the area;
- IV. To provide tourist services, they must designate a guide, who must be accredited by SECTUR, and must pass training courses on the characteristics of the park's ecosystems, their importance, and the conservation measures implemented by SEMARNAT through the park's management;
- V. Guides providing services within the park must be registered in the users' registry and comply with NOM-08-TUR-1996 and NOM-09-TUR-1997. This registration will be done automatically by the park's management;
- VI. Carry out their activities in the terms established in the corresponding authorization and in these Rules, being obliged to notify the competent authorities in case of non-compliance with the provisions of these Rules, by their personnel and/or users that contract their services, being responsible for any damage generated to the ecosystems by reason of the activities carried out during their stay in the area;
- VII. In case of damage to the buoyage or signaling system by the crew, driver or users transported, the service provider shall be responsible for its repair or replacement; and
- VIII. Permittees must participate in the meetings called by the Area's Management, where the protected area's problems and alternative solutions will be analyzed, expressing their decision and, if applicable, committing in writing to comply with the agreements and criteria agreed upon in these meetings.

Rule 41.- While conducting tourist activities inside the park, service providers' personnel must visibly carry the identification credential issued by the park's management.

Rule 42.- Tourist service providers must have liability insurance or third party damage insurance to cover any damage or harm suffered by visitors or their property, as well as those suffered by vehicles and equipment, or those caused to third parties during their stay and development of activities in the park.

Rule 43.- Tourist service providers, their crew or drivers, in case of committing any violation or non-compliance with these Rules, as well as any event that endangers the integrity or alters the natural conditions of the park's ecosystems, or the safety of the users, must immediately notify the Park's Management or PROFEPA, who may suspend the service in accordance with the applicable legal dispositions.

CHAPTER VII

OF USERS

Rule 44.- Users must maintain order and tranquility in the sites they visit, avoiding unnecessary noise that may disturb the Park's wildlife.

Rule 45.- The users are obliged to deposit their waste in the containers placed for such purpose, or to take it out of the Park and deposit it in the containers authorized by the municipal authorities, in terms of the applicable legal dispositions.

Rule 46.- Whale watching activities within the Park shall be subject to the provisions of Mexican Official Rule NOM-131-ECOL-1998.

CHAPTER VIII

OF THE TOURIST CAMPS

Rule 47.- Tourist camps will be set up during the periods indicated in the corresponding authorization and exclusively in the areas designated for that purpose in the park's zoning.

Rule 48.- In the camping areas it is forbidden to excavate or level the ground, cut plants, or alter the conditions of the site in any way.

Rule 49.- The camping areas shall be left in optimal conditions of cleanliness after their use.

Rule 50.- Campfires must be lit in established places. It is forbidden to light bonfires with native vegetation.

CHAPTER IX

OF COMMERCIAL EXTRACTIVE ACTIVITIES

Activities involving the use or exploitation of natural resources may be carried out in the zones established for such purpose and shall be subject to the terms and conditions established in the corresponding authorizations.

Fishing activities shall be subject to the provisions of the Fisheries Law, its regulations and other applicable legal provisions.

Rule 53.- Fishing for domestic consumption may only be carried out with nets and manual lines that may be used individually by the fisherman in the areas established in this Management Program, in terms of the provisions of the Fisheries Law, its Regulations and other applicable legal and regulatory provisions.

Rule 54.- Commercial fishing may only be carried out on the species and with the fishing gear authorized in the corresponding permits or concessions, according to the zoning of the Management Program. Likewise, the nets in operation must be indicated in order to avoid risks to navigation.

Rule 55.- The use of encircling nets for jack mackerel shall be carried out in accordance with the technical criteria established by the competent authority in relation to seasons, fishing gear, fishing effort, zones and catch volumes, in terms of the applicable legal provisions.

Rule 56.- The fishermen, in terms of the agreements that are celebrated, must collaborate with the Park Directorate in the programs that the latter establishes for the conservation and management of the resources and their habitats, through the courses or workshops that are given for that purpose; as well as inform the Park personnel of any irregularity that they observe inside the Park.

Rule 57.- For the execution of works or activities of exploration and exploitation of mining resources within the Park, SEMARNAT will evaluate, according to the established zoning, each application submitted, in compliance with the provisions of the LGEEPA, its regulations on natural protected areas and environmental impact assessment, official Mexican standards, and other applicable provisions.

Rule 58.- All mining exploration and exploitation projects must be compatible with the Park's conservation objectives and the criteria established by the applicable official Mexican standards for the sustainable use and development of natural resources.

Rule 59.- Water, emissions and solid wastes derived and/or used in the extraction, transformation and production of minerals shall be treated in accordance with official Mexican standards, and their final disposal shall be carried out in the sites specifically indicated in the environmental impact authorization.

CHAPTER X

OF FISHING CAMP ACTIVITIES

Rule 60.- The Park Directorate, in coordination with the users, will determine the viable sites for the location and establishment of fishing camps.

Rule 61.- The Park Directorate will allow the establishment of fishing camps only to fishermen who comply with the following requirements:

- I. To have a valid commercial fishing permit issued by the competent authority;

- II. To be registered in the register of users, such registration will be done ex officio by the Park Management;
- III. Cooking using gas stoves, and if necessary, lighting campfires only in established places and with firewood or dead wood collected in the intertidal zone, prohibiting the use of any plant products from the area as fuel;
- IV. Do not introduce pets, as well as other animals and plants, to the islands;
- V. Make proper use of dry toilets, containers and garbage incinerators, participating in their maintenance and permanent cleaning;
- VI. Commercial fishing waste should be cut into small pieces and disposed of at sea more than 300 meters from the coast; and
- VII. If there is a need to bring containers to the islands to store the product or other equipment, these must be removed at the end of the activity.

Rule 62.- The person in charge of each camp, designated by the permit holder, shall be in charge of the garbage generated in his space, as well as that resulting from the cleaning of the nets. The generated garbage will be stored in suitable receivers to be transported out of the islands.

CHAPTER XI
OF AQUACULTURE

Rule 63.- Aquaculture activities in the Park zone should be restricted to *in situ* breeding of native species of the Gulf of California, in the places and with the methods authorized by the competent authority.

Rule 64.- People who carry out aquaculture activities within the Park may participate in the programs for repopulating sites with native species promoted by SEMARNAT in coordination with the competent authorities.

Rule 65.- The use of broodstock for aquaculture activities shall be subject to the provisions of the Fisheries Law and its Regulations.

Rule 66.- Aquaculture programs may involve permit holders and fishermen of the local community.

CHAPTER XII
OF THE ZONING

Rule 67.- In order to maintain and improve the conditions of the ecosystems, as well as the continuity of the ecological processes in the Park, the following zoning is established:

- a) PROTECTION ZONE (Zoning Map). Applies to areas of the Park that have suffered no or minimal habitat alteration or with possibilities of recovery and ecological values such as high biodiversity, presence of endemic or charismatic species, significant contribution to other ecosystems due to their high productivity or because they are areas of relevance as a genetic reservoir and propagule contribution (larval stage, fry, juveniles and nesting areas).

Sites
? Wetlands, estuaries and mangroves.
Estero Nopoló.
Estero Las Garzas.
Estero de Bahía Balandra (Carmen Island).
Mangroves of Los Metates (Coronados Island). Punta del Bajo (Coronados Island).
Mangroves of Puerto Escondido.
Ligúí Mangroves.

<p>? Islands and Islets.</p> <p>Santa Catalina Island (except federal maritime-terrestrial zone).</p> <p>La Isleta (Coronados).</p> <p>White Islotes.</p> <p>Scissors.</p> <p>Candeleros.</p> <p>Islote Pardo.</p> <p>Las Islitas.</p>
<p>Las Galeras.</p> <p>La Mestiza.</p> <p>? Tips.</p> <p>Punta Lobos (Coronados Island).</p> <p>Punta Lobos (Carmen Island).</p> <p>Punta Norte (Santa Catalina Island).</p> <p>? Lows.</p> <p>Bajo del Cochi.</p> <p>Bajo del Murciélago.</p>

In this zone, research, monitoring, environmental education, and supervised visits may be carried out. Among the activities permitted and not permitted in this zone, the following stand out:

PROTECTION ZONE	
Permitted activities	Activities not allowed
? Scientific research and monitoring.	? Any type of exploitation that involves the extraction or transfer of specimens or the modification of habitats.
? Eradication of exotic species and repopulation with native species, with SEMARNAT defining the methods used for this purpose.	? Collection, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as minerals and paleoarcheological remains.
? Environmental education.	? Modification of the coastline.
? Ecological restoration of affected areas, SEMARNAT must define the methods to be used for this purpose.	? Transit of vehicles, except for operational tasks of the Park Management or emergencies.
? Video and photography, with prior authorization.	? Landing in bird nesting and breeding areas, and sea lion roosting.

? Supervised educational tourism (low-impact tourism), such as wildlife, terrestrial and aquatic flora and fauna observation, hikes, tours, led by specialized guides, limiting access during the reproductive period of migratory and resident birds, and sea lions.	? Establishment of garbage dumps.
Signaling for management purposes.	? Cleaning of bilges, dumping of liquid or solid wastes harmful to wildlife.
? Inspection and surveillance.	? Dumping of fishing waste.
	? Making bonfires.
	? Introduction of exotic flora and fauna.
	? Transit of jet skis and ATVs.
	? Extraction of construction materials.
	? Construction of infrastructure for installation of: <ul style="list-style-type: none"> - Fishing, tourist and research camps. - Human settlements. - Marinas and artificial structures for tourism or fishing purposes.
	? Carrying firearms, with the exception of those required by the Secretariat of the Navy for the performance of its functions, as well as those necessary for the performance of scientific or restoration activities, with prior authorization.
	? Exploitation of natural resources.
	? Exploitation of the aquifer mantle.
	? Fishing within these sites.
	? Transfer and transportation of flora and fauna species from one community to another.
	? Anchoring and mooring of ships to land.
	? Use of explosives.

b) RESTRICTED USE ZONE (Zoning map). These are those portions of the Park in a good state of conservation, represented by terrestrial and marine ecosystems that maintain stable conditions and where there are populations of wild flora and fauna, terrestrial and aquatic, including species considered under some category of protection.

The zone is made up of 5 areas, which are:

Terrestrial: Includes Coronados, del Carmen, Danzante and Montserrat islands, including the federal maritime-terrestrial zone of all the park's islands, except for the northern part of Montserrat Island included in Marine Zone III; it also includes the federal maritime-terrestrial zone of the peninsular strip included within the park's polygon.

I. Marine: a) Includes the 300 meters offshore measured perimetrically from the coastline around the islands of Carmen, Monserrat and Santa Catalina;

b) 100 meters offshore measured perimetrically from the coastline around Isla Danzante and the islets La Mestiza, Blancos, Las Islitas, Los Candeleros, Las Tijeras and Pardo.

c) On Coronados Island, it comprises a strip of offshore land beginning 300 meters south of Punta Lobos southward to Los Metates, up to the 50-meter isobath, and from Los Metates northward, in a strip of 300 meters offshore to the south of Punta Lobos.

II. Marine: Conformed by the peninsular coastline up to 300 meters offshore, from vertex 1 to 8 of the polygonal zone established in the Decree creating the park, except for the sites considered as protection zones.

III. Marina: It is located north of Montserrat Island, including the northern part of the federal maritime-terrestrial zone, in an area comprising the following vertices:

Vertex 1: 25°42 23.2 N and 111°03 34.2 W (Punta Roja northwest of Montserrat Island);

Vertex 2: 25°46 26.2 N and 111°03 33.7 W (7.5 km north-northwest of vertex 1, following a course of 340°);

Vertex 3: 25°45 53.6 N and 111°00 59.5 W (4.85 km east of vertex 2, following a bearing of 93°);

Vertex 4: 25°41 35.9 N and 111°00 59.30 W (Punta Larga northeast of Montserrat Island 7.79 km south-southeast of vertex 3 following a bearing of 163°).

IV. Marina: Covers the site called Bajo de Punta Baja, which is located south of Isla del Carmen, in an area that includes the following vertices:

Vertex 1: 25°47 58.92 N and 111°12 36 W.

Vertex 2: 25°48 13.68 N and 111°11 45.6 W.

Vertex 3: 25°47 53.88 N and 111°11 24 W.

Vertex 4: 25°47 39.12 N and 111°11 42 W.

The activities compatible with the conservation objectives of this zone are research, monitoring, environmental education, low impact tourism, extractive activities applying rotational use techniques and using low impact fishing gear (examples: hooks, traps, jigging, free diving) and the establishment of shelters or stops for fishermen, in which there are no permanent facilities or infrastructure for overnight stays or containers for storage and/or conservation of the product. All these activities, during their execution, must not cause significant or relevant environmental impacts to the ecosystems.

Activities permitted or not permitted in this zone include:

RESTRICTED USE ZONE: TERRESTRIAL	
Permitted activities	Activities not permitted.
? Scientific research and monitoring, prior authorization.	? Modification of the SEMARNAT coast with th out e authorization line.
? Signage for park operation and management.	? Dredging activities.

<p>? Maintenance of signage for (lighthouses, beacons).</p>	<p>Construction of permanent infrastructure for:</p> <ul style="list-style-type: none"> - Installation of fishing and/or tourist camps. - Tourist activities. - Human settlements.
<p>? Naturalist tourism or low impact tourism, access should be limited during the breeding period of migratory and resident birds:</p> <ul style="list-style-type: none"> - Hiking, on trails marked for this purpose. 	<p>Bilge cleaning.</p>
<p>Environmental education.</p>	<p>Introduction of exotic flora and fauna.</p>
<p>? Restoration of the historical-cultural heritage and affected areas, with INAH and SEMARNAT defining the methods used for this purpose.</p>	<p>? Transit of motor vehicles, except for Park Management operations and those previously authorized.</p>
<p>? Landing prior authorization from SEMARNAT.</p>	<p>Creation of new trails for purposes other than management of the area.</p>
<p>Temporary camps (with permission from CONANP):</p> <ul style="list-style-type: none"> - Tourism. - Fishing. - For activities of scientific research. 	<p>? Pour:</p> <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.
<p>Video and photography.</p>	<p>? Carrying firearms, except for those required by the elements of the Secretariat of the Navy for the performance of their duties, as well as those necessary for the performance of scientific or restoration activities, with prior authorization.</p>
<p>Eradication of exotic species.</p>	<p>Use of explosives without the authorization of the competent authority.</p>
<p>? Construction of infrastructure for the administration, operation and management of the park: Biological Station, as well as that necessary for its maintenance and rehabilitation.</p>	<p>Transfer of flora and fauna species from one island to another, without the corresponding authorization.</p>

	<p>? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.</p> <p>? To carry out mining operations without the required environmental authorization.</p>
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RESTRICTED USE ZONE: I MARINA	
Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
<p>? Mariculture and restocking with native species.</p> <p>? On the west coast of Isla Danzante, the development of aquaculture projects for the promotion, didactic and commercial cultivation of mollusks, such as lion clams, catarina clams and oysters, among others.</p>	<p>? Sport-recreational spearfishing.</p> <p>? Sport-recreational fishing within 250 meters of commercial fishing vessels.</p> <p>? Commercial fishing: -With nets and/or falsework in rocky shallows.</p>
? Maintenance of signage for (lighthouses, beacons).	<ul style="list-style-type: none"> - Employing night diving. - With harpoon.
<p>? Ecotourism (low impact tourism), access should be limited during the breeding period of migratory birds.</p> <ul style="list-style-type: none"> - Recreational diving. - Kayaking. - Veleo. - Snorkeling. <p>Environmental education.</p> <p>? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.</p>	<p>? In Isla Coronados with nets in a strip that begins 300 meters south of Punta Lobos south to Los Metates to the isobath of 50 meters, and from Los Metates to the north, in a strip of 300 meters offshore to the south of Punta Lobos. Except for the capture of sandy bottom species in the months of November and December.</p> <ul style="list-style-type: none"> - In the adjacent area of Isla del Carmen, with nets, from April to August. - In the southern, eastern and northern part of the adjacent area of Montserrat Island, no netting from April 1 to August 30.

<p>? Disembarkation with prior authorization from SEMAR.</p> <p>? Small-scale manual removal of stones for the conditioning of temporary dry docks for small fishing boats.</p> <p>? Self-consumption fishing.</p> <p>? Fishing promotion.</p> <p>? Commercial fishing with low-impact methods and gear, such as jig, line, hook and traps.</p> <ul style="list-style-type: none"> - Commercial diving. - In the adjacent area of Isla del Carmen, from September 1 to March 31, with regulatory nets with light mesh netting of 4 up w a r d s for flake fishing, including jack mackerel. - In Isla del Carmen within the Bajo de Punta Baja area, bait catches for sport-recreational and commercial fishing. - In the western portion of the area adjacent to Montserrat Island with trap nets, traps and traps. 	<p>Alteration of the seabed. ? Cleaningof bilges.? Introduction ofexotic flora and fauna</p> <p>Transit of jet skis.</p> <p>? Pour:</p> <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste. <p>? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.</p> <p>? Use of explosives, without the authorization of the competent authority.</p> <p>? Transfer of flora and fauna species from one place to another, without the corresponding permit.</p> <p>? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without authorizations from SEMARNAT or the competent authority.</p>
<ul style="list-style-type: none"> - In the southern, eastern and northern part of the adjacent area of Montserrat Island, with nets of mesh size 4 up w a r d s from September 1 to March 31, with the exception of jack mackerel, which can be caught all year round. - In the adjacent area of Santa Catalina Island the use of 4 mesh nets up w a r d s from September 1 to March 31, with the exception of jack mackerel which can be caught all year round. 	<p>? To carry out mining operations without the required environmental authorization.</p>
<p>? Sport-recreational fishing.</p> <p>? Non-motorized (kayaks, sailboats, etc.) and motorized (small boats) boating activities.</p> <p>? Video and photography.</p> <p>? Signage for the operation and management of the park.</p>	
RESTRICTED USE ZONE: II MARINA	
Permitted activities	Activities not allowed

Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
Mariculture and restocking with native species.	Sport-recreational spearfishing.
? Maintenance of signage for (lighthouses, beacons).	Commercial fishing: <ul style="list-style-type: none"> - With falsework. - From flake with nets, during the months of April to August of each year. - Employing night diving. - With harpoon. - With larger vessels.
? Naturalist tourism (low impact tourism), access should be limited during the breeding period of migratory and resident birds: <ul style="list-style-type: none"> - Recreational diving. - Kayaking. - Veleo. - Snorkeling. 	? Sport-recreational fishing within 250 meters of commercial fishing vessels.
Environmental education.	Alteration of the seabed.
? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.	Bilge cleaning.
Disembarkation with prior authorization from SEMAR. Error! Marker not defined. Small-scale manual removal of stones for the conditioning of temporary dry docks for small fishing boats.	Introduction of exotic flora and fauna.
Self-consumption fishing.	Transit of jet skis.
Fishing promotion.	? Pour: <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.
Commercial fishing: <ul style="list-style-type: none"> - With low impact methods and gear, such as jigging, hook and line, traps. - With authorized nets, limiting their use exclusively at night, respecting a strip of 50 meters measured from the coastline, during the months of September to March. - Commercial diving. 	? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.

Sport-recreational fishing.	Use of explosives, without the authorization of the corresponding authority.
? Non-motorized (kayaks, sailboats, etc.) and motorized (small boats, cruisers, etc.) sailing activities.	? Transfer of flora and fauna species from one community to another without the corresponding permit.
Video and photography.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Signage for the operation and management of the park.	? To carry out mining operations without the required environmental authorization.

RESTRICTED USE ZONE: III MARINA

Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
Mariculture and restocking with native species.	Sport-recreational spearfishing.
? Maintenance of signage for (lighthouses, beacons).	Commercial fishing: <ul style="list-style-type: none"> - With nets and/or falsework. - Employing night diving. - With harpoon. - With larger vessels.
? Ecotourism (low impact tourism), access should be limited during the breeding period of migratory and resident birds: <ul style="list-style-type: none"> - Recreational diving. - Kayaking. - Veleo. - Snorkeling. 	? Sport-recreational fishing within 250 meters of commercial fishing vessels.
Environmental education.	Alteration of the seabed.
? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.	Bilge cleaning.

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Disembarkation with prior authorization from SEMAR.	Introduction of exotic flora and fauna.
Self-consumption fishing.	Transit of jet skis.
Fishing promotion.	? Pour: <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.
Commercial fishing: <ul style="list-style-type: none"> - With low impact methods and gear, such as jigging, hook and line, traps. - Commercial diving. 	? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.
Sport-recreational fishing.	Use of explosives, without the authorization of the corresponding authority.
? Non-motorized (kayaks, sailboats, etc.) and motorized (small boats, cruisers, etc.) sailing activities.	? Transfer and transportation of flora and fauna species from one place to another, without the corresponding permit.
Video and photography.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Signage for the operation and management of the park.	? To carry out mining operations without the required environmental authorization.

RESTRICTED USE ZONE: IV MARINA

Permitted activities	Activities not allowed
Scientific research and monitoring, prior authorization.	Modification of the coastline without authorization from SEMARNAT.
Biological exploration and prospecting.	Dredging activities.
	Sport-recreational fishing.
? Maintenance of signage for (lighthouses, beacons).	Commercial fishing:
Ecotourism (low impact tourism): <ul style="list-style-type: none"> - Recreational diving. - Kayaking. - Veleo. - Snorkeling. 	
Environmental education.	Alteration of the seabed.

? Ecological restoration of affected areas, with SEMARNAT defining the methods used for this purpose.	Bilge cleaning.
	Introduction of exotic flora and fauna.
	Transit of jet skis.
	? Pour: <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.
Bait capture for commercial and sport-recreational fishing.	? Carrying firearms, except for the provisions of the competent authorities for their personnel and for scientific and restoration purposes.
	Use of explosives, without the authorization of the corresponding authority.
	? Transfer and transportation of flora and fauna species from one place to another, without the corresponding permit.
Video and photography.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Signage for the operation and management of the park.	To carry out mining operations.

c) SUSTAINABLE USE ZONE FOR NATURAL RESOURCES (Map of Zoning): Comprised by the areas of the Park in which for reasons of use and conservation of its ecosystems in the long term, it is necessary that all productive activities are carried out under sustainable use schemes. It is located in those marine portions that maintain the conditions and functions necessary for the conservation of biodiversity and the provision of environmental services. It includes sites with varying degrees of human modification. It is the largest area within the National Park and includes the pelagic and benthic zones, not considered in the protection and restricted use zones.

The activities compatible with the objectives of this zone are scientific research, monitoring, environmental education, tourism, diving, natural resource use and management, as long as these actions generate benefits for the local populations and guarantee their long-term permanence.

ZONE FOR THE SUSTAINABLE USE OF NATURAL RESOURCES	
Permitted activities	Activities not allowed

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Scientific research and monitoring, subject to authorization.	Commercial fishing: <ul style="list-style-type: none"> - Using high-impact trawls to catch shrimp and flake. - With night diving.
	? Sport-recreational fishing within 250 meters of commercial fishing vessels.
Biological exploration and prospecting.	Bilge cleaning. Dredging activities.
Environmental Education.	? Pour: <ul style="list-style-type: none"> - Solid or liquid waste harmful to wildlife. - Fishing waste.
Mariculture and restocking with native species.	Introduction of exotic flora and fauna.
Ecotourism.	Operation of ships: <ul style="list-style-type: none"> - Purse seiners type tuna vessels, sardine, anchovies. - Factory. - Sargaceros. - Calamareros. - Longliners.
Sport diving.	Use of explosives without the permission of the corresponding authority.
Fishing promotion.	? Collection, fishing, capture and/or extraction of wild flora and fauna or their products, aquatic or terrestrial, alive or dead, as well as archeological remains, without the corresponding authorization.
Self-consumption fishing.	? Transfer and transportation of flora and fauna species from one community to another without the corresponding permit.
Sport-recreational fishing.	Net banding.
Commercial fishing with authorized and regulated fishing methods and gear.	

OF THE PROHIBITIONS

Rule 68.- During activities inside the park, it is strictly forbidden:

- I. Dumping, discharging wastewater, oils, grease, fuels, as well as solid or liquid waste or any other type of substance that could endanger the biological or landscape values of the park;
- II. Throwing or abandoning garbage on the beaches, outside of the places designated for that purpose; therefore, if there are no places designated for garbage, they should take it with them outside of the Park;
- III. Carry out dredging activities or any other activity that generates sediment suspension or causes the formation of mud or silt within the park;
- IV. Install platforms or infrastructure of any kind that affects or represents a risk to the preservation of the park's natural resources and functional integrity;
- V. The introduction of live species alien to the existing flora and fauna;
- VI. Extraction of biogenic elements;
- VII. Navigate within the areas designated for swimming, free diving and scuba diving;
- VIII. To carry out fueling activities, cleaning and repairing of vessels, or any other activity that may alter the ecological balance of the area, without strict adherence to the safety measures established in the applicable legal provisions;
- IX. To carry out activities or constructions that modify the coastline outside the zones permitted for such purpose, without having the authorizations issued by SEMARNAT for such purpose;
- X. Collecting, fishing, hunting, retaining or appropriating any animal, plant, by-product derived therefrom, or any other object without the authorization of the corresponding authority;
- XI. The transfer of specimens of wild species from one place to another, without the corresponding authorization;
- XII. Standing on, holding onto, or touching coral rock formations, dragging equipment over rock formations, as well as removing sediments from the seafloor;
- XIII. Disturbing, harassing or approaching marine mammals, sea turtle nests and nesting areas, as well as swimming and diving in the presence of whales and approaching, chasing or harming in any way mothers with calves;
- XIV. Use suntan lotions or sunscreens that are not biodegradable;
- XV. The transit of motor vehicles on beaches, marshes and coastal dunes;
- XVI. Cutting and/or marking trees;
- XVII. Carrying firearms, using darts, harpoons, explosives, drugs and any other equipment or method that harms wildlife, terrestrial and aquatic organisms or carrying out any activity that endangers or alters ecosystems and their elements;
- XVIII. The development of collection projects for scientific purposes, without the authorization of SEMARNAT;
- XIX. Remove, extract or manipulate, destroy or paint paleontological, archeological or shell remains existing on the islands authorized to visit;

- XX.** Fishing with large shrimp trawlers, shrimp trawlers, tuna purse seiners, sardine trawlers, anchovy trawlers, squid trawlers, longliners and shark trawlers;
- XXI.** Commercial fishing with nets and traps in rocky shallows; as well as night diving;
- XXII.** The use of harpoons as commercial fishing gear;
- XXIII.** Sashing in all networks;
- XXIV.** The extraction of construction materials, such as rocks, gravel or sand, without the corresponding authorization; and
- XXV.** The creation of new ponds for salt production and the expansion of existing ponds without the corresponding authorization from SEMARNAT.

CHAPTER XIV

INSPECTION AND SURVEILLANCE

The inspection and surveillance for compliance with the Administrative Rules corresponds to SEMARNAT, through PROFEPA in coordination with SEMAR, without prejudice to the exercise of the powers that correspond to other agencies of the Federal Executive.

Rule 70.- Park personnel must inform PROFEPA, the Port Captaincy, SEMAR and other competent authorities of those facts or acts that may be typified as violations, infractions and/or crimes, in accordance with the applicable laws and their regulations and with this document.

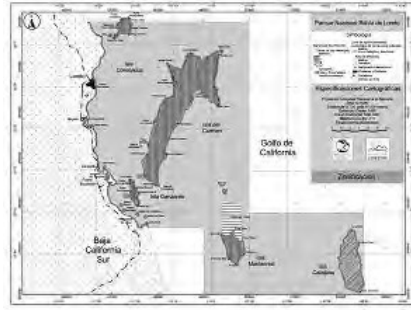
SEMARNAT personnel performing conservation, inspection, and surveillance tasks shall at all times provide an example of civility, respect, good behavior, and courtesy when attending to the public and carrying out their activities, and shall also carry the official identification issued for such purpose.

CHAPTER XV

PENALTIES AND APPEALS

Rule 72.- Violations of this instrument shall be sanctioned in accordance with the provisions of the General Law of Ecological Equilibrium and Environmental Protection, Title Twenty-fifth of the Federal Penal Code and other applicable legal provisions.

Rule 73.- Users who violate the provisions contained in these Administrative Rules, except in emergency situations, may not remain in the park and will be ordered to leave the area by park, PROFEPA, or SEMAR personnel.





NATIONAL WATER LAW

New Law published in the Official Gazette of the Federation on December 1, 1992

CURRENT TEXT

Last amendment published DOF 08-05-2023

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Presidencia de la República.

CARLOS SALINAS DE GORTARI, Constitutional President of the United Mexican States, to its inhabitants be it known:

That the H. Congress of the Union, has been so kind as to address to me the following

DECRETO

"THE CONGRESS OF THE UNITED MEXICAN STATES, D E C R E T A :

NATIONAL WATERS LAW TITLE

ONE

Preliminary Provisions

Sole Chapter

ARTICLE 1. This Law regulates Article 27 of the Political Constitution of the United Mexican States with respect to national waters; it is of general observance throughout the national territory, its provisions are of public order and social interest and its purpose is to regulate the exploitation, use or development of such waters, their distribution and control, as well as the preservation of their quantity and quality in order to achieve their integral sustainable development.

The provisions of this Law are applicable to all national waters, whether surface or subsoil. These provisions are also applicable to the national properties indicated in this Law.

The provisions of this Law are applicable to the waters of Mexican marine zones with respect to the conservation and control of their quality, without detriment to the jurisdiction or concession that may govern them.

Article amended DOF 29-04-2004

ARTICLE 3. For the purposes of this Law, the following definitions shall apply:

- I. "National Waters" are those referred to in the Fifth Paragraph of Article 27 of the Political Constitution of the United Mexican States;
- II. "Aquifer": Any geological formation or group of geological formations hydraulically connected to each other, through which subsoil waters circulate or are stored that can be extracted for exploitation, use or development, and whose lateral and vertical limits are conventionally defined for purposes of evaluation, management and administration of national subsoil waters;



- III. "Clear water" or "Water of first use": Water from different natural sources and artificial storages that have not been subject to any previous use;
- III BIS. "Working Waters": Those from the subsoil that must necessarily be extracted to allow the execution of works and works of mining exploration and exploitation.
Section added DOF 08-05-2023
- IV. "Subsoil waters": Those national waters existing below the earth's surface;
- V. "Marine waters": refers to waters in marine areas;
- VI. "Wastewater": Waters of varied composition from discharges of public urban, domestic, industrial, commercial, service, agricultural, livestock, treatment plants and in general, from any use, as well as the mixture of them;
- VII. "Utilization": Application of water in activities that do not involve water consumption;
- VII Bis. "Pass-Through Use": That carried out in any activity that does not imply consumption of water volumes, and its alterations do not exceed the parameters established by the official Mexican standards;
Section added DOF 24-03-2016
- VIII. "Assignment": Title granted by the Federal Executive, through "the Commission" or the corresponding Basin Organization, in accordance with their respective competencies, to exploit, use or exploit national waters, municipalities, states or the Federal District, for urban or domestic public water services;
- IX. "Inherent Public Assets": Those mentioned in Article 113 of this Law;
- X. "Carrying Capacity": Estimate of the tolerance of an ecosystem to the use of its components, such that it does not exceed its capacity for recovery in the short term without the application of restoration or recovery measures to reestablish ecological balance;
- XI. "Channel of a stream": The natural or artificial channel that has the necessary capacity for the waters of the maximum ordinary flood to flow without overflowing. When streams are subject to overflow, the natural channel is considered as a channel, as long as channeling works are not constructed; at the sources of any stream, it is considered as a properly defined channel when the runoff is concentrated in a topographic depression and forms a gully or channel as a result of the action of water flowing over the land. For purposes of application of the present Law, the magnitude of said gully or incipient channel must be at least 2.0 meters wide by 2.0 meters wide by 2.0 meters wide by 1.0 meters wide. 0.75 meters deep;
- XII. "National Water Commission": Deconcentrated Administrative Body of the Ministry of the Environment and Natural Resources, with Public Law functions in the management of national waters and their inherent public goods, with technical, executive, administrative, budgetary and management autonomy, for the achievement of its purpose, the performance of its functions and the issuance of the acts of authority that according to this Law correspond to it and to the bodies of authority referred to therein;



- XIII.** "Concession": Title granted by the Federal Executive, through "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for the exploitation, use or development of national waters, and their inherent public assets, to individuals or legal entities of a public and private nature, except for assignment titles;
- XIV.** "Particular Discharge Conditions": The set of physical, chemical and biological parameters and their maximum permitted levels in wastewater discharges, determined by "the Commission" or by the corresponding Basin Agency, according to their respective competencies, for each user, for a specific use or group of users of a specific receiving body in order to conserve and control water quality in accordance with this Law and the regulations derived therefrom;
- XV.** "Basin Council": Mixed integration collegiate bodies, which shall be an instance of coordination and agreement, support, consultation and advice, between "the Commission", including the corresponding Basin Organization, and the agencies and entities of the federal, state or municipal authorities, and the representatives of the water users and organizations of the society, of the respective hydrological basin or hydrological region;
- XVI.** "Hydrological basin: It is the unit of the territory, differentiated from other units, normally delimited by a water part or watershed -that polygonal line formed by the points of highest elevation in said unit-, where water occurs in different forms, and this is stored or flows to an exit point that may be the sea or other inland receiving body, through a hydrographic network of channels that converge in a main one, or the territory where waters form an autonomous unit or differentiated from others, even without flowing into the sea. In this space delimited by topographic diversity, water, soil, flora, fauna, other related natural resources and the environment coexist. The hydrological basin, together with the aquifers, constitutes the water resources management unit. The hydrological basin is in turn integrated by sub-basins and the latter are integrated by micro-basins.
- For the purposes of this Law, it is considered as:
- a.** "Hydrological region": Territorial area formed according to its morphological, orographic and hydrological characteristics, in which the hydrological basin is considered as the basic unit for water resources management, whose purpose is the grouping and systematization of information, analysis, diagnoses, programs and actions related to the occurrence of water in quantity and quality, as well as its exploitation, use or development. Normally, a hydrological region is made up of one or more hydrological basins. Therefore, the boundaries of the hydrological region are generally different in relation to the political division by states, Federal District and municipalities. One or several hydrological regions integrate a hydrological-administrative region, and
- b.** "Hydrological-Administrative Region": Territorial area defined according to hydrological criteria, integrated by one or several hydrological regions, in which the hydrological basin is considered as the basic unit for the management of water resources and the municipality represents, as in other legal instruments, the minimum unit of administrative management in the country;
- XVII.** "Receiving body": The natural watercourse or reservoir, dams, watercourses, marine areas or national property where wastewater is discharged, as well as the land where it is discharged.



infiltrate or inject such waters, when they may contaminate soils, subsoil or aquifers;

- XVIII.** "Self-Sufficiency Quota": It is that intended to recover the costs derived from the operation, conservation and maintenance of hydraulic infrastructure works, various facilities and irrigation areas, as well as the costs incurred in investments in infrastructure, mechanisms and equipment, including their improvement, rehabilitation and replacement. Self-sufficiency quotas are not of a fiscal nature and are normally covered by irrigation users or irrigators, in irrigation districts, units and systems, in water boards for agricultural purposes and in other associative forms used to use national waters for agricultural irrigation; self-sufficiency quotas in rainfed districts and units are of a similar nature and characteristics to those of irrigation, in terms of rainfed infrastructure, including its operation, conservation and maintenance and the inherent investments;
- XIX.** "Natural Water Renewal Quota": The annually renewable volume of water in a watershed or groundwater body;
- XX.** "Delimitation of the riverbed and federal zone: Topographic, bathymetric, photogrammetric, hydrological and hydraulic works and studies necessary to determine the limits of the riverbed and the federal zone;
- XXI.** "Sustainable development": In terms of water resources, it is the process that can be evaluated by means of criteria and indicators of a water, economic, social and environmental nature, which tends to improve the quality of life and productivity of people, based on the necessary measures for the preservation of the hydrological balance, the use and protection of water resources, so as not to compromise the satisfaction of the water needs of future generations;
- XXII.** "Discharge": The action of discharging, infiltrating, depositing, or injecting wastewater into a receiving body;
- XXIII.** "Mean annual surface water availability": In a hydrological basin, it is the value resulting from the difference between the mean annual volume of runoff from a basin to downstream and the current mean annual volume committed downstream;
- XXIV.** "Average annual groundwater availability": In a hydrogeological unit - understood as the set of hydraulically connected geological strata whose lateral and vertical limits are conventionally defined for purposes of evaluation, management and administration of national groundwater - is the average annual volume of groundwater that can be extracted from that hydrogeological unit for various uses, in addition to the extraction already granted and the natural discharge committed, without endangering the balance of ecosystems;
- XXV. a.** "Irrigation District": It is established by Presidential Decree, which is made up of one or several previously delimited surfaces and within whose perimeter the irrigation zone is located, which has the hydraulic infrastructure works, surface and subsoil waters, as well as its storage vessels, its federal and protection zone and other related assets and works, and may also be established with one or several irrigation units;
- b.** "Technified Rainfed District": Geographic area normally destined to agricultural activities that does not have irrigation infrastructure, in which through the use of diverse



In addition to the technical and construction works, damage to production due to heavy and prolonged rains - also known as Drainage Districts - or in conditions of scarcity, rainfall and humidity in agricultural land are used more efficiently; the technified rainfed district is made up of rainfed units;

- XXVI.** "Estero": Low, marshy land, usually filled with water by rain or by overflows of a stream, or a nearby lagoon or by the sea;
- XXVII.** "Exploitation": Application of water in activities aimed at extracting chemical or organic elements dissolved in it, after which it is returned to its original source without significant consumption;
- XXVIII.** "Water Management": Process based on the set of principles, policies, acts, resources, instruments, formal and informal norms, goods, resources, rights, powers and responsibilities, through which the State, water users and organizations of society promote and implement in a coordinated manner to achieve sustainable development for the benefit of human beings and their social, economic and environmental environment, (1) the control and management of water and hydrological basins, including aquifers, and therefore their distribution and administration, (2) the regulation of water exploitation, use or development, and (3) the preservation and sustainability of water resources in terms of quantity and quality, considering the risks of extraordinary hydrometeorological phenomena and damage to vital ecosystems and the environment. Water management comprises the governmental administration of water in its entirety;
- XXIX.** "Integrated Water Resources Management: A process that promotes the coordinated management and development of water, land, related resources, and the environment to maximize social and economic welfare equitably without compromising the sustainability of vital ecosystems. Such management is closely linked to sustainable development. For the application of this Law in relation to this concept, water and forest are considered primarily;
- XXX.** "Wetlands": Transition zones between aquatic and terrestrial systems that constitute areas of temporary or permanent flooding, subject or not to the influence of tides, such as swamps, marshes and swamps, whose limits are constituted by the type of hydrophilic vegetation of permanent or seasonal presence; areas where the soil is predominantly hydric; and lacustrine areas or areas of permanently wet soils due to the natural discharge of aquifers;
- XXXI.** "La Comisión": The National Water Commission;
- XXXII.** "La Ley": National Water Law;
- XXXIII.** "La Procuraduría": The Federal Attorney General's Office for Environmental Protection;
- XXXIV.** "The Secretariat": The Secretariat of the Environment and Natural Resources;
- XXXV.** "The Councils": The Councils of Cuenca;
- XXXVI.** "The Organizations": The Basin Organizations;
- XXXVII.** "Stony Materials": Materials such as sand, gravel, stone and/or any other type of material used in construction, which is extracted from a vessel, riverbed or any other property indicated in Article 113 of this Law;



- XXXVIII.** "Official Mexican Standards": Those issued by "the Secretariat", under the terms of the Federal Law on Metrology and Standardization referring to the conservation, safety and quality in the exploitation, use, development and administration of national waters and national assets referred to in Article 113 of this Law;
- XXXIX.** "Basin Agency": A specialized technical, administrative and legal unit, autonomous in nature, directly attached to the Head of "the Commission", whose powers are established in this Law and its regulations, and whose specific resources and budget are determined by "the Commission";
- XL.** "Permits": For the purposes of this Act, there are two meanings of permits:
- a.** "Permits": Are those granted by the Federal Executive through "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for the construction of hydraulic works and others of a diverse nature related to water and national assets referred to in Article 113 of this Law;
Section amended DOF 08-06-2012
 - b.** "Discharge Permits": Title granted by the Federal Executive through "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for the discharge of wastewater to receiving bodies of national property, to individuals or legal entities of a public or private nature;
- XLI.** " Individual or legal entity": Individuals, ejidos, communities, associations, societies and other institutions recognized by law as having legal personality, with the modalities and limitations established therein;
- XLII.** " National Water Program": Guiding document that integrates the water plans of the basins at the national level, in which the availability, use and development of the resource are defined, as well as the strategies, priorities and policies, to achieve the balance of sustainable regional development and advance in the integrated management of water resources;
- XLIII.** " Basin Water Program": Document in which the availability, use and development of the resource are defined, as well as the strategies, priorities and policies to achieve the balance of sustainable regional development in the corresponding basin and to advance in the integrated management of water resources;
- XLIV.** "Public Registry of Water Rights": (REPD) Registry that provides information and legal security to the users of national waters and inherent goods through the registration of concession titles, assignment and discharge permits, as well as the modifications made to their characteristics;
- XLV.** " Rescue": Act issued by the Federal Executive for reasons of public utility or public interest, by means of the corresponding declaration, to extinguish:
- a.** Concessions or assignments for the exploitation, use or development of National Waters, their inherent public goods, or



- b. Concessions to build, equip, operate, conserve, maintain, rehabilitate and expand federal water infrastructure and the provision of the respective services;

XLVI. "Reuse": The exploitation, use or exploitation of wastewater with or without prior treatment;

XLVII. "Bank or Federal Zone": The ten meter wide strips contiguous to the bed of the streams or the vessel of the reservoirs of national property, measured horizontally from the maximum ordinary water level. The width of the bank or federal zone shall be five meters in watercourses with a width not exceeding five meters. The ordinary maximum water level shall be calculated on the basis of the ordinary maximum water level to be determined by "the Commission" or by the corresponding Basin Agency, according to their respective competencies, in accordance with the provisions of the regulations of this Law. In rivers, these strips shall be delimited from one hundred meters upstream, counted from the mouth of the river into the sea. In watercourses with a width not exceeding five meters, the ordinary maximum water level shall be calculated on the basis of the average of the maximum annual discharges produced during ten consecutive years. These strips shall be delimited in rivers from one hundred meters upstream, counted from their mouth at the sea. At the source of any stream, the runoff that concentrates towards a topographic depression and forms a gully or channel, as a result of the action of water flowing over the land, is considered as a properly defined channel. The size of the gully or incipient channel must be at least 2.0 meters wide by 0.75 meters deep;

XLVIII. " River": A natural, perennial or intermittent watercourse, which flows into other watercourses, or into a natural or artificial reservoir, or into the sea;

XLIX. " Environmental Services": The benefits of social interest generated or derived from watersheds and their components, such as climate regulation, conservation of hydrological cycles, erosion control, flood control, aquifer recharge, maintenance of runoff in quality and quantity, soil formation, carbon sequestration, purification of water bodies, as well as conservation and protection of biodiversity; for the application of this concept in this Law, water resources and their link with forest resources are primarily considered;

L. "Drinking Water and Sewage System": Set of works and actions that allow the provision of public drinking water and sewage services, including sanitation, understanding as such the conduction, treatment, removal and discharge of wastewater;

LI. "Irrigation Unit": Agricultural area that has irrigation infrastructure and systems, different from an irrigation district and commonly smaller in area than the former; it may be integrated by associations of users or other organized producers who freely associate among themselves to provide irrigation services with autonomous management systems and operate the hydraulic infrastructure works for the collection, diversion, conduction, regulation, distribution and discharge of national waters intended for agricultural irrigation;

LII. " Use": Application of water to an activity involving the partial or total consumption of this resource;



- LIII. " Agricultural Use":** The application of domestic water for irrigation for agricultural production and the preparation thereof for the first sale, provided that the products have not undergone industrial transformation;
- LIV. " Environmental use" or "Use for ecological conservation":** The minimum flow or volume necessary in receiving bodies, including streams of various kinds or reservoirs, or the minimum natural discharge flow of an aquifer, which must be conserved to protect the environmental conditions and the ecological balance of the system;
- LV. "Consumptive Use":** The volume of water of a given quality that is consumed when carrying out a specific activity, which is determined as the difference of the volume of a given quality that is extracted, minus the volume of a given quality that is also discharged, and which are indicated in the respective title;
- LVI. " Domestic Use":** The application of domestic water for the private use of individuals and households, irrigation of their gardens and ornamental trees, including the watering of domestic animals that does not constitute a lucrative activity, in terms of Article 115 of the Political Constitution of the United Mexican States;
- LVII. " Use in Aquaculture":** The use of national waters in the set of activities directed to the controlled reproduction, pre-fattening and fattening of fauna and flora species carried out in facilities in national waters, by means of breeding or cultivation techniques, which are susceptible of commercial, ornamental or recreational exploitation;
- Section amended DOF 24-03-2016*
- LVII BIS. "Industrial use in mining":** The development, exploitation or use of national waters, including working waters, in the exploration, exploitation or benefit of minerals and substances reserved to the Federation under the terms of the Mining Law, is considered a type of industrial use;
- Section added DOF 08-05-2023*
- LVIII. "Industrial use":** The application of national waters in factories or companies that carry out the extraction, conservation or transformation of raw materials or minerals, the finishing of products or the elaboration of satisfiers, as well as the water used in industrial parks, boilers, devices for cooling, washing, bathrooms and other services within the company, the brines used for the extraction of any type of substances and the water even in a vapor state, which is used for the generation of electric energy or for any other use or transformation exploitation;
- LIX. " Livestock Use":** The application of national waters for the breeding and fattening of livestock, poultry and other animals, and their preparation for the first alienation provided they do not include industrial transformation; it does not include the irrigation of pastures;
- LX. "Urban Public Use":** The application of national water for population centers and human settlements, through the municipal network;
- LXI. " Lake, lagoon or estuary basin":** The natural reservoir of national waters delimited by the level of the maximum ordinary flood;
- LXI BIS. "Hydrothermal geothermal deposit":** That defined in terms of the Geothermal Energy Law;
- Section added DOF 11-08-2014*



- LXII. " Protection Zone":** The strip of land immediately adjacent to dams, hydraulic structures and other hydraulic infrastructure and related facilities, when such works are national property, to the extent established in each case by "the Commission" or the corresponding Basin Agency, in accordance with their respective competencies, for their protection and adequate operation, conservation and surveillance, in accordance with the provisions of the regulations of this Law;
- LXIII. "Regulated zone":** Those specific areas of aquifers, hydrological basins, or hydrological regions, which due to their characteristics of deterioration, hydrological imbalance, risks or damage to water bodies or the environment, fragility of vital ecosystems, overexploitation, as well as for their reorganization and restoration, require specific water management to guarantee hydrological sustainability;
- LXIV. "Reserve zone":** Those specific areas of aquifers, hydrological basins, or hydrological regions, in which limitations are established on the exploitation, use or exploitation of a portion or all of the available waters, in order to provide a public service, implement a restoration, conservation or preservation program or when the State decides to exploit such waters for public utility;
- LXV. " Closed zone":** Those specific areas of hydrological regions, hydrological basins or aquifers, in which water uses additional to those legally established are not authorized and are controlled by specific regulations, due to the deterioration of water quantity or quality, the impact on hydrological sustainability, or damage to surface or subway water bodies, and
- LXVI. "Mexican Marine Zones":** Those classified as such by the Federal Law of the Sea.

For the effects of this Law, the definitions contained in Article 3 of the General Law of Ecological Equilibrium and Environmental Protection that do not contradict those set forth in this Article are applicable. The additional terms that may be used in the regulations of this Law shall be defined in such legal instruments.

Article amended DOF 29-04-2004

TITLE TWO **Water Management**

Chapter I **General Provisions**

ARTICLE 4. The authority and administration in the matter of national waters and their inherent public assets corresponds to the Federal Executive, who shall exercise it directly or through "the Commission".

Any authorization, permit, concession, assignment or extension granted under this law must prioritize human and domestic water consumption.

Paragraph added DOF 08-05-2023

In case there is a risk of water availability for human and domestic consumption, "the Water Authority" will decrease or cancel the volume of water granted.

Paragraph added DOF 08-05-2023

ARTICLE 5. For the compliance and application of this Law, the Federal Executive:



I. It will promote the coordination of actions with the governments of the states and municipalities, without affecting their powers in the matter and within the scope of their corresponding attributions. The coordination of the planning, implementation, and administration of water resource management actions by river basin or hydrological region shall be through the River Basin Councils, in which the three levels of government converge, and in which the users, individuals, and organizations of society participate and assume commitments, in accordance with the provisions contained in this Law and its regulations;

II. Encourage the participation of water users and individuals in the execution and administration of water works and services; and

III. It will promote the decentralization of water resources management in accordance with the legal framework in force.

Article amended DOF 29-04-2004

Chapter II Federal Executive

ARTICLE 6. It is incumbent upon the Federal Executive:

I. To regulate by hydrological basin and aquifer, the control of extraction as well as the exploitation, use or exploitation of national subsoil waters, including those that have been freely illuminated, and surface waters, under the terms of Title Five of this Law; and to issue decrees for the establishment, modification or suppression of regulated zones that require specific management to guarantee hydrological sustainability or when the sustainability of vital ecosystems in specific areas in aquifers, hydrological basins or hydrological regions is compromised;

II. To issue decrees for the establishment, modification or suppression of closed areas of national waters, under the terms of Title Five of this Law;

III. To issue declarations of national surface or subsoil water reserve zones, as well as decrees for their modification or elimination;

IV. To issue, for reasons of public utility or public interest, declarations of rescue, in the matter of concessions for the exploitation, use or exploitation of National Waters, of their inherent public assets, under the terms established in the General Law of National Assets;

V. To issue, for reasons of public utility or public interest, declarations of rescue of concessions granted by "the Commission", to build, equip, operate, conserve, maintain, rehabilitate and expand federal water infrastructure and the rendering of the respective services, upon payment of the indemnification that may correspond;

VI. To issue decrees of expropriation, temporary, total or partial occupation of property, or the limitation of ownership rights, under the terms of this Law, the Expropriation Law and other applicable provisions, except in the case of ejido or communal property, in which case it will proceed under the terms of the Agrarian Law;

VII. Approve the National Water Program, in accordance with the provisions of the Planning Law, and issue policies and guidelines for the sustainable management of hydrological basins and water resources;



VIII. Adopt the necessary measures for compliance with international water agreements and conventions, taking into account the national, regional and public interest;

IX. Appoint the General Director of "the Commission" and the General Director of the Mexican Institute of Water Technology;

X. Establish irrigation or technified rainfed districts, as well as irrigation or drainage units, when it implies expropriation due to public utility, and

XI. The other powers set forth in this Law.

Article amended DOF 29-04-2004

ARTICLE 7. It is declared to be of public utility:

I. The integrated management of surface and subsoil water resources, based on the hydrological basins in the national territory, as a priority and a matter of national security;

II. The protection, improvement, conservation and restoration of hydrological basins, aquifers, riverbeds, watercourses, reservoirs and other water deposits of national property, catchment areas of water supply sources, federal zones, as well as the natural or artificial infiltration of water to replenish aquifers in accordance with the "Normas Oficiales Mexicanas" and the diversion of water from one basin or hydrological region to others;

III. The installation of the necessary devices for the measurement of the quantity and quality of national waters and in general for the measurement of the hydrological cycle;

IV. The reestablishment of the hydrological balance of national, surface or subsoil waters, including extraction limitations in regulated zones, closed areas, reserves and changes in water use for domestic and urban public use; the artificial recharge of aquifers, as well as the disposal of water to the soil and subsoil, in accordance with the regulations in force;

V. Restoring the balance of vital ecosystems linked to water;

VI. The efficiency and modernization of domestic and public urban water services, to contribute to the improvement of health and social welfare, to improve the quality and timeliness of the service provided, as well as to contribute to achieving integrated water resources management;

VII. The improvement of wastewater quality, the prevention and control of wastewater pollution, the recirculation and reuse of wastewater, as well as the construction and operation of water pollution prevention, control and mitigation works, including wastewater treatment plants;

VIII. The establishment, under the terms of this Law, of irrigation districts, irrigation units, technified rainfed districts and drainage units, as well as the acquisition of land and other real estate necessary to integrate irrigation or drainage areas;

IX. Prevention and attention to the effects of extraordinary meteorological phenomena that endanger people, productive areas or facilities;

X. The use of national waters to generate electricity for public services, and



XI. The acquisition or use of real estate required for the construction, operation, maintenance, conservation, rehabilitation, improvement or development of public water works and the respective services, and the acquisition and use of other facilities, real estate and communication routes required for the same.

Article amended DOF 29-04-2004

ARTICLE 7 BIS. It is declared to be in the public interest:

I. The basin together with the aquifers as the basic territorial unit for integrated water resources management;

II. Decentralization and improvement of water resource management at the level of river basins, through governmental Basin Organizations and Basin Councils of mixed composition, with the participation of the three levels of government, water users, and organizations of society in decision-making and the assumption of commitments;

III. Decentralization and improvement of water resources management with the participation of the states, the Federal District and the municipalities;

IV. The permanent improvement of knowledge on the occurrence of water in the hydrological cycle, on its exploitation, use or exploitation and conservation in the national territory, and on the concepts and fundamental parameters to achieve integrated water resources management, as well as the periodic inventories of uses and users, water bodies, hydraulic infrastructure and diverse equipment necessary for integrated water resources management;

V. Priority attention to water problems in localities, aquifers, hydrological basins and hydrological regions with scarcity of the resource;

VI. Prevention, conciliation, arbitration, mitigation and resolution of water conflicts and their management;

VII. The control of the extraction and exploitation, use or development of surface and subsoil water;

VIII. The full incorporation of the environmental variable and the economic and social valuation of national waters in policies, programs, and actions related to water resource management, at the institutional and societal levels;

IX. Improving the efficiency and modernization of irrigated areas, particularly in irrigation districts and units, to contribute to the integrated management of water resources;

Reformed fraction DOF 20-06-2011

X. The organization of users, civil associations and other public and private systems and organizations providing rural and urban water services, as well as their linkage with the three levels of government, to consolidate their participation in the Basin Councils; and

Reformed fraction DOF 20-06-2011

XI. Environmental sustainability and prevention of overexploitation of aquifers.

Section added DOF 20-06-2011 Article added DOF 29-04-2004

Chapter II BIS

Ministry of Environment and Natural Resources

Chapter added DOF 2004-04-29



ARTICLE 8. The Secretary of the Environment and Natural Resources shall have the following powers:

- I. Propose the country's water policy to the Federal Executive;
- II. Propose to the Federal Executive the draft laws, regulations, decrees and agreements related to the sector;
- III. To act as Chairman of the Technical Council of "the Commission";
- IV. To sign the international instruments that, in accordance with the Law, fall within its competence, in coordination with the Ministry of Foreign Affairs, and to implement guidelines and strategies for compliance with international water treaties;
- V. To issue the Mexican Official Standards on water matters under the terms of the Federal Law on Metrology and Standardization, at the proposal of "the Commission"; and
- VI. Those specifically assigned to it in water matters by legal provisions, as well as those delegated to it by the Head of the Federal Executive.

Article amended DOF 29-04-2004

Chapter III National Water Commission

Chapter relocated DOF 2004-04-29

ARTICLE 9. "The Commission" is a decentralized administrative body of "the Secretariat", which is regulated in accordance with the provisions of this Law and its regulations, the Organic Law of the Federal Public Administration and its Internal Regulations.

The purpose of "The Commission" is to exercise the powers that correspond to the authority in water matters and to constitute itself as the Superior Body with technical, normative and consultative character of the Federation, in matters of integrated management of water resources, including the administration, regulation, control and protection of the public water domain.

In the exercise of its attributions, "the Commission" shall be organized in two modalities:

- a. The National Level, and
- b. The Regional Hydrological-Administrative Level, through its Basin Organizations.

The attributions, functions and specific activities in operational, executive, administrative and legal matters, related to the Federal sphere in the area of national waters and their management, shall be carried out through the Basin Organizations, with the exceptions set forth in this Law.

The following are attributions of "the Commission" at its National Level:

- I. To act as the Authority in matters of quantity and quality of water and its management in the national territory and consequently exercise those attributions that according to the present Law correspond to the authority in water matters, within the scope of federal competence, in accordance with the decentralization of the water sector, except for those that must be exercised directly by the Federal Executive or "the Secretariat" and those that are under the responsibility of the Governments of the states, the Federal District or municipalities;



- II.** To formulate the national water policy and propose it to the Head of the Federal Executive Power, through "the Secretariat", as well as to follow up and periodically evaluate compliance with such policy;
- III.** To integrate, formulate and propose to the Head of the Federal Executive Branch, the National Water Program, update it and monitor its compliance;
- IV.** To develop special interregional and interbasin programs on national waters;
- V.** To propose the criteria and guidelines that will make it possible to give unity and consistency to the actions of the Federal Government in the area of national waters and their inherent public goods, and to ensure and oversee consistency between the respective programs and the allocation of resources for their execution;
- VI.** To issue general provisions on national waters and their inherent public goods;
- VII.** To attend to strategic and national security issues and projects related to water;
- VIII.** To formulate and apply technical and administrative guidelines to prioritize investments in federal public works for water infrastructure and to contribute when requested by states, the Federal District and municipalities, with guidelines for the prioritization of their investments in this area;
- IX.** To program, study, construct, operate, conserve and maintain federal water works directly or through contracts or concessions with third parties, and to carry out actions corresponding to the federal sphere for the integral use of water, its regulation and control and the preservation of its quantity and quality, in cases that correspond to or affect two or more hydrological-administrative regions, or that have repercussions on international treaties and agreements in transboundary basins, or when so provided by the Federal Executive, as well as in other cases established by this Law or its regulations, which are reserved for direct action by "the Commission" at the national level;
- X.** Support, grant concessions, contract, agree and regulate water infrastructure works to be carried out with total or partial federal resources or with its endorsement or guarantee, in coordination with other federal agencies and entities, with the government of the Federal District, with the governments of the corresponding states and, through them, with the governments of the municipalities benefiting from such works, in the cases established in the preceding section;
- XI.** To operate, conserve and maintain rural and urban hydraulic works and services when the Head of the Federal Executive so orders in cases of national security or of a strategic nature in accordance with the laws on the subject;
- XII.** Participate in the arrangement of loans and other financial mechanisms, including the participation of third parties in the financing of works and services that support the construction and development of federal water works and services; it may also promote and support credit arrangements and other financial mechanisms in favor of states, the Federal District and municipalities in accordance with its powers and at the request of a party;
- XIII.** To promote and support urban and rural public drinking water, sewerage, sanitation, recirculation and reuse services in the national territory, for which purpose it will coordinate as appropriate with the governments of the states and, through them, with the municipalities. This will not affect the provisions, faculties and responsibilities of the municipalities and states in the coordination and rendering of the aforementioned services;



XIV. To promote and support the development of drinking water and sewerage systems; water sanitation, treatment and reuse systems; irrigation or drainage systems; and flood control and flood protection systems in the cases provided for in Section IX of this Article; to contract, grant concessions or decentralize the rendering of services within its jurisdiction or that it so agrees with the State Governments and, through the latter, with the Municipal Governments, or with third parties;

XV. Propose to the Head of the Federal Executive Branch the establishment of Irrigation Districts and, if necessary, the expropriation of the corresponding real estate;

XVI. To regulate irrigation services in irrigation districts and units in the national territory, and to integrate, with the assistance of its Basin Organizations, the infrastructure census, the volumes delivered and used, as well as the user lists, the state of the infrastructure and services. This will not affect the processes of decentralization and deconcentration of powers and activities at the federal level, nor the provisions, powers and responsibilities of the states and municipalities, as well as of associations, societies and other irrigation user organizations, in the coordination and provision of the services referred to;

XVII. To administer and guard the national waters and national assets referred to in Article 113 of this Law, and to preserve and control the quality of the same, at the national level;

XVIII. To establish national priorities concerning the administration and management of national waters and the inherent national assets referred to in this Law;

XIX. To accredit, promote, and support the organization and participation of users at the national level, and to support the state governments, as appropriate, to do the same at the state and municipal levels, to improve water management, and to encourage their broad, informed participation with the capacity to make decisions and assume commitments, under the terms of the Law;

XX. To issue concession, assignment or discharge permit titles referred to in this Law and its regulations, to recognize rights and to keep the Public Registry of Water Rights;

XXI. Conciliate and, if necessary, act at the request of the users, as arbitrator in the prevention, mitigation and solution of conflicts related to water and its management, under the terms of the regulations of this Law;

XXII. To analyze and resolve, with the assistance of the corresponding parties, the problems and conflicts arising from the exploitation, use, development or conservation of national waters between uses and users, in the cases established in Section IX of this Article;

XXIII. Enter into agreements with foreign entities or institutions and related organizations for technical assistance and cooperation, exchange of information related to the fulfillment of its objectives and functions, and exchange and training of specialized human resources, under the principles of reciprocity and common benefits, within the framework of the agreements signed by the Ministry of Foreign Affairs and "the Secretariat", as the case may be, with other countries for the purpose of promoting technical, scientific and administrative cooperation in the area of water resources and their integrated management;

XXIV. To agree with the interested parties, at the national level, on the corresponding measures, in accordance with this Law and its regulations, as well as other applicable provisions, when the adoption of necessary actions could affect the rights of concessionaires and assignees of national waters;



XXV. To enter into coordination agreements with the Federation, the Federal District, states, and through them, with the municipalities and their respective public administrations, as well as agreements with the social and private sectors, and to favor, within the scope of its competence, in a systematic manner and with specific measures, the decentralization of water resources management under the terms of the Law;

XXVI. Promote at the national level the efficient use of water and its conservation in all phases of the hydrological cycle, and encourage the development of a water culture that considers this element as a vital, scarce resource of high economic, social and environmental value, and that contributes to achieving integrated management of water resources;

XXVII. Periodically carry out studies at the national level on the economic and financial valuation of water by source of supply, locality and type of use, in accordance with the provisions issued by the Authority on the matter;

XXVIII. To study, with the assistance of the Basin Councils and Basin Organizations, the recommended amounts for the collection of water rights and basin tariffs, including charges for the extraction of national waters, wastewater discharge, and environmental services related to water and its management, in order to submit them to the consideration of the corresponding Authorities under the terms of the Law;

XXIX. To exercise the tax powers in matters of administration, determination, liquidation, collection, collection and control of the contributions and benefits assigned to it or in the cases indicated by the respective laws, in accordance with the provisions of the Federal Fiscal Code;

XXX. Promote and foster scientific research and technological development, human resources training, as well as disseminate knowledge on water resources management, with the purpose of strengthening its actions and improving the quality of its services, for which it will coordinate as appropriate with the Mexican Institute of Water Technology;

XXXI. Propose to the "Secretariat" the Mexican Official Standards on water matters;

XXXII. To issue provisions on the issuance of concession, assignment or discharge permits, as well as permits of various kinds referred to in this Law;

XXXIII. To issue the regulations to which the Basin Organizations must adhere in the exercise of their functions, consistent with the provisions contained in this Law, including the administration of the resources allocated to them, and to verify compliance therewith;

XXXIV. To issue provisions on the structuring and operation of the Public Registry of Water Rights at the national level, to support it financially and coordinate it; in particular, "the Commission" shall take the necessary steps in accordance with the Law to operate said Registry and its functions regionally, through the Basin Organizations;

XXXV. To carry out all kinds of legal acts that may be necessary to comply with its attributions, as well as those necessary for the administration of the resources and assets in its charge;

XXXVI. To oversee compliance with and application of this Law, interpret it for administrative purposes, apply sanctions and exercise acts of authority in the matter that are not reserved to the Federal Executive;

XXXVII. To act with technical, administrative, budgetary and executive autonomy in the management of the resources allocated to it and of the assets it has under the terms of this Law, as well as with



management autonomy for the full fulfillment of its purpose and the objectives and goals set forth in its programs and budget;

XXXVIII. Issue in each case, with respect to the national property referred to in this Law, the corresponding declaration, which will be published in the **Official Gazette of the Federation**;

XXXIX. To issue the declarations of classification of the national water bodies referred to in this Law;

XL. To participate in the national civil protection system and support the application of federal plans and programs to prevent and attend emergency situations caused by extreme hydrometeorological phenomena;

XLI. To define the technical guidelines on the management of national waters, basins, works and services, to be considered in the preparation of programs, regulations and decrees of closures and reserves;

XLII. To propose to the Head of the Federal Executive Branch the issuance of Decrees for the establishment, modification or extinction of Closed Zones and Regulated Zones for the Extraction and Distribution of National Waters and for their exploitation, use or exploitation, as well as Declarations of National Water Reserves and disaster zones;

XLIII. To make the declarations of classification of high risk zones due to flooding and to prepare the corresponding risk atlases;

XLIV. To coordinate the national meteorological service and to exercise the functions in such matter;

XLV. To keep updated and periodically make public the inventory of national waters, and of their inherent public assets and of the federal hydraulic infrastructure; to classify waters according to uses, and to prepare balances in quantity and quality of water by hydrological regions and hydrological basins;

XLVI. To permanently improve and disseminate at the national level knowledge on the occurrence of water in the hydrological cycle, water supply and demand, inventories of water, soil, uses and users, and relevant information related to water and its management, with the support deemed necessary by other federal agencies, state and municipal governments, as well as water users, organizations of society and individuals;

XLVII. To integrate the National Information System on water quantity, quality, uses, and conservation, with the participation of the Basin Organizations, in coordination with the governments of the states and of the Federal District and with the Basin Councils, and in accordance with the Federal Law on Transparency and Access to Public Governmental Information;

XLVIII. Resolve in an expeditious manner the requests for extension of concession, assignment, discharge and construction permits submitted within the terms established in this Law.

Reformed fraction DOF 08-06-2012

XLIX. To file the corresponding complaints before the competent authorities when, as a result of the exercise of its attributions, it becomes aware of acts or omissions that constitute violations to the administrative legislation on water matters or to the criminal laws;

L. In situations of emergency, extreme scarcity or overexploitation, take the necessary measures, normally of a transitory nature, which will cease to be applied when "the



The "Commission" so determines, to guarantee the supply of domestic and urban public use, through the issuance of general agreements; when these actions could affect the rights of concessionaires and assignees of national waters, to agree with the interested parties on the corresponding measures, in accordance with this Law and its regulations;

LI. Grant the technical support requested by the "Procuraduría" in the exercise of its powers in the matter of reparation of damage to water resources and their environment, to vital ecosystems and to the environment;

LII. To regulate the transfer of rights;

LIII. Acquire the property necessary for its own purposes, and

LIV. To carry out any other duties indicated in the legal or regulatory provisions.

Article amended DOF 29-04-2004

ARTICLE 9 BIS. The financial and other resources in charge of "the Commission" and the provisions for their management and accountability will be determined in the Internal Regulations of "the Secretariat", which will respect the annual budgets determined for it in the legal instruments issued for such purpose by the Honorable Congress of the Union, and will act in accordance with the provisions established by the Authority on the matter.

Article added DOF 2004-04-29

ARTICLE 9 BIS 1. For the handling of matters within its competence, "the Commission" shall have at the national level:

a. A Technical Board, and

b. A General Manager.

Article added DOF 2004-04-29

ARTICLE 10. The Technical Council of "the Commission" shall be composed of the heads of the Ministries of the Environment and Natural Resources, who shall preside over it; Finance and Public Credit; Welfare; Energy; Economy; Health; and Agriculture and Rural Development; as well as the Mexican Institute of Water Technology and the National Forestry Commission. For each proprietary representative, the necessary substitutes will be designated at the level of Undersecretary or equivalent. At the proposal of the Technical Council, the Head of the Federal Executive will appoint as members of the Council, observing the principle of gender parity, two representatives of the governments of the states and one representative of a prestigious Citizen Organization with experience related to the functions of "the Commission".

Amended paragraph DOF 11-05-2022

The Technical Council may, when it deems it convenient, invite to its meetings the heads of the other agencies and entities of the Federal Public Administration and other representatives of the states, municipalities, users and organized society, who may participate with voice, but without vote. The head of the General Directorate of "the Commission" will participate in the meetings of the Technical Council with voice, but without vote.

Amended paragraph DOF 11-05-2022

The periodicity and manner of convening the meetings of the Technical Council shall be in accordance with the provisions of the Internal Regulations of "the Commission".

Article amended DOF 29-04-2004

ARTICLE 11. The Technical Council shall have the following non-delegable powers:



- I. Approve and evaluate the programs and projects in charge of "the Commission";
- II. Approve, in accordance with this Law and its regulations, the budget and operations of "the Commission", supervise its execution, as well as hear and approve the reports submitted by the Director General;
- III. Appoint and remove, at the proposal of the Director General of "the Commission", the Directors General of the Basin Organizations, as well as the public servants of "the Commission" at the central and regional hydrological-administrative levels, who occupy positions with the two administrative hierarchies lower than that of the former;
- IV. Agree on matters submitted for its consideration regarding the administration of water and the assets and resources of "the Commission";
- V. To know and agree on the policies and measures that allow programming on water administration and coordinated action among the Federal Public Administration agencies and others that must intervene in water matters;
- VI. Approve the terms under which credits and other financing mechanisms required by "the Commission" may be negotiated and arranged;
- VII. Agree on the creation of Basin Councils, as well as modifications to existing ones;
- VIII. In the event of a breach in the execution and compliance of the programs and projects referred to in Section I and of the agreed matters referred to in Section IV, to report the facts to the Internal Comptroller's Office of "the Commission";
- IX. Approve the Integration, Organizational Structure and Operation Manual of "the Commission" at the proposal of its General Director, as well as any modifications, as the case may be, and
- X. Such others as are set forth in this Law or its regulations and those necessary for the fulfillment of its purpose.

Article amended DOF 29-04-2004

ARTICLE 11 BIS. As an internal control body, "the Commission" shall have an Internal Comptroller's Office, headed by an Internal Comptroller, appointed under the terms of the Law; in the exercise of its duties it shall be assisted by the heads of the audit, complaints and responsibilities areas, appointed under the same terms.

The public servants referred to in the preceding paragraph shall exercise, within the scope of their respective competencies, the powers set forth in the Organic Law of the Federal Public Administration, the Federal Law of Administrative Responsibilities of Public Servants, and other applicable laws, as provided in the Internal Regulations of the Ministry of Public Administration.

The absences of the Internal Comptroller, as well as those of the heads of the audit, complaints and responsibilities areas, shall be substituted as provided for in the Internal Regulations of the Civil Service Secretariat.

Article added DOF 2004-04-29



ARTICLE 11 BIS 1. "The Commission" shall be considered to be of proven solvency and therefore shall not be obliged to constitute a deposit or legal bonds, not even in the case of amparo proceedings. The assets of "the Commission", for the purpose of the direct rendering of its services, shall be unseizable.

Article added DOF 2004-04-29

ARTICLE 12. The General Director of "the Commission" shall have the following powers:

- I. To direct and legally represent "the Commission";
- II. To assign the administrative units of the same and issue their manuals;
- III. To process the exercise of the approved budget before the competent agencies;
- IV. To grant general and special powers of attorney in terms of the applicable legal provisions and to delegate powers within the scope of its competence;
- V. Submit the reports requested by the Technical Council and "the Secretariat";
- VI. To request the approval of the Technical Council on the movements that imply modifying the organizational and occupational structure and operational staffing, in terms of the Law;
- VII. Propose to the Technical Council the incentives and licenses that may be granted to the personnel of "the Commission" in terms of the Law;
- VIII. To issue acts of authority in the matter within its sphere of competence;
- IX. To issue concession titles, assignment, discharge permits, in addition to the permits established in Section IX of Article 9 of this Law;
- X. To support and verify compliance with the autonomous nature of the Basin Organizations, under the terms set forth in this Law and its regulations, in accordance with the processes of decentralization of water resources management;
- XI. Those indicated in Article 9 of this Law for the express attention of "the Commission" and not included in Articles 11 and 12 BIS 6 thereof, and
- XII. Any other powers conferred to "the Commission" in this Law and its regulations.

Reformed fraction DOF 08-06-2012

Article amended DOF 29-04-2004

Chapter III BIS Basin Organizations

Chapter added DOF 2004-04-29

ARTICLE 12 BIS. Within the scope of hydrological basins, hydrological regions and hydrological-administrative regions, the exercise of the Authority in the matter and the integrated management of water resources, including the administration of national waters and their inherent public goods, "the Commission" shall carry them out through Basin Organizations of a governmental nature and shall rely on Basin Councils of mixed integration under the terms of the Law, except in the cases provided for in Section IX of Article 9 of this Law.

The regulations of this Law shall provide mechanisms to ensure the consistency of the management of the Basin Organizations with the national water policy and the National Water Program.



Article added DOF 2004-04-29

ARTICLE 12 BIS 1. The Basin Organizations, in the hydrological-administrative regions, are specialized technical, administrative and legal units, with autonomous character conferred by this Law, directly attached to the Head of "the Commission", whose attributions, nature and territorial scope of competence are established in this Law and detailed in its regulations, and whose specific resources and budget are determined by "the Commission".

Based on the provisions of this Law, "the Commission" shall organize its activities and adapt its integration, organization and operation to the establishment of the referred Basin Organizations, which shall have the profile of specialized regional units to fulfill their functions. Said Basin Organizations shall operate harmoniously with the Basin Councils in the achievement of integrated management of water resources in the hydrological basins and hydrological regions.

The Basin Organizations, due to their specialized nature and the specific powers granted to them by this Law, shall act with executive, technical and administrative autonomy in the exercise of their functions and in the management of the assets and resources allocated to them and shall exercise within the hydrological basin or in the grouping of several hydrological basins determined by "the Commission" as within its jurisdiction, the powers established in this Law, its Regulations and the Internal Regulations of "the Commission", without detriment to the direct action by "the Commission" when it is within its competence, pursuant to the provisions of Section IX of Article 9 of this Law and those of the Head of the Federal Executive Branch.

Article added DOF 2004-04-29

ARTICLE 12 BIS 2. Each Basin Organization shall be headed by a General Director appointed by the Technical Council of the Commission upon proposal of the Director General of the Commission.

The General Director of the Basin Organization, who shall be directly subordinate to the General Director of the Commission, shall have the following powers:

- I. To direct and legally represent the Basin Organization;
- II. To delegate powers within the scope of its competence;
- III. Submit reports requested by the Director General of "the Commission" and the Advisory Council of the Basin Organization;
- IV. To issue acts of authority in the matter within its sphere of competence;
- V. To issue concession, assignment and discharge permits;
- VI. Those indicated in Article 12 BIS 6 of this Law and not included in Article 12 BIS 3 of the same; and
- VII. Any others conferred to the Basin Agency by this Law and its regulations.

Reformed fraction DOF 08-06-2012

Each Basin Organization will have an Advisory Council, which will be made up of representatives appointed by the Heads of the Ministries of Finance and Public Credit, Social Development, Energy, Economy, Environment and Natural Resources, Health, Agriculture, Livestock, Rural Development, Fisheries and Food, and the National Forestry Commission, as well as "the Commission", who will chair it. Likewise, the Technical Council will have a representative of the following



designated by the Head of the State Executive Branch for each of the states included in the territorial jurisdiction of the Basin Organization, as well as the Federal District when appropriate. For each state included in the aforementioned territorial scope, the Advisory Council shall have a representative of the corresponding Municipal Presidencies, for which each state shall be in charge of determining the required representative. The representatives referred to in this paragraph shall participate with voice and vote.

The necessary alternates shall be appointed for each proprietary representative, with sufficient capacity to make decisions and assume commitments. The General Director of the Basin Organization shall act as Technical Secretary of the aforementioned Council, which shall be organized and operate in accordance with the rules issued for such purpose.

In addition, the Advisory Council shall have a representative appointed from among the representatives of the users before the Basin Council or Basin Councils existing in the corresponding hydrological-administrative region. The users' representative will participate with voice, but without vote, and will have an alternate.

The Consultative Council of the Basin Organization, when it deems it convenient, may invite to its meetings other agencies and entities of the Federal and State Public Administrations and representatives of the municipalities, users and organized society, who may participate with voice, but without vote.

Article added DOF 2004-04-29

ARTICLE 12 BIS 3. The Advisory Council of each Basin Organization shall have the following powers:

I. To know and agree on the regional water policy by hydrological basin, in congruence with the national water policy, as well as the measures that allow water programming and coordinated action among the agencies, entities and organizations of the federal and state public administrations, and through these, the municipalities, that must intervene in the management of water resources;

II. To hear matters on water administration and on the assets and resources under the charge of the corresponding Basin Organization;

III. To be familiar with the programs of the Basin Organization, their budget and execution and to validate the reports submitted by the Director General of the Basin Organization;

IV. Propose the terms for managing and agreeing on the necessary resources, including those of a financial nature, for the implementation of water programs and actions to be carried out within the territorial jurisdiction of the Basin Organization, for which purpose it shall coordinate with "the Commission" and comply with the applicable provisions issued by the relevant authority and the corresponding laws and regulations; and

V. Any others indicated in this Law or in its regulations and those that the Advisory Council itself deems necessary for the fulfillment of its powers.

Article added DOF 2004-04-29

ARTICLE 12 BIS 4. The integration, structure, organization, operation and scope of competence of the Basin Organizations shall be established in the Regulations of this Law and, if applicable, in the Internal Regulations of "the Commission", taking into account the geographic location of the country's hydrological basins, as well as the provisions through which mechanisms are established to guarantee the consistency of their management with the national water policy. The units attached to the



Basin Organizations shall not be subordinated to the units attached to "the Commission" at the national level, in accordance with the provisions of Article 12 BIS 1.

The provisions issued to regulate the integration, structure, organization, and operation of basin organizations, in addition to those provided for in this Chapter, while respecting the capacities and autonomy of the levels of government, shall be aimed at having representatives from the states, the Federal District, as the case may be, and municipalities within the territorial scope of the basin organization participate in its Advisory Council for decision-making consensus, as well as for coordination and consensus-building; These provisions shall also be aimed at expanding the facilities for the participation and assumption of commitments by the users of the national waters of the river basin or basins in question, as well as by organized and representative groups of society.

Article added DOF 2004-04-29

ARTICLE 12 BIS 5. The resources to be charged to the Basin Organizations and the provisions for their management and accountability shall be determined by "the Commission", which shall act in accordance with the provisions established by the Authority on the matter.

Article added DOF 2004-04-29

ARTICLE 12 BIS 6. The Basin Organizations, in accordance with the guidelines issued by "the Commission", shall exercise the following powers within their territorial jurisdiction:

I. To exercise the powers that, in accordance with this Law, correspond to the water authority and to carry out the administration and custody of national waters and their inherent public assets;

II. To formulate and propose to "the Commission" the regional water policy;

III. Formulate and propose to "the Commission" the Water Program(s) by hydrological basin or aquifer, update them and monitor their compliance;

IV. To program, study, construct, operate, conserve and maintain federal water works directly or through contracts or concessions with third parties, and to carry out actions corresponding to the federal sphere for the integral use of water, its regulation and control and the preservation of its quantity and quality;

V. Support, grant concessions, contract, agree and regulate water infrastructure works, which are carried out with total or partial federal resources or with its endorsement or guarantee, in coordination with other federal agencies and entities and, through the state governments, with the governments of the municipalities benefiting from such works; for the foregoing it will observe the provisions issued by the Authority in the matter and those corresponding to the respective Laws and regulations;

VI. To operate, conserve and maintain hydraulic works and services when declared of national security or of a strategic nature, when so ordered by "the Commission";

VII. To promote and support urban and rural public drinking water, sewerage, sanitation, recirculation and reuse services, for which purpose it will coordinate as appropriate with the state governments and, through them, with the municipalities. This will not affect the provisions, faculties and responsibilities of the states and municipalities in the coordination and rendering of the aforementioned services;

VIII. Encourage and support the development of drinking water and sewerage systems; water sanitation, treatment and reuse systems; irrigation or drainage systems; and flood control and flood control systems.



flood protection. Where appropriate, to contract or grant concessions for the provision of services that fall within its competence or that it so agrees with state governments or third parties;

IX. Propose to the General Director of "the Commission" the establishment of Irrigation and Temporary Technified Irrigation Districts and, as the case may be, the expropriation of the corresponding real estate;

X. To regulate irrigation services in irrigation districts and units in accordance with the provisions established by "the Commission" for this purpose and to keep updated the infrastructure census, the volumes delivered and used, as well as the user lists, the status of the infrastructure and services. This shall not affect the provisions, powers and responsibilities of the State and municipalities, as well as associations, societies and other irrigation user organizations, in the coordination and provision of the aforementioned services;

XI. To preserve and control the quality of water, as well as to manage the hydrological basins and hydrological regions that correspond to it, under the terms of this Law and its regulations;

XII. To accredit, promote and support the organization of users to improve the exploitation, use or development of water and the conservation and control of its quality, and to encourage their participation at the state, regional, hydrological basin or aquifer level under the terms of the Law;

XIII. To issue concession titles, allocation or discharge and construction permits, recognize rights and operate the Public Registry of Water Rights in its geographical area of action;

Reformed fraction DOF 08-06-2012

XIV. To conciliate and, as the case may be, to act at the request of the users, the Basin Councils, or the states, as arbitrator in the prevention, mitigation, and solution of conflicts related to water and its management, under the terms of the regulations of this Law;

XV. Promote, in coordination with river basin councils, state governments, citizen or nongovernmental organizations, users' associations, and individuals, the efficient use of water and its conservation in all phases of the hydrological cycle, and promote a water culture that considers water as a vital, scarce resource of high economic, social, and environmental value and that contributes to achieving integrated water resource management;

XVI. To act, if so provided by "the Commission", as the specialized financial authority for the water sector in its territorial area of competence, in accordance with the provisions issued by the relevant authority and the corresponding laws and regulations;

XVII. To implement and operate the Water Financial System in the corresponding basin or basins in accordance with the provisions issued by the Authority on the matter and the corresponding laws and regulations;

XVIII. Periodically carry out studies on the economic and financial valuation of water by source of supply, locality and type of use, to support the design of basin tariffs and water rights, including water extraction, wastewater discharge and environmental services, as well as to disseminate such results in the corresponding hydrological region, to improve knowledge of water prices and costs and strengthen the culture of payment for water management and services, and for the protection of vital ecosystems linked to water; it shall do so in accordance with the provisions issued by the Authority on the matter;

XIX. Study and propose, with the assistance of the Basin Councils, the recommended amounts for the collection of water rights and basin tariffs, including the collection of water extraction charges



The law also establishes that the following provisions shall be applicable to the discharge of national waters, wastewater discharge and environmental services related to water and its management, based on the provisions established in Section XXVIII of Article 9 of the present Law;

XX. To implement and operate the necessary mechanisms for the collection of water rights, in accordance with the tax provisions in force;

XXI. Under the coordination and supervision of "the Commission", to participate as appropriate in the exercise of the fiscal attributions in matters of administration, determination, liquidation, collection, collection and control of the contributions and benefits assigned to it or in the cases indicated by the respective laws, in accordance with the provisions of the Federal Fiscal Code;

XXII. To carry out all kinds of legal acts necessary to fulfill its purposes, as well as those necessary for the management of national waters, including their administration and inherent public assets, as well as other assets and resources under its responsibility;

XXIII. To oversee compliance with this Law, apply the corresponding sanctions and exercise the acts of authority in matters of water and its management that correspond to the federal sphere and that are not reserved to the Federal Executive or to "the Commission";

XXIV. Act, in accordance with their nature and the specialized nature conferred upon them by this Law, with technical, administrative and legal autonomy in the management of the resources allocated to them and the assets they have under the terms of this Law, and act with managerial autonomy for the full compliance of its purpose and the objectives and goals set forth in its programs and budget, observing the provisions of this Article, Articles 9 Section XXXIII, 12 Section X, 12 BIS 1, 12 BIS 2, 12 BIS 3 and 12 BIS 4, and the other applicable provisions contained in this Law and its regulations;

XXV. To participate in the national civil protection system and support the application of federal plans and programs to prevent and address emergency situations caused by extraordinary hydrometeorological phenomena;

XXVI. Propose to the Director General of the Commission the draft Regulations for the Extraction and Distribution of National Waters and their exploitation, use or exploitation; Decrees of Closed Zones and Regulated Zones; and Declarations of National Water Reserves;

XXVII. To keep updated and periodically make public the inventory of national waters, and their inherent public assets and federal hydraulic infrastructure; the classification of waters according to uses, and the preparation of hydrological balances by hydrological regions and hydrological basins in quantity and quality of waters;

XXVIII. To permanently improve and disseminate knowledge on the occurrence of water in the hydrological cycle, water supply and demand, inventories of water, soil, uses and users, and relevant information related to water and its management, with the support it deems necessary from other federal agencies, state and municipal governments, as well as water users, social organizations and individuals;

XXIX. To integrate the Regional Information System on water quantity, quality, uses and conservation, in coordination with the governments of the states and the Federal District, when appropriate, and with the Basin Councils, and in accordance with the provisions of the Federal Law on Transparency and Access to Public Governmental Information;

XXX. Resolve in an expeditious manner the requests for extension of concession, assignment or discharge permit submitted within the terms established in this Law;



XXXI. To file the corresponding complaints before the competent authorities when, as a result of the exercise of its attributions, it becomes aware of acts or omissions that constitute violations to the administrative legislation on water matters or to criminal laws;

XXXII. Regulating the transfer of water rights, and

XXXIII. To carry out any other duties as required by law or regulation.

Article added DOF 2004-04-29

Chapter IV Basin Councils

ARTICLE 13. "The Commission," with the prior agreement of its Technical Council, shall establish Basin Councils, collegiate bodies of mixed integration, pursuant to Section XV of Article 3 of this Law. The coordination, agreement, support, consultation and advice referred to in said section are aimed at formulating and implementing programs and actions for better water administration, the development of hydraulic infrastructure and the respective services, and the preservation of the basin resources, as well as the others established in this Chapter and in the respective Regulations. The Basin Councils are not subordinate to the Commission or the Basin Organizations.

The Basin Councils shall consider the plurality of interests, demands and needs in the corresponding hydrological basin or basins.

Article amended DOF 29-04-2004

ARTICLE 13 BIS. Each River Basin Council shall have a Chairman, a Technical Secretary and members, with voice and vote, representing the three levels of government, water users and organizations of society, in accordance with the following:

Vowels	Proportion of Representation
Representatives of the Federal Government	Those resulting from the provisions of Section IV of Article 13 BIS 2
Representatives of State and Municipal Governments according to their territorial circumscription within the hydrological basin	When more 35% more
Representatives of Users in different uses and Citizen or Non-Governmental Organizations.	At least 50

The Chairman of the Basin Council shall be appointed in accordance with the General Rules for the Integration, Organization and Operation of the Basin Council and shall have a voice and a casting vote. The General Director of the Basin Organization shall act as Technical Secretary of the Basin Council, who shall have voice and vote.

For the purposes of this Chapter, drinking water and sanitation service providers are considered as users.

Article added DOF 2004-04-29

ARTICLE 13 BIS 1. The River Basin Councils shall be established for each hydrological basin or group of hydrological basins determined by "the Commission", which shall constitute their territorial delimitation.

The Basin Councils, in accordance with this Law and its regulations, shall establish their general rules of integration, organization and operation.



The Basin Council shall have at least four bodies for its operation:

A. The General Assembly of Users: which will be made up of representatives of the water users of the different uses and of the organizations of society; it will have a Chairman of the Assembly and a Recording Secretary, who will be elected from among its members by the assembly members themselves in accordance with the General Rules for the Integration, Organization and Operation of the Basin Council.

The General Assembly of Users shall function with the periodicity, sessions and participants determined by the General Rules of Integration, Organization and Operation of the Basin Council.

The provisions for determining the participation of the water users of the different uses by state in the context of the river basin or hydrologic region and of the organizations of society before the General Assembly of Users shall be contained in the General Rules for the Integration, Organization, and Operation of the corresponding Basin Council, which shall consider the representativeness of the uses in the river basin or hydrologic region.

The General Assembly of Users shall have the following functions:

1.- To discuss strategies, priorities, policies, lines of action and criteria to be considered in the short, medium and long term planning of the hydrological basin;

To hear matters related to the exploitation, use and development of water; concession, allocation and discharge permits; water pollution and treatment; construction of hydraulic works, and other aspects related to the integrated management of water resources, proposed by the representatives of the water users of the different uses;

3.- To cooperate with the Basin Council in monitoring compliance with the Water Plan of the Hydrological Basin;

4.- Appoint its representatives who shall serve as members of the Basin Council;

To define the position of the water users of the different uses and of the organizations of the society, in relation to the matters to be submitted by the General Assembly to the Basin Council.

B. The Basin Council Steering Committee: Composed of the President and Technical Secretary of the Basin Council.

C. The Operation and Surveillance Commission of the Basin Council: which will be responsible for the follow-up and evaluation of the performance of the Basin Council, specific working groups and other specialized bodies required by the Basin Council to better fulfill its purpose, and

D. Operational Management: With internal technical, administrative and legal functions.

For the exercise of their functions, the Basin Councils will be assisted by the Basin Commissions - whose scope of action is usually at the level of a sub-basin or group of sub-basins corresponding to a particular hydrological basin-, Basin Committees -whose scope of action usually corresponds to the level of a micro-basin or group of micro-basins of a specific sub-basin- and Technical Groundwater Committees -which carry out their activities in relation to a specific aquifer or group of aquifers- as necessary.



Like the Basin Councils, the Basin Commissions, Basin Committees and Groundwater Technical Committees are collegiate bodies of mixed integration and are not subordinate to "the Commission" or to the Basin Organizations.

The nature and general provisions for the creation, integration and operation of basin commissions, basin committees and groundwater technical committees shall be established in the regulations of this Law. The particular characteristics of said commissions and committees shall be set forth in the General Rules for the Integration, Organization and Operation of said Council.

Article added DOF 2004-04-29

ARTICLE 13 BIS 2. The Basin Councils shall be organized and operate in accordance with the provisions of this Law, its Regulations, the provisions issued by the Commission, and the General Rules of Integration, Organization and Operation adopted by each Basin Council, in accordance with the following general guidelines:

I. The water users who participate as members of the Basin Councils shall be elected at the General Assembly of Users, and shall come from the water users' organizations at the national level for the different uses accredited before "the Commission", as well as from the water users' organizations for each state of the different uses in the hydrological basin or hydrological region in question, in a number that ensures proportionality in the representation of the uses and allows for the effective operation of said Basin Councils and in compliance with the provisions of Article 13 BIS of this Law; the designation of alternates shall also be provided for by the Assembly itself; the representation of each use by state shall be determined in the General Rules for the Integration, Organization and Operation of the Basin Council;

II. The state governments with territory within the hydrological basin will be represented by their respective Heads of the State Executive Branch, who will act as members; they may designate an alternate, preferably at the level of Secretary or similar;

III. The municipal governments with territory within the basin shall be represented as determined in each state. The total number of members corresponding to the municipalities shall comply with the provisions of Article 13 BIS. The distribution of municipal members shall be determined in the General Rules of Integration, Organization and Operation of the Basin Council itself. The municipal proprietary members shall be Municipal Presidents and may designate an alternate, preferably at the level of alderman or similar;

IV. The Federal Government will have members appointed by the Ministries of the Environment and Natural Resources; Finance and Public Credit; Social Development; Energy; Economy; Health; and Agriculture, Livestock, Rural Development, Fisheries and Food. The proprietary members of the Federal Government may designate an alternate, at the level of Director General or the highest regional hierarchy;

V. The organizations of the society, including citizen or non-governmental organizations, professional associations, businessmen, and other organized groups related to the exploitation, use, development or conservation, preservation and restoration of the waters of the hydrological basin and of the underlying aquifer or aquifers, shall also participate in the activities of the Basin Councils in the number of members, both proprietary and their respective alternates, in accordance with the provisions of Article 13 BIS of this Law and in the capacity determined in the General Rules of Integration, Organization and Operation of the Basin Council itself;



VI. The Basin General Assembly, through its designated user members, shall channel its recommendations to the Basin Council and, through the latter, to the corresponding Basin Organization; and

VII. The Basin Councils shall have the territorial delimitation defined by "the Commission" with respect to the Basin Organizations.

Article added DOF 2004-04-29

ARTICLE 13 BIS 3. The Basin Councils shall be responsible for:

I. To contribute to the integrated management of water resources in the respective hydrological basin or basins, to contribute to reestablish or maintain the balance between availability and use of water resources, considering the different uses and users, and to favor sustainable development in relation to water and its management;

II. To agree on water use priorities with its members and with the corresponding Basin Organization in accordance with the provisions of the Third Paragraph of Article 22 of this Law. In all cases, priority shall be given to domestic and urban public use;

III. Know and disseminate the general guidelines of national, regional and basin water policy, and propose those that reflect the reality of water development in the short, medium and long terms, in the territorial scope corresponding to the Basin Council;

IV. Participate in the definition of general objectives and criteria for the formulation of basin water management programs in harmony with the general criteria of national water programming;

V. Promote the participation of state and municipal authorities and ensure the implementation of mechanisms for the participation of basin users and social organizations in the formulation, approval, follow-up, updating and evaluation of water programming for the basin or basins in question under the terms of the law;

VI. Develop, review, reach the necessary consensus and propose to its members, with the intervention of the competent Basin Organization in accordance with its attributions, the draft Basin Water Program, containing the investment priorities and specific subprograms for sub-basins, micro-basins, aquifers and vital ecosystems included in its territorial scope, for approval, if applicable, by the competent Authority and to promote its implementation, follow-up, evaluation of results and feedback;

VII. Promote the coordination and complementation of water investments made by the governments of the states, the Federal District and municipalities in the territorial scope of the sub-basins and aquifers, and support the necessary steps to achieve the concurrence of resources for the execution of the actions foreseen in the water programming;

VIII. To participate in the analysis of technical studies related to the availability and uses of water; the improvement and conservation of its quality; its conservation and that of the vital ecosystems linked to it; and the adoption of criteria for selecting water projects and works to be carried out in the hydrological basin or basins;

IX. To contribute to the development of water infrastructure and water services for domestic, urban public and agricultural use, including environmental services;



X. Contribute to the sanitation of basins, sub-basins, micro-basins, aquifers and wastewater receiving bodies to prevent, stop or correct their contamination;

XI. Contribute to the economic, environmental and social valuation of water;

XII. Collaborate with the Basin Organization in the efficient implementation of the Water Financial System in its territorial area, based on the provisions established by the Authority in this matter;

XIII. Support the water user-payer and polluter-payer programs; promote actions derived from the establishment of regulated, closed, and reserve zones; and encourage the remediation of environmental damage to water resources and vital ecosystems at risk;

XIV. Support the financing of regional water management and the preservation of basin resources, including vital ecosystems;

XV. Assist in the development of the financial studies carried out by the Basin Organizations to propose the amounts of user contributions to support the financing of the programs of the aforementioned bodies for regional water management and the conservation of water resources and vital ecosystems, in accordance with the provisions of the Authority on the matter;

XVI. To have timely and reliable information and documentation on water quantity and quality availability, water uses and registered rights, as well as the most relevant topics and parameters regarding water resources and their management, with the support of the respective Basin Organization and its integrated monitoring and information systems; to widely disseminate among its members and the society of the basin or basins concerned, the information and documentation referred to, enriched with the orientations and determinations arrived at by said Basin Council;

XVII. Promote the efficient and sustainable use of water, and specifically, promote water reuse and recirculation;

XVIII. Participate in the improvement of water culture as a vital and scarce resource, with economic, social and environmental value;

XIX. Collaborate with the Authority in the matter for the prevention, conciliation, arbitration, mitigation and resolution of water conflicts and their management;

XX. To form working commissions to propose solutions and recommendations on specific water management issues, development of water infrastructure and services, rational use of water, preservation of water quality, and protection of vital ecosystems;

XXI. To assist "the Commission" in the surveillance of surface and groundwater uses, by defining the procedures for the intervention of users and their organizations, within the framework of this Law and its regulations;

XXII. To be aware of the accreditations granted by "the Commission" at the federal level to user organizations constituted for the exploitation, use and development of water, and to recognize, when appropriate, such organizations as auxiliary bodies of the Basin Council;

XXIII. Promote, with the assistance of the competent Basin Organization, the establishment of basin commissions and committees and technical committees on groundwater; achieve consensus and



support necessary to implement the bases for the organization and operation of these organizations and to recognize them as auxiliary bodies of the Basin Council when appropriate;

XXIV. Participate or intervene in the other cases provided for in the Law and its corresponding regulations, and

XXV. Other tasks conferred by its General Assembly, in accordance with the provisions of this Law and its regulations.

Article added DOF 2004-04-29

ARTICLE 13 BIS 4. In accordance with the provisions of this Law and its regulations, "the Commission", through the Basin Organizations, shall consult with users and organizations of society, within the scope of the Basin Councils, and shall resolve possible temporary limitations to existing water rights to face situations of emergency, extreme shortage, hydrological imbalance, overexploitation, reserve, contamination and risk or if the sustainability of vital ecosystems is compromised; under the same tenor, it will resolve the limitations derived from the existence or declaration and instrumentation of regulated zones, reserve zones and closed zones. In these cases, priority will be given to domestic and urban public use.

Article added DOF 2004-04-29

Chapter V **User and Society Organization and Participation**

Title of the Chapter amended DOF 2004-04-29

ARTICLE 14. At the federal level, "the Commission" shall accredit, promote and support the organization of users to improve water use and the preservation and control of its quality, and to encourage their participation at the national, state, regional or basin level under the terms of this Law and its regulations.

Article amended DOF 29-04-2004

ARTICLE 14 BIS. "The Commission", jointly with the Governments of the states, the Federal District and the municipalities, the basin organizations, the basin councils and the Water Advisory Council, shall promote and facilitate the participation of society in the planning, decision-making, execution, evaluation and monitoring of the national water policy.

Support will be provided so that citizen or non-governmental organizations with specific objectives, interests or activities related to water resources and their integrated management may participate in the Basin Councils, as well as in Basin Commissions and Committees and Groundwater Technical Committees. The participation of professional associations, specialized academic groups, and other organizations of society whose participation enriches water planning and water resources management shall also be facilitated.

For the above purposes, "the Commission", through the Basin Organizations and with the support of the Basin Councils:

I. Within the scope of the Democratic Planning system, it will convene local, regional or sectorial organizations of water users, ejidos and communities, educational institutions, citizen or non-governmental organizations, and interested persons, to consult their opinions and proposals regarding planning, priority and strategic water problems and their management, as well as to evaluate the sources of supply, within the scope of sustainable development;

II. It will support organizations and initiatives arising from public participation, aimed at a better distribution of tasks and responsibilities between the State - understood as the Federation, the



The purpose of this project is to promote the integrated management of water resources in the states, the Federal District and the municipalities, and society;

III. It will provide spaces and mechanisms so that users and society can:

a. Participate in the decision-making processes related to water and its management;

b. Make explicit commitments resulting from decisions on water and its management, and

c. Assume direct responsibilities in the implementation, execution, follow-up and evaluation of specific measures to contribute to the solution of water problems and the improvement of water resources management;

IV. Enter into cooperation agreements to improve and promote water culture at the national level with the sectors of the population mentioned in the preceding sections and the media, in accordance with the provisions of Chapter V of Title Six of this Law, and

V. It will enter into actions and agreements with water users for the conservation, preservation, restoration and efficient use of water.

Article added DOF 2004-04-29

Chapter V BIS Water Advisory Board

Chapter added DOF 2004-04-29

ARTICLE 14 BIS 1. The Water Advisory Council is an autonomous consulting body made up of individuals from the private and social sectors, who are experts or sensitive to the problems related to water and its management and the ways to address and solve them, with an altruistic vocation and who have a high level of recognition and respect.

The Water Advisory Council, at the request of the Federal Executive, may advise, recommend, analyze and evaluate with respect to priority or strategic national problems related to the exploitation, use or development, and restoration of water resources, as well as in the case of international agreements on the subject. In addition, it may make on its own the recommendations, analyses and evaluations it deems convenient in relation to the integrated management of water resources.

Article added DOF 2004-04-29

Chapter V BIS 1 National Meteorological Service

Chapter added DOF 2004-04-29

ARTICLE 14 BIS 2. The National Meteorological Service, an autonomous specialized technical unit directly attached to the Head of "the Commission", has the purpose of generating, interpreting and disseminating meteorological information, its analysis and forecast, which are considered of public and strategic interest in accordance with the provisions of this Law and its regulations.

Article added DOF 2004-04-29

Chapter V BIS 2 Mexican Institute of Water Technology

Chapter added DOF 2004-04-29



ARTICLE 14 BIS 3. The Mexican Institute of Water Technology is a decentralized public agency under "the Secretariat", whose purpose, in accordance with its instrument of creation and organic statute, is to conduct research, develop, adapt and transfer technology, provide technological services and prepare qualified human resources for the management, conservation and rehabilitation of water and its environment, in order to contribute to sustainable development.

The powers of the Institute, for the purposes of this Law and its regulations, are as follows:

I. To coordinate, promote and direct research and technological development actions in the field of water, including its dissemination, and the education and training of human resources at the national level;

II. To certify personnel to implement the National Civil Service Career System for the water sector;

III. To become the center of excellence in up-to-date knowledge of integrated water resources management;

IV. To integrate and keep updated the National Technical and Scientific Documentary Center on Integrated Water Resources Management;

V. To develop and strengthen relations with international organizations related to water issues and integrated water management, and to establish academic and technological exchange relations with Mexican, foreign and international institutions and organizations;

VI. Develop and test integrated water resources management instruments of various types to support the development of the Water Sector and contribute to the solution of the country's water and hydraulic problems;

VII. To carry out, by itself or upon request, studies and provide specialized consulting services in the fields of hydraulics, hydrology, water quality control, and integrated water resources management;

VIII. To propose guidelines and contents for the National Water Policy and the National Water Program, and to lead the planning and implementation of programs and actions for scientific research and technological development in the field of water and its management, as well as for the education and training of human resources in these areas;

IX. Systematize and publish the technical information associated with the country's water resources, in coordination with "the Commission";

X. Perform, at the request of a party, technical and scientific arbitration functions;

XI. To certify water quality laboratories, devices for measuring water quantity, and equipment, instruments and equipment that facilitate the increase of efficiency in the exploitation, use or exploitation of water, in terms of the Law;

XII. To preside over the National Scientific and Technological Council of the water sector, in whose creation and operation "the Secretariat", "the Commission" and the National Council of Science and Technology will participate;

XIII. Promote water education and culture to foster awareness in society that water is a scarce resource that requires care for its quantity and quality, as well as its sustainable use and the mitigation of its undesirable effects; and



XIV. Any other powers conferred by other legal instruments and by the Head of "the Secretariat" for the fulfillment of the purpose of this Law.

In the areas of scientific research, technological development, institutional capacity building and training of human resources for the water sector, academic and research institutions related to water and its management may participate.

The Institute shall adhere to the provisions of this Law and its regulations on the decentralization of the water sector, and shall encourage the participation of the country's academic and research institutions in the fulfillment of the functions contained in this Article.

Article added DOF 2004-04-29

**Chapter V BIS 3
Federal Attorney General's Office for Environmental Protection
(Procuraduría Federal de Protección al Ambiente)**

Chapter added DOF 2004-04-29

ARTICLE 14 BIS 4. For the purposes of this Law and its regulations, "the Attorney General's Office" has the following attributions:

I. Formulate complaints and apply sanctions that fall within its competence;

II. Substantiate and resolve the administrative procedures and appeals within its competence, under the terms of this Law and its regulatory provisions;

III. To impose the technical corrective and safety measures that are within its competence under the terms of this Law and the General Law of Ecological Equilibrium and Environmental Protection;

Reformed fraction DOF 07-06-2013

IV. Promote actions for the repair or compensation of environmental damage to ecosystems associated with water under the terms of this Law and other applicable legal provisions;

Reformed fraction DOF 07-06-2013

V. Request before "the Commission" or the corresponding Basin Organization pursuant to the provisions of Section IX of Article 9 of this Law, in accordance with their respective competencies, the cancellation of the discharge permits, and

VI. Any others indicated in the legal and regulatory provisions for the fulfillment of the purpose of this Law.

Article added DOF 2004-04-29

**TITLE THREE
Water Policy and Programming**

Title as amended DOF 04-29-2004

Sole Chapter

**Section One National
Water Policy**

Section added DOF 2004-04-29

ARTICLE 14 BIS 5. The principles underlying the national water policy are:



I. Water is a vital, vulnerable and finite asset in the federal public domain, with social, economic and environmental value, whose preservation in terms of quantity, quality and sustainability is a fundamental task of the State and society, as well as a priority and a matter of national security;

II. Integrated water resources management at the river basin level is the basis of national water policy;

III. Water resources management will be carried out in a decentralized and integrated manner, favoring direct action and decisions by local stakeholders and by hydrological basin;

IV. The states, the Federal District, municipalities, river basin councils, user and society organizations, river basin organizations and "the Commission" are basic elements in the decentralization of water resources management;

V. Meeting the water needs of society for its well-being, of the economy for its development, and of the environment for its equilibrium and conservation; particularly, special attention to these needs for the marginalized and economically disadvantaged population;

VI. Water uses in hydrological basins, including aquifers and inter-basin transfers, must be regulated by the State;

VII. The Federal Executive will ensure that water concessions and allocations are based on the effective availability of the resource in the corresponding hydrological regions and watersheds, and will implement mechanisms to maintain or reestablish the hydrological balance in the country's watersheds and that of the ecosystems vital for water;

VIII. The Federal Executive shall promote solidarity in water matters among the states, the Federal District, municipalities, among users and among organizations of the society, in the different portions of the basins, sub-basins and micro-basins, with the participation of basin councils and organizations;

IX. The conservation, preservation, protection, and restoration of water quantity and quality is a matter of national security; therefore, unsustainable use and adverse ecological effects must be avoided;

X. Integrated water resources management by hydrological basin is based on the multiple and sustainable use of water and the interrelationship between water resources and the air, soil, flora, fauna, other natural resources, biodiversity and ecosystems that are vital for water;

XI. Water provides environmental services that must be recognized, quantified and paid for in accordance with the law;

XII. Water must be used efficiently and its reuse and recirculation must be promoted;

XIII. The Federal Executive shall promote that the states, the Federal District and the municipalities, through their competent bodies and institutional arrangements determined by them, become responsible for the management of national waters in quantity and quality assigned to them, under concession or under their administration and custody, and for the provision of hydraulic services; the Federal Executive shall provide facilities and support for the creation or improvement of competent state bodies that make possible the implementation of the provisions of this section;



XIV. In particular, the Federal Executive will establish the necessary measures to maintain an adequate quality of water for human consumption and thus have an impact on public health; for the best compliance with this policy, it will coordinate and request the necessary support from the states, the Federal District and municipalities;

XV. Water management must generate the economic and financial resources necessary to carry out its inherent tasks, under the principle that "water pays for water", in accordance with the relevant laws;

XVI. Water users must pay for its exploitation, use or exploitation under the "user-pays" principle in accordance with the provisions of the Federal Law of Rights;

XVII. Individuals or legal entities that pollute water resources are responsible for restoring their quality, and the "polluter pays" principle will be applied, in accordance with the relevant laws;

XVIII. Individuals or legal entities that make efficient and clean use of water will be entitled to economic incentives, including tax incentives, as established by applicable laws;

XIX. The right of society and its institutions, at the three levels of government, to timely, full and reliable information on the occurrence, availability and needs of surface and groundwater, in quantity and quality, in geographic space and time, as well as information related to phenomena of the hydrological cycle, inventories of uses and users, water bodies, hydraulic infrastructure and diverse equipment necessary to carry out such management;

XX. The informed and responsible participation of society is the basis for better management of water resources and particularly for their conservation; therefore, environmental education is essential, especially in the area of water;

XXI. The water culture built on the above water policy principles, as well as on the theses derived from social and economic development processes, and

XXII. Domestic use and urban public use shall have preference over any other use.

The principles of national water policy set forth in this Article are fundamental in the application and interpretation of the provisions contained in this Law and its regulations, and shall guide the contents of national water programming and by hydrologic region and hydrologic basin.

Article added DOF 2004-04-29

ARTICLE 14 BIS 6. The following are basic instruments of the national water policy:

I. Water planning; includes local, state, hydrological basin, hydrological-administrative region and national levels;

II. The regime of concessions and allocations referring to the rights for exploitation, use or exploitation of water, for the use of national property in accordance with the provisions of Article 113 of this Law, as well as discharge and construction permits;

Reformed fraction DOF 08-06-2012

III. National water management, to rationalize water needs, and to contribute to the improvement of water economics and finance and its management;



IV. The collection of rights caused by the exploitation, use or exploitation, discharge and protection of water;

V. The participation of society's organizations and users, and their co-responsibility in the development of specific activities;

VI. Prevention, conciliation, arbitration, mitigation and resolution of water conflicts and their management;

VII. Social support for marginalized rural and urban communities to access water and sanitation, and

VIII. The National Information System on water quantity, quality, uses and conservation.

Article added DOF 2004-04-29

Section Two Water Planning and Programming

Section added DOF 2004-04-29

ARTICLE 15. Water planning is mandatory for the integrated management of water resources, conservation of natural resources, vital ecosystems and the environment. The formulation, implementation and evaluation of water planning and programming shall include:

I. The National Water Program, approved by the Federal Executive, the formulation of which will be the responsibility of "the Commission", under the terms of this Law and the Planning Law; said program will be periodically updated and improved under the guidelines and priorities demanded by social welfare and economic development, without endangering the ecological balance and sustainability of the processes involved;

II. Water programs for each of the river basins or groups of river basins in which River Basin Organizations are constituted and River Basin Councils operate, prepared, agreed upon and implemented by them; in the cases of states and the Federal District that, in accordance with their legal framework, develop a state water program supported by the integration of local programming with the participation of organized society and local authorities, such programs shall be incorporated into the process of water programming by river basins and hydrological regions;

III. The specific, regional, watershed, aquifer, state and sectoral subprograms that make it possible to address problems of water scarcity or contamination, order the management of watersheds and aquifers, or correct the overexploitation of surface and groundwater; such subprograms will include the use of instruments to address conflicts over the exploitation, use, development and conservation of water in terms of quantity and quality, the problem of concession, assignment and transfer of water use rights in general for the exploitation, use and development of water, including its reuse, as well as its control, preservation and restoration; the formulation and updating of the inventory of national waters and their inherent public goods, as well as that of water uses, including the Public Registry of Water Rights and of the infrastructure for its development and control;

IV. Special or emergency programs implemented by "the Commission" or the Basin Organizations to address special problems and situations in which the safety of persons or their property is at risk;

V. The integration and updating of the catalog of projects for the use or development of water and for the preservation and control of its quality;



VI. The classification of water bodies according to their intended uses, and the preparation of water balances in quantity and quality and by basins, hydrological regions and aquifers, according to their carrying capacity;

VII. Strategies and policies for the regulation of the exploitation, use or development of water and for its conservation;

VIII. Mechanisms for consultation, agreement, participation, and assumption of specific commitments for the execution of programs and for their financing, which allow the concurrence of water users and their organizations, of society organizations, and of federal, state, or municipal public administration agencies and entities;

IX. The multiannual investment and annual operating programs for investments and actions carried out by "the Commission" on its own in the cases provided for in Section IX of Article 9 of this Law or through the Basin Organizations, and

X. Water programming will respect the environmental or ecological conservation use, the natural quota of water renewal, the hydrological sustainability of hydrological basins and vital ecosystems, and will consider the feasibility of exploiting subsoil water in a temporary or controlled manner.

The formulation, monitoring, evaluation, and modification of water programming under the terms of the Planning Law shall be carried out with the participation of the Basin Councils, which shall establish consultation mechanisms to ensure the participation and co-responsibility of users and other interested social groups in the development of activities.

National water and basin planning and programming will be based on a network integrated by the National Information System on Water Quantity, Quality, Uses and Conservation under the responsibility of "the Commission" and the Regional Information Systems on Water Quantity, Quality, Uses and Conservation, whose creation and development will be supported by "the Commission" and the Basin Organizations.

Article amended DOF 29-04-2004

ARTICLE 15 BIS. The structure, minimum contents, orientation, forms of participation of states, Federal District and municipalities, as well as of users and society, provisions for financing in accordance with the Authorities in the matter, and other provisions regarding the implementation, periodic evaluation, feedback, improvement and conclusion of the water programs and subprograms under the jurisdiction of the Federal Executive, as well as the provisions for the periodic publication and means of dissemination of said programs and subprograms, through "the Commission" and the Basin Organizations, shall be established in the regulations of this Law.

The governments of the states, the Federal District, and the municipalities, in accordance with their regulatory framework, needs, and priorities, may carry out water programs within their territorial scope and coordinate with the corresponding basin organization for their preparation and implementation, in accordance with the provisions of this Law, the Planning Law, and other applicable legal provisions, in order to contribute to the decentralization of water resource management.

"The Commission, with the support of the Basin Organizations, and with the assistance of the governments of the Federal District, the states, and, through them, the municipalities, will integrate the programs starting at the local level up to the integration of water programming at the national level.

Article added DOF 2004-04-29

TITLE FOUR

Rights of Exploitation, Use or Development of National Waters



Title as amended DOF 04-29-2004

Chapter I National Waters

ARTICLE 16. This Law establishes the rules and conditions for the granting of concessions for the exploitation, use or development of national waters, in compliance with the provisions of the Sixth Paragraph of Article 27 of the Constitution.

National waters are those set forth in the Fifth Paragraph of Article 27 of the Political Constitution of the United Mexican States.

The regime of national ownership of waters shall subsist even when the waters, by means of the construction of works, are diverted from the original channel or basin, their inflow is prevented or they are subject to treatment.

Wastewater from the use of national waters shall also have the same character when discharged into receiving bodies of national property, even if they are subject to treatment.

Article amended DOF 29-04-2004

ARTICLE 17. The exploitation, use and development of national surface waters by manual means for domestic use pursuant to section LVI of Article 3 of this Law is free, provided that they are not diverted from their course or cause an alteration in their quality or a significant decrease in their flow, under the terms of the applicable regulations.

No concession shall be required for the extraction of inland marine waters and territorial sea, for their exploitation, use or exploitation, except for those intended for desalination, which shall be subject to concession.

Article amended DOF 29-04-2004

ARTICLE 18. National subsoil waters may be freely illuminated by means of artificial works, except when, for reasons of public interest or utility, the Head of the Federal Executive Branch establishes a regulated, closed or reserve zone, or suspends or temporarily limits free illumination by means of general Agreements.

Amended paragraph DOF 20-06-2011

The Federal Executive, at the proposal of "the Commission", will issue the declaration of regulated, closed or reserve zones, delimiting, when so required, the application of the provisions established for aquifers defined by "the Commission", in relation to other aquifers or hydrothermal geothermal reservoirs existing in the same geographic area. For this purpose, "the Commission" shall carry out, by itself or with the support of third parties when it is convenient, the studies and evaluations sufficient to support the referred delimitations and promote the best use of the subsoil water sources.

Amended paragraph DOF 20-06-2011, 11-08-2014

In accordance with the provisions of this Article and the Law, regulations shall be issued for the extraction and for the exploitation, use or development of national waters of the corresponding aquifers, including the establishment of regulated zones, as well as the decrees for the establishment, modification or suppression of closed zones or reserve declarations that may be required.

The general agreements referred to in this article shall be issued in the following cases:

Paragraph added DOF 20-06-2011



- I. When studies on the availability of national waters show that there is no availability of the water resource or that the availability is limited;

Section added DOF 20-06-2011

- II. When the data contained in the technical studies for the establishment of regulated, closed or reserve zones indicate the need to suspend or limit the free flow of subsoil waters;

In this case, the general Agreements will be in force until the Decree of regulated zone, closure or reserve of national waters is published;

Section added DOF 20-06-2011

- III. When there are technical reasons justified in specific studies that show the need to suspend or limit the free flow of subsoil water, and

Section added DOF 20-06-2011

- IV. When specific technical studies performed or validated by "the Commission" show the existence of abatement cones, volume interference or any other situation that may affect third parties.

Section added DOF 20-06-2011

Regardless of the foregoing, the exploitation, use or exploitation of subsoil water will cause the fiscal contributions indicated in the Law on the matter. In the corresponding tax returns, the concessionaire or assignee must indicate that its use is registered in the Public Registry of Water Rights, under the terms of this Law.

Article amended DOF 29-04-2004

ARTICLE 19. When the cases provided for in Article 38 of this Law occur, the control of the extraction as well as the exploitation, use or exploitation of subsoil waters, including those that have been freely illuminated, shall be of public utility, pursuant to the provisions issued by the Federal Executive, under the terms of the provisions of this Law.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

Chapter I BIS Knowledge of National Waters

Chapter added DOF 2004-04-29

ARTICLE 19 BIS. In the case of a matter of national security and pursuant to the provisions of the Federal Law on Transparency and Access to Public Governmental Information, "the Commission" shall be responsible, with the assistance of the Basin Organizations and with the support it deems necessary from the governments of the states, the Federal District and the municipalities, as well as from associations of users and individuals, to periodically, systematically and as a priority, carry out the necessary studies and evaluations to broaden and deepen the knowledge about the occurrence of water in the hydrological cycle, with the purpose of improving the information and analyses on water resources, their behavior, their diverse surface and subsoil sources, their potential and limitations, as well as the ways for their better management.

"The Commission shall make the necessary arrangements so that, in compliance with the Federal Law of Transparency and Access to Public Governmental Information, it disseminates knowledge about national waters in a broad and systematic manner, through the appropriate means of communication.

Article added DOF 2004-04-29

Chapter II



Concessions and Allocations

In accordance with the public nature of water resources, the exploitation, use or development of national waters shall be carried out by means of concessions or allocations granted by the Federal Executive Branch through "the Commission" by means of the River Basin Organizations, or directly by the latter when it is so empowered, in accordance with the rules and conditions provided for in this Law and its regulations. The concessions and assignments will be granted after considering the parties involved, and the economic and environmental cost of the projected works.

The Basin Organizations are responsible for issuing the concession, assignment and discharge permits referred to in this Law and its regulations, except in those cases provided for in Section IX of Article 9 of this Law, which are reserved for direct action by the Commission.

The exploitation, use or development of national waters by individuals or legal entities shall be carried out by means of a concession granted by the Federal Executive through "the Commission" by means of the Basin Organizations, or by the latter when it is so empowered, in accordance with the rules and conditions established by this Law, its regulations, the title and the extensions issued for such purpose.

The exploitation, use or development of national waters by agencies and decentralized bodies of the federal, state or municipal public administration, or the Federal District and its decentralized bodies, shall be carried out by means of a concession granted by the Federal Executive Branch through "the Commission" by means of the River Basin Organizations, or by the latter when it is so empowered, in accordance with the rules and conditions established by this Law and its regulations. In the case of the rendering of urban or domestic public water services, including the processes involved in such services, the exploitation, use or development of national waters shall be carried out by means of an assignment granted by the Federal Executive Branch through the "Commission" through the River Basin Organizations, or by the latter when it is so empowered, to the municipalities, the states or the Federal District, in accordance with Section VIII of Article 3 of this Law. The rights covered by the assignments may not be subject to transfer.

The allocation of water referred to in the preceding paragraph shall be governed by the same provisions that apply to concessions, except for the transfer of rights, and the assignee shall be considered a concessionaire for the purposes of this Law.

The concessions and assignments will create rights and obligations in favor of the beneficiaries under the terms of this Law.

The Federal Government may coordinate with the governments of the states and the Federal District, through administrative and fiscal collaboration agreements for the execution by the latter, of certain administrative and fiscal acts related to this Title, under the terms of the provisions of this Law, the Planning Law, the Fiscal Coordination Law and other applicable provisions, in order to contribute to the decentralization of water administration.

When the provisions of this Title refer to the actions of "the Commission", in the cases that correspond to it in accordance with the provisions of Section IX of Article 9 of this Law, or of the corresponding Basin Organization, it shall be understood that each instance shall act within its scope of competence and in accordance with its specific powers, without implying concurrence. Hereinafter, this Law shall refer to "the Water Authority", when the corresponding Basin Organization acts within its scope of competence, or "the Commission" acts in the cases set forth in the aforementioned Section and Article.

Article amended DOF 29-04-2004



ARTICLE 21. The application for concession or assignment shall contain at least:

I. Name and address of applicant;

II. The hydrological basin, aquifer, if applicable, hydrological region, municipality and locality to which the request refers;

III. The point of extraction of the national waters requested;

IV. The volume of extraction and consumption required;

V. The initial use to be made of the water, without prejudice to the provisions of the Fifth Paragraph of Article 25 of this Law; when such volume is intended for different uses, the corresponding breakdown shall be made for each of them;

VI. The point of wastewater discharge with quantity and quality conditions;

VII. The project of the works to be carried out or the characteristics of the existing works for their extraction and use, as well as the respective ones for their discharge, including wastewater treatment and the processes and measures for water reuse, if applicable, and restoration of the water resource; in addition, the economic and environmental cost of the projected works must be presented, the latter in accordance with the provisions of the General Law of Ecological Balance and Environmental Protection; and

VIII. The duration of the concession or assignment requested.

Together with the application for the concession or assignment for the exploitation, use or exploitation of national waters, the wastewater discharge permit and the permit for the execution of the works required for the exploitation, use or exploitation of waters and the treatment and discharge of the respective wastewater shall be requested. The application will specify the beneficiary's full acceptance of his obligation to pay regularly and in full the fiscal contributions derived from the issuance of the respective title and that may derive from the extraction, consumption and discharge of the concession or assigned waters, as well as the corresponding environmental services. The beneficiary will know and must expressly accept the fiscal consequences and the validity of the respective title issued, if any, derived from the noncompliance of the referred payment obligations.

In the case of concession applications for agricultural use referred to in Chapter II, Title Six, of this Law, it shall not be required to apply jointly with the concession for the wastewater discharge permit, provided that the application assumes the obligation to comply with the Mexican Official Standards or the particular discharge conditions that may apply, and with the provisions of Article 96 of this Law.

Article amended DOF 29-04-2004

ARTICLE 21 BIS. The petitioner shall attach to the request referred to in the preceding Article, at least the following documents:

I. Proof of ownership or possession of the property on which the water extraction will be located, as well as those related to the ownership or possession of the areas to be benefited;

II. The document that accredits the constitution of the required easements;

III. The environmental impact statement, when required by the General Law of Ecological Balance and Environmental Protection;



IV. The project of the works to be carried out or the characteristics of the existing works for the extraction, use and discharge of the waters that are the subject of the request;

V. The technical report with the corresponding plans containing the description and characteristics of the works to be carried out to exploit, use or exploit the waters to which the application refers, as well as the disposal and treatment of the resulting wastewater and other measures to prevent contamination of the receiving bodies, in order to comply with the provisions of the Law;

VI. The technical documentation supporting the request in terms of the volume of consumption required, the initial use to be made of the water and the conditions of quantity and quality of the respective wastewater discharge, and

VII. A sketch indicating the location of the property, with the reference points that allow its location and that of the site where the extraction of national waters will take place; as well as the points where the discharge will take place.

The studies and projects referred to in this Article shall be subject to the technical standards and specifications issued by "the Commission".

Article added DOF 2004-04-29

ARTICLE 22. "The Water Authority" shall answer the requests within a term not to exceed sixty working days from the date of their presentation and once the file has been duly integrated.

The granting of a concession or assignment shall be subject to the provisions of this Law and its regulations and shall take into account the average annual availability of water, which shall be reviewed at least every three years, in accordance with water programming; the rights of exploitation, use or exploitation of water registered in the Public Registry of Water Rights; the regulations of the hydrological basin that have been issued, as the case may be; the regulations regarding the control of extraction as well as the exploitation, use or exploitation of water; and the regulations regarding the regulated zones, closed areas and reserves of national waters existing in the aquifer, hydrological basin or hydrological region in question.

The Basin Council, in coordination with the corresponding Basin Agency, shall propose to the Commission the order of priority of water uses for its approval, which shall be applied in normal situations, for the granting of concessions and assignments for the exploitation, use or development of national, surface and subsoil waters, in accordance with the provisions of Articles 13 BIS 3 and 14 BIS 5 of this Law. Domestic use and urban public use will always be preferred over any other use.

For the purposes of this Law, situations other than normal ones are when disaster zones are declared in accordance with the provisions of the second paragraph of Article 38 of this Law, and when regulated zones, closed areas and reserve zones previously exist or are declared and implemented, based on the contents of sections LXIII, LXIV and LXV of Article 3 of this Law. In these cases, the procedure shall be in accordance with the provisions of Articles 13 BIS 4, 14 BIS 5 and Title Five of the present Law.

The concessions and allocations issued by "the Water Authority", in the cases referred to in Section IX of Article 9 of this Law, shall expressly indicate the conditions of variability of the water source from which the respective extraction shall be made, and the conditions to which the extraction of volumes shall be subject in the event of droughts and other phenomena. The titles of concession or



The allocation does not guarantee the existence or invariability of the volumes they cover. In the event of droughts and other phenomena, the volumes usable in the sources indicated in such titles shall be taken into consideration, as provided in the regulations of this Law.

The following shall be observed in the granting of concessions:

I. "The Water Authority" may reserve for concessioning certain waters by means of competitive bidding, when the concurrence of several interested parties is foreseen; the regulations for such cases shall be previously published in each case, and

II. When waters are not reserved in terms of the preceding section, the Water Authority may grant the concession to the first applicant. If different applicants apply simultaneously, the Water Authority may proceed to select the application that offers the best terms and conditions that guarantee the rational use, reuse and restoration of the water resource.

In addition to the above provisions for the processing of concession titles, the municipalities, the states and the Federal District, as the case may be, shall submit the following to the "Water Authority" in their application for assignment:

a) Scheduling for tapping water supply sources and the manner of its execution;

b) The sites and forms of measurement of both wastewater supply and discharge;

c) The way to guarantee the quality and conservation of water quantity;

d) The assumption of the obligations to use water rationally and efficiently; to respect the reserves and rights of third parties downstream registered in the Public Registry of Water Rights; to comply with the quality standards and conditions in the supply of water and in the discharge of wastewater to receiving bodies; and to pay on time and in full the federal contributions or benefits for which it is responsible, in connection with the exploitation, use or exploitation of national waters, the discharge of wastewater and the corresponding environmental services; and

e) The particular conditions for the discharge of wastewater to receiving bodies that have been dictated by the Authority.

For purposes of the provisions of this Article, "the Commission" shall publish within the first three months of every three years, under the terms of the regulatory provisions of this Law, the availability of national waters by hydrological basin, hydrological region or locality, which may be consulted at the offices of the Public Registry of Water Rights and through the National Information System on water quantity, quality, uses and conservation.

Article amended DOF 29-04-2004

ARTICLE 23. The concession or assignment title granted by the "Water Authority" shall state at least: Name and domicile of the holder; the hydrological basin, aquifer if applicable, hydrological region, municipality and locality to which it refers; the point of extraction of the national waters; the volume of authorized extraction and consumption; the corresponding use or uses, flow rates and volumes shall be explicitly referred to; the point of discharge of the wastewater with the conditions of quantity and quality; the duration of the concession or assignment, and as an annex the approved project of the works to be carried out or the characteristics of the existing works for the extraction of the waters and for their exploitation, use or exploitation, as well as the respective ones for their discharge, including wastewater treatment and the processes and measures for the reuse of the water, if applicable, and restoration of the water resource.



The corresponding concession or assignment title for the exploitation, use or exploitation of national surface waters shall also authorize the project of the necessary works that may affect the hydraulic or hydrological regime of the watercourses or vessels of national property or of the corresponding federal zones, and also, if requested, the exploitation, use or exploitation of such watercourses, vessels or zones, provided that, under the terms of the General Law of Ecological Balance and Environmental Protection, if applicable, the environmental impact statement is complied with. Similarly, in the case of concession or assignment titles for the exploitation, use or exploitation of national subsoil waters, in addition, the project of the necessary works for the illumination of the subsoil waters and for their exploitation, use or exploitation will be authorized, with the corresponding compliance with the other applicable legal ordinances.

In no case may the holder of a concession or assignment dispose of water in volumes greater than those authorized by the Water Authority. In order to permanently increase or modify water extraction in volume, flow or specific use, the issuance of the respective concession or assignment title must invariably be processed.

Article amended DOF 29-04-2004

ARTICLE 23 BIS. Without the definitive transfer of rights or the modification of the conditions of the respective title, when the holder of a concession intends to provisionally provide third parties with the total or partial use of the concessioned waters, he may only do so with prior notice to the "Water Authority", when this is the case in accordance with the provisions of Section IX of Article 9 of this Law.

Article added DOF 2004-04-29

The term of the concession or assignment for the exploitation, use or development of national waters shall not be less than five nor more than thirty years, in accordance with the priority of the specific use in question, development priorities, social benefit and the capital invested or to be invested in a verifiable manner in the respective development. In the duration of the concessions and assignments, the "Water Authority" must take into consideration the conditions of the supply source in terms of quantity and quality, the priority of uses in force in the corresponding region and the growth expectations of such uses.

Amended paragraph DOF 08-05-2023

The concessions or assignments under the terms of Article 22 of this Law, shall be subject to extension for up to the same term and characteristics of the current title for which they were granted, provided their holders do not incur in the causes for termination set forth in this Law, comply with the provisions of the Second Paragraph of Article 22 of this Law and in this Article and request it within the last five years prior to the expiration of its term, at least six months prior to its expiration.

Failure to submit the request referred to in this Article within the established term shall be considered as a waiver of the right to request the extension.

In order to decide on the granting of the extension, the total recovery of the investments made by the concessionaire or assignee in relation to the exploitation, use or exploitation of the concessioned or assigned volumes will be considered.

"The Water Authority is obliged to personally notify the applicants of the resolution on the respective requests referred to in this Chapter, in accordance with the term established in Article 22 of this Law and the procedure established in Article 35 of the Federal Law of Administrative Procedure. In the event that the authority omits to inform the petitioner of the resolution on his request, it will be considered that it has resolved to deny the request. The lack of resolution to the request may



The resolution of this matter may involve liabilities to the public servants responsible for such resolution, in accordance with the provisions of the applicable laws.

Article amended DOF 29-04-2004

ARTICLE 25. Once the concession or assignment title has been granted, the concessionaire or assignee shall have the right to exploit, use or take advantage of national waters during the term of the concession or assignment, pursuant to the provisions of this Law and its regulations.

The validity of the concession or assignment title begins on the day following the day on which it is notified in the case mentioned in the preceding Article.

The right of the concessionaire or assignee may only be affected by causes established in this Law and other applicable regulations, duly founded and motivated.

The concession, assignment and its extensions will be understood to be granted without prejudice to the rights of third parties registered in the Public Registry of Water Rights and do not guarantee the existence or invariability of the volume of water concessioned or assigned. The concessionaires or assignees will be obliged to comply with the provisions of this Law, the corresponding regulations or other applicable ordinances, as well as with the conditions of the title, permits and extensions, as the case may be, and to respond for damages caused to third parties and attributable to them.

The concessionaire, when the consumptive use established in the corresponding title is not altered, may totally or partially change the use of water under concession, provided that such variation is definitive and timely notifies the "Water Authority" for purposes of updating or modifying the respective discharge permit and updating the Public Registry of Water Rights. Otherwise, prior authorization from the Water Authority will be required. The authorization will always be necessary when the consumptive use established in the corresponding title is altered, the point of extraction, the discharge site or the volume or quality of the wastewater is modified.

The request for authorization referred to in the preceding paragraph must indicate the data of the concession title, the type of variation or modification to the use in question; those inherent to the modification of the point of extraction, the discharge site and the quality of the wastewater, the alteration of the consumptive use and the modification of the volume of water granted or assigned, which may not be greater than that granted or assigned; in case of proceeding, it will be necessary to present the environmental impact assessment, in terms of the Law.

The right of the concessionaire or assignee may only be affected by causes established in this Law, duly founded and motivated.

Together with the request for change of use, permission shall be requested to carry out the works required for the use.

The applicant will assume the obligation to destroy the previous works and, if applicable, to comply with the Mexican Official Standards, the particular discharge conditions and those established by this Law and the regulations derived from it.

Article amended DOF 29-04-2004

ARTICLE 26. Repealed.

Article repealed DOF 29-04-2004

ARTICLE 27. Repealed.

Article repealed DOF 29-04-2004



Chapter III

Rights and Obligations of Concessionaires or Assignees

ARTICLE 28. Concessionaires shall have the following rights:

- I. To exploit, use or take advantage of national waters and the assets referred to in Article 113 of this Law, under the terms of this Law and the respective title;
- II. To carry out at its own expense the works or works to exercise the right of exploitation, use or exploitation of water, under the terms of this Law and other applicable regulatory provisions;
- III. Obtain the constitution of the legal easements on the lands indispensable to carry out the use of water or its disposal, such as drainage, aqueduct and other easements established in the respective legislation or as may be agreed upon;
- IV. When appropriate according to the regulations in force, to transfer the rights of the securities they hold, in accordance with the provisions of this Law;
- V. To relinquish concessions or assignments and the rights derived therefrom;
- VI. Request administrative corrections or duplicates of their titles;
- VII. Request and, if applicable, obtain an extension of the certificates issued to them, for up to the same term of validity for which they were issued and under the conditions of the certificate in force, in accordance with the provisions of Article 24 of this Law, and
- VIII. Any other powers granted by this Law and the respective regional regulations derived from said Law.

Article amended DOF 29-04-2004

ARTICLE 29. The concessionaires shall have the following obligations, in addition to the others set forth in this Title:

- I. Execute the works and works for exploitation, use or exploitation of water under the terms and conditions established by this Law and its regulations, and verify their execution in order to prevent negative effects to third parties or to the water development of the supply sources or the hydrological basin; as well as to verify their execution within thirty days following the date of the conclusion of the term granted for their execution through the presentation of the corresponding notice;
- II. Install, within forty-five days following receipt of the respective title by the interested party, the respective water meters or other direct or indirect metering devices or procedures required by the applicable legal and regulatory provisions, as well as the Official Mexican Standards;
- III. To conserve and maintain in good operating condition the meters or other devices for measuring the volume of water exploited, used or exploited;
- IV. Pay punctually in accordance with the regimes established by the corresponding Law, the fiscal rights derived from the extractions, consumption and volumetric discharges carried out in relation to the exploitation, use or exploitation of the national waters that have been granted or assigned to it; the concessionaires will be informed that the non-compliance with this obligation will be considered as a breach of the law.



The suspension of the concession or assignment for more than one fiscal year will be sufficient reason for the suspension and, in case of recurrence, the revocation of the corresponding concession or assignment;

V. To cover the payments that correspond to them in accordance with the provisions of the Fiscal Law in force and other applicable provisions;

VI. To be subject to the general provisions and norms in matters of hydraulic safety and ecological balance and environmental protection;

VII. To operate, maintain and conserve the works necessary for the stability and safety of dams, flood control and other works required for hydraulic safety in accordance with the regulations;

VIII. Allow the personnel of "the Water Authority" or, as the case may be, of "the Attorney General's Office", as applicable and in accordance with this Law and its regulations, to inspect the hydraulic works to exploit, use or take advantage of national waters, including the drilling and extraction of water from the subsoil; the national assets in their charge; the drilling and illumination of national subsoil waters; and to allow the reading and verification of the operation and accuracy of meters, and other activities required to verify compliance with the provisions of this Law and its regulatory provisions, rules and titles of concession, assignment or discharge permit;

IX. Provide the information and documentation requested by the "Water Authority" or, as the case may be, the "Office of the Attorney General", in strict compliance with the deadlines established in accordance with the legal framework in force, to verify compliance with the provisions of this Law, the corresponding regional regulations, and those set forth in the concession, assignment or discharge permit titles referred to in this Law;

X. Comply with the requirements for efficient water use and reuse in accordance with the terms of the Mexican Official Standards or the specific conditions issued for this purpose;

XI. Not to exploit, use, exploit or discharge volumes greater than those authorized in the concession titles;

XII. Allow "the Water Authority", at the expense of the concessionaire, assignee or permit holder and as a tax credit for its collection, to install devices for measuring the water exploited, used or exploited, in the event that they do not do so themselves, without prejudice to the application of the penalties provided for in this Law and its respective regulations;

XIII. Give immediate written notice to the "Water Authority" in case the metering devices stop working, and the concessionaire or assignee must repair or replace such devices within 30 calendar days;

XIV. To take the necessary measures to prevent the contamination of the waters granted or assigned and to return them in adequate conditions in accordance with the discharge title that covers such discharges, in order to allow their exploitation, use or subsequent exploitation in other activities or uses and to maintain the balance of the ecosystems; failure to comply with this provision will imply: (1) the application of sanctions, the severity of which will be in accordance with the damage caused to water quality and the environment; (2) the payment of the fees corresponding to the discharges made in volume and quality, and (3) will be considered grounds that may lead to the suspension or revocation of the corresponding concession or assignment;

XV. Maintain the watercourses clean and expeditious, in the portion corresponding to its use, according to the respective concession or assignment title;



XVI. Submit a report every two years containing the chronological analyses and indicators of the quality of the water discharged by a laboratory certified by the Mexican Institute of Water Technology, and

XVII. Comply with the other obligations established in this Law and its regulations, and other applicable norms and with the conditions established in the concession or assignment titles.

Article amended DOF 29-04-2004

ARTICLE 29 BIS. In addition to the provisions of the preceding Article, the assignees shall have the following obligations:

I. Guarantee water quality in accordance with the parameters referred to in the Mexican Official Standards;

II. Discharge wastewater to receiving bodies after treatment, complying with the Mexican Official Standards or the particular discharge conditions, as the case may be, and seek its reuse, and

III. Assume the economic and environmental costs of the pollution caused by their discharges, as well as assume the responsibilities for the environmental damage caused.

Article added DOF 2004-04-29

ARTICLE 29 BIS 1. The assignees shall have the following rights:

I. To exploit, use, reuse or take advantage of national waters, under the terms of this Law and the respective title;

II. Obtain the constitution of the legal easements on the lands indispensable to carry out the use or disposal of water, such as those for drainage, aqueducts and others established in the respective legislation or as may be agreed upon;

III. Request administrative corrections or duplicates of their titles;

IV. Obtain an extension of the titles for the same term and conditions, in accordance with the provisions of Article 24 of this Law, and

V. Any other powers granted by this Law and applicable regulatory provisions.

Article added DOF 2004-04-29

Chapter III BIS

Suspension, Termination, Revocation, Restrictions and Easements of the Concession, Allocation and Discharge Permits

Chapter added DOF 2004-04-29. Name amended DOF 08-06-2012.

Section One

Suspension

Section added DOF 2004-04-29

ARTICLE 29 BIS 2. The concession or assignment for the exploitation, use or exploitation of waters and national assets in charge of the Federal Executive shall be suspended, regardless of the application of the appropriate penalties, when the usufructuary of the title:

Amended paragraph DOF 08-06-2012



- I. Does not cover the payments that, in accordance with the Law, it must make for the exploitation, use or exploitation of water or for the supply services thereof, until such situation is regularized;
- II. Does not cover the tax credits that are in its charge during a period longer than one fiscal year, due to the exploitation, use or exploitation of national waters and goods, or for the services of supply or use of the same, until it regularizes such situation;
- III. Opposes or obstructs the exercise of inspection, measurement or verification powers over the hydraulic resources and infrastructure granted or assigned, by authorized personnel;
- IV. Discharge of wastewater that affects or may affect sources of drinking water supply or public health and is so requested by the "Procuraduría" or the "Autoridad del Agua", and
- V. Failure to comply with the conditions or specifications of the concession or assignment title, unless it proves that such non-compliance is not attributable to it.

The suspension will not be applied if within ten working days following the day in which the authority in exercise of its powers has notified the usufructuary of the title and the latter proves that it has covered the payments or credits referred to in Sections I and II respectively, or demonstrates that the non-compliance provided for in Sections IV and V are not attributable to it, In such cases, the "Water Authority" shall decide within five working days following the presentation of evidence by the concessionaire or assignee, whether or not the suspension shall be applied, without prejudice to the provisions of this Law regarding prevention and control of water pollution and liability for environmental damage.

In the case provided for in Section III, the suspension will last until the concessionaire or assignee proves that the acts that gave rise to it have ceased, in which case the Water Authority will resume its powers of inspection, measurement and verification.

The suspension shall subsist only as long as the violator does not regularize his administrative situation or a resolution is issued by a competent authority decreeing its lifting.

Article added DOF 2004-04-29

Section Two Termination

Section added DOF 2004-04-29

ARTICLE 29 BIS 3. The concession or assignment for the exploitation, use or exploitation of national waters may only be terminated by:

- I. Expiration of the term established in the title, except when it has been extended under the terms of this Law;
- II. Resignation of the holder;
- III. Blinding of the use at the owner's request;
- IV. Death of the holder, when no inheritance rights are proven;
- V. Nullity declared by "the Water Authority" in the following cases:



- a. When false information has been provided to obtain the title or when in the issuance thereof there has been error or fraud attributable to the concessionaire or assignee;
 - b. When it is proven that the processing and titling process has been vitiated with the intervention of the concessionaire or assignee or through an intermediary;
 - c. For having been granted by an official without authority to do so;
 - d. For lack of object or subject matter of the concession, or
 - e. Having been issued in contravention of the provisions of this Law or the corresponding Regulations;
- VI.** Partial or total forfeiture declared by the "Water Authority" when the exploitation, use or exploitation of national waters is partially or totally stopped for two consecutive years, without explicit justified cause in this Law and its regulations.

This statement will be taken considering jointly the payment of duties made by the user under the terms of the Federal Law of Duties and the presumptive determination of the volumes used.

Extinction by partial or total forfeiture shall not apply when:

1. The total or partial non-use of all or part of the volume of water granted or assigned, due to an act of God or force majeure;
2. A court order or administrative resolution has been issued that prevents the concessionaire or assignee from temporarily disposing of the volumes of water concessioned or assigned, as long as these have not been issued for causes attributable to the user under the terms of the applicable provisions;
3. The concessionaire or assignee pays a non-expiration guarantee fee, proportional and in accordance with the provisions to be established, before two consecutive years without exploiting, using or taking advantage of national waters up to the total volume granted or assigned for the purpose of not losing its rights, and in terms of the regulations of this Law. In all cases, the "Water Authority" will verify the timely application of the provisions regarding the transfer of rights and their regulation;
4. Because it assigns or transfers its rights temporarily to the "Water Authority" in special circumstances.

This is the only permitted case of temporary transfer and refers to the transfer of rights to the "Water Authority" to attend to extraordinary droughts, serious overexploitation of aquifers or similar states of necessity or urgency;

5. The concessionaire or assignee has made investments aimed at increasing the efficiency of water use, and therefore only uses a part of the volume of water granted or assigned;
6. The concessionaire or assignee is making the corresponding investments, or executing the authorized works for the exploitation, use or exploitation of national waters, provided that it is within the term granted for such purpose.



The concessionaire or assignee that finds itself in any of the cases provided for in this Article, shall submit a written statement to the Water Authority within fifteen working days following the date on which the respective case arises.

The written notice must be accompanied by evidence that proves that the suspension is within the suspension assumption that is being invoked.

The concessionaire or assignee shall submit a written notice to the Water Authority within fifteen days following the date on which the events referred to in paragraphs 1, 5 and 6 of this Article cease to exist.

Regardless of the application of the appropriate sanctions, the failure to file the written notice referred to in the preceding paragraph shall not suspend the term for the expiration and the same shall be computed in the manner referred to in Section VI of this Article, unless the concessionaire or assignee proves that the assumptions ceased before the two-year term.

The expiration shall not operate if before the expiration of the two-year term, the holder of the concession or assignment, fully and definitively transfers its rights according to the availability of water and so certifies before the "Water Authority", in addition to paying the guarantee fee mentioned in Paragraph 3 of Section VI of this Article. In such case, the concession period stated in the original title shall prevail;

VII. Rescue by means of the respective declaration, in accordance with Section IV of Article 6 of this Law, of the concession or assignment for reasons of public utility or interest, through the payment of indemnification, the amount of which will be determined by experts, under the terms provided for the concession in the General Law of National Assets;

VIII. In the case of irrigation districts, when their respective regulations do not comply with the provisions of this Law and its regulations, and

IX. Final judicial or administrative rulings that so determine.

Article added DOF 2004-04-29

Section Three Revocation

Section added DOF 2004-04-29

ARTICLE 29 BIS 4. The discharge concession, assignment or permit may be revoked in the following cases:

Amended paragraph DOF 08-06-2012

- I. To dispose of water in volumes greater than one fifth of those authorized, when for the same reason the beneficiary's rights have been previously suspended;
- II. Exploit, use or take advantage of national waters without complying with the Mexican Official Standards on quality;
- III. To permanently or intermittently discharge wastewater in contravention of the provisions of this Law into receiving bodies that are national property, including marine waters, as well as when they infiltrate land that is national property or other land when they may contaminate the subsoil or aquifer, without prejudice to the sanctions established by the health, ecological balance and environmental protection provisions;



- IV. Use dilution to comply with Mexican Official Standards on ecological matters or particular discharge conditions;
- V. To carry out works for lighting, extracting or disposing of subsoil water in regulated, closed or reserved areas, without the permission of the "Water Authority";
- VI. Failure to pay in a timely manner or in full the contributions, benefits or tariffs established by the tax legislation for the exploitation, use or exploitation of national waters and national assets or for the supply services thereof, when for the same reason the beneficiary has been suspended in its right previously, even if it is a different fiscal year;
- VII. Failure to execute the works and works authorized for the use of water, its reuse and control of its quality under the terms and conditions set forth in this Law and other applicable legislation or those stipulated in the concession;
- VIII. Failure to carry out the works and works authorized for the use of water and control of its quality, under the terms and conditions set forth in this Law and its regulations, or to carry out works not authorized by the "Water Authority";
- IX. Damage ecosystems as a consequence of the exploitation, use or exploitation of national waters;
- X. Discharging wastewater containing hazardous materials or wastes that cause or may cause damage to health, natural resources, fauna, flora or ecosystems;
- XI. Transfer title rights without permission of "the Water Authority" or in contravention of the provisions of this Law;
- XII. Infringing the provisions on transfer of rights;
- XIII. Recidivism in any of the infractions foreseen in Article 119 of this Law;
- XIV. For using water other than that authorized, without permission from the "Water Authority";
- XV. To provisionally provide third parties with the total or partial use of concessioned waters without prior notice to the "Water Authority";
- XVI. Failure to comply with the provisions of the Law with respect to the exploitation, use or exploitation of national waters or preservation and control of their quality, when for the same cause the offender has been previously sanctioned by means of a final resolution, in accordance with sections II and III of Article 120 of this Law;
- XVII. For non-compliance with preventive and corrective measures ordered by the "Water Authority";
Reformed fraction DOF 08-05-2023
- XVIII. When, in order to obtain or maintain a concession, the holder has submitted false documentation;
Reformed fraction DOF 08-05-2023



- XIX.** For supervening events or acts of public, general or social interest, or that cause some type of economic, social, environmental or any other type of imbalance;
Section added DOF 08-05-2023
- XX.** Failure to comply with the Restoration, Closure and Post-closure Program provided for in the General Law of Ecological Balance and Environmental Protection, and
Section added DOF 08-05-2023
- XXI.** Any others provided for in this Law, in its regulations or in the concessions themselves.
Section added DOF 08-05-2023

Upon termination of the concession or assignment or its last extension, or when the title has been revoked for non-compliance, in accordance with the provisions of this Law, the works and facilities permanently attached to national assets must revert to "the Commission".

Article added DOF 2004-04-29

Section Four Water Use Restrictions

Section added DOF 2004-04-29

ARTICLE 29 BIS 5. The Federal Executive, through the "Water Authority", shall have the power to deny the concession, assignment or discharge permit in the following cases:

- I.** When the use of water flows determined in the National Water Program and regional water programs is requested, in order to guarantee adequate economic, social and environmental development of human settlements;
- II.** When it involves the affectation of regulated zones or those declared for protection, closure, water reserves, and for the preservation or reestablishment of vital ecosystems and the environment;
- III.** When it affects the minimum ecological flow, which is part of the Environmental Use referred to in Section LIV of Article 3 of this Law, in accordance with the respective regional regulations;
- IV.** When the applicant does not comply with the requirements of the Law;
- V.** In the case of a transfer of rights in the making and the original holder has not timely paid the guarantee fee referred to in Paragraph 3 of Section VI of Article 29 BIS 3 of this Law, and there are sufficient elements to determine that there is a monopolization or concentration of water resources tending to monopolistic practices contrary to the social interest;
- VI.** When waters subject to international agreements are affected, when the requests do not comply with said agreements, with the provisions of this Law and other applicable legal ordinances;
- VII.** When the Federation decides to undertake direct exploitation of the volumes requested;
- VIII.** When water resources programmed for the creation or sustenance of national reserves are affected, and
- IX.** When there is a cause of public interest or social interest.
Article added DOF 2004-04-29

Section Five



Easements

Section added DOF 2004-04-29

ARTICLE 29 BIS 6. "The Water Authority" may impose easements on public or private property, observing in this respect the legal framework of the Federal Civil Code and legal administrative provisions, which shall be applied as appropriate to those areas indispensable for the use, reuse, exploitation, conservation, and preservation of water, vital ecosystems, defense and protection of banks, roads and, in general, for the hydraulic works that require them.

Natural easements are considered to be those national property watercourses in which there are no infrastructure works. The owner of the dominant estate may not aggravate the subjection of the servient estate.

Forced or legal easements are considered to be those established on land used for the construction of hydraulic works such as reservoirs, diversions, direct intakes and other catchments, conduction works, treatment, drainage, riverbank protection works and complementary works, including roads for passage and surveillance.

Article added DOF 2004-04-29

Chapter IV Public Registry of Water Rights

ARTICLE 30. "The Commission" at the national level and the Basin Organizations at the level of the hydrological-administrative regions, shall keep the Public Registry of Water Rights in which they shall be registered:

- I. The titles of concession and assignment of national waters, and their inherent public goods, as well as the permits for wastewater discharges indicated in this Law and its regulations;
- II. Extensions granted in connection with concessions, assignments and permits;
- III. Modifications and rectifications in the characteristics of the registered titles and acts;
- IV. The transfer of concession titles under the terms established by this Law and its regulations;
- V. The suspension, revocation or termination of the aforementioned titles, and the required references of the acts and contracts related to the transfer of their ownership;
- VI. The final judgments of the judicial and administrative courts, in which the modification, cancellation or rectification of the concession or assignment titles is ordered, provided that such judgments are notified by the jurisdictional body, by the competent authority or filed by the interested parties before "the Commission" or the corresponding Basin Agency;
- VII. Resolutions issued by the Head of the Federal Executive or by the Superior Agrarian Court that extend or provide water, prior to the issuance of the concession title by "the Water Authority";
- VIII. The user lists of the irrigation districts, duly updated;
- IX. The water availability studies referred to in Article 19 BIS and other provisions contained in this Law, and



X. The regulated areas, closed areas and declarations of national water reserves established in accordance with this Law and its regulations.

The Public Registry of Water Rights by hydrological-administrative region will provide the service of access to information and dissemination of the same, regarding the titles of concession, assignment and discharge permits referred to in this Law, as well as the legal acts that, pursuant to the same and its regulations, require public faith to be effective before third parties. The rendering of this service will cause the corresponding fees to be specified by the competent authority in terms of the Law.

"The Commission shall make the necessary arrangements for the operation of the Public Registry of Water Rights by hydrological-administrative region in the Basin Organizations and, based on their records, shall integrate the Public Registry of Water Rights at the National level.

The acts carried out by the "Water Authority" shall be registered ex officio; those relating to the total or partial transfer of titles, as well as changes made in their characteristics or ownership, shall be registered at the request of the interested party, in order of presentation and when the requirements established in the regulations of this Law are met.

Article amended DOF 29-04-2004

ARTICLE 30 BIS. The Public Registry of Water Rights is competent to:

- I. To authorize the opening and closing of the books or folios, as well as the entries to be made;
- II. To issue the certifications and certificates that may be requested, as well as to attend and resolve the consultations that may arise in registry matters;
- III. To make preventive annotations;
- IV. Produce statistical and cartographic information on registered rights;
- V. Keeping the copies of the registered titles, and
- VI. Any other duties specifically assigned to it by the regulatory provisions.

Article added DOF 2004-04-29

ARTICLE 31. Proof of the registration of titles in the Public Registry of Water Rights constitutes evidence of their existence, ownership and status. The registration shall be a condition for the transfer of the titles to be legally effective before third parties, the "Water Authority" and any other authority.

Any person may consult the Public Registry of Water Rights and request at his own expense certifications of the registrations and documents that gave rise thereto, as well as on the non-existence of a registration or of a subsequent registration in relation to a given one.

The Public Registry of Water Rights may modify or rectify a registration when it is requested by the affected party, the existence of the omission or error is accredited, and third party rights are not prejudiced or there is consent of a legitimate party in authentic form. Claims for refusal, rectification, modification and cancellation of registrations that harm third parties, as well as those that refer to the nullity thereof, shall be resolved by the "Water Authority" under the terms of this Law and its regulations.



"The Water Authority" shall provide the necessary for the respect of the rights registered in the Public Registry of Water Rights.

Requests for registration, certificates, certifications, consultations and other registry services may be made by facsimile transmission or by electronic mail, provided that the interested party or his legal representative so requests. For the corresponding effects, the applicants shall keep a record of the transmission and a copy of the transmitted document, and shall comply with the applicable provisions.

The Public Registry of Water Rights shall be organized and operate under the terms of the regulations of this Law.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

ARTICLE 32. The Public Registry of Water Rights shall also keep a permanent national registry, by basins, hydrological regions, states, Federal District and municipalities, of the water supply works and subsoil water springs, in order to know the behavior of the aquifers and, if necessary, regulate their exploitation, use or exploitation.

"The Water Authority shall request the data from the landowners, regardless of whether they are located within or outside a regulated or closed zone. The landowners will be obliged to provide this information and the information related to the drilling or illumination works they have carried out.

Article amended DOF 29-04-2004

Chapter V Transfer of Securities

ARTICLE 33. The concession titles for the exploitation, use or exploitation of national waters, legally in force and recorded in the Public Registry of Water Rights, as well as the Discharge Permits, may be definitively transferred in whole or in part, based on the provisions of this Chapter and those additional ones provided for in the Law and its regulations.

The concession titles for the exploitation, use or exploitation of national waters, for their transfer shall be subject to the following:

Amended paragraph DOF 08-06-2012

I. In the case of a change of titleholder, when the characteristics of the concession title are not modified, the transfer will proceed by means of a written request submitted to "the Water Authority", who will issue the corresponding agreement of acceptance or not, as well as the registration in the Public Registry of Water Rights;

II. In the event that, in accordance with the regulations of this Law, the rights of third parties may be affected or the hydrological or environmental conditions of the respective basins or aquifers may be altered or modified, prior authorization shall be required from the "Water Authority", which may, as the case may be, grant it, deny it or instruct the terms and conditions under which the requested authorization is granted, and

III. The presentation before the Regional or National Registry, in the case of those titles authorized by the "Water Authority", through general agreements issued by hydrological region, hydrological basin, state or Federal District, zone or locality, authorization will be granted only for the transfer of the respective titles, within the same basin or aquifer. The aforementioned agreements must be published in the **Official Gazette of the Federation**.



When rights are not transferred or the respective title is modified, if the holder of a concession intends to provisionally provide third parties with the total or partial use of the concessioned waters, action shall be taken in accordance with the provisions of Article 23 BIS and the regulations of this Law.

Article amended DOF 29-04-2004

ARTICLE 34. The Water Authority, under the terms of the applicable regulations and by means of regional agreements, by river basin, state or Federal District, zone or locality, may authorize the transfer of the respective titles, within the same river basin or aquifer, upon a well-founded and reasoned request, provided that the operation of the water systems is not affected and their carrying capacity is respected.

The agreements referred to in this Article shall be published in the **Official Gazette of the Federation**, and in the newspapers with the largest circulation in the corresponding hydrological region.

In the cases of transfer of titles referred to in this Article, the application for registration in the Public Registry of Water Rights shall be made within fifteen working days following the date of authorization by the Water Authority, and until then said registration shall produce effects before third parties, provided that the act or contract of transfer has been executed in advance.

The notice or request for authorization of transfer of rights shall be made in the form and terms established by the Law for promotions; they shall also comply with the requirements established by the regulations of this Law.

The competent authorities may grant the authorization, deny it or instruct the terms and conditions under which it shall be granted.

In the case of the transfer of rights referred to in the Law, the acquirer is obliged to give notice and prove before the aforementioned authorities, within fifteen days following the notice of transfer or the authorization granted, that he is effectively using the volume of water subject to the transfer in accordance with the use of the discharge concession or permit.

The registration of the transfer made shall not prejudice and shall not affect the rights of third parties.

Article amended DOF 29-04-2004

ARTICLE 35. The transfer of rights to exploit the use or exploitation of subsoil waters in closed or regulated zones shall be agreed upon together with the transfer of ownership of the respective lands, and in any case shall be definitive, total or partial.

If it is desired to carry out the transfer separately, it may be done in the manner and under the terms provided for in the regulations of this Law. In any case, there shall be joint and several liability between the person transferring and the person acquiring the rights, to defray the expenses caused by the closure of the well that will not be used.

In no case shall acts of transfer of titles of assignment of national waters be celebrated.

Once the transfer of rights has been effected, the Water Authority will issue, in favor of the acquirer, after prior notice or authorization, the appropriate concession title.

Article amended DOF 29-04-2004

ARTICLE 36. When the ownership of a concession is transferred, the acquirer shall be subrogated to the rights and obligations thereof.



Article amended DOF 29-04-2004

ARTICLE 37. Transmissions made in contravention of the provisions of this Law shall be null and void and shall not produce any effect.

The transfer, for industrial use in mining, of the rights to exploit, use or take advantage of national waters for any other use is prohibited.

*Paragraph added DOF 08-05-2023
Article amended DOF 29-04-2004*

ARTICLE 37 BIS. "The Commission" may definitively or temporarily establish instances in which regulated operations for the transfer of rights are managed, which shall be called "water banks", the functions of which shall be determined in the respective regulations.

Article added DOF 2004-04-29

TITLE FIVE

Regulated, Closed or Reserve Zones Sole Chapter

ARTICLE 38. The Federal Executive, after the technical studies to be prepared for this purpose, and The Ministry of the Environment, in accordance with the provisions of Articles 6 and 7 of this Law, may decree the establishment of regulated areas, closed areas or declare a water reserve, taking into consideration the national water and hydrological basin programs and the needs of national, regional and local land use planning.

Additionally, the Federal Executive may declare as disaster zones those hydrological basins or hydrological regions that, due to natural or man-made circumstances, present or may present irreversible risks to any ecosystem.

Article amended DOF 29-04-2004

In the decree establishing the regulated zone referred to in the preceding Article, the Federal Executive shall establish the volumes of extraction, use and discharge that may be authorized, the modalities or limits to the rights of the concessionaires and assignees, as well as any other special provisions that may be required for reasons of public interest.

In cases of extraordinary droughts, serious overexploitation of aquifers or conditions of necessity or urgency due to force majeure, the Federal Executive shall adopt the necessary measures to control the exploitation, use or exploitation of national waters, which shall be established when issuing the corresponding decree for the establishment of regulated zones.

Article amended DOF 29-04-2004

ARTICLE 39 BIS. The Federal Executive may issue Decrees for the establishment of Closed Zones for the exploitation, use or exploitation of national waters, in cases of overexploitation of national waters, whether surface or subsoil, drought or extreme shortage or emergency or urgent situations, caused by water pollution or situations derived from the exploitation, use or exploitation of national waters, when:

I. It is not possible to maintain or increase surface or subsoil water withdrawals above a certain annual volume fixed by "the Water Authority", without affecting the sustainability of the resource and without the risk of inducing adverse economic or environmental effects on the water sources of the area in question or on the users of the resource, or



II. Water uses are required to be prohibited or limited in order to protect water quality in watersheds or aquifers.

Article added DOF 2004-04-29

ARTICLE 40. The decrees establishing, modifying or suppressing closed areas shall contain the location and delimitation thereof, as well as its consequences or modalities.

The corresponding decree of closure shall state:

- I. The declaration of public utility;
- II. The characteristics of the closure, its modification or elimination;
- III. The intended consequences of implementing the ban;
- IV. The location and delimitation of the closed area;
- V. Description of the affected water ecosystem or ecosystems;
- VI. The diagnosis of damage to water ecosystems, the available volume of water and its territorial distribution, as well as the volumes of abstraction, recharge and runoff;
- VII. The bases and provisions to be adopted by the "Water Authority", regarding the form, conditions and, as the case may be, limitations, in relation to temporary or definitive extractions or discharges;
- VIII. The issuance of norms that regulate uses and discharges, in relation to the previous section, including the creation and updating of standards;
- IX. The extraction volumes referred to in the two preceding fractions, and
- X. The time period during which the closed season, water reserve or regulated zone will be in effect, which may be extended if the conditions set forth in Articles 38 and 39 of this Law persist.

The corresponding basin organization shall promote the organization of the users of the respective closed zone, so that they may participate in its implementation.

Article amended DOF 29-04-2004

The Federal Executive may declare or lift by decree the total or partial reservation of national waters for the following purposes:

- I. Domestic Use and Urban Public Use;
- II. Generation of electric energy for public service, and
- III. Guarantee minimum flows for ecological protection, including the conservation or restoration of vital ecosystems.

"The Water Authority" shall make the necessary provisions to incorporate the reserves into regional and national water programming.

Article amended DOF 29-04-2004



ARTICLE 42. For the exploitation, use or exploitation of subsoil waters in regulated or closed areas decreed by the Federal Executive, including those that have been freely illuminated, shall require:

- I. Concession or assignment for its exploitation, use or exploitation;
- II. An integrated management program for each basin and aquifer to be exploited, and
- III. Permits for drilling works, replacement or relocation of wells, or other modifications to the conditions of use, carried out as from the decree of closure or regulation.

Concessions or allocations shall be subject to the requirements established in Articles 21 and 21 BIS of this Law and shall be granted in accordance with the respective availability studies, taking into account the volume of water used or exploited on average in the last year immediately prior to the respective decree, and which have been registered in the Public Registry of Water Rights.

In the absence of such registration in the aforementioned Registry, the volume fiscally declared for purposes of payment of the federal right for use or exploitation of water, in the last fiscal year, will be taken into account.

In those cases in which the exploitation, use or exploitation cannot be determined in accordance with the provisions of the two preceding paragraphs, the volume of water shall be determined in accordance with the procedures established by the respective regulations.

Article amended DOF 29-04-2004

ARTICLE 43. In the cases of the preceding Article, it shall be necessary to apply to the "Water Authority" for a permit to carry out:

- I. Drilling with the purpose of completing the authorized volume, if once the hydraulic work is completed, the same is not obtained;
- II. Well replacement, and
- III. Deepening, relocation or change of well equipment.

The permit shall take into account the extractions allowed under the terms of Article 40 of this Law.

Article amended DOF 29-04-2004

SIXTH TITLE **Water Uses**

Chapter I **Urban Public Use**

ARTICLE 44. The exploitation, use or development of national surface or subsoil waters by the Federal District, state or municipal drinking water and sewerage systems shall be carried out by means of an assignment granted by the "Water Authority", pursuant to the terms set forth in Title Four of this Law.

Allocations of national waters to population centers that have been granted to municipalities, states, or the Federal District, which administer the respective water systems.



The water supply and sewage systems will subsist even when these systems are administered by parastatal or paramunicipal entities, or are granted to private parties by the competent authority.

It is the responsibility of the municipality, the Federal District and, in terms of the Law, the State, as well as the agencies or companies that provide drinking water and sewage services, to treat urban public wastewater prior to its discharge into receiving bodies of national property, in accordance with the respective Official Mexican Standards or the particular discharge conditions determined by the "Water Authority".

In the assignment titles granted, the volume assigned for the provision of the public service will be expressly established in accordance with the data provided by the municipalities, the states and the Federal District, as the case may be.

The assignment titles granted by the "Water Authority" to the municipalities, the states or the Federal District, as the case may be, for the provision of drinking water services, will have at least the same data as the application and will indicate the causes for the expiration of the rights derived therefrom.

The municipalities that enter into agreements among themselves or with the corresponding states, for the rendering of public drinking water, sewage and sanitation services and the exercise of the functions for which they are responsible, as well as for rendering services in matters of urban public use, will be directly responsible for the compliance of their obligations before the water authorities, in terms of this Law, its Regulations and the corresponding titles, being the states or those in charge of rendering the service, jointly and severally responsible for the compliance of the corresponding obligations.

The municipalities, the states and, if applicable, the Federal District, may agree with the Basin Organizations with the assistance of "the Commission", the establishment of regional systems for the treatment of wastewater discharges that have been discharged into a receiving body of national property and their reuse, according to the studies carried out for such purpose and in which the part of the costs to be covered by each of the municipalities, the states and, if applicable, the Federal District, will be foreseen.

Persons who infiltrate or discharge wastewater into the soil or subsoil or receiving bodies other than the municipal sewage systems of the populations, must obtain the respective discharge permit, under the terms of this Law regardless of the origin of the sources of supply.

Discharges of wastewater for domestic use that are not part of a municipal sewage system may be carried out subject to the Mexican Official Standards issued for such purpose and by means of a notice.

Article amended DOF 29-04-2004

ARTICLE 45. The municipal authorities, with the assistance of the state governments under the terms of this Law, are responsible for the exploitation, use or development of the national waters assigned to them, including waste waters, from the point of their extraction or delivery by the Water Authority to the site of their discharge into receiving bodies that are national assets. The exploitation, use or development may be carried out by such authorities through their parastatal entities or concessionaires under the terms of the Law.

In the reuse of wastewater, the rights of third parties related to the volumes of wastewater registered in the Public Registry of Water Rights must be respected.

Article amended DOF 29-04-2004



ARTICLE 46. "The Water Authority" may carry out partially or totally, after entering into an agreement with the governments of the states or of the Federal District and, through them, with the governments of the corresponding municipalities, the works of catchment or storage, conduction and, if applicable, treatment or potabilization for water supply, with funds belonging to the federal treasury or with funds obtained with a guarantee or through any other form of guarantee granted by the Federation, provided that the following requirements are met:

I. The works are located in more than one state, or have multiple water uses, or are expressly requested by the interested parties;

II. That the governments of the states, the Federal District and the respective municipalities participate, as the case may be, with funds and investments in the work to be constructed, and that the necessary financing is obtained;

III. That the recovery of the investment is guaranteed, in accordance with the applicable tax legislation, and that the user or system of users commits to an efficient administration of the water systems and to take care of the quality of the same; in relation to this section, the Authority will adopt the necessary measures to attend to the infrastructure needs of the economically and socially less favored zones and sectors;

IV. That the states, the Federal District and the respective municipalities, and their parastatal or paramunicipal entities, or legal entities contracted for this purpose, assume the commitment to operate, conserve, maintain and rehabilitate the hydraulic infrastructure, and

V. That in the case of rural communities, the beneficiaries are integrated into the planning, execution, operation, administration and maintenance processes of the drinking water and sanitation systems.

The respective agreements or covenants shall establish the related commitments.

Article amended DOF 29-04-2004

ARTICLE 47. Discharges of wastewater into national property or its infiltration into land that may contaminate the subsoil or aquifers shall be subject to the provisions of Title Seven of this Law.

"The Water Authority shall promote the use of wastewater by municipalities, operating agencies or third parties from potable water and sewage systems.

Article amended DOF 29-04-2004

ARTICLE 47 BIS. "The Water Authority" shall promote among the public, private and social sectors, the efficient use of water in towns and urban centers, the improvement of water management in the respective systems, and actions for the management, preservation, conservation, reuse and restoration of wastewaters related to the use included in this Chapter.

Article added DOF 2004-04-29

Chapter II Agricultural Use

Section One General Provisions

ARTICLE 48. Ejidatarios, commoners and small landowners, as well as ejidos, communities, societies and other persons who are owners or possessors of agricultural land,



The right to exploit, use or exploit the national waters granted to them under the terms of this Law shall be available to livestock or forestry farmers or foresters.

In the case of water concessions for irrigation, the Water Authority may authorize its total or partial use in lands other than those indicated in the concession, when the new acquirer of the rights is the owner or possessor thereof, provided that no damage is caused to third parties.

Article amended DOF 29-04-2004

ARTICLE 49. The rights of exploitation, use or exploitation of water for agricultural, livestock or forestry use may be transferred under the terms and conditions established in this Law and its regulations.

In the case of irrigation units, districts or systems, the transfer of water exploitation, use or exploitation rights shall be made in compliance with the terms of the respective regulations issued by them.

Article amended DOF 29-04-2004

ARTICLE 50. Concessions may be granted to:

I. Individuals or legal entities for the exploitation, use or individual exploitation of national waters for agricultural purposes, and

II. Legal entities to manage or operate an irrigation system or for the exploitation, use or common use of national waters for agricultural purposes.

ARTICLE 51. For the administration and operation of the systems or for the common use of the waters referred to in Section II of the preceding Article, the legal entities shall have a regulation that includes:

I. The distribution and administration of concessioned waters, as well as the way in which decisions will be made by the users as a whole;

II. The way to guarantee and protect the individual rights of its members or irrigation service users and their participation in the administration and surveillance of the system;

III. The form of operation, conservation and maintenance, as well as to make investments for the improvement of the infrastructure or common system, and the form in which the costs incurred will be recovered through self-sufficiency quotas. It will be mandatory for the members or users to pay the self-sufficiency quotas established in order to continue receiving the service or to carry out the use;

IV. The rights and obligations of members or users, as well as penalties for non-compliance;

V. The form and conditions to which the transfer of individual rights of exploitation, use or exploitation of water among the members or users of the common system shall be subject;

VI. The terms and conditions under which the concession title, or the surplus water obtained, may be totally or partially transferred to third parties;

VII. The procedure by which members' or users' disagreements shall be substantiated;

VIII. The form and terms in which the merger, spin-off, extinction and liquidation shall be carried out;



- IX. The form and terms in which it will keep the user registry;
- X. The form and terms of payment for irrigation services;
- XI. The necessary measures to promote the efficient use of water;
- XII. Measures for the control and preservation of water quality, under the terms of the Law, and
- XIII. Any others arising from this Law and its regulations or agreed upon by the members or users.

The by-laws and their modifications shall require the favorable agreement of two thirds of the votes of the general assembly expressly called for such purpose.

The volumes saved by the increase in water use efficiency will not be a reason for reducing the volumes of water under concession, when the investments and modernization of irrigation infrastructure and technification have been made by the concessionaires, as long as there is availability.

Article amended DOF 29-04-2004

The right of exploitation, use or exploitation of water by the members or users of the legal entities referred to in Section II of Article 50 of this Law shall be specified in the register that the concessionaire shall keep for such purpose, under the terms of the regulations referred to in the preceding Article.

The registry shall be public, shall constitute a means of proof of the existence and status of the rights and shall be available for consultation by the interested parties.

The rights registered in the registry may not be affected without prior hearing of the possible affected party.

The members or users registered in the registry will have the obligation to periodically provide the information and documentation that allows its updating.

Article amended DOF 29-04-2004

ARTICLE 52 BIS. The Federal Executive, through "the Commission" by means of the River Basin Organizations, shall promote the organization of the users of the water referred to in this Chapter and the construction of the necessary infrastructure for the use of water for agricultural purposes and shall be considered in this respect:

- I. Sources of supply, by hydrological basin;
- II. Volumes of surface water and groundwater;
- III. The water program by hydrological basin;
- IV. The perimeter of the irrigation district, unit or system, as well as the area with irrigation rights that make up the irrigation district, unit or system;
- V. The requirements to provide irrigation service;
- VI. The census of landowners or landowners, and



VII. The other requirements established in this Law, according to the title issued.

Article added DOF 2004-04-29

ARTICLE 53. The provisions of Articles 50 to 52 of this Law shall apply to irrigation units and districts.

When the ejidos or communities are part of the units or districts referred to in the preceding paragraph, they shall be subject to the provisions of this ordinance.

Ejidos or communities that are not included in the irrigation units or districts will be considered concessionaires for the purposes of this Law and, in the event that they have common irrigation systems or make common use of water, the provisions of Articles 51 and 52 of this Law will apply with respect to such systems or use; in this case, the ejidatarios or communal owners who use or take advantage of such systems or use will be the ones to establish the respective internal regulations.

Article amended DOF 29-04-2004

ARTICLE 54. The individuals or legal entities that constitute an irrigation unit or district may partially or totally vary the use of water, pursuant to the provisions of their respective regulations, with the intervention, under the terms of the Law, of the Water Authority.

Article amended DOF 29-04-2004

Section Two Ejidos and Communities

ARTICLE 55. The exploitation, use or exploitation of water in ejidos and communities for human settlement or for lands for common use shall be carried out in accordance with the internal regulations formulated by the ejido or community for such purpose, taking into account the provisions of Article 51 of this Law.

When an ejido or community has been divided into plots, the exploitation, use or exploitation of the water necessary for the irrigation of the respective plot corresponds to the ejidatarios or communal owners.

In no case may the assembly or the ejidal commissariat use, dispose of or determine the exploitation, use or exploitation of water destined for the parcels without the prior and express consent of the ejidatarios owning said parcels, except in the case of water that is indispensable for the domestic needs of the human settlement.

Article amended DOF 29-04-2004

When the General Assembly of the ejido resolves that the ejidatarios may adopt full ownership of the parcel, the rights to exploit, use or exploit the water necessary for irrigation of the parceled land shall be deemed transferred, and the respective sources or volumes shall be specified, taking into account the water rights they have been enjoying. Where appropriate, it will establish the required modalities or easements.

The adoption of full dominion over ejido parcels implies that the ejidatario or communal owner will exploit, use or exploit the water as a concessionaire, for which he must have the respective title, under the terms of this Law and its regulations.

Ejidatarios who, in accordance with the Agrarian Law, assume full ownership of their plots will retain the rights to exploit, use or take advantage of the water they have been using. "The Water Authority shall grant the corresponding concession at the request of the interested party, with no other requirement than to have official proof of the cancellation of the registration of the parcel in question.



When granting the concession to the applicant, the "Water Authority" will subtract from the volume of water recorded in the ejido endowment, restitution or accession, the volume that will be covered by the requested concession. The concession and the reduction of the referred volume will be registered in the Public Registry of Water Rights.

Article amended DOF 29-04-2004

ARTICLE 56 BIS. In cases where ejidatarios or comuneros transfer ownership of land in accordance with the Law, they may also transfer their water rights.

Ejidos and communities, as well as ejidatarios and comuneros within irrigation districts and units, shall be governed by the provisions of this Law and its Regulations.

When ejidatarios and comuneros in irrigation units and districts assume full individual dominion over their plots, their corresponding water rights will be registered in the Public Registry of Water Rights and in the register of associations or societies of users holding concessions for the exploitation, use or exploitation of national waters.

Article added DOF 2004-04-29

ARTICLE 57. When the ownership of ejido lands or lands for common use is transferred or the usufruct of plots of land is contributed to civil or mercantile corporations or to any other legal entity, under the terms of the Agrarian Law, said persons or acquiring corporations shall retain the rights over the exploitation, use or development of the corresponding waters. "The Water Authority, at the request of the interested party, shall grant the corresponding concession under the terms of this Law and its regulations.

Article amended DOF 29-04-2004

Section Three Irrigation Units

ARTICLE 58. Rural producers may freely associate among themselves to form legal entities, for the purpose of integrating systems that allow providing agricultural irrigation services to various users, for which purpose they shall form irrigation units under the terms of this Section.

In this case, the concession of national waters shall be granted to the legal entities grouping such users, who shall receive freely transferable certificates in accordance with the regulations of this Law. The latter will not be obligatory within the irrigation districts.

Article amended DOF 29-04-2004

ARTICLE 59. Individuals or legal entities may form a legal entity and constitute an irrigation unit for the purpose of:

I. Build and operate its own infrastructure to provide irrigation service to its members;

II. Construct irrigation infrastructure works in co-investment with federal, state and municipal public resources and take charge of their operation, conservation and maintenance to provide irrigation services to its members, and

III. Operate, conserve, maintain and rehabilitate federal public infrastructure for irrigation, the use or exploitation of which has been requested in concession to "the Commission" through the corresponding Basin Organization.

Article amended DOF 29-04-2004



ARTICLE 60. The respective construction permit and, if applicable, the concession for the exploitation, use or development of the public property referred to in Article 113 of this Law shall be included in the title of concession of national waters granted by the competent River Basin Agency to the irrigation units.

The bylaws of the legal entity and the regulations of the irrigation units shall contain the provisions of Article 51 of this Law and may not contravene the provisions of the respective concession title.

Article amended DOF 29-04-2004

In the case referred to in Section II of Article 59 of this Law, corporations shall be obliged to pay the recoverable part of the federal investment in accordance with the Law, and to grant the guarantees established for its compliance.

In the same case, "the Commission" shall issue the regulations for the construction, conservation and maintenance of the infrastructure works required by the irrigation units, and may construct them partially or totally through the competent River Basin Organization or by itself, in the cases provided for in Section IX of Article 9 of this Law, after consultation with the producers and, if applicable, with the prior execution of the agreement or arrangement with the governments of the states, the Federal District and the corresponding municipalities.

Article amended DOF 29-04-2004

In the cases referred to in Sections II and III of Article 59 of this Law, the governing body of the legal entities shall propose to the general assembly the operating regulations and the amount of the self-sufficiency quotas required.

"The Water Authority may review the activities and manner of rendering the irrigation service, dictate corrective measures and intervene in the administration under the terms to be established in the operating regulations.

The operating regulations and the amount of the self-sufficiency quotas, as well as their modifications, will require the sanction of "the Water Authority".

Article amended DOF 29-04-2004

ARTICLE 63. The irrigation units that so agree may form an irrigation district. Notwithstanding the foregoing, the irrigation units may freely associate among themselves, for the purposes of Article 14 of this Law.

The provisions established for irrigation districts shall apply to the irrigation units.

Article amended DOF 29-04-2004

Section Four Irrigation Districts

ARTICLE 64. The irrigation districts shall be integrated with the areas comprised within their perimeter, the hydraulic infrastructure works, the surface and subsoil waters destined to provide the water supply service, the storage vessels and the facilities necessary for their operation and functioning.

Article amended DOF 29-04-2004

ARTICLE 65. The irrigation districts shall be administered, operated, conserved and maintained by the users thereof, organized under the terms of Article 51 of this Law or by whomsoever they may designate, for which purpose "the Commission", through the Basin Organizations, shall grant the concession of the



water and, as the case may be, the necessary public infrastructure to the legal entities that they create for this purpose.

The users of the district may acquire the infrastructure of the irrigation zone under the terms of the Law.

Article amended DOF 29-04-2004

ARTICLE 66. In each irrigation district, a hydraulic committee shall be established, whose organization and operation shall be determined in the regulations to be prepared and applied by each district, which shall act as a collegiate body for consultation for the adequate management of water and infrastructure.

The hydraulic committee shall propose a regulation for the respective irrigation district and shall supervise its compliance. The regulations may not contravene the provisions of the concession and shall be subject to the sanction of the corresponding basin organization.

The irrigation service regulations shall comply with the provisions of Article 51 of this Law.

Article amended DOF 29-04-2004

ARTICLE 67. In irrigation districts, users shall have the right to receive water for irrigation upon compliance with the following:

a. To be part of the respective users' register, which shall be integrated and updated by the competent Basin Organization with the information and support provided by the users, individually and through their organizations; and

b. To have a single planting permit issued for this purpose, the characteristics of which will be defined by the relevant Authority.

Once the register has been created, it will be the responsibility of the concessionaire to keep it updated under the terms of the district's regulations and it will be registered in the Public Registry of Water Rights.

Article amended DOF 29-04-2004

ARTICLE 68. The users of the irrigation districts are obliged to:

I. Use water and irrigation service in accordance with the terms of the district's regulations, and

II. Pay the self-sufficiency fees for irrigation services agreed upon by the users themselves, which shall cover at least the administration and operation expenses of the service and the conservation and maintenance of the works. Such self-sufficiency fees shall be subject to the authorization of the corresponding Basin Organization, which may object to them when they do not comply with the above.

Failure to comply with the provisions of this Article shall be sufficient to suspend the provision of irrigation services until the offender regularizes his situation.

Suspension for non-payment of the self-sufficiency quota for irrigation services may not be decreed in an agricultural cycle when there are standing crops.

Article amended DOF 29-04-2004

ARTICLE 69. In agricultural cycles in which, due to force majeure, water is insufficient to meet the demand of the irrigation district, the distribution of available water shall be made by the respective Basin Organization under the terms set forth in the district regulations.

Article amended DOF 29-04-2004



ARTICLE 69 BIS. The users of the irrigation districts shall respect the irrigation programs determined in accordance with the availability of water for each agricultural cycle. The carrying out of sowings not included in the irrigation and sowing programs approved by the competent authorities for such purpose for that agricultural cycle shall cause the suspension of the right to irrigation service, even when there are standing crops.

When there is a shortage of water and the users who have their own means for irrigation have satisfied the water needs derived from the authorized surface area in their lists, they must deliver to the irrigation district the surplus volumes determined by the corresponding Basin Organization. Those users in the district that benefit from the use of such surplus volumes shall cover the costs incurred by the users or associations of users that have had surplus volumes.

Article added DOF 2004-04-29

ARTICLE 70. Total or partial transfers of water exploitation, use or exploitation rights within an association of users of an irrigation district shall be subject to the provisions of the regulations of the unit in question.

Total or partial transfers of the rights of exploitation, use or exploitation of national waters between associations of users of the same district may be made under the terms of the district regulations.

The total or partial transfer of the rights of exploitation, use or exploitation of national waters under concession, to individuals or legal entities outside the district, shall require the approval of the general assembly of the users' associations of the district.

The provisions contained in this Article shall apply without prejudice to the provisions of this Law and its regulations.

Article amended DOF 29-04-2004

The Federal Executive shall promote the organization of rural producers and the construction of the necessary infrastructure for the establishment of irrigation districts.

The establishment of an irrigation district with funding from the federal government will be published in the

Diario Oficial de la Federación and shall be specified:

- I. Sources of supply;
- II. Volumes of surface water and groundwater;
- III. The perimeter of the irrigation district;
- IV. The perimeter of the irrigation zone or zones comprising the district, and
- V. The requirements to provide irrigation service.

ARTICLE 72. In order to proceed with the constitution of an irrigation district, with financing from the federal government, the Commission, through the corresponding River Basin Organization:

- I. It shall promote, as the case may be, the necessary closures for the proper operation of the works;
- II. It shall prepare the cadastral plan of land and buildings within the district;



III. It shall prepare the census of owners or possessors of land and other real estate, as well as the list of fiscal and commercial values they have;

IV. It shall conduct the hearings, consultations and other actions provided for in this Law and its regulations, necessary to establish the projected irrigation zone;

V. Promote, as the case may be, the expropriation by the Federal Executive of the land required to carry out the hydraulic storage and distribution works, and

VI. It shall inform the authorities that must intervene according to their competence, on the occasion of the creation of the district and, as the case may be, of the expropriations that may be required.

Article amended DOF 29-04-2004

ARTICLE 73. The corresponding Basin Organization shall convene, under the terms of the regulations of this Law, hearings with the beneficiaries of the projected irrigation area in the district to:

I. Inform and agree with the beneficiaries on the recovery of federal investment in water infrastructure works, in accordance with the terms of the law;

II. Invite that the works required to constitute the projected irrigation area be executed by the beneficiaries with their own resources, and

III. Agree on the organization of the users of the irrigation area and the way in which the beneficiaries will contribute to the solution of the problems of those affected by the hydraulic works and the readjustment of the same.

In the event that in the hearings referred to in this Article, within the year following the date of publication of the creation of the irrigation district, agreement is not reached for the construction of the irrigation zone of the entire district with private and social investment, the same may be carried out with public investment, prior to the expropriation of the land necessary to constitute the projected irrigation zone.

Likewise, land may be expropriated if, prior to the year referred to in the preceding paragraph, the future beneficiaries representing four-fifths of the projected irrigated area so request the Federal Executive.

Article amended DOF 29-04-2004

ARTICLE 74. Compensation for the expropriation of land shall be paid in cash.

At the request of the party affected by the federal public works, the indemnity may be covered by compensation in kind for an equivalent value of irrigated land for each of the affected parties, under the terms of the Law, and the remainder of the indemnity, if any, will be covered in cash.

The competent basin organization, in coordination with the competent authorities, will provide and support the establishment of the necessary settlements to compensate for the property affected by the construction of the works.

Article amended DOF 29-04-2004

ARTICLE 75. The irrigation districts may:



I. Interconnect or merge with one or more other irrigation districts or units, in which case the Commission, through the competent Basin Organization, shall provide the support required, in which case they shall retain their nature as irrigation districts;

II. Decide and implement the division into two or more irrigation units, in accordance with the provisions of the district regulations, in which case the Commission, through the corresponding Basin Organization, shall arrange the necessary actions and measures to protect the rights of the users; and

III. To totally change the use of water, prior authorization from "the Commission".

Article amended DOF 29-04-2004

Section Five Temporary Technified Seasonal

Name of the Section amended DOF 04-29-2004

ARTICLE 76. The Federal Executive, through "the Commission", which shall rely on the Basin Organizations, and with the participation of the users, shall promote and encourage the establishment of technified rainfed units, including drainage units, pursuant to the provisions of paragraph b of section XXV of Article 3 of this Law, in order to increase agricultural and livestock production.

The agreement for the creation of the technified rainfed unit in accordance with the preceding paragraph will be published in the **Official Gazette of the Federation**. Said agreement will indicate the perimeter that delimits it, the description of the works and the rights and obligations of the beneficiaries for the services provided with said works.

Article amended DOF 29-04-2004

ARTICLE 77. The agreements for the creation of the Technified Temporary Districts shall be published in the **Official Gazette of the Federation**, which shall be based on technical studies formulated by the Basin Organizations and authorized by "the Commission", for which it shall coordinate, as appropriate, with the corresponding Authorities, and shall also indicate:

I. The requirements to become a user of the Technified Seasonal District;

II. The rights and obligations of the members of the Technified Seasonal District;

III. The geographic location and perimeter delimiting the Temporary District, and

IV. The description of the infrastructure associated with the creation and operation of the works that benefit the Technified Seasonal District.

In the Technified Rainfed Districts, taking as a basis the technified rainfed units that are identified and located within their territorial scope and that have federal agricultural infrastructure, the beneficiaries thereof must organize and incorporate as legal entities for the purpose of, on behalf of and in the name of the authorities mentioned in Paragraph One of this Article, provide the various services required, including drainage and roads, administration, operation, conservation and maintenance of the infrastructure, and charge the self-sufficiency fees derived from the provision of such services per benefited surface area.

The self-sufficiency fees must cover the total costs of the services rendered and may include the recovery of investments and the improvement of Temporal's infrastructure; to this effect, the users of the services will be obliged to cover such self-sufficiency fees.



The expenses for operation, conservation and maintenance services carried out by the authorities, directly or through third parties, as well as the portion of the self-sufficiency quotas destined to recover the investment, will have the character of tax credits.

The authorities mentioned in Paragraph One of this Article shall provide the necessary technical advice to the beneficiaries of the technified rainfed districts, based on the technified rainfed units identified and located within their territorial scope and, as the case may be, of the watershed areas that affect the infrastructure with water and sediment contributions.

The provisions established for irrigation districts and irrigation units shall be applicable, as applicable, to technified rainfed districts.

Article amended DOF 29-04-2004

Chapter III

Use in Electric Power Generation

ARTICLE 78. "The Commission", based on the environmental impact assessment, the general plans on the use of the country's water resources and the water programming referred to in this Law, when there are available volumes of water, shall grant the water concession title in favor of the Federal Electricity Commission, which shall determine the volume destined for the generation of electric energy and cooling of plants, as well as the causes for which the concession may be terminated.

"The Commission shall carry out the periodic programming of water extraction in each stream, vessel, lake, lagoon or reservoir of national property, and of its distribution, in order to coordinate hydroelectric development with the other uses of water.

The studies and planning carried out by the Federal Electricity Commission with respect to the use of water for the generation of electric energy, once approved by "the Commission", will be part of the general plans for the use of the country's water resources. Likewise, the studies and plans carried out by "the Commission" on water matters may be integrated to the general plans for the use of electric energy in the country. In the water programming carried out by "the Commission" and which may be used for hydroelectric purposes, the Federal Electricity Commission will be given the corresponding participation under the terms of the applicable law on the matter.

Article amended DOF 29-04-2004

ARTICLE 79. The Federal Executive shall determine whether the hydraulic works corresponding to the hydroelectric system shall be carried out by "the Commission" or by the Federal Electricity Commission.

"The Commission may use or concession the infrastructure it is in charge of to generate the electric energy it requires and may also dispose of the surplus, under the terms of the applicable law on the matter.

ARTICLE 80. Individuals or legal entities must request a concession from "the Commission" when they require the exploitation, use or exploitation of national waters for the purpose of generating electricity, under the terms of the applicable law on the matter.

No concession shall be required, under the terms of the regulations of this Law, for the exploitation, use or exploitation of national waters on a small scale for hydroelectric generation in accordance with the applicable law on the matter.

Article amended DOF 29-04-2004



ARTICLE 81. Those interested in carrying out exploration works for geothermal purposes shall apply to "the Commission" for a work permit for the exploratory well or wells, in terms of the provisions of the Geothermal Energy Law and its Regulations.

The exploitation, use and exploitation of subsoil water contained in hydrothermal geothermal deposits requires a water concession granted by "the Commission" and environmental impact authorization.

The water concessions referred to in the preceding paragraph will be granted in accordance with the requirements established in the Geothermal Energy Law and its Regulations. In any case, the agency before which the procedures related to its granting and modification will be carried out, will be the one indicated in Article 2 section XVI of the Geothermal Energy Law.

As part of the requirements established by the Geothermal Energy Law and its Regulations for the granting of water concessions, the interested party must submit to the agency referred to in the preceding paragraph, the studies of the geothermal hydrothermal reservoir that determine its location, extension, characteristics and connection or independence with adjacent or overlying aquifers.

The studies and explorations carried out by the interested parties must determine the location of the hydrothermal geothermal reservoir with respect to the aquifers, the probable position and configuration of the lower limit of the aquifers, the characteristics of the geological formations between the reservoir and the aquifers, among other aspects.

If the studies show that the hydrothermal geothermal reservoir and the overlying aquifers do not have a direct hydraulic connection, the granting of the water concession by the Commission will not be subject to the availability of water in the aquifers or to the regulations regarding the respective regulated zones, closed areas and reserves.

"The Commission will grant the applicant, through the agency referred to in Section XVI of Article 2 of the Geothermal Energy Law, the corresponding water concession for the volume of water requested by the interested party and will establish a monitoring program to identify negative effects on groundwater quality, groundwater catchments or existing infrastructure resulting from the exploitation of the field.

A discharge permit and environmental impact authorization will be required when the return water is discharged into receiving bodies that are national waters and other national property or when the disposal of drill cuttings into the subsoil is involved. The reincorporation of the return water to the hydrothermal geothermal reservoir requires a work permit for the injection well.

Water concessions granted by the Commission may be subject to modification in the event of alteration of extraction or injection points, redistribution of volumes, relocation, replacement and closure of wells.

Article amended DOF 29-04-2004, 11-08-2014

Chapter III Bis Industrial Use in Mining

Chapter added DOF 08-05-2023

ARTICLE 81 BIS. The person applying for a concession of national waters for industrial use in mining, in addition to the provisions of Article 21 BIS of this Law, must submit the following:

- I. Decision of the mining concession contest in favor of the applicant referred to in Section VI of Article 13 Bis of the Mining Law;



- II. The document indicating the methods and auxiliary works to be used for the use of working water in exploration and exploitation works, as well as the estimated volume expected to be handled. Such information must be public;
- III. The design of water quantity and quality monitoring well networks;
- IV. Authorization of the Mine Restoration, Closure and Post-closure Program, as provided for in the General Law of Ecological Balance and Environmental Protection, and
- V. The document indicating which will be the telemetric measurement devices with the capacity to transmit to "the Water Authority" in real time and their location, so that all surface or subway water intakes are measured, without exception.

Article added DOF 08-05-2023

ARTICLE 81 BIS 1. The concessionaires of national waters for industrial use in mining, in addition to those established in Article 29 of this Law, have the obligation to measure the volume of exploited, used or exploited water extracted from the basins and aquifers, as well as the waters coming from the workings of the mines for industrial or service use, in accordance with the provisions of this Law.

Article added DOF 08-05-2023

ARTICLE 81 BIS 2. The volume of water established in the concession for industrial use in mining includes the volume of groundwater extracted via wells as surface water intakes.

Article added DOF 08-05-2023

ARTICLE 81 BIS 3. In no case may national waters be used for the transportation of materials from mining operations.

In the case of concession applications for industrial use in mining, the construction of extraction wells whose depth could affect the availability of water for other uses should not be authorized.

In the concession of national waters for industrial use in mining, permission must not be granted for the deepening of extraction wells.

Article added DOF 08-05-2023

ARTICLE 81 BIS 4. The concessions of national waters for industrial use in mining shall have a maximum term of thirty years, counted from the day following the date of issuance of the concession title.

The concession of national waters for industrial use in mining may be extended for up to twenty-five years and with the same characteristics of the title for which it was granted, as long as the mining concession is in force and its holders comply with the provisions of the Program for the Restoration, Closure and Post-closure of mines, in the concession title, as well as in the applicable legal provisions, and request it at least six months prior to the expiration of its term.

Article added DOF 08-05-2023

Chapter IV **Use in other productive activities**



ARTICLE 82. The exploitation, use or development of national waters for industrial, aquaculture, tourism and other productive activities may be carried out by individuals or legal entities, subject to the respective concession granted by the Water Authority, under the terms of this Law and its regulations.

"The Commission, in coordination with the Secretariat of Agriculture, Livestock, Rural Development, Fishing and Food, will grant facilities for the development of aquaculture and the granting of the necessary water concessions; it will also support, at the request of the interested parties, the aquaculture development in the federal hydraulic infrastructure, which is compatible with its exploitation, use or exploitation. In order to carry out the above, "the Commission" will rely on the Basin Organizations.

Aquaculture activities carried out in suspended systems in national waters shall not require a concession, as long as the watercourses are not diverted and provided that water quality, navigation, other permitted uses and the rights of third parties are not affected.

Article amended DOF 29-04-2004

Chapter V Flood Control and Flood Protection

ARTICLE 83. "The Commission", through the Basin Organizations, in coordination with the state and municipal governments, or in agreement with individuals or corporations, shall construct and operate, as the case may be, works for flood control and protection of flood zones, as well as roads and complementary works that make possible the best use of the land and the protection of population and industrial centers and, in general, the lives of persons and their property, in accordance with the provisions of Title Eight.

"The Commission, under the terms of the regulations, and with the support of the Basin Organizations, will classify the zones according to their risk of possible flooding, issue the necessary standards and recommendations, establish the measures for operation, control and follow-up, and apply the contingency funds created for this purpose.

The Basin Organizations shall support "the Commission", in accordance with the laws on the subject, to promote, if necessary, in coordination with the competent authorities, the establishment of insurance against flood damage in high-risk areas, in accordance with the classification referred to in the preceding paragraph.

Article amended DOF 29-04-2004

ARTICLE 84. "The Commission" shall determine the operation of the hydraulic infrastructure for flood control and shall take the necessary measures to follow up on extreme weather phenomena, promoting or carrying out the preventive actions required; likewise, it shall carry out the necessary actions agreed upon by its Technical Council to address the areas of hydraulic emergency or affected by extreme weather phenomena, in coordination with the competent authorities.

For the effective and timely compliance with the provisions of this Article, "the Commission" shall act, as appropriate, through the Basin Organizations.

Article amended DOF 29-04-2004

Chapter V BIS Water Culture

Chapter added DOF 2004-04-29



ARTICLE 84 BIS. "The Commission", with the assistance of the Basin Organizations, shall promote among the population, authorities and the media, a water culture in accordance with the reality of the country and its hydrological regions, for which purpose it shall:

I. Coordinate with federal and state educational authorities to incorporate into the curricula of all educational levels the concepts of water culture, in particular, the availability of the resource; its economic, social, and environmental value; efficient use; the needs and advantages of wastewater treatment and reuse; the conservation of water and its environment; payment for the provision of water services in rural and urban areas; and the payment of fees for extraction, discharge, and environmental services;

II. Implement permanent water culture dissemination campaigns;

III. Inform the population about water scarcity, the costs of providing it and its economic, social and environmental value; and strengthen the culture of paying for water, sewerage and treatment services;

IV. Provide information on adverse effects of pollution, as well as the need and advantages of treating and reusing wastewater;

V. To promote the rational use and conservation of water as a matter of national security, and to encourage the use of procedures and technologies aimed at the efficient use and conservation of water; and

VI. Promote the interest of society in its various citizen or non-governmental organizations, professional associations, academic bodies, and user organizations, to participate in decision-making, assumption of commitments and responsibilities in the execution, financing, monitoring, and evaluation of various activities in water resources management.

Article added DOF 2004-04-29

ARTICLE 84 BIS 1. "The Secretariat", "the Commission" and the Basin Organizations shall promote the improvement of water culture with the support of the corresponding agencies of the Federal Executive Branch, for the purpose of using mass media for its dissemination, under the terms set forth in the Federal Law on Radio and Television.

Article added DOF 2004-04-29

ARTICLE 84 BIS 2. "The Secretariat", "the Commission" or the Basin Agency shall promote that in programs aimed at children, the mass media disseminate and promote water culture, conservation together with the rational use of natural resources, as well as the protection of vital ecosystems and the environment, under the terms set forth in the Federal Law on Radio and Television.

Article added DOF 2004-04-29

TITLE SEVEN

Prevention and Control of Water Pollution and Liability for Environmental Damage

Title as amended DOF 04-29-2004

Chapter I

Water Pollution Prevention and Control

Chapter added DOF 2004-04-29

In accordance with Sections VI and VII of Article 7 of this Law, it is essential that the Federation, the states, the Federal District and the municipalities, through the corresponding agencies, the water users and the organizations of the society, preserve the conditions of the water resources of the country.



The ecological aspects of the hydrological regime, through the promotion and execution of the necessary measures and actions to protect and conserve water quality, in accordance with the terms of the Law.

The Federal Government may coordinate with the governments of the states and the Federal District, so that the latter execute certain administrative acts related to the prevention and control of water pollution and liability for environmental damage, under the terms of the provisions of this Law and other applicable legal instruments, in order to contribute to the decentralization of water resources management.

Individuals or legal entities, including agencies, agencies and entities of the three orders of government, which exploit, use or exploit national waters in any use or activity, shall be responsible under the terms of the Law of:

a. To take the necessary measures to prevent their contamination and, if necessary, to return the waters referred to in adequate conditions, in order to allow their exploitation, use or further development; and

b. Maintain the balance of vital ecosystems.

Article amended DOF 29-04-2004

ARTICLE 86. "The Water Authority" shall be in charge, under the terms of the Law:

I. Promote and, if necessary, execute and operate the federal infrastructure, monitoring systems and services necessary for the preservation, conservation and improvement of water quality in hydrological basins and aquifers, in accordance with the respective Official Mexican Standards and the particular conditions of discharge;

II. Formulate and carry out studies to evaluate the quality of national water bodies;

III. Formulate comprehensive programs for the protection of water resources in hydrological basins and aquifers, considering the existing relationships between land use and water quantity and quality;

IV. Establish and monitor compliance with the particular discharge conditions that must be met by wastewater from different uses and users generated in:

a. Assets and areas under federal jurisdiction;

b. Water and national assets;

c. Any land when they can contaminate the subsoil or aquifers, and

d. Other cases provided for in the General Law of Ecological Equilibrium and Environmental Protection and in the regulations of this Law;

V. To inspect and verify compliance with the provisions of the applicable Mexican Official Standards, for the prevention and conservation of the quality of national waters and goods indicated in this Law;

VI. Authorize, when appropriate, the discharge of wastewater into the sea, and in coordination with the Secretariat of the Navy when they come from mobile sources or fixed platforms;



VII. To monitor, in coordination with other competent authorities, that the water supplied for human consumption complies with the corresponding Official Mexican Standards;

VIII. To monitor, in coordination with other competent authorities, compliance with water quality standards in the use of wastewater;

IX. Promote or carry out the necessary measures to prevent garbage, waste, materials and toxic substances, as well as sludge resulting from wastewater treatment, water purification and the cleaning of urban or municipal sewage systems, from contaminating surface or subsoil waters and the property referred to in Article 113 of this Law;

X. To implement, within the scope of its competence, a rapid, timely and efficient response mechanism in the event of a hydro-ecological emergency or environmental contingency that may arise in the bodies of water or national assets under its responsibility;

XI. To address environmental alterations caused by the use of water, and to establish at the hydrological basin or hydrological region level the necessary actions to preserve water resources and, if necessary, contribute to prevent and remedy adverse effects on health and the environment, in coordination with the Secretariat of Health and "the Secretariat" within the scope of their respective competencies;

XII. To exercise the powers that correspond to the Federation in matters of prevention and control of water pollution and its control and sanction, in terms of the Law;

XIII. Perform:

a. Systematic and permanent monitoring of water quality, and keeping the Water Quality Information System updated at the national level, coordinated with the National Information System on water quantity, quality, uses and conservation in terms of this Law;

b. The national inventory of wastewater treatment plants; and

c. The national inventory of wastewater discharges; and

XIV. To provide support to "la Procuraduría" when so requested, in accordance with its legal competencies, subject to the availability of resources.

Article amended DOF 29-04-2004

ARTICLE 86 BIS. In the application of the provisions contained in this Title reserved for "the Commission", the latter shall determine the explicit action of the Basin Organizations, in accordance with the regulations derived from this Law.

Article added DOF 2004-04-29

ARTICLE 86 BIS 1. For the preservation of wetlands affected by the flow regimes of national waters, "the Commission" shall act through the Basin Organizations, or by itself, in the cases provided for in Section IX of Article 9 of this Law, which are reserved for direct action by "the Commission". For such purposes, it shall have the following powers:

I. Delimit and keep the inventory of wetlands on national property or those flooded by national waters;

II. Promote under the terms of this Law and its regulations, the national water reserves or the ecological reserve in accordance with the law of the matter, for the preservation of wetlands;



III. Propose Mexican Official Standards to preserve, protect and, when appropriate, restore wetlands, the national waters that feed them, and the aquatic and hydrological ecosystems that are part of them;

IV. Promote and, if necessary, carry out the necessary actions and measures to rehabilitate or restore wetlands, as well as to establish a natural environment or protection perimeter of the wetland, in order to preserve its hydrological conditions and ecosystem; and

V. To grant permits to drain land in wetlands in the case of national waters and property under its responsibility, for protection purposes or to prevent damage to public health, when this is not the responsibility of another agency.

For the exercise of the powers referred to in this Article, "the Commission" and the Basin Organizations shall coordinate with the other authorities that must intervene or participate within the scope of their competence.

Article added DOF 2004-04-29

ARTICLE 86 BIS 2. It is prohibited to dump or deposit in receiving bodies and federal zones, in contravention of the legal and regulatory provisions on environmental matters, garbage, materials, sludge from wastewater treatment and other waste or residues that by dissolution or dragging effect, contaminate the waters of the receiving bodies, as well as those wastes or residues considered hazardous in the respective Official Mexican Standards. Whoever fails to comply with this provision will be sanctioned in terms of the Law.

Article added DOF 2004-04-29

The Water Authority shall determine the parameters to be met by discharges, the assimilation and dilution capacity of national water bodies and the pollutant loads they may receive, as well as the quality goals and deadlines for achieving them, by issuing Declarations of Classification of National Water Bodies, which shall be published in the **Official Gazette of the Federation**, as well as their modifications, for their observance.

The declarations shall contain:

I. The delimitation of the classified water body;

II. The parameters to be met by discharges according to the body of water classified in accordance with the periods provided for in the regulations of this Law;

III. The capacity of the classified water body to dilute and assimilate pollutants, and

IV. The maximum discharge limits for the pollutants analyzed, the basis for establishing the particular discharge conditions.

Article amended DOF 29-04-2004

ARTICLE 88. Individuals or legal entities require a discharge permit issued by the "Water Authority" to permanently or intermittently discharge wastewater into receiving bodies that are national waters or other national property, including marine waters, as well as when they infiltrate land that is national property or other land when they may contaminate the subsoil or aquifers.



The control of wastewater discharges to the drainage or sewage systems of population centers is the responsibility of the municipalities, with the assistance of the states when necessary and as determined by law.

Article amended DOF 29-04-2004

ARTICLE 88 BIS. Individuals or legal entities that discharge wastewater into the receiving bodies referred to in this Law shall:

- I. To have the wastewater discharge permit mentioned in the previous Article;
- II. Treat wastewater prior to discharge into receiving bodies, when necessary to comply with the provisions of the corresponding discharge permit and Mexican Official Standards;
- III. To cover, when applicable, the federal fee for the use or exploitation of national property as receiving bodies for wastewater discharges;
- IV. Install and maintain in good condition, the measuring devices and accesses for the sampling necessary to determine the concentrations of the parameters foreseen in the discharge permits;
- V. To inform the "Water Authority" of the pollutants present in the wastewater generated by the industrial process or service they are operating, and which were not considered in the particular discharge conditions established;
- V BIS.** For industrial use in mining, submit to the "Water Authority" a monthly report of daily measurements containing the chronological analysis and water quality indicators of the discharges made in surface and subway waters, guaranteeing their quality in accordance with the parameters established by said authority;
Section added DOF 08-05-2023
- VI. Inform "the Water Authority" of any change in its processes, when this causes modifications in the characteristics or volumes of the wastewater contained in the corresponding discharge permit;
- VI Bis.** Adopt the use of biodegradable materials in their processes, as long as they are technically feasible, in compliance with the regulatory provisions on the matter;
Fraction added DOF 06-01-2020
- VII. To operate and maintain by itself or by third parties the works and facilities necessary for the management and, if applicable, the treatment of wastewater, as well as to ensure the control of the quality of such water prior to its discharge into receiving bodies;
- VIII. Retain for at least five years a record of the information on the monitoring they carry out;
- IX. Comply with the conditions of the corresponding discharge permit and, if applicable, maintain the works and facilities of the treatment system in satisfactory operating conditions;
- X. Comply with the Mexican Official Standards and, if applicable, with the particular discharge conditions that have been established for the prevention and control of extended or extended contamination.



The use of substances that may pollute the quality of national waters and receiving bodies;

- XI.** Allow the personnel of "the Water Authority" or "the Attorney General's Office", according to their competences, to carry out:
- a.** Inspection and verification of the works used for wastewater discharges and their treatment, if applicable;
 - b.** Reading and verifying the operation of meters or other metering devices;
 - c.** The installation, repair or replacement of metering devices or other measuring devices that allow to know the volume of discharges, and
 - d.** The exercise of its powers of inspection, verification and verification of compliance with the provisions of this Law and its Regulations, as well as the discharge permits granted;
- XII.** Submit, in accordance with its discharge permit, the reports of the volume of wastewater discharged, as well as the monitoring of the quality of its discharges, based on determinations made by a laboratory accredited in accordance with the Federal Law on Metrology and Standardization and approved by "the Water Authority";
- XIII.** To provide "la Procuraduría", within the scope of their respective competencies, with the documentation requested;
- XIV.** Pay within thirty days following the installation, repair or replacement of metering devices or devices made by the Water Authority, the amount corresponding to the cost thereof, which shall be considered a tax credit, and
- XV.** Any other matters indicated in the applicable laws and regulations.

When deemed necessary, "the Water Authority" will apply in the first instance the maximum limits established in the particular conditions of discharge instead of the Official Mexican Standard, for which it will notify the person responsible for the discharge in a timely manner.

Article added DOF 2004-04-29

ARTICLE 88 BIS 1. Discharges of wastewater for domestic use that are not part of a municipal sewage system may be carried out subject to the Official Mexican Standards issued for such purpose and by means of a written notice to the "Water Authority".

In localities that lack sewage and sanitation systems, individuals or legal entities that in their productive process or activity do not use as raw material substances that generate heavy metals, cyanides or toxics in their wastewater discharges and their discharge volume does not exceed 300 cubic meters per month, and are supplied with drinking water by municipal, state or Federal District systems, may carry out their wastewater discharges subject to the Mexican Official Standards issued for such purpose and by means of a written notice to the "Water Authority".

The control of wastewater discharges to urban or municipal drainage or sewage systems of population centers, which are discharged into receiving bodies, corresponds to the municipalities, the states and the Federal District.



The notices referred to in this Article shall comply with the requirements set forth in this Law and shall state, under oath, that they are in the cases indicated therein.

When one or more wastewater discharges are accidentally made into receiving bodies that are national property, the responsible parties must immediately notify the "Water Authority", specifying the volume and characteristics of the discharges, so that the appropriate measures may be promoted or adopted by the responsible parties or by the "Commission" and other competent authorities at their expense.

Those responsible for the discharges mentioned in the preceding paragraph must carry out the removal and cleaning of the pollutant from the receiving bodies affected by the discharge. In the event that the responsible party does not give notice, or having given notice, "the Commission" or other competent authorities must carry out such work, the cost thereof shall be paid by said responsible parties within thirty days following notification and shall be considered a tax credit. The damages caused will be determined and quantified by the Water Authority, and the amount thereof, as well as the cost of the work to which they refer, will be notified to the responsible individuals or legal entities for payment.

The determination and collection of the damage caused to national waters and property referred to in this Article shall proceed regardless of whether the "Water Authority", "the Attorney General's Office" and other competent authorities apply the corresponding administrative and criminal sanctions.

Article added DOF 2004-04-29

ARTICLE 89. In granting discharge permits, the Water Authority shall take into account the classification of national water bodies referred to in Article 87 of this Law, the corresponding Official Mexican Standards and the particular conditions that the discharge must comply with.

"The Water Authority shall answer the discharge permit application submitted under the terms of the regulations of this Law, within sixty working days following its admission. In the event that the authority fails to inform the applicant of the resolution of the request, it will be considered that the authority has decided to deny the permit requested. In such case, the petitioner may request the pertinent information in relation to its processing and the reasons for the negative resolution. The lack of resolution to the request may imply liabilities to the public servants in charge of such action, according to the provisions of the applicable laws. "The Water Authority shall issue the discharge permit to which the permit holder shall be subject and, if applicable, shall establish particular discharge conditions and requirements different from those contained in the application.

When the discharge of wastewater affects or may affect sources of drinking water supply or public health, the "Water Authority" will notify the competent authority and will issue the denial of the corresponding permit or its immediate revocation, and, if applicable, the suspension of the water supply, until these anomalies are eliminated.

Article amended DOF 29-04-2004

ARTICLE 90. "The Water Authority" shall issue the wastewater discharge permit under the terms of the regulations of this Law, which shall specify at least the location and description of the discharge in quantity and quality, the regime to which it will be subject to prevent and control water pollution and the duration of the permit.

When wastewater discharges originate from the use or exploitation of national waters, the discharge permits shall have at least the same duration as the title of the discharge permit.



The same rules shall apply to the extension or termination of the corresponding concession or assignment and shall be subject to the same rules.

Discharge permits may be transferred under the terms of Chapter V of Title Four of this Law, as long as the characteristics of the permit are maintained.

Article amended DOF 29-04-2004

ARTICLE 91. The infiltration of wastewater to recharge aquifers requires a permit from the "Water Authority" and must comply with the Official Mexican Standards issued for such purpose.

Article amended DOF 29-04-2004

ARTICLE 91 BIS. Individuals or legal entities that discharge wastewater into the drainage or sewage networks must comply with the Mexican Official Standards and, if applicable, with the particular discharge conditions issued by the state or municipality.

The municipalities, the Federal District and, if applicable, the states, must treat their wastewater before discharging it into a receiving body, in accordance with the Mexican Official Standards or the particular discharge conditions determined by the "Water Authority", when the latter is responsible for establishing them.

Discharges of wastewater for domestic and public urban use that lack or are not part of a sewage and sanitation system may be carried out subject to the Mexican Official Standards issued and by means of a notice. If these discharges are carried out in the municipal jurisdiction, the local authorities will be responsible for their inspection, surveillance and control.

Article added DOF 2004-04-29

ARTICLE 91 BIS 1. When one or more wastewater discharges are made fortuitously, culpably or intentionally into receiving bodies that are national property, in addition to the provisions of Article 86 of this Law, the responsible parties must give notice within 24 hours to the "Procuraduría" and the "Autoridad del Agua", specifying the volume and characteristics of the discharges, so that the appropriate measures may be promoted or adopted by the responsible parties or those that, at their expense, will be carried out by the "Procuraduría" and other competent authorities.

Failure to provide such notice shall be sanctioned in accordance with this Law, regardless of the application of other corresponding administrative and criminal sanctions.

Article added DOF 2004-04-29

ARTICLE 92. "The Water Authority" shall order the suspension of the activities that give rise to wastewater discharges, when:

- I. Failure to obtain a Wastewater Discharge Permit under the terms of this Law;
- II. The quality of the discharges is not subject to the corresponding Official Mexican Standards, to the particular conditions of discharge or to the provisions of this Law and its regulations;
- III. Failure to pay the fee for the use or exploitation of national property as receiving bodies for wastewater discharges for more than one fiscal year;
- IV. The person responsible for the discharge, in contravention of the terms of the Law, uses the process of dilution of the wastewater to try to comply with the respective Mexican Official Standards or the particular conditions of discharge;

Section amended DOF 08-05-2023



- V. When a report containing the analyses and indicators of the quality of the water discharged is not submitted every two years, and

Section amended DOF 08-05-2023

- VI. Failure to submit the monthly report of discharges referred to in Section V BIS of Article 88 BIS of this Law.

Section added DOF 08-05-2023

The suspension shall be without prejudice to any civil, criminal or administrative liability that may have been incurred.

When there is a risk of damage or danger to the population or ecosystems, the "Water Authority", at the request of the competent authority, may carry out the necessary actions and works to avoid it, at the expense of whoever is responsible.

Article amended DOF 29-04-2004

ARTICLE 93. The following are causes for revocation of the wastewater discharge permit:

I. Discharge in a place other than that authorized by the "Water Authority";

II. Performing the acts or omissions mentioned in sections II, III and IV of the preceding Article, when the activities of the licensee have been previously suspended by the "Water Authority" for the same reason, or

III. The revocation of the concession or assignment of national waters, when by reason of said title these are the only waters that with their exploitation, use or exploitation originate the discharge of wastewater.

When revocation is appropriate, the Water Authority, after hearing the interested party, will issue and notify the respective resolution, which must be duly founded and motivated.

The Discharge Permit will expire when the concession or assignment title that originates the discharge expires.

Article amended DOF 29-04-2004

ARTICLE 93 BIS. In addition to the provisions of the preceding Article, failure to pay the fee for the use or exploitation of national property as receiving bodies of wastewater discharges in a recidivist manner in relation to the provisions of Section III of Article 92 of this Law shall be grounds for revocation of the Wastewater Discharge Permit.

Article added DOF 2004-04-29

ARTICLE 94. When the suspension or cessation of operation of a wastewater treatment plant may cause serious damage to the health or safety of the population or serious damage to vital ecosystems, the Water Authority, by itself or at the request of a different authority, in accordance with their respective competencies, shall order the suspension of the activities causing the discharge, and when this is not possible or convenient, the "Water Authority" will appoint an intervener to take charge of the administration and provisional operation of the wastewater treatment facilities, until the activities are suspended or the seriousness of the discharge is considered overcome, without prejudice to the administrative or criminal liability that may have been incurred.

The expenses incurred by such intervention shall be charged to the holders of the discharge permit. In

case they are not covered within thirty days following their request by "the Authority of the Water", the expenses will have the character of tax credit.



Article amended DOF 29-04-2004

ARTICLE 94 BIS. Prior to granting or renewing permits, including discharge permits, concessions and assignments of pollution generators, in addition to complying with the Mexican Official Standards relating to wastewater discharges, the interested party shall submit to the "Water Authority" a physical, chemical and organic analysis of the waters of the receiving sources at points immediately prior to discharge. This information will be used to form the Point Source Pollution Control Register and to evaluate the environmental quality of the source, its assimilation or self-purification capacity and support.

Article added DOF 2004-04-29

ARTICLE 95. The Water Authority, within the scope of federal jurisdiction, shall carry out inspections or inspections of wastewater discharges for the purpose of verifying compliance with the Law. The results of such inspection or inspection shall be recorded in a circumstantial record, shall produce all legal effects and may serve as a basis for the Commission and the competent agencies of the Federal Public Administration to apply the respective penalties provided for in the Law.

Article amended DOF 29-04-2004

ARTICLE 96. In irrigation zones and in those zones of widespread or dispersed contamination, the handling and application of substances that may contaminate national surface or subsoil waters shall comply with the standards, conditions and provisions derived from this Law and its regulations.

"The Commission shall promote, within the scope of its competence, the standards or provisions required to make land use compatible with water use, in order to preserve the quality of the same within an ecosystem, hydrological basin or aquifer.

Article amended DOF 29-04-2004

Chapter II Liability for Environmental Damage

Chapter added DOF 2004-04-29

ARTICLE 96 BIS. The "Water Authority" shall intervene to ensure compliance with the remediation of environmental damage, including those damages that compromise vital ecosystems, and shall be subject in its actions to the terms of the law, the National Waters Law and its Regulations.

Article added DOF 2004-04-29. Amended DOF 07-06-2013

ARTICLE 96 BIS 1. Individuals or legal entities that discharge wastewater, in violation of the applicable legal provisions, and that cause pollution in a receiving body, shall assume the responsibility to repair or compensate the environmental damage caused in terms of the Law on National Waters and its Regulations, without prejudice to the application of the appropriate administrative, criminal or civil sanctions, by removing the pollutants from the affected receiving body and restoring it to the state it was in before the damage occurred.

Amended paragraph DOF 07-06-2013

"The Commission, with the support of the competent Basin Agency, shall intervene to ensure that environmental damage to water bodies of national property caused by water extractions or discharges is repaired, in accordance with the terms of this Law and its regulations.

Article added DOF 2004-04-29

TITLE EIGHT Investment in Water Infrastructure



Chapter I General Provisions

ARTICLE 96 BIS 2. The following are considered as necessary public works that are the responsibility of the Federal Executive through "the Commission":

I. Improve and expand knowledge on the occurrence of water, in quantity and quality, in all phases of the hydrological cycle, as well as the phenomena related to such occurrence, under their responsibility;

II. To regulate and conduct water, in order to guarantee the availability and use of water in the basins, except in those cases in which they have been carried out or are expressly in charge and safeguarded by other orders of government;

III. Control, and serve for the defense and protection of national waters, as well as those necessary to prevent floods, droughts and other exceptional situations affecting public water assets; without prejudice to the competencies of the State or Municipal Governments;

IV. Enable the supply, potabilization and desalination, the implementation of which affects two or more states;

V. Are of strategic importance in a hydrological region due to their size or investment cost;

VI. Are necessary for the execution of national plans or programs other than water, but related to the latter, when the responsibility for the works corresponds to the Federal Executive, as requested by the state or Federal District in whose territory it is located, and

VII. Are necessary to comply with this Law and its regulations.

Article added DOF 2004-04-29

ARTICLE 97. The users of national waters may carry out, by themselves or by third parties, any hydraulic infrastructure works required for their exploitation, use or development.

The administration and operation of these works shall be the responsibility of the users or of the associations formed for this purpose, regardless of the exploitation, use or development of national waters.

Article amended DOF 29-04-2004

ARTICLE 98. When such works could affect the hydraulic or hydrological regime of the watercourses or vessels of national property or of the corresponding federal zones, as well as in the cases of drilling wells in regulated or closed areas, a permit shall be required pursuant to the terms of Articles 23 and 42 of this Law and its regulations. For this purpose, the competent Authority will issue the corresponding Official Mexican Standards.

"The Water Authority" shall supervise the construction of the works, and may at any time take the necessary corrective measures to ensure compliance with the permit and such standards.

Article amended DOF 29-04-2004



The Water Authority shall provide, at the request of the investors, concessionaires or assignees, the support and technical assistance for the adequate construction, operation, conservation, improvement and modernization of the hydraulic works and the services for their operation.

"The Water Authority will also provide the support and technical assistance requested for the adequate operation, improvement and modernization of the hydraulic services for their self-sustained development, through specific programs that include the efficient management and conservation of water and soil, in collaboration with the users' organizations.

Article amended DOF 29-04-2004

ARTICLE 100. "The Commission" shall establish the standards or take the necessary actions to prevent the construction or operation of a work from adversely altering the hydraulic conditions of a stream or endangering the lives of persons and the safety of their property or vital ecosystems.

Article amended DOF 29-04-2004

ARTICLE 101. "The Commission" will carry out by itself or by third parties the federal public works of hydraulic infrastructure arising from the investment programs under its responsibility, pursuant to the Law and regulatory provisions. Likewise, it may execute the works requested and which are totally or partially financed with resources other than federal resources.

In the event that the investment is made totally or partially with federal resources, or that the infrastructure is built through credits guaranteed by the Federal Government, "the Commission", within the scope of its competence, will establish the standards, characteristics and requirements for its execution and supervision, unless by law they correspond to another agency or entity.

Chapter II

Private and Social Investment Participation in Federal Hydraulic Works

In order to achieve the promotion and encouragement of private participation in the financing, construction and operation of federal water infrastructure, as well as in the provision of the respective services, "the Commission" may:

I. Enter into public works and services contracts with private parties under the recoverable investment modality, for the construction, equipment and operation of hydraulic infrastructure, and a company or group of companies may be in charge of the integral responsibility for the work and its operation, under the provisions issued by the Authority in the matter and under the terms of the regulations of this Law;

II. To grant total or partial concessions to operate, conserve, maintain, rehabilitate and expand the hydraulic infrastructure built by the Federal Government and the rendering of the respective services; and

III. To grant total or partial concessions to build, equip and operate the federal hydraulic infrastructure and to provide the respective service.

"The Commission shall coordinate in terms of the Law with the corresponding state government(s) to grant the concessions referred to in Sections II and III of this Article.

For the processing, duration, regulation and termination of the concession referred to in Section II of this Article, the provisions of this Law for concessions for the exploitation, use or exploitation of water and the provisions of its regulations shall apply accordingly. The users of such infrastructure shall have preference in the granting of such concessions.

Article amended DOF 29-04-2004



The concessions referred to in Section III of the preceding Article shall be subject to the provisions of this Chapter and the regulations of this Law.

"The Commission shall establish the minimum bases to participate in the bidding process to obtain the concessions referred to in this Chapter, under the terms of this Law and its regulations. The selection among the companies participating in the bidding process will be made based on the minimum rates that respond to the criteria of seriousness, reliability and quality established in the bases established by "the Commission" for each case.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

ARTICLE 104. The minimum rates referred to in the preceding Article, in accordance with the bases issued by "the Commission" shall:

- I. Promote the efficient use of water, the rationalization of consumption patterns and, if necessary, inhibit activities that impose excessive demand;
- II. Provide for the necessary adjustments based on the corresponding variable costs, in accordance with the known and measurable indicators established in the bases themselves, and
- III. Consider an established period; which at no time shall be less than the period for recovery of the cost of capital or compliance with the financial obligations incurred in connection with the concession.

The term of the concession in relation to this Chapter may not exceed fifty years, except as provided in the last paragraph of Article 102 of this Law.

Article amended DOF 29-04-2004

ARTICLE 105. "The Commission", under the terms of the respective regulations, may authorize the concessionaire to grant as guarantee the rights of the concessioned assets referred to in this Chapter, and shall specify in this case the respective terms and modalities.

The guarantees will be granted for a term that in no case will include the last tenth part of the total time for which the concession has been granted, for concessions with a duration of more than fifteen years; when the duration of the concession is less than fifteen years, the guarantees will be granted for a term that will not exceed the last eighth part of the total duration of the respective concession.

Article amended DOF 29-04-2004

If during the last tenth or eighth of the total term of the concession, as the case may be in accordance with the provisions of the preceding Article, the concessionaire does not maintain the infrastructure in good condition, the Commission shall appoint an auditor to oversee or be responsible for maintaining the infrastructure up to date, at the concessionaire's expense, so that an efficient service is provided and the hydraulic infrastructure is not impaired.

Article amended DOF 29-04-2004

ARTICLE 107. The concession shall only be terminated by:

- I. Expiration of the term established in the title or resignation of the holder;
- II. Revocation for non-compliance in the following cases:
 - a. Failure to execute the works or works that are the object of the concession under the terms and conditions set forth in this Law and its Regulations;



b. Failure to pay the contributions or benefits established by tax legislation for the use or exploitation of infrastructure and other concessioned goods or services;

c. To transfer the rights of the title or grant as guarantee the concessioned assets, without the authorization of "the Commission"; or

d. Deficient or irregular rendering of the service, or the construction, operation, conservation or maintenance, or its definitive suspension, for causes attributable to the concessionaire, when this could cause or will cause serious harm or damage to users or third parties;

III. Rescue of the concession for reasons of public utility or public interest, pursuant to the provisions of Section V of Article 6 of this Law, by means of payment of the respective indemnification, determined by experts in accordance with the terms of the Regulations, guaranteeing in any case that such indemnification is at least equivalent to the pending recovery of the investment made and the reasonable profit agreed upon in the terms of the concession, or

IV. Judicial Resolution.

In the cases referred to in section II, the constructed works or infrastructure, as well as their improvements and accessions and the assets necessary for the continuity of the service, will be delivered in good condition, free of charge and free of any lien or limitation, to pass to the domain of the Nation, with the accessories and other assets necessary to continue with the operation or rendering of the service.

Article amended DOF 29-04-2004

ARTICLE 108. The total or partial recovery of the private or social investment may be made through the supply of water for multiple uses, including the sale of electric power under the terms of the applicable Law on the matter.

The public works of hydraulic infrastructure or the assets necessary for their construction or operation may be destined to trusts, established in credit institutions, so that, through the administration and operations on the use or exploitation of such works, the recovery of the investment made will be facilitated. Once the purpose of the trust has been fulfilled, they must revert to the Federal Government, otherwise, they will be disincorporated in accordance with the terms of the applicable law.

Chapter III Recovery of Public Investment

ARTICLE 109. Public investments in federal hydraulic works shall be recovered in the manner and under the terms set forth in the Law on Contribution for Improvements for Federal Public Works of Hydraulic Infrastructure, through the establishment of self-sufficiency quotas to be paid by the persons directly benefiting from the use, development or exploitation of such works.

Article amended DOF 29-04-2004

The operation, conservation and maintenance of the hydraulic infrastructure will be charged to the users of the respective services. The self-sufficiency fees shall be determined based on the costs of the services, after the valuation of such costs in terms of economic efficiency; likewise, criteria of economic efficiency and financial sanitation of the entity or unit rendering the service shall be taken into consideration.

Article amended DOF 29-04-2004



ARTICLE 111. In irrigation districts and irrigation or technified rainfed units, the ownership of the land or, in the case of ejido or communal landholders, the right to use or exploit the parcel may be granted as guarantee, under the terms of the Agrarian Law, to ensure the recovery of the investments in the works and the cost of the respective irrigation or drainage services.

Article amended DOF 29-04-2004

Chapter IV **Charges for Exploitation, Use or Exploitation of National Waters and National Assets**

Chapter repealed DOF 2004-04-29

TITLE EIGHTH BIS **Water Financial System**

Title added DOF 2004-04-29

Sole Chapter

Chapter added DOF 2004-04-29

ARTICLE 111 BIS. The Federal Executive shall provide the adequate means and framework to define, create and sustainably implement the Water Financial System; its operation shall be the responsibility of "the Commission", under the supervision and support of the Ministry of Finance and Public Credit.

The purpose of the Water Financial System will be to serve as a basis for supporting actions related to the integrated management of water resources in the national territory, without prejudice to the continuity and strengthening of other financial mechanisms with similar purposes.

The Water Financial System will clearly determine the different financial sources, ways of obtaining financial resources, criteria for the application of expenditure and recovery, if applicable, of such financial resources, accountability and management indicators, as well as goals resulting from the application of such resources and financial instruments.

Article added DOF 2004-04-29

ARTICLE 112. The rendering of the different administrative services by "the Commission" or its Basin Organizations and the exploitation, use or development of national waters, including those of the subsoil, as well as of the national assets administered by "the Commission", shall motivate the payment by the user of the fees established by the Federal Law on Duties.

The exploitation, use or exploitation of property of the public domain of the Nation as receiving bodies of wastewater discharges will motivate the payment of the fee established by the Federal Law of Rights.

The payment is independent of compliance with the provisions of this Law on the prevention and control of water quality; the provisions of the General Law on Ecological Balance and Environmental Protection; and the General Law on Health.

This obligation includes national assets and their services that are coordinated with the governments of the states, the Federal District or municipalities for the administration of the collection of duties under the terms of the Fiscal Coordination Law and the Federal Law of Duties.

Article amended DOF 29-04-2004

ARTICLE 112 BIS. The fees for duties and other federal contributions and other fees and tariffs established for the use or exploitation of water, or for the rendering of water services, shall be paid in accordance with the provisions of this article.



related to hydraulic infrastructure works shall be designed, in accordance with the provisions issued by the Authority on the matter, to:

I. Privilege demand management by promoting efficient water use, rationalizing consumption patterns, and, if necessary, inhibiting activities that impose excessive demand;

II. Provide for the necessary adjustments based on the corresponding variable costs, in accordance with the known indicators that can be measured and that establish the bases of the contributions, fees and tariffs themselves;

III. Recovering federal investments through contributions within an established period, which shall not be less than the period for recovery of the cost of capital or compliance with the financial obligations incurred as a result of the concession, and

IV. Any other applicable lawful provisions.

Article added DOF 2004-04-29

TITLE NINE

National Assets in Charge of "the Commission"

Sole Chapter

ARTICLE 113. The administration of the following national assets shall be the responsibility of "the Commission:

I. The beaches and federal zones, in the part corresponding to the channels of currents in the terms of the present Law;

II. Land occupied by the vessels of lakes, lagoons, estuaries or natural reservoirs whose waters are national property;

III. The channels of national watercourses;

IV. The banks or federal zones contiguous to the beds of the streams and to the vessels or deposits of national property, in the terms foreseen by Article 3 of this Law;

V. The lands of the riverbeds and those of the vessels of lakes, lagoons or estuaries of national property, uncovered by natural causes or by artificial works;

VI. The islands that exist or are formed in the vessels of lakes, lagoons, estuaries, dams and reservoirs or in the channels of streams of national property, except those that are formed when a stream segregates lands of private, communal or communal property, and

VII. Water infrastructure works financed by the federal government, such as dams, dikes, reservoirs, canals, drains, dikes, ditches, aqueducts, irrigation districts or units and others constructed for the exploitation, use, exploitation, flood control and management of national waters, with the land they occupy and the protection zones, to the extent established by "the Commission" in each case.

In the cases of fractions IV, V and VII, the administration of the assets, when applicable, will be carried out in coordination with the Federal Electricity Commission.



ARTICLE 113 BIS. The "Water Authority" shall be in charge of the stone materials located within the channels of national waters and their inherent public property.

It will be mandatory to have a concession for the use of the referred materials.

Amended paragraph DOF 08-06-2012

"The Water Authority will monitor the exploitation of such materials and will periodically review the validity and compliance of the concessions granted to individuals and corporations, whether public or private.

Amended paragraph DOF 08-06-2012

The following are causes for revocation of the concession:

Amended paragraph DOF 08-06-2012

- I. Disposal of stone materials in volumes greater than those authorized;
- II. Disposal of stone materials without complying with the respective Official Mexican Standards;
- III. Depositing in watercourses and other water bodies of national property, stone materials and waste thereof, including debris and rubble, or other waste on a permanent, intermittent or incidental basis;
- IV. Failure to pay the respective fees and dues in a timely manner;
- V. Failure to adequately execute the authorized works;
- VI. Damage vital ecosystems to water as a result of the disposal of stone materials;
- VII. Transfer title rights without permission of "the Water Authority" or in contravention of the provisions of this Law;
- VIII. Provisionally allow third parties to exploit the stone materials covered by the respective concession, without the definitive transfer of rights, the modification of the conditions of the respective title, or the prior authorization of the "Water Authority";
- IX. Failure to comply with preventive and corrective measures ordered by the Water Authority, and
- X. Any others provided for in this Law, in its regulations or in the concession title itself.

Upon termination of the concession, or when the title has been revoked, the works and installations permanently attached to the reason for the concession must be removed, notwithstanding that "the Water Authority" may consider them of subsequent utility, in which case they will revert in its favor.

Should appreciable damage to slopes, riverbeds and other elements related to water management be detected, in the judgment of the "Water Authority", in accordance with its respective powers, they shall be fully repaired by the perpetrators, without prejudice to the application of other administrative and criminal sanctions that may be applicable in accordance with the regulations issued in this regard.

Article added DOF 2004-04-29

ARTICLE 113 BIS 1. In order to comply with the provisions of the Articles of this Title, the Commission shall rely on the Basin Organizations and, when necessary, on the three levels of government and their institutions.



"The Commission and the Basin Organizations may coordinate with the governments of the states and the Federal District, so that the latter execute certain administrative acts related to the national assets under the responsibility of the Commission, under the terms of the provisions of this Law and other applicable legal instruments, in order to contribute to the decentralization of the management of the aforementioned assets.

Article added DOF 2004-04-29

ARTICLE 113 BIS 2. The purpose of the declaration of national waters issued by the Federal Executive shall be to make public knowledge of the streams or water reservoirs that have such character. The lack of such declaration does not affect the national character of the waters.

In order to issue the respective declaration, the technical studies that justify or prove that the stream or reservoir in question meets the characteristics established by the Law to be national waters shall be carried out or referred to.

The declaration shall include, in addition to the general description and characteristics of the stream or reservoir of national waters, the watercourses, vessels and federal zones, without it being necessary to make demarcations in each case.

Article added DOF 2004-04-29

ARTICLE 114. When, due to natural causes, a definitive change occurs in the course of a stream owned by the Nation, the latter shall acquire ownership of the new riverbed and its federal zone by that sole fact.

When, due to natural causes, there is a definitive change in the level of a lake, lagoon, estuary or stream of national property and the water invades land, the land, the federal zone and the corresponding federal maritime-terrestrial zone will become part of the public domain of the Federation. If with the definitive change in said level, land is discovered, it will continue to be part of the public domain of the Federation.

In the event that surface waters tend to change their basin or bed, the owners of the surrounding land shall have the right to build the necessary defense works. In case of consummated change, they shall have the right to construct rectification works, within a period of one year from the date of the change. In order to proceed with the construction of defenses or rectification, it will be sufficient to determine the environmental impact, and that written notice be given to the "Water Authority", which may suspend or order the correction of such works in the event that damage is caused or may be caused to third parties or to vital ecosystems.

Erratum to the article DOF 15-02-1993. Amended DOF 29-04-2004

When, due to natural causes, a definitive change occurs in the course of a stream of national property, the owners affected by the change of course shall have the right to receive, in substitution, the proportional part of the surface that remains available outside the bank or federal zone, taking into account the extension of land on which they have been affected.

Failing this, the riparian owners of the abandoned watercourse may acquire up to half of the abandoned watercourse on the part that is in front of their property, or all of it if there is no interested riparian on the opposite side.

In the absence of affected or interested riparian owners, third parties may acquire the surface of the abandoned watercourse.

Article amended DOF 29-04-2004



ARTICLE 116. The lands gained by artificial means when channeling a stream, shall pass to the public domain of the Federation. The lands uncovered when limiting or partially or totally draining a vessel of national property, shall remain in the public domain of the Federation. The channeling or limiting works will be considered as an integral part of the corresponding watercourses and vessels, and of the respective federal zone and protection zone, for which reason they will be subject to the public domain of the Federation.

Article amended DOF 29-04-2004

ARTICLE 117. The Federal Executive, by itself or through the Commission, may reduce or eliminate by means of a declaration the federal zone of streams, lakes and lagoons of national property, as well as the federal zone of the hydraulic infrastructure, in the portions comprised within the perimeter of the towns.

The states, the Federal District, the municipalities or, as the case may be, the individuals interested in the lands referred to in this Article, shall submit to "the Commission" for its approval the project to carry out the control works and those necessary to reduce or eliminate the federal zone.

"The Commission may agree with the governments of the states, the Federal District or the municipalities, the custody, conservation and maintenance of the federal zones referred to in this Article. In the case of interested individuals, this will be done through public auction.

Article amended DOF 29-04-2004

ARTICLE 118. The national properties referred to in this Title may be exploited, used or exploited by individuals or legal entities by means of a concession granted by the Water Authority for such purpose. In the case of stone materials, the provisions of Article 113 BIS of this Law shall apply.

For the granting of the concessions mentioned in the preceding paragraph, the provisions of this Law and its regulations for concessions for the exploitation, use or exploitation of national waters shall be applied, even when there are endowments, restitutions or accessions of land and water to population centers.

For the granting of concessions in the federal zone referred to in this Article, in equal circumstances, outside urban areas and for productive purposes, the owner or possessor adjacent to said federal zone shall have preference.

The "Water Authority" is prohibited from granting concessions on watercourses or vessels and their federal zones for the final disposal of mining waste or mining wastewater deposits.

Paragraph added DOF 08-05-2023

Article amended DOF 29-04-2004

ARTICLE 118 BIS. The concessionaires referred to in this Chapter shall be obliged to:

I. To carry out the exploitation, use or exploitation set forth in the concession in accordance with the specifications issued by the "Water Authority";

II. Carry out only the works approved in the concession or authorized by "the Water Authority";

III. To begin exercising the rights set forth in the concession as of the date approved in accordance with the conditions set forth in the respective Title and to conclude the approved works within the terms set forth in the concession;



IV. Cover the costs of demarcation and demarcation of the concessioned area;

V. To vacate and deliver within the term established by "the Water Authority", the areas in question in cases of extinction or revocation of concessions;

VI. Timely payment of the payments to be made in accordance with the applicable tax legislation and the other obligations set forth therein, and

VII. Comply with the obligations established in the concession.

Failure to comply with the provisions set forth in this Article shall be grounds for suspension and, in case of recurrence, for revocation of the respective concession.

In relation to stone materials, the provisions of Article 113 BIS of this Law shall apply.

Article added DOF 2004-04-29

TITLE TEN **Measures of Exigency, Security, Violations, Penalties and Remedies**

Title of the Title amended DOF 08-06-2012

Chapter I **Security and Safety Measures**

Chapter added DOF 08-06-2012

ARTICLE 118 BIS 1. "The Commission" in order to enforce its determinations may request the assistance of the public force from the federal, state or municipal authorities.

Article added DOF 08-06-2012

In case of imminent risk, damage, deterioration to health, to national waters, to the goods referred to in Article 113 of this law, to biodiversity or to the ecosystems linked to water, the water authority or the Attorney General's Office, within the scope of their respective competencies, may immediately carry out one or some of the following measures:

I. Temporary closure of the use of national waters.

II. Suspension of the activities that give rise to the process that generates wastewater discharges.

III. Promote before the civil protection and public safety authorities of the Federal, State, Federal District and municipal governments, the adoption of urgent measures, including the securing of property, removal or demolition of infrastructure, in order to protect the life and property of people.

The measures established in sections I and II shall be maintained until such time as the conditions that gave rise to their establishment cease to exist.

Article added DOF 08-06-2012

When the "Water Authority" applies the security measures referred to in the preceding article, it shall indicate to the user, concessionaire or assignee, the actions to be carried out to correct the irregularities that led to the imposition of the measure, as well as the deadlines for their completion, so that once these are fulfilled, the withdrawal of the security measure imposed may be ordered.

Article added DOF 08-06-2012



Chapter II Administrative Violations and Penalties

Chapter route (formerly Chapter I) DOF 08-06-2012

ARTICLE 119. The Water Authority shall sanction the following offenses in accordance with the provisions of this Law:

- I. Permanently, intermittently or accidentally discharging wastewater in contravention of the provisions of this Law into receiving bodies that are national property, including marine waters, as well as when they infiltrate land that is national property or other land when they may contaminate the subsoil or aquifer;
- II. To exploit, use or take advantage of national waste waters without complying with the Mexican Official Standards on the matter and in the particular conditions established for such effect;
- III. Exploit, use or take advantage of national waters in volumes greater than those authorized in the respective titles or in the inscriptions made in the Public Registry of Water Rights;
- IV. Occupy or take advantage of vessels, watercourses, canals, federal zones, protection zones and other assets referred to in Article 113 of this Law, without the concession title;
- V. Altering the hydraulic infrastructure authorized for the exploitation, use or exploitation of water, or its operation, without the corresponding permit;
- VI. Failure to condition works or installations in accordance with the terms established in the regulations or other standards or provisions issued by the competent authority to prevent negative effects on third parties or on the hydraulic development of the sources of supply or the basin;
- VII. Not to install, not to preserve, not to repair or not to replace the necessary devices for recording or measuring the quantity and quality of water, under the terms established in this Law, its regulations and other applicable provisions, or to modify or alter the facilities and equipment for measuring the volumes of water exploited, used or exploited, without the corresponding permit, including those installed by the "Water Authority" in the exercise of its powers;
- VIII. To exploit, use or take advantage of national waters without the respective title, when so required under the terms of this Law;
Reformed fraction DOF 08-06-2012
- IX. Executing for himself or for a third party works to illuminate, extract or dispose of subsoil water in regulated, closed or reserved zones, without the respective permit, as well as whoever has ordered the execution of such works;
- X. Impede or hinder visits, inspections, surveys, verifications and inspections carried out by the "Water Authority" under the terms of this Law and its regulations;
- XI. Failure to provide the data required by the "Water Authority" or the "Water Prosecutor's Office", as the case may be, to verify compliance with the provisions contained in this Law and the



- concession, assignment or discharge permit titles, as well as in other legal regulations;
- XII.** Use water volumes greater than those generated by wastewater discharges for dilution in order to try to comply with Mexican Official Standards on ecological matters or particular discharge conditions;
 - XIII.** Supplying national waters for human consumption that do not comply with the corresponding quality standards;
 - XIV.** Dumping or depositing any pollutant, in contravention of legal provisions, in rivers, riverbeds, watercourses, lakes, lagoons, estuaries, marine waters and other water deposits or currents, or infiltrating materials and substances that pollute subsoil waters;
 - XV.** Failure to comply with the obligations set forth in the concession, assignment or discharge permit titles;
 - XVI.** Failure of the concessionaire or assignee to request registration in the Public Registry of Water Rights under the terms provided in this Law and its regulations;
 - XVII.** Causing considerable environmental damage or generating imbalances in the area of water resources in accordance with the provisions on the matter;
 - XVIII.** Wasting water in contravention of the provisions of the Law and its regulations;
 - XIX.** Not to execute the blinding of wells that have been subject to relocation, replacement or whose rights have been totally transferred to another property, as well as not to adjust the capacity of their pumping equipment when the rights of exploitation, use or exploitation of national waters are partially transferred;
Reformed fraction DOF 08-06-2012
 - XX.** Modify or divert watercourses, vessels or streams when they are national property, without the corresponding permit; when a water work of national property is damaged or destroyed;
 - XXI.** Failure to inform the "Water Authority" of any change in its processes when this causes modifications in the characteristics or volumes of the wastewater used to issue the corresponding discharge permit;
 - XXII.** Failure to file the chronological records referred to in "the Law" or failure to file the monthly report described in Article 88 BIS, Section V BIS, of this Law;
Fraction amended DOF 08-05-2023
 - XXIII.** Exploit, use or take advantage of national assets determined in Articles 113 and 113 BIS of this Law, without having a concession title, and
Reformed fraction DOF 08-06-2012
 - XXIV.** To exploit, use or take advantage of national assets determined in Articles 113 and 113 BIS of this Law, in a greater amount or in a different manner than that established in the respective concession title.
*Section amended DOF 08-06-2012
Article amended DOF 29-04-2004*



ARTICLE 120. The offenses referred to in the preceding Article shall be administratively sanctioned by "the Water Authority" with fines that shall be equivalent to the daily value of the Unit of Measurement and Actualization in force at the time the offense is committed, and in the amounts expressed below; the foregoing, regardless of the sanctions stipulated in the General Law of Ecological Balance and Environmental Protection, Law of National Property and Federal Law of Metrology and Standardization and its regulations, the Mexican Official Standards, the Federal Penal Code and other applicable provisions in the matter:

Amended paragraph DOF 06-01-2020

- I. 260 to 1,950 Unidades de Medida y Actualizacion, in the case of violation of sections X, XI, XVI, XXI and XXII;

Reformed fraction DOF 08-06-2012, 06-01-2020

- II. 1,560 to 6,500 Units of Measurement and Actualization, in the case of violations to fractions I, VI, XII, XVIII and XIX, and

Reformed fraction DOF 08-06-2012, 06-01-2020

- III. 1,950 to 26,000 Unidades de Medida y Actualizacion, in the case of violation of sections II, III, IV, V, VII, VIII, VIII, IX, XIII, XIV, XV, XVII, XX, XXIII and XXIV.

Reformed fraction DOF 08-06-2012, 06-01-2020

In the cases provided for in Section IX of the preceding Article, the violators shall forfeit to the Nation the works for the illumination and use of water and the machinery and drilling equipment shall be retained or kept in deposit or custody until the damage caused is repaired in accordance with the terms of the Law, without prejudice to other applicable administrative and criminal penalties.

Fines imposed by the Water Authority must be paid within the terms established in the Federal Administrative Procedure Law.

When fines are not paid on the established date, the amount of the fines will be updated monthly from the time payment should have been made until payment is made, in accordance with the National Consumer Price Index.

Article amended DOF 29-04-2004

ARTICLE 121. In order to sanction the offenses referred to in this Chapter, infractions shall be qualified in accordance with:

- I. The seriousness of the offense;
- II. The economic conditions of the offender;
- III. Repealed,
and
- IV. Recidivism.

Section repealed DOF 08-06-2012

If upon expiration of the term granted by the authority to remedy the infraction or infractions that have been committed, it appears that such infraction or infractions still subsist, fines may be imposed for each day that elapses without obeying the order, without the total of the fines exceeding the maximum amount allowed pursuant to the preceding Article.

In the case of recidivism, the amount of the fine may be up to three times the amount originally imposed, without exceeding three times the maximum allowed, and will also be subject to suspension and, if applicable, revocation of the title or permit on a provisional basis.



Article amended DOF 29-04-2004

ARTICLE 122. In the cases of sections I, II, III, IV, V, VII, VIII, VIII, IX, XI, XI, XII, XIII, XIV, XV, XVII, XIX, XX, XXII and XXIII of Article 119 of this Law, as well as in cases of recidivism in any of the fractions of the aforementioned Article, "the Water Authority" will additionally impose the temporary or definitive, partial or total closure of the wells and works or intakes for the extraction or use of national waters.

Likewise, "the Water Authority" will impose the closure in the case of:

- I. Failure to comply with the order of suspension of activities or suspension of the wastewater discharge permit referred to in Article 92 of this Law, in which case the company or establishment directly causing the discharge shall be permanently or temporarily closed, and
- II. Illegal exploitation, use or exploitation of national waters through hydraulic infrastructure without having the concession or assignment title required in accordance with the provisions of this Law, or in the case of clandestine or illegal wells.

Amended paragraph DOF 08-06-2012

In the case of closure, action will be taken in accordance with the terms of the Federal Law of Administrative Procedure and the Regulations applicable to the administrative procedure in water matters.

In order to execute a closure, the "Water Authority" may request the support and assistance of federal, state or municipal authorities, as well as public security forces, to intervene within the scope of their attributions and competence.

In the case of occupation of water bodies, watercourses, federal zones and other inherent national assets referred to in this Law, through the construction of any type of work or infrastructure, without having the corresponding title, the "Water Authority" is empowered to remove or demolish the same at the expense of the offender, without prejudice to the corresponding sanctions.

*Paragraph amended DOF 08-06-2012
Article amended DOF 29-04-2004*

ARTICLE 123. The penalties applicable for the offenses set forth in this Law shall be specifically destined in favor of "the Commission" and shall be imposed without prejudice to the fines for tax violations and the application of penalties for the resulting criminal liability.

In the event of noncompliance with the provisions and under the terms of this Law, the "Water Authority" will notify the debts owed by individuals or legal entities for the execution of works or their destruction, as well as monitoring, analysis, studies or actions that the "Water Authority" carries out on its own account.

The income referred to in this Article shall be considered a tax credit for collection purposes.

Article amended DOF 29-04-2004

ARTICLE 123 BIS. "The Water Authority" shall initiate proceedings before the competent authority to sanction authorities and public servants who have issued permits or Titles in violation of this Law, the Federal Law on Administrative Responsibilities of Public Servants and the Federal Criminal Code.

Article added DOF 2004-04-29



ARTICLE 123 BIS 1. In cases where the existence of a crime is presumed, "the Commission" shall file the corresponding report with the Public Prosecutor's Office.

Article added DOF 2004-04-29

Chapter III Recurso de Revisión y Denuncia Popular (Appeal for Review and Popular Complaint)

Title of the Chapter amended DOF 2004-04-29. Chapter traveled (before Chapter II) DOF 08-06-2012.

ARTICLE 124. An appeal for review may be filed within fifteen working days following the date of notification against final acts or resolutions of the "Water Authority" that cause harm to private parties.

The purpose of the appeal is to revoke, modify or confirm the challenged resolution and the rulings issued will contain the challenged act, a Chapter of recitals, the legal grounds on which it is based and the points of resolution. The regulations of this Law shall establish the terms and other requirements for the processing and substantiation of the appeal.

The appeal shall be filed in writing addressed to the Director General of "the Commission", in the cases established in Section IX of Article 9 of this Law, or to the Director General of the competent Basin Organization, in which the name and domicile of the appellant and the grievances shall be stated, accompanied by the evidence deemed necessary, as well as the proof of the appellant's personality.

If the imposition of a fine is appealed, the collection of the fine will be suspended until the appeal is resolved, provided that payment is guaranteed in the terms provided by the tax provisions.

Appeals against acts or resolutions issued in tax matters pursuant to this Law will be resolved in accordance with the terms of the Federal Tax Code and its regulations.

Article amended DOF 29-04-2004

ARTICLE 124 BIS. Any person, social groups, citizen or non-governmental organizations, associations and societies, may resort to popular denunciation under the terms of Chapter VII of the General Law of Ecological Balance and Environmental Protection, when acts are committed that produce or may produce imbalances or damage to water resources or their inherent assets.

Article added DOF 2004-04-29

TRANSITIONS

ARTICLE ONE.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE TWO.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE THREE.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE FOURTH.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE FIVE.- It is hereby repealed.

Article repealed DOF 29-04-2004



ARTICLE SIXTH.- It is repealed.

Article repealed DOF 29-04-2004

ARTICLE SEVENTH.- It is repealed.

Article repealed DOF 29-04-2004

ARTICLE EIGHT.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE NINTH.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE TEN.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE THIRTEENTH.- It is hereby repealed.

Article repealed DOF 29-04-2004

ARTICLE TWELFTH.- It is repealed.

Article repealed DOF 29-04-2004

ARTICLE THIRTEENTH.- It is repealed.

Article repealed DOF 29-04-2004

Patricia Ruiz Anchondo, President; Sen. **Idolina Moguel Contreras**, President; **Miguel Gómez Guerrero**, Secretary; Sen. **Roberto Suárez Nieto**, Secretary; Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States and for its due publication and observance, I issue this Decree in the residence of the Federal Executive Power, in Mexico City, Federal District, on the twenty-seventh day of November of the year nineteen hundred and ninety-two, **Carlos Salinas de Gortari**.



TRANSITORY ARTICLES OF REFORM DECREES

Erratum to the National Water Law, published on December 1, 1992.

Published in the Diario Oficial de la Federación on February 15, 1993.

On page 26, first column, line 17 of **article 19**, it says: control of the
extraction and use of the waters of the

It should read:

control of the extraction and utilization of the waters of the

On page 28, second column, line 33, **article 31, third paragraph**, reads: "The
nullity of these shall be resolved by the "The

It should read:

The nullity of these shall be resolved by "The

On page 39, first column, line 8, **article 103, second paragraph**, it reads: established
in the bases that for each step

It should read:

established in the bases that for each case

On page 40, second column, line 47 of **article 114, third paragraph**, it says: to
change the vessel or cause, the owners of the vessels shall

Should read:

to change the vessel or waterway, the owners of the



DECREE amending, adding and repealing various provisions of the National Waters Law.

Published in the Diario Oficial de la Federación on April 29, 2004.

CONTAINS THE COMPLETE TEXT OF THE NATIONAL WATER LAW, INCLUDING THOSE PROVISIONS THAT ARE AMENDED, ADDED AND REPEALED, AS WELL AS THOSE THAT HAVE NOT BEEN AMENDED:

SOLE ARTICLE: Articles 2; 3; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 14; 15; 16; 17; 18; 19 **are amended**; 20; 21; 22; 23; 24; 25; 28; 29; 30; 31; 32; 33; 34; 35; 36; 37; 38; 39; 40; 41; 42; 43; 44; 45; 46; 47; 48; 49; 51; 52; 53; 54; 55; 56; 57; 58; 59; 60; 61; 62; 63; 64; 65; 66; 67; 68; 69; 70; 72; 73; 74; 75; 76; 77; 78; 80; 81; 82; 83; 84; 85; 86; 87; 88; 89; 90; 91; 92; 93; 94; 95; 96; 97; 98; 99; 100; 102; 103; 104; 105; 106; 107; 109; 110; 111; 112; 114; 114; 115; 116; 117; 118; 119; 120; 121; 122; 123 and 124; Articles 7 and 8 **are added** BIS; 9 BIS; 9 BIS 1; 11 BIS; 11 BIS 1; 12 BIS; 12 BIS 1; 12 BIS 2; 12 BIS 3; 12 BIS 4; 12 BIS 5; 12 BIS 6; 13 BIS; 13 BIS 1; 13 BIS 2; 13 BIS 3; 13 BIS 4; 14 BIS; 14 BIS 1; 14 BIS 2; 14 BIS 3; 14 BIS 4; 14 BIS 5; 14 BIS 6; 15 BIS; 19 BIS; 21 BIS; 23 BIS; 29 BIS; 29 BIS 1; 29 BIS 2; 29 BIS 3; 29 BIS 4; 29 BIS 5; 29 BIS 6; 30 BIS; 37 BIS; 39 BIS; 47 BIS; 52 BIS; 56 BIS; 69 BIS; 84 BIS; 84 BIS 1; 84 BIS 2; 86 BIS; 86 BIS; 86 BIS 1; 86 BIS 2; 88 BIS; 88 BIS 1; 91 BIS; 91 BIS 1; 93 BIS; 94 BIS; 96 BIS; 96 BIS 1; 96 BIS 2; 111 BIS; 112 BIS; 113 BIS; 113 BIS 1; 113 BIS 2; 118 BIS; 123 BIS; 123 BIS 1; and 124 BIS; and **repealing** Articles 26 and 27, as well as the thirteen Transitory Articles of the Law on National Waters published in the **Official Gazette of the Federation** on December 1, 1992; the names of the following Titles **are amended** to read as follows: Third Water Policy and Programming; Fourth Rights for Exploitation, Use or Development of National Waters; Seventh Prevention and Control of Water Pollution and Liability for Environmental Damage; Title Eight BIS Water Financial System **is added** with a Single Chapter; the names of the following Chapters **are amended** to read as follows: in Title Two, Chapters V Organization and Participation of Users and Society; in Title Ten, Chapter II Appeal for Review and Popular Complaint; the **following are added: in Title Two**, Chapters V Organization and Participation of Users and Society; in Title Ten, Chapter II Appeal for Review and Popular Complaint **are added:** in Title Two Chapter II BIS Secretariat of the Environment and Natural Resources; Chapter III BIS Basin Organizations; Chapter V BIS Water Advisory Council; Chapter V BIS 1 National Meteorological Service; Chapter V BIS 2 Mexican Institute of Water Technology; Chapter V BIS 3 Federal Attorney's Office for Environmental Protection; Title Four Chapter I BIS Knowledge on National Waters; Chapter III BIS Suspension, Extinction, Revocation, Restrictions and Easements of the Concession, Assignment or Provisional Permit for the Use of Water and Discharge Permit; and sections **are added** in the same Chapter III BIS: First Suspension; Second Extinction; Third Revocation; Fourth Water Use Restrictions; Fifth Easements; Title Sixth Chapter V BIS Water Culture; Title Seventh Chapter I Prevention and Control of Water Pollution; Chapter II Liability for Environmental Damage; in the Sole Chapter of Title Third **are added** Sections One: National Water Policy and Section Two: Water Planning and Programming; in Title Six Chapter II Agricultural Use, Section Five **is renamed** to become Temporary Technified; likewise, Chapter IV of Title Eight **is eliminated**; to leave the full text of the National Water Law in the following terms:

.....

TRANSITIONS

FIRST. This Decree shall enter into force on the day following its publication in the **Official Gazette of the Federation**.

SECOND: Pending the issuance of the regulations derived from this Law, the provisions of the Regulations of the Law on National Waters shall remain in force, in all that does not contravene the provisions of this Decree and the Law it contains.



THIRD. The Regulations referred to in this Decree shall be issued within a period of no more than twelve months from the date of entry into force of this Decree.

FOURTH. "The Commission" at its National and Regional Hydrological-Administrative Levels shall distribute its resources and reorganize itself organically and functionally in accordance with the provisions of this Decree, for which purpose the Director General shall issue the Integration, Organizational Structure and Operation Manual of this Decentralized Administrative Body within a term not to exceed nine months, prior approval of its Technical Council.

FIFTH. The Honorable Congress of the Union shall make the necessary amendments to the Organic Law of the Federal Public Administration and shall provide for the improvement of the legal framework governing the management of water resources and their different uses, as well as the interrelationships and repercussions of such management in the areas of health, education and culture, communication and dissemination, budget and fiscal aspects.

SIXTH. The Honorable Congress of the Union shall provide for the revision of the Federal Criminal Code to determine the offenses related to water and its management, which are typified as criminal offenses.

SEVENTH. The Commission shall publish or update the studies on the availability of national waters referred to in this Law within a term that shall not exceed two years as of the entry into force of this Decree.

EIGHTH. The declarations, closures, reserves and regulations of national waters issued by the Federal Executive shall continue to produce their legal effects.

NINTH. Concessions, allocations, discharge permits, permits of a different nature from the foregoing, certificates, registrations, certificates and, in general, all authorizations granted in favor of individuals or legal entities, in accordance with the amendments, additions and repeals made to the Law on National Waters by this Decree, as well as other valid acts that have been registered in the Public Registry of Water Rights, shall remain in force.

TENTH. When "the Commission" finds that the information contained in the concession or assignment titles issued prior to the entry into force of this Law is erroneous, the holder will be notified so that within a period of sixty calendar days it may state what it deems appropriate and provide the information and documents that may be required.

"The Commission shall issue a resolution within a term not to exceed sixty days, based on the response of the interested party and the evidence in the file and, if applicable, shall order the correction of the title, as well as its registration in the Public Registry of Water Rights.

ELEVENTH. The agreements, decrees and procedure manuals issued by the Federal Executive or by the National Water Commission up to the date of publication of this Law will remain in force, insofar as they do not oppose the contents of this Law. The Federal Executive, and when appropriate under the terms of the Law, "the Commission", will provide for the appropriate modifications.

TWELFTH. "The Commission" shall make the necessary arrangements so that within a period of no more than eighteen months from the entry into force of this Decree, the integration, organization and implementation of the Basin Organizations, with the characteristics and powers set forth in this instrument and those conferred by the respective regulations, are completed. Based on the foregoing, the Commission may provide for the establishment of Basin Councils and the improvement of the existing ones in accordance with the provisions of this Law and its Regulations.



The Regional and State Management Offices of the Commission, including all their facilities, equipment, resources and programs, shall be absorbed by the Basin Organizations, in accordance with the geographic delimitation, regionalization and provisions determined by the Commission for the integration, organization, administration and operation of the Basin Organizations.

Until such time as the Basin Organizations are created, the Regional and State Managements of "the Commission" will continue to perform their functions in the manner and under the terms established in the internal regulations of "the Secretariat".

THIRTEENTH. When the Federal Government has participated in the financing, construction, operation and administration of the works necessary for the operation of irrigation districts, "the Commission" will continue and conclude the process to turn over the administration and operation of these to the users under the terms of this Law and its regulations.

FOURTEENTH. "The Commission" will have a term not to exceed twelve months to structure and implement the New and Clean Slate Program, understanding as New Account, to be up to date with its obligations for the current fiscal year and the last four fiscal years in accordance with the Federal Fiscal Code. Said Program will establish its validity.

Likewise, the Commission shall have a term of twelve months, as from the entry into force of this Decree, to carry out a campaign for the administrative regularization of concessions for the exploitation, use or exploitation of national waters, the term of which has expired. Concession holders who fail to regularize their titles within the established term will be sanctioned by the Commission in accordance with the applicable legal provisions. This benefit will only be applied to those holders who have a history of concessions and permits for the exploitation, use or exploitation of national waters, prior to the presidential decrees of 1995 and 1996 on the subject, who can reliably demonstrate the operation of the exploitation and are subject to the applicable legal provisions and the availability and sustainability of the basin.

Paragraph added DOF 18-04-2008

For its due observance, compliance and dissemination, it shall be published in the **Official Gazette of the Federation**, as well as in the main newspapers of national circulation.

FIFTEENTH. Pending compliance with the provisions of Paragraph Three of Article 22 of this Law, the following order of priority of water uses shall be observed for the concession and assignment of the exploitation, use or development of national, surface and subsoil waters, applicable in normal situations:

1. Domestic;

Amended paragraph DOF 24-03-2016

2. Urban public;

Amended paragraph DOF 24-03-2016

3. Livestock;

Amended paragraph DOF 24-03-2016

4. Agricultural;

Amended paragraph DOF 24-03-2016

5. Aquaculture;

Amended paragraph DOF 24-03-2016



6. Uses for ecological conservation or environmental use; *Amended paragraph DOF 24-03-2016*
7. Generation of electric energy for public service; *Amended paragraph DOF 24-03-2016*
8. Industrial; *Amended paragraph DOF 24-03-2016*
9. Generation of electric energy for private service; *Amended paragraph DOF 24-03-2016*
10. Washing and silting of land; *Amended paragraph DOF 24-03-2016*
11. Uses for tourism, recreation and therapeutic purposes; *Amended paragraph DOF 24-03-2016*
12. Multiple use, and *Amended paragraph DOF 24-03-2016*
13. Other s. *Amended paragraph DOF 24-03-2016*

The foregoing shall apply without prejudice to the provisions of Article 29 BIS 5 and Title Five of this Law.

SIXTEENTH. Administrative proceedings pending at the time of the entry into force of this Decree shall be resolved under the terms of the Law in force prior to this Decree amending, adding and repealing various provisions of the Law on National Waters.

Mexico City, December 22, 2003. **Enrique Jackson Ramírez**, Chairman.- Deputy **Juan de Dios Castro Lozano**, Chairman.- Sen. **Sara I. Castellanos Cortés**, Secretary.- Deputy **Ma. de Jesús Aguirre Maldonado**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fifteenth day of March of the year two thousand and four.- **Vicente Fox Quesada**.- Rubric.- The Secretary of the Interior, **Santiago Creel Miranda**.- Rubric.



DECREE adding a Second Paragraph to the Fourteenth Transitory Article of the Decree amending, adding and repealing various provisions of the National Waters Law, published in the Official Gazette of the Federation on April 29, 2004.

Published in the Diario Oficial de la Federación on April 18, 2008.

Sole Article.- A second paragraph is added to the Fourteenth Transitory Article Fourteen of the Decree Amending, Adding and Repealing Various Provisions of the Law on National Waters, published in the Official Gazette of the Federation on April 29, 2004, to read as follows:

.....

TRANSITORY

Sole Paragraph: This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Santiago Creel Miranda, Chairman - **Ruth Zavaleta Salgado**, President - **Gabino Cué Monteagudo**, Secretary - **Esmeralda Cardenas Sanchez**, Secretary - Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fourteenth day of April, two thousand eight.- **Felipe de Jesús Calderón Hinojosa**.- Rubric.- The Secretary of the Interior, **Juan Camilo Mouriño Terrazo**.- Rubric.



DECREE amending and adding Articles 7 Bis and 18 of the National Waters Law.

Published in the Official Journal of the Federation on June 20, 2011.

The first and second paragraphs of Article 18 are amended and a section XI is added to Article 7 BIS and a fourth paragraph to Article 18 of the Law of National Waters, to read as follows:

.....

TRANSITORY

Sole Paragraph. This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Jorge Carlos Ramírez Marín, Chairman.- Sen. **Manlio Fabio Beltrones Rivera**, Chairman.- Sen. **María de Jesús Aguirre Maldonado**, Secretary.- Sen. **Martha Leticia Sosa Govea**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the seventeenth day of June of the year two thousand and eleven.



DECREE amending and adding various provisions of the National Waters Law.

Published in the Official Gazette of the Federation on June 8, 2012.

Sole Article. Section XL, subsection a) of Article 3; Section XLVIII of Article 9; Section IX of Article 12; Section V of Article 12 Bis 2; Section XIII of Article 12 Bis 6; Section II of Article 14 Bis 6; the first paragraph of Article 29 Bis 2; the first paragraph of Article 29 Bis 4; the second paragraph of Article 33; the second, third and fourth paragraphs of Article 113 Bis; Sections VIII, XIX, XXIII and XXIV of Article 119 are amended; Sections I, II and III of Article 120; the first and fourth paragraphs of Section II of Article 122 are amended; the names of Title Ten "Measures of Apprehension, Security and Arrest" are modified; Sections I, II and III of Article 120, first and fourth paragraph of Section II of Article 122; the names of Title Ten "Measures of Urgency, Security, Infractions, Penalties and Remedies" are modified; Chapter I, "Measures of Urgency and Security", and consequently, the other Chapters are deleted; Articles 118 Bis 1, 118 Bis 2, 118 Bis 3 are added and Section III of Article 121 of the Law of National Waters is repealed, to read as follows:

.....

TRANSITORY

Sole Paragraph. This decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Guadalupe Acosta Naranjo, Chairman.- Sen. **José González Morfin**, Chairman.- Sen. **Mariano Quihuis Fragoso**, Secretary.- Sen. **Martha Leticia Sosa Govea**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fifth day of June of the year two thousand twelve.



DECREE enacting the Federal Law of Environmental Responsibility and amending, adding and repealing several provisions of the General Law of Ecological Balance and Environmental Protection, the General Law of Wildlife, the General Law for the Prevention and Integral Management of Waste, the General Law of Sustainable Forest Development, the Law of National Waters, the Federal Criminal Code, the Law of Maritime Navigation and Commerce and the General Law of National Assets.

Published in the Official Gazette of the Federation on June 7, 2013.

ARTICLE SIXTH: Sections III and IV of Article 14 BIS 4; Article 96 BIS and Article 96 BIS 1 of the Law on National Waters are amended to read as follows:

.....

TRANSITIONS

FIRST.- This Decree shall enter into force thirty days after its publication in the Official Gazette of the Federation.

SECOND.- The Environmental Liability Fund shall be constituted and its bases and rules of operation shall be prepared and approved within one hundred eighty days after the entry into force of this Decree.

THIRD.- The District Courts specialized in environmental matters must be established within a maximum term of two years from the date this Decree becomes effective. The Jurisdiction specialized in environmental matters may be granted to the District Courts in operation in each jurisdictional circuit or in accordance with the provisions of the Council of the Federal Judicature, without this implying the creation of new jurisdictional bodies. The personnel of each of such District Courts will receive specialized training in environmental law.

Mexico City, April 25, 2013. **Ernesto Cordero Arroyo**, Chairman.- Dip. **Francisco Arroyo Vieyra**, Chairman.- Sen. **Rosa Adriana Díaz Lizama**, Secretary.- Dip. **Javier Orozco Gómez**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on the fifth day of June of the year two thousand thirteen, **Enrique Peña Nieto**.



DECREE enacting the Electricity Industry Law, the Geothermal Energy Law and adding and amending several provisions of the National Waters Law.

Published in the Official Gazette of the Federation on August 11, 2014.

ARTICLE THREE. Articles 18, second paragraph and 81 are amended; and Section LXI BIS of the Law on National Waters is added to Article 3, to read as follows:

.....

TRANSITIONS

FIRST.- This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

SECOND.- All provisions that oppose the provisions of this Decree are hereby repealed.

Mexico City, August 5, 2014.- Deputy **José González Morfín**, Chairman.- Senator **Raúl Cervantes Andrade**, Chairman.- Deputy **Javier Orozco Gómez**, Secretary.- Senator Lilia Guadalupe Merodio Reza, Secretary. **Lilia Guadalupe Merodio Reza**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, Federal District, on August eleventh, two thousand fourteen, of the year two thousand fourteen, by **Enrique Peña Nieto**.



DECREE amending and adding various provisions of the National Waters Law.

Published in the Official Gazette of the Federation on March 24, 2016.

Section LVII of Article 3 is amended and a section VII Bis is added to Article 3; and the paragraphs of the Fifteenth Transitory Article of the "Decree amending, adding and repealing several provisions of the Law on National Waters, published in the Official Gazette of the Federation on April 29, 2004" are amended to read as follows:

.....

Transitory

Sole Paragraph: This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Mexico City, February 25, 2016.- Deputy **José de Jesús Zambrano Grijalva**, Chairman.- Sen. **Roberto Gil Zuarth**, Chairman.- Deputy **María Eugenia Ocampo Bedolla**, Secretary.- Sen. **César Octavio Pedroza Gaitán**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on the twenty-second day of March of the year two thousand sixteen.



DECREE amending the first paragraph of Article 120 and adding a section VI Bis to Article 88 Bis of the Law of National Waters.

Published in the Official Gazette of the Federation on January 6, 2020.

The first paragraph and sections I, II and III of Article 120 are amended and a section VI Bis is added to Article 88 BIS of the Law on National Waters, to read as follows:

.....

Transitory

First.- This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Second: All provisions that oppose this Decree are hereby repealed.

Mexico City, November 21, 2019.- Dip. **Laura Angélica Rojas Hernández**, President.- Sen. **Mónica Fernández Balboa**, President.- Dip. **Mónica Bautista Rodríguez**, Secretary.- Sen. **Primo Dothé Mata**, Secretary.- Rubrics."

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on January 3, 2020.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Interior, Dr. **Olga María del Carmen Sánchez Cordero Dávila**.- Rubric.- The Secretary of the Interior, Dr. **Olga María del Carmen Sánchez Cordero Dávila**.- Rubric.



DECREE amending and adding various provisions of the Federal Public Defender's Office Law, the General Health Law, the General Law of Physical Culture and Sports, the General Law of Climate Change, the Organic Law of the Taxpayer's Defense Attorney's Office, the Organic Law of the Seminar of Mexican Culture, the Law of the National Agency of Industrial Safety and Environmental Protection of the Hydrocarbons Sector, the Law of the Federal Electricity Commission, of the Law of the National Banking and Securities Commission, of the Law that Creates the Mexican State News Agency, of the Law of the Public Broadcasting System of the Mexican State, of the Law of Insurance and Bonding Institutions, of the Law of the Mexican Petroleum Fund for Stabilization and Development, of the Law of the Electric Industry, of the Law of the Social and Solidarity Economy, Regulatory of the Eighth Paragraph of Article 25 of the Political Constitution of the United Mexican States, with respect to the Social Sector of the Economy, the Law of the Mint of Mexico, the Law of Commercial Bankruptcy, the Law of Biosecurity of Genetically Modified Organisms, the Law of National Waters, the Law of Social Assistance, the General Law of Social Development, the Organic Law of the National Finance for Agricultural, Rural, Forestry and Fishing Development, the Federal Law for the Administration and Disposal of Public Sector Assets, the Federal Law for the Administration and Disposal of Public Sector Assets, the Federal Law of Plant Varieties, the Federal Law for the Administration and Disposal of Public Sector Assets, and the Federal Law of Plant Varieties, the Federal Law on Plant Varieties, the Federal Law on Plant Health, the Federal Law on Animal Health, the Federal Law on the Promotion of Activities Carried out by Civil Society Organizations, the Organic Law of the National Council for Science and Technology, the Law on the Protection of Bank Savings, the Law on National Institutes of Health, the Law on Science and Technology, with respect to gender parity.

Published in the Official Gazette of the Federation on May 11, 2022.

Article Nineteen. The first and second paragraphs of Article 10 of the Law of National Waters are amended to read as follows:

.....

Transitory

First. This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Second. In accordance with the Third transitory article of the Decree reforming Articles 2, 4, 35, 41, 52, 53, 56, 94, and 115 of the Political Constitution of the United Mexican States, in the matter of Gender Parity, the principle of parity must be observed progressively, starting with the new designations and appointments that correspond, in accordance with the law.

Third. All obligations generated with the entry into force of this Decree will be covered from the budget approved to the responsible executors of expenditure for the current and subsequent fiscal years, therefore no additional resources will be authorized for such purposes and, in the event that any modification is made to its organizational structure, it must also be covered with its authorized budget and in accordance with the applicable legal provisions.

Mexico City, March 15, 2022.- Deputy Sergio Carlos Gutiérrez Luna, Chairman.- Senator Olga Sánchez Cordero Dávila, Chairman.- Deputy Luis Enrique Martínez Ventura, Secretary.- Senator Verónica Noemí Camino Farjat, Secretary.- Rubrics".



LAW
CHAMBER OF DEPUTIES OF THE H. CONGRESS OF THE
UNION
General Secretariat
Parliamentary Services Secretariat

NATIONAL WATER

Last Reform DOF 08-05-2023

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on May 2, 2022.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Interior, Mr. **Adán Augusto López Hernández**.- Rubric.



DECREE amending, adding and repealing several provisions of the Mining Law, the Law of National Waters, the General Law of Ecological Balance and Environmental Protection and the General Law for the Prevention and Integral Management of Waste, regarding mining and water concessions.

Published in the Official Gazette of the Federation on May 8, 2023.

Article Two. Articles 19; 24, first paragraph; 29 BIS 4, first paragraph, sections XVII and XVIII; 119, section XXII are **amended**; sections III BIS and LVII BIS are **added** to the first paragraph of Article 3; the second and third paragraphs to Article 4; sections XIX, XX and XXI to the first paragraph of Article 29 BIS 4; a second paragraph to Article 37; Chapter III BIS called "Industrial Use in Mining", with its articles 81 BIS, 81 BIS 1, 81 BIS 2, 81 BIS 3 and 81 BIS 4; a fraction V BIS to the first paragraph of article 88 BIS, fraction VI to the first paragraph of article 92, and a fourth paragraph to article 118, of the Law of National Waters, to read as follows:

.....

Transitory

First. This Decree shall enter into force on the day following its publication in the Official Gazette of the Federation.

Second. The legal provisions that oppose this Decree are hereby repealed.

Third. The expenditures generated as a result of the entry into force of this Decree shall be charged to the resources expressly approved for such purposes by the Chamber of Deputies in the respective expenditure budgets of the corresponding executors of expenditure; in the event that any modification is made to the organizational structure thereof, such modification shall be carried out through compensated movements in accordance with the applicable legal provisions, and therefore, in no case shall expansions be authorized to their expenditure budgets for the current fiscal year.

Fourth. The head of the Federal Executive, within a term that shall not exceed one hundred and eighty days from the entry into force of this Decree, shall issue the corresponding amendments to the respective regulatory provisions.

Fifth. Pending the issuance of the regulations referred to in the preceding article, the provisions in force prior to the entry into force of this Decree shall continue to apply, provided that they are not in conflict with this Decree.

References to the Mining Law contained in other laws, regulations and in any general provision are understood to refer to the Mining Law.

Applications in process for new exploration and exploitation concessions will be rejected without further processing, by virtue of the provisions of this Decree.

Sixth. The exploration and exploitation concessions granted prior to the entry into force of this Decree will have the duration foreseen in the respective title.

Seventh. As of the entry into force of this Decree, no extensions will be granted to concessions in Natural Protected Areas, as well as to those already issued for the exploration, exploitation and benefit of mercury within the national territory.



Eighth. For purposes of the expiration referred to in Article 53 Bis of the Mining Law, the terms shall be computed as of the entry into force of this Decree.

Ninth. Administrative procedures and appeals related to mining and water activities initiated prior to the entry into force of this Decree, shall be processed and resolved in accordance with the provisions in force at the time of their initiation, and the other provisions applicable to the matter in question, provided that they do not conflict with the provisions of this Decree.

Tenth. The holders of mining concessions, within three hundred and sixty-five calendar days from the entry into force of this Decree, must present the financial vehicle referred to in the Mining Law, which guarantees the possible damages generated during the execution of the mining activities, as well as present for authorization by the Ministry of the Environment and Natural Resources the Mine Restoration, Closure and Post-closure Program.

Eleventh. The holders of mining concessions must guarantee that the deposits or sites of final disposal of earth, tailings or slag dams do not affect population centers, productive zones or ecosystems, in accordance with the applicable legal provisions.

When the competent authorities determine that the deposits or sites for the final disposal of earth, tailings or slag dams present risks to the safety or health of the population, productive zones or ecosystems, the concession holders will have a term of three hundred and sixty-five calendar days from the date of notification by the competent authority to carry out the necessary removal or remediation.

Twelfth. Within one hundred and eighty days following the entry into force of this Decree, the Mexican Geological Service must withdraw its participation in shared risk investment funds in which it has assets, as long as it does not generate losses. For such purposes, it may maintain its position until they are in the securities in which they were acquired.

Thirteenth. Within ninety calendar days after the entry into force of this Decree, the holders of national water concessions that carry out mining exploration, exploitation, benefit and exploitation activities must apply to "the Water Authority" for the change of industrial use to industrial use in mining, in order to regularize their legal situation, in accordance with the applicable regulatory provisions.

Santiago Creel Miranda, Chairman.- Sen. **Alejandro Armenta Mier**, Chairman.- Sen. **María del Carmen Pinete Vargas**, Secretary.- Sen. **Verónica Noemí Camino Farjat**, Secretary.- Rubrics".

In compliance with the provisions of Section I of Article 89 of the Political Constitution of the United Mexican States, and for its due publication and observance, I hereby issue this Decree in the Residence of the Federal Executive Power, in Mexico City, on May 8, 2023.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Interior, Mr. **Adán Augusto López Hernández**.- Rubric.



**REGULATORY AND MONITORING COMMITTEE
MINUTES OF THE FIFTH REGULAR MEETING**

Location: Virtual
Date: September 08, 2021
Time: 11:00 a.m.

Participants:

For CORESE:

Jesús Antonio Solano Leyva - President of CORESE and General Director of CEA. Victor Manuel Castañón Arcos - Secretary of CORESE and Local Director of CONAGUA.

Members of the Federal **Executive CONAGUA**

Cruz Antonio Green Valdez - Representative of CONAGUA.
José Luis Espinoza Chollet - Representative of CONAGUA.

Members of the State Executive CEA

C. Eduardo Félix Beltrán - Administrative Coordinator.
Uriel Cano Castro - Technical Coordinator.
Silvia Barraza Escoboza - Chief of the Legal Department
M.I. Yersinia Olvera Vidal - Head of the Department of Construction Supervision and Construction.
Kenia Castro Nery - Head of the Department of Studies and Projects.
Silvia Llanet Peraza Verde - Head of the Water Culture Department.
Irving Abraham Iglesias Ramírez - Head of the Department of Social Participation.
Verónica Castro Rosas - Head of the Accounting Department.

Guests in attendance

For the Government of the State of Baja California Sur,
Municipal Operating Organizations and Basin Councils

Eduardo Cortes Peña - Representative of the Comptroller General's Office.
Gerardo Zúitiga Ruiz - Representative of the Secretary of Finance and Administration.
Luis Ignacio Almada Velasco - Representative of the Secretary of Health.
C.P. Alejandro Villegas Fimbres. - Representative of the General Director of OOMSAPA of Loreto.
Jasael Adrián Higuera Meza. Jasael Adrián Higuera Meza.- Representative of the General Director of OOSAPAS of Comondú.
Ing. Eduardo Peña Gallardo - Technical Director of OOMSAPAS of La Paz
Jesús Sánchez Silva - Representative of the Director General of OOPAS of Los Cabos.
Ing. Fernando Frías Malagón - Representative of Consejo de Cuenca e .C.S.
C. Eduardo Jesús Pino VonBorstel.- Representative of COTAS La Paz.

REGULATORY AND MONITORING COMMITTEE MINUTES OF THE FIFTH REGULAR MEETING

Objective:

Presentation of the First Amendment to the Execution Annex of PROAGUA 2021.

Development of the Meeting:

By means of Circular No.- CEA/DG.- 0300/2021 dated August 31, 2021, the following was done the Invitation to the Fifth Regular Meeting, and attached to the same, the attendees were informed about the "Agenda", which consists of:

SCHEDULED AGENDA

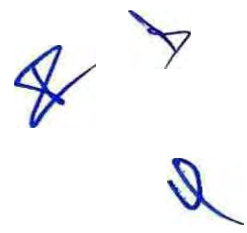
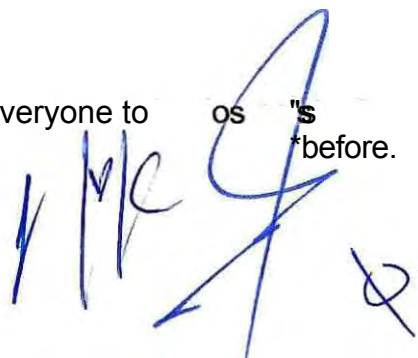
1. Attendance List.
2. Welcome.
3. Progress of PROAGUA 2021.
4. Presentation of the First Amendment to the PROAGUA 2021 Execution Annex.
5. General Matters.
6. Closing of the Meeting.

ITEM 1.- ATTENDANCE LIST

The attendance list was taken virtually, with the presence of the President and Secretary of CORESE, 8 members of the State Executive and 2 members of the Federal Executive, as well as the representation of the invited guests, with a legal quorum to start the Fifth Regular Meeting of CORESE for Fiscal Year 2021.

POINT 2.- WELCOME

The President of CORESE cordially welcomes everyone to CORESE. os "s before.



REGULATORY AND MONITORING COMMITTEE MINUTES OF THE FIFTH REGULAR MEETING

ITEM 3.- Progress of PROAGUA 2021

CEA informs the members of CORESE that the progress presented below refers to the actions formalized in the PROAGUA Execution Annex No. 03-01/2021 and Technical Annex No. 01/2021, dated March 15, 2021. Likewise, it was specified that the financial progress shown refers to the works executed and those authorized that are in the process of payment before the Ministry of Finance and Administration.

Actions in Urban and Rural Localities

Progress presented by CEA:

- Water School Training Action:
Physical 25% - Financial 0%
- Preparation of geophysical studies for the **location** of new water supply sources in the Loreto aquifer.
Action: Physical 72% - Financial 0%.
- Replacement of wastewater pressure emitter in Col. Fernando de la Toba, consisting of: 252.73 ml of 12" PVC hydraulic pipe to SDR 32.5, in Ciudad Insurgentes.
Action: Physical 58% - Financial 0%.
- Electromechanical equipment of sewage sump No. 2, in Santa Rosalia.
Action: Physical 100% - Financial 0%
- **Rehabilitation of well and photovoltaic equipment** in the town of Alfredo V. Bonfil.
Action: Physical 100% - Financial 100%
- Expansion and improvement of potable water system, consisting of: 5.1 km of 3" **diameter** PVC distribution lines and 76 domiciliary intakes, in San José de Magdalena.
Action: Physical 45% - Financial 26%.
- Expansion of the sanitary sewer system, sewer mains, 76 home sewage discharges, **emisor a presión** station of pumping, in Puerto Adolfo Lopez Matos.
Action: Physical 100% - Financial 100%. This tea in: 1,991.48 ml

REGULATORY AND MONITORING COMMITTEE MINUTES OF THE FIFTH REGULAR MEETING

Action: Physical 52% - Financial 34%.

- Extension of the sewer system in Villa Ignacio Zaragoza, consisting of: 1.6 km of 8" PVC piping and 63 home discharges. Action: Physical 70% - Financial 52%.

Progress presented by OOMSAPAS Los Cabos:

- Executive Project "Construction of purple line for use of treated water in San José del Cabo, BCS./Executive Project.

Action Canceled

- La Ribera WWTP reengineering project to expand from 5.7 lps to 15 lps. Action Cancelled

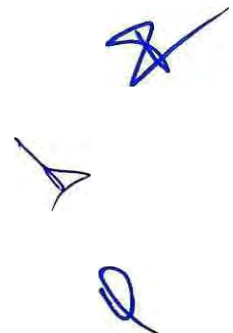
Integral Development Actions

Progress Presented by CEA:

- Elaboration of the Integral Development Plan of OOMSAPAS of La Paz. Action: Physical 25% - Financial 30%.
- Elaboration of the Integral Development Plan of OOSAPAS of Comondú. Action: Physical 25% - Financial 0%.

Progress presented by **OOMSAPAS** Los Cabos:

- Elaboration of the Integral Development Plan of OOMSAPAS of Los Cabos. Action Cancelled
- Elaboration of an Energy Audit in potable water pumping systems. Action Cancelled
- Integral Development Actions. Action Cancelled



REGULATORY AND MONITORING COMMITTEE

MINUTES OF THE FIFTH REGULAR MEETING

Water Disinfection Actions

Action of Desinfección	Goal	Availability
Installations (EQ1 and EQ2)	4	0
Replenishments (EQ3, EQ4)	2	0
Spare parts for POD equipment	2	0
Rustic (EQ6)	3	0
Chlorine Gas (4 containers) AGC	3,628	0
AHC Calcium hypochlorite tablets/Pill	136.20	0
Calcium hypochlorite (granular) AHC	2,430	0
DPD tablets	125	0
Other ARO reagents	10	0
Monitoring of residual free chlorine MCL	695	0

Action: Physical 100% - Financial 0%

PRESENTATION OF THE FIRST AMENDMENT TO THE PROAGUA 2021 EXECUTION ANNEX.

CEA informs the members of CORESE, the formalization of the First Modification to the Execution Annex No. 03-01/2021, dated August 13, 2021, with modifications in *Actions in Rural and Urban localities and in Integral Development*. Likewise, the actions included are presented, specifying those that were cancelled (red) and those that were cancelled (blue); finally, the Summary of Investments is presented with the total contributions.

Technical Annex of the Actions of Drinking Water, Sewerage and Sanitation in
 Rural and Urban Localities

1	Executive Project "Construction of purple line for use of treated water in San José del Cabo, BCS./Executive Project.	-\$500,000.00
2	Re-engineering project of La Ribera WWTP for the expansion of 5.7 lps a 15 lps.	-\$450,000.00
1	Rehabilitation of electromechanical equipment at the Lázaro drinking water treatment plant. dora San	\$8,700,000.00

REGULATORY AND MONITORING COMMITTEE MINUTES OF THE FIFTH ORDINARY MEETING

2	Construction of hydraulic sector no. 10, consisting of the adequacy of crossroads of the distribution network in the colonies : Lienzo Charro, Vicente Guerrero (high zone) and Lorna Linda (low zone) of the city of La Paz.	\$3,200,721.64
3	Construction of hydraulic sector no. 11 , consisting of the adequacy of crossroads of the distribution network, in the following neighborhoods: Jacinto López, Independencia, Magisterial, Lázaro Cárderias, Guelatao and La Escondida in the city of La Paz.	\$1,357,374.54
4	Expansion of 395.00 ml of sanitary sewer system and installation of \$ 223 sanitary discharges, in the Roma neighborhood , in the city of La Paz.	,000,000.00
5	Expansion of 7,730.00 mJ. network with pvc pipe of B" a, installation of 590 sanitary discharges and construction of 79 manholes, at the Agua Escondida neighborhood in the city of La Paz.	
6	8 for construction of the wastewater treatment plant of the city of La Paz.	,000,000.00 the

*Executor: OOMSAPAS of Los Cabos.

Technical Annex of Integral Development Actions

1	Elaboration of the Los Cabos OOMSAPAS Integra/ Development Plan.	-\$500,000.00
8	Elaboration of Energy Audits in water pumping systems. drinking.	-\$1,998,260.00
3	Integral Development Actions.	-58,294,504.00

First Amendment to the **PROAGUA** Execution Annex number 03-01/2021

INVESTMENT SUMMARY

APARTADO	FEDERAL	ESTATAL	OOM	OTROS (FISE)	TOTAL
URBANAS Y ANBALES	\$29,268,492.55	\$19,794,441.07	\$5,043,255.00	\$4,321,195.56	\$58,427,994.18
RURAL					
DESARROLLO INTEGRAL	\$425,000.00	\$175,000.00	\$250,000.00	-	86\$,00a /0
DESINFECTACION	457 7	160,88t2	-	-	1 090 0 8"
TOTAL	\$3 1 2 0 2	2 5 *23	00	21 95.56	0 36 294 6

REGULATORY AND MONITORING COMMITTEE MINUTES OF THE FIFTH REGULAR MEETING

OOMSAPAS of Los Cabos commented that, in relation to the work "Rehabilitation of electromechanical equipment in San Lazaro water treatment plant" I sent by email to the CEA and the Local Directorate of CONAGUA, the data and dates of the bidding procedure of the mentioned work.

CEA commented that, in relation to the actions to be executed, it is working together with OOMSAPAS of La Paz, on corrections to the technical documents necessary to initiate the bidding processes, of which the Local Directorate of CONAGUA will be kept informed.

It also specifies that it is awaiting the budget sufficiency document requested from the Ministry of Finance and Administration through official letter No.- CEA/DG/CA.- 0307/2021 dated September 1, 2021, in coordination with the incoming administration; finally, it suggests special care and attention to the time required for the bidding processes, in order to comply in due time and form with what has been agreed.

ITEM 5.- GENERAL MATTERS

I. SCHEDULING OF VISITS TO WORKS IN PROGRESS.

CONAGUA requests CEA to schedule a supervision visit to the works in progress that show significant physical progress.

CEA agrees and suggests that it be scheduled in advance, considering the change in the State administration.

II. ALLOCATION OF FEDERAL RESOURCES TO OOMSAPAS DE LOS CABOS.

OOMSAPAS of Los Cabos is concerned about a possible delay in the allocation of Federal resources for the work "Rehabilitation of electromechanical equipment in San Lazaro water treatment plant" in San Jose el Cao, due to the change of State and Municipal administration.

CONAGUA commented that the resources will be allocated as already programmed.



**REGULATORY AND MONITORING COMMITTEE
MINUTES OF THE FIFTH REGULAR MEETING**

III. ADDITIONAL RESOURCES FOR MODIFYING ADDENDUM.

CEA comments that a great effort was made to formalize the aforementioned Annex, since the current administration did not have the counterpart resources, however, it was a coordinated effort between the current and incoming government, for which it is also grateful for the support of CONAGUA, so that the resources originally allocated are used in the State. Likewise, he suggests special attention in the fulfillment of the requirements for the allocation of the federal resources, since the incoming administration is committed to manage the counterpart for the execution of the works upon its arrival.

CONAGUA also recognizes the great effort made to formalize the Annex, as well as the coordination and excellent communication that exists between the incoming and outgoing work teams to advance the processes.

iv. THANKS AND FAREWELL FROM THE DIRECTOR ENG. JESÚS ANTONIO SOLANO LEYVA.

CEA's Director bids farewell to each and every one of the members of CORESE, CONAGUA's Executive Officers, as well as the guests invited by the State Government, the Operating Organizations and the Basin Council, with an emotional message of thanks for the support, always coordinated work, learning and experiences lived during this period of work.

ITEM 5.- ADJOURNMENT OF THE MEETING.

There being no further business to discuss, the Chairman of CORESE adjourned this Fifth Regular Meeting at 11:40 a.m. on the day of its beginning.

For CORESE

Chairman

Eng. Jesús Antonio Solano Leyva

Secretario

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Vision 2030 REGIONAL WATER PROGRAM



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Hydrological-Administrative Region I Baja California Peninsula

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Vivir Mejor

Regional Water Program Vision 2030

Hydrological-Administrative
Region I Baja California
Peninsula

March 2012
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Presentation

In a dynamic and uncertain regional environment where the management of water resources and their inherent problems are becoming increasingly complex due to their interaction with the environment and the societies that comprise it, the need for water resources planning is seen as a challenge that poses a new way of undertaking solution actions and of having a more flexible, participatory and adaptive planning process.

Strategically, water resources planning involves a thorough analysis of the institutional and organizational capacity available, but at the same time, exploring the surroundings and the environment in which the actions to be undertaken will be inserted.

Planning from a prospective approach invites us to think that it is possible to design a better future and not only the possibility of adapting to it; it implies that society has an increasingly active role with respect to its present and future environment, being co-responsible for what happens to it, for this reason, planning should be done taking into account the needs, interests and rights of the actors involved in the process.

In this sense, the National Water Commission (CONAGUA), as the agency responsible for managing national waters and their inherent public goods, through its river basin organizations, promotes and heads what has been called the National Water Resources Planning System, which establishes the Water Planning and Programming process.

Water Planning and Programming is based on a strategic, participatory and adaptive planning approach, and aims to bring together in a single orderly and systematic planning process, the strategies, strategies and strategies for water management.

and solution actions applicable at the local, regional and national levels, so that the results transcend over time and continuity is given to the application and implementation of actions and projects. It also proposes an integrated analysis of water resources management and a more active and permanent participation of society in general, allowing the implementation of actions that facilitate the solution of problems and assist in decision-making.

Water Planning and Programming has as its integrating nucleus the 2030 Water Agenda, a CONAGUA initiative that seeks to consolidate the country's long-term water policy for sustainability through the discussion of various topics in forums and workshops, in person and online, with the participation of the general population, political, economic and social actors, including the three branches of government, the three orders of government, companies, organizations, academia, the educational community and the media. All this in order to turn it into a great permanent forum for consultation and participation regarding the problems, solutions, and goals pursued by the water sector in the country.

The Regional Water Program Vision 2030. Hydrological-Administrative Region I Baja California Peninsula, describes the objectives, strategies, actions and specific projects that respond to each of the guiding axes of the 2030 Water Agenda for the region.

National Water Commission
Baja California Peninsula Basin Organization
Mexicali, BC, March 2012

Synthesis

The Hydrological-Administrative Region I Baja California Peninsula (RHA I PBC) is located in one of the areas of the country with the lowest average annual rainfall, 77% lower than the national average, which limits its possibilities for social, economic and environmental development. In order to face the problems and conflicts between water uses and users in the Region, will, actions, policies and decisions must be shared between the federation, the States of Baja California and Baja California Sur, the 11 municipalities of the Region, including the municipality of San Luis Río Colorado of the State of Sonora, and the civil water concessionary and coordination organizations for water management.

The water problem in the Hydrological Region is identified by the overexploitation of its basins and aquifers, by the contamination of water bodies, by the deficit in drinking water, sewerage and sanitation coverage, and by the risks faced by population centers and productive areas in the face of earthquakes, droughts and catastrophic floods.

To reverse these effects, a historical planning process was carried out to define the regional policy for the year 2030. In this planning, medium- and long-term objectives and strategies were established to achieve the vision set forth in the 2030 Water Agenda of "Making a country with clean rivers, balanced watersheds and aquifers, universal coverage of drinking water and sewerage, and settlements safe from catastrophic floods" a reality in a period of twenty years.

In order to formulate lines of action, measures and projects to achieve the objectives and goals set, a Technical Prospective Analysis was applied to prioritize the solution options based on their marginal costs. The results of the Technical Prospective Analysis in the guiding axes of the 2030 Water Agenda are as follows.

Watersheds and aquifers in equilibrium

The water problems faced by the RHA I PBC are related to natural aspects where the depletion of water resources is a major problem.

The demand for water due to population growth has exceeded the supply available with the current hydraulic infrastructure, which, together with deficient water management, has led to the fact that the availability of water in the basins and aquifers today limits the development of the region and has already led to a situation of water scarcity. Another consistent aspect of the problem is related to economic factors, competition between water uses, and low water productivity, which have led to a hydrological imbalance.

Currently there is a water gap or deficit of 450 hm³ and by 2030, it is estimated that this will reach 543 hm³.

To close the gap, 29 technical measures are proposed, which contribute a volume of water close to 600 hm³ with a total investment of 15,500 million pesos. The agricultural measures for the technification of irrigation districts and units are the ones that contribute the most to closing the gap with 395 hm³ with an investment of around 4,800 million pesos.

These measures are complemented by those that promote the exchange of first-use water for more economically profitable or priority activities; recover over-concessed volumes; support the development of technology and information systems; and promote training at all levels.

Clean rivers

This axis concentrates on problems related to the environmental deterioration of the main bodies of water and the absence of measures for the adequate disposal of solid waste. This is related to pollution problems in bodies of water, watercourses, aquifers, bays and beaches.

It is currently estimated that the annual volume of wastewater generated in the region is approximately 162 hm³. By 2030, about 279 hm³ will be generated with a treatment gap of about 195 hm³ (175 municipal and 20 industrial).

To clean up all wastewater, four measures are proposed, three focused on optimizing the operation of existing treatment infrastructure and one aimed at the construction of new sanitation infrastructure. The three measures to optimize the operation of existing plants will contribute to improving the treatment of 147 hm³ of municipal wastewater by 2030, for which an approximate investment of 412 million pesos will be required. Eighty-three percent of the investment will be applied in Baja California and 17% in Baja California Sur. On the other hand, the expansion and connection of drainage requires an investment of close to 1,295 million pesos.

The construction of new treatment plant infrastructure to clean up the 28 hm³ missing to close the municipal wastewater gap by 2030 will require an investment of 329 million pesos.

Industrial water will be treated 100% by the users themselves. It is estimated that the current installed capacity will have to be increased to treat a volume of 20 hm³ and the investment required is in the order of 500 million pesos.

Universal coverage

In the RHA I PBC, the population without drinking water and sanitation coverage is 256,476 and 284,476 respectively, and it is estimated that by 2030 this will increase to 2,726,000 and 2,835,000 respectively.

To achieve 100% coverage of potable water by 2030 and satisfy 2,726 million inhabitants (195,000 rural and 2,531,000 urban), it will be necessary to invest around 10,242 million pesos (685 rural and 9,557 urban). To achieve 100% sewerage coverage and serve 2,835 million inhabitants (228,000 rural and 2,607,000 urban), the required investment will be around 6,253 million pesos (817 rural and 5,436 urban).

Settlements safe from catastrophic floods

The lack of land-use planning and the settlement of people in areas at risk from cyclones and hurricanes will mean that by 2030 a population of approximately 210,000 inhabitants will be at risk of suffering personal and property damage due to flash floods that have caused loss of human life and damage to infrastructure. Four strategies are proposed to address this problem, three with non-structural actions and one with structural measures. The first three are aimed at controlling human settlements in risk areas, preventing and mitigating the phenomena that cause environmental risks, forecasting and alerting the population in emergency situations, and developing a culture of prevention and mitigation of impacts caused by these phenomena.

Structural actions are focused on preserving, re-enabling and constructing flood control works, mainly for flood control, urban infrastructure for the protection of populations, and carrying out drainage and channel rectification actions, all with an investment of 2,355 million pesos.

Cross-cutting actions

Twenty-two strategies are proposed, 12 to improve the effectiveness of regional governance of water and associated natural resources, and 10 to provide sufficient financial resources to help strengthen the implementation of the 38 AA2030 initiatives.

Investments and financing

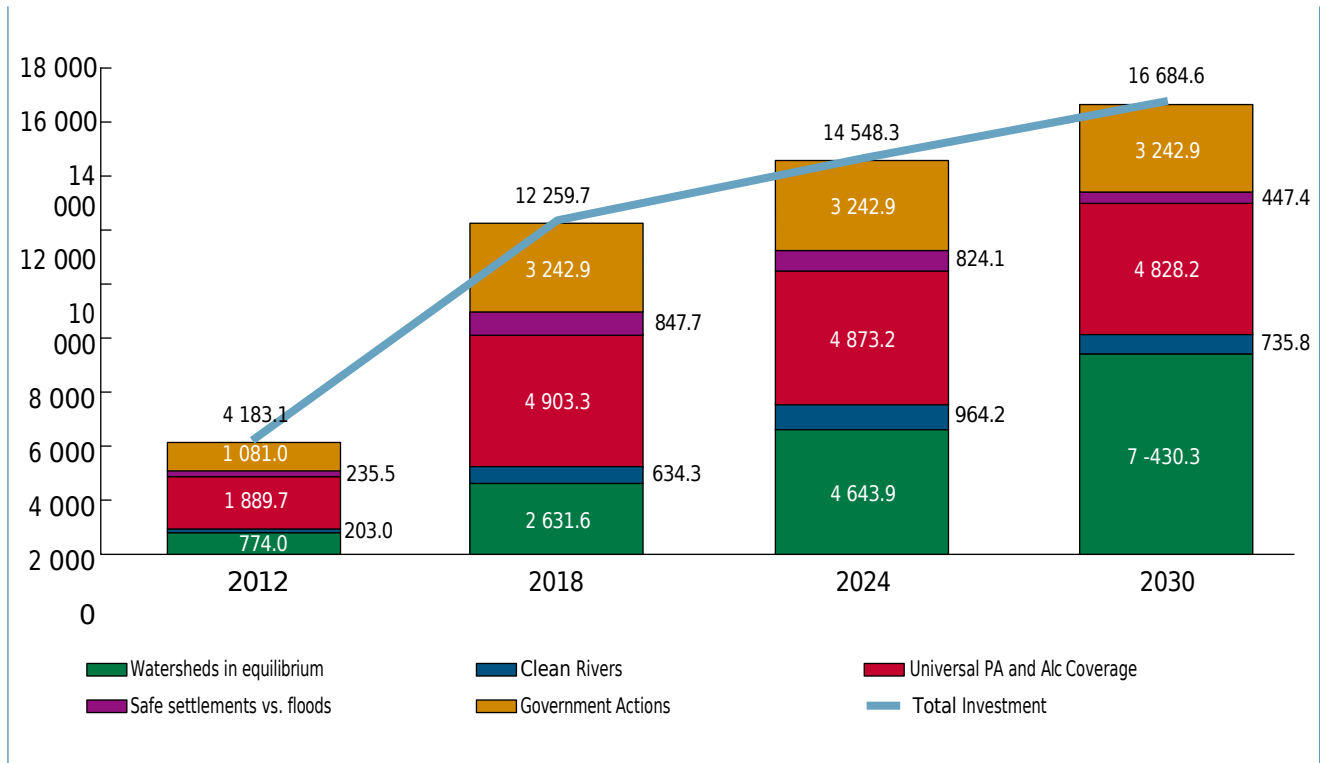
With regard to the form of financing each of the four axes of the 2030 Agenda, two main sources of resources are identified: public budgets: federal,

The water users themselves make their own contributions to the water system.

Carrying out the actions contemplated in the 2030 Water Agenda in the Region involves investments in their

The estimated investment budget for the four main axes between 2012 and 2030 is around 36,866 million pesos. The following graph shows the estimated investment budget to 2030, including current spending.

Distribution of investment to 2030 RHA I (millions of pesos)



I. Introduction



The orientations or guidelines that have governed the administration, use, and care of water in Mexico have evolved in accordance with the social, economic, and political situation of the country.

Water policy is based on the following principles:

- Water management should be carried out at the level of hydrological basins, which are considered to be the resource management units.
- The organized participation of users is indispensable, from the definition of objectives and strategies to solve water problems to the implementation of the actions required to achieve success in the conservation and preservation of the resource.
- Sustainability, which will make it possible to meet the demands of current users without compromising future ones, by finding and operating mechanisms and strategies that guarantee medium- and long-term balances.
- Comprehensive and long-term vision in all policies, programs and projects that affect or may affect the availability and quality of water resources.
- Subsidiarity, within the framework of their legal powers, the authorities at the three levels of government must intervene temporarily in those cases in which the responsible agency lacks the capacity to fulfill its responsibility in the management of water resources.

In this context, as part of the river basin planning process, regional planning for water sustainability in the medium and long term is being carried out in the country's hydrological-administrative regions to define regional water policy for the 2030 timeframe.

This planning is based on a multidisciplinary knowledge and analysis of the problem, as well as on the definition of viable solutions from the technical, economic, social, political and environmental points of view for the medium and long term, with the participation of the general population and the most relevant political, economic and social actors, including officials from the three levels of government, businessmen, farmers, academics, researchers and the media.

To execute the planning process undertaken at the regional level, the Regional Water Program Vision 2030 of the Baja California Peninsula Hydrological Administrative Region I (RHA I PBC) is presented, which takes into account the proposals of the different water users, specialists, organizations, and individuals interested in integrated water management, as well as the opinions of the Basin Councils and the results of a series of regional workshops.

The Regional Water Program (RHP) is aligned with national planning management instruments: the 2030 Water Agenda (AA2030), the 2007-2012 National Water Program and the National Development Plan.

The objective of the PHR is to propose policies to achieve water sustainability in the Region in the medium and long term, aligned with the goals of the National Water Program 2007-2012 and the AA2030. But most importantly, to define the strategies, actions and projects that will make it possible to achieve integrated water resource management in the hydrological basins.

In order to meet the objective, a general description of the hydrological region in its environmental, social and economic context is provided. In the environmental aspect, the administrative and natural delimitations (basins and aquifers) are presented, the supply and demand of surface and groundwater are mentioned, as well as the quality of the water in terms of infrastructure and chemical parameters. For water resource management, the quantity and distribution of the population in the municipalities is important, so social aspects such as the percentage of urban and rural population and the marginalization index, among others, are addressed. Water productivity is also important for effective water management, so the contribution to Gross Domestic Product (GDP) by production sector is mentioned, highlighting that the largest water user is the one that contributes the least to GDP, and these data are described in the economic aspects.

The approach of the PHR's water policies is based on the achievements that have had an impact on better management and use of water resources and on the problems that the Region faces today. Therefore, this document mentions the major achievements that have been obtained in the last three years, as well as the relevant problems addressed in the four guiding axes of AA2030 and taking into account the results of the public forums held in 2010, with the participation of approximately 1,400 people.

This makes it possible to identify challenges and propose medium- and long-term solutions, analyzing alternative solutions and estimating costs in order to guide investment decisions in the sector at the regional level. This is achieved by carrying out a Technical Prospective Analysis (TPA) whose objective is to identify the water gap (deficit) between demand and sustainable supply, analyzing each of the technically feasible actions with the highest cost-effectiveness to close the gap, representing them in a cost curve ordered by their marginal cost. In the ATP, the basic planning unit is called a cell, defined as the geographic area that encompasses a group of municipalities belonging to a single state, taking into account the delimitation of the planning subregion. In the specific case of the Baja California Peninsula, each planning cell corresponds to a single municipality.

For each of the AA2030's guiding axes, the challenge to 2030, the solution alternatives, their objectives, strategies and actions are presented, including specific programs and projects in each of the cells, with their volume of contribution to the gap and their corresponding investment. In addition, indicators and targets for the periods 2012, 2018, 2024 and 2030 are proposed in order to follow up on the PHR, monitor compliance and evaluate the performance of the responsible actors. Finally, possible sources of financing to cover the required investments are mentioned.

AA2030 is the planning instrument on which the objectives of the regional water policy are based, responding to the four guiding axes of AA2030: Balanced Watersheds and Aquifers, Clean Rivers, Universal Coverage, and Safe Settlements against catastrophic floods; in other words, each guiding axis has an objective. But these objectives are not enough to achieve effective water management, so two more objectives are included: one that seeks to achieve effective governance and another that seeks to have a strong regional financial system to ensure that resources arrive in a timely manner and in sufficient quantity, so this document includes the section "Cross-cutting Actions".

The success of the PHR will depend on several factors such as political will, the adequacy of the legal framework and the implementation of regional programs related to environmental education and water culture, among others.

The integration of this water program was achieved with the participation of the areas of the Baja California Peninsula Basin Organization, the Local Directorate of Baja California Sur and with the support of the Mexican Institute of Water Technology.

II. General description of the Hydrological-Administrative Region I Baja California Peninsula



The Baja California Peninsula Hydrological Administrative Region I (RHA I PBC) comprises the entire states of Baja California and Baja California Sur, and the municipality of San Luis Río Colorado in Sonora. It is bordered to the north by the border with the United States of America, which extends for 265 kilometers.

The Region has 3,606 kilometers of coastline, of which more than half corresponds to the Pacific Ocean coasts and the rest to the Gulf of California coasts, representing approximately 25% of the total land area.

The country's coastline, which together with the 200 miles of patrimonial sea, represent a great economic potential for the region.

The territorial extension is 145,344 km², of which 71,786 km² (49.39%) correspond to the state of Baja California; 73,277 km² (50.42%) to the state of Baja California Sur and 281 km² (0.19%) to the portion of the state of Sonora. Administratively, it is made up of 11 municipalities: five in Baja California, five in Baja California Sur and one in Sonora.

Location of the RHA I PBC



Source: Prepared based on information from SGP, CONAGUA 2010.

Municipalities		
State	Municipality	
	Key	Name
Baja California	2001	Ensenada
	2002	Mexicali
	2003	Tecate
	2004	Tijuana
	2005	Rosarito Beaches
Baja California Sur	3001	Comondú
	3002	Mulegé
	3003	La Paz
	3008	Los Cabos
	3009	Loreto
Sonora	26055	San Luis Río Colorado

Source: Based on INEGI, Marco Geoestadístico Municipal 2005.

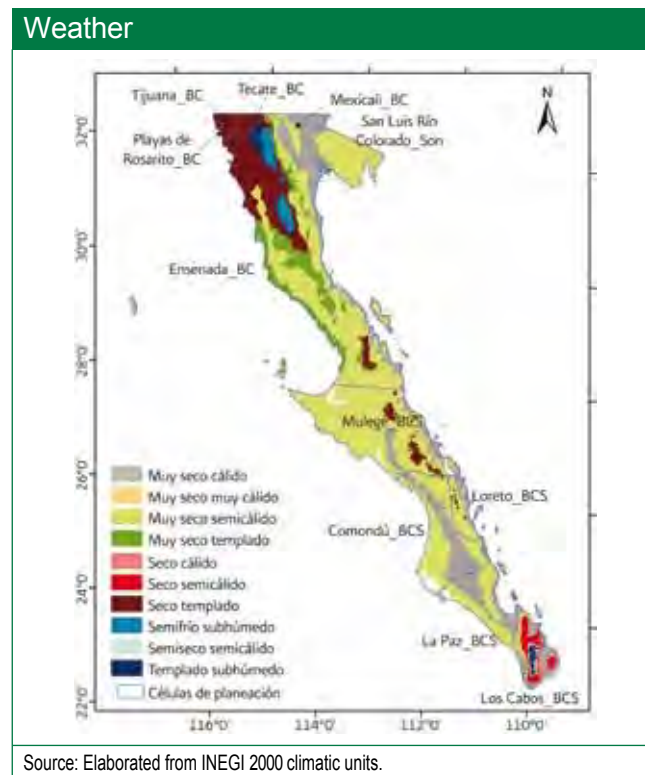
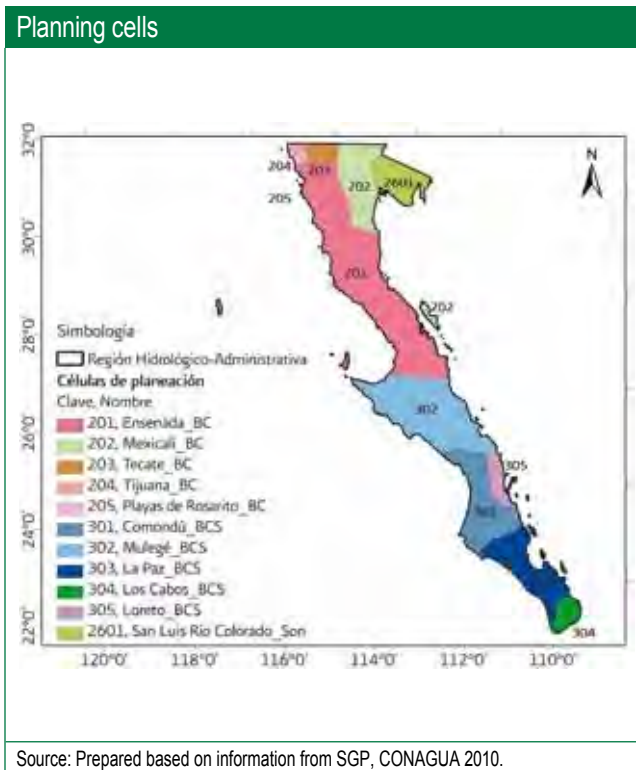
To coordinate the water planning process, the OCPBC relies on its two Basin Councils: Baja California and Baja California Sur. In addition, to strengthen the capacities of integrated water resource management in the Region, there is an auxiliary body, the Colorado River Basin Commission, and 19 Groundwater Technical Committees (COTAS), 7 in Baja California Sur and 12 in Baja California.

It is important to mention that in this Regional Water Program, the basic unit of analysis is called a planning cell, defined as the geographic area formed by a set of municipalities belonging to a single state within the limits of a hydrological subregion. In the case of the Baja California Peninsula, each municipality corresponds to a planning cell. On the other hand, it is important to mention that each cell has an identifier (key) different from the official key of the municipality, although sometimes they coincide.

Characterization of the Region

Aspects environmental

The climate of the Baja California Peninsula is generally dry and warm, with temperate parts in the northern subregion and in the highlands. According to Köppen's classification, there are four main types of climate: semi-desert (lower Colorado River delta and eastern plains), temperate (from the northwestern border to the San Quintín valley), humid temperate (central mountainous part) and desert (in the south, in the plains).



Average annual precipitation in the Region is 169 mm, which is very low compared to the rest of the country's regions (77% less than the national average of 760 mm). In general, rainfall is very low in most of the Region, with great spatial variability; in the northwestern part of the Baja California Peninsula, average annual precipitation varies from 200 to 400 mm, while in the central portion, from the coastline to the highest elevations in the Sierra de San Pedro Mártir, it varies from 100 to 600 mm, and in the southern portion, precipitation varies from 100 to 200 mm. The driest part is in the Colorado River Delta. In summary, the greatest concentration of rainfall in Baja California Sur is recorded during the summer, which is closely related to rainfall generated by cyclonic activity in the Pacific, reaching an average annual value of close to 160 mm; and in Baja California there is significant rainfall in winter with an average annual value of 180 mm.

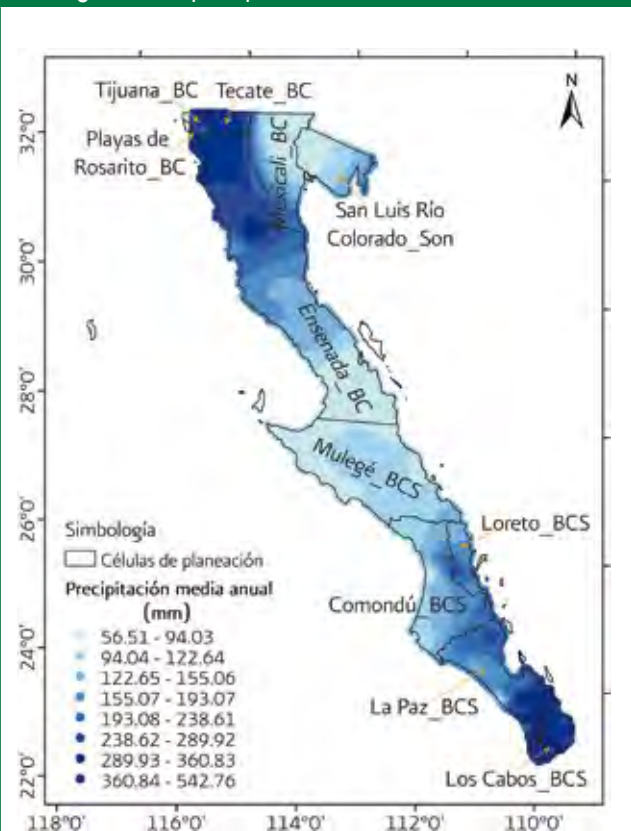
The main rivers in the region are the Tijuana and Colorado. The former rises in the Mexican side and flows into

the Pacific Ocean in the territory of the United States of America, has a length of 186 km, a basin area of 3,231 km², and its average annual natural runoff is 78 hm³, considering only the Mexican part. The second, the Colorado, which originates in the United States of America and flows into the Gulf of California in Mexican territory, has a length and basin area, also considering only the Mexican part, of 160 km and 3,840 km², respectively, with an average annual natural runoff of 1,863 hm³ (which includes the 1,850 hm³ delivered to Mexico in accordance with the 1944 Treaty on the Distribution of International Waters between the United Mexican States and the United States of America).

Change climate

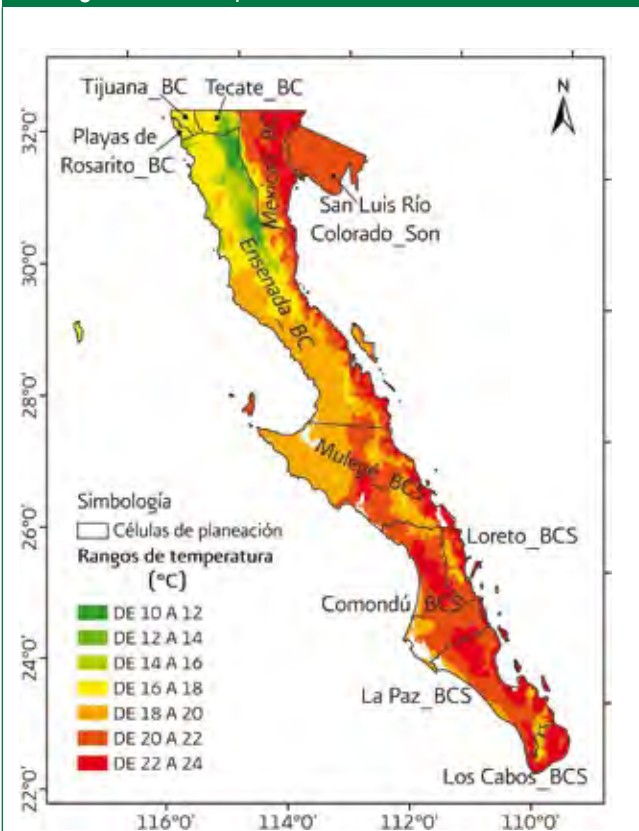
According to information from the Atlas de Vulnerabilidad Hídrica en México, which shows regionalized climate projections of precipitation for the final period of this century (2061-2090), it is expected that in the winter a

Average annual precipitation



Source: Prepared based on information from SGP, CONAGUA 2010.

Average annual temperature



Source: Prepared based on information from SGP, CONAGUA 2010.

One of the regions that will present the greatest decrease in precipitation is the Baja California Peninsula, with reductions of about 20% in relation to the corresponding period one hundred years ago. On the other hand, the annual averages of precipitation projections indicate that the state of Baja California will have the greatest decrease in annual precipitation, with values of 21% with respect to the base climatology of the last 50 years.

Therefore, we can assume that by 2030 there will be a reduction of about 10% of precipitation, which will cause a proportional reduction in the volume used in the Irrigation Districts and Units, specifically in the area with current irrigation rights.

Situation seismic

The earth's crust has cracks, known as faults, one of the longest and most active of which is the 15 km deep San Andreas Fault, which is approximately 20 million years old. Along the San Andreas Fault, the Pacific plate moves relative to the huge North American plate at an average of a few centimeters per year.

The Baja California Peninsula, being located in the seismic circle around the Pacific Ocean, from Alaska to Chile along the western coasts of the United States, extending north to Japan and south to the United States, is the most important seismic zone in the world.

New Zealand faces seismic movements on a very frequent basis.

Among the most recent tremors or earthquakes is the one that occurred on February 8, 2008 with a magnitude of 5.4 on the Richter scale, which took place in Mexicali, Baja California. Subsequently, between February 8 and 22, approximately 600 aftershocks occurred near the city of Mexicali and within this series of earthquakes there was a strong 5.7 magnitude earthquake with epicenter near the Cerro Prieto volcano.

On December 30, 2009, an earthquake measuring 5.8 on the Richter scale was recorded in the city of Mexicali, Baja California and was felt in the cities of Tecate, Tijuana, Ensenada and San Luis Río Colorado.

On April 4, 2010, there was a strong earthquake of 7.2 on the Richter scale with epicenter in Laguna Salada in Mexicali. The earthquake was felt in Tijuana, Playas de Rosarito, Tecate and northern Ensenada in Baja California, as well as in San Luis Río Colorado and Puerto Peñasco in Sonora.

The damage caused by this last earthquake was mainly to the infrastructure of various services (power supply, communication routes, water supply, gas, telephone, etc.), buildings and homes, as well as damage to communities and their farming areas due to flooding. The greatest damage occurred in four delegations in the south of the country.



in the Mexicali Valley: Estación Delta, Carranza, Guadalupe Victoria and Colonias Nuevas. Crops were also lost due to damage to the hydraulic infrastructure in the San Luis Río Colorado Valley.

Therefore, it is necessary to keep in mind and take into account the seismic activity of the Baja California Peninsula, and it is necessary to implement a continuous and permanent monitoring plan, both for seismic activity and for verifying the conditions of the hydraulic infrastructure, in order to mitigate damages.

Phenomenon of the drought

The phenomenon of meteorological drought occurs when there is a significant decrease in precipitation with respect to the annual average and that lasts several months and/or years.

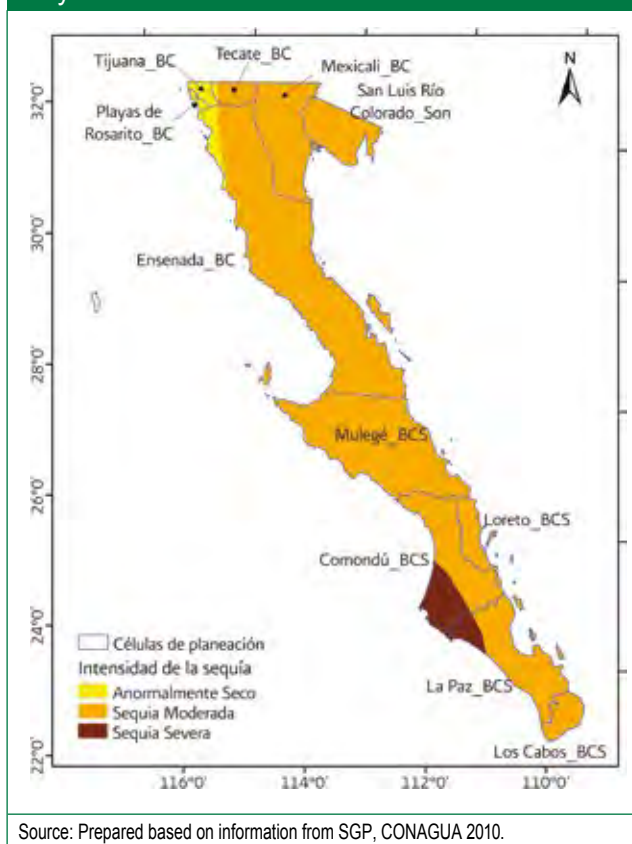
The main effects of this phenomenon are on agriculture and livestock, with serious socio-economic consequences for the rural and urban population. The impacts that can be generated by the presence of severe droughts are:

- a) Ecological, generating dehydration and death of flora and fauna.
- b) Deterioration of agricultural production due to the loss of crops and food shortages resulting in shortages and higher prices of agricultural products, causing hoarding and speculation.
- c) Reduction of the livestock herd, causing the death of animals due to starvation and the appearance of epizootics.
- d) Reduction of industrial activity, resulting in a decrease and low quality of production, which has an impact on the generation of few jobs, an increase in imports and a decrease in exports.
- e) Deterioration of public health, caused by poor hygiene and its consequences in the generation of epidemics, famine and mortality of the population, particularly children and the elderly.
- f) Generation of massive migration from rural areas to the cities in search of food and work, which in turn generates an over-demand for resources in the cities, resulting in unemployment, vagrancy, delinquency and insecurity, and
- g) Social and political problems over the struggle and control of water, as has already been observed in different parts of Mexico, and the Colorado River is no exception. (Source: <http://gaceta.cicese.mx/>)

Currently, drought in the country is monitored by the National Meteorological Service (SMN) under the framework of the North American Drought Monitor (NADM) project using a standardized precipitation index, which considers only precipitation. A negative value represents drought and a positive value represents wet conditions. Two estimates are made annually at the North American level; the first corresponds to the end of the summer season, in May, and the second to the end of the rainy season in November.

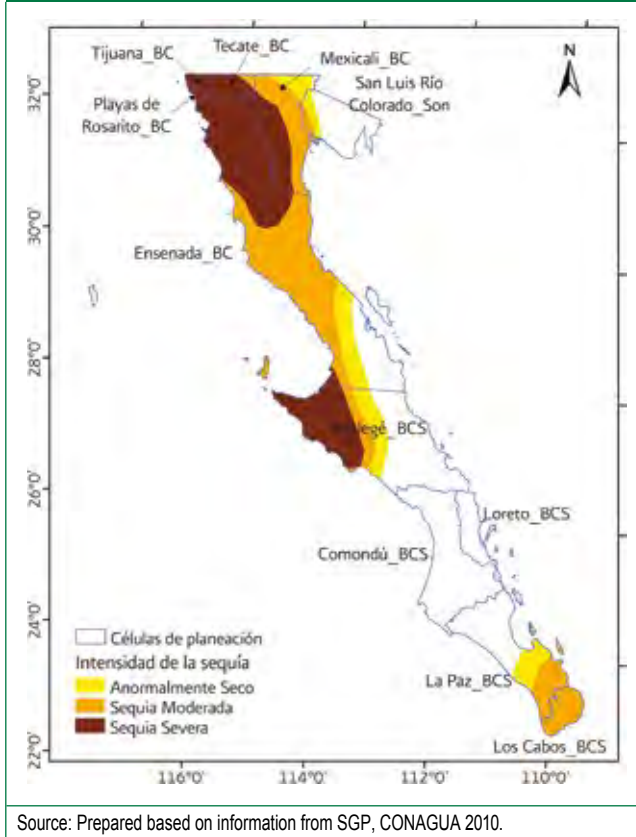
During 2008, in May, the Baja California peninsula presented moderate drought, except for Tijuana and Playas de Rosarito in Baja California, which maintained abnormally dry drought conditions, and in the southeast of the municipality of Comondú there was a severe drought. In May 2009, negative precipitation anomalies occurred throughout the region, and the Baja California peninsula remained in an abnormally dry to severe drought condition. The most critical areas were

Drought conditions at the end of the summer season, May 2008



Tecate, Tijuana, Playas de Rosarito, northern Ensenada, northwest and southwest Mexicali in Baja California, as well as the El Vizcaino Biosphere Reserve in Baja California Sur.

Drought conditions at the end of the summer season, May 2009



Source: Prepared based on information from SGP, CONAGUA 2010.

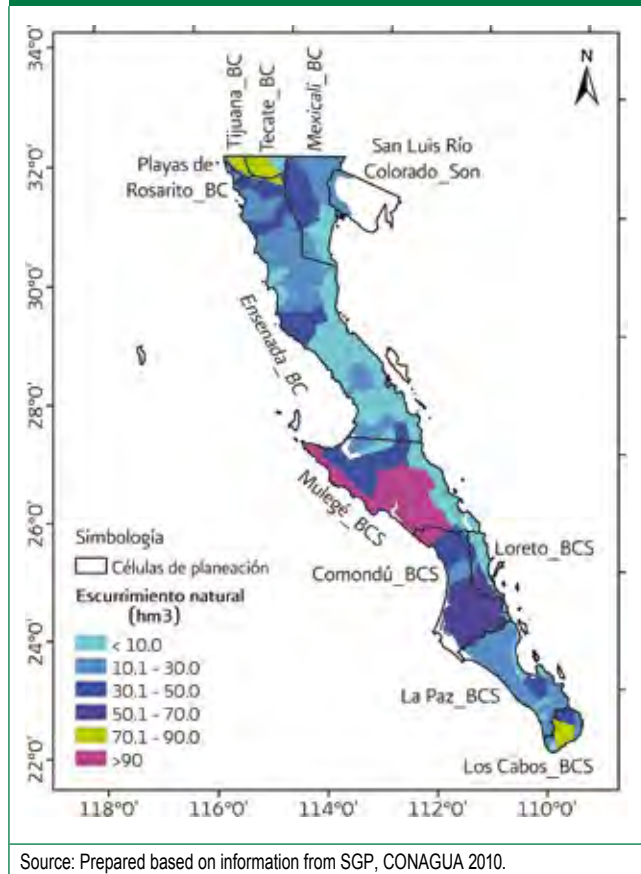
The decrease in precipitation below the norm in the region is frequent due to its climatic conditions: winter rains and dry summers. For this reason, continuous monitoring programs are needed, as well as technical and economic (accessible and effective) emergency programs to reduce damage.

Distribution and availability of water resources

The average natural surface runoff volume in the region is 1,517 hm³ /year. The most important basins, in terms of surface runoff volume, are Punta Eugenia and San Ignacio with a volume of 182 and 96 hm³ , respectively.

The cells with the greatest natural runoff are those of Ensenada, Baja California, and Mulegé and La Paz in Baja California Sur, and those with the lowest volume are Playas de Rosarito and Tecate, Baja California, as well as Loreto in Baja California Sur.

Natural runoff volume



Source: Prepared based on information from SGP, CONAGUA 2010.

There are few important storage facilities in the region: the José Ma. Morelos y Pavón, located on the Colorado River and built in 1950, its main function is to receive water from the United States of America, in accordance with the 1944 Treaty, and to distribute the volume of water within Mexican territory, mainly to the Colorado River Irrigation District 014; Abelardo Rodríguez Dam, located on the Tijuana River and used for irrigation, flood control and water supply to the city of Tijuana, Baja California, has a useful capacity of 90 hm³ ; El Carrizo dam located on the Tecate stream, which was originally planned for irrigation, with a useful capacity of 40 hm³ , is currently part of the Aqueduct-Rio Colorado-Tijuana system and serves as a regulating reservoir; and Santa Inés or Gral. Agustín Olachea, located on

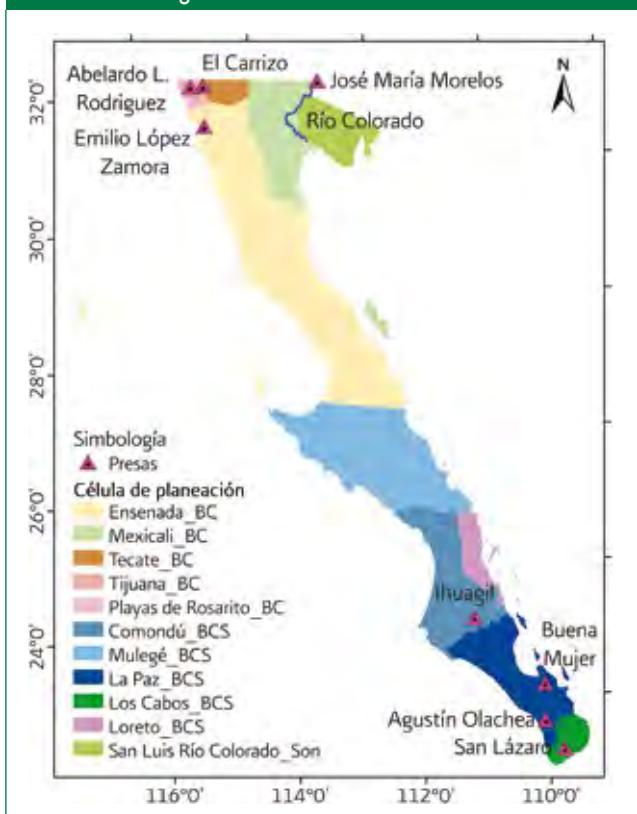
the Grande stream, south of La Paz, with a total capacity of 21 hm³ is used for water supply and flood control.

However, there are also dams in the region that, although they have a small total capacity, are relevant, such as the Emilio López Zamora dam located on the Ensenada stream, with a useful capacity of 3 hm³, it is used to supply water to the city of Tecate; Buena Mujer dam, located on the Cajoncitos stream with a total capacity of 14 hm³ and its purpose is for flood control and aquifer recharge; Ihuagil dam, located on the San Luis River, in the municipality of Comondú, Baja California Sur, is used for recharging the Santo Domingo Valley aquifer and flood control, and has a useful capacity of 5 hm³. The San Lázaro dam is also located on the San Lázaro stream, a tributary of the San José stream; its total capacity is 5.0 hm³ and its function is to regulate floods caused by cyclonic events and protect the inhabitants of San José del Cabo, Baja California Sur, as well as to recharge the San José aquifer.

There are 89 aquifers in the region; 20 are overexploited, 15 have saline intrusion, and 5 are under the phenomenon of soil salinization and brackish groundwater. In the Baja California subregion there are 48 aquifers, of which 8 are overexploited (Ojos Negros, Valle de Mexicali, Maneadero, La Trinidad, Camalú, Colonia Vicente Guerrero, San Quintín and San Simón); and in the Baja California Sur subregion, 39 aquifers, of which 11 are underexploited (Vizcaíno, Mezquital seco, Santo Domingo, La Paz, Los Planes, Melitón Albañez, La Matanza, Alfredo

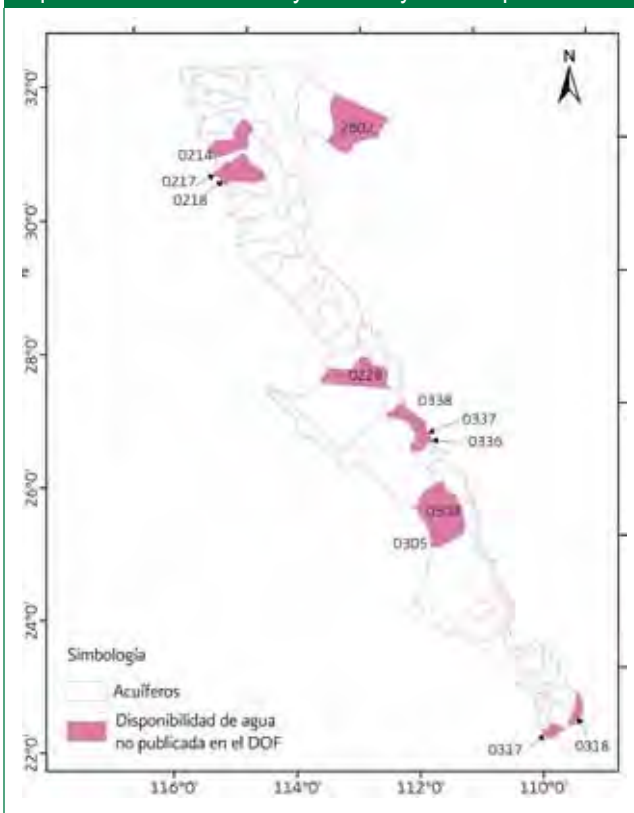
B. Bonfil, San Juan Bautista-Londo, Mulegé and San Marcos Palo Verde); and in the municipality of San Luis Río Colorado there are two aquifers: El Valle de San Luis Río Colorado and Los Viveros. Of the 89 aquifers, the Availability Agreements for 44 aquifers in Baja California, 32 aquifers in Baja California Sur and one in Sonora (San Luis Río Colorado Valley) have already been published in the Official Journal of the Federation (DOF).

Dams in the Region



Source: Prepared based on information from SGP, CONAGUA 2010.

Aquifers whose availability has not yet been published



Source: Prepared based on information from SGP, CONAGUA 2010.

The average annual recharge, calculated as of 2010, is 1,520 hm³, corresponding to Baja California 830 hm³, to Baja California Sur 453 hm³ and to the San Luis Río San Luis Valley aquifer, which has an average annual

recharge of 1,520 hm .

Colorado, Sonora 237 hm³. Extraction, which exceeds recharge, is 887.5 hm³ in the Baja California sub-region and 489.6 hm³ in Baja California Sur. Considering the entire Region, there is a very low groundwater availability of 96.4 hm³ (40.7 hm³ in Baja California, 26.7 hm³ in Baja California Sur and 29 hm³ in the San Luis Río Colorado Valley aquifer, Sonora).

Renewable water in the Region, as of 2009, i.e., the maximum amount of water that is feasible to exploit annually, is of the order of 4,707 hm³, of which 28% is groundwater and the remaining 72% is surface water, most of which corresponds to the 1,850 hm³ of the Colorado River, according to the Treaty on the Distribution of International Waters between the United States of Mexico and the United States of America of 1944, intended exclusively for agricultural use. It should be clarified that of the actual use of the treaty, 199 hm³ of groundwater destined to the cities remains in San Luis Río Colorado, Sonora, and is used for agricultural purposes. As an interchange, 199 hm³ of the surface water from the Colorado River that corresponds to agriculture, is delivered to the cities as a result of the natural barrier that the Colorado River represents.

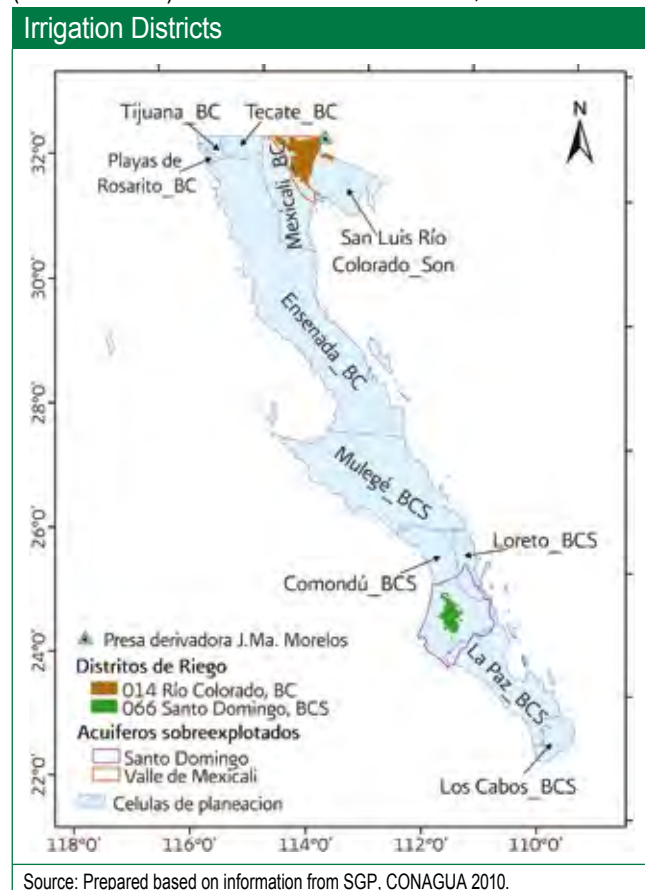
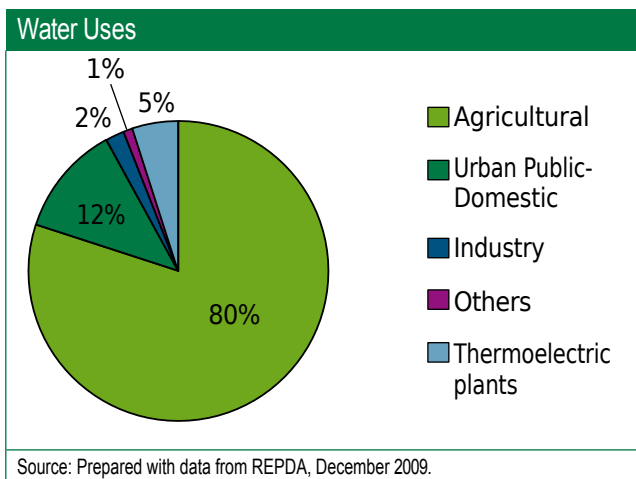
The little usable natural surface water runoff, without considering the 1,850 hm³ from the USA, is concentrated in the hydrological region of West Central Baja California, where some localities of the municipality of Ensenada, Baja California and Mulegé, Baja California Sur are located; and in the hydrological region of Northwest Baja California, where localities of the municipality of Ensenada, Tecate, Tijuana and Playas de Rosarito, Baja California are concentrated. However, there is insufficient infrastructure

storage. In the hydrological region of Baja California Southwest there is natural runoff mainly in the municipality of Comondú and in some localities of the municipality of La Paz, Baja California Sur.

Uses and quality of water

According to information from the Registro Público de Derechos de Agua (REPGA), as of December 31, 2009, 3,610 hm³ are used without considering hydroelectric power.

The main water user is the agricultural sector with 80% of the concessioned volume, followed by public-urban and domestic supply with 12%, use for thermoelectric plants with 5%, industrial use with 2%, and other uses with 1%. Agricultural use occurs in DR014 Río Colorado and DR066 Santo Domingo, one in each planning subregion, covering a total surface area of approximately 246,900 ha, with an estimated average efficiency in irrigation water use of 52%. In addition, there are about 470 Rural Development Irrigation Units (URDERALES) with a surface area of 50,158 ha and an



The volume supplied with surface water, according to REPDA uses, is 1,854 hm³, of which 95% is used in the municipality of Mexicali, 3% in Ensenada, Baja California, and 1% in La Paz, Baja California Sur. Subway sources supply 1,755 hm³, of which 52% is used in the municipality of Mexicali, 25% in Ensenada, Baja California, and 13% in Comondú, Baja California Sur.

Water supply to the population comes mainly from subway sources with a volume of 335 hm³, with 78% distributed in the municipalities of Mexicali and Ensenada, in Baja California, and La Paz, Los Cabos, and Mulegé, in Baja California Sur. From surface sources, 103 hm³ are used, with the municipalities of Mexicali and Tijuana, in Baja California, using 93% of the distributed volume.

The industry uses a total of 74 hm³, of which 68 hm³ come from surface sources and 6 hm³ from groundwater sources. Of the surface volume, 99% is distributed in the municipalities of Ensenada and Mexicali, Baja California, and 84% of the groundwater is distributed in the municipalities of Mexicali, Tijuana, Tecate, Baja California, and La Paz, Baja California Sur.

The growing social demand for a cleaner environment has imposed on hydraulic planning the consideration that ecological flows or minimum environmental flows should circulate in regulated watercourses, so that the ecological flow should be considered as a use. The concept of these flows includes scientific definitions with different approaches and areas of work. The term environmental flow is now a basic element in hydraulics, engineering and water management. The adjective ecological refers to the biological and management world of nature. Therefore, the setting of ecological flows is a task with a clear multidisciplinary vocation and vision. The management of water and related biological resources often has to face the problems caused by hydraulic works. Specifically, it is necessary to quantify the minimum circulating flows capable of maintaining the ecosystems of the regulated river sections. A preliminary draft standard for determining the ecological flow in basins and aquifers is under review. In the Prospective Technical Analysis (PTA), the ecological flow considered in the Region is 180 hm³. The main problems related to the quality of the resource are due to municipal water discharges,

industrial and agricultural wastewater, without any previous treatment or low efficiency of the treatment plants. Surface water quality monitoring is carried out in the region in accordance with its objective:

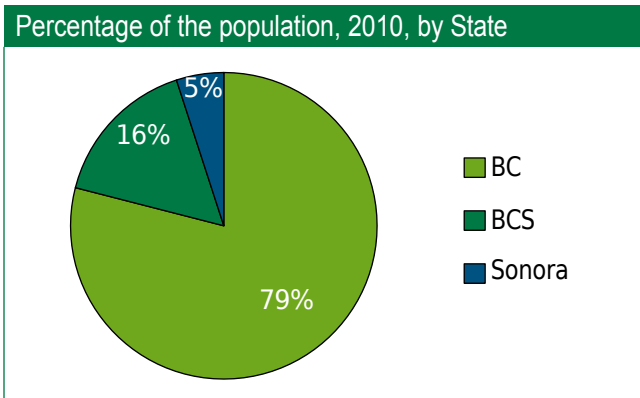
- Monitor the waters that are delivered by the U.S. to Mexico, in accordance with the Treaty on the Distribution of International Waters between the United Mexican States and the United States of America.
- Monitor water quality from the Morelos diversion to the water treatment plant that supplies the city of Mexicali, Baja California.
- To know the quality of the water entering the U.S., mainly from the Tijuana River.
- Monitor storage vessels used for drinking water supply.
- Monitor tributaries and effluents of the treatment plants.
- Monitor beaches and bays.
- Monitor water withdrawn from wells.

The monitoring sites are concentrated in the northern part of the region, and there is heavy contamination in the border area, mainly in the Tijuana and Nuevo rivers. Groundwater contamination has already been mentioned above, nine have saline intrusion and five have saline intrusion.

aquifers have saline soils and brackish water.

Social aspects

The total population of the Region, according to INEGI's 2010 Population and Housing Census, is 3,970,476 inhabitants; 50.56% are men and 49.44% are women. This proportion remains relatively the same for each of the regions.



of the cells; Loreto Baja California Sur and Tecate Baja California, which have two percentage points above the regional percentage (53.06 and 52.75%); on the other hand, La Paz Baja California Sur, is the cell with the lowest percentage of men (50.18%). The balance between men and women represents an opportunity to reduce inequality in the participation of both sexes in water management and care.

The cells with the largest populations are Tijuana Baja California and Mexicali Baja California, with 1,559,683 and 936,826 inhabitants, respectively. Together they account for 62.88% of the population (39.28 and 23.59%); they are followed by Ensenada Baja California, with 11.76% (466,814 inhabitants). The population of the remaining eight cells represents a little more than 25.37% of the total population of the Region. Loreto Baja California has only 0.42% of the total population, which corresponds to 16,738 inhabitants.

The average population growth rate in 2012, for the two states that comprise the Region, is estimated at 2.41. It is estimated to change in 2030 with a value of 1.54.

The rural population of the region represents 8.62% of the total population (342,268 inhabitants), the remaining 91.38% (3,628,208 inhabitants) is located in urban areas. At the cell level, Mulegé Baja California Sur has the largest rural population with 35.36% (20,901 inhabitants) and 64.64% of urban population, equivalent to 38,213 inhabitants. On the other hand, the cell with the largest urban population is Tijuana Baja California, with 1,519,454 inhabitants (97.42%) and 2.58% of rural population, equivalent to 40,229 inhabitants.

The population density of the region is 25.36 persons per square kilometer. Although apparently low, there is a marked disproportion at the cellular level. While in Tijuana, Baja California, the density is 1,244.94, in Comondú, Baja California Sur it is only 1,244.94 per square kilometer.

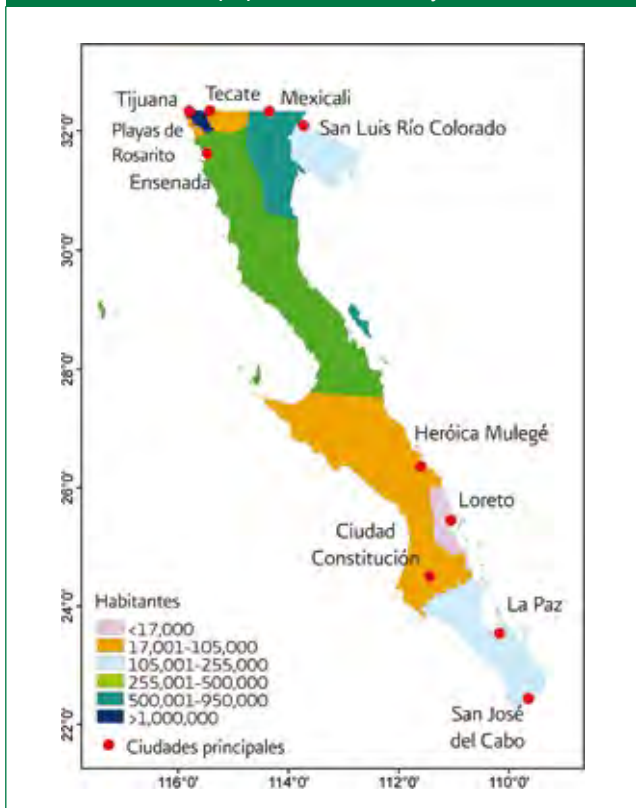
1.66 inhabitants per square kilometer.

The marginalization index, developed by the National Population Council (CONAPO), takes into account education, housing, income and population distribution through nine indicators, three of the most important of which are: the percentage of the population that is illiterate, the percentage of the population that has not completed primary school and the percentage of the population living in dwellings with dirt floors. With information from INEGI, 2005, the cell La Paz, Baja California Sur, has the highest number of localities with very high marginalization (40), followed by Ensenada, Baja California with 24. On the other hand, Mexicali, Baja California, is the cell with the most localities with very low marginalization (183).

The Social Gap Index, created by the National Council for the Evaluation of Social Development Policy (CONEVAL), considers education, access to health services, basic services, housing quality and space, as well as household assets. High levels of deprivation in education, low coverage of basic services and low access to social security are the factors that delimit the development of certain specific regions. In the Baja California Peninsula Region, according to 2005 INEGI data, 586 localities have very low social backwardness, 397 low, 369 medium, 65 with high and there are no localities with very high social backwardness.

In the Region, the indigenous population totals 83,213 inhabitants, representing 2% of the total population. The planning cell with the largest indigenous population is Ensenada, Baja California, with 34,006 inhabitants, followed by Tijuana,

Distribution of the population, 2010, by cell



Source: Prepared with data from INEGI's 2010 population census.

Baja California, with 30,637 inhabitants and Mexicali, Baja California, with 12,465 inhabitants; together they account for 93% of the Region's indigenous population. The cells with the smallest indigenous population are Playas de Rosarito, Baja California, with 2%, Tecate, Baja California, with 2%, and San Luis Río Colorado, Sonora, with 3%. The planning cells with no indigenous population are located in the state of Baja California Sur: Los Cabos, Comondú, Mulegé, La Paz and Loreto.

According to the classification of the Commission for the Development of Indigenous Peoples, there are no indigenous areas in the region; however, there have been significant migrations from other areas, especially of Mixtecos, Zapotecos, Purépechas and Nahuas. The only original ethnic group in the area is the Kumiai, which currently has approximately 66 inhabitants and is considered to be in the process of extinction.

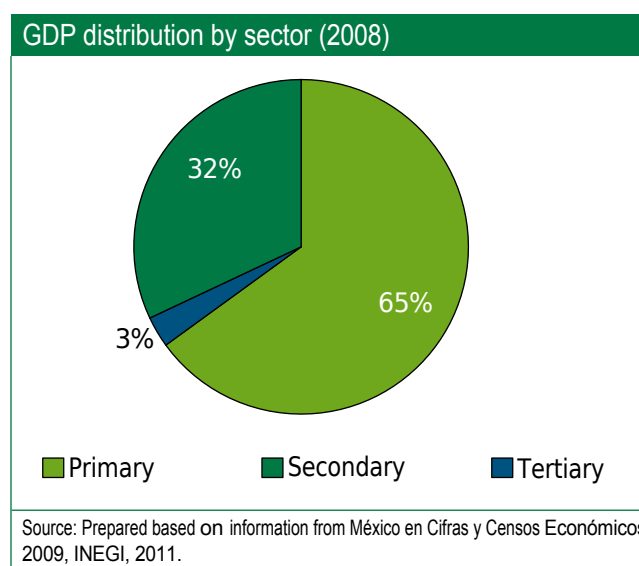
Population 2005 and 2010 by planning unit				
State	Planning cell		Population	
	Key	Name	2005	2010
Baja California	201	Ensenada	413 481	466 814
	202	Mexicali	855 962	936 826
	203	Tecate	91 034	101 079
	204	Tijuana	1 410 687	1 559 683
	205	Rosarito Beaches	73 305	90 668
Subtotal			2 844 469	3 155 070
Baja California Sur	301	Comondú	63 830	70 816
	302	Mulegé	52 743	59 114
	303	La Paz	219 596	251 871
	304	Los Cabos	164 162	238 487
	305	Loreto	11 839	16 738
Subtotal			512 170	637 026
Sonora	2601	San Luis Río Colorado	157 076	178 380
Subtotal			157 076	178 380
Total			3 513 715	3 970 476

Source: Prepared with data from INEGI and with information from SGP, CONAGUA 2010.

Economic aspects

In terms of economic importance, the Gross Domestic Product (GDP) of the municipalities in the region amounted to 308 billion pesos in 2008 (constant 2003 prices), including electricity generation. This Region is one of the most dynamic economic growth poles in the country, with rates always higher than the national average and strongly linked to the U.S. economy. This region's contribution to the national GDP is 3.6%.

The distribution of GDP by sector is as follows: the primary sector contributes only 3% of the region's total GDP, the secondary sector 32%, and the tertiary sector 65%. The federal state that contributes the most to the region's GDP is Baja California with 83%.



Two economic sectors stand out in the region due to the magnitude of the value of their activities and their link to water: tourism services, mainly beaches, and the food and beverage industry, both of which are strongly linked to the availability of water.

With respect to water productivity, the tertiary sector generates more value for each m³ of water used and the sector with the lowest productivity is the primary sector. In terms of volumes used, the order is reversed, since the sector that uses the greatest volume of water is the primary sector, followed by the secondary sector and the electricity generation sector, and finally the tertiary sector is the one that uses the least volume of water.

Regional water productivity (2008)			
Sector	GDP (millions of pesos) 2003 prices	Volume of water used (hm) ³	Productivity \$/m ³
Primary	10 584.6	2 892.7	3.66
Secondary	82 263.5	290.8	282.89
Tertiary	200 287.0	43.6	4 593.74
Total	293 135.1	3 277.1	90.84
Electric power generation	14 874.0	199.0	74.74

Source: Prepared based on information from México en Cifras y Censos Económicos 2009, INEGI, 2011 and Estadísticas del Agua en México, CONAGUA, 2010.

RHA I has one of the largest irrigation districts in the country, the 014 Colorado River with 197,364 ha, which in the 2008-2009 crop cycle produced two million tons with a crop value of 5,198 million pesos, highlighting the production of wheat grain with 682,000 tons and a value of 2,707.9 million pesos, small onion with 52,889 tons and a value of 224.7 million pesos, cotton with 80,757 tons and a value of 291.2 million pesos, and alfalfa with 497,800 tons and a value of 291.2 million pesos. 9 million pesos, small onion with 52,889 tons with a value of 224.7 million pesos, cotton with 80,757 tons and 291.2 million pesos, and alfalfa with 497,800 tons with a value of 995.6 million pesos. The irrigation district 066 Santo Domingo produces 283,183 tons with a wide variety of crops and a production value of 971.2 million pesos, figures referring to 2009.

The value of water use for DR014 Rio Colorado was 2.01 pesos per m³ of water, since 2,573.7 million m³ of water were used with total income of 5,198 million pesos. For DR066 Santo Domingo, it was 6.03 pesos per m³ of water, as 160.8 million m³ of water was used with a total income of 971.2 million pesos.

In industry, the manufacturing, food, and beverage industries stand out for their demand for water, each extracting more than 16 million cubic meters per year, which together represent 60.5% of the volume of water for industrial use in the region. This is followed in order of importance by the paper industry with 25.4% of the total demanded by industry (2004 figures).

The Economically Active Population (EAP), 2008, in Baja California was 1,308,531 employees. The tertiary sector employs 59% of the employed population, the secondary sector 28% and the primary sector only 6%. In Baja California Sur, the 2008 EAP was 261,062 employees, and in order of importance the tertiary sector occupies 70% of the employed population, the secondary sector 21% and the primary sector 9%. It is important to mention that in the Region, the tertiary sector employs 61% of the employed population, with the most important branches being commerce, restaurants and hotels, financial services, insurance, and real estate and rental activities, among others.

Types of industry in the Region				
Industry	Gross production thousands of pesos	Contribution to regional industrial production % Contribution to regional industrial production % Contribution to regional industrial production % Contribution to regional industrial production	Extraction volume m ³ /year	Contribution to regional industrial extraction volume % Contribution to regional industrial extraction volume % Contribution to regional industrial extraction volume % Contribution to regional industrial extraction volume
Mining	1 232 575	1.74	1 013 933	1.83
Food and beverages	13 696 182	19.28	16 649 592	30.08
Textiles, apparel and leather industry	1 071 206	1.51	448 521	0.81
Wood and wood products industry	568 680	0.80	367 991	0.66
Paper, paper products, printers and publishers	5 181 565	7.30	14 052 937	25.39

Chemicals, petroleum products, rubber and plastic products	3 982 395	5.61	1 421 614	2.57
Non-metallic mineral products, except petroleum and coal derivatives	3 150 793	4.44	1 596 242	2.88
Basic metal industries	5 775 379	8.13	2 776 046	5.02
Metal products, machinery and equipment	1 248 897	1.76	327 598	0.59
Other manufacturing industries	35 119 354	49.45	16 698 030	30.17
Total	71 027 026	100.00	55 352 504	100.00
Source: Prepared based on data from INEGI, 2004.				

Achievements of the current water policy

In the last three years, the region has made significant achievements that have had an impact on better management and use of water resources. Among the main achievements is the execution of actions derived from the four Management Plans for the overexploited aquifers Maneadero, Guadalupe, Colonia Vicente Guerrero, and San Rafael, which have strengthened the COTAS. In the Maneadero and Guadalupe aquifers, treatment plants have been built to prevent groundwater contamination, programs have been implemented to cancel clandestine wells, and piezometric networks are being operated to monitor the levels in each aquifer. The Maneadero aquifer already has an emitter for treated water from the city of Ensenada to be used for agricultural irrigation.

Progress has been made in the measurement network: hydroclimatological, piezometric and seismic, as well as in the instrumentation of wells. Three new hydro-climatological stations have been installed, one in Mexicali and two in Ensenada; eight stations have been relocated, five in Ensenada, two in Mexicali and one in Playas de Rosarito, and the rest of the stations have been maintained. This means that 82 stations are operating **efficiently** in the state of Baja California. With respect to the piezometric network, a total of 36 wells have been instrumented. In the northern zone of the Mexicali Valley aquifer 16 and 20 in the San Simón and Colonia Vicente Guerrero coastal aquifers. In the case of the instrumentation of the Mexicali Valley aquifer, it is to evaluate the effect of the lining of the All-American Canal on the aquifer; and in the case of the two coastal aquifers, to monitor their piezometric behavior. In addition, ten conventional piezometric networks have been redesigned and put into operation in the aquifers of Mexicali, Guadalupe, Ojos Negros, La Trinidad, San Quintín, San Simón, Colonia Vicente Guerrero, San Rafael, San Vicente and San Telmo, in order to learn about the behavior of the aquifers with respect to extraction and recharge. Another achievement related to the 48 aquifers of the Baja California subregion is the publication in the Official Gazette of the Federation of the availability of groundwater in 44 aquifers, which allows us to regulate extraction up to the available limit in order to operate the aquifers under sustainable conditions.

We have achieved 98.5% treatment of collected wastewater, potable water and sewerage coverage in rural areas of 69% and 64%, respectively, and potable water and sewerage coverage in urban areas of 99.0% and 91.3%, respectively.

Another achievement in the region is the promotion of the efficient use of water in agricultural production through the Programs for the Rehabilitation and Modernization of Irrigation Districts, Land Development, Efficient Use of Water and Energy, and Full Use of Infrastructure, among others. Progress has been made in the agricultural sector; 44,028 hectares have been modernized, representing 68% of the six-year goal, four dams have been rehabilitated and 2,437 hectares are irrigated with treated wastewater. In Irrigation District 066 San Domingo Baja California Sur, the entire surface area is irrigated with pumped water from a deficit aquifer; therefore, in order to maintain the balance of the aquifer and improve the income of producers, it is imperative to technify 100% of the district's surface area with high-efficiency irrigation systems.

Despite the great efforts and achievements made in the Region, there is still a high degree of water resource pressure, as is the case of the municipalities of Tijuana, Tecate, Playas de Rosarito in Baja California, and San Luis Río Colorado in Sonora. On the other hand, Mexicali, Baja California and Comondú, Baja California Sur, continue to present a degree of pressure higher than 90%, which is why immediate action must be taken.

Relevant issues

The Region's problems lie, on the one hand, in its natural climate, which is almost desert-like, with the consequent scarcity of water resources and the need for strict management of both quantity and quality; and on the other hand, its recent socioeconomic and demographic evolution, which concentrates public-urban demands in the northern zone. The strong attraction of the region, particularly the border zone with the U.S., will continue to be the driving force behind urban concentration and population growth. This will reach a little more than five million inhabitants by 2030, with more than four million concentrated in the border cities.

The problems that most concern society and government institutions, both in the Region as a whole and in each of the planning cells,

identified in the four axes of the 2030 Water Agenda (AA2030), is shown in the graph Degree of water resource pressure.

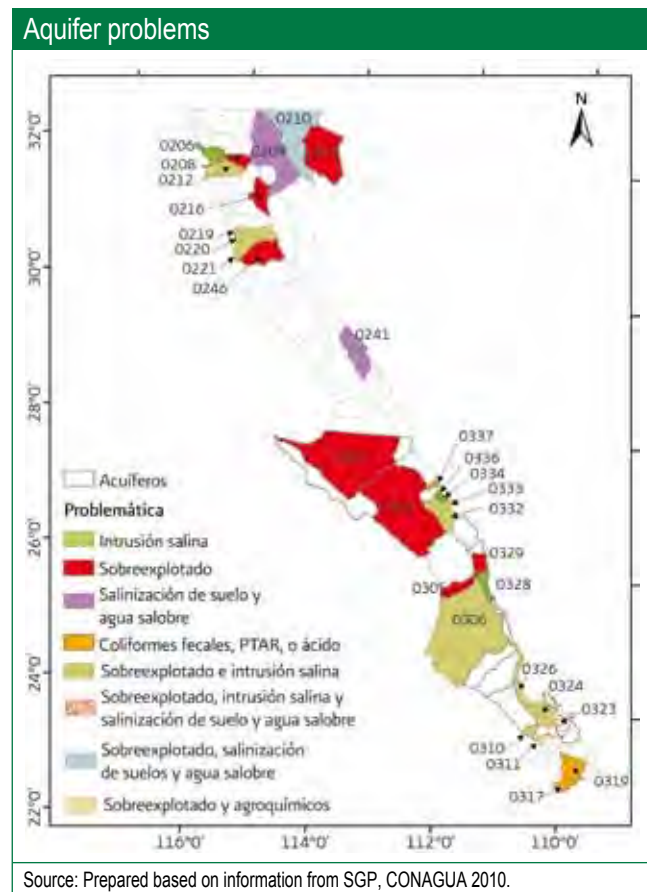
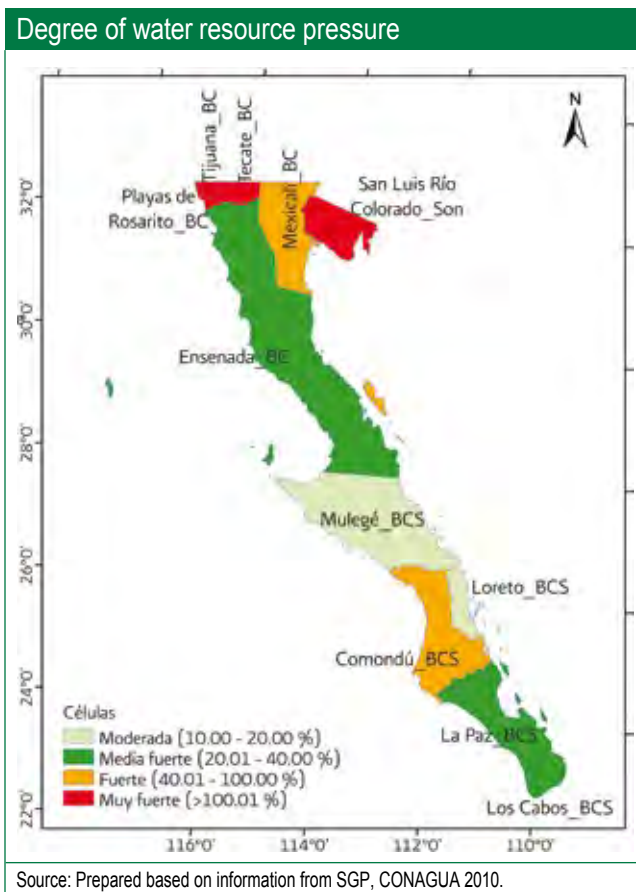
For the basins and aquifers in equilibrium, the Region is limited in its supply of surface and groundwater, mainly due to high water consumption in irrigation and water wastage in domestic, public-urban, and commercial uses, as well as water losses in the municipal and industrial hydraulic system. In addition, there is a lack of infrastructure to take advantage of water from streams and rivers, and there is a lack of or deficient water culture in the region, as well as environmental education at different levels of study. On the other hand, there are no programs to encourage the reuse of treated water. The most affected cells in terms of the water gap, supply minus demand, are Mexicali and Tijuana, Baja California, and San Luis Río Colorado, Sonora.

Given the low rainfall, meeting water demand has required the extraction of large volumes from the aquifers. The lack of water to meet the needs of the Region is causing severe conflicts between

The result is strong competition for surface water and groundwater, to the detriment of natural watercourses and environmental degradation.

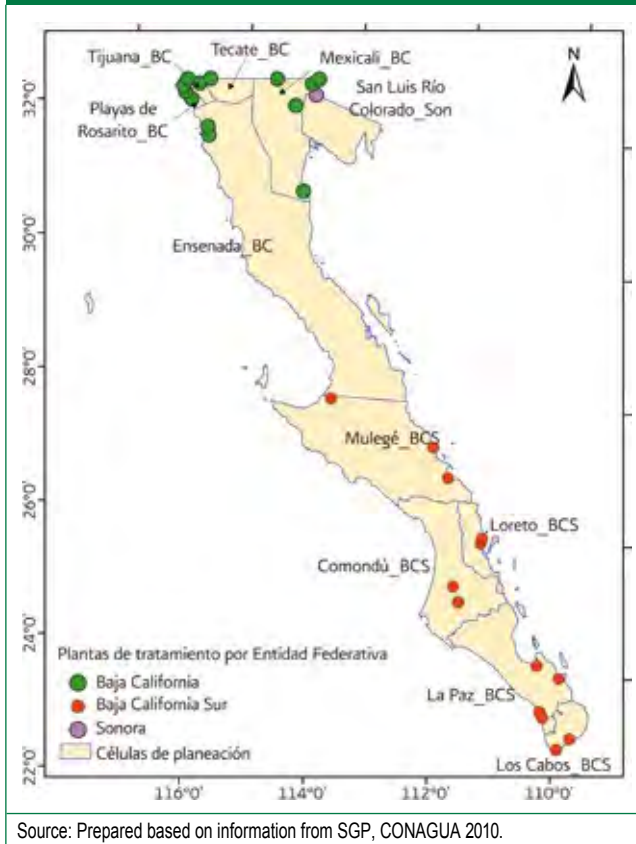
The main problem in the region is the overexploitation and contamination of groundwater, which is present in eight of the aquifers in the so-called "Zona Costa", where the agricultural valleys of Maneadero, Camalú, Ojos Negros, Valle de la Trinidad, Valle de Guadalupe, Colonia Vicente Guerrero, Ensenada, and San Quintín are located. There are also high salinity levels in the aquifers of the Mexicali Valley and the Mesa Arenosa of San Luis Río Colorado. There is also overexploitation and contamination of the Vizcaino, Mulegé, Santo Domingo, Los Planes and La Paz aquifers, causing conflicts between public-urban and agricultural use. On the other hand, there is low efficiency in the Region in DR014 Río Colorado and 066 Santo Domingo.

In the case of clean rivers, the main problem in the region is the discharge of municipal and industrial wastewater into bodies of water without prior treatment. There are 54 wastewater treatment plants in the region.



municipal wastewater treatment plants in operation with a treated flow of 6.68 m³ /s. Baja California is the entity with the largest number of treatment plants, 36 plants with a treated flow of 5.0 m³ /s. With respect to industrial wastewater, the treated flow is very small, 0.16 m³ /s, despite the fact that there are 61 treatment plants in Baja California (0.15 m³ /s of treated flow) and 7 in Baja California Sur (0.01 m³ /s of treated flow).

Active wastewater treatment plants



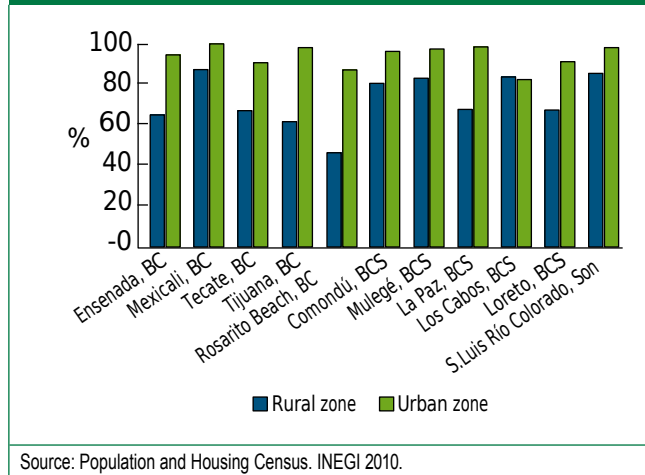
Municipal, industrial, and irrigation wastewater discharges are carried out without adequate prior treatment, as in the case of clandestine water discharged into the Tijuana River.

The poor operation of the treatment plants persists; for example, El Gallo (rehabilitated), which discharges into Ensenada Bay, and San Antonio de los Buenos in Tijuana, which discharges into the Pacific Ocean.

Water infrastructure is still inadequate, and wastewater treatment in most of the cells does not meet the required level in accordance with official Mexican water quality standards. The cells most affected by the problem of water quality are

Tijuana, Mexicali, and Ensenada, Baja California. One problem related to water resources is the management of solid waste, both in terms of collection and final disposal (garbage dumps), which generates an excessive load of contaminants into bodies of water and aquifers; the region does not comply with the legal, regulatory, and fiscal framework for controlling the discharge, management, and disposal of solid waste. In addition, the extraction of stone materials is not controlled or monitored. With respect to universal coverage, according to data from the latest INEGI 2010 census, drinking water coverage increased to 93.3% and sewerage coverage to 93%. Rural drinking water coverage rose to 72.9% and urban to 95.1%. Rural sewerage coverage increased to 67.8% and urban sewerage coverage to 95.2%.

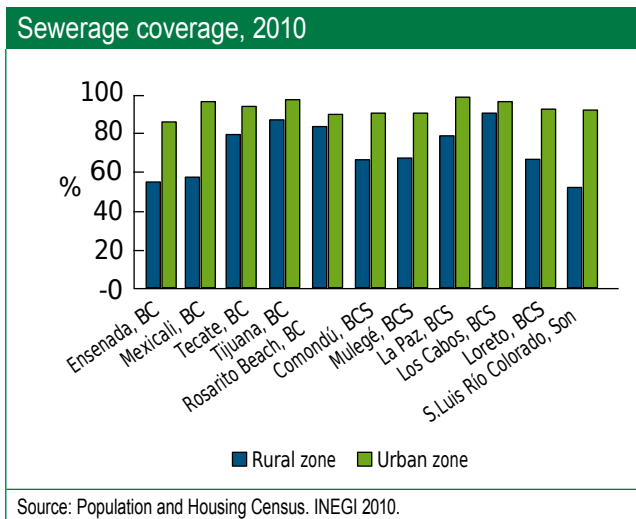
Drinking water coverage, 2010



In the region, there is a large difference in drainage coverage between urban and rural areas, mainly in Loreto, Baja California Sur, San Luis Río Colorado, Sonora, Ensenada and Mexicali in Baja California, where all are below 50% with respect to coverage in rural areas.

The dispersion of the population in rural areas causes technical and financial difficulties in the supply and operation of drinking water, sewerage, and sanitation services, so that their coverage is lower than in urban areas. There is a lack of master plans in the cities and a program to raise the population's awareness of the need to pay for the service. In addition, there is an opportunity to improve the low efficiency of the drinking water systems of the region's water utilities. The cells that will be impacted by population growth and by

The most important cities that will need potable water and sewerage coverage are Tijuana and Mexicali, Baja California, as well as Los Cabos, Baja California Sur.



On the other hand, the indigenous population, although it represents only 2% of the total population in the Region, has very low drinking water coverage that must be met with appropriate technology. Another vulnerable group is the rural population that lives in natural protected areas and lacks potable water and sanitation services, such as those living in the El Vizcaíno Biosphere Reserve, where there is a population of approximately 40,000 people, 50% of whom live in two mining towns: Santa Rosalía and Guerrero Negro.

Finally, floods occur in all the cells of the Region, but those with the greatest impact are Los Cabos and La Paz, Baja California Sur; Ensenada and Tijuana, Baja California. The lack of adequate planning of urban areas in the region, as well as population growth, has led to irregular settlements in at-risk and federal zones. Although some sites have been identified where the population should be relocated, there are not enough economic resources, nor are there mechanisms to control or prevent human settlements. On the other hand, there is not enough hydraulic infrastructure for flood control, nor is there sufficient capacity for channeling rivers and streams; it is necessary to rectify sections of rivers.

III. Water policy of sustainability to 2030. Challenges and solutions



The problems faced by the RHA I PBC can be summarized, on the one hand, in terms of the challenges faced to make better use of water capital, as well as to face the problems that threaten environmental sustainability.

In the area of agricultural development, we plan to improve water productivity in agriculture, as well as the modernization of existing irrigation infrastructure.

On the other hand, in addition to the challenges of economic development, several areas also face a series of challenges to achieve greater social equity, where the provision of basic services and rural development actions based on the use of water are fundamental. Access to drinking water in rural communities was then and continues to be another of the major demands.

One of the greatest challenges and concerns is associated with the impacts derived from the vulnerability of numerous populations and productive areas to the risks resulting from the occurrence of extreme hydrometeorological phenomena, which tend to increase due to the effects of climate change. It should also be noted that, in addition to eminently water-related issues, it is necessary to link the water vision with the problems of deforestation and the proper management of the lower parts of watersheds that are more vulnerable to the occurrence of extreme events.

Attention to the problems associated with pollution caused by both the discharge of wastewater and the inadequate disposal of solid waste is another problem on the regional agenda.

Population growth tending toward urbanization, the seasonality of water availability, the volumes committed to respecting the rights acquired by current users, and the quality of available water are all elements that, when combined, generate even greater pressure on the resource than is currently the case.

This situation obliges current governments and society in general to seek immediate solutions that will last for a long time and that are outside the idealistic context of political parties. On the other hand, a mechanism must be implemented to reach a consensus on the different approaches that representatives of the various interest groups may have to solve or mitigate the negative effects that are currently being experienced and suffered in the basins of the Region.

In view of this imminent need, the Federal Executive instructed the Director General of the National Water Commission to draw up a Water Agenda that will serve as a negotiation instrument and allow, with a long-term vision, the most relevant issues to be addressed, so that together, government and society can propose the most favorable alternatives that will satisfy everyone.

Water Agenda 2030

Considering the current problems and the importance of this resource for the country's wellbeing and development, the Water Agenda 2030 was proposed. This agenda promotes the vision of "Making a country with clean rivers, balanced watersheds and aquifers, universal coverage of drinking water and sewerage, and settlements safe from catastrophic floods" a reality in a period of twenty years.

The 2030 Water Agenda postulates a long-term strategy, the progress of which should be reviewed for updating, so as to provide the national water management system with the appropriate strategic orientation on an ongoing basis.

It establishes four axes of water policy for sustainability in the medium and long term.

- Basins and aquifers in equilibrium.
- Clean rivers.
- Universal coverage of potable water, sewerage and sanitation.
- Safe settlements against catastrophic floods.

Likewise, AA2030 defines the nature and magnitude of the challenges to be overcome and the solutions to be proposed in order to effectively hand over to the next generation a country with more strengths and opportunities than those existing at present.

The AA2030 assumes as valid the conceptual and methodological approaches that have emerged from the international meetings held over the last two decades on sustainable development in general and on the sustainable use of water resources in particular. Special importance is given to the concepts of governance, integrated water resources management, and watershed and aquifer management, three of the Agenda's basic components of which will be achievable by 2030, five of which are in line with the Agenda.

The other six are practically suspended, with the question mark hanging over when they will achieve their goals.

In addition, AA2030 is an instrument that promotes an attitude of solidarity among Mexicans in the different regions and localities of the country, at the present time and of the current generation with respect to future generations. It also encourages the concurrent action of all governmental and non-governmental institutions at the national, regional and local levels.

The 2030 Water Agenda must also be understood as a practice that generates a culture of water sustainability; an instrument to disseminate and bear witness to values such as unity, responsibility and solidarity; and an instrument that has a positive impact on widespread beliefs regarding the capacity we have as a country, as regions and as localities to create the future we want.

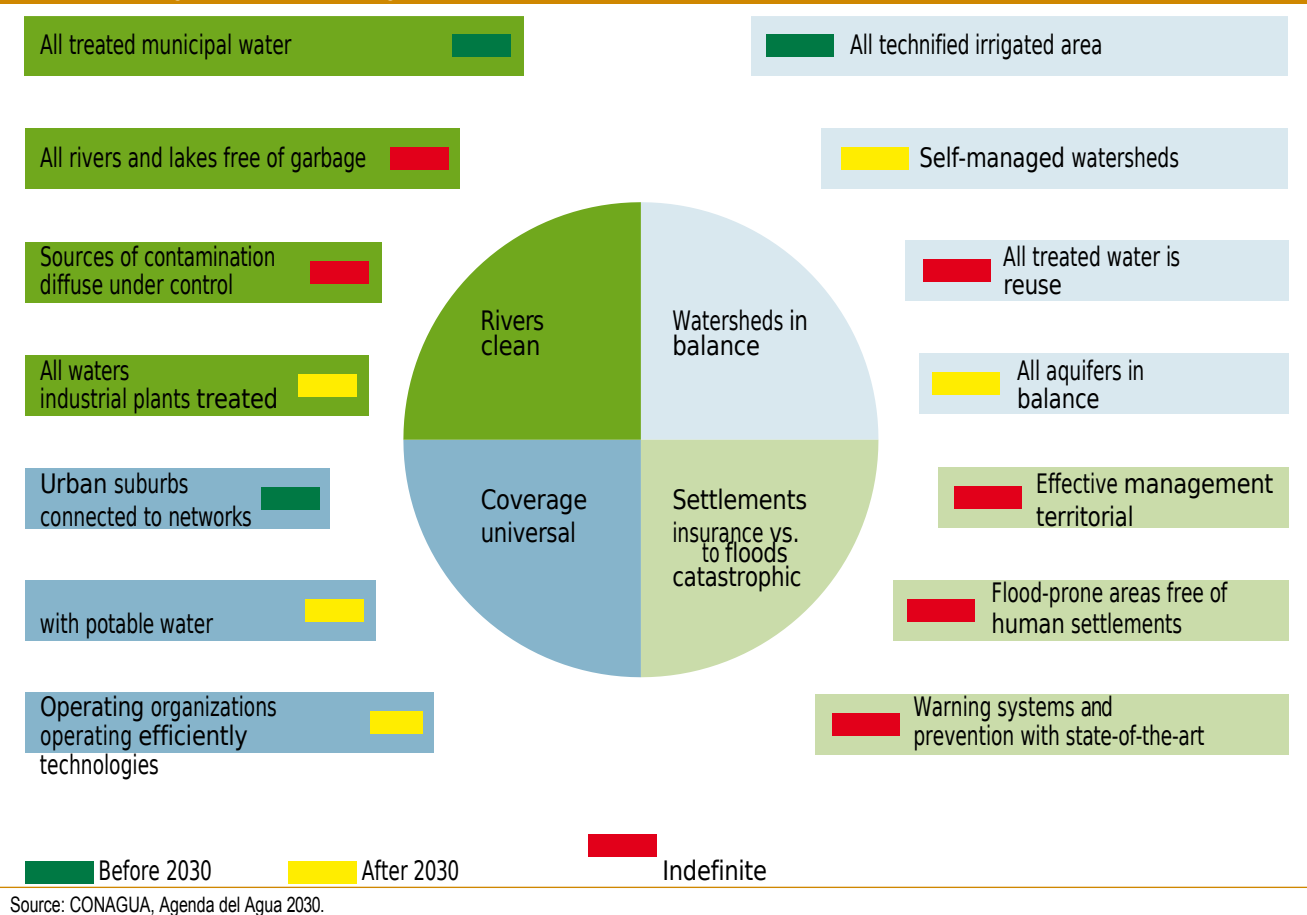
In turn, the AA2030 is a fundamental input for making structural adjustments to the national water management system and for the development of water-related project portfolios at the national, regional and local levels.

Finally, the 2030 Water Agenda is part of the National Water Planning System (SNPH) and has as inputs the definitions of development policy, water policy definitions, and the results of technical analyses.

The SNPH establishes a set of activities that are linked in an orderly, systematic and aligned manner to define medium- and long-term guidelines and strategies, as well as a portfolio of projects to achieve sustainable water use.

The SNPH is conceived as a process of strategic, normative and participatory planning, so that the Water Agenda, being a central part of it, sets out a long-term strategic vision to make a reality, within a time frame of

Axes and main goals of the Water Agenda 2030



Sostenible, Plan Nacional de Desarrollo
Sostenible, Plan Nacional de Desarrollo
Sostenible, Plan Nacional de Desarrollo Sostenible
and Plan Nacional de Desarrollo Sostenible).

development plan, such as those proposed for the Regional Water Program.

Carrying out the Regional Water Program requires enormous efforts to overcome the challenge of inheriting balanced watersheds and aquifers, clean rivers, universal coverage and settlements safe from catastrophic floods.

Therefore, the regional water policy objectives, aligned with the four guiding principles of AA2030, will be analyzed taking into account the results of the ATP. The objectives seek to close the water, treatment and coverage gaps by 2030.

For the axis of watersheds and aquifers in equilibrium, actions and projects will be identified in the first instance.

infrastructure that have a direct impact on the closing of the water gap. In the case of the Clean Rivers axis, the volume of wastewater that will need to be treated by 2030 will be presented, based on the current volume treated.

For the Universal Coverage axis, the inhabitants that need to be incorporated into the basic services will be indicated. In the case of safe settlements in the event of catastrophic floods, the damage and solutions identified in the region will be indicated.

The following are the challenges identified with the ATP, as well as the objectives, strategies, actions and projects to be implemented to overcome them.

Regional water policy objectives aligned with national water management instruments.			
Vision 2030 Regional Water Program Objectives RHA I PBC	Water Agenda 2030 (Sector Policy Axes)	Objectives of the National Water Program 2007-2012	National Development Plan 2007-2012 (National Policy Axes)
Ensure the balance of watersheds and aquifers by reducing water consumption, waste and losses in all uses.	Watersheds and aquifers in equilibrium	Promote integrated and sustainable water management in watersheds and aquifers.	Competitive and job-creating economy
2. Rehabilitate water quality in riverbeds, water bodies, aquifers and beaches and contribute to rehabilitate ecosystems in watersheds.	Clean rivers	Promote integrated and sustainable water management in watersheds and aquifers.	Environmental sustainability
3. Ensure appropriate access to quality drinking water, sewerage and sanitation services for the entire population, especially the vulnerable.	Universal coverage	Increase access to and quality of drinking water, sewerage and sanitation services.	Equal opportunity
4. Reduce risks and mitigate the harmful effects of extreme natural events and climate change.	Settlements safe from catastrophic floods	Prevent risks derived from meteorological and hydrometeorological phenomena and attend to their effects. Assess the effects of climate change on the hydrological cycle.	Rule of law and security
5. To improve regional governance of water and associated natural resources.	Watersheds and aquifers in equilibrium Clean rivers Universal coverage Settlements safe from catastrophic floods	Consolidate the participation of users and organized society in water management and promote a culture of good water use.	Effective democracy
6. To have sufficient and timely financial resources for the Regional Water Program.	Improve the technical, administrative and financial development of the water sector.	To create a culture of contribution and compliance with the National Water Law in administrative matters.	

IV. Watersheds and aquifers at equilibrium



Watersheds and aquifers in equilibrium

The baseline situation considered indicates that the sustainable initial supply by installed capacity, i.e., the volume of water that can be delivered to the end user through infrastructure, is approximately 1,800 hm³, representing 53% of the average annual runoff. The subway supply is 1,100 hm³, representing 88% of natural recharge.

The total sustainable supply by installed capacity, surface and subway, is 2,900 hm³ and a volume of nearly 3,400 hm³, greater than the average annual runoff, is demanded. It is important to mention that the entire volume imported from the Colorado River is consumed in the Region.

To satisfy the volume of water demand, a volume of nearly 300 hm³ is exploited and the volume to be allocated to the preservation of aquatic ecosystems of nearly 200 hm³ is taken into account. It is worth mentioning that the largest volume of so- breexploitation is concentrated in the San Luis Río Colorado cell, Sonora.

The gap in the Region, i.e., the difference between sustainable supply by installed capacity and total demand, is estimated at 450 hm³. In order for the water gap to tend to zero, investments must be made in each of the cells to balance the sustainable supply. The ratio of the gap with respect to sustainable supply indicates the

required increase in sustainable supply to meet demand.

The cells that need to increase the sustainable supply by more than 100% are Tecate, Tijuana and Playas de Rosarito in Baja California; La Paz and Los Cabos in Baja California Sur. Although the cells of Tijuana, Baja California, and San Luis Río Colorado, Sonora, currently have sufficient supply, it is covered by overexploitation of aquifers and the use of environmental flows.

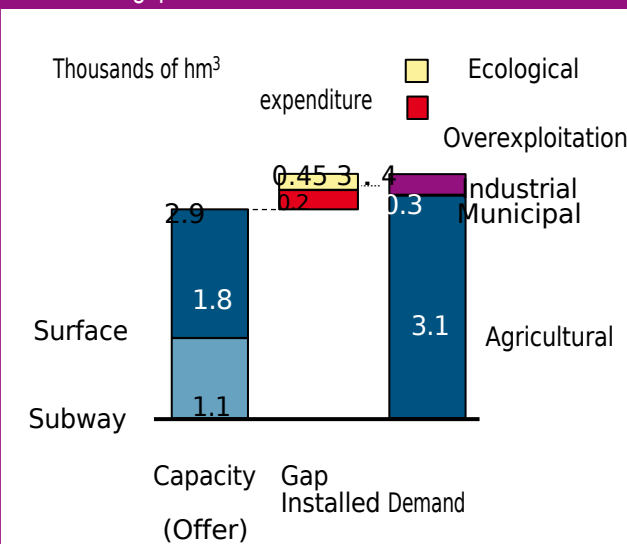
Challenges and solutions to 2030

By the year 2030, a water gap between supply and demand is estimated to be close to 543 hm³. This gap will be made up of two components:

- Unsustainable volume: 486 hm³.
- Difference between changes in supply and projected demand of 54 hm³.

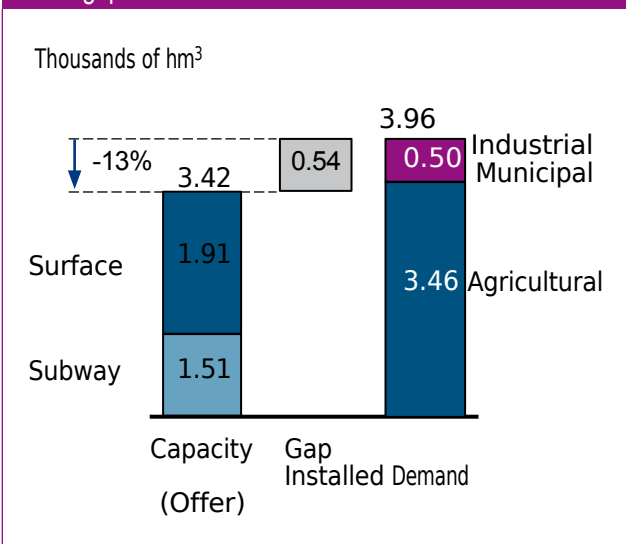
The gap will be concentrated mainly in the San Luis Río Colorado, Sonora, Mexicali and Tijuana, Baja California cells, representing 78% of the challenge for the Baja California Peninsula Basin Organization (OCPBC) in 2030, and approximately 80% of the problem will be concentrated in the unsustainable volume. However, the La Paz and Los Cabos cells in Baja California Sur must also be addressed.

Base water gap



Source: Prepared with data from the ATP. SGP, CONAGUA, 2010.

Water gap to 2030



Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Distribution of the gap to 2030 by planning cell

Cells	Sustainable Supply (hm) ³	Demand (hm) ³	Gap (hm)
Mexicali	2,342	2,617	275
Tijuana	98	178	79
Ensenada	204	252	49
San Luis Río Colorado	390	436	46
Los Cabos	44	78	34
Mulegé	49	66	16
La Paz	83	98	15
Tecate	11	26	14
Rosarito Beaches	7	16	8
Comondú	179	185	6
Loreto	7	8	1
Total	3,414	3,960	543

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

In order to determine the gap, the following was considered in the estimation of sustainable supply by installed capacity:

- Virgin runoff and total aquifer recharge remain constant to 2030.
- The ecological expenditure was considered as 10% of the total accessible supply by surface installed capacity.

In the case of demand, the following was considered for the projections:

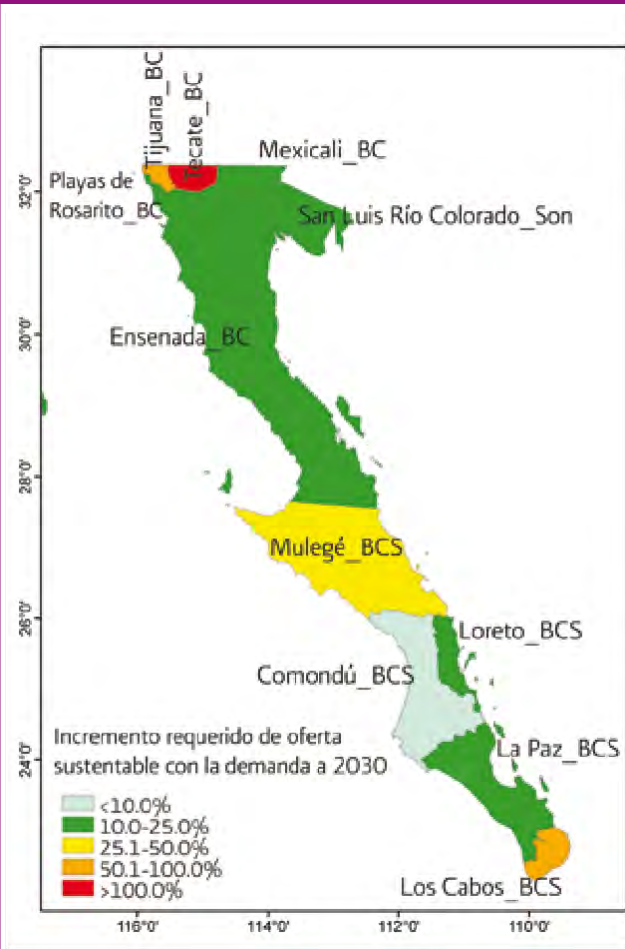
- Projections of irrigation districts and units were made based on the theoretical volume required to satisfy the additional acreage.

- The trend of increase/decrease in irrigated area (incorporating second crops).
- Public-urban demand projections were made based on CONAPO population projections and state GDP growth (%).
- Industrial demand projections were made based on the historical growth of the states' manufacturing GDP (%).

If we visualize the water deficit problem in the Region as the proportion of the gap with respect to the sustainable supply in 2030, we obtain that three cells: Tijuana and Tecate in Baja California, and Los Cabos in Baja California, will be the most affected.

South, they will need to increase their sustainable supply by more than 50% to meet demand.

Water gap between sustainable supply to 2030



Source: Prepared with data from the ATP and information from the SGP, CONAGUA, 2010.

In order to close the water gap by 2030, three types of solutions were analyzed:

- Based on infrastructure
- Technique
- Feasible

The infrastructure-based solution contemplates only the construction of new hydraulic infrastructure projects. This new infrastructure could solve up to 20% of the gap (122 hm³), with an approximate investment cost of 4 billion pesos. This solution considers projects in the pipeline, such as desalination plants, aquifer recharge works, and other types of infrastructure measures; for example, groundwater extraction potential.

On the other hand, this solution considers the joint participation of CONAGUA and the states, since they participate with 50% of the infrastructure investment amount.

In order to strengthen the sustainability policy, cost-effective actions must be promoted to close the gap. Therefore, it is necessary to promote joint attention to the problem among all stakeholders involved in water management. This will result in a more efficient mix of investments to promote efficiency improvement projects.

Based on this, a technical solution is proposed that integrates 29 measures identified for the Region and is prioritized according to their marginal cost (from lowest to highest); these measures close the gap identified in all cells at the lowest possible cost.

Achieving a balance between additional infrastructure and increased efficiencies solves 100% of the identified gap, with an investment in the order of 15,480 million pesos, and an average implementation cost of 0.4 \$/m³.

The following graph, which shows the marginal cost on the vertical axis and the potential volume of the measure to be implemented on the horizontal axis, shows that the marginal cost of building new desalination plants is proportional to the volume of each plant's contribution to the gap.

Likewise, the measures located on the left side of the same graph have a negative marginal cost, which means that they would generate monetary benefits greater than the investments required for their implementation and correspond mainly to the improvement of efficiency in public-urban use, highlighting the repair of leaks and the installation of new showers in homes.

In addition, the same graph shows that measures associated with improving agricultural efficiency, such as irrigation modernization and technification, have a significantly lower marginal implementation cost than new supply infrastructure.

The implementation of the 29 measures will provide sufficient supply in seven cells: San Luis Río Colorado in Sonora, Mexicali and Playas de Rosarito in Baja California, Comondú, Loreto, La Paz and Los Cabos in Baja California Sur. Only the cells of Tijuana and Tecate in

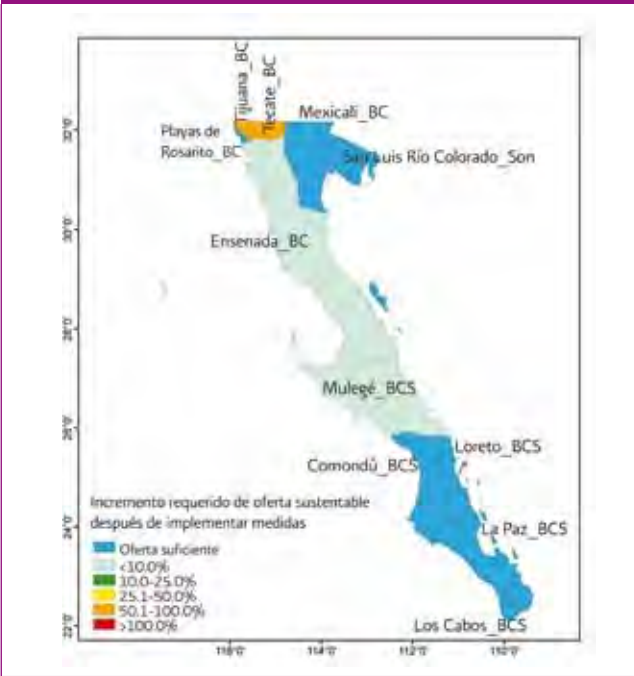
Baja California will require a 50% increase in sustainable supply.

On the other hand, by considering within the prioritization of measures to close the gap other non-structural factors that affect the feasibility of implementing the measure, the feasible solution is designed.

The feasible solution gives priority to infrastructure measures over demand management measures mainly in the public-urban sector.

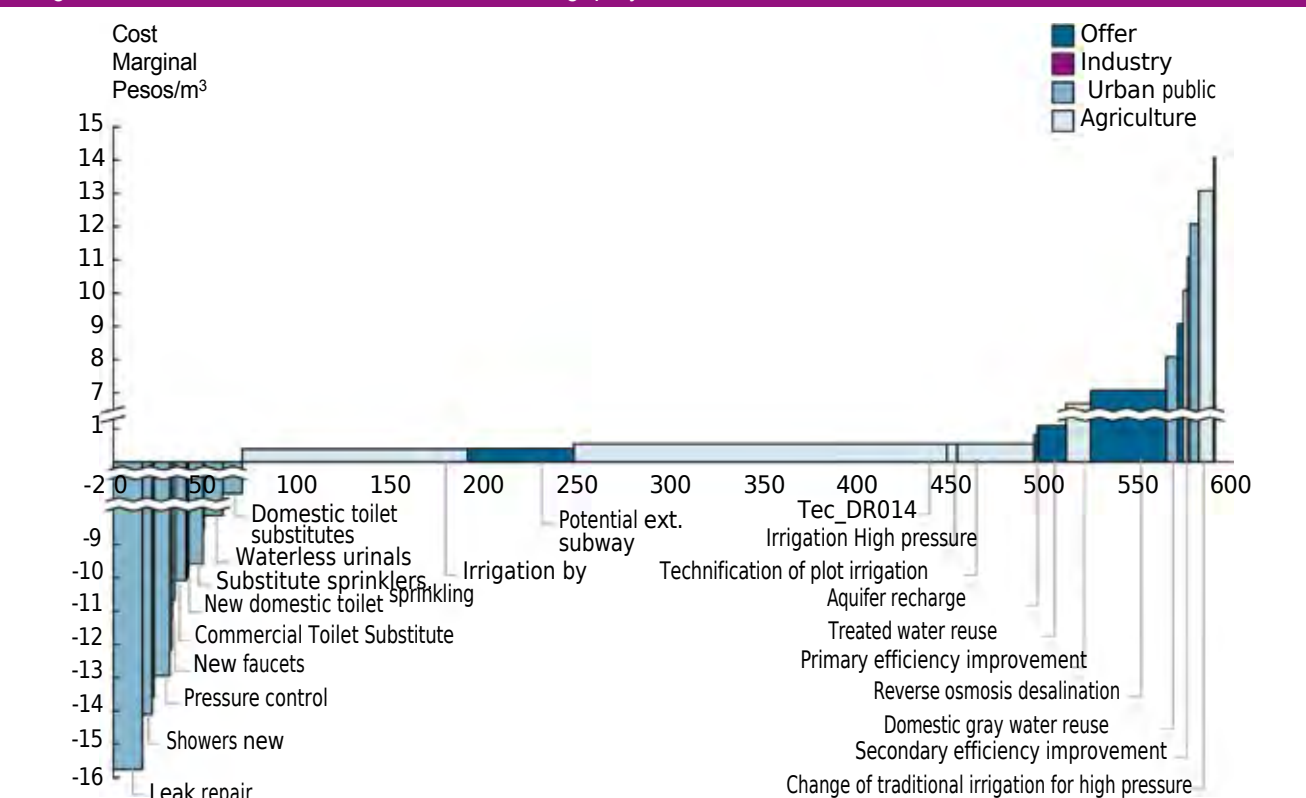
From the analysis of the three alternatives, the ones that close the gap in the Region by 2030 are the technical and feasible solution. Both consider measures for the construction of new infrastructure, as well as measures to reduce the volume of demand in the agricultural, municipal and industrial sectors. However, the feasible solution, by prioritizing infrastructure measures and considering only the implementation of the most feasible measures, such as leakage, reuse of domestic graywater, and improvement of secondary efficiency, increases investment by 11% with respect to the technical solution.

Water gap with respect to the sustainable supply with the implementation of the technical solution



Source: Prepared with data from the ATP, SGP, CONAGUA 2010.

Marginal cost of the technical solution to close the gap by 2030

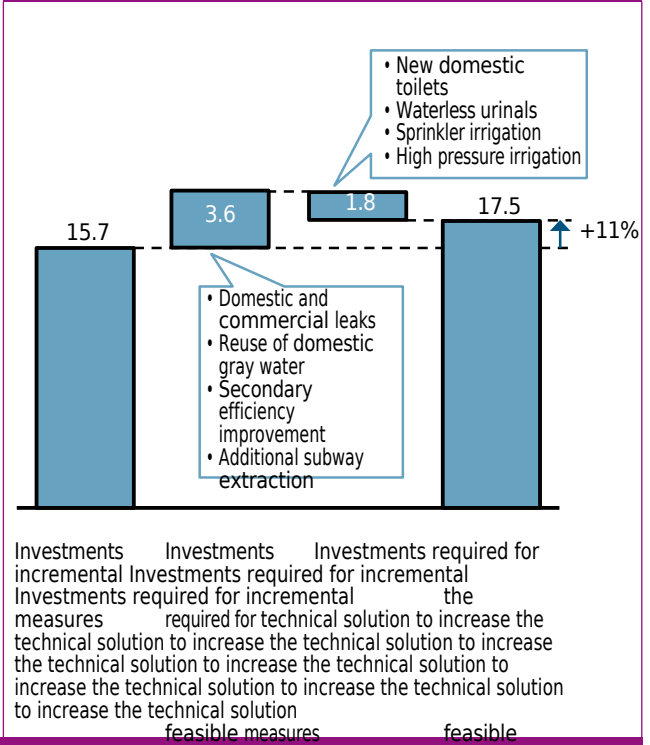


Source: Prepared with data from the ATP, SGP, CONAGUA 2010.

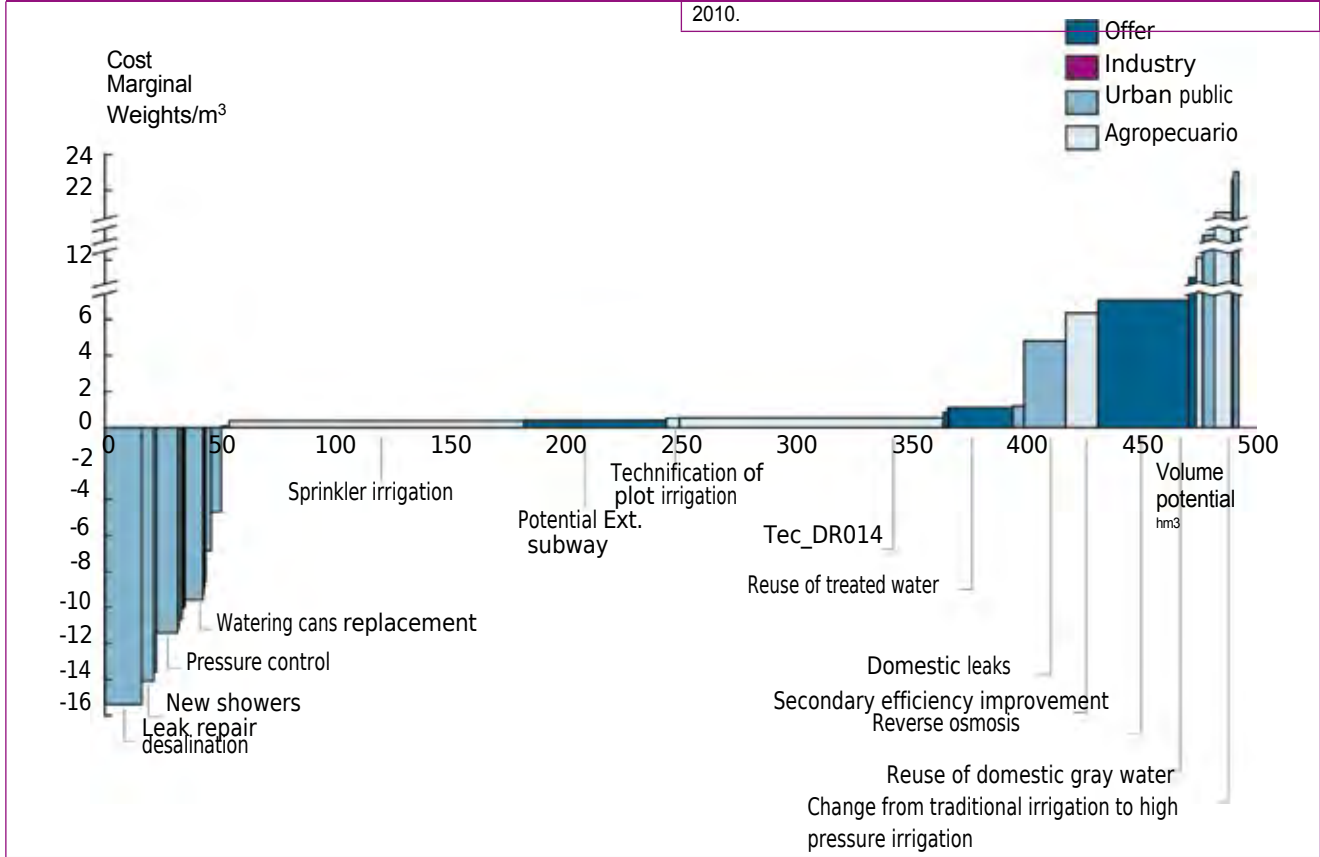
Therefore, the technical solution is the best option to meet the challenge by 2030; it recovers a volume of 594 hm³, which allows closing the water gap at the regional level. This solution proposes infrastructure works to cover the gap by 20%. These measures include the construction of wells for the use of groundwater, desalination plants, and aquifer reuse and recharge works, mainly. These measures have an investment cost of close to 4 billion pesos and it is proposed to implement them in the cells of Mexicali, Ensenada and Playas de Rosarito, Baja California, and Los Cabos, La Paz and Mulegé, Baja California Sur.

Also proposed are measures aimed at the urban public sector at a cost of 6.7 billion pesos, contributing 12% of the gap. The proposed measures include those focused on reducing leaks, efficient technologies and water reuse. Measures aimed at water use efficiency in the agricultural sector cost 4.7 billion pesos and contribute 66% of the gap. In summary, the implementation of demand management measures in the agricultural sector costs 4.7 billion pesos and contributes 66% of the gap.


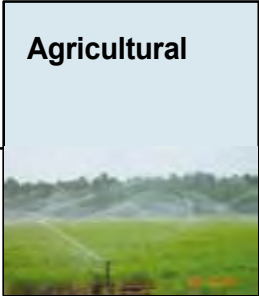

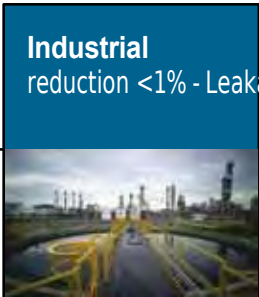


Inversion of the feasible solution



Marginal cost of feasible solution to close the gap by 2030



Technical solution

	SectorType	of measure and	percentageh
		m ³ Thousands of contribution to solution mdp ¹	of
Decrease in the lawsuit 	Agricultural 	Improvement of yields <1%	-
		Efficiency of use of water 66%	395 (4.7)
	66%		
	Public-urban 	Leakage reduction 5%	31 (3.3)
		Technologies efficient 7%	43 (2.6)
		Water reuse <1%	3 (0.8)
13%			
Industrial reduction <1% - Leakage 	Leakage reduction <1% - Leakage reduction <1%	-	
	Technologies	-	
	Water reuse <1%	-	
<1%			
Measures on offer 	Infrastructure 	Subway 10%	62 (0.7)
		Superficial 10%	60 (3.3)
	20%		
Total			594 (15.4)

¹Total investment to 2030

Source: RHA-PBC Regional Strategy towards 2030 and ATP data. SGP, CONAGUA 2010.

three sectors within the RHA I Baja California Peninsula would help cover the gap by 79% and would require an investment of approximately 11.5 billion pesos. The average cost of implementing the measures in all sectors would be 0.2 pesos per cubic meter.

The marginal cost of implementing the measures in the public-urban sector will have a negative value, so their implementation will bring greater benefits.

These actions must be implemented within the cells of Mexicali, Tecate, Tijuana, Playas de Rosarito and Ensenada, in Baja California; San Luis Río Colorado, in Sonora; and Comondú and La Paz, in Baja California Sur.

To ensure the implementation of the technical solution measures and achieve balance in the watersheds and aquifers of the Baja California Peninsula RHA, the following lines of action are proposed:

1. Continue with the construction and rehabilitation of the planned hydraulic infrastructure, mainly the main and secondary networks of the irrigation districts 014 Río Colorado and 066 Santo Domingo; as well as

construction of desalination plants in coastal cells, such as Playas de Rosarito, Baja California, and La Paz and Los Cabos, Baja California Sur, mainly.

2. Improve the efficiency of water use in the irrigation districts, mainly by promoting the technification of plot irrigation and improving production and plot efficiencies in the irrigation areas, through the use of high-pressure irrigation in DR066 and lining of conduction canals in DR014.
3. Promote the repair of leaks through sectorization and the acceptance of diesel-saving technologies in Mexicali, Tijuana, Tecate, Ensenada and Playas de Rosarito, in Baja California; San Luis Río Colorado, Sonora; and La Paz and Los Cabos, in Baja California Sur.

Actions for the agricultural sector must establish a special scheme for their implementation, since it will be necessary to design incentives to support them.

Lines of action for the technical solution

	Lines of action	% of solution	of investment
1	Continue with the planned infrastructure construction	20%	26%
2	Improve conduction and application efficiencies in irrigation districts and units.	66%	31%
3a	Boosting leak repair in key cells	5%	21%
3b	Promote the use of efficient technologies in municipal use.	7%	17%
	Total	98%	95%

Source: RHA-PBC Regional Strategy towards 2030 and ATP data. SGP, CONAGUA 2010.

In order to close the gap by 2030, it is necessary to design a process for implementing the measures proposed in the technical solution. This programming must cover the water needs of the productive sectors and environmental requirements.

The implementation of the measures within the Region will bring with it different beneficiary sectors, as well as related investments. This will also bring different ways of acting of each of them and of responsibility in the execution of the identified measures. For this, the following should be taken into account:

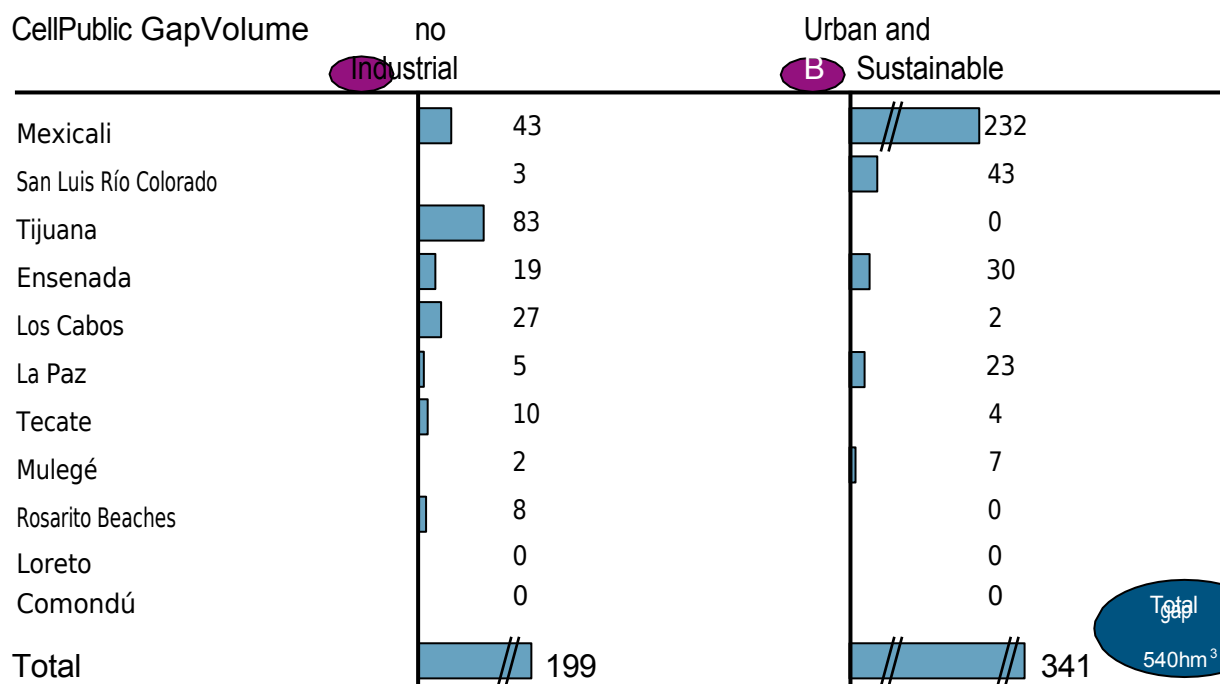
1. Priority among water uses. Supply to the public-urban sector and industry are the first priority, to ensure economic growth with less water use. Basin balance is the second priority to ensure future supply. Agricultural growth can only be supplied by ensuring basin balance.
2. The gap is met with the water resources of the basins of each cell. Only the volume supplied with the planned infrastructure or the volume recovered with the efficiencies of the sectors of a cell are considered to meet the gap of the same cell.

The aim is to avoid transfers or imports that could generate social conflicts.

3. The measures first address the sector's own gap. The sector closes its gap with sector efficiencies to avoid inter-sector trade-offs. Least marginal cost measures are used for the growth of the sector itself.
4. The only valid exchange is from the agricultural sector to the public-urban or industrial sectors. Agricultural volumes not used in the growth of the sector will be available to supply public-urban or industrial growth. It is not feasible for agriculture to grow through the efficiencies gained in the public-urban and industrial sectors.

On the other hand, 63% of the gap is mainly constituted by the overexploitation of aquifers, that is, by the unsustainable volume, therefore, the main challenge for the strategy Watersheds and aquifers in balance of the 2030 Water Agenda within the RHA Baja California Peninsula, is to stop using unsustainable volume and support urban-industrial growth ensuring the sustainability of watersheds and aquifers.

Components of the gap to 2030



Source: RHA-PBC Regional Strategy towards 2030 and with data from the ATP. SGP, CONAGUA 2010.

Analyzing the cost curve of the technical solution for public-urban and industrial sector measures, it is determined that the potential of these measures to close the gap is of the order of 80 hm³. In addition, the most expensive measure is leak repair, with a marginal cost of -15 pesos per cubic meter.

If we compare the growth in demand in each of the cells with the potential of the measures in each of them, ordered from lowest to highest marginal cost, only 77 hm³ of the future gap (199 hm³) could be satisfied with the measures in the same sector. This implies that new sources of supply must be identified to supply the remaining 122 hm³ to cover the growth in demand in this sector. On the other hand, the remaining volume, approximately 5 hm³, can be used to bring the basins and aquifers into balance by reducing the unsustainable volume.

However, due to the negative marginal cost of the public sector-urban and industrial measures, the same sector will have to implement them. The average cost of

These measures at the regional level is -7.4 pesos per cubic meter.

Objectives, strategies and actions

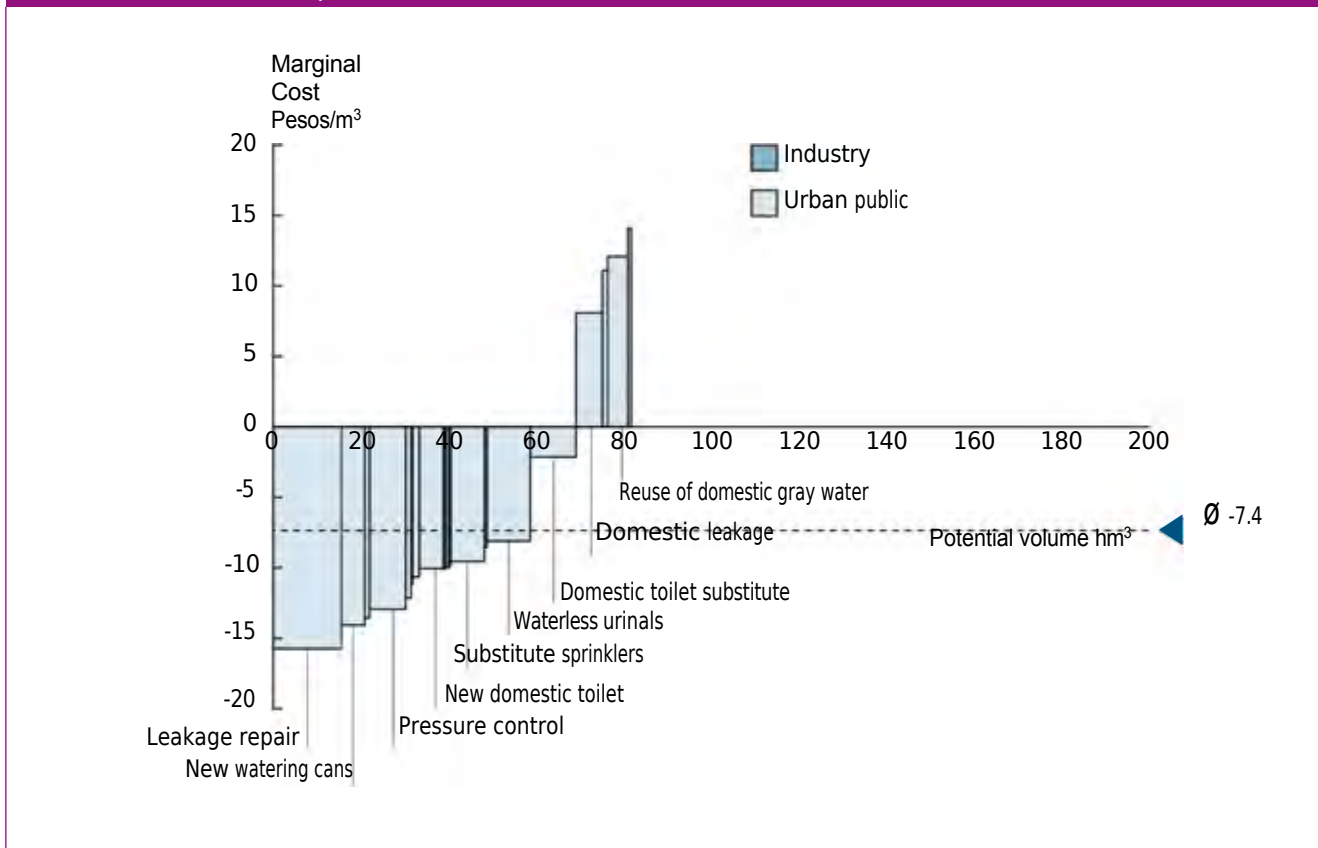
The actions and projects identified, aligned with the proposed strategies, have been agreed upon by the two Basin Councils located in the Region, as well as by the areas of the state and municipal governments involved in the regional water sector.

In order for the watersheds and aquifers of the Baja California Peninsula Hydrological Administrative Region to be in balance by 2030, it will be necessary to implement the following strategic plan:

Objective 1: Ensure the balance of basins and aquifers by reducing water consumption, waste and losses in all uses.

The following strategies should be implemented at the regional level:

Measures identified for the public-urban and industrial sector



Source: RHA-PBC Regional Strategy towards 2030. SGP, CONAGUA 2010.

Strategy 1.1. Support actions to improve efficiency in the agricultural sector.

In this sense, an enormous task ahead is to continue with the efforts to technify and modernize irrigation for agriculture.

To this end, we must continue to redouble our efforts to maintain optimal operating conditions of the existing infrastructure, significantly increase investment in the rehabilitation and modernization of the infrastructure, as well as in irrigation technification.

On the other hand, it is very important to support irrigated agriculture with various measures aimed at making better use of water and increasing soil productivity.

At the regional level, actions should be promoted that allow:

- To formulate the regulations of the Irrigation Districts until they are published.
- The lining of water distribution channels to reduce infiltration losses.
- Increasing productivity by maintaining nutrients and water in the soil.
- Reducing water consumption and increasing productivity through the use of localized irrigation systems (drip, drip tape, sprinkler, etc.).
- To maintain the existing infrastructure in the Irrigation Districts in optimal operating conditions by means of its conservation.
- Redesign of the infrastructure of modules 10, 11 and 12 of DR014 damaged by the earthquake of April 4, 2010.
- Leveling of plots.
- Training of irrigators.

As part of the technical solution, the application of low-consumption technologies (demand management) in the agricultural sector will contribute more volumes to the water gap at lower cost.

In this context, for the agricultural sector, the use of technologies is proposed in two lines of action: those that improve the efficiency of irrigation application in agricultural areas, and those that improve productivity in these areas. Both lines of action translate into projects or measures aimed at closing the gap.

Irrigation modernization and technification can be successfully applied in the Mexicali cell in Baja California, San Luis Río Colorado in Sonora and Comondú in Baja California Sur, since they are located in Irrigation Districts 014 Río Colorado and 066 Valle de Santo Domingo. Among these measures is the technification of land irrigation, which could be applied in the areas of the irrigation units; however, due to their dispersion and small surface area, the impact of this measure on the gap would not be significant. This is shown in the following table where it is observed that the irrigation units of Los Cabos, Baja California Sur, and Tijuana, Baja California, have very little contribution to the gap, in relation to Mexicali, Baja California, and San Luis Río Colorado, Sonora. The implementation of this type of project will contribute 49 hm³ to the gap with an investment of approximately 480 million pesos.

Technification of land irrigation			
Cell	Quantity (ha)	Gap contribution (hm ³)	Total investment (thousands of pesos)
Baja California and Sonora			
Ensenada, Baja California	1 521	10.5	101 848.48
Rosarito Beach, Baja California	29	0.2	1 939.97
Tecate, Baja California	58	0.4	3 879.94
Tijuana, Baja California	43	0.3	2 909.96
Subtotal	1 651	11.40	110 578.35
Baja California Sur			
Comondú, Baja California Sur	3 910	27.0	235 948.00
Mulegé, Baja California Sur	1 070	5.6	67 119.67
La Paz, Baja California Sur	159	1.1	10 669.84
Los Cabos, Baja California Sur	72	3.5	54 849.93
Subtotal	5 261	37.20	368 587.44
Total	6 912	48.6	479 165.79

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Parcel irrigation modernization in DR014 Colorado River

Cell	Quantity	Gap contribution (hm ³)	Total investment (thousands of pesos)
Mexicali, Baja California	23 170	160.00	1 551 976.83
San Luis Río Colorado, Sonora	5 793	40.00	387 994.21
Total	28 963	200.00	1 939 971.04

Source: Prepared with data from ATP, SGP, CONAGUA 2010 and Baja California Peninsula Basin Organization.

High precision irrigation is recommended in areas of the Irrigation Units, mainly in the Mexicali and Ensenada, Baja California cells. The areas indicated correspond to irrigation units located outside of the Rio Colorado Irrigation District 014. This type of project contributes little volume to the gap, 6 hm³, and requires an investment of approximately 58 million pesos.

High precision irrigation

Cell	Quantity (ha)	Gap contribution (hm ³)	Total investment (thousands of pesos)
Baja California and Sonora			
Ensenada, Baja California	282	2.7	26 635.9
Rosarito Beach, Baja California	5	0.04	463.1
Tecate, Baja California	45	0.1	1 179.9
Mexicali, Baja California	117	2.0	11 037.0
Subtotal	449	4.8	39 315.9
Baja California Sur			
Mulegé, Baja California Sur	57	0.4	5 340.2
Loreto, Baja California Sur	50	0.4	3 750.0
La Paz, Baja California Sur	189	0.2	3 342.6
Los Cabos, Baja California Sur	82	0.4	6 188.3
Subtotal	378	1.4	18 621.1
Total	827	6.2	57 937.0

Source: Prepared with data from the ATP, SGP, CONAGUA 2010.

Sprinkler irrigation has problems for its installation in the DR014 Colorado River, due to the salinity of the

crops. Indeed, vegetables and industrial crops such as cotton and citrus do not tolerate the concentration of water salts in their stems and leaves. On the other hand, there are 75,000 ha of light soils on which drip, micro-sprinkler, and drip irrigation systems can be installed to irrigate horticultural and fruit crops.

Only in DR066 Santo Domingo, as well as in irrigation units of the Ensenada, Tijuana and Playas de Rosarito cells in Baja California, Mulegé, Comondú and Los

Cabos in Baja California Sur, sprinkler irrigation is recommended. This measure is estimated to save 127 hm³ with an investment of approximately 630.6 million pesos. Efficiency improvements in the primary and secondary network will provide a low volume of 13.1 hm³ with an investment of

1,637 million pesos.

In summary, the implementation of these projects contributed 66% of the volume to the gap, with a total investment of 4,744 million pesos.

water, the type of soils, the wind speed and the type of

Sprinkler irrigation			
Cell	Quantity (ha)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Tecate, Baja California	84	0.1	2 306.4
Mexicali, Baja California	13 990	113.2	492 117.0
Tijuana, Baja California	7	0.004	251.9
Ensenada, Baja California	1 535	7.3	54 757.0
Rosarito Beach, Baja California	25	0.1	905.2
San Luis Río Colorado, Sonora	1 799	3.5	54 050.6
Subtotal	17 440	124.2	604 388.1
Baja California Sur			
La Paz, Baja California Sur	347	0.9	10 646.6
Los Cabos, Baja California Sur	150	0.09	1 627.2
Loreto Baja California Sur	200	0.7	6 120.0
Mulegé, Baja California Sur	220	0.9	7 842.3
Subtotal	917	2.6	26 236.1
Total	18 357	126.8	630 624.2

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Improving primary and secondary efficiency in Baja California and Sonora				
Type of project	Cell	Quantity (ha)	Gap contribution (hm ³)	Total investment (thousands of pesos)
Improved primary efficiency	Mexicali, Baja California	30 935	11.0	1 268 332.3
Secondary efficiency improvement	Tecate, Baja California	169	0.02	6 604.0
	Mexicali, Baja California	8 982	2.0	350 304.2
	San Luis Río Colorado, Sonora	295	0.1	11 517.0
Total		40 382	13.1	1 636 757.5

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Summary of projects in the Region to close the gap in the agricultural sector		
Type of project	Gap contribution (hm ³)	Total investment (millions of pesos)
Technification of field irrigation in DR014	200.0	1 940.0
Technification of land irrigation in the rest of the region	48.6	479.2
High precision irrigation	6.2	57.9
Sprinkler irrigation	126.8	630.6
Primary and secondary efficiency improvement	13.1	1 636.7
Total	394.7	4 744.4

Strategy 1.2. Support efficiency improvement actions in the public-urban sector.

Cost-effective actions should be promoted to close the water supply deficit, including the following:

- Repair of leaks in municipal distribution networks.

- Sectorization of the municipal network and pressure control in the network.
- Reuse of treated water in parks and irrigation areas
- Encourage new urban developments to reuse water in gardens.
- Repair and prevention of leaks inside homes and businesses.
- Replacement of conventional shower heads with low-flow models.
- Replacement of toilets with dual-flush models in homes and businesses.
- Installation of low-flow faucets and showerheads in new homes.
- Installation of dual-flush toilets in new homes and new businesses.
- Installation of efficient urinals (no water use) in commercial buildings.

In addition, it will be necessary to promote joint attention to the problem by all stakeholders involved in water management. This will result in a more efficient mix of investments to promote efficiency improvement projects.

To ensure the implementation of these measures, the necessary economic or financial incentives must be designed to make their execution attractive to end users or the operating agency.

The application of low consumption technologies (demand management) in the public-urban sector are those that will contribute more volumes to the water gap at lower cost.

In this context, for the public-urban sector, projects are proposed in three lines of action: those focused on the use of efficient technologies (water-saving devices in homes and businesses), leak repair and water reuse.

If projects aimed at the use of water-saving devices are implemented, a volume of 42.8 hm³ is recovered with an investment of approximately three million pesos, and the volume recovery is achieved mainly by replacing domestic showers and toilets, as well as waterless urinals in businesses. The cells that contribute the most volume to the gap are the large cities: Tijuana, Mexicali and Ensenada in Baja California, and Los Cabos in Baja California Sur.

Toilet replacement					
Toilet	Cell	Quantity (inhab)	Gap contribution (hm) ³	Total investment (thousands of pesos)	
Domestic	Baja California and Sonora				
	Tecate, Baja California	43 187	0.3	43 311.2	
	Mexicali, Baja California	397 192	2.4	398 334.4	
	Tijuana, Baja California	659 391	4.1	661 287.2	
	Ensenada, Baja California	193 164	1.3	193 719.2	
	Rosarito Beach, Baja California	34 863	0.2	34 963.3	
	San Luis Río Colorado, Sonora	72 317	0.5	72 525.5	
	Subtotal	1 400 114	8.8	1 404 140.8	
	Baja California Sur				
	La Paz, Baja California Sur	100 759	0.8	101 048.6	
	Los Cabos, Baja California Sur	79 430	0.6	79 658.8	
	Mulegé, Baja California Sur	24 454	0.2	24 524.2	
	Subtotal	204 643	1.6	205 231.6	
	Total		1 604 757	10.4	1 609 372.4
	Commercial	Baja California and Sonora			
Tecate, Baja California		14 376	0.04	1 606.1	
Mexicali, Baja California		132 221	0.4	14 771.7	
Tijuana, Baja California		219 504	0.6	24 523.0	
Ensenada, Baja California		64 302	0.2	7 183.8	
Rosarito Beach, Baja California		11 606	0.03	1 296.6	
San Luis Río Colorado, Sonora		24 074	0.1	2 689.5	
Subtotal		466 083	1.3	52 070.7	
Baja California Sur					
La Paz, Baja California Sur		33 541	0.1	3 747.3	
Los Cabos, Baja California Sur		26 441	0.1	2 954.0	
Mulegé, Baja California Sur		8 140	0.03	909.4	
Subtotal		68 122	0.2	7 610.7	
Total			534 205	1.5	59 681.4

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

New toilets					
Toilet	Cell	Quantity (inhab)	Gap contribution (hm) ³	Total investment (thousands of pesos)	
Domestic	Baja California and Sonora				
	Tecate, Baja California	21 976	0.2	15 717.8	
	Mexicali, Baja California	83 247	0.8	56 814.1	
	Tijuana, Baja California	258 752	2.7	181 683.9	
	Ensenada, Baja California	51 036	0.6	34 985.4	
	Rosarito Beach, Baja California	23 469	0.3	17 219.9	
	San Luis Río Colorado, Sonora	4 904	0.1	2 963.6	
	Subtotal	443 384	4.7	309 384.7	
	Baja California Sur				
	La Paz, Baja California Sur	9 015	0.1	5 516.2	
	Los Cabos, Baja California Sur	55 885	0.7	38 477.2	
	Mulegé, Baja California Sur	3 665	0.04	2 271.4	
	Subtotal	68 565	0.8	46 264.8	
	Total		511 949	5.5	355 649.5
	Commercial	Baja California and Sonora			
Tecate, Baja California		16 380	0.04	749.4	
Mexicali, Baja California		59 207	0.2	2 708.8	
Tijuana, Baja California		189 336	0.5	8 662.5	
Ensenada, Baja California		36 459	0.1	1 668.1	
Rosarito Beach, Baja California		17 945	0.05	821.0	
San Luis Río Colorado, Sonora		3 088	0.01	141.3	
Subtotal		322 415	0.8	14 751.1	
Baja California Sur					
La Paz, Baja California Sur		5 748	0.02	263.0	
Los Cabos, Baja California Sur		40 098	0.1	1 834.6	
Mulegé, Baja California Sur		2 367	0.01	108.3	
Subtotal		48 213	0.1	2 205.9	
Total			370 628	0.9	16 957.0

Water-saving showerheads

Watering cans	Cell	Quantity (inhab)	Gap contribution (hm) ³	Total investment (thousands of pesos)	
Replacement	Baja California and Sonora				
	Tecate, Baja California	33 590	0.2	11 228.8	
	Mexicali, Baja California	308 927	1.8	103 271.9	
	Tijuana, Baja California	512 860	3.0	171 444.8	
	Ensenada, Baja California	150 238	1.0	50 223.5	
	Rosarito Beach, Baja California	27 116	0.2	9 064.6	
	San Luis Río Colorado, Sonora	56 247	0.4	18 802.9	
	Subtotal	1 088 978	6.6	364 036.5	
	Baja California Sur				
	La Paz, Baja California Sur	78 368	0.6	26 197.8	
	Los Cabos, Baja California Sur	61 779	0.4	20 652.3	
	Mulegé, Baja California Sur	19 020	0.1	6 358.1	
	Subtotal	159 167	1.1	53 208.2	
	Total		1 248 145	7.7	417 244.7
	New	Baja California and Sonora			
Tecate, Baja California		38 271	0.2	2 193.2	
Mexicali, Baja California		138 334	0.8	7 927.5	
Tijuana, Baja California		442 374	2.6	25 351.2	
Ensenada, Baja California		85 184	0.6	4 881.7	
Rosarito Beach, Baja California		41 928	0.2	2 402.8	
San Luis Río Colorado, Sonora		7 216	0.1	413.5	
Subtotal		753 307	4.5	43 169.9	
Baja California Sur					
La Paz, Baja California Sur		13 431	0.1	769.7	
Los Cabos, Baja California Sur		93 686	0.7	5 368.9	
Mulegé, Baja California Sur		5 531	0.04	316.9	
Subtotal		112 648	0.8	6 455.5	
Total		865 955	5.3	49 625.4	

New low flow faucets			
Cell	Quantity (inhab)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Tecate, Baja California	38 271	0.05	1 949.5
Mexicali, Baja California	138 334	0.2	7 046.7
Tijuana, Baja California	442 374	0.6	22 534.4
Ensenada, Baja California	85 184	0.1	4 339.3
Rosarito Beach, Baja California	41 928	0.1	2 135.8
San Luis Río Colorado, Sonora	7 216	0.01	367.6
Subtotal	753 307	1.0	38 373.3
Baja California Sur			
La Paz, Baja California Sur	13 431	0.02	684.2
Los Cabos, Baja California Sur	93 686	0.2	4 772.4
Mulegé, Baja California Sur	5 531	0.01	281.7
Subtotal	112 648	0.2	5 738.3
Total	865 955	1.2	44 111.6

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Dry urinals in stores			
Cell	Quantity (urinals)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Tecate, Baja California	2 053	0.3	27 306.9
Mexicali, Baja California	12 779	2.0	169 959.1
Tijuana, Baja California	27 292	4.3	362 988.6
Ensenada Baja California	6 726	1.2	89 460.6
Rosarito Beaches Baja California	1 973	0.3	26 236.6
San Luis Río Colorado, Sonora	1 813	0.3	24 115.9
Subtotal	52 636	8.4	700 067.7
Baja California Sur			
La Paz, Baja California Sur	2 623	0.5	34 883.6
Los Cabos, Baja California Sur	4 442	0.9	59 076.9
Mulegé Baja California Sur	701	0.1	9 329.1
Subtotal	7 766	1.5	103 289.6
Total	60 402	9.9	803 357.3

The technical solution also indicates that if projects aimed at repairing leaks (in the distribution and domestic networks) are implemented, a volume of 30 hm³ is recovered with an approximate investment of 2,300 million pesos. Volume recovery is achieved mainly by

The company is currently repairing leaks in the distribution network and carrying out sectorization and pressure control. The cells that contribute the most volume to the gap are the large cities: Mexicali and Ensenada in Baja California, Los Cabos and La Paz in Baja California Sur.

Sectorization and pressure control			
Cell	Quantity (shots)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Ensenada, Baja California	80 459	1.5	104 184.1
San Luis Río Colorado, Sonora	21 689	1.7	28 084.9
Subtotal	102 148	3.2	132 269
Baja California Sur			
La Paz, Baja California Sur	31 374	1.8	40 624.8
Los Cabos, Baja California Sur	53 132	3.0	68 799.8
Mulegé, Baja California Sur	8 390	0.5	10 864.5
Subtotal	92 896	5.3	120 289.1
Total	195 044	8.5	252 558.1

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Repair of leaks in the distribution network			
Cell	Quantity (leakage)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Mexicali, Baja California	1 365	1.6	5 677.1
Tijuana, Baja California	2 754	3.3	11 458.7
Ensenada, Baja California	2 402	2.1	60 867.6
Rosarito Beach, Baja California	197	0.2	15 740.5
San Luis Río Colorado, Sonora	1 658	2.0	6 898.1
Subtotal	8 376	9.2	100 642.0
Baja California Sur			
La Paz, Baja California Sur	1 764	2.1	27 176.0
Los Cabos, Baja California Sur	3 006	3.6	46 100.7
Mulegé, Baja California Sur	457	0.6	7 205.1
Subtotal	5 227	6.3	80 481.8
Total	13 603	15.5	181 123.8

Leak repair				
Leaks	Cell	Quantity (inhab)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Domestic	Baja California and Sonora			
	Tecate, Baja California	102 658	0.4	152 146.4
	Mexicali, Baja California	638 945	3.3	946 963.3
	Rosarito Beach, Baja California	98 634	0.3	146 182.7
	San Luis Río Colorado, Sonora	90 661	0.6	134 366.8
	Subtotal	930 898	4.6	1 379 659.2
	Baja California Sur			
	La Paz, Baja California Sur	131 141	0.5	194 361.4
	Los Cabos, Baja California Sur	222 094	0.9	329 159.4
	Subtotal	353 235	1.4	523 520.8
	Total		1 284 133	6.0
Commercials	Baja California and Sonora			
	Tecate, Baja California	102 658	0.1	22 210.7
	Mexicali, Baja California	638 945	0.4	138 239.9
	San Luis Río Colorado, Sonora	90 661	0.1	19 615.2
	Subtotal	832 264	0.5	180 065.8
	Baja California Sur			
	La Paz, Baja California Sur	131 141	0.3	28 373.3
	Los Cabos, Baja California Sur	222 094	0.4	48 051.5
	Mulegé, Baja California Sur	35 072	0.1	7 588.0
	Subtotal	388 307	0.8	84 012.8
	Total		1 220 571	1.3

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

On the other hand, if water reuse projects are implemented, the volume of water to be recovered is small.

2,66hm³ with an investment of approximately 772 million pesos.

Reuse of domestic graywater in Baja California and Sonora			
Cell	Quantity (inhab)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Tecate, Baja California	51 329	0.4	144 624.4
San Luis Río Colorado, Sonora	45 331	0.4	127 723.9
Subtotal	96 600	0.8	272 348.3
Baja California Sur			
La Paz	65 571	0.6	184 752.4
Los Cabos	11 047	1.0	312 886.1
	76 618	1.6	497 638.5
Total	173 218	2.4	769 986.8
Source: Prepared with data from the ATP. SGP, CONAGUA 2010.			

Reuse of irrigation water in parks			
Cell	Quantity (ha)	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Mexicali, Baja California	1	0.03	232.9
Ensenada, Baja California	3	0.1	839.7
San Luis Río Colorado, Sonora	0	0.02	142.3
Subtotal	4	0.15	1 214.9
Baja California Sur			
La Paz, Baja California Sur	0.8	0.03	246.4
Los Cabos, Baja California Sur	0.2	0.01	60.0
Mulegé, Baja California Sur	2.0	0.1	512.0
Subtotal	3.0	0.14	818.4
Total	7	0.29	2 033.3

In summary, the implementation of projects in the public-urban sector contributes 13% of volume to the gap, with a total investment of 6,729 million pesos.

Summary of projects to close the public-urban water gap		
Type of project	Gap contribution (hm ³)	Total investment (millions of pesos)
Energy saving devices	42.8	3 356.0
Leak repair (including sectorization and pressure control)	31.3	2 600.9
Water reuse	2.6	772.0
Total	76.7	6 728.9

Support efficiency improvement actions in the industrial sector.

Industrial activity is the activity that demands the least volume of water within the RHA Baja California Peninsula. This activity is concentrated in the Mexicali, Tijuana and Tecate planning cells in Baja California.

- At the regional level, actions should be promoted to enable treatment and self-reuse.

The technical solution indicates that if projects aimed at efficient water use in industry are implemented, approximately 2 hm³ would be recovered with an investment of close to one million pesos (\$845,300). On the other hand, volume recovery occurs in water recycling and the cells that contribute the most volume to the gap are the large cities: Mexicali and Tijuana in Baja California and La Paz in Baja California Sur.

Projects to reduce the gap in the industry			
Type of project	Cell	Gap contribution (hm ³)	Total investment (thousands of pesos)
Baja California and Sonora			
Condensate reuse	Mexicali Baja California	0.5	
Industrial leakage	Ensenada, Baja California	0.1	
	Mexicali ,Baja California	0.2	
Waste filling	Ensenada, Baja California	0.4	
Activated water	Ensenada, Baja California	0.01	24.6
	Tijuana, Baja California	0.03	133.4
	Tecate, Baja California	0.04	175.2
Pressure reduction	Mexicali, Baja California	0.1	
Subtotal		1.38	333.2
Baja California Sur			
Industrial leakage	La Paz, Baja California Sur	0.06	
	Los Cabos, Baja California Sur	0.08	
	Mulegé, Baja California Sur	0.1	
Waste filling	La Paz, Baja California Sur	0.09	
	Los Cabos, Baja California Sur	0.17	
	Mulegé, Baja California Sur	0.1	
Activated water	La Paz, Baja California Sur	0.1	512.1
Subtotal		0.7	512.1
Total		2.08	845.3

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Strategy 1.4. Promote the construction of hydraulic infrastructure.

In addition to actions to improve water use efficiency in the public-urban, agricultural, and industrial sectors within the Region, the construction of infrastructure should continue in order to increase the sustainable supply of water by installed capacity. In this way, we will

will promote the construction of infrastructure to recharge aquifers.

Some of the actions to be developed are:

- Studies and projects for recharge works.
- New aqueducts and some wells.
- Desalination plants.
- Design and construction of the main and distribution network for water reuse.

Projects to increase supply of installed capacity			
Type	Cell	Gap contribution (hm) ³	Total investment (thousands of pesos)
Baja California and Sonora			
Aquifer recharge	Ensenada, Baja California	0.4	2 087.4
	Mexicali, Baja California	0.8	3 965.7
	Tecate, Baja California	0.1	637.2
	San Luis Río Colorado, Sonora	0.1	562.7
Reuse of treated water	Ensenada, Baja California	14.4	301 398.7
Treated water reuse (non-portfolio)	Tecate, Baja California	3.2	253 414.3
Groundwater extraction potential	Mexicali, Baja California	56.9	261 762.3
Desalination plants (reverse osmosis)	Rosarito Beach, Baja California	6.2	80 392.0
	Tijuana, Baja California	7.8	412 300.0
Subtotal		89.9	1 316 520.3
Baja California Sur			
Aquifer recharge	La Paz, Baja California Sur	0.2	814.0
	Los Cabos, Baja California Sur	3.3	401 378.5
	Mulegé, Baja California Sur	0.04	217.7
Reuse of treated water	Los Cabos Baja California Sur	1.0	315 000.0
	Mulegé Baja California Sur	2.0	100 000.0
Desalination plants (reverse osmosis)	La Paz, Baja California Sur	14.1	412 300.0
	Los Cabos, Baja California Sur	7.8	1 272 300
	Mulegé, Baja California Sur	3.6	186 938
Subtotal		32.04	2 688 948.2
Total		121.9	4 005 468.5

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

In the case of desalination plants, the location of the wastewater discharge pipes should be considered to avoid water contamination at the site of the desalination plant intake works.

In summary, the implementation of the projects increasing the supply of installed capacity contributed 22% of volume to the gap, with a total investment of 4,000 million pesos.

Summary of projects to close the water gap by increasing the supply of installed capacity		
Type of project	Gap contribution (hm ³)	Total investment (millions of pesos)
Aquifer recharge	4.9	409.7
Reuse of treated water	20.6	969.8
Groundwater extraction potential	56.9	261.8
Desalination plants	39.5	2 364.2
Total	121.9	4 005.5

Strategy 1.5. Promote the exchange of first-use water for treated wastewater.

- Promote the exchange of water from the El Naranjo treatment plant for agricultural use in the Maneadero Valley, municipality of Ensenada. Also in the case of the Mexicali Valley of its treatment plants.

Strategy 1.6. Adhere to concessioned volumes through metering.

- That the COTAS establish policies aimed at self-regulation, in accordance with the volumes conceived.
- Programs for 100% coverage of measurement in aquifers.

Strategy 1.7. Recovery of over-conceived volumes.

- Complete watershed and aquifer management plans in the RHA I PBC.

- Adhere to the Program for the Acquisition of Water Use Rights (PADUA) in the case of overexploited aquifers.
- Enforcement of regulations on the use, development, and exploitation of water resources and their inherent assets by the competent authority.

Strategy 1.8. Support the development of technology and information systems.

- Complete the information systems in the Valleys of San Quintín, San Simón, Vicente Guerrero, San Vicente, San Rafael, Santo Tomás, Valle de Ojos Negros, Valle de la Trinidad, Valle de Las Palmas and Maneadero.

Strategy 1.9. Give a more relevant role to the COTAS in aquifer management.

- Legally strengthen its intervention in aquifer monitoring and control activities.
- To train its members to intervene in the management and planning of aquifer exploitation.
- Advise its financial operation, by means of a legally obligatory procedure, linked to exports and users.

Strategy 1.10. Promote training on an ongoing basis.

- Train organized producers in various topics, especially those related to irrigation technification, the application of procedures for efficient water use, productive reconversion, water reuse, and financing mechanisms, among others. In this regard, we will seek to take advantage of the capacity of institutes or organizations such as the National Center for the Transfer of Irrigation and Drainage Technology (Cenatryd).

Localization and prioritization of actions and projects

It is important to identify where the measures or projects contribute the greatest volume of water to the water gap,

The main projects that contribute a considerable volume to the gap, by planning cell and by sector, are illustrated below.

In the agricultural sector, with the modernization and technification of the 014 Río Colorado Irrigation District, located in Mexicali, as well as in other irrigation units, an approximate volume of 249hm³ will be recovered, representing 46% of the contribution to the gap.

In the municipal sector, with the repair of leaks in the distribution networks, domestic leaks, sectorization and pressure control in the cells, a volume of 30hm³ is recovered. This recovery is achieved if domestic leaks are reduced in Mexicali, Baja California; reduction of leaks in the distribution networks in Tijuana and Ensenada, Baja California, Los Cabos and La Paz in Baja California Sur; and if sectorization and pressure control is carried out in Los Cabos and La Paz, Baja California Sur, as well as in Ensenada, Baja California.

Another important action is the implementation of water-saving devices; if toilets and showers are replaced in homes, as well as if the use of dry urinals is promoted in the cells of Tijuana, Mexicali and Ensenada, Baja California, and in La Paz and Los Cabos in Baja California Sur, a volume of 38 hm³ is recovered. With both measures, a volume of 48 hm³ is recovered, which represents a 9% contribution to the gap.

With respect to the infrastructure with which the supply can be increased, in terms of installed capacity, there are desalination plants, water reuse works and new wells in the Punta Estrella area in the municipality of Mexicali, Baja California. With these works, there would be a supply of around 122 hm³ , representing 22% of the water supply gap.

In summary, the priority actions in the mapped cells, in the agricultural and public-urban sectors, and the increase in supply by installed capacity, close the water gap.

Technification of land irrigation



Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Energy saving devices



Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Saving devices (b)



Source: Elaborated with ATP data. SGP, CONAGUA 2010.

Priority cells to increase supply by installed capacity



Source: Elaborated with ATP data. SGP, CONAGUA 2010.

Priority cells to increase supply by installed capacity
(b)



Source: Prepared with data from the ATP, SGP, CONAGUA 2010.

Indicators and goals

The performance indicators of the programs, actions and projects for closing the gaps in the axis of balanced watersheds and aquifers are grouped in the agricultural, municipal, industrial and new infrastructure sectors.

The number of hectares modernized is an indicator of the recovery of surface water volumes and the reduction of withdrawals from aquifers.

The increase in the physical efficiency of the drinking water supply networks will allow for a significant recovery of water volumes in the main cities of the region.

New works such as desalination plants, water reuse and aquifer recharge will be an important complement to closing the gaps. These indicators are shown in the following table.

Likewise, the volumes granted for agricultural use should be reduced proportionally to the magnitude of the gap; in addition, irrigation with treated wastewater should continue or, if necessary, be implemented, so that by the year 2030 the aquifers will be in balance.

Indicators and targets in the axis Watersheds and aquifers in equilibrium

Sector	Indicator	Basin Council	Unit	Current	Goal			
					2012	2018	2024	2030
Agricultural	Modernized or technified agricultural area	Baja California	has	60 000	61 778	110 664	135 552	148 885
		Baja California Sur	has	10 000	10 130	13 709	15 531	16 507
	Surface area of irrigation districts irrigated with treated wastewater	Baja California	has	863	950	1 045	1 150	1 265
		Baja California Sur	has	-	-	-	-	-
Municipal	Physical efficiency of the drinking water supply network	Baja California	%	75	75	78	82	85
		Baja California Sur	%	65	68	73	84	90
Infrastructure	New construction	Baja California	Quantity		1	4	7	9
		Baja California Sur	Quantity		1	3	6	6

Source: Prepared with data from OCPB and Local Directorate, BCS.

Investment program and financing

The execution of the types of projects presented above, which require a great deal of coordination among the three levels of government and the participation of society, will make it possible to have a Basin Organization with sufficient capacity to self-administer the Region, which will promote the efficient use of water resources and, in the long term, will be able to provide the necessary resources for the development of the Region.

to the extent possible to increase the supply of water by installed capacity, including the necessary infrastructure to reuse water.

This will be based on the impact of the execution of the projects, measured in volume, grouped in the agricultural, public-urban, industrial and new infrastructure sectors.

The information is presented by planning cell for 2012 and the periods 2018, 2024 and 2030. This information is presented by planning cell, for the year 2012 and periods 2018, 2024 and 2030.

Investment program by sector											
Planning cell	Sector	Impact (hm) ³					Investment (Millions of pesos)				
		2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Ensenada	Agricultural	2.1	7.2	6.2	5.1	20.5	9.162	31.151	54.972	87.956	183.241
	Urban public	0.9	3.1	2.6	2.2	8.8	27.618	93.900	165.706	265.130	552.354
	Industrial	0.1	0.2	0.2	0.1	0.5	0.001	0.004	0.008	0.012	0.025
	Infrastructure	1.5	5.2	4.4	3.7	14.8	15.174	51.593	91.046	145.673	303.486
	Total	4.5	15.6	13.4	11.2	44.6	51.955	176.648	311.732	498.771	1 039.106
Mexicali	Agricultural	28.8	100.9	86.5	72.1	288.2	183.690	624.544	1 102.137	1 763.419	3 673.790
	Urban public	1.4	4.9	4.2	3.5	13.9	92.597	314.831	555.584	888.935	1851.948
	Industrial	0.1	0.2	0.2	0.2	0.7					
	Infrastructure	5.7	19.9	17.1	14.2	56.9	13.286	45.174	79.718	127.549	265.728
	Total	36.0	125.9	107.9	89.9	359.7	289.573	984.549	1 737.440	2 779.904	5 791.466
Tecate	Agricultural	0.1	0.2	0.2	0.2	0.6	0.699	2.375	4.191	6.706	13.970
	Urban public	0.2	0.8	0.6	0.5	2.2	21.152	71.917	126.913	203.061	423.044
	Industrial	0.00	0.01	0.01	0.01	0.04	0.009	0.030	0.053	0.084	0.175
	Infrastructure	0.3	1.2	1.0	0.8	3.3	12.703	43.189	76.215	121.944	254.051
	Total	0.6	2.1	1.8	1.5	6.1	34.562	117.511	207.372	331.795	691.240
Tijuana	Agricultural	0.0	0.1	0.1	0.1	0.3	0.158	0.538	0.949	1.518	3.162
	Urban public	2.2	7.6	6.5	5.4	21.7	73.497	249.889	440.981	705.569	1 469.935
	Industrial	0.00	0.01	0.01	0.01	0.03	0.007	0.023	0.040	0.064	0.133
	Infrastructure	0.8	2.7	2.3	2.0	7.8	20.615	70.091	123.690	197.904	412.300
	Total	3.0	10.4	8.9	7.5	29.8	94.277	320.540	565.659	905.054	1 885.530
Rosarito Beaches	Agricultural	0.0	0.1	0.1	0.1	0.3	0.165	0.562	0.992	1.588	3.308
	Urban public	0.2	0.6	0.5	0.5	1.8	12.803	43.531	76.820	122.912	256.066
	Industrial										
	Infrastructure	0.6	2.2	1.9	1.6	6.2	4.020	13.667	24.118	38.588	80.392
	Total	0.8	2.9	2.5	2.1	8.3	16.988	57.760	101.930	163.088	339.766

Investment program by sector

Planning cell	Sector	Impact (hm) ³					Investment (Millions of pesos)				
		2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
San Luis Río Colorado	Agricultural	4.4	15.3	13.1	10.9	43.6	22.678	77.106	136.069	217.710	453.562
	Urban public	0.6	2.2	1.9	1.6	6.3	21.943	74.605	131.656	210.649	438.853
	Industrial										
	Infrastructure					0.1					0.563
	Total	5.0	17.5	15.0	12.5	50.0	44.621	151.711	267.725	428.359	892.978
Comondú	Agricultural	2.7	9.5	8.1	6.8	27.0	11.797	40.111	70.784	113.255	235.948
	Urban public										
	Industrial										
	Infrastructure	0.0	0.0	0.0	0.0		0.000	0.000	0.000	0.000	
	Total	2.7	9.5	8.1	6.8	27.0	11.797	40.111	70.784	113.255	235.948
Mulegé	Agricultural	0.7	2.4	2.1	1.7	6.9	4.015	13.651	24.091	38.545	80.302
	Urban public	0.2	0.6	0.5	0.5	1.8	3.513	11.946	21.080	33.729	70.268
	Industrial	0.0	0.1	0.1	0.1	0.2					
	Infrastructure	0.6	2.0	1.7	1.4	5.6	14.358	48.817	86.147	137.835	287.156
	Total	1.5	5.1	4.4	3.6	14.6	21.886	74.413	131.318	210.108	437.726
La Paz	Agricultural	0.2	0.8	0.7	0.6	2.2	1.233	4.192	7.398	11.837	24.660
	Urban public	0.8	2.6	2.3	1.9	7.6	32.432	110.269	194.593	311.349	648.644
	Industrial	0.0	0.1	0.1	0.1	0.3	0.026	0.087	0.154	0.246	0.512
	Infrastructure	0.8	2.8	2.4	2.0	8.0	20.656	70.229	123.934	198.295	413.114
	Total	1.8	6.3	5.4	4.5	18.1	54.347	184.778	326.079	521.726	1 086.930
Los Cabos	Agricultural	0.4	1.4	1.2	1.0	4.0	3.133	10.653	18.800	30.079	62.665
	Urban public	1.3	4.4	3.8	3.2	12.6	50.893	173.035	305.356	488.569	1 017.853
	Industrial	0.0	0.1	0.1	0.1	0.3					
	Infrastructure	1.8	6.4	5.5	4.6	18.4	99.434	338.075	596.604	954.566	1 988.679
	Total	3.5	12.3	10.6	8.8	35.2	153.460	521.763	920.759	1 473.215	3 069.197
Loreto	Agricultural	0.1	0.4	0.3	0.3	1.1	0.494	1.678	2.961	4.738	9.870
	Urban public										
	Industrial										
	Infrastructure										
	Total	0.1	0.4	0.3	0.3	1.1	0.494	1.678	2.961	4.738	9.870
Total agricultural sector		39.5	138.2	118.4	98.7	394.7	237.224	806.561	1 423.343	2 277.349	4 744.478
Total urban public sector		7.7	26.8	23.0	19.2	76.6	336.448	1 143.924	2 018.690	3 229.903	6 728.965
Total industrial sector		0.2	0.7	0.6	0.5	2.0	0.042	0.144	0.254	0.406	0.845
Total increase in supply		12.1	42.4	36.3	30.3	121.1	200.273	680.930	1 201.641	1 922.625	4 005.469
Axle total		59.4	208.1	178.3	148.6	594.5	773.988	2 631.559	4 643.927	7 430.283	15 479.757

Source: Prepared with data from the ATP, SGP, CONAGUA 2010.

Investment program by measure										
Measure	Impact (hm) ³					Investment (Millions of pesos)				
	2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Agricultural										
Technification of land irrigation	4.9	17.0	14.6	12.2	48.6	23.958	81.458	143.750	230.000	479.166
Technification of land irrigation in DR014	20.0	70.0	60.0	50.0	200.0	97.000	329.799	581.998	931.197	1939.994
High precision irrigation	0.6	2.2	1.9	1.6	6.2	2.897	9.849	17.381	27.810	57.937
Sprinkler irrigation	12.7	44.4	38.0	31.7	126.8	31.531	107.206	189.187	302.700	630.624
Improved primary efficiency	1.1	3.9	3.3	2.8	11.0	63.417	215.616	380.500	608.799	1268.332
Secondary efficiency improvement	0.2	0.7	0.6	0.5	2.1	18.421	62.632	110.528	176.844	368.425
Subtotal	39.5	138.2	118.4	98.7	394.8	237.224	806.561	1423.343	2277.349	4744.478
Public-Urban										
Replacement of domestic toilets	1.0	3.6	3.1	2.6	10.4	80.469	273.593	482.812	772.499	1609.372
Replacement of commercial toilets	0.2	0.5	0.5	0.4	1.5	2.984	10.146	17.905	28.647	59.682
New domestic toilets	0.6	1.9	1.7	1.4	5.5	17.782	60.460	106.695	170.712	355.649
New toilets in stores	0.1	0.3	0.3	0.2	0.9	0.848	2.883	5.087	8.139	16.957
Water-saving shower heads replacement	0.8	2.7	2.3	1.9	7.7	20.862	70.932	125.174	200.278	417.246
New water-saving shower heads	0.5	1.9	1.6	1.3	5.3	2.481	8.437	14.888	23.821	49.627
New low flow faucets	0.1	0.4	0.4	0.3	1.2	2.206	7.499	13.234	21.174	44.112
Dry urinals in stores	1.0	3.5	3.0	2.5	9.9	40.168	136.571	241.008	385.612	803.359
Sectorization and pressure control	0.9	3.0	2.6	2.1	8.5	12.628	42.935	75.768	121.228	252.559
Repair of leaks in the network	1.6	5.4	4.7	3.9	15.5	9.056	30.791	54.338	86.940	181.125
Repair of domestic leaks	0.6	2.1	1.8	1.5	6.0	95.159	323.540	570.954	913.526	1903.179
Repair of leaks in stores	0.1	0.5	0.4	0.4	1.5	13.204	44.893	79.224	126.758	264.079
Reuse of domestic gray water	0.3	0.8	0.7	0.6	2.4	38.499	130.898	230.996	369.593	769.986
Reuse of irrigation water in parks	0.0	0.1	0.1	0.1	0.2	0.102	0.346	0.610	0.976	2.033
Subtotal	7.8	26.7	23.2	19.2	76.5	336.448	1143.924	2018.690	3229.903	6728.965
Industrial										
Condensate reuse	0.1	0.2	0.2	0.1	0.5					
Industrial leakage	0.1	0.2	0.2	0.1	0.5					
Waste filling	0.1	0.3	0.2	0.2	0.8					
Activated water	0.0	0.1	0.1	0.0	0.2	0.042	0.144	0.254	0.406	0.845
Pressure reduction	0.0	0.0	0.0	0.0	0.1					
Subtotal	0.2	0.7	0.6	0.5	2.1	0.042	0.144	0.254	0.406	0.845
Infrastructure										
Aquifer recharge	0.5	1.7	1.5	1.2	4.9	20.483	69.643	122.899	196.639	409.664
Reuse of treated water	2.1	7.2	6.2	5.2	20.6	48.491	164.868	290.944	465.510	969.813
Groundwater extraction potential	5.7	19.9	17.1	14.2	56.9	13.088	44.500	78.529	125.646	261.762
Desalination plants	4.0	13.8	11.9	9.9	39.5	118.212	401.919	709.269	1134.830	2364.230
Subtotal	12.2	42.7	36.6	30.5	121.9	200.273	680.930	1201.641	1922.625	4005.469
Subtotal Agricultural	39.5	138.2	118.4	98.7	394.8	237.2	806.6	1423.3	2277.3	4744.478
Subtotal Public-Urban	7.8	26.7	23.2	19.2	76.5	336.4	1143.9	2018.7	3229.9	6728.965
Industrial Subtotal	0.2	0.7	0.6	0.5	2.1	0.0	0.1	0.3	0.4	0.845
Subtotal Infrastructure	12.2	42.7	36.6	30.5	121.9	200.3	680.9	1201.6	1922.6	4005.469
Total Axis	59.7	208.3	178.8	149.9	595.3	774.0	2631.6	4643.9	7430.3	15479.76

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

In summary, the investment required in the Cuencas axis in equilibrium to 2030, considering the technical solution, is 15,480 million pesos, 774 million pesos annual average.

Its financing will require a mix of resources from the users themselves and from taxpayers, generally through the federal and state public budgets.

Because of the way water management has been carried out in Mexico for decades, investments in the water sector have been financed mainly through the use of water resources.

The government budgets, and a small part has been left to the users themselves.

Currently, investments in this area in the region have been financed mainly with federal resources. This excessive concentration of financing in fiscal resources weakens the sustainability of the sector. A better path to sustainability is proposed by gradually increasing the contribution of resources from the public sector. beneficiaries by 2030.

Summary of investments in the axis Watersheds and aquifers in equilibrium

Actions Water Agenda 2030	Accumulated costs at the end of the period (Millions of 2009 pesos)			
	2012	2018	2024	2030
I. Baja California Peninsula				
Watersheds in equilibrium	774	2 632	4 644	7 430

V. Rivers clean

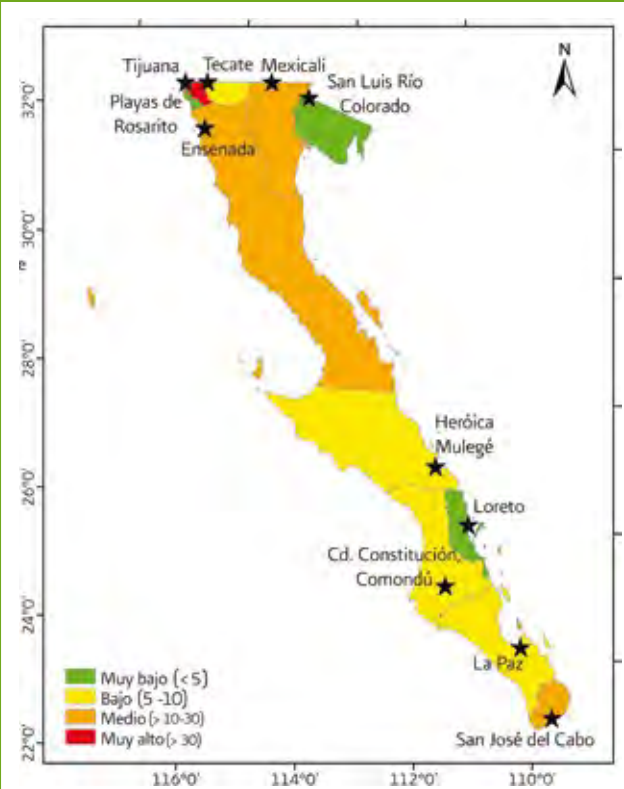


Challenges and solutions to 2030

The sanitation gap to 2030, including municipal and industrial wastewater, is of the order of 195 hm³, and approximately 80% is concentrated in the cells of Tijuana, Mexicali and Ensenada, Baja California, and Los Cabos, Baja California Sur. The main problem is concentrated in Tijuana, Baja California due to the lack of treatment infrastructure and failure to meet the minimum treatment levels required by law. In the Mexicali, Baja California cell, it will be necessary to guarantee the efficient operation of its treatment infrastructure; and in Ensenada, Baja California, the challenge will be to connect the existing infrastructure to the sewage network.

The volume of wastewater generated in 2030 will be around 279 hm³ (259 hm³ municipal and 20 hm³ industrial), of which only 36% will be treated to the level required by NOM-001 SEMARNAT-1996. Of the municipal water treatment gap faced by the Basin Organization, 88% is mainly due to the inefficient operation of the existing infrastructure or the lack of connection of the infrastructure to the sanitation network.

Sanitation gap to 2030



Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

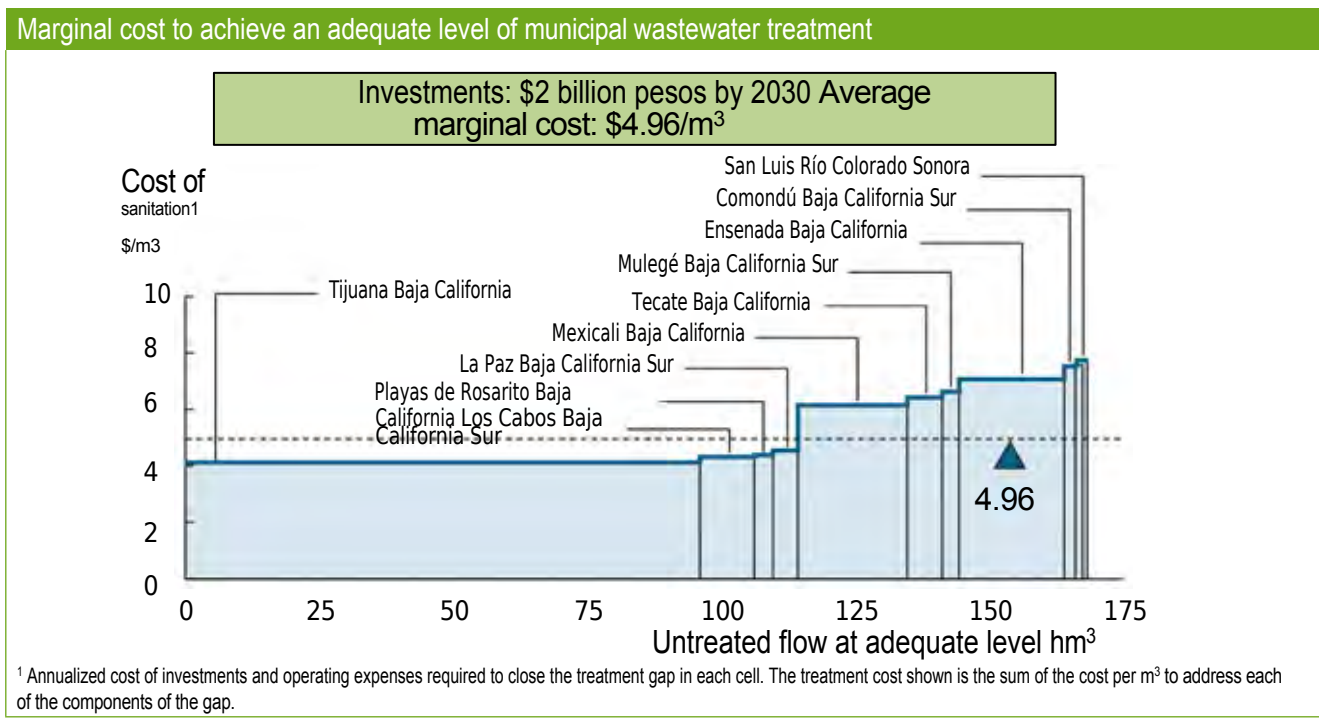
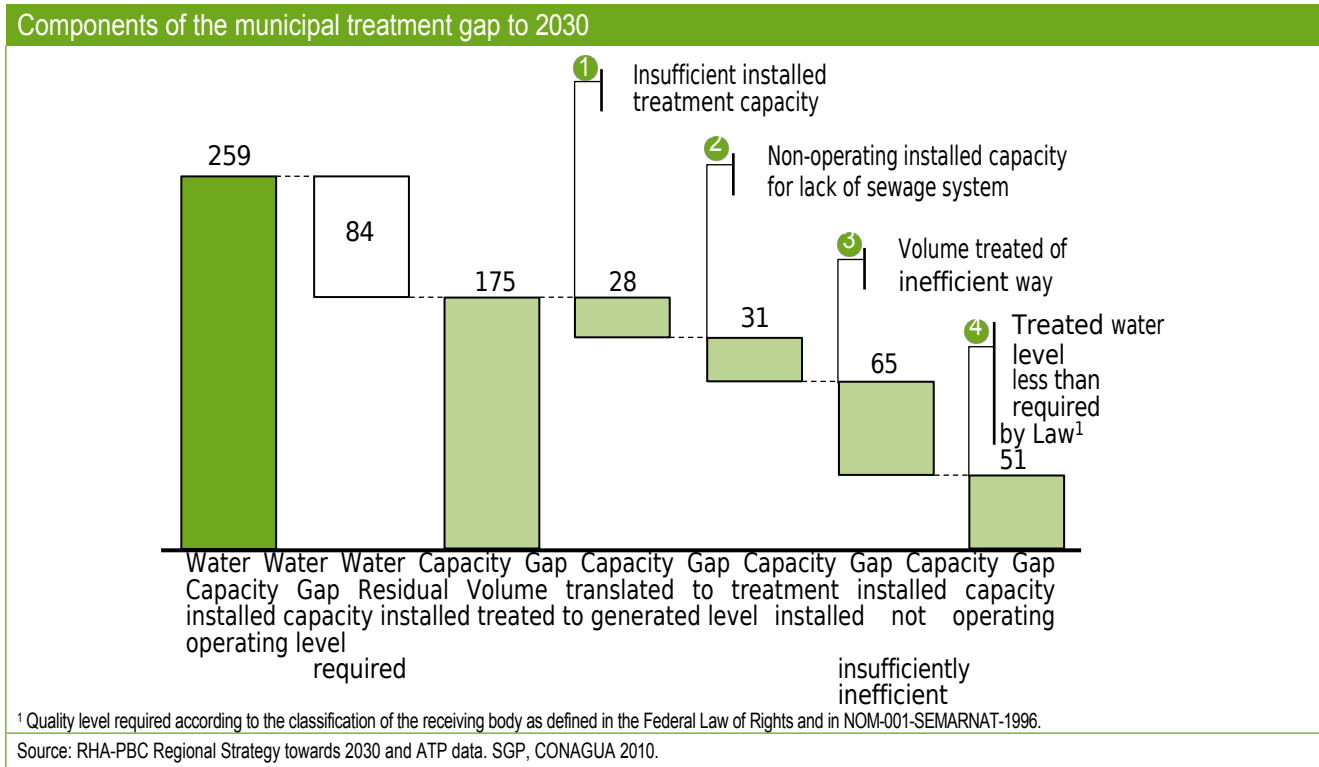
Treatment gap to 2030

Cell	Municipal	Industrial	Total (hm ³)	
Tijuana Baja California	87	2	88	Priority Cells
Mexicali Baja California	21	7	28	
Los Cabos Baja California Sur	19	3	22	
Ensenada Baja California	18	1	19	
La Paz Baja California Sur	7	2	9	
Comondú Baja California Sur	5	2	7	
Mulegé Baja California	4	3	7	
Sur Tecate Baja California	6		6	
Sur Loreto Baja California	4		4	
Sur	2	1	3	
San Luis Rio Colorado Sonora	3		3	
Total	175	20	195	

Source: RHA-PBC Regional Strategy towards 2030 and ATP data. SGP, CONAGUA 2010.

On the other hand, guaranteeing sanitation requires that the water be treated efficiently, complying with the minimum quality levels required by current regulations. In order to treat the municipal wastewater generated with an adequate level of quality, the Organization will have to treat it in accordance with the minimum quality standards required by current regulations.

The average cost, \$4.96/m³ is high because 95% of the wastewater must meet a Type C quality level. The Tijuana, Baja California cell has the best cost-benefit ratio.



The investment for the treatment of municipal wastewater considers:

- 329 million for construction of additional infrastructure.
- 1,295 million for drainage expansion.
- 412 million for the efficient operation of the current treatment capacity.

On the other hand, the investment required for the treatment of industrial wastewater is in the order of 501 million pesos.

Therefore, the total investment to treat all wastewater is 2,536 million pesos.

Four types of technical solutions are proposed, which can be prioritized to optimize the application of the investments, as described below:

- Construction of new treatment infrastructure.
- Efficient operation of existing infrastructure.

- Water treatment to the minimum level required by law.
- Operation of the infrastructure to be connected to the sewerage network.

Actions focused on achieving efficient operation of existing infrastructure for municipal wastewater treatment cover 66% of the gap. Although the construction of new infrastructure is more economical, it only covers 16% of the sanitation gap.

This means that 66% of the gap can be reduced with 20% of the investment, prioritizing actions that optimize the operation of the existing infrastructure. But it is important to note that the investment does not consider the cost of operation, which must be covered by the municipalities and users.

Investment required for municipal wastewater remediation					
Cell	Construction of additional infrastructure (thousands of pesos)	Drainage expansion and connection (thousands of pesos)	Efficient operation of current treatment capacity (thousands of pesos)	Total investment (thousands of pesos)	Gap contribution (hm) ³
Baja California and Sonora					
Tijuana, Baja California	209 544.81	301 135.04	220 538.10	731 217.95	87.00
Mexicali, Baja California	0.00	295 064.59	56 752.68	351 817.27	20.50
Ensenada, Baja California	9 680.91	334 988.22	49 035.19	393 704.32	18.00
Tecate, Baja California	51 847.64	77 226.94	10 778.35	139 852.93	6.40
Rosarito Beach, Baja California	0.00	52 012.86	3 062.10	55 074.96	3.00
San Luis Río Colorado, Sonora	0.00	55 900.57	1 675.09	57 575.66	2.00
Subtotal	271 073.36	1 116 328.22	341 841.51	1 729 243.09	136.90
Baja California Sur					
La Paz, Baja California Sur	0.00	34 372.53	18 744.46	53 116.99	6.66
Mulegé, Baja California Sur	0.00	48 812.20	11 573.00	60 385.20	3.70
Comondú, Baja California Sur	0.00	38 786.91	14 635.91	53 422.82	4.54
Los Cabos, Baja California Sur	58 315.00	51 163.39	21 987.00	131 465.39	18.6
Loreto, Baja California Sur	0.00	5 716.99	3 112.01	8 829.00	3.95
Subtotal	58 315.00	178 852.02	70 052.38	307 219.40	37.45
Total	329 388.36	1 295 180.24	411 893.89	2 036 462.49	174.35

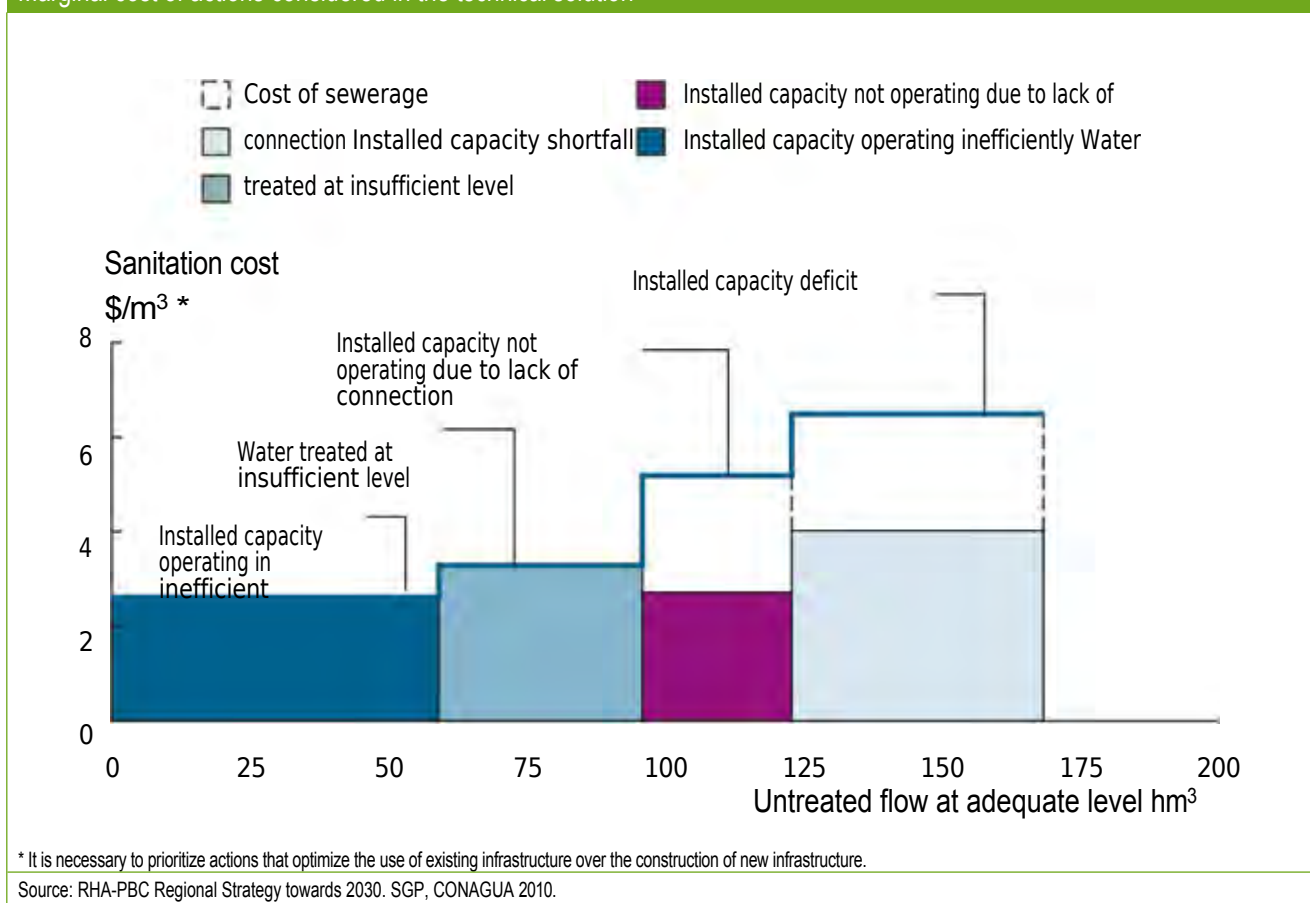
Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Investment required for industrial wastewater remediation

Cell	Gap contribution (hm ³)	Total cost (thousands of pesos)
Baja California and Sonora		
Tijuana, Baja California	0.89	22 201.4
Mexicali, Baja California	6.93	173 251.9
Ensenada, Baja California	1.39	34 776.5
Tecate, Baja California	0.29	7 277.7
Rosarito Beach, Baja California	0.00	0.0
San Luis Río Colorado, Sonora	0.07	1 713.6
Subtotal	9.57	239 221.1
Baja California Sur		
La Paz, Baja California Sur	1.99	49 874.2
Los Cabos, Baja California Sur	2.86	71 486.6
Mulegé, Baja California Sur	3.11	77 702.4
Comondú, Baja California Sur	2.46	61 487.7
Loreto, Baja California	0.04	1 047.6
Subtotal	10.46	261 598.5
Total	20.03	500 819.6

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Marginal cost of actions considered in the technical solution



Prioritized actions for municipal wastewater treatment

First priority:

investment Targeted
required by the
in the operation
efficient use of
existing infrastructure

Ensuring efficient wastewater treatment at wastewater treatment plants existing.

Ensure water treatment

law.

Connect to the sewage system all existing treatment infrastructure.

66% of the solution is achieved with the 20% of the total to the level

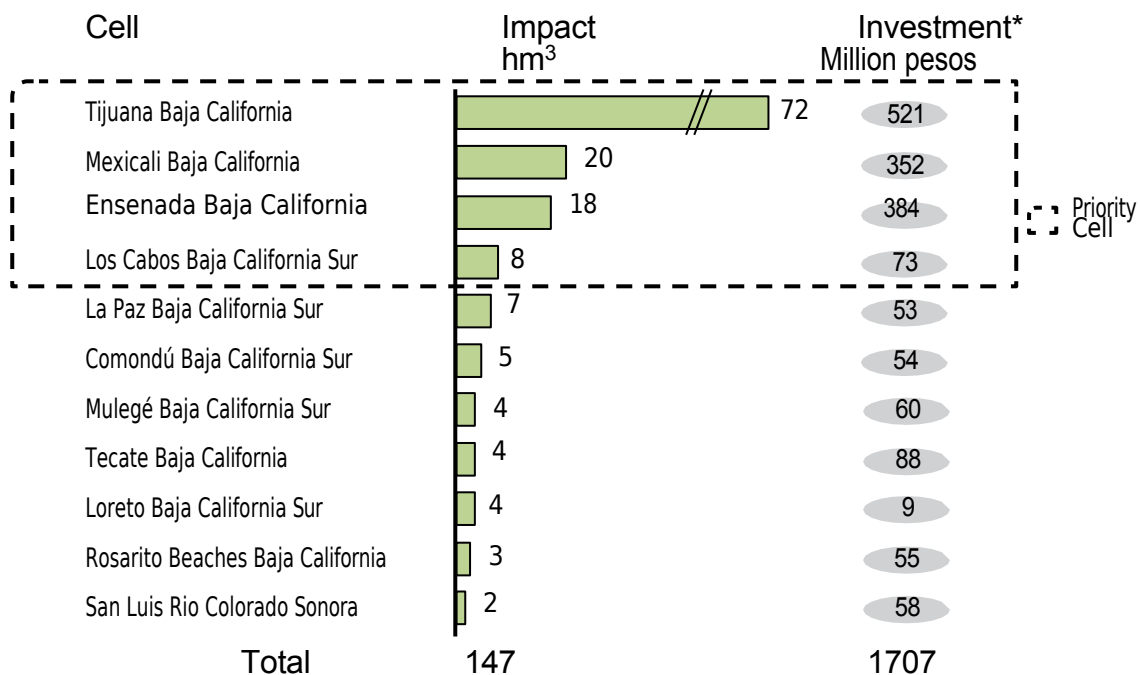
Second priority:

New infrastructure

Build new treatment infrastructure.

Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

Investment to optimize the operation of existing municipal wastewater infrastructure



* Includes investments in the adaptation of treatment plants to increase and achieve the required level of quality, as well as the expansion of the sewerage network to incorporate the current non-operational infrastructure.

Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

The efficient operation of the existing municipal wastewater treatment infrastructure requires an investment of 1,707 million pesos and 78% of the investment is concentrated in four cells: Tijuana, Mexicali and Ensenada, in Baja California, and Los Cabos, in Baja California Sur, which account for 80% of the municipal wastewater treatment gap.

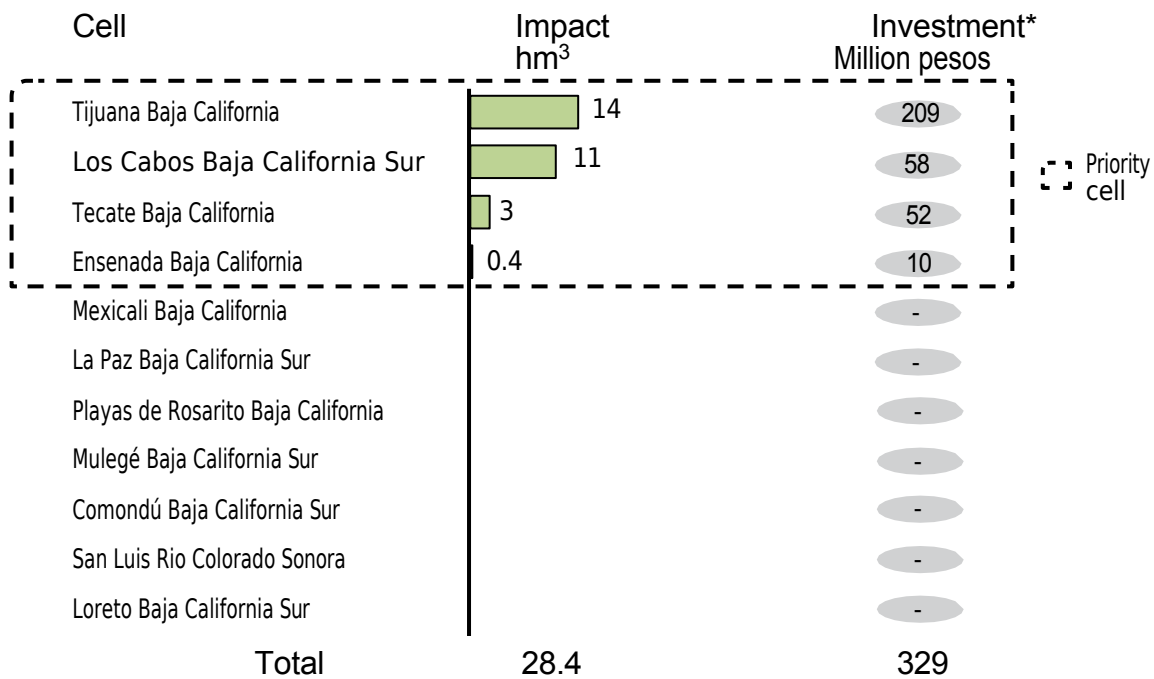
On the other hand, industries must cover the full costs of treating the wastewater they generate, and CONAGUA must strengthen its mechanisms for monitoring compliance with the discharge of wastewater from industries located mainly in six cells: Mexicali and Ensenada in Baja California, Baja California, and Ensenada in Baja California.

lifornia; Mulegé, Los Cabos, Comondú and La Paz in Baja California Sur.

The construction of new infrastructure to treat municipal wastewater requires an investment of close to 330 million pesos; however, it only contributes 16% of the gap. The need to build new infrastructure is concentrated in Tijuana, Ensenada and Tecate in Baja California, and Los Cabos in Baja California Sur.

In summary, in order to achieve clean rivers, the Basin Organization should focus primarily on the efficient operation of the existing treatment infrastructure, since this is the action that requires the least investment and has the greatest impact on the gap.

Investment for the construction of new municipal treatment infrastructure



Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

Objectives, strategies and actions

To rehabilitate water quality in riverbeds, water bodies, aquifers and beaches, and contribute to rehabilitating ecosystems in watersheds.

In order to meet the objective, the following strategies, actions to be implemented and projects to be carried out are proposed.

Strategy 2.1. Sanitize wastewater.

- Build, rehabilitate and expand sewage infrastructure.

Strategy 2.2. Increase surveillance and exercise legal and economic sanctions by the competent authority against those who do not treat wastewater.

- Increase inspection capacity for all discharges, including clandestine discharges.

Strategy 2.3. Strengthen water quality measurement infrastructure.

- Rehabilitate, modernize and expand water quality laboratories.
- Incorporate professional personnel for the operation of the laboratories.
- Incorporate devices to permanently monitor industrial water discharges.
- Increase vigilance and apply sanctions in cases where garbage is thrown into water bodies.
- In the public-urban tariffs include the cost of watering.

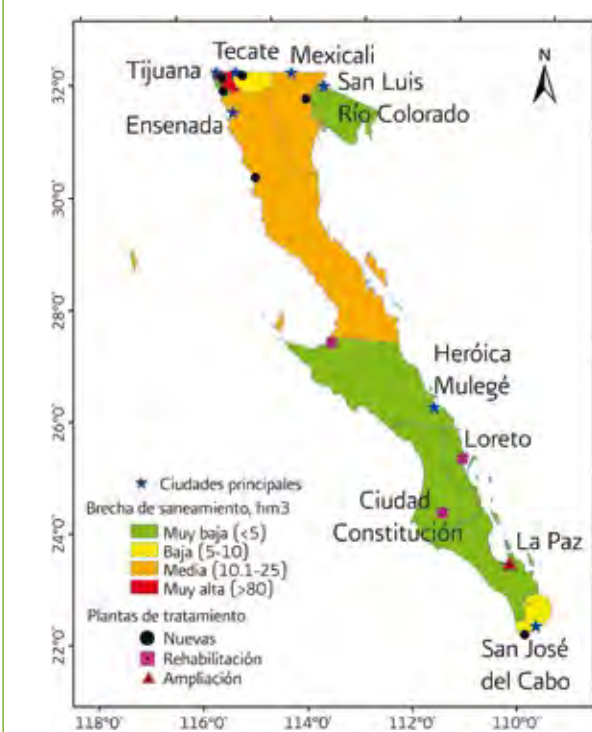
Localization and prioritization of actions and projects

The main projects that reduce the sanitation gap are the construction, rehabilitation and expansion of municipal wastewater treatment plants. In the case of the Baja California Peninsula, by

Programs and projects to clean up wastewater		
Type of project	Project description	Cell
Treatment plants	Construction, rehabilitation and expansion of treatment plants in Baja California.	Ensenada, Tecate, Playas de Rosarito, Tijuana and Mexicali.
Treatment plants	Construction, rehabilitation and expansion of treatment plants in Baja California Sur.	Los Cabos, La Paz, Mulegé, Comondú and Loreto.
Equipment and operation of water quality laboratories	Equipment and operation of the Water Quality Laboratory of the Local Directorate of Baja California.	Mexicali
Equipment and operation of water quality laboratories	Equipment and operation of the Water Quality Laboratory of the Local Directorate of Baja California Sur.	La Paz
Recruitment of personnel	Capacity building in the Water Quality Project Management of the Local Directorate of Baja California Sur (6 chemists for the laboratory and 2 chemists for various projects of the Project Management).	La Paz
Water quality studies	Classification of contaminants in the Port of San Felipe, Baja California.	Mexicali
Water quality studies	Classification of pollutants from the Hardy and Nuevo Rivers, as well as from the José Ma. Morelos diversion dam.	Mexicali
Water quality studies	Pollutant classification of the Tijuana River.	Tijuana

Source: Prepared with data from OCPBC and Local Directorate, BCS.

Municipal wastewater treatment plants



There should be at least one treatment plant operating efficiently. The following map shows the location of at least one treatment plant per planning cell.

Indicators and goals

The performance indicators of the programs, actions and projects for closing the gaps in the Clean Rivers axis are grouped in the municipal and industrial sectors.

The percentage of treatment of wastewater collected from municipal and industrial sources is an indicator of the degree of sanitation of the region's rivers. Likewise, when all the installed capacity for the treatment of wastewater generated in the municipalities and industry is available, the efficiency of the treatment plants will be a good indicator of the quality of the effluents. These indicators are shown in the table Indicators and Targets in the Clean Rivers Guiding Axis.

Source: Prepared with data from the ATC, CONAGUA 2010, OCPB and BCS.

Indicator	Basin Council	Sector	Unit	Current	Goal			
					2012	2018	2024	2030
Treatment of collected wastewater	Baja California	Municipal	%	85	85	90	95	100
		Industrial	%	30	30	60	90	100
	Baja California Sur	Municipal	%	80	80	85	90	95
		Industrial	%	2	2	50	90	95
Efficiency of wastewater treatment plants	Baja California	Municipal	%	50	52	70	85	100
		Industrial	%	5	5	60	80	100
	Baja California Sur	Municipal	%	72	72	80	90	99
		Industrial	%	5	5	60	80	99

Source: Prepared with data from OCPB and Local Directorate, BCS.

Investment program and financing

The execution of the types of projects presented above, which require a great deal of coordination among the three levels of government and the participation of society, will make it possible to have a basin organization with the ability to

sufficient to self-manage the Region, which promotes the efficient treatment of all wastewater.

This will be based on the impact of project execution, measured in volume, grouped in the municipal and industrial sectors. This information is presented by planning cell, for the year 2012 and periods 2018, 2024 and 2030.

Investment program by sector											
Planning cell	Sector	Impact (hm) ³					Investment (Millions of pesos)				
		2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Ensenada	Municipal	5.8	3.2	4.0	5.0	18.0	31.496	98.426	149.608	114.174	393.704
	Industrial	0.4	0.3	0.3	0.4	1.4	2.782	8.694	13.215	10.085	34.777
	Total	6.2	3.5	4.3	5.4	19.4	34.278	107.120	162.823	124.259	428.481
Mexicali	Municipal	6.6	3.7	4.5	5.7	20.5	28.145	87.954	133.690	102.027	351.817
	Industrial	2.2	1.2	1.5	1.9	6.9	13.860	43.313	65.836	50.243	173.252
	Total	8.8	4.9	6.0	7.7	27.4	42.006	131.267	199.526	152.270	525.069
Tecate	Municipal	2.0	1.2	1.4	1.8	6.4	11.188	34.963	53.144	40.557	139.853
	Industrial	0.1	0.1	0.1	0.1	0.3	0.582	1.820	2.766	2.111	7.278
	Total	2.1	1.2	1.5	1.9	6.7	11.770	36.783	55.910	42.668	147.131
Tijuana	Municipal	27.8	15.7	19.1	24.4	87.0	58.497	182.805	277.863	212.053	731.218
	Industrial	0.3	0.2	0.2	0.2	0.9	1.776	5.550	8.436	6.438	22.201
	Total	28.1	15.8	19.3	24.6	87.9	60.274	188.355	286.299	218.492	753.419
Rosarito Beaches	Municipal	1.0	0.5	0.7	0.8	3.0	4.406	13.769	20.929	15.972	55.075
	Industrial										
	Total	1.0	0.5	0.7	0.8	3.0	4.406	13.769	20.929	15.972	55.075
San Luis Río Colorado	Municipal	0.6	0.4	0.4	0.6	2.0	4.606	14.394	21.879	16.697	57.576
	Industrial	0.02	0.01	0.02	0.02	0.07	0.137	0.429	0.651	0.497	1.714
	Total	0.7	0.4	0.5	0.6	2.1	4.743	14.823	22.530	17.194	59.290
Comondú	Municipal	1.5	0.8	1.0	1.3	4.5	4.274	13.356	20.301	15.493	53.423
	Industrial	0.8	0.4	0.5	0.7	2.5	4.919	15.372	23.365	17.832	61.488
	Total	2.2	1.3	1.5	2.0	7.0	9.193	28.728	43.666	33.324	114.911
Mulegé	Municipal	1.2	0.7	0.8	1.0	3.7	4.831	15.096	22.946	17.512	60.385
	Industrial	1.0	0.6	0.7	0.9	3.1	6.216	19.426	29.527	22.534	77.702
	Total	2.2	1.2	1.5	1.9	6.8	11.047	34.522	52.473	40.045	138.087
La Paz	Municipal	2.1	1.2	1.5	1.9	6.7	4.249	13.279	20.184	15.404	53.116
	Industrial	0.6	0.4	0.4	0.6	2.0	3.990	12.469	18.952	14.463	49.874
	Total	2.8	1.6	1.9	2.4	8.7	8.239	25.748	39.136	29.867	102.990
Los Cabos	Municipal	6.0	3.3	4.1	5.2	18.6	10.517	32.866	49.957	38.125	131.465
	Industrial	0.9	0.5	0.6	0.8	2.9	5.719	17.872	27.165	20.731	71.487
	Total	6.9	3.9	4.7	6.0	21.5	16.236	50.738	77.122	58.856	202.952
Loreto	Municipal	1.3	0.7	0.9	1.1	4.0	0.706	2.207	3.355	2.560	8.829
	Industrial						0.084	0.262	0.398	0.304	1.048
	Total	1.3	0.7	0.9	1.1	4.0	0.790	2.469	3.753	2.864	9.877

Investment program by sector											
Planning cell	Sector	Impact (hm) ³					Investment (Millions of pesos)				
		2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Total municipal wastewater treatment		55.8	31.4	38.4	48.8	174.4	162.917	509.115	773.855	590.574	2036.461
Total industrial wastewater treatment		6.4	3.6	4.4	5.6	20.0	40.066	125.205	190.312	145.238	500.821
Total axis Clean rivers		62.2	35.0	42.8	54.4	194.3	202.983	634.321	964.167	735.812	2537.282

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

Investment program by measure										
Measure	Impact (hm) ³					Investment (Millions of pesos)				
	2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Municipal wastewater treatment										
New infrastructure (treatment plants)	9.1	5.1	6.2	8.0	28.4	26.351	82.347	125.167	95.523	329.388
Efficient operation of existing infrastructure	47.0	26.5	32.3	41.2	147.0	32.952	102.974	156.520	119.449	411.894
Expansion and drain connection						103.614	323.795	492.168	375.602	1 295.180
Subtotal	56.1	31.6	38.6	49.1	175.4	162.917	509.116	773.856	590.574	2 036.462
Industrial wastewater treatment										
New infrastructure	6.4	3.6	4.4	5.6	20.0	40.000	125.000	190.000	145.000	500.000
Subtotal	6.4	3.6	4.4	5.6	20.0	40.0	125.0	190.0	145.0	500.0
Total axis Clean rivers	62.5	35.2	43.0	54.7	195.4	202.917	634.116	963.856	735.574	2 536.462

Source: Prepared with data from the ATP. SGP, CONAGUA 2010.

The cumulative investment required from 2012 to 2030 to achieve clean rivers in the Region is 2,537 million pesos, 127 million pesos on average per year. Its financing will require a mix of resources from users who generate and discharge wastewater into national receiving bodies and from federal (through CONAGUA) and state public budgets.

It is estimated that investments in this area in the region are currently financed with federal resources. This excessive concentration of financing in fiscal resources is not consistent with the principle that the polluter should pay the cost of decontamination, and it also weakens the sustainability of the sector by compromising

environmental health and questioning the allocation of fiscal resources.

A better path towards the goal of the Clean Rivers axis is proposed with the development of new and varied financing schemes in which the users' contribution will be increasingly relevant.

The users' contribution could be financed with additional revenues from the collection of earmarked wastewater discharge fees and with private investments in concessioned wastewater treatment systems prior to discharge and the collection of the respective fees.

Investments in the Clean Rivers axis				
Actions Water Agenda 2030 I. Baja California Peninsula	Accumulated costs at the end of the period (Millions of 2009 pesos)			
	2012	2018	2024	2030
Clean rivers	203	634	964	736

VI. Coverage universal



Universal coverage

The Baja California Peninsula Hydrological Administrative Region I has 3,970,476 inhabitants, according to the latest INEGI 2010 census, of which approximately 3,628,208 are urban and the rest are rural.

In the area of potable water, only 3,714,000 inhabitants were served, reaching 93.3% service coverage. Of this total coverage, 3,450,000 inhabitants belonged to urban areas (95% of the total urban population) and 264,000 inhabitants to rural areas (77% of the total rural population).

In the case of sewerage, only 3,686,000 inhabitants were served, reaching 93% service coverage. Of this total coverage, 3,454,000 inhabitants belonged to urban areas (95% of the total urban population) and 232,000 inhabitants to rural areas (67% of the total rural population).

Challenges and solutions to 2030

By 2030, the population is estimated at 6,154,000 inhabitants, of which 5,773,000 will be located in urban areas and only 6% in rural areas.

The drinking water challenge will be to cover almost 2,726,000 inhabitants; 195,000 inhabitants in rural areas and 2,531,000 in urban areas.

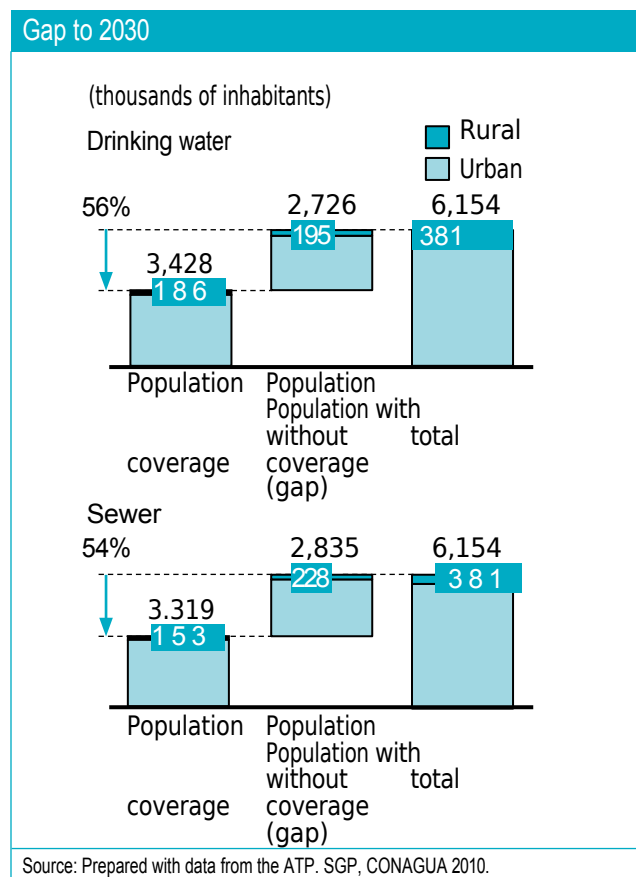
In terms of sewerage service and considering the current infrastructure conditions, the challenge will be to serve approximately 2,835,000 inhabitants; 228,000 in rural areas and 2,607,000 in urban areas. It is worth mentioning that the cells of Tijuana and Mexicali, in Baja California, and Los Cabos, in Baja California Sur, have the highest levels of population without drinking water coverage, so a major challenge would be to reduce the supply deficit, since if drinking water coverage were increased in 2030 in these areas, the total problem could be reduced by up to 75%. However, it is important to highlight that there are other cells such as Ensenada, Tecate and Playas de Rosarito, in Baja California, and Loreto, in Baja California Sur, where alternative solutions should be sought to increase coverage in 2030.

The rural areas, since these are located below 45%.

In the case of sewerage, the cells of Tijuana, Mexicali and Ensenada, in Baja California, have the highest levels of population without coverage, so a major challenge would be to reduce the deficit, since if coverage were increased by 2030 in these areas, the total problem could be reduced by up to 77%. However, it is important to highlight that there are other cells such as Playas de Rosarito, in Baja California, and Loreto, in Baja California Sur, where alternative solutions should be sought to increase coverage in rural areas, since these are located below 40%.

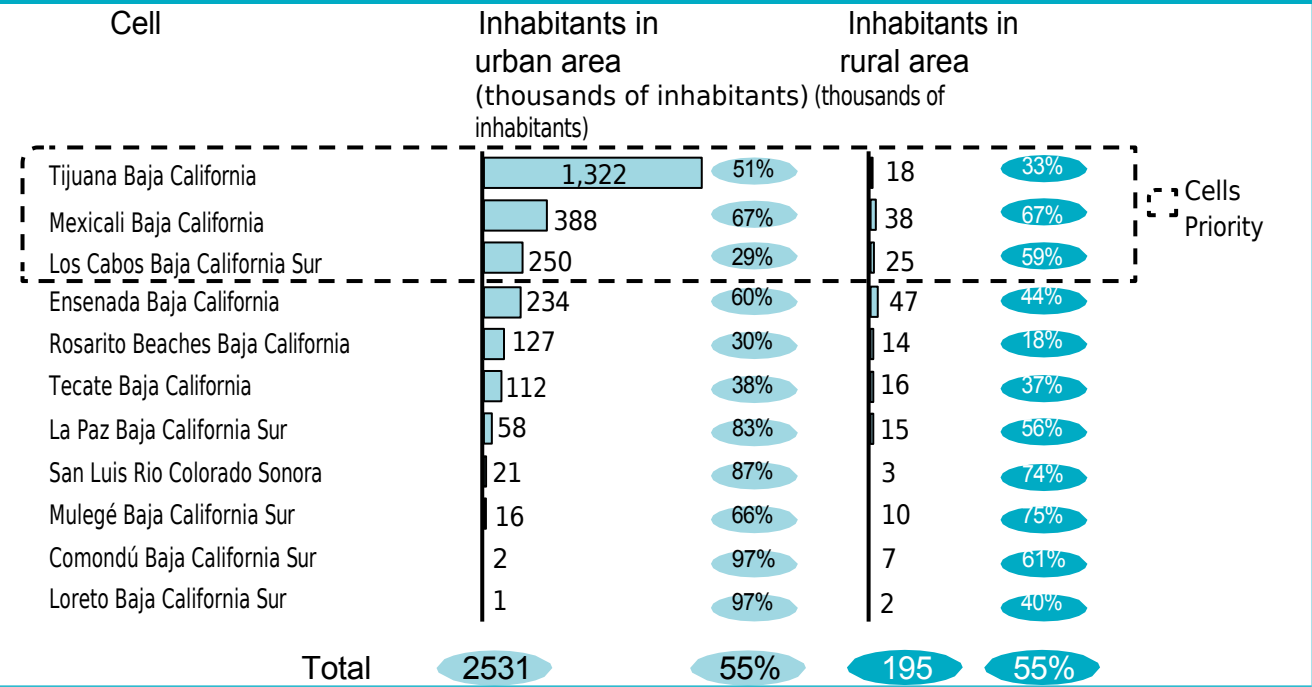
It is worth mentioning that the Tijuana and Mexicali cells in Baja California and Los Cabos in Baja California Sur share the same problems, both in terms of drinking water and sewerage, so it is extremely important that most of the efforts and actions to be implemented be oriented towards these cells.

Finally, it is important to emphasize that efforts should be focused on the expansion and construction of new and improved



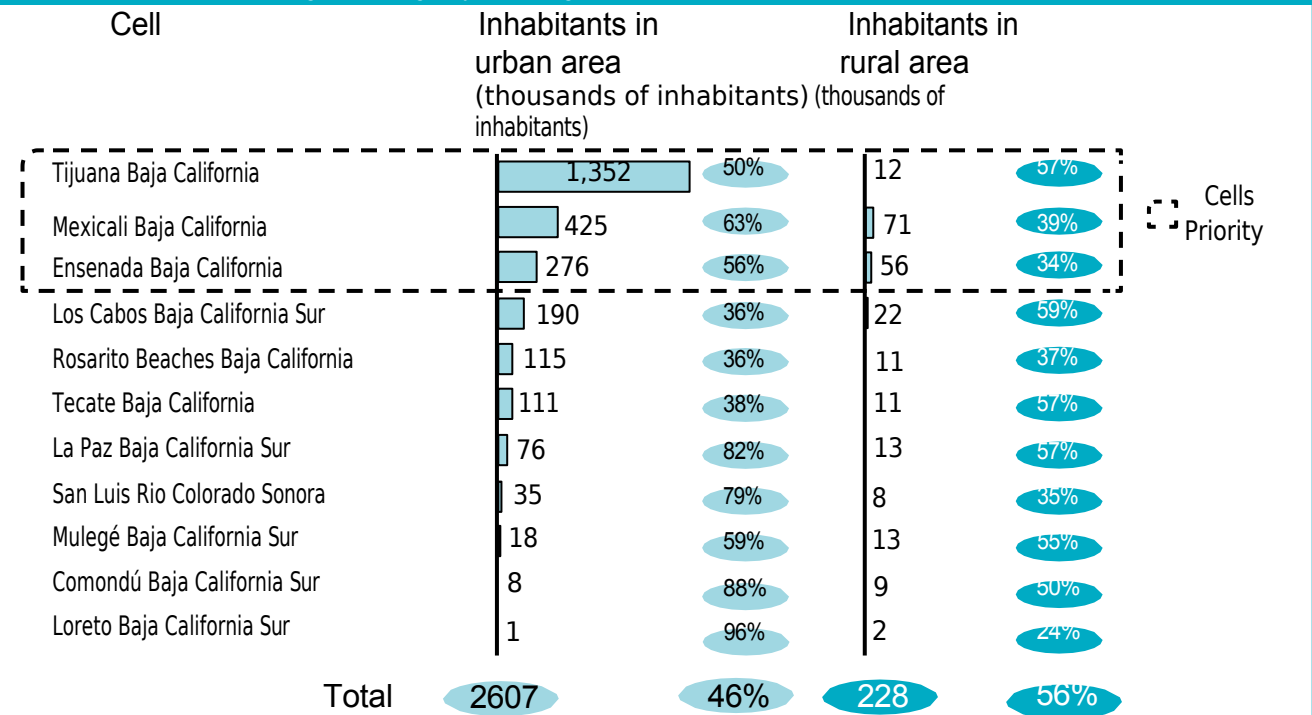
water and sewerage systems, in order to achieve the goal of 100% coverage in both sectors. services by 2030, as established in the Water Agenda.

Inhabitants without drinking water coverage by 2030 planning cell



Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

Inhabitants without sewerage coverage by planning cell to 2030



Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

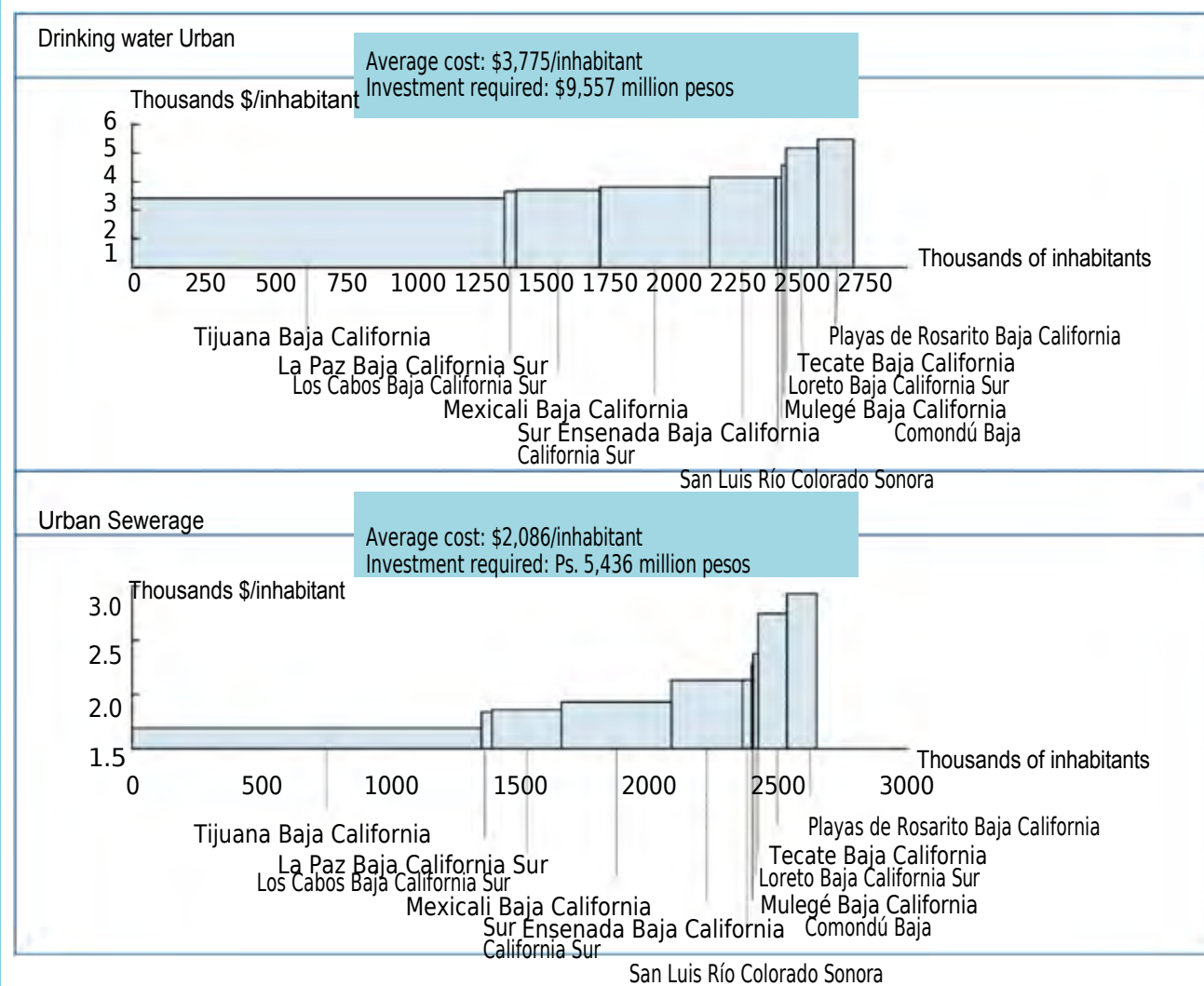
In order to close the gap in drinking water and sewerage coverage by 2030, and reach 100% of the population with such coverage, it will be necessary to implement a series of actions described below:

1. Extension of drinking water networks in urban areas. This means connecting all homes to the current network and extending the existing network.
2. Construction of new deep rural wells. Supply new homes in rural areas with water supply sources (wells with a depth greater than 30m with electric pumps).
3. Expansion of the sewerage network in urban and rural areas. Connect all homes to the current network and extend the existing one.

It is important to point out that in the case of drinking water in urban areas, the average cost per inhabitant will be 3,775 pesos and an investment of 9,557 million pesos will be required to close the gap mentioned above. For urban sewerage, the average cost per inhabitant will be 2,086 pesos and an investment of 5,436 million pesos.

This translates into a total investment of close to 15 billion pesos for drinking water and sewerage in urban areas, with the greatest impact on the cities of Tijuana and Mexicali, in Baja California, and La Paz and Los Cabos, in Baja California Sur, for both areas.

Marginal cost per cell to close the urban gap by 2030



Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

In the case of drinking water in rural areas, the average cost per inhabitant is 3,508 pesos and the required investment amounts to 685 million pesos to close the gap in this area.

In the case of sewerage in rural areas, an investment of 817 million pesos will be required and the average cost per inhabitant to achieve 100% coverage will be 3,583 pesos per inhabitant.

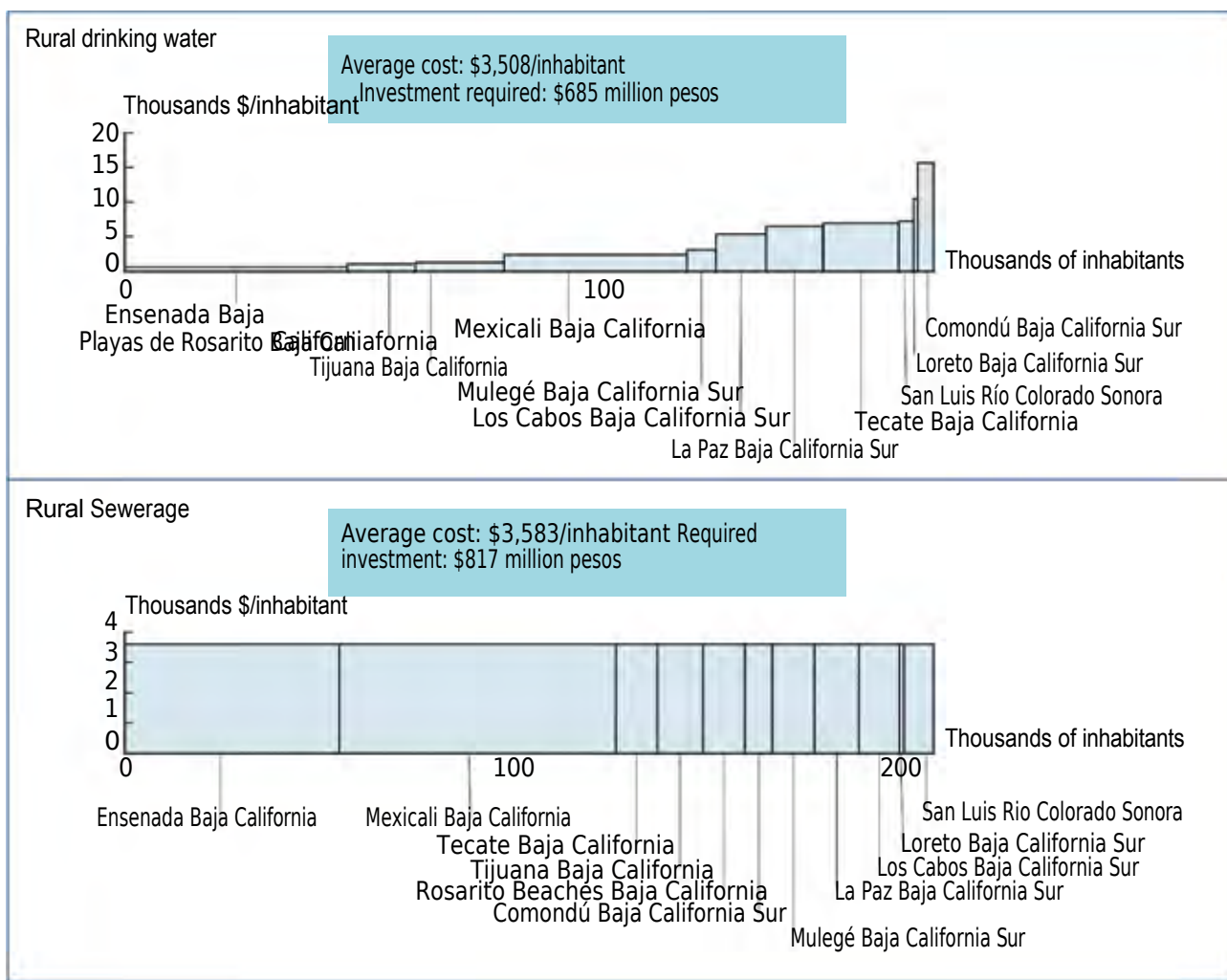
In summary, an investment of 10,242 million pesos will be required for drinking water and 6,253 million pesos for sewerage.

In addition to the value of potable water, the annual operating cost, which will amount to 100 million pesos (current expense), will have to be added.

It is important that CONAGUA and the state governments focus their efforts on drinking water and sewerage coverage in rural areas in three cities: Mexicali and Ensenada in Baja California, and Los Cabos in Baja California Sur, where approximately 53% of the budget will be invested and almost 61% of the population will benefit.

Likewise, CONAGUA and the state governments must focus their efforts on drinking water and sewerage coverage in urban areas in three cells: Tijuana and Mexicali in Baja California and Los Cabos in Baja California Sur, in which approximately 72% of the budget will be invested and 77% of the population will benefit.

Marginal cost per cell to close the rural gap by 2030



Source: RHA-PBC Regional Strategy towards 2030. SGP and ATP data. CONAGUA 2010.

Objectives, strategies and actions

To ensure appropriate access for the entire population, especially the vulnerable, to quality drinking water, sewerage and sanitation services.

Strategy 3.1. Implement realistic tariffs that include the costs of paying fees for the use of national waters, drinking water treatment, maintenance of drinking water and sewerage networks, the cost of pumping, the payment of debt services for financing, the cost of administration, and the cost of wastewater treatment.

- Uncouple water tariffs from political and not technical criteria.

Strategy 3.2. To certify all personnel of the Operating Organizations.

- Training of management and operating personnel of the operating agencies.

Strategy 3.3. Regulate the growth of urbanization.

- Establish an Urban Law that avoids new developments far from the existing and projected infrastructure.
- Establish the development of rural areas in order to concentrate population centers.
- Establish a regulatory framework for rural industries to provide potable water and sewage services.

Strategy 3.4. To provide quality drinking water and sewerage services to the entire population.

- Rehabilitate existing infrastructure and build new infrastructure.

Investment required to expand drinking water coverage in the rural population		
Cell	Population benefited (thousands of inhab.)	Total cost (millions of pesos)
Baja California and Sonora		
Tijuana, Baja California	18	24.1
Mexicali, Baja California	38	92.3
Ensenada, Baja California	47	29.9
Tecate, Baja California	16	109.7
Rosarito Beach, Baja California	14	15.2
San Luis Río Colorado, Sonora	3	22.3
Subtotal	136	293.5
Baja California Sur		
La Paz, Baja California Sur	15	97.2
Los Cabos Baja California Sur	25	132.8
Mulegé, Baja California Sur	10	31.1
Comondú, Baja California Sur	7	109.4
Loreto, Baja California Sur	2	21.0
Subtotal	59	391.5
Total	195	685.0

Source: Prepared with data from the ATP. CONAGUA 2010.

Investment required to expand drinking water coverage in the urban population		
Cell	Population benefited (thousands of inhab.)	Total cost (millions of pesos)
Baja California and Sonora		
Tijuana, Baja California	1 322	4 516.1
Mexicali, Baja California	388	1 480.4
Ensenada, Baja California	234	972.8
Tecate, Baja California	112	580.5
Rosarito Beach, Baja California	127	694.2
San Luis Río Colorado, Sonora	21	89.0
Subtotal	2 204	8 333.0
Baja California Sur		
La Paz, Baja California Sur	58	212.3
Los Cabos Baja California Sur	250	925.0
Mulegé, Baja California Sur	16	73.0
Comondú, Baja California Sur	2	8.8
Loreto, Baja California Sur	1	4.9
Subtotal	327	1 224.0
Total	2 531	9 557.0

Source: Prepared with data from the ATP. CONAGUA 2010.

Investment required to expand sewerage coverage in rural areas		
Cell	Population benefited (thousands of inhab.)	Total cost (millions of pesos)
Baja California and Sonora		
Tijuana, Baja California	12	42.4
Mexicali, Baja California	71	256.6
Ensenada, Baja California	56	199.9
Tecate, Baja California	11	38.6
Rosarito Beach, Baja California	11	39.1
San Luis Río Colorado, Sonora	8	27.6
Subtotal	169	604.2
Baja California Sur		
La Paz, Baja California Sur	13	46.8
Los Cabos Baja California Sur	22	79.2
Mulegé, Baja California Sur	13	46.8
Comondú, Baja California Sur	9	32.4
Loreto, Baja California	2	7.2
Subtotal	59	212.4
Total	228	816.6

Source: Prepared with data from the ATP. CONAGUA 2010.

Investment required to expand sewerage coverage in urban areas		
Cell	Population benefited (thousands of inhab.)	Total cost (millions of pesos)
Baja California and Sonora		
Tijuana, Baja California	1 352	2 285.4
Mexicali, Baja California	425	820.0
Ensenada, Baja California	276	587.5
Tecate, Baja California	111	304.7
Rosarito Beach, Baja California	115	338.2
San Luis Río Colorado, Sonora	35	74.6
Subtotal	2 314	4 410.4
Baja California Sur		
La Paz, Baja California Sur	76	266.0
Los Cabos, Baja California Sur	190	665.0
Mulegé, Baja California Sur	18	63.0
Comondú, Baja California Sur	8	28.0
Loreto, Baja California Sur	1	3.5
Subtotal	293	1 025.5
Total	2 607	5 435.9

Source: Prepared with data from the ATP. CONAGUA 2010.

Localization and prioritization of actions and projects

To certify all personnel of the Operating Organizations.		
Program name	Program description	Cell
Personnel certification	Implement the professional career service program	Ensenada, Mexicali, Tijuana, Playas de Rosarito, Tecate, Los Cabos, La Paz, Comondú, Loreto, Mulegé and San Luis Río Colorado.

Source: Prepared with data from the OCPBC.

To provide quality drinking water and sewerage services to the entire population.		
Type of project	Project description	Cell
Rehabilitation and new infrastructure	Construction and rehabilitation of drinking water, drainage and sanitation systems in urban areas.	Ensenada, Mexicali, Tijuana, Playas de Rosarito, Tecate, Los Cabos, La Paz, Comondú, Loreto, Mulegé and San Luis Río Colorado.
Rehabilitation and new infrastructure	Construction and rehabilitation of drinking water and sanitation systems in rural areas.	Ensenada, Mexicali, Tijuana, Playas de Rosarito, Tecate, Los Cabos, La Paz, Comondú, Loreto, Mulegé and San Luis Río Colorado.

Source: Prepared with data from the ATP. CONAGUA 2010.

Indicators and goals

The execution indicators of the programs, actions and projects for closing the gaps in the Universal Coverage axis are located in the municipal sector.

Drinking water coverage in urban and rural areas is an indicator of the quality of service; currently in the region, urban coverage is 95% and rural coverage is 73%. By 2030 this should be 99% in both sectors. The percentage of urban and rural sewerage coverage is another indicator of the degree of sanitation of the region's rivers; this percentage should be increased from 95% to 99% by 2030. and 67% current at 99% in both cases.

In the region there are several operating agencies with overall efficiencies of 60% or less; to achieve sustainability of their functions, their efficiency must be increased to 80%.

These indicators are shown in the table Indicators and Targets in the Universal Coverage axis.

Investment program and financing

The execution of the types of projects presented above, which require a great deal of coordination among the three levels of government and the participation of society, will make it possible to have a river basin organization with sufficient capacity to self-administer the region, which will promote coverage of the entire population with drinking water and sewerage services.

This will be based on the impact of project execution, measured in terms of population benefited, grouped into urban and rural sectors. This information is presented by planning cell, for the year 2012 and periods 2018, 2024 and 2030.

Indicators and targets in the Universal Coverage axis								
Indicator	Basin Council	Sector	Unit	Current	Goal			
					2012	2018	2024	2030
Drinking water coverage	Baja California	Urban	%	96.0	96.5	98.0	99.0	100.0
		Rural	%	71.6	72.0	85.0	93.0	99.0
	Baja California Sur	Urban	%	89.9	91.0	93.5	96.5	99.0
		Rural	%	77.0	79.0	85.5	92.3	99.0
Sewerage coverage	Baja California	Urban	%	94.9	95.2	97.0	98.0	99.0
		Rural	%	64.9	65.2	85.0	91.5	99.0
	Baja California Sur	Urban	%	96.4	96.8	97.5	98.3	99.0
		Rural	%	76.4	77.0	84.3	91.6	99.0
Overall efficiency of operating agencies	Baja California	Urban and Rural	%	67.0	68.0	75.0	85.0	99.0
	Baja California Sur	Urban and Rural	%	63.0	65.0	75.0	85.0	99.0

Source: Prepared with data from OCPBC and Local Management, BCS.

Investment program by sector

Planning cell	Sector	Impact (thousands of inhabitants)					Investment (Millions of pesos)				
		2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Ensenada	Drinking water in urban areas	77	70	49	37	234	68.096	214.016	398.848	291.840	972.800
	Urban area sewerage	91	83	58	44	276	41.125	129.250	240.875	176.250	587.500
	Drinking water in rural areas	16	14	10	8	47	2.093	6.578	12.259	8.970	29.900
	Sewerage in rural areas	18	17	12	9	56	13.993	43.978	81.959	59.970	199.900
	Total	202	184	129	98	613	125.307	393.82	733.94	537.03	1 790.10
Mexicali	Drinking water in urban areas	128	116	81	62	388	103.628	325.688	606.964	444.120	1 480.400
	Urban area sewerage	140	128	89	68	425	57.400	180.400	336.200	246.000	820.000
	Drinking water in rural areas	13	11	8	6	38	6.461	20.306	37.843	27.690	92.300
	Rural area sewerage	23	21	15	11	71	17.962	56.452	105.206	76.980	256.600
	Total	304	277	194	148	922	185.451	582.85	1 086.21	794.79	2 649.30
Tecate	Drinking water in urban areas	37	34	24	18	112	40.635	127.710	238.005	174.150	580.500
	Urban area sewerage	37	33	23	18	111	21.329	67.034	124.927	91.410	304.700
	Drinking water in rural areas	5	5	3	3	16	7.679	24.134	44.977	32.910	109.700
	Rural area sewerage	4	3	2	2	11	2.702	8.492	15.826	11.580	38.600
	Total	83	75	53	40	250	72.345	227.37	423.73	310.05	1 033.50
Tijuana	Drinking water in urban areas	436	397	278	212	1 322	316.127	993.542	1 851.601	1 354.830	4 516.100
	Urban area sewerage	446	406	284	216	1 352	159.978	502.788	937.014	685.620	2 285.400
	Drinking water in rural areas	6	5	4	3	18	1.687	5.302	9.881	7.230	24.100
	Sewerage in rural areas	4	4	3	2	12	2.968	9.328	17.384	12.720	42.400
	Total	892	811	568	433	2 704	480.760	1 510.96	2 815.88	2 060.40	6 868.00
Rosarito Beaches	Drinking water in urban areas	42	38	27	20	127	48.594	152.724	284.622	208.260	694.200
	Urban area sewerage	38	35	24	18	115	23.674	74.404	138.662	101.460	338.200
	Drinking water in rural areas	5	4	3	2	14	1.064	3.344	6.232	4.560	15.200
	Sewerage in rural areas	4	3	2	2	11	2.737	8.602	16.031	11.730	39.100
	Total	88	80	56	43	267	76.069	239.07	445.55	326.01	1 086.70
San Luis Río Colorado	Drinking water in urban areas	7	6	4	3	21	6.230	19.580	36.490	26.700	89.000
	Urban area sewerage	12	11	7	6	35	5.222	16.412	30.586	22.380	74.600
	Drinking water in rural areas	1	1	1	0	3	1.561	4.906	9.143	6.690	22.300
	Sewerage in rural areas	3	2	2	1	8	1.932	6.072	11.316	8.280	27.600
	Total	22	20	14	11	67	14.945	46.97	87.53	64.05	213.50

Investment program by sector

Planning cell	Sector	Impact (thousands of inhabitants)					Investment (Millions of pesos)				
		2012	2018	2024	2030	Total	2012	2018	2024	2030	Total
Comondú	Drinking water in urban areas	1	1	0	0	2	0.616	1.936	3.608	2.640	8.800
	Urban area sewerage	3	2	2	1	8	1.960	6.160	11.480	8.400	28.000
	Drinking water in rural areas	2	2	1	1	7	7.659	24.070	44.858	32.823	109.410
	Sewerage in rural areas	3	3	2	1	9	2.268	7.128	13.284	9.720	32.400
	Total	9	8	5	4	26	12.503	39.29	73.23	53.58	178.61
Mulegé	Drinking water in urban areas	5	5	3	3	16	5.107	16.051	29.914	21.888	72.960
	Urban area sewerage	6	5	4	3	18	4.410	13.860	25.830	18.900	63.000
	Drinking water in rural areas	3	3	2	2	10	2.177	6.842	12.751	9.330	31.100
	Rural area sewerage	4	4	3	2	13	3.276	10.296	19.188	14.040	46.800
	Total	19	17	12	9	57	14.970	47.05	87.68	64.16	213.86
La Paz	Drinking water in urban areas	19	17	12	9	58	14.860	46.702	87.035	63.684	212.280
	Urban area sewerage	25	23	16	12	76	18.620	58.520	109.060	79.800	266.000
	Drinking water in rural areas	5	5	3	2	15	6.804	21.384	39.852	29.160	97.200
	Sewerage in rural areas	4	4	3	2	13	3.276	10.296	19.188	14.040	46.800
	Total	53	49	34	26	162	43.560	136.90	255.13	186.68	622.28
Los Cabos	Drinking water in urban areas	83	75	53	40	250	64.750	203.500	379.250	277.500	925.000
	Urban area sewerage	63	57	40	30	190	46.550	146.300	272.650	199.500	665.000
	Drinking water in rural areas	8	8	5	4	25	9.293	29.205	54.428	39.825	132.750
	Sewerage in rural areas	7	7	5	4	22	5.544	17.424	32.472	23.760	79.200
	Total	161	146	102	78	487	126.137	396.43	738.80	540.58	1 801.95
Loreto	Drinking water in urban areas	0.3	0.3	0.2	0.2	1	0.344	1.080	2.013	1.473	4.910
	Urban area sewerage	0.3	0.3	0.2	0.2	1	0.245	0.770	1.435	1.050	3.500
	Drinking water in rural areas	1	1	0	0	2	1.467	4.611	8.594	6.288	20.960
	Rural area sewerage	1	1	0	0	2	0.504	1.584	2.952	2.160	7.200
	Total	2	2	1	1	6	2.560	8.04	14.99	10.97	36.57
Total potable water in urban areas		835	759	532	405	2531	668.9865	2 102.529	3 918.349	2 867.085	9 556.950
Total sewerage in urban areas		860	782	547	417	2607	380.513	1 195.898	2 228.719	1 630.770	5 435.900
Total urban area		1 696	1 541	1 079	822	5 138	1 499.28	4 497.85	4 497.85	4 497.85	14 992.85
Total potable water in rural areas		64	59	41	31	195	47.944	150.682	280.817	205.476	684.920
Total sewerage in rural areas		75	68	48	36	228	57.162	179.652	334.806	244.980	816.600
Total rural area		140	127	89	68	423	390.395	405.410	375.380	330.334	1 501.520
Axle total		1 835	1 668	1 168	890	5 561	1 889.68	4 903.26	4 873.23	4 828.19	16 494.37

Source: Prepared with data from the ATP, SGP, CONAGUA 2010.

Universal drinking water and sewerage coverage in the Region from 2012 to 2030 requires investments of 16,494 million pesos, 825 million pesos pledged annually.

Its financing will require a mix of resources from the users connected to the water supply and sewerage networks and from the general public through the federal and state budgets.

Also in this axis of the AA2030, the financing of investments comes mainly from public budgets.

As in the previous axes, the high dependence of public financing on fiscal resources calls into question the fairness of their distribution and makes it difficult to achieve financial self-sufficiency and sustainability of the sector. A better financial structure is proposed, gradually increasing the participation of users' resources. beneficiaries of these services.

The conditions and characteristics of the region will determine that the financing adjustment may require more or less time than indicated, so this goal could be achieved before 2030.

Investments in the Universal Coverage axis				
Actions Water Agenda 2030 I. Baja California Peninsula	Accumulated costs at the end of the period (Millions of 2009 pesos)			
	2012	2018	2024	2030
Universal coverage	1 889.7	4 903.3	4 873.2	4 828.2

VII. Settlements safe from catastrophic floods



Challenges and solutions to 2030

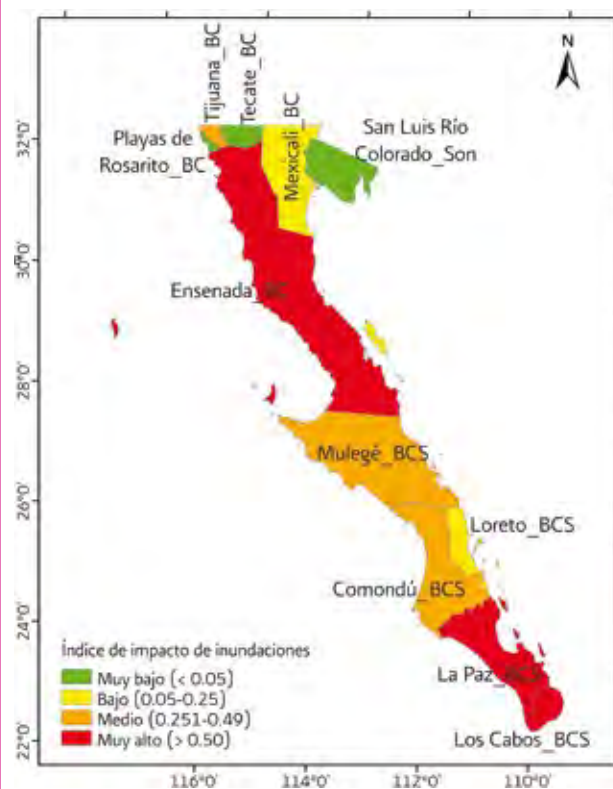
Strengthening the management of human settlements is of fundamental importance for the protection of the population from extreme hydrometeorological phenomena; natural disasters often ruin at a stroke the development efforts of many years, especially in rural areas.

On the other hand, it is not feasible to move populations located in flood-prone areas, so it is necessary to strengthen warning systems in order to protect the population, but this will not prevent damage.

Therefore, it is necessary to consider the delimitation and demarcation of federal zones and the construction of protective infrastructure in commonly affected areas, for which the following points need to be strengthened:

- Effective land use planning.
- Flood zones free of human settlements.
- State-of-the-art warning and prevention systems.

Impact of flooding on the RHA PBC



Source: Prepared with data from the Regional Strategy towards 2030 of the RHA-PBC. SGP, CONAGUA 2010.

An analysis of the situation within the territory of the Baja California Peninsula Basin Organization (OCPBC) shows that the impact generated by flooding is mainly concentrated in the Los Cabos and La Paz cells in Baja California Sur and Ensenada in Baja California.

Of the impacts generated by floods at the national level, 3.1% affect the territory of the OCPBC.

To reduce the risk of flooding in the OCPBC caused mainly by cyclones, CONA-GUA carries out three types of actions:

- Construction of dams and dikes for bird control.
- Construction of urban infrastructure for population protection.
- Technical and socioeconomic studies.

Examples of this are: the construction of hydraulic works for the conduction of water for the protection of population centers near the right bank of the Alamar stream; construction of infrastructure for the protection of population centers in Colonia Villa del Colorado and neighboring areas; technical and economic feasibility study and executive project of the works for the protection of population centers for the southern zone of the city of Tijuana, Baja California.

The OCPBC is concentrating on the construction of urban infrastructure.

Given that the resources available year after year are insufficient to provide solutions to all the water problems that exist within the OCPBC territory, it is necessary to prioritize the requirements according to their impact levels, through an investment-impact index that allows for the optimization of available resources.

In order to identify priorities in the RHA PBC, two indices have been defined:

- Flood mitigation investment rate.
- Impact index to prioritize investments.

The first considers that projects to secure settlements against floods compete for resources with other investment projects and quantifies the relative importance of these investments in the OCPBC's project portfolio. Their impact within the OCPBC is 0.5% of the resources allocated to flood-proofing settlements.

The second considers the difference between the investment index and the impact index, showing how the resources focused on the region are related to the proportion of investment needs (impact). On average, there is an investment-impact index of -2.6 and the investments are lower than the impact in relation to the rest of the country.

Compared to the rest of the country, the OCPBC cells have very small flood impacts and the investment-impact ratio is lower than that of the promise of cells nationwide.

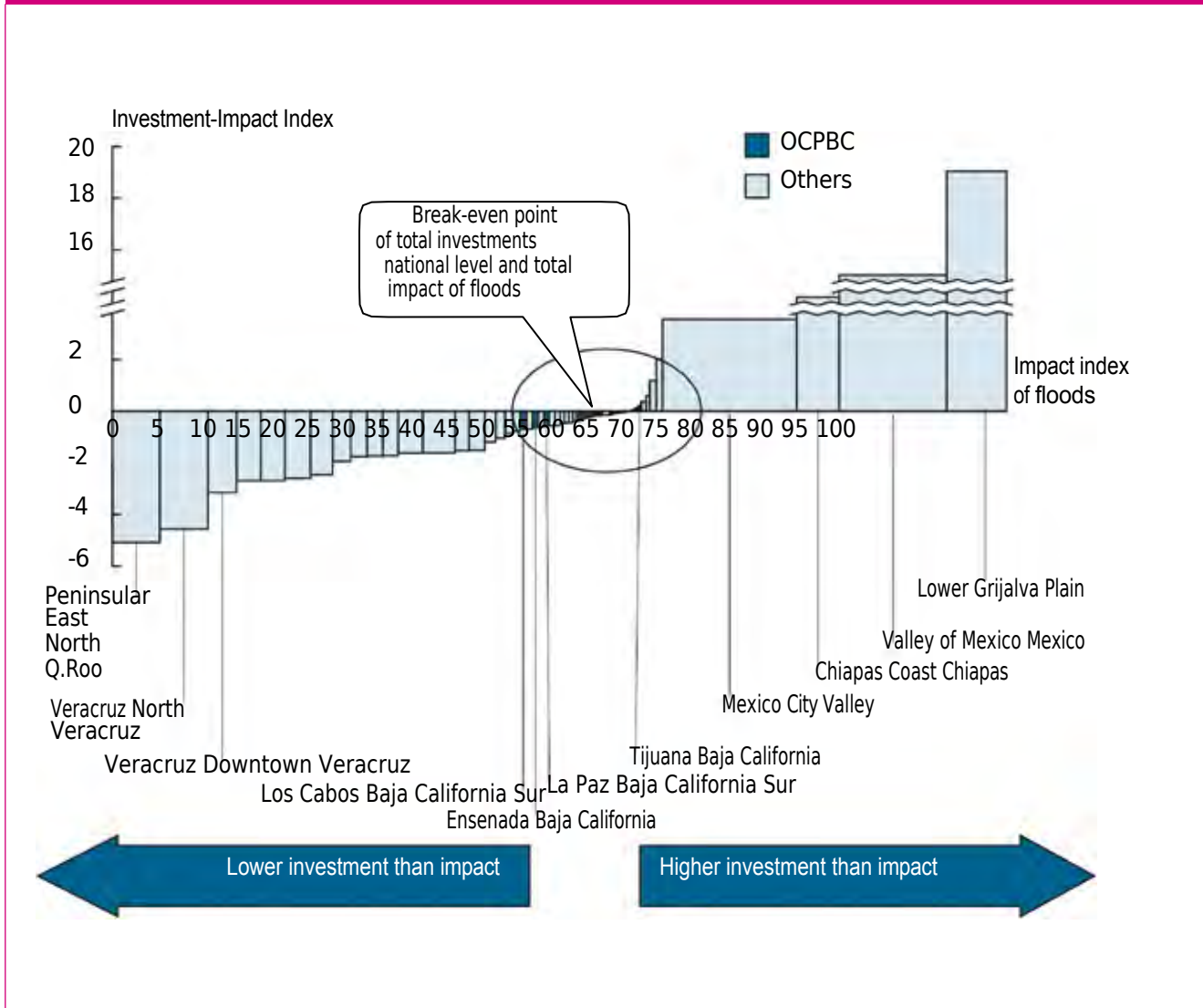
The cells of Los Cabos and La Paz, Baja California Sur, and Ensenada, in Baja California, require further studies to define potential projects and investments; the cells of Los Cabos and La Paz, Baja California Sur, and Ensenada, in Baja California, require further studies to define potential projects and investments.

The Tijuana, in Baja California, and Mulegé and Comondú, in Baja California Sur, already account for most of the OCPBC's investment.

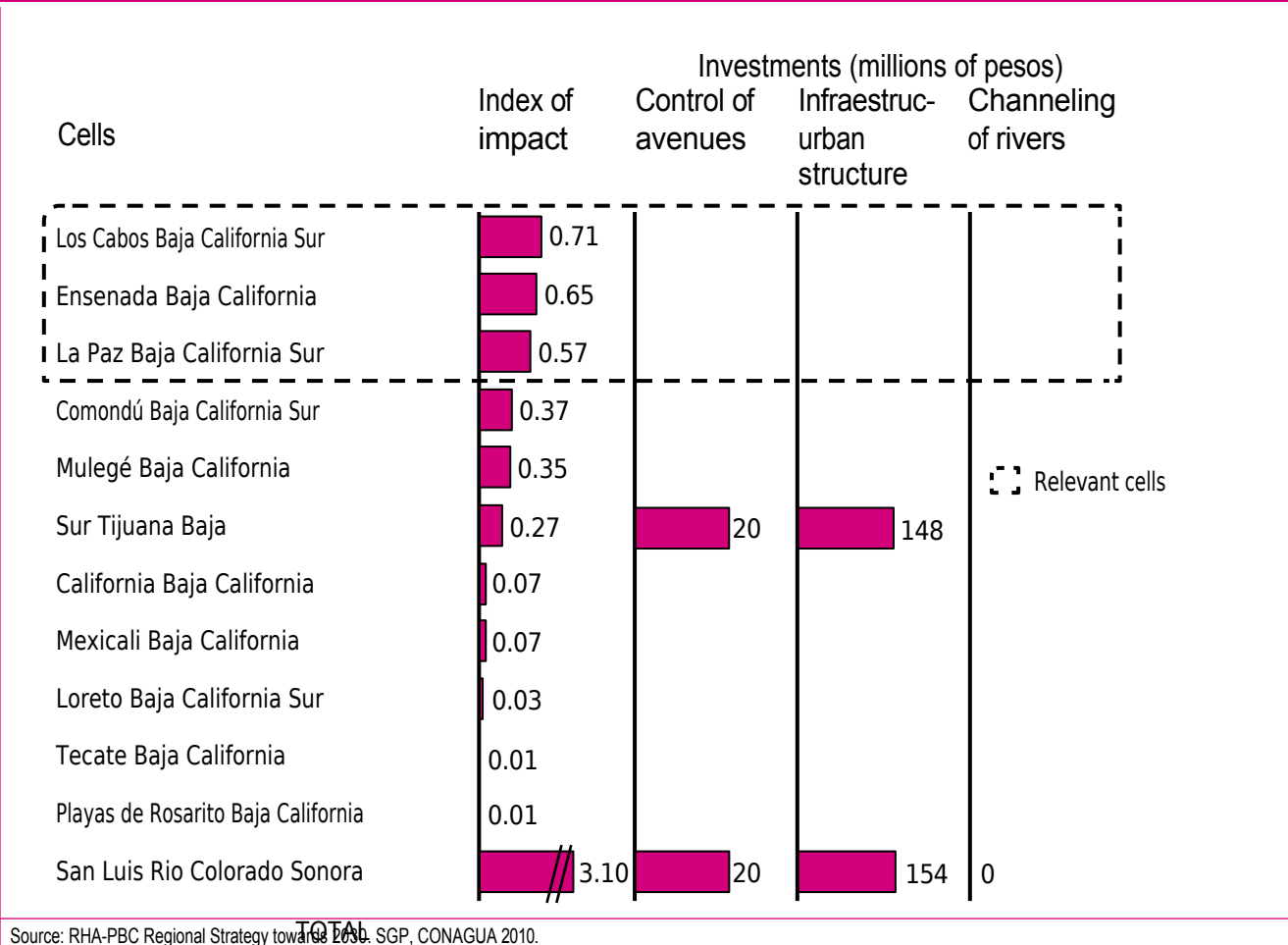
Analyzing the indices for the OCPBC, seeking new flood control projects should not be the highest priority; however, it should increase its planned investments to reach the national average.

Finally, it is important to concentrate efforts in the cells where there are flood impacts but no flood mitigation projects, basically in the Los Cabos and La Paz cells, in Baja California Sur, and Ensenada, in Baja California.

National comparison of the impact index on the Region's cells



Prioritization of cells for investments



Objectives, strategies and actions

Official Gazette of the Federation, as well as register them in the Public Registry of Property.

Reduce risks and mitigate the harmful effects of extreme natural events and climate change.

Strategy 4.1. Effective land-use planning.

- Have an effective surveillance system in place that includes the permanent use of technologies such as satellite photographs.
- Modify the laws, regulations and/or norms to grant surveillance powers to the different acts involved, in order to cover all areas, with incentives or resources for surveillance.
- Complement the demarcations, publish them in the

- Permanent programs to disseminate information on the risks of settlements in watercourses and federal zones, as well as to integrate prevention schemes into the educational process, emphasizing, first and foremost, the preservation of life.

Strategy 4.2. Flood zones free of human settlements.

- Permanent programs for the eviction of people from irregular settlements taking into account the risk.
- Increase penalties for public servants who allow non-compliance with urban development ordinance plans.
- To delegate powers to the municipalities for the execution of actions on watercourses, in order to achieve their recovery and conservation.

Strategy 4.3. Warning and prevention systems with state-of-the-art technology

- Update the warning equipment to provide real-time information in a timely and permanent manner.
- Review, modify and update the algorithms used in the real-time timely warning programs.
- Create its own real-time seismological network covering the entire region, including trained personnel.
- To design an emergency plan in case of earthquakes specifically in the municipality of Mexicali, Baja California.

Strategy 4.4. Build, conserve and rehabilitate infrastructure.

- Maintenance of the protection and regulation infrastructure.
- Construct new protection works.
- Control and manage sediments.

Localization and prioritization of actions and projects

Construction of protection works		
No. of works	Protected inhabitants	Cell
2	61 500	Mexicali
2	17 500	La Paz
12	76 500	Los Cabos
3	18 000	Mulegé
2	28 000	Comondú
4	8 500	Loreto

*Includes works for the protection of population centers, as well as works for the delimitation and demarcation of streams.
Source: Prepared with data from OCPBC and Local Directorate, BCS.

Land management			
No. of studies	Cell	No. of studies	Cell
1	Mexicali	2	La Paz
15	Ensenada	4	Los Cabos
11	Tijuana	7	Mulegé
1	Tecate	5	Comondú
1	Rosarito Beaches	1	Loreto

*Related to the delimitation and demarcation of federal zones. Source: Prepared with data from OCPBC and Local Directorate, BCS.

State-of-the-art warning and prevention systems		
Type of project	Project description	Cell
Equipment	Updating and improvement of the network of Automatic Weather Stations installed in the Baja California Peninsula.	All cells
Equipment	RADAR modernization.	Los Cabos
Equipment	Rehabilitate and put back into operation the Sierra Las Cacachilas, Sierra El Mechudo, Sierra La Laguna and Sierra de San Francisco repeaters.	Mulegé
Equipment	Purchase and install two VHF base radios for emergencies.	Los Cabos and Comondú.

Source: Prepared with data from OCPBC and Local Directorate, BCS.

Indicators and goals

The indicator to be taken into account is the number of protected inhabitants in urban areas and productive agricultural areas. One of the problems that must be solved if the greatest benefit is to be obtained from flood protection projects is to avoid irregular human settlements in areas or places at risk of being affected by extreme meteorological phenomena. In the region, it is estimated that over the next 20 years protection will be required for a population of close to 200,000 inhabitants. This indicator is shown in the table Indicators and goals by Basin Council.

Investment program and financing

The execution of the types of projects presented above, which require a great deal of coordination among the three levels of government and the participation of society, will make it possible to have a Basin Organization with sufficient capacity to self-administer the Region, which will promote the protection of the vulnerable population from extreme meteorological phenomena.

This information is presented by Basin Council, for the year 2012 and the periods 2018, 2024 and 2030.

Indicators and targets by Basin Council

Indicator	Basin Council	Unit	Current	Goal			
				2012	2018	2024	2030
Protected population	Baja California	hab	25 000	31 150	49 600	68 050	86 500
	Baja California Sur	hab	50 000	64 850	109 400	153 950	198 450
Warning systems installed	Baja California	quantity			1	2	2
	Baja California Sur	quantity	1	1	2	2	2

Source: Prepared with data from OCPBC and Local Directorate, BCS.

Investments by Basin Council

Basin Council	Planning cell	Investment (Millions of pesos)				
		2012	2018	2024	2030	Total
Baja California	Ensenada	0.620	2.232	2.170	1.178	6.200
	Mexicali	2.000	7.200	7.000	3.800	20.000
	Tecate	0.020	0.072	0.070	0.038	0.200
	Tijuana	0.488	1.757	1.708	0.927	4.880
	Rosarito Beaches	0.040	0.144	0.140	0.076	0.400
	San Luis Río Colorado					
Subtotal		3.168	11.405	11.088	6.019	31.680
Baja California Sur	Comondú	23.080	83.088	80.780	43.852	230.800
	Mulegé	81.080	291.888	283.780	154.052	810.800
	La Paz	12.914	46.490	45.199	24.537	129.140
	Los Cabos	99.925	359.730	349.738	189.858	999.250
	Loreto	15.294	55.058	53.529	29.059	152.940
Subtotal		232.293	836.254	813.026	441.358	2 332.930
Axle total		235.461	847.660	824.114	447.376	2 354.610

Source: Prepared with data from OCPBC and Local Directorate, BCS.

The investment considered in the project portfolio of the ATP Model and the project catalog of the Region's Basin Organization in support of settlements safe from catastrophic floods amounts to 2,355 million pesos, an annual average of \$118 million.

Due to the nature of this type of works, financing has been practically the responsibility of the federal treasury, exercised through CONAGUA's investment budget. It is estimated that given the recent evolution of the budgets allocated to this concept by CONAGUA and the prospects for future growth to 2030, the budget would be insufficient and would only cover part of the needs. It will be necessary to increase federal investment and seek new and different sources of financing.

sas to cover the financial shortfall.

For example, additional revenues should come from a portion of the collection of fees for the extraction and use of national waters, specifically earmarked for investment in this axis of the Agenda. Thus, the shortfall should be covered by specifically earmarking part of the collection of fees for the extraction and use of national waters established in the Federal Law on Fees.

On the other hand, it is also advisable to increase the participation of the states and municipalities in meeting their own needs. It is proposed to gradually increase the participation of states and municipalities.

Investments in the main line of action Settlements safe from catastrophic floods				
Actions Water Agenda 2030 I. Baja California Peninsula	Accumulated costs at the end of the period (Millions of 2009 pesos)			
	2012	2018	2024	2030
Settlements safe from catastrophic floods	235	848	824	447

VIII. Summary of investments and financing for the four guiding axes of the 2030 Water Agenda



With regard to the form of financing each of the four axes of the 2030 Water Agenda (AA2030), two main sources of resources are identified: public budgets; federal, state and municipal, and on the other hand, contributions from the water users themselves.

The modality followed by water administration in Mexico for decades has meant that the financing of water costs has been mainly concentrated in public budgets and a small part has been contributed by the users themselves.

In the current scheme, the federal budget allocated to the water sector is mainly exercised by CONAGUA and, to a lesser extent, by other federal agencies such as SAGARPA, which supports water use in irrigated agriculture, and SEDESOL, which invests in providing communities with drinking water and sewerage services.

CONAGUA applies its investment budget in two main ways: directly, by building hydraulic infrastructure, considered as supply in the AA2030 Basins and Aquifers in Balance axis, and indirectly, through federalized programs subject to operating rules in which it contributes only a percentage of the total budget.

the total costs. The purpose of these programs, in addition to covering part of the costs, is to induce the participation of the users themselves and of the states and municipalities to contribute resources, covering part or all of the necessary investment costs.

Carrying out the actions contemplated in the 2030 Water Agenda in the Region implies investments in its four guiding axes between 2012 and 2030 of a little more than 36,866 million pesos (2009 pesos), 1843 million pesos on average per year.

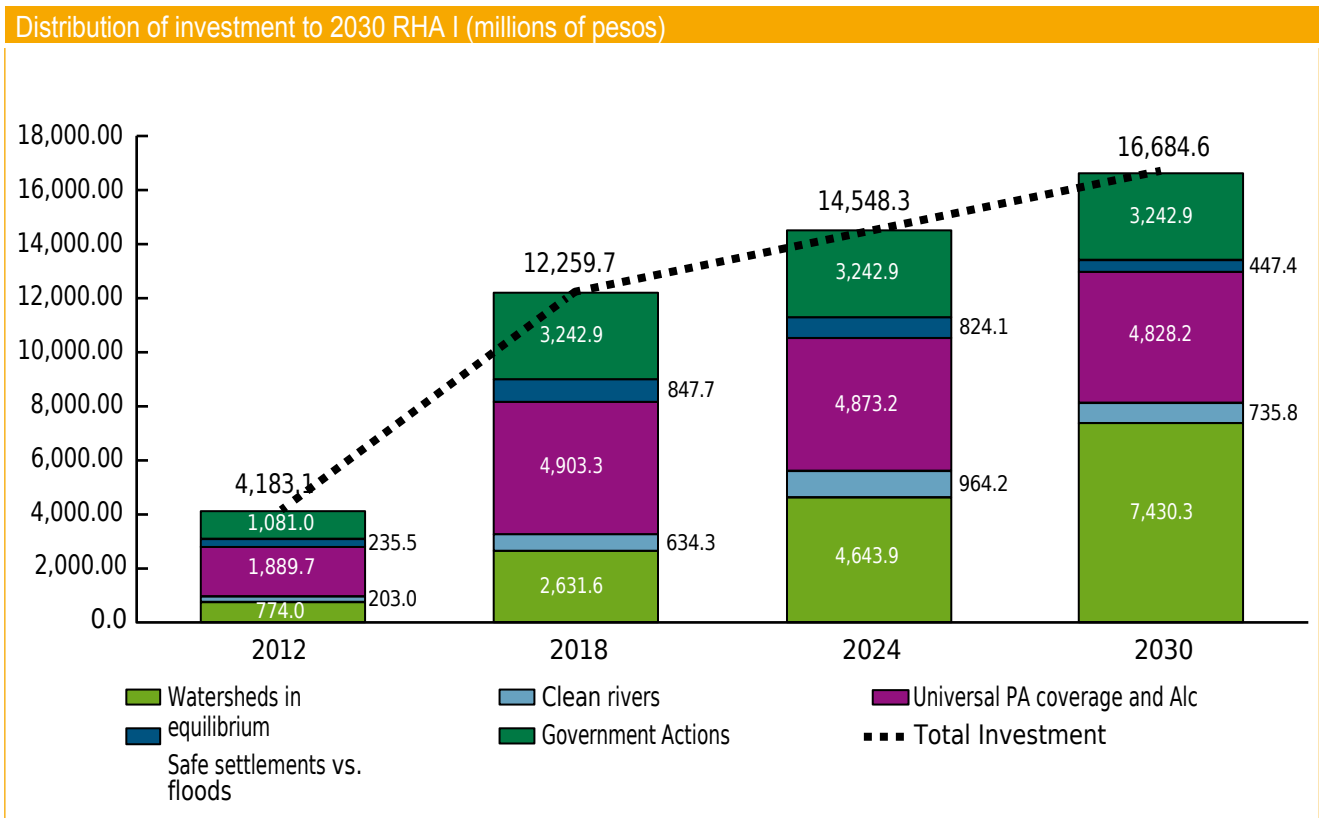
In order to be able to make these investments, the sector requires working capital to cover these costs. Considered as current expenses (with a useful life of one year or less), CONAGUA has budgeted total accumulated resources at the national level to 2030 of: 100,000 million pesos for operation and maintenance costs and 140,000 million pesos for administrative expenses, which it calls: Government Actions. These amounts were distributed among the country's thirteen Hydrological Administrative Regions in proportion to their investment amounts.

The following graph shows the estimated investment and current expenditure budget for RHA I. Baja California Peninsula to 2030.

Investments in the four guiding axes of the 2030 Water Agenda

Actions Water Agenda 2030 I. Baja California Peninsula	Accumulated costs at the end of the period (millions of 2009 pesos)				
	2012	2018	2024	2030	Total
Watersheds and aquifers in equilibrium	774	2632	4 644	7 430	15 480
Clean rivers	203	634	964	736	2 537
Universal coverage	1 890	4 903	4 873	4 828	16 494
Settlements safe from catastrophic floods	235	848	824	447	2 354
Total	3 102	9 017	11 305	13 441	36 865

Investments by sector or type of measure		
Guiding principle	Sector or type of measure	Investment to 2030 (millions of pesos)
Watersheds in equilibrium	Agricultural	4 744.5
	Municipal	6 729.0
	Industrial	0.8
	Offer	4 005.5
	Subtotal	15 479.8
Clean rivers	Additional municipal infrastructure	329.4
	Expansion and/or connection of municipal sewers	1 295.2
	Efficient operation of municipal infrastructure	411.9
	Additional infrastructure and efficient operation of industrial infrastructure	500.8
	Subtotal	2 537.3
Universal coverage	Urban drinking water	9 557.0
	Rural drinking water	684.9
	Urban sewerage	5 435.9
	Rural sewerage	816.6
	Subtotal	16 494.4
Settlements safe from catastrophic flooding	Urban infrastructure	2 354.6
	Subtotal	2 354.6
Total		36 866.1



Actions transversal

Challenges and solutions to 2030

Achieving the 2030 Water Agenda and being able to carry out the Regional Water Program requires enormous efforts to overcome the challenge of inheriting balanced basins and aquifers, clean rivers, universal coverage and settlements safe from catastrophic floods. The water sector requires major changes to achieve this, and the current environment is not yet conducive to effective integrated water management; For this reason, AA2030 proposes a general strategy to ensure that all the country's basins have a solid governance structure with sufficient capacity to manage water resources in a co-responsible and sustainable manner, and to ensure a better and more balanced distribution of competencies for the promotion, regulation and provision of water and sanitation services, with responsibilities of the three levels of government, to achieve a more balanced National Water Management System (SNGA) capable of responding to present and future water challenges.

There is no doubt that many of the current paradigms regarding water management need to be changed, since this scarce resource, which is vital for life and for the social and economic development of our peoples, cannot be viewed solely from a productivist and operational point of view with a short- and medium-term focus, Nor should its management be seen in isolation from the other associated resources and without a basin vision, when it is a transversal and necessary element in all human activities, and the hydrological unit marks, for natural reasons, the need to consider this geopolitical unit in the policy for its use. It has been traditional that the laws and institutions that guide the policies and actions that are executed with respect to the management of this resource are aimed at promoting its exploitation, use or exploitation, rather than at caring for it and conserving it. This regional program must begin to build new mechanisms that lead to a different vision of traditional water management, with a more conservationist and sustainable orientation.

Therefore, the management capacity of the State must be strengthened, as well as the actions that give legitimacy to the

The governance of water, therefore, requires greater participation of all levels of government and greater involvement of society in the different actions of its management and administration, taking into account the nature of water as a matter of national security, through the following challenges and actions:

- Methodological tools must be developed for the analysis and evaluation of water management performance for each basin, sub-basin, aquifer, state, and municipality that make up this Region. In principle, two major aspects should be addressed: budgetary efficiency and programmatic effectiveness.
- A scheme must be established that allows for the qualitative evaluation of the programmatic effectiveness that is developed around the analysis of the factors that impact institutional competence, seeking to measure its development in a context of decentralization. To this end, it is necessary to delimit the scope of decentralization by analyzing the transformation and adjustment of the political-legal bases that support the process, trying to determine whether the transfer of functions and attributions is only at the executive level or whether it affects the political organization and distribution of competencies between the federation and the states.
- It must be clearly defined whether it is a question of administrative de-centralization or political decentralization. The definition of the scope of decentralization constitutes the structural framework for the analysis of the factors of institutional development: the availability of an adequate regulatory framework for the exercise of environmental responsibilities; qualified human resources in the necessary quantity to meet the demand for procedures; an adequate administrative and financial structure to achieve quality and efficient integrated water management; documented procedures for the handling and processing of procedures; and a deconcentrated operational infra-structure to bring the service closer to the citizenry.
- It is necessary to create performance indexes for integrated water resource management in the case of states and municipalities, which integrate four variables: regulatory framework, sufficiency and professionalization of human resources, and

structure, that

The new system can become a strategic reference to identify the difficulties that exist in some states, where their legal frameworks are weak, their human resources are scarce and their administrative structures are not very flexible, and consequently to point out the need for reorientation, coordination and decentralization.

One of the greatest challenges for Mexico is to face the problems arising from the inadequate way in which water management is being carried out. If we do not find a new way of acting with respect to water, as a country, region, state, municipality, locality, community and individual, there will be no solution to the conflicts in this area.

The model required for the legal basis of this Regional Water Program and its sustainability is made up of three major management instruments:

- Legal
- Institutional
- Financial

The three instruments make it possible to create the regulatory framework for regional coordination, which is the basic unit of the Program.

Once the elements and the legal and institutional principles of regional coordination have been identified, it is necessary to establish the criteria for attention to the specificities of the region, based on:

- Water resource availability and quality.
- The situation of vulnerability and response to natural disasters, droughts and floods.

With this, the institutional legal framework of the Regional Water Program is built, which will attend to the application of the norms that have as their objective:

- Regulating land use and territorial issues
- Attention to environmental aspects, which has two aspects:
 - Preservation and integrated management of aquatic ecosystems, including the protection of threatened, protected, or endangered species; conservation of habitats and natural protected areas.
 - Prevention and control of water pollution, which includes wastewater and sewage.

integrated management of hazardous, special and urban waste, watershed sanitation and basic sanitation for the prevention of water-borne diseases.

- Attention and timely response to environmental emergencies and contingencies, risk prevention in the event of natural disasters and civil protection.

Once the Regional Water Program has been prepared, it is necessary to develop the institutional instrument in accordance with the different water policy instruments contained in the National Development Plan, the National Water Program and other applicable planning and programming schemes.

In accordance with the principles of coordination arising from the agreements to be established, in which the responsibilities of the Federation through CONAGUA, the states, the municipalities, the users, the companies providing drinking water and treatment services, as well as organized society, are indicated, the necessary conditions will be in place for the execution of this Program and the body responsible for the coordination of actions, execution, evaluation and, if necessary, adjustment of the Program itself will be created.

The water policy will be adapted in the programs by basin, sub-basin and aquifers in which the coordinating body must always be established and have the presence of the three orders of government, the executing entities and organized society. In accordance with the scheme established by law, the Program will be the object of the Coordination Agreements, following the provisions of the applicable general and state legislation. The Basin Councils that approve the Program will be the coordination and agreement instance that guarantees that the strategies and actions proposed are carried out as programmed.

Legal

Water regulation is becoming increasingly important at the international and national levels, where emphasis is placed on recognizing and strengthening the rights and obligations that exist between users and the management of shared water resources. These legal rules and principles are aimed at preventing conflicts and promoting cooperation.

At the local level, national water legislation implies having to establish mechanisms for the equitable distribution of a common good, which in the case of Mexico, is a national good that requires principles for its integrated management that promote coordination between the different levels of government and prevent conflicts between regions and basins.

Institutional

The basis of the Regional Water Programs is the sector's formal strategic planning system, which is made up of the axes of the National Development Plan 2007-2012, the 23-year future perspective, in accordance with the provisions of the Mexico Vision 2030 project, the Water Agenda 2030 and the National Water Program 2007-2012, which are the basis for coordinated actions, budgets and operational projects.

Some of the principles of the national water policy have been outlined:

- Basin delimitation. In a new paradigm, it should be agreed that the basin or aquifer is the most suitable territorial unit for the coordinated planning and management of water and natural resources, since the movement of water knows no political-administrative boundaries, but only physical laws.
- Effective availability of the resource and integrating axis. Integrated Water Resource Management (IWRM), in accordance with the National Water Law (LAN), establishes that the criteria for the allocation and concession of the resource are based on the effective availability of water, in these cases the Federal Executive, In these cases, the Federal Executive will implement the necessary mechanisms to maintain the hydrological balance of the basins and their vital ecosystems, thus promoting sustainable use and recognizing the relationship of water as an integrating element of basin management, which includes air, soil, flora, fauna and other natural resources.
- Engine of economic and regional development. The importance of water as a driver of economic and regional development, as well as a generator of economic and financial resources, has led to the establishment of principles such as: "the polluter pays,

The "restore and compensate", "water pays for water", "user-pays", among others, which are the basis for the establishment of economic incentives and inductive actions so that those who use water efficiently and cleanly receive benefits and recognition for it.

- Timely information. For the best management of water resources, and particularly for their conservation, it is essential to have timely, complete, and reliable information on the occurrence, availability, and needs of surface and groundwater, in quantity and quality, in geographic space and time, as well as on phenomena related to the hydrological cycle, since this allows for the informed and responsible participation of society, which is the basis for environmental education and water culture, the latter derived from the country's social and economic development processes.

These water policy principles are the guide for the national water programming goals, by hydrological-administrative region and hydrological basin.

The national water policy is the instrument that allows effective compliance with the principles contained in Article 27 of the Constitution, which considers water as a national asset that must be used sustainably, under the principle of public interest, for the purpose of equitably distributing public wealth, The national water policy is based on the principle of public interest, with the purpose of equitably distributing public wealth, taking care of its conservation, achieving the balanced development of the country and improving the living conditions of the rural and urban population, preserving and restoring the ecological balance, and avoiding the destruction of natural elements and the damage that property may suffer to the detriment of society. The national water policy is the instrument that, under the principles set forth in the Constitution and the laws derived therefrom, provides the basis for this and all regional basin programs containing strategies, objectives and specific actions for carrying out specific projects in each hydrological region, basin or aquifer. The management approach in the Water Programs includes water as an integrating element, considering the natural relationship of the resource with the soil, forests, flora and fauna, in addition to observing the economic and social development programs proposed for each basin or region.

Financial system

In order to establish a financial system in the Region, it is important to resort to the federal pact, which is the basis for the concurrence, coordination, and agreement mechanisms derived from the Political Constitution of the United Mexican States, the Planning Law, and the Fiscal Coordination Law, to agree with the states and municipalities that make up the Region on a sustainable, coordinated, cooperative, and efficient financial system for water that allows, as far as possible, financial self-sufficiency in the management of national waters and the various hydraulic services provided by hydraulic works and systems.

The coordination of such a regional water financing system would be the responsibility of the regional or state water authority, as appropriate, with the observation and decisive sanction of the Basin Councils or Auxiliary Organizations. This will allow better ordering of income and expenditure policies, adequate financing for the execution or application of water programs, and the possibility of implementing better distributive and subsidiary policies for the granting of the various fiscal, state and federal incentives and stimuli assigned to the different public and private entities for the support and execution of water programs, projects and services in the region. Particularly on this last point, it is necessary to create regional financial funds of a mixed, autonomous and decentralized nature.

The General Law of Ecological Balance and Environmental Protection (LEGEEPA) establishes that loans, bonds, civil liability insurance, funds and trusts are financial instruments when their objectives are aimed at the preservation, protection, restoration or sustainable use of natural resources and the environment, as well as the financing of programs, projects, studies and scientific and technological research for the preservation of the ecological balance and environmental protection.

Concessions, authorizations, licenses and permits that correspond to national water volumes are market instruments.

All of the above-mentioned instruments must be effectively incorporated into the operation and financial restructuring of the basins, taking into account, as a priority, the following

advantage that allows the streamlining of resources, their transparency and effective application to the priority actions established in each region.

Objectives and strategies

There are two objectives that emerge from the analysis of the sector's problems in the Region and reflect the demand to promote the necessary changes to achieve the desired future state and generate the appropriate environment for the SNGA to function. The two objectives are of a general nature and their implementation goes beyond the regional level; however, it is in the watersheds where their application should be promoted.

The following page shows the strategies that are proposed for these two objectives and, due to their cross-cutting characteristics, contribute to strengthening the implementation of the 38 initiatives and their corresponding actions linked to the challenges of the four straight axes of the water policy established by AA2030, including those of a general nature.

Programs and actions

In order to implement these strategies, it is proposed to establish the following programs with their respective measures or actions that integrate them within the institutional framework of the Ministry of Finance and Public Credit of the Integral Structure of the Budgetary Key to be used in the annual Expenditure Budget projects.

The investments required for these programs are part of the government's actions and it is estimated that approximately 500 million pesos will be required annually for their implementation and operation.

For each strategy, the measures, processes or actions to be taken to achieve the objectives set out below are shown, which will make it possible to implement the reforms required by the sector in order to achieve long-term sustainability of our water resources in the basins and aquifers of the Region.

Objectives and cross-cutting strategies to facilitate the operation of the SNGA in the Region	
Objectives	Strategies
5. Improve the regional governance of water and associated natural resources.	5.1. Adapt the legal framework of the water and environmental sector and ensure its application.
	5.2 Promote education and culture for sustainable development.
	5.3 Give effective authority to the Basin Councils and improve social participation in their auxiliary bodies.
	5.4 Create intermunicipal public water utilities.
	5.5 Adapt the institutional arrangement for integrated water resources management.
	5.6 Improve intersectoral coordination and coordination among the three levels of government.
	5.7 Improve water management.
	5.8 Dynamically adjust water concessions and allocations to actual supply and priorities.
	5.9 Strengthen the institutional capacities of the water and environmental sector.
	5.10 Establish the water sector project management system.
	5.11 Strengthen water and environmental monitoring systems.
	5.12 Establish timely, adequate, accessible and transparent information and communication systems.
	5.13 Improve communication and social participation.
6. To have sufficient and timely financial resources for the Regional Water Program.	6.1. Align and focus the sector's subsidies and incentives.
	6.2. Develop a water pricing and tariff system.
	6.3. Develop investment recovery criteria.
	6.4. To develop mechanisms for raising resources.
	6.5. Develop financial sources for water programs.
	6.6. Develop criteria for the application of financial resources.
	6.7. Establish regional financial funds per RHA.
	6.8. Establish management indicators and targets for the application of financial resources.
	6.9. Develop criteria for accountability.
	6.10. Adapt the legal framework to implement the Water Financial System (WFS).

Improve regional governance of water and associated natural resources.

5.1 Adapt the legal framework of the water and environmental sector and ensure its application.

The strategy shall promote in each federal entity of the Hydrological-Administrative Region I of the Baja California Peninsula the adaptation of the legal framework that establishes integrated water management; therefore, in the law that regulates the drinking water service in the State of Baja California and the Water Law of the State of Baja California Sur and the Drinking Water and Sewerage Law of Baja California Sur, the necessary adaptations shall be implemented.

This would provide an adequate legal framework to support decentralization and greater participation of state and municipal government agencies and institutions in resource management.

A proposed regulation of the National Water Law should be established for each basin and aquifer in the Region.

Other measures to be promoted are:

- Annual adjustment of state revenue laws related to the collection of water service contributions.
- Annual adequacy of federal and state budgets for the sector in the region.

- Adequacy of state environmental laws on integrated management of water and associated resources.
- Revision or updating of decrees of closures, reserves and regulated zones in the region.
- Establish in the laws the specific purpose of all environmental rights to support the Region's environmental and economic programs.
- Formulate water distribution agreements in the basins and aquifers of the Region that do not yet have them.
- Elaborate watershed diagnoses and management plans at the level of hydrological subregions.

5.2 Promote education and water culture for sustainable development.

Implementing this strategy is of utmost importance as it is the instrument that will enable society to change and prepare new generations to participate effectively in the Region's water and environmental programs.

It is planned to accompany this strategy with some measures such as:

- Create economic, fiscal and financial incentives to extend environmental education and training actions to companies in each state.
- Granting water savings certificates and water harvesting vouchers that can be redeemed for incentives.
- Encourage the use of low-cost energy-saving technologies for each state.
- Develop agreements and programs with companies and institutions that contribute to education, training, water and environmental culture.
- Design free, online, self-study courses on environmental legislation, education and certification.

5.3 Give effective authority to the Basin Councils and improve social participation in their Auxiliary Bodies.

The corresponding adjustments must be made to state laws to strengthen the two Basin Councils and their Auxiliary Bodies in the Region, as well as to work on adapting the rules for their integration and operation.

The creation of autonomous civil associations related to each of the Basin Councils should be promoted.

To have sufficient and timely financial resources for the Regional Water Program.

Achieving sustainable water development in the Region within the framework of the proper and desirable functioning of the SNGA necessarily implies the establishment, proper functioning and maintenance of a regional water financing system. This system should make it possible to guarantee timely and revolving coverage of water costs. To this end, the ten cross-cutting strategies that would make this possible have been identified. The order in which they are presented is important, and the main recommended actions that should characterize and guide each strategy in its implementation are discussed in general terms.

6.1 Aligning and targeting sector subsidies and incentives

Due to the federal government's historical, traditional, deep and deep-rooted participation in water development and its inherent costs, it is still estimated that the federal government's contribution to the costs of AA2030 will reach 90%. This implies significant amounts of subsidies that should be analyzed in light of the current and prospective financial capacities of the federal government and the necessary, fair and adequate participation of the states and municipalities and the water users themselves in these costs. In accordance with the major objectives of national development and based on equity, justice and economic mechanisms to promote efficiency in the use of scarce water and monetary resources, the subsidies and incentives for financing AA2030 should be realigned among users, sectors, guiding axes, states, Mexican regions and public agencies involved in the SNGA and its regional implementation.

6.2 Develop the water pricing and tariff system.

This system should make it possible to identify, size, and allocate water costs and prices among uses, users, and hydrological subregions of the Region based on the effective availability of water, on the productivity of the resource in its different uses, and on the fair distribution of costs among users. These determinations should seek to achieve efficiency in water use, equity and fairness in the distribution of costs, and financial self-sufficiency of the Region in its water costs.

To achieve this, it can be based on the background of the studies carried out between 1977 and 1981 that led to the enactment of the Federal Water Rights Law, which is still in force and is a source of important economic-financial resources for the sector.

6.3 Develop criteria for the recovery of investments and Operation and Maintenance expenses.

A good criterion for the recovery of federal investments in the construction of irrigation systems and drinking water supply and sewerage systems was the Law of Contribution for Improvements for Public Works of Hydraulic Infrastructure, but unfortunately, there was not the vision, the possibilities or the political will to apply it in a solid and permanent manner since 1982, the year of its enactment.

This non-existent application leads AA2030 to propose its repeal and its replacement with other revenue or tariff instruments with similar purposes or goals: to adequately recover federal investments in hydraulic infrastructure over long periods of time and at the expense of the users benefited by the works. The development of new systems should take into account the spirit and mechanisms designed in that law.

6.4 Develop mechanisms for raising resources

It is so important to design and implement good mechanisms for collecting resources that the proper functioning of the financial system depends to a great extent on it. Much has been heard that a significant percentage of water users do not pay or do not comply with their tax obligations because it is difficult for them to pay or because the mechanism for doing so is complicated and time-consuming or is far away, but not because they are unwilling to pay what they understand to be necessary and fair to continue receiving water services, and of course they understand that it is indispensable for their survival and quality of life.

It is enough to look at the recent mechanisms implemented by large service companies such as Telmex, CFE, the communications industry, credit card issuers, etc., which have made it easier for users to make their periodic payments. Efficient and effective mechanisms for water collection and/or collection should be developed in these models: tariffs, quotas, contributions and rights.

6.5 Developing new sources of financing for water programs

It would seem wise to review the adequacy of the current and current models for financing water costs in light of the results of AA2030, its investments, costs, and the collection of resources to cover them. The existence of financial gaps to be covered and the distribution of costs among financial agents, water users who benefit from investments and costs, and the historical participation of state and municipal governments, require a rethinking and design of new financial instruments.

There are successful international experiences that can be adopted with the appropriate adjustments in Mexico. Other novel instruments have also been practiced or mentioned on a small scale and with few applications in the country and should be promoted. Instruments such as private investment profitable to investors, the securitization of water shares or regional water management, or even water banks, with their economic resources, could be appropriate to the characteristics of the Region.

6.6 Develop criteria for the application of financial resources.

It is convenient to rescue the principle: from water to water. That taxpaying users really see that their payments are applied in their own systems and to improve the quality of the services for which they are paying, in the conservation, maintenance and improvement of the hydraulic infrastructure that provides them with services, and in the modernization of the systems of operation, administration and supervision of water users and accounts.

6.7 Establish regional financial funds per RHA.

It is the principle of federalism, and its best field of application is in the resources for financing the water costs faced by each agency, state, or system. These funds would serve the function of bringing resources to the place where they are needed in sufficient time to avoid incurring avoidable remediation or compensation costs, taking into account that preventive programs are superior to corrective ones. However, both are unfeasible without remediation and remediation.

The regional resource fund for financing water costs should be close, readily available, sufficient and timely, which would be the characteristics of the regional fund.

The lack of legislation and regulations complicates their understanding and interpretation and discourages their application.

6.8 Establish management indicators and targets for the application of financial resources.

They are useful and necessary for monitoring the implementation of investment programs, cost recovery and the application of expenses. Their design must be adequate so that with a few indicators it is possible to know the health of the financial system or if it is necessary to make this or that adjustment for a quick implementation.

6.9 Develop criteria for accountability.

If we want to have a healthy SFA, if we want all water users to contribute and pay their contributions established by law, by the systems and by common judgment in a fair and timely manner, it is important to have clear, transparent, publicly accessible, verifiable and timely accounts that minimize or eradicate practices of resource diversion, misuse or corruption, since this causes any well-designed and implemented system to collapse or crumble.

There are already many systems at the federal, state, municipal, or water development system levels that provide for the obligation or commitment to timely, clear, and accurate accountability. They should be adopted and adapted for the Region.

6.10 Adapt the legal framework to implement the Water Financial System (WFS).

In order for all of the above, objectives and implementation strategies with their respective actions to be carried out and to last, it is necessary to adapt and fine-tune the regulatory framework, laws, regulations and operating manuals for the application of the origin and destination of economic resources for water management in the Region. In other words, it is necessary to create the legal framework of laws around the Regional Water Financing System (SFRA) with the characteristics described above and those additional ones recommended by the Region's own characteristics.

Laws, regulations and manuals should be kept simple, direct, clear and short, avoiding overuse.

Acronyms and acronyms

AA2030	Water Agenda 2030	PHR	Regional Water Program
ATP	Prospective Technical Analysis	GDP	Gross Domestic Product
Cenatryd	National Center for Technology Transfer	PROFEPA	Federal Attorney General's Office for the Protection of the Environment (Procuraduría Federal de Protección al Ambiente)
	Irrigation and Drainage	WWTP	Wastewater treatment plants
CONABIO	National Commission for the Knowledge and Biodiversity Use	REPDA	Public Registry of Water Rights
CONACYT	National Council of Science and Technology	RHA	Hydrological-Administrative Region
CONAFOR	National Forestry Commission	RHA I PBC	Hydrological-Administrative Region I Peninsular.
CONAGUA	National Water Commission		that of Baja California
CONAPO	National Population Council	SAGARPA	Secretariat of Agriculture, Livestock, Fisheries, and Food
			Rural Development, Fisheries and Food
CONEVAL	National Commission for Policy Evaluation	SE	Ministry of Economy
	ca de Desarrollo Social	SEMARNAT	Ministry of Environment and Resources
COTAS	Groundwater Technical Committee		Natural
Cp	Average natural runoff volume annual	SEP	Secretary of Public Education
DR014	Colorado River Irrigation District	SFA	Water Financial System
DR066	Santo Domingo Irrigation District	SHCP	Ministry of Finance and Public Credit
DOF	Official Journal of the Federation	SINA	National Water Information System
USA	United States of America	SMN	National Weather System
GIRH	Integrated Water Resource Management	SNGA	National Water Management System
has	Hectares	SNPH	National Water Planning System
hab	Inhabitants	SRA	Secretariat of Agrarian Reform
hm ³	Cubic hectometers	SS	Secretary of Health
IMTA	Mexican Institute of Water Technology	UNESCO	United Nations Educational, Scientific and Cultural Organization
			Education, Science and Culture
INEGI	Instituto Nacional de Estadística Geografía e Computing	URDERALES	Rural Development Irrigation Units
INIFAP	National Institute of Forestry Research and Agricultural and Livestock	\$/m ³	Weights per cubic meter
km ²	Square kilometers		
LAN	National Water Law		
LEGEEPA	General Law of Ecological Equilibrium and Environmental Protection.		
	ation to the Environment		
m ³	Cubic meters		
NADM	North American Drought Monitor		
OCPBC	Organismo de Cuenca de la Península de Baja California (Baja California Peninsula Basin Organization)		

PADUA SAGARPA's Water Use Rights
Acquisition Program
EAP Economically Active Population
PHOC Water Program of the Basin Organization

Glossary

Concessioned water. Volume of water granted by the Federal Executive through CONAGUA through a Title.

Renewable water. Maximum amount of water that is feasible to exploit annually. It is calculated as the annual virgin surface runoff, plus the average annual recharge of aquifers, plus water imports from other regions.

or countries, minus exports of water to other regions or countries.

Water Agenda 2030. It is a working method that postulates a long-term strategy for the consolidation of a water sustainability policy; it is also a forward-looking exercise of great vision, a set of initiatives that capitalize on national and international experience, an instrument that encourages solidarity among Mexicans in the various regions and localities of the country, and forms part of the national water planning system. **Prospective technical analysis.** Methodology that allows: i) determining the gap that would be generated between sustainable water demand and supply in the next 20 years, ii) identifying alternative solutions, and iii) estimating costs to guide investment decisions in the sector at the regional and national levels.

Safe settlements in the face of catastrophic floods. Thematic axis of the 2030 Water Agenda, with the following objectives: Effective land-use planning, flood zones free of human settlements, and warning and prevention systems with state-of-the-art technologies.

Sanitation Gap. Difference between the volume of wastewater generated and the volume of water treated efficiently, expressed in volume (m³).

Water gap. Difference between sustainable supply by installed capacity and total demand, expressed in volumes (m³).

Planning cell. Geographic area formed by a group of municipalities belonging to a single State, within the limits of a hydrological subregion.

Universal coverage. Thematic axis of the 2030 Water Agenda, with the following objectives: Urban suburbs connected to networks, urban localities with potable water and operating agencies functioning efficiently.

Marginal cost. This is the cost of implementing the measure divided by the potential volume it can contribute to closing the gap. It is calculated as the sum of:

- The annuity of the required investments (with a discount rate of 12% and with an amortization period that varies for each measure).
- Incremental operating expenses generated after the implementation of the measure.
- Operational savings generated after implementing the measure.

Watersheds in balance. Thematic axis of the 2030 Water Agenda, with the following objectives: All irrigated land technified, self-managed basins, all treated water reused and all aquifers in equilibrium.

Cost curve. Representation of the totality of applicable measures to overcome the gap in a land unit, ordered by their marginal cost.

Water demand. Volume of water required by the various sectors (agricultural, municipal, industrial, etc.) in their production or to provide potable water service.

Natural surface runoff. Volume of water that occurs on the surface of the land (soil or rivers and streams) as a result of precipitation. Also known as virgin surface runoff.

Ecological flow. Minimum flow necessary to ensure the maintenance of ecosystems in regulated river or stream reaches.

Degree of pressure on water resources. Percentage indicator of the pressure to which the water resource is subjected. It is obtained from the quotient between the total volume of concessioned water and renewable water.

Impact index. Applied to the thematic axis safe settlements in the face of catastrophic floods, it is an indicative value of the impacts caused by floods. It takes into account the following components:

- Affected population. Human life is important.

- Surface area affected. Events affecting large areas are considered to be of greater importance.
- Population density. Densely populated areas are of great importance.
- Economic damage. Economic losses are taken into account and are related to damage to the affected population's sources of income.

Marine intrusion. Phenomenon in which seawater is introduced through the subsoil into the interior of the continent causing the salinization of groundwater.

Action. Technically feasible action that can close the gap; may focus on increasing the volume of accessible water, or reducing demand in some of the sectors.

Subway supply. Volume of water that can be delivered to the user through artificial extraction from an aquifer.

Sustainable groundwater supply. Volume of water that can be delivered to the user through artificial extraction from an aquifer, without affecting natural sub-terrestrial sources.

Surface supply. Volume of water available in rivers, streams and water bodies.

Sustainable surface supply per installed capacity. Volume of water that can be delivered to the user through infrastructure, without affecting natural surface sources.

Water productivity. Total value (in pesos) of goods and services divided by the amount of water (cubic meter) applied to the same goods and services. Expressed in pesos per cubic meter (\$/m³).

Gross Domestic Product. The total value of goods and services produced in the territory of a country in a given period, free of duplication.

Average annual recharge. Average annual volume of water entering an aquifer.

Clean Rivers. Thematic axis of the 2030 Water Agenda, with the following objectives: All municipal waters treated, all rivers and lakes free of waste, sources of diffuse pollution under control, and all industrial waters treated.

National Water Planning System. Strategic, normative and participatory planning process, where there is a link between planning instruments,

results of technical analyses, as well as project characteristics to achieve sustainable water use. **Environmental sustainability.** A process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional evolution are in full harmony and promote the present and future potential to meet human aspirations and needs.

Potential volume. Volume of water provided by the implementation of a measure.

Unsustainable volume. Quantity of water, surface or groundwater, that is artificially extracted, affecting the natural sources of supply.

Sustainable volume. Quantity of water, surface or groundwater, that is artificially extracted without affecting the natural sources of supply.

NOTE: The glossary is a compilation of various sources, in order to illustrate the various concepts used in this document. They do not constitute legally binding definitions.

Catalog of projects



Project catalog

This Annex presents a list of more than 240 identified projects, mainly focused on improving efficiencies in all uses, as well as the construction of new infrastructure, including projects under development and others to be initiated or under study. The name, location, contribution to closing the gaps and the amount of investment planned for each project is indicated, based on available information. However, this list will be completed or modified once more information is available.

information.
To compile the list of the Hydrological-Administrative Region I Baja California Peninsula, the different areas of the Basin Organization itself, the Hydrological Infrastructure Project Information System (SIPROIH), the 2011-2016 Planning Mechanism, catalogs of projects integrated in other planning processes, results of the regional consultation forums of the 2030 Water Agenda, among others, were consulted.

Of the list of projects shown below, those indicated in the axis of Balanced Watersheds and Settlements Safe from Flooding are basically those identified in the Peninsula de Baja California Basin Organization and the Local Directorate of Baja California Sur, which are proposed for execution.

The projects indicated in the Clean Rivers and Universal Coverage axes were obtained from the measures identified in the ATP.

It is important to note that the list of projects presented in this Project Catalog is neither exhaustive nor definitive. It is worth mentioning that all these projects, in order to be carried out, must have the corresponding technical, economic and environmental feasibility evaluations and, if applicable, must comply with the applicable prescriptive regulations.

On the other hand, medium and long-term planning is a dynamic exercise that must be updated periodically to incorporate all those projects that contribute to the achievement of the established goals.

to consolidate the sustainable use of water in the basin and achieve the vision of: clean rivers, balanced watersheds and aquifers, universal coverage of drinking water and sewerage, and settlements safe from catastrophic flooding.

Axis 1. Watersheds in equilibrium

Watersheds in equilibrium				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Technification of irrigation in 3,000 hectares in Maneadero UR, Ensenada Water reuse.	Ensenada_BC	Ensenada	20.7	90 000
Technification of field irrigation (1521 ha)	Ensenada_BC	Ensenada	10.5	101 848
High precision irrigation (282 ha)	Ensenada_BC	Ensenada	2.7	26 636
Sprinkler irrigation (1535 ha)	Ensenada_BC	Ensenada	12.4	54 757
Plot irrigation modernization (58 ha)	Tecate_BC	Tecate	0.4	3 880
High precision irrigation (45 ha)	Tecate_BC	Tecate	0.4	1 180
Sprinkler irrigation (84 ha)	Tecate_BC	Tecate	0.7	2 306
Secondary efficiency improvement (169 ha)	Tecate_BC	Tecate	0.0	6 604
Technification of field irrigation (43 ha)	Tijuana_BC	Tijuana	0.3	2 910
Sprinkler irrigation (7 ha)	Tijuana_BC	Tijuana	0.1	252
Plot irrigation modernization (29 ha)	Rosarito Beaches_BC	Rosarito Beaches	0.2	1 940
High precision irrigation (5 ha)	Rosarito Beaches_BC	Rosarito Beaches	0.1	463
Sprinkler irrigation (25 ha)	Rosarito Beaches_BC	Rosarito Beaches	0.1	905
Technification of land irrigation in DR014 (23,170 ha)	Mexicali_BC	Mexicali	159.9	1 551 977
High-precision irrigation (117 ha)	Mexicali_BC	Mexicali	1.1	11 037
Sprinkler irrigation (13,990 ha)	Mexicali_BC	Mexicali	66.3	492 117
Improvement of primary efficiency (30,935 ha)	Mexicali_BC	Mexicali	11.0	1 268 332
Secondary efficiency improvement (8,982 ha)	Mexicali_BC	Mexicali	1.1	350 304
Replacement and rehabilitation of 400 private agricultural wells and casing of 200 wells with piping (contribution to casing) DR014	Mexicali_BC	Mexicali	10.0	774 226
Operation and conservation of DR014. Conservation work in canals (Systematic program).	Mexicali_BC	Mexicali		3 270 000
Repair of canal structures DR014	Mexicali_BC	Mexicali		46 000
Repair of drainage structures DR014	Mexicali_BC	Mexicali		41 200
Reconstruction of canals in modules 10, 11 and 12 (including executive projects) DR014	Mexicali_BC	Mexicali		630 000
Construction of the 4 de abril canal (includes executive project, rights of way and indemnities, UEEP (External Project Executing Unit) DR014	Mexicali_BC	Mexicali		1 084 389
Promote the exchange of water from Mexicali's treatment plants for agricultural use in the Mexicali Valley.	Mexicali_BC	Mexicali		0
Technification of land irrigation in DR014 (5,793 ha)	San Luis Río Colorado_Son	San Luis Río Colorado	40.0	387 994
Sprinkler irrigation (1,799 ha)	San Luis Río Colorado_Son	San Luis Río Colorado	8.6	54 051
Secondary efficiency improvement (295 ha)	San Luis Río Colorado_Son	San Luis Río Colorado	0.0	11 517

Watersheds in equilibrium				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Technify surface area in 34 UR in La Paz (2,930 ha)	La Paz_BCS	La Paz	20.2	116 000
Rehabilitation of 84 wells in 34 URs in La Paz	La Paz_BCS	La Paz	NA	29 225
Replacement of 84 wells in 34 URs in La Paz	La Paz_BCS	La Paz		45 925
Instrumentation of the La Paz aquifer, BCS (to evaluate the results of integrated groundwater management).	La Paz_BCS	La Paz	NA	4 205
Leak repair	Mexicali_BC	Mexicali	0.2	0
Pressure reduction	Mexicali_BC	Mexicali	0.1	0
Seawater desalination plant for the supply of potable water to the city of Ensenada, B.C. (250 lps)	Ensenada_BC	Ensenada	7.8	387 090
Construction of seawater desalination plant for drinking water supply in Isla de Cedros, municipality of Ensenada, B.C. (5lps)	Ensenada_BC	Ensenada	0.2	14 000
Construction of a seawater desalination plant to supply drinking water to the Camalú- Padre Kino area, municipality of Ensenada, B.C. (40lps)	Ensenada_BC	Ensenada	1.3	68 200
Construction of seawater desalination plant to supply drinking water to the Leandro Valle-Los Pinos area, municipality of Ensenada, B.C. (40lps)	Ensenada_BC	Ensenada	1.3	80 000
Use of effluent from the El Sauzal WWTP, Ensenada, B.C.	Ensenada_BC	Ensenada	3.8	150 000
Use of effluent from El Gallo WWTP, Ensenada, B.C.	Ensenada_BC	Ensenada	4.7	150 000
Use of Treated Water; Carrying treated wastewater from Tijuana to Ensenada (Valles de las Palmas and Guadalupe) Pipelines and regulating basin (2012-2017)	Ensenada_BC	Ensenada	20.7	1 000 000
Design and construction of the main and distribution network for the reuse of water from the El Naranjo treatment plant to the Maneadero Valley.	Ensenada_BC	Ensenada	6.0	0
Aquifer Recharge	Ensenada_BC	Ensenada	0.4	2 087
Reuse of treated water	Ensenada_BC	Ensenada	14.4	301 399
Aquifer Recharge	Tecate_BC	Tecate	0.1	637
Reuse of treated water	Tecate_BC	Tecate	3.2	253 414
Seawater desalination plant in La Mision to supply drinking water to the north of the municipality of Ensenada and the south of the municipality of Tijuana, B.C. (250 lps)	Tijuana_BC	Tijuana	7.8	410 000
Use of treated water for reuse for irrigation in parks, industry and agricultural irrigation.	Tijuana_BC	Tijuana	49.3	0
Construction of a new desalination plant	Tijuana_BC	Tijuana	7.8	412 300
Seawater desalination plant in Rosarito, to supply potable water to the municipalities of Playas de Rosarito and Tijuana, B.C. (237 lps+13 lps)	Rosarito Beaches_BC	Rosarito Beaches	7.9	600 000
Construction of a new desalination plant	Rosarito Beaches_BC	Rosarito Beaches	6.2	80 392

Watersheds in equilibrium				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Construction of the Valle Chico System to supply drinking water to San Felipe, municipality of Mexicali, B.C.	Mexicali_BC	Mexicali	1.6	552 000
Use of treated water for agriculture and environmental purposes in the Mexicali Valley, a total of 880 lt/sec, in two stages from 2010 to 2020.	Mexicali_BC	Mexicali	27.8	750 000
Aquifer Recharge	Mexicali_BC	Mexicali	0.8	3 966
Groundwater extraction potential	Mexicali_BC	Mexicali	56.9	261 762
Aquifer Recharge	San Luis Río Colorado_Son	San Luis Río Colorado	0.1	563
Construction of a seawater desalination plant to supply drinking water to the city of La Paz, B.C.S., with a total capacity of 600 lps.	La Paz_BCS	La Paz	18.9	1 060 000
Construction of four seawater desalination plants for the supply of drinking water in the rural zone in the municipality of La Paz, B.C.S., with a total capacity of 10 lps. each.	La Paz_BCS	La Paz	1.3	60 000
Aquifer Recharge	La Paz_BCS	La Paz	0.2	814
Construction of a new desalination plant	La Paz_BCS	La Paz	7.8	412 300
Pressure control to reduce leakage	Ensenada_BC	Ensenada	1.5	104 184
Repair of leaks in the distribution network	Ensenada_BC	Ensenada	2.1	60 868
Repair of leaks in the distribution network	Tijuana_BC	Tijuana	3.3	11 459
Repair of leaks in the distribution network	Rosarito Beaches_BC	Rosarito Beaches	0.2	15 741
Repair of leaks in the distribution network	Mexicali_BC	Mexicali	1.6	5 677
Pressure control to reduce leakage	San Luis Río Colorado_Son	San Luis Río Colorado	1.7	28 085
Repair of leaks in the distribution network	San Luis Río Colorado_Son	San Luis Río Colorado	2.0	6 898
Pressure control to reduce leakage (stabilize pressure at 31,374 taps)	La Paz_BCS	La Paz	1.8	40 625
Repair of 1,764 leaks in the distribution network.	La Paz_BCS	La Paz	2.1	27 176
Promote the exchange of water from the El Naranjo treatment plant for agricultural use in the Maneadero Valley.	Ensenada_BC	Ensenada		0
Technification of field irrigation (159 ha)	La Paz_BCS	La Paz	1.1	10 670
High-precision irrigation (189 ha)	La Paz_BCS	La Paz	1.8	3 343
Sprinkler irrigation (347 ha)	La Paz_BCS	La Paz	0.9	10 647
Total watersheds in equilibrium			645.4	17 798 475

Clean rivers

Clean rivers				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Construction of additional municipal infrastructure	Ensenada_BC	Ensenada	0.4	9 681
All installed capacity operating	Ensenada_BC	Ensenada	11.1	30 702
Installed capacity operating efficiently	Ensenada_BC	Ensenada	6.6	18 333
Drainage (sewer) expansion and connection	Ensenada_BC	Ensenada	0.0	334 988
Construction of industrial wastewater treatment infrastructure	Ensenada_BC	Ensenada	1.4	34 777
Construction of additional municipal infrastructure	Tecate_BC	Tecate	2.5	51 848
All installed capacity operating	Tecate_BC	Tecate	2.3	6 326
Installed capacity operating efficiently	Tecate_BC	Tecate	1.6	4 452
Drainage (sewer) expansion and connection	Tecate_BC	Tecate	0.0	77 227
Construction of industrial wastewater treatment infrastructure	Tecate_BC	Tecate	0.3	7 278
All installed capacity operating	Rosarito Beaches_BC	Rosarito Beaches	0.5	437
Installed capacity operating efficiently	Rosarito Beaches_BC	Rosarito Beaches	3.0	2 625
Drainage (sewer) expansion and connection	Rosarito Beaches_BC	Rosarito Beaches	0.0	52 013
Construction of additional municipal infrastructure	Tijuana_BC	Tijuana	14.5	209 545
All installed capacity operating	Tijuana_BC	Tijuana	10.5	29 071
Installed capacity operating efficiently	Tijuana_BC	Tijuana	21.3	58 908
Volume treated at the minimum level required by law	Tijuana_BC	Tijuana	40.3	132 560
Drainage (sewer) expansion and connection	Tijuana_BC	Tijuana	0.0	301 135
Construction of industrial wastewater treatment infrastructure	Tijuana_BC	Tijuana	0.9	22 201
Construction of industrial wastewater treatment infrastructure	Mexicali_BC	Mexicali	6.9	173 252
Installed capacity operating efficiently	Mexicali_BC	Mexicali	20.6	56 753
Drainage (sewer) expansion and connection	Mexicali_BC	Mexicali	0.0	295 065
Construction of industrial wastewater treatment infrastructure	San Luis Río Colorado_BC	San Luis Río Colorado	0.1	1 714
Installed capacity operating efficiently	San Luis Río Colorado_BC	San Luis Río Colorado	2.0	1 675
Drainage (sewer) expansion and connection	San Luis Río Colorado_BC	San Luis Río Colorado	0.0	55 901
Construction of additional municipal infrastructure	Los Cabos_BCS	Los Cabos	10.7	58 315
All installed capacity operating	Los Cabos_BCS	Los Cabos	3.9	10 803
Installed capacity operating efficiently	Los Cabos_BCS	Los Cabos	3.8	10 526
Volume treated at the minimum level required by law	Los Cabos_BCS	Los Cabos	0.2	658
Drainage (sewer) expansion and connection	Los Cabos_BCS	Los Cabos	0.0	51 163
Construction of industrial wastewater treatment infrastructure	Los Cabos_BCS	Los Cabos	2.9	71 487
Installed capacity operating efficiently	La Paz_BCS	La Paz	4.8	13 208

Clean rivers				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
All installed capacity operating	La Paz_BCS	La Paz	1.3	3 669
Volume treated at the minimum level required by law	La Paz_BCS	La Paz	0.6	1 868
Drainage (sewer) expansion and connection	La Paz_BCS	La Paz	0.0	34 373
Construction of industrial wastewater treatment infrastructure	La Paz_BCS	La Paz	2.0	49 874
Volume treated at the minimum level required by law	Mulegé_BCS	Mulegé	2.5	8 352
All installed capacity operating	Mulegé_BCS	Mulegé	1.2	3 221
Drainage (sewer) expansion and connection	Mulegé_BCS	Mulegé	0.0	48 812
Construction of industrial wastewater treatment infrastructure	Mulegé_BCS	Mulegé	3.1	77 702
Installed capacity operating efficiently	Comondú_BCS	Comondú	0.0	78
All installed capacity operating	Comondú_BCS	Comondú	0.6	1 645
Volume treated at the minimum level required by law	Comondú_BCS	Comondú	3.9	12 913
Drainage (sewer) expansion and connection	Comondú_BCS	Comondú	0.0	38 787
Construction of industrial wastewater treatment infrastructure	Comondú_BCS	Comondú	2.5	61 488
Construction of industrial wastewater treatment infrastructure	Loreto_BCS	Loreto	0.0	1 048
Installed capacity operating efficiently	Loreto_BCS	Loreto	0.0	954
Volume treated at the minimum level required by law	Loreto_BCS	Loreto	3.9	2 158
Drainage (sewer) expansion and connection	Loreto_BCS	Loreto	0.0	5 717
Total Clean rivers			194.6	2 537 282

Axis 3. Universal coverage

Universal coverage				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Expansion of drinking water network to urban areas	Tecate_BC	Tecate	112 000	580 500
Expansion of drinking water network to rural areas	Tecate_BC	Tecate	16 000	109 700
Extension of the sewerage network to urban areas	Tecate_BC	Tecate	111 000	304 700
Expansion of sewerage network to rural areas	Tecate_BC	Tecate	11 000	38 600
Expansion of drinking water network to urban areas	Mexicali_BC	Mexicali	388 000	1 480 400
Expansion of drinking water network to rural areas	Mexicali_BC	Mexicali	38 000	92 300
Extension of the sewerage network to urban areas	Mexicali_BC	Mexicali	425 000	820 000
Expansion of sewerage network to rural areas	Mexicali_BC	Mexicali	71 000	256 600
Expansion of drinking water network to urban areas	Ensenada_BC	Ensenada	234 000	972 800
Expansion of drinking water network to rural areas	Ensenada_BC	Ensenada	47 000	29 900
Extension of the sewerage network to urban areas	Ensenada_BC	Ensenada	276 000	587 500
Expansion of sewerage network to rural areas	Ensenada_BC	Ensenada	56 000	199 900
Expansion of drinking water network to urban areas	Tijuana_BC	Tijuana	1 322 000	4 516 100
Expansion of drinking water network to rural areas	Tijuana_BC	Tijuana	18 000	24 100
Extension of the sewerage network to urban areas	Tijuana_BC	Tijuana	1 352 000	2 285 400
Expansion of sewerage network to rural areas	Tijuana_BC	Tijuana	12 000	42 400
Expansion of drinking water network to urban areas	Rosarito Beaches_BC	Rosarito Beaches	127 000	694 200
Expansion of drinking water network to rural areas	Rosarito Beaches_BC	Rosarito Beaches	14 000	15 200
Extension of the sewerage network to urban areas	Rosarito Beaches_BC	Rosarito Beaches	115 000	338 200
Expansion of sewerage network to rural areas	Rosarito Beaches_BC	Rosarito Beaches	11 000	39 100
Expansion of drinking water network to urban areas	San Luis Río Colorado_BC	San Luis Río Colorado	21 000	89 000
Expansion of drinking water network to rural areas	San Luis Río Colorado_BC	San Luis Río Colorado	3 000	22 300
Extension of the sewerage network to urban areas	San Luis Río Colorado_BC	San Luis Río Colorado	35 000	74 600
Expansion of sewerage network to rural areas	San Luis Río Colorado_BC	San Luis Río Colorado	8 000	27 600
Expansion of drinking water network to urban areas	La Paz	La Paz	58 000	212 280
Expansion of drinking water network to rural areas	La Paz	La Paz	15 000	97 200
Extension of the sewerage network to urban areas	La Paz	La Paz	76 000	266 000
Expansion of sewerage network to rural areas	La Paz	La Paz	13 000	46 800
Expansion of drinking water network to urban areas	Los Cabos	Los Cabos	250 000	925 000
Expansion of drinking water network to rural areas	Los Cabos	Los Cabos	25 000	132 750
Extension of the sewerage network to urban areas	Los Cabos	Los Cabos	190 000	665 000
Expansion of sewerage network to rural areas	Los Cabos	Los Cabos	22 000	79 200
Expansion of drinking water network to urban areas	Mulegé	Mulegé	16 000	72 960
Expansion of drinking water network to rural areas	Mulegé	Mulegé	10 000	31 100

Universal coverage				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Extension of the sewerage network to urban areas	Mulegé	Mulegé	18 000	63 000
Expansion of sewerage network to rural areas	Mulegé	Mulegé	13 000	46 800
Expansion of drinking water network to urban areas	Comondú	Comondú	2 000	8 800
Expansion of drinking water network to rural areas	Comondú	Comondú	7 000	109 410
Extension of the sewerage network to urban areas	Comondú	Comondú	8 000	28 000
Expansion of sewerage network to rural areas	Comondú	Comondú	9 000	32 400
Expansion of drinking water network to urban areas	Loreto	Loreto	1 000	4 910
Expansion of drinking water network to rural areas	Loreto	Loreto	2 000	20 960
Extension of the sewerage network to urban areas	Loreto	Loreto	1 000	3 500
Expansion of sewerage network to rural areas	Loreto	Loreto	2 000	7 200
TOTAL			5 561 000	16 494 370

Axis 4. Safe settlements in the face of catastrophic floods

Settlements safe from catastrophic floods				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Construction of infrastructure to protect population centers in the Agualeguas neighborhood.	Mexicali_BC	Mexicali	31 000	8 417
Construction of infrastructure to protect population centers in the El Vidrio neighborhood.	Mexicali_BC	Mexicali	30 500	11 420
Delimitation and demarcation of 5 km of the Arroyo El Huatamote.	Mexicali_BC	Mexicali	NA	200
Delimitation and demarcation of Arroyo El Arco 6 km Vizcaino Reserve	Ensenada_BC	Ensenada	NA	240
Delineation and Demarcation of San Carlos Creek, (15.0 Km) \$40,000/km	Ensenada_BC	Ensenada	NA	600
Delimitation and Demarcation of El Sauzal Stream, (6.0 Km)	Ensenada_BC	Ensenada	NA	240
Delimitation and demarcation of San Simón Creek (15 Km).	Ensenada_BC	Ensenada	NA	600
Delimitation and Demarcation of Camalu Creek (6.0 Km)	Ensenada_BC	Ensenada	NA	240
Delimitation and Demarcation of San Vicente Creek, (15 Km)	Ensenada_BC	Ensenada	NA	600
Delimitation and demarcation of Santo Tomas Creek, (10.0 Km)	Ensenada_BC	Ensenada	NA	400
Delimitation and Demarcation of La Grulla Creek, (10.0 Km)	Ensenada_BC	Ensenada	NA	400
Delimitation and Demarcation of Munguia Creek, (6.0 Km)	Ensenada_BC	Ensenada	NA	240
Delimitation and Demarcation of San Telmo Creek, (15.0 Km)	Ensenada_BC	Ensenada	NA	600
Delimitation and Demarcation of El Arco Creek 6 Km	Ensenada_BC	Ensenada	NA	240
Delimitation and Demarcation of the Arroyo Nuevo Rosarito 10.0 km	Ensenada_BC	Ensenada	NA	400
Los Angeles Bay Delineation and Demarcation 5.0 km	Ensenada_BC	Ensenada	NA	200
Delimitation and Demarcation of Cañón del Carmen Canyon 10.0 km	Ensenada_BC	Ensenada	NA	400
Delimitation and Demarcation of Guadalupe Creek (Fco. Zarco Section) 20.0 km	Ensenada_BC	Ensenada	NA	800
Tecolote Creek Delineation and Demarcation (13.0 km)	Tijuana_BC	Tijuana	NA	520
Monumentacion de la Presa Abelardo L. Rodríguez, (20.0 Km)	Tijuana_BC	Tijuana	NA	800
Monumentacion Del Arroyo Los Laureles, (20.0 Km)	Tijuana_BC	Tijuana	NA	800
Monumentacion del arroyo playas, (15.0 Km)	Tijuana_BC	Tijuana	NA	600
Delimitation and demarcation of the tributaries of Sainz Creek 10.0 km	Tijuana_BC	Tijuana	NA	400
Delimitation and demarcation of the tributaries of Laureles Creek 10.0 km	Tijuana_BC	Tijuana	NA	400
Delimitation and demarcation of Tijuana River tributary 4 8.0 km	Tijuana_BC	Tijuana	NA	320

Settlements safe from catastrophic flooding				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Delimitation and demarcation of Tijuana River tributary 3 5.0 km	Tijuana_BC	Tijuana	NA	200
Delimitation and Demarcation of Real del Mar 15.0 km	Tijuana_BC	Tijuana	NA	600
Delimitation and demarcation of Tijuana River tributary 2 2.0 km	Tijuana_BC	Tijuana	NA	80
Delimitation and demarcation of Tijuana River tributary 1 4.0 km	Tijuana_BC	Tijuana	NA	160
Delineation and Demarcation of the Arroyo Seco 5.0 km	Tecate_BC	Tecate	NA	200
Delimitation and Demarcation of the Rosarito Creek 10.0 km	Rosarito Beaches_BC	Rosarito Beaches	NA	400
Delimitation of the federal zone of Las Palmas creek, in the Municipality of La Paz, BCS (13.0 Km)	La Paz_BCS	La Paz	NA	520
Study and executive project for the maintenance, rehabilitation and construction of protection works for population centers in the city of La Paz, BCS.	La Paz_BCS	La Paz	NA	4 300
Delimitation of the federal zone of Las Palmas creek, in the Municipality of La Paz, BCS (13.0 Km) Work	La Paz_BCS	La Paz	NA	104 000
Integral 8km delimitation and flood control project in San Ramon Creek, Delta Zone, La Paz.	La Paz_BCS	La Paz	2 500	320
Construction of infrastructure to protect population centers and productive areas in the El Calandrio stream, section of the Transpeninsular highway col. Guerrero	La Paz_BCS	La Paz	15 000	20 000
Delimitation of the federal zone of San José creek, (8.2Km)	Los Cabos_BCS	Los Cabos	NA	400
Delimitation of the federal zone of Los Limones creek (4.0 Km)	Los Cabos_BCS	Los Cabos	500	160
Demarcation of Zacatal and Sta. Rosa streams (7 km)	Los Cabos_BCS	Los Cabos	1 000	280
Delimitation of the federal zone of El Aguajito stream (4.5 Km).	Los Cabos_BCS	Los Cabos	1 000	180
Delimitation and demarcation of the federal zone of the Santiago stream (12.0 Km).	Los Cabos_BCS	Los Cabos	1 000	480
Delimitation and demarcation of the federal zone of Los Pocitos creek (10.0 km).	Los Cabos_BCS	Los Cabos	1 000	400
Construction of protection works in the Don Guillermo stream in the city of San José del Cabo /K129 protection infrastructure for population centers and productive areas.	Los Cabos_BCS	Los Cabos	2 000	35 000
Construction of protection works in the zacatal stream in the city of San José del cabo /K129 infrastructure for the protection of population centers and productive areas.	Los Cabos_BCS	Los Cabos	2 000	40 000
Construction of protection works for the city of San José del Cabo /k129 infrastructure for the protection of population centers and productive areas.	Los Cabos_BCS	Los Cabos	10 000	320 000

Settlements safe from catastrophic flooding				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Study and project for the construction of protection works in the Saltito stream in the city of San Jose del Cabo /K129 infrastructure for the protection of population centers and productive areas.	Los Cabos_BCS	Los Cabos	NA	1 800
Construction of protection works in the Saltito stream in the city of San Jose del Cabo /K129 infrastructure for protection of population centers and productive areas.	Los Cabos_BCS	Los Cabos	15 000	40 000
Construction of channeling works for the San Lucas and Salto Seco streams /K129 infrastructure for the protection of population centers and productive areas.	Los Cabos_BCS	Los Cabos	3 000	450 000
Study for the canalization of streams. San José, Santa Rosa, El Zacatal, Los Limones, Catarina and El Alamo.	Los Cabos_BCS	Los Cabos	NA	2 000
Complementary study of the management program for the San Jose del Cabo watershed	Los Cabos_BCS	Los Cabos	NA	1 500
Hydraulic protection works for the Salto Seco stream ford.	Los Cabos_BCS	Los Cabos	40 000	20 000
Installation of meteorological stations in Sierra La Laguna and Sierra La Trinidad (10 stations).	Los Cabos_BCS	Los Cabos	NA	100
Weather station (1 pilot station) with radar-like functions to determine the spatial distribution of rainfall	Los Cabos_BCS	Los Cabos	NA	200
Installation of a network of hydrographic stations (runoff measurement) 5 stations	Los Cabos_BCS	Los Cabos	NA	100
Acquisition of a dual polarity C-band Doppler weather radar to be installed in Los Cabos, BCS.	Los Cabos_BCS	Los Cabos	NA	25 000
Civil works for the construction of a station to house a dual polarity C-Band Doppler weather radar to be installed in Los Cabos, BCS.	Los Cabos_BCS	Los Cabos	NA	11 500
Acquisition and installation of a VHF base radio equipment for emergencies where the radar is located; and acquisition of 12 mobile radios and 15 VHF portable radios.	Los Cabos_BCS	Los Cabos	NA	150
Operation and maintenance of the surface meteorological observatory network, including the Los Cabos radar.	Los Cabos_BCS	Los Cabos	NA	50 000
Delimitation and control works in La Heróica Mulegé (50 km)	Mulegé_BCS	Mulegé	5 000	400 000
Acquisition and installation of a VHF repeater in the Sierra de San Francisco, acquisition of 2 radio bases and 1 mobile radio for the CONAGUA office in Vizcaino and for the meteorological observatory in Santa Rosalía.	Mulegé_BCS	Mulegé	NA	500
Study and project for the construction of protection works for the city of Mulegé h. Mulegé /K129 protection infrastructure for population centers and productive areas.	Mulegé_BCS	Mulegé	NA	1 800

Settlements safe from catastrophic floods				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Construction of protection works for the city of Mulegé h. Mulegé /K129 protection infrastructure for population centers and productive areas.	Mulegé_BCS	Mulegé	8 000	200 000
Study and project for the construction of protection works for the city of Santa Rosalía /K129 infrastructure for the protection of population centers and productive areas.	Mulegé_BCS	Mulegé	NA	2 000
Construction of protection works for the city of Santa Rosalía /K129 infrastructure for the protection of population centers and productive areas.	Mulegé_BCS	Mulegé	5 000	200 000
Study and project for the construction of infrastructure for the protection of San Ignacio /K129 infrastructure for the protection of population centers and productive areas.	Mulegé_BCS	Mulegé	NA	2 500
Study and project for the construction of infrastructure for the protection of santa /K129 infrastructure for the protection of population centers and productive areas.	Mulegé_BCS	Mulegé	NA	1 800
Study and project for the construction of infrastructure for the protection of San José de /K129 infrastructure for the protection of population centers and productive areas.	Mulegé_BCS	Mulegé	NA	1 800
Delimitation of the federal zone (10.0 km) of El Purgatorio creek.	Mulegé_BCS	Mulegé	NA	400
Construction of the infrastructure work for the protection of Insurgentes City /K129 infrastructure for the protection of population centers and productive areas.	Comondú_BCS	Comondú	8 000.0	171 500
Study and project for the construction of protection works for the city of Constitución /K129 infrastructure for the protection of population centers and productive areas.	Comondú_BCS	Comondú	NA	1 800
Construction of protection works for the city of Constitución /K129 infrastructure for the protection of population centers and productive areas. Subsequent to the study.	Comondú_BCS	Comondú	20 000	50 000
Study and project for the construction of infrastructure for the protection of Jesús María /k129 infrastructure for the protection of population centers and production areas	Comondú_BCS	Comondú	NA	2 000
Study and project for the construction of infrastructure for the protection of Villa Hidalgo and Ramaditas /K129 infrastructure for the protection of population centers and productive areas.	Comondú_BCS	Comondú	NA	1 800
Study and project for the construction of infrastructure for the protection of Santo Domingo /K129 infrastructure for the protection of population centers and productive areas.	Comondú_BCS	Comondú	NA	1 200
Study and project for the construction of infrastructure for the protection of San Miguel and San Jose de Comondu /K129 infrastructure for the protection of population centers and productive areas.	Comondú_BCS	Comondú	NA	2 500

Settlements safe from catastrophic flooding				
Project name	Cell	Municipality	Gap contribution (hm) ³	Investment (thousands of \$)
Rehabilitation of the existing Las Parras stream (11.5 km).	Loreto_BCS	Loreto	1 500	460
Delimitation of Arroyo Los Delfines in the urban area of Miramar (7 km)	Loreto_BCS	Loreto	1 000	280
Study and project for the construction of protection works for the city of Loreto /k129 infrastructure for the protection of population centers and productive areas. Subsequent to the study.	Loreto_BCS	Loreto	NA	1 800
Construction of protection works for the city of Loreto in the municipality of Loreto in the state of Baja California State. /k129 infrastructure to protect population centers and productive areas. Subsequent to the study.	Loreto_BCS	Loreto	5 000	150 000
Delimitation of the federal zone of Potrerillos stream, (10.0 Km)	Loreto_BCS	Loreto	1 000	400
Total Settlements safe from catastrophic floods			210 000	2 354 647

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"ORGANIC STATUTE".

THE GOVERNING BOARD OF THE MUNICIPAL OPERATING AGENCY OF THE POTABLE WATER AND SEWERAGE SYSTEM OF LORETO, BAJA CALIFORNIA SUR; BASED ON THE PROVISIONS OF ARTICLE 31 SECTION XII OF THE WATER LAW OF THE STATE OF BAJA CALIFORNIA SUR, HAS HAD THE GOOD WILL TO APPROVE AND ISSUE THE FOLLOWING:

"ORGANIC STATUTE OF THE MUNICIPAL OPERATING AGENCY OF THE POTABLE WATER AND SEWERAGE SYSTEM OF LORETO".

ARTICLE 1.- The purpose of these Organic Bylaws is to regulate the assignment and structural organization of the Municipal Water and Sewerage System of Loreto, as well as to determine the attributions and functions of the General Directorate and Administrative Units of said Agency.

ARTICLE 2.- For the purposes of these bylaws, the following shall be understood as:

- I. Municipality: The Municipality of Loreto, State of Baja California Sur.
- II. Conagua: The National Water Commission.
- III. Commission: The State Water Commission.
- IV. General Director: The Director General of the Agency.
- V. Bylaws: The present Organic Statutes.
- VI. The Governing Board: The Governing Board of OOMSAPA Loreto
- VII. Water Law: The Water Law of the State of Baja California Sur.
- VIII. Organismo or OOMSAPAL: The Municipal Water and Sewage System Operator of Loreto.
- IX. Strategic Development Project: Study that, based on a diagnosis of the current conditions of the potable water systems, desalinated water systems, sewerage and sanitation, taking into account the projections of increased demand in strict adherence to urban, state and municipal development plans that, contains the definition of the actions that will be required to increase physical and commercial efficiencies, as well as the coverage of public services in the short, medium and long terms, in such a way as to ensure the continuous satisfaction of the needs of present and future generations in all human settlements, in quantity and quality, without degrading the environment. This definition of actions must also be economically viable, technically feasible and socially acceptable.



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- X. Public Services: Actions aimed at the supply of drinking water, sewage and sanitation.
- XI. Administrative Units: The Directorates, Departments and Managements that make up the Municipal Water and Sewerage System of Loreto, with the exception of the General Directorate.
- XII. User: The individual or legal entity that uses public services.

CHAPTER I
OF THE LEGAL NATURE OF THE ORGANIZATION

ARTICLE 3.- Based on the provisions of Article 25 of the Water Law, and by agreement of the H. Cabildo of the Municipality of Loreto, Baja California Sur, was created the **ORGANISMO OPERADOR DEL SISTEMA DE AGUA POTABLE, DRENAJE, ALCANTARILLADO, TRATAMIENTO Y**

This was published in the Official Gazette of the State Government on February 20, 2000, constituting it as a Decentralized Organization of the Municipal Public Administration, with its own legal personality and assets, which is responsible for the provision of public drinking water, sewage and sanitation services in the territorial jurisdiction of the Municipality of Loreto, Baja California Sur, through the powers that the law of the matter and other legal provisions conferred upon it. Notwithstanding the foregoing, up to this date the Institution has been called by another name, which is **ORGANISMO OPERADOR MUNICIPAL DEL SISTEMA DE AGUA POTABLE Y ALCANTARILLADO DE**

LORETO, which was registered with that name before the Secretary of the Tax Administration (SAT) on April 1, 2010 and issued the Federal Taxpayers Registry (Registro Federal de Contribuyentes) that to date has been managed OOM-010410-DD8.

There is a great difference in the names used, however, the correct official name is the one approved and published in the Official Gazette of the Government of the State of Baja California Sur.

To correct this situation, the **BOARD OF GOVERNMENT** agreed at the Extraordinary Meeting held on December 14, 2011, ratifying that the new name is the **ORGANISMO OPERADOR MUNICIPAL DEL SISTEMA DE AGUA POTABLE Y ALCANTARILLADO DE LORETO** to subsequently publish this agreement together with the present document. **ORGANIC STATUTE** in the Official Gazette of the Government of the State of Baja California Sur.



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**CHAPTER II
OF THE AGENCY'S OBJECTIVE.**

ARTICLE 4.- The Agency is responsible for the functions set forth in Articles 19, 27 and other relative and applicable articles of the Water Law for the State of Baja California Sur.

**CHAPTER III
OF THE ORGANIZATION'S ASSETS.**

ARTICLE 5.- The assets of the Agency shall consist of:

- I. The assets that form an initial part of its net worth;
- II. Federal, State and Municipal contributions, if any;
- III. Revenues from the provision of public services, and reuse of treated wastewater, or any other service provided by the Agency to the user;
- IV. The credits obtained for the fulfillment of its purposes;
- V. Donations, inheritances, legacies and other contributions from individuals, as well as subsidies and awards in favor of the Agency;
- VI. The remainder, fruits, profits, income, products, interest and sales obtained from its own assets;
- VII. The other assets and rights that form part of its patrimony by any legal title;
- VIII. The assets of the Agency, directly affected to the provision of public services, are considered assets of the public domain of the municipality, and therefore shall be unseizable and imprescriptible.

**CHAPTER IV
OF THE ORGANIZATIONAL STRUCTURE OF THE ORGANISM**

ARTICLE 6.- In accordance with the provisions of Article 29 of the Water Law, the Municipal Water Authority shall have:

- I. A Board of Governors;
- II. A General Manager;
- III. A Commissioner; and
- IV. The technical and administrative personnel required for its operation.

An Advisory Council will be created for the purpose set forth in Article 35 of the Water Law.



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**CHAPTER V
OF THE BOARD OF GOVERNORS**

ARTICLE 7. The Governing Board of the Agency, in accordance with the provisions of Article 30 of the Water Law, shall be composed of:

- I. The Municipal President, who shall preside;
- II. One alderman or alderwoman;
- III. A representative of the Commission; and
- IV. Four representatives of the Agency's Advisory Council, one of whom shall be the Chairman of said Council and the others shall be appointed under the terms of the Bylaws, one representing domestic users, another representing commercial and service users, and the last representing industrial users;

The General Director of the Agency shall act as Secretary of the Governing Board, and shall attend its meetings with voice and vote.

An alternate shall be appointed for each proprietary representative. Representatives of Federal, State or Municipal agencies, as well as representatives of the users that are part of the Advisory Council, may be invited to be part of the Board, with voice but without vote.

ARTICLE 8.- The highest governing body of the Agency is its Board of Directors, and for the fulfillment of the Agency's objectives, it shall have the broadest powers of dominion, administration and representation that require a special power or clause in accordance with the Law, as well as the other powers set forth in Article 31 and other relative and applicable provisions of the Water Law.

The Governing Board shall operate validly with the concurrence of the majority of its members, among which shall be its Chairman and the Representative of the Commission. Agreements and resolutions shall be adopted by majority vote of those in attendance and the Chairman shall have the casting vote.

The Board shall meet in ordinary meetings at least once every three months, and in extraordinary meetings as often as called by its Chairman, by the Director General or by the Commissioner of the Agency, on his own initiative or at the request of two or more members of the Board.

For the holding of ordinary or extraordinary meetings, written notice must be given to the members at least three working days prior to the date of the corresponding meeting, indicating the place, date and time, stating the reasons for the requirement in the agenda.

When the majority of the members of the Board do not attend the meeting, a second summons shall be sent to them, and in the event that as a consequence of a second summons, a second summons shall be sent to them, and in the event that as a consequence of a second summons, a second summons shall be sent to them.



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If the majority is not reached, the Board shall meet with the number of members who appear, provided that its Chairman and the representative of the Commission are present.

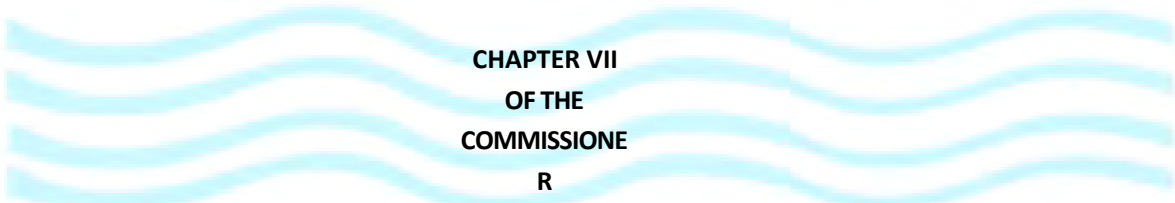
A list of the attendances at the meetings shall be prepared and recorded in the minutes book of the Board of Directors, which shall always be under the custody and responsibility of the Secretary of the minutes, who shall prepare the minutes, record them and obtain the signatures of those who participated in the meetings, with a succinct list of what was discussed and the agreements reached in said meetings.

**CHAPTER VI
OF THE GENERAL MANAGER**

ARTICLE 10. The legal representation of the Agency and the processing and resolution of matters within its competence shall correspond to the Director General, who shall have the powers provided for in Article 36 of the Water Law.

The general objective of the position is to direct the technical, operational, financial and administrative actions of potable water, sewerage, sanitation and the Wastewater Treatment Plant of the Municipality of Loreto, as well as to determine and issue general policies and guidelines to guide the operational and administrative areas to achieve their objectives and functions.

Likewise, to increase the efficiency of the potable water service in the Municipality of Loreto, satisfying the coverage and quality needs demanded.



**CHAPTER VII
OF THE
COMMISSIONER**

The Commissioner shall be appointed by the Municipality and shall have the powers granted to him under Article 37 of the Water Law.



**CHAPTER VIII
OF THE ADVISORY BOARD**

ARTICLE 12. The Advisory Council shall have the functions granted to it by Article 35 of the Water Law.

ARTICLE 13. The Advisory Council shall be made up of a maximum of eighteen members, of which 50% shall represent domestic users, 25% shall represent commercial and service users, and the remaining 25% shall represent industrial users, and in all cases the organizations of the social and private sectors shall be represented.



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ARTICLE 14. The representatives of the commercial and industrial users of the Advisory Council shall belong to institutions, associations, chambers, professional associations, schools of higher education or solid organizations, duly accredited, and shall have knowledge in the field of water or subjects closely related to it, while the representatives of the domestic users shall be persons concerned and committed to address the problems of water use and conservation.

Taking into consideration the requirements mentioned in the preceding paragraph, the Director General will propose to the Governing Board the institutions, associations, chambers, professional associations, schools of higher education or organizations to be invited to form part of the Advisory Council, and the latter will make the election, for which, with the prior consent of the Governing Board, the Director General will send the invitation to the most representative groups in the Municipality so that they may appoint the representative or representatives with their respective alternate or alternates as indicated in the corresponding invitation. To elect the representatives of the domestic users, the Municipality will be requested to designate five persons with their respective alternate who belong to the Organization and Citizen Participation Committees of the delegations and of the municipal seat of the City Council.

ARTICLE 15. For the purposes of the provisions of the preceding article, and in order to duly accredit the members of the Advisory Council, both the representatives of commercial and industrial users shall submit the accreditation documentation signed by the head of the institution or organization to which they belong.

Officials and/or employees of the Operating Agency or public servants may not be members of the Advisory Council.

The members of the Advisory Council will appoint by majority vote from among its members, a Chairman and three representatives, where domestic, commercial, service and industrial users must be represented, who will represent the Advisory Council in the Governing Board of the Agency, and will also appoint a Vice-Chairman who will substitute the Chairman in his absence.

The Chairman, representatives and alternates referred to in the preceding paragraph shall serve for two years, without the possibility of immediate reelection.

The term of office of the members of the Advisory Council shall be two years.

ARTICLE 16. The members of the Advisory Council may be removed in the following cases:

- a) When, without just cause, they miss more than three consecutive Board meetings of Government or of the Advisory Council.
- b) At the request of the majority of the members of the Advisory Council.
- c) By resignation from the office conferred.



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As provided in paragraphs a and b of the preceding paragraph, the Governing Board shall qualify the removal request submitted by the advisory council and at the next meeting of the Governing Board, it shall proceed to dismiss or approve the request as appropriate, if the request is approved, the alternate shall take office and the city council, the chamber or association, as appropriate, shall be informed so that another alternate may be appointed.

The Advisory Council shall meet at least once every three months in regular meetings and in extraordinary meetings as often as called by its Chairman, or at the request of the majority of its members, or of the Board of Directors. It shall operate validly with the concurrence of the majority of its members, including its President. The agreements and resolutions of this Council will be taken by majority vote of the attendees, in case of a tie the President will have the casting vote.

The dates of the meetings of the Advisory Council shall be notified in writing to its members three working days in advance, indicating the place, date and time where the meeting shall be held.

Minutes shall be taken of all meetings, and for such purposes a secretary shall be appointed from among the members of the Board of Directors. The Chairman shall be obliged to send a copy of the minutes to the Board of Directors.

ARTICLE 18. The positions of the members of the Advisory Council shall be honorary, for which reason they shall in no case be entitled to any remuneration whatsoever.

CHAPTER IX OF THE POWERS OF THE GENERAL MANAGER

The General Director shall have the legal representation of the Agency, with all the general and special powers that require power of attorney or special clause in accordance with the Law; as well as to grant powers of attorney, file complaints and accusations, grant pardon extinguishing the criminal action, prepare and absolve positions. As well as to promote and desist from the amparo trial.

In addition to the powers conferred upon him by Article 36 of the Water Law, the Director General shall have the following powers:

I. Manage, direct, plan, organize, evaluate and monitor the development of the activities that the company carries out.

correspond to the Administrative Units that make up the Agency;

II. Submit to the consideration of the Board of Directors, the guidelines, policies, standards and criteria, according to which public services shall be rendered and the actions required to that effect shall be carried out;



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XIII. To enter into such contracts or agreements as may be necessary for the execution of the purposes of the Agency with the prior authorization of the Board of Directors, and in strict compliance with applicable legislation;

XIV. Propose to the Governing Board the incentives that may be granted to the Agency's personnel in virtue of their dedication and work performance;

XV. Propose to the Governing Board the removal from fixed assets of the Agency's movable property that is in poor condition and disuse;

XVI. Propose to the Board of Directors, the purging of accounts that are technically and legally uncollectible;

XVII. To issue the hydrosanitary facilities referred to it by the Technical Direction of the Agency;

XVIII. Verify that the requests or complaints submitted to it are channeled to the corresponding Administrative Units;

XIX. To report to the members of the Governing Board on the performance of the Agency's activities, including the exercise of the expenditure budget as well as the status of the agreements adopted by the Governing Board;

XX. Send to the members of the Board of Directors and guests invited to the meeting in question, the information related to the matters to be discussed at the corresponding meeting, at least three working days prior to the holding of such meeting;

XXI. To provide the Agency's Commissioner with the facilities and reports necessary for the performance of his duties;

XXII. Keep a record of the resolutions adopted at the meetings of the Board of Governors and follow up on them until they are complied with;

XXIII. To issue certificates and certifications of the minutes of the meetings or extracts of said minutes, with respect to the resolutions adopted by the Board of Directors;



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XXIV. Approve the calculation reports, projects and the corresponding plans, subject to the opinion of the Technical Direction of the Agency;

XXV. To certify the official documents kept in the Agency's files for official use and, if necessary, to forward them to the authorities that request them, provided that there is no legal impediment for the latter;

XXVI. Any others established by applicable laws, regulations, rules, bylaws or the Board of Governors.

The powers provided for in sections VI, VII, VIII, VIII, XI, XII and XVII of Article 36 of the Water Law, as well as those determined as such by the Board of Directors, may not be delegated.

**CHAPTER X
OF THE TECHNICAL AND ADMINISTRATIVE PERSONNEL
NECESSARY FOR THE OPERATION OF THE ORGANIZATION.**

For the fulfillment and exercise of his powers and functions, the Director General shall be assisted by the Administrative Units indicated below:

Technical Secretary

Administration and Finance Directorate

Technical Directorate

Water Culture Department. Marketing Department.

Department of Planning and Execution of Works. Operation and Maintenance Department.

Financial Resources Department Human

Resources Department Material Resources

Department Information Technology Department.

**CHAPTER XI
SPECIFIC FUNCTIONS OF THE ADMINISTRATIVE UNITS**

ARTICLE 22.- The Technical Secretary shall have the following functions:

I. Prepare the specific studies required by the General Directorate;



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- II. Advise the different areas of the Operating Agency in terms of methodology, organization and procedure;
- III. Collect, classify, analyze and process the information required by the Operating Agency;
- IV. Coordinate the integration of the closing of the fiscal year of the different programs in which the Operating Agency participates;
- V. To integrate basic statistical information and provide it when required for the statistical yearbook, basic general information, management indexes and government report;
- VI. Propose measures, actions and procedures aimed at improving the various functions of the Operating Agency;
- VII. To integrate the Income and Expenditure budget project of all the areas of the Agency, each year;
- VII. Supervision and compliance with the regulations and procedures established for the correct and transparent application of the Budget;
- IX. To prepare the Agency's Strategic Development Project and update it periodically, submitting it to the Governing Board for approval;
- X. To prepare the Agency's Annual Activities Report to be submitted to the Municipality at the end of each year, as well as reports on compliance with the agreements of the Governing Board; progress in the goals established in the Strategic Development Project, in the operating programs authorized by the Governing Board itself;
- XI. Follow-up of all feasible programs that can be applied to the Operating Agency, before Federal and State agencies;
- XII. Verify compliance with the corresponding tax obligations for the use or exploitation of water and inherent national assets, as well as their follow-up before CONAGUA and carry out all the necessary procedures in tax matters;
- XII. Follow up until its total conclusion of the deed program of the assets owned by the Operating Agency, for its corresponding accounting record;



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XIII. To meet the requirements formulated by the Superior Audit Body of the State Congress, as well as those of the internal or external audits contracted by the Agency.

ARTICLE 23. The Water Culture Area shall be responsible for exercising the following functions:

I. To plan and, with the agreement of the Director General, execute work programs to strengthen water care;

II. To cooperate with the Agency's Advisory Council in order to promote among the different sectors of society, the culture, efficient and rational use of water and compliance with its obligations;

III. Develop and execute, on a permanent basis and in coordination with educational agencies at the elementary, middle and high school levels, environmental associations or organizations, programs to raise awareness among citizens through students on the use and rationality of water, as well as to promote the actions that users must take to reduce the pollutant loads of wastewater deposited in the sewage system;

IV. Intervene in the different forums in which the Agency is invited to participate, to inform and guide the Agency's users on its programs and the rational use of water;

V. Plan, design and carry out publicity campaigns on water care;

VI. Promote the culture of payment of public services together with the care of water, as well as support the Collection Coordination in the delivery of notifications of debts to be made to the users of the Agency;

VII. Disseminate information on the application of penalties to users who waste or pollute water in accordance with the water law and other applicable regulations;

VIII. Promote programs for the rational and efficient use of potable water supply and intra-domiciliary disinfection;

IX. Apply sanctions to users when they commit infractions for wasting water and watering gardens outside the hours allowed under Article 139 of the Water Law, which is from 7:00 pm to 6:00 am;



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X. Coordinate and carry out the integration of citizen councils for the proper use and care of water.

ARTICLE 24. The Administration and Finance Directorate shall be responsible for the exercise of the following functions:

I. To plan, program, budget and evaluate the financial activity of the Agency in conjunction with the Director General;

II. To manage the assets of the Agency in coordination with the General Director, observing at all times the applicable legal ordinances and the guidelines established by the Board of Directors for such purposes;

III. With the prior agreement of the Director General, to manage, provide and control the human, material and financial resources necessary for the proper functioning of the Agency;

IV. To collect and manage the revenues received by the Agency in strict compliance with applicable regulations;

V. To manage the allocation of authorized resources in order to guarantee their availability for the execution of the Agency's plans and programs;

VI. To propose to the Director General the priorities in relation to the supply of goods and services required for the operation of the Agency;

VII. To oversee the conservation and maintenance of the Agency's facilities and personal property;

VIII. To plan, propose and execute actions aimed at promoting the financial autonomy of the Agency;

IX. Establish and manage a reserve fund for the rehabilitation, expansion and improvement of the Agency's systems for the replacement of its fixed assets and for debt service;

X. Coordinate the formulation of the annual income and expenditure programs and budgets of the Agency for submission to the consideration of the Director General no later than the first fifteen days of December of each year;



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- XI. To order the preparation of the Agency's financial statements;
- XII. Propose administrative modernization programs to the Director General;
- XIII. Direct the internal process of programming, budgeting, control, evaluation and progress of goals, in accordance with established policies and guidelines;
- XIV. Establish and execute jointly with the General Director, the mechanisms that guarantee that the revenues obtained are used exclusively for public services, allocating them as a priority to improve the efficiency of the administration and operation of the Agency and subsequently, to expand the hydraulic infrastructure, since in no case may they be used for other purposes;
- XV. Coordinate, direct and supervise the fulfillment of the activities and functions of the Administrative Units under his charge;
- XVI. Opening of checking accounts in the name of the Agency and under its strict responsibility to issue these titles of credit jointly with the General Director, having previously the documentation that supports and justifies in each case, the corresponding disbursement;
- XVII. To implement and oversee that the Agency's budget is spent in strict compliance with applicable legislation;
- XVIII. To submit to the consideration of the Director General, for proposal of the Board of Directors, any extraordinary expenditures not foreseen in the Agency's expenditure budget;
- XIX. With the authorization of the Director General, coordinate, supervise and make acquisitions of goods, materials and services required by the Administrative Units of the Agency, in accordance with the approved budget, applicable legal regulations, policies and guidelines for austerity and rationality in the use of expenditures;
- XX. To authorize and integrate the necessary documentation for the exercise and verification of the Agency's expenditure budget;
- XXI. Coordinate that the Agency's Procurement, Leasing and Services Committee be integrated and intervene in accordance with the provisions of the applicable legal provisions;



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XXII. Execute and control the process for the acquisition, storage, supply and control of the Agency's movable property and resources;

XXIII. Coordinate the preparation and updating of the inventory of movable and immovable property and resources that make up the Agency's assets;

XXIV. To ensure that the necessary actions are carried out in order to comply with the legal provisions of a fiscal nature that are applicable within the scope of its competence to which the Agency is obliged;

XXV. Conduct the labor relations of the Agency together with the Human Resources Department and the Union of the Agency's employees and integrate the Health and Safety Committee;

XXVI. Submit for the consideration of the Director General, the organization, administrative structure, job catalog, staffing table, remuneration, selection and hiring systems, as well as the necessary provisions for their implementation, execution, follow-up, control and evaluation;

XXVII. Register and follow up, within the scope of its competence, all acts and contracts that generate rights and obligations to the Agency, which are in its files;

XXVIII. To apply the corresponding sanctions to the personnel of the Agency for non-compliance with their labor obligations and for violations of applicable laws incurred by them, subject to the agreement of the Director General;

XXIX. Establish and coordinate the Civil Protection program for the Agency;

XXX. With the prior approval of the General Director, authorize purchases or the contracting of services referred to him by the Department of Material Resources, as long as they do not exceed the maximum amounts established in the applicable law for direct award;

XXXI. With the prior approval of the General Director, forward to the Technical Directorate the purchase or service contracting requests that exceed the maximum amounts allowed for direct awarding, so that it may carry out the call for tenders, bids or, as the case may be, the bidding process;

ARTICLE 25.- The Administration and Finance Department, in order to perform its functions, shall be assisted by the Administrative Units indicated below:



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Financial Resources Department. Department
of Human Resources Department of Material
Resources. Information Technology
Department.
Marketing and Contracts Department.

ARTICLE 26. The Financial Resources Department shall be responsible for the exercise of the following functions:

- I. To keep the general accounts of the Agency;
- II. To integrate, control and keep the Agency's accounting records up to date;
- III. Review and account for journal entries, checks, receipts, receipts and expenditures and supporting documentation;
- IV. Maintain the chart of accounts up to date, as well as oversee its proper application;
- V. To keep detailed records of the financial operations carried out by the Agency;
- VI. Prepare the public accounts and submit them to the Supreme Audit Institution;
- VII. To ensure that the applicable tax provisions are complied with within its competence;
- VIII. Maintain in its files the accounting documentation determined by the tax legislation for the time specified by said Tax Law;
- IX. To prepare the Financial Statements of the Agency;
- X. Analyze and integrate the Agency's statistical and financial information;
- XI. Reconciliation of bank accounts;
- XII. Establish and manage the Agency's accounting system;
- XIII. To prepare and submit in a timely manner to the tax authorities the tax returns for the taxes of which the Agency is the payer or withholder;



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- XIV. Elaboration of the cash flow;
- XV. Supervision, management and recording of the Agency's checking and investment bank accounts;
- XVI. Manage the Agency's General Cashier, for the receipt, custody and daily deposit to the Agency's bank accounts of all daily revenues collected, as well as the recording of these operations;
- XVII. To record and control commitments and financial transactions affecting the budget;
- XVIII. Pay in a timely manner the contributions, rights, benefits and federal products related to water, inherent national assets, as established in the applicable legislation;
- XIX. To make the payment of salaries, benefits and fees in accordance with the provisions of the applicable legislation;
- XX. Preparation of income, expense and journal entries corresponding to income;
- XXI. To process and make payments in due time and form for acquisitions, contracts, goods, services or materials required for the Agency's activities, provided that such payments are supported and authorized by the Administration and Finance Department and in compliance with applicable regulations;
- XXII. To process the payment of per diems;
- XXIII. Register, control and supervise the supply of fuel to vehicles owned by the Agency;
- XXIV. Maintain the general control of revenues and expenditures of the Operating Agency;
- XXV. To make payments for medical services and other benefits to be paid to the Instituto de Seguridad y Servicios Sociales in accordance with applicable law;
- XXVI. To comply with the fiscal provisions applicable to the exercise of the approved expenditure budget.



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ARTICLE 27. The Human Resources Department shall be responsible for the exercise of the following functions:

- I. To promote an adequate administration of the Agency's human resources in accordance with current regulations, as well as to promote actions to implement and maintain an occupational and functional organizational structure that responds to the Agency's needs;
- II. On instructions from the Chief Executive Officer, to carry out the procedures inherent to the personnel administration process, from registration, placement, removal and separation from the source of employment, in strict compliance with the provisions of the applicable labor legislation;
- III. On instructions from the General Director, to prepare the corresponding termination payments to those who terminate their labor relations with the Agency;
- IV. Prepare photo IDs or badges for the Agency's employees, which must bear the name, position, signature of the Director General, validity and Administrative Unit to which they belong;
- V. To support the Director General in the execution of the corresponding procedures for the hiring of personnel required by the Agency, for which the subscription of the corresponding employment contract shall be the responsibility of the Director General;
- VI. Coordinate technical and administrative training of personnel, and direct social, cultural and sports activities organized for the benefit of personnel;
- VII. With the prior agreement of the General Director and the corresponding immediate supervisor, they shall authorize permits, leaves of absence, tolerances and vacations for employees in the service of the Agency;
- VIII. With the prior agreement of the Director General, he/she shall authorize the permutations and process the retirements, as well as the removals and separations that may be required;
- IX. Register and update the appointments of the heads of the Administrative Units and the personnel of the Agency issued by the Director General;
- X. Keeping track of the punctuality and attendance of the Agency's staff;



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- XI. Manage, together with his immediate supervisor, the procurement of uniforms for the Agency's personnel;
- XII. To issue the certificates and certifications required in connection with the employment relationship;
- XIII. Propose the granting of awards, incentives and rewards to which the personnel of the Agency is entitled;
- XIV. With the agreement of his immediate supervisor, to conduct labor relations with the personnel of the Agency and the Workers' Union;
- XV. Notify their hierarchical superior of any non-compliance with labor obligations incurred by the personnel of the Agency, attaching the documentation that accredits such non-compliance for the legal effects that may be applicable;
- XVI. Maintain each employee's file up to date, in good condition and with all the corresponding documentation;
- XVII. Supervise the updating of the personnel payroll, as well as the preparation of the payroll for the payment of the corresponding salaries and benefits, applying the appropriate discounts in accordance with the applicable regulations, or those determined by judicial authorities;
- XVIII. Provide the employee with the medical services form issued by the I.S.S.S.T.E. and verify that the Agency's personnel have the corresponding medical services in accordance with the applicable law;
- XIX. To keep control and record of the incapacities presented by the Agency's employees;
- XX. Verify that payments for medical services and other benefits are made to the Social Security and Social Services Institute in accordance with applicable law;
- XXI. Notifying the Department of Material Resources of any removal or separation of the Agency's personnel, so that the corresponding measures may be taken in relation to the assets that such personnel may have under their custody;



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XXII. Keeping the record and control of the salary discounts made to the employee, whether for personal loans or any other concept provided for in the Law;

XXIII. Submit to the Director General the draft salary and per diem tabulator for the Agency's personnel, which shall be submitted to the Governing Board for its approval;

XXIV. Submit to the Director General draft guidelines for granting loans to the Agency's personnel, which will be submitted to the Governing Board for its approval.

ARTICLE 28. The Department of Material Resources shall be responsible for the exercise of the following functions:

I. With the prior agreement of his immediate superior, establish and operate the annual plans and programs for the acquisition, storage and supply of material resources, maintenance and conservation of goods for the different areas of the Agency;

II. To propose, disseminate and apply to the different Administrative Units of the Agency, the norms and guidelines established for the planning, use, control and delivery of the Agency's materials;

III. To prepare and keep up to date the Agency's list of suppliers;

IV. Receive and process the requisitions for materials and service orders submitted by the Administrative Units of the Agency, verifying whether the need for contracting or acquisition is justified, as the case may be, and submit them to the Director of Administration and Finance for approval;

V. Prior to the purchase, avoid duplicity in acquisitions or contracting and, if applicable, prepare the corresponding receipts;

VI. Request quotations from three of the Agency's suppliers for the goods or services to be acquired, and if the amount of the quotations does not exceed the amounts established in the applicable law for direct award, request authorization from the Director of Administration and Finance to make the purchases or contract the services to the supplier that offers the best quality, lowest price and delivery time. In the event that the quotations show that the maximum amounts allowed for direct award are exceeded, the following shall apply



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The purchase request shall be forwarded to the immediate supervisor so that he/she may forward the request for the goods or services in question to the Technical Directorate for the call for bids or, as the case may be, the call for tenders;

VII. To abide by and comply at all times with the legal provisions that regulate the acquisition of goods and the contracting of services;

VIII. Attend, in coordination with his immediate superior, the needs of the Administrative Units of the Agency in terms of physical space, adaptations, facilities and maintenance of real estate, in accordance with the applicable provisions;

IX. To control and operate the mechanical, electrical and welding workshops of the Agency, as well as to propose external mechanical, electrical and bodywork and painting services, which are indispensable and could not be performed internally;

X. To provide the general services determined by his immediate superior at the request of the corresponding Administrative Units, necessary for the proper functioning and operation of the Agency's assets;

XI. Keep a control on the maintenance, repair and other services performed to the Agency's assets, in order to verify the origin of the requisition and thus avoid duplication of the required service;

XII. To prepare and keep up to date the general inventory of movable and immovable property and resources owned by the Agency;

XII. Maintain the safekeeping of the original invoices for personal property;

XIII. Verify that all movable and immovable property of the Agency has the necessary documentation evidencing its ownership;

XIV. Verify that all vehicles owned by the Agency have the documentation required by the competent road authorities and, if necessary, arrange for such documentation to be obtained;

XV. Verify and order that all Agency vehicles are labeled with the official logo and the corresponding economic number;



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XVI. To prepare the records of the personal property under the care of the Agency's personnel, as well as to update them periodically on new acquisitions that are made, as well as on the basis of removals or separations of the Agency's personnel;

XVII. Control and assign the Agency's vehicle fleet in accordance with the instructions given by his immediate supervisor;

XVIII. To perform the security and surveillance of the fixed assets of the Agency;

XIX. Implement systems that allow easy identification and location of fixed assets;

XX. To know and give an opinion on the requisitions of goods, reviewing what is requested with what already exists, in order to avoid unnecessary purchases;

XXI. Propose to his/her immediate supervisor, the maintenance and conservation services for the assets, and if necessary, the disposal and final destination of unserviceable assets;

XXII. To carry out the procedures related to the disposal and final destination of personal property authorized by the Board of Governors;

XXIII. Organize, control and supervise the operation of the warehouses and stores, registering incoming and outgoing items, keeping up to date information on stocks, in accordance with established methods and procedures;

XXIV. To maintain in stock the indispensable parts for the hydraulic and sanitary infrastructure of the Agency, so that the service to the users is not interrupted for a long time;

XXV. To carry out every three months the inventory in the Agency's general warehouse.

ARTICLE 29.- The Systems Department shall be responsible for the exercise of the following functions:

I. To define and coordinate strategies that will enable the Agency to have a modern infrastructure of information systems, databases, computer and telecommunications equipment in order to optimize operating costs, processes and services, seeking to increase their quality and productivity, establishing mechanisms that facilitate the maximum possible use of the Agency's computer systems.



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II. Coordinate the development of new systems, substantial modifications to systems in operation, adaptation of acquired systems, development of interfaces for their integration, using and updating methodologies and modern programming languages in such a way that they allow the efficient handling of multimedia data, such as digitized documents, maps, videos, e-mail, documents in office programs, etc..;

III. To establish a communication and integration link between the administrative units and the rest of the Agency. As well as promoting the exchange of systematized information between public and private organizations that request it, with the prior authorization of the Director General, provided that the security of the information systems is constantly supervised, controlled and monitored in terms of access to the databases;

IV. Coordinate the security, planning and development of new systems to be used on the Internet, provide maintenance to such systems, as well as the administration of the systems in operation;

V. Install, configure, manage and optimally maintain the computer programs in the Agency's database servers. As well as designing and installing the databases in the different servers that make up the network, as well as providing preventive and corrective hardware maintenance of the system;

VI. Manage and supervise the security of access to the information of the various systems of the Agency, to ensure the integrity of the same;

VII. Supervise the counseling and training of system users in the operation and security of the system, providing technical assistance to the Administrative Units that require it;

VIII. Supervise the sizing of equipment, acquisition, use and installation of software and hardware, as well as define and coordinate the database, operating systems, computer equipment, communication networks, printing and data storage equipment;

IX. Perform a daily general backup of the information system generated in the servers and at the same time promote a backup culture in each and every Administrative Unit to prevent the possible loss of information.



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ARTICLE 30. The Marketing and Contracts Department shall be responsible for the exercise of the following functions:

- I. To apply the current rates for the collection of public services published in the official gazette of the State Government;
- II. To prepare and keep permanently updated the list of users of the services provided by the Agency;
- III. In coordination with your staff, prepare and execute meter installation and inspection programs;
- IV. Supervise, control and verify the taking of readings, detecting omissions and possible errors so that they can be rectified as soon as possible;
- V. Coordinate the capture of information related to consumption and issue the corresponding invoicing, observing the authorized rates and applicable regulations;
- VI. Notify their immediate supervisor of any change or significant alteration in the consumption of users;
- VII. Verify that the services rendered to the user are billed according to the contracted use, or if applicable, that the use of the outlet corresponds to the contracted use;
- VIII. Constantly verify the reading of meters corresponding to utility service contracts in liters per second;
- IX. Coordinate the work of the lecturers;
- X. Upon order of the Director General, it shall conduct inspection and verification visits in accordance with the provisions of section four of chapter IV of the Water Law, related to the Rules for the Provision of Public Services.
- XI. Coordinate programs for the detection and suspension of clandestine intakes in accordance with the Water Law;



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XII. Without exception, to order and execute the suspension and limitation of public services, under the terms of Article 119 of the Water Law, except in those cases in which the judicial authority has determined an exemption from payment in favor of a specific user;

XIII. To attend to complaints, petitions, suggestions and disagreements from users, as well as new contracts, processing requests for drinking water and sewerage connections received from the owner or possessor of the property in question, which must be accompanied by the documentation that proves possession or ownership of the property, as the case may be, as well as a sketch of the location of the property in question, which must coincide with the location of the cadastral code that this Department will verify in the cadastral map.

For the contracting of public services in liters per second, the user will be asked to provide the following information

feasibilities issued by the General Director, as well as the project in question.

In the event that the individualization of services is requested, the user must present a letter of regularization of connection rights, as well as proof of the certificate of reception of the water and sewage infrastructure of the property in question;

XIV. Maintain a constant review of all the accounts of the Agency's users, in order to prevent them from becoming delinquent;

XV. Subsequent to the payment of the reconnection of services, order the reconnection of these services;

XVI. In coordination with his immediate supervisor, apply the appropriate sanctions and fines in accordance with the provisions of Articles 139, 140, 145 and other relative and applicable articles of the Water Law;

XVII. Upon agreement with his immediate superior, issue and distribute the different notifications that may be necessary within his competence;

XVIII. Determine the Overdue Portfolio on a monthly basis and forward it to the Financial Resources Department for its corresponding accounting record;

XIX. Attend and follow up on high consumption reports received;

XX. To sign contracts with users for the provision of public services, in the case of contracting the service in liters per second, prior to the subscription, it must verify that the applicant of the services has the feasibility issued by the General Director;



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XXI. To authorize and sign partial payment agreements for the contracting of services and for the regularization of delinquent users, whose model agreements must be approved by the General Directorate;

XXII. Determine and monitor the proper functioning of the measurement systems, evaluating their efficiency in the commercialization of services, as well as in the collection and recording of data;

XXIII. To define the objectives and goals of marketing and installation of the services, as well as to guide their actions towards a harmonious interrelation with the users or applicants of the services provided by the Agency;

XXIV. To formulate and submit for consideration of the Director General, the adjustments to the fees and rates of the Agency;

XXV. Plan, propose and execute actions aimed at comparing the volume of water billed with the volume of water withdrawn, in order to detect and reduce unbilled water supply;

XXVI. Conduct the necessary studies to support and evaluate the marketing policy;

XXVII. Plan, coordinate and oversee the efficient and timely execution of the processes related to the verification, contracting, installation of water and sewage connections, metering, billing, collection, surcharges, suspension, limitation, reconnection, inspection and imposition of fines and penalties derived from the provision of public services;

XXVIII. Coordinate the formulation and updating of the register of users of public services provided by the Agency;

XXIX. Oversee that there is an optimal level of billing and collections;

XXX. To attend to complaints, suggestions or disagreements made by users in relation to matters within its competence;

XXXI. Approve adjustments to user surcharges under the terms authorized by the Board of Directors;

XXXII. After verification and based on the written report issued by the chief meter reading officer, he will authorize the appropriate adjustments, observing the provisions of Articles 100 and 101 of the Water Law, as the case may be;



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XXIII. With the prior agreement of the Director General, to decide on the request referred to in Articles 87 and 88 of the Water Law;

XXIV. Propose to his immediate supervisor the purging of uncollectible accounts for submission to the Governing Board for approval.

ARTICLE 31. The Technical Directorate shall be responsible for the exercise of the following functions:

I. To coordinate the execution of the studies and projects necessary to determine the Agency's needs and priorities in the short, medium and long term, in order to provide public services under competitive conditions that ensure their continuity, regularity, quality, coverage and efficiency;

II. To ensure that the execution of projects and works contracted by the Agency complies with the provisions of the applicable legal provisions, as well as with the terms and conditions set forth in the contracts and their corresponding annexes;

III. To carry out the actions required for the training, education and development of the technical personnel of the Unit under his charge;

IV. Coordinate the integration of the technical and administrative files of the works and services contracted by the Agency, as well as keep them under its custody together with the corresponding supporting documentation;

V. With the prior agreement of the General Director, and in compliance with applicable legislation, to execute or arrange for the execution by a third party of the works necessary for the conservation and maintenance of the hydraulic and sanitary infrastructure;

VI. Coordinate and supervise the preparation of the Agency's Strategic Development Project and its modifications, taking into consideration the municipal development plan, as well as supervise its execution once it has been authorized by the Board of Directors;

VII. Coordinate the formulation of the technical and administrative bases for the bidding of works or services required by the Agency, as well as participate in the evaluation and qualification of proposals;



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VIII. To negotiate with the corresponding agencies the budgets of the programs executed by the Agency, seeking the participation of federal, state and municipal resources;

IX. Coordinate and supervise that the bidding, invitation or direct award procedures carried out by the Agency are carried out in strict compliance with the applicable regulations;

X. With the prior agreement of the General Director, and in compliance with applicable legislation, to execute the works, equipment and hydraulic or sanitary infrastructure required for the provision of public services, as well as their corresponding follow-up and control;

XI. To receive, in coordination with the General Directorate, drinking water, sewage and wastewater treatment works built by developments or third parties, when they comply with the standards, requirements and specifications demanded by the Agency;

XII. Approve the feasibility requests submitted, provided such requests comply with the applicable legislation and the requirements established by the Agency for such purposes. Said feasibility will be forwarded to the General Director so that he may sign the corresponding feasibility in favor of the user;

XIII. Determine the amounts to be covered for connection fees;

XIV. Analyze the physical-financial and economic progress of the works proposed by the Agency, as well as prepare financial and economic studies of the works proposed by the Agency;

XV. Periodically evaluate the plans, programs and results of the works it executes;

XVI. Analyze potential funding sources for the Agency's programs and plans;

XVII. Prepare studies and integrate statistics on drinking water systems and population benefited.

ARTICLE 32. The Technical Directorate shall be assisted by the Administrative Units indicated below in the exercise of its functions:

Planning Department.

Operation and Maintenance Department



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ARTICLE 33. The Planning Department shall be responsible for the following functions:

- I. To prepare and update the Inventory of the hydraulic and sanitary works owned by the Agency;
- II. Formulate the proposal for the Agency's Works Program based on the Municipal Development Plan;
- III. With the prior agreement of his immediate supervisor, he shall follow up on the actions foreseen in the Strategic Development Project approved by the Board of Directors;
- IV. Analyze requests for drinking water feasibility submitted to the Agency;
- V. Analyze the feasibility of connecting new developments to the Agency's Sewage System, in accordance with the provisions of the Water Law and other applicable regulations;
- VI. Prepare the hydrosanitary feasibility reports and send them to the immediate supervisor for approval;
- VII. To carry out the necessary studies and projects to determine the Agency's needs and priorities in the short, medium and long term in order to provide public services under competitive conditions that ensure their continuity, regularity, quality, coverage and efficiency, continuity and quality;
- VIII. To prepare the projects of hydraulic and sanitary works to be executed by the Agency;
- IX. Define the terms of reference for the preparation of studies and projects;
- X. In the case of new works to be put out to bid, once they have been approved, follow up on them from the preparation of the bases, base budgets for comparison, unit prices, catalogs of concepts, call for bids, bidding processes, execution, up to the corresponding settlement;
- XI.- Supervise that the execution of works and the rendering of services contracted by the Agency comply with the terms and conditions established in the respective contracts and their annexes.



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ARTICLE 34. The Operation and Maintenance Department shall be responsible for the exercise of the following functions:

- I. To analyze, coordinate, supervise and manage the operation, maintenance and conservation of the Agency's drinking water, sewerage and sanitation systems;
- II. To use the best available techniques for the constant improvement of extraction, conduction, storage, provision and distribution, in order to provide sufficient water to the user to satisfy his basic daily needs in a complete way. As well as the control of water quality by means of adequate methods for its potabilization. Likewise, to use the best available techniques for the constant improvement of the collection, conduction and final disposal of wastewater in order to guarantee that these processes do not represent any risk to the health of the inhabitants of the municipality;
- III. To prepare operation and maintenance manuals for the different drinking water, sewerage and sanitation equipment of the Agency;
- IV. To establish, conserve, maintain and operate catchments, pumping stations, distribution networks, pipelines, water tanks and, in general, any infrastructure for the provision of drinking water, sewerage and sanitation services belonging to the Agency in accordance with the applicable legal provisions;
- V. Coordinate the preparation of programs for the proper operation and maintenance of the Agency's Drinking Water, Sewerage and Sanitation Systems;
- VI. To carry out the actions required for the training, education and development of the Agency's technical operating and maintenance personnel;
- VII. Coordinate with the Planning Department the formulation of projects, programs and plans for works and investments required for drinking water, sewage and wastewater treatment networks;
- VIII. To monitor compliance with the provisions of the Official Standards regarding the characteristics and requirements to be met by drinking, wastewater and treated water, as well as the hydro-sanitary infrastructure operated by the agency;
- IX. Maintain updated actual and potential demand for sewerage services in order to propose the necessary projects and works to the Planning Department in a timely manner;



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- X. In coordination with the Planning Department, carry out and keep updated the inventory of the sanitary infrastructure for the collection and conduction of the Municipality's wastewater;
- XI. To apply the policies, standards, bases and specifications on sewage services established at the national level by the governing bodies;
- XII. Coordinate with his immediate supervisor, the formulation of projects, programs and plans for works and investments required for sewerage networks;
- XIII. Obtain information and determine indexes and coefficients that are the basis for formulating and adapting operating standards in the design and construction of new sewage works;
- XIV. Analyze the operating results of the equipment, in order to reduce the failure and interruption rates in the operation, to obtain a high degree of reliability and availability of the equipment used for catchment and conduction;
- XV. Develop leak detection and correction programs for the sewerage network, in order to ensure the least amount of leaks possible;
- XVI. Carry out constant maintenance of the sewage network, ensuring free conduction of wastewater, keeping the network free of obstructions, using for this purpose the necessary manual or mechanical means;
- XVII. Constantly supervise the proper functioning of the aqueducts and drinking water networks owned by the Agency, providing the necessary preventive and corrective maintenance;
- XVIII. Develop, propose and implement programs to stop and correct leaks in the drinking water network, in order to ensure the least possible amount of losses;
- XIX. Organize, coordinate and distribute the supply of drinking water in pipes or other means to areas where there is no distribution network or due to force majeure;
- XX. Determine the degree of contamination of wastewater deposited in treatment plants or receiving bodies, in order to determine the necessary processes to ensure final disposal with the least possible negative ecological impact;



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XXI. Evaluate the efficiency of wastewater treatment methods and implement corrective measures to be applied;

XXII. To plan, organize, manage and operate efficiently the wastewater treatment plants of the organization;

XXIII. To prepare and provide the maintenance program for the civil works and equipment of the wastewater treatment plants and complementary works, in order to obtain a systematic improvement in operation and maintenance costs, reduce interruption rates and improve the provision of services;

XXIV. Receive and sanitize the wastewater received by the treatment plants operated by the agency;

XXV. Perform the necessary chemical analyses of the treated water product, taking care to comply with the parameters established by the relevant ecological laws and regulations, as well as record and evaluate the results obtained for presentation to the regulatory authorities;

XXVI. Verify the discharges of commercial, industrial and service users and all those whose activities generate special discharge conditions, ensuring that they do not exceed the permitted levels of contamination, and if necessary require those who do not comply with these provisions;

XXVII. To observe and monitor compliance with official Mexican standards regarding the levels of contamination permitted by the authorities in ecological matters.

CHAPTER XII

COMMON FUNCTIONS OF THE ADMINISTRATIVE UNITS

ARTICLE 35.- In addition to the specific functions that correspond to the Administrative Units, they shall have the following generic functions:

I. To plan, program, direct, budget and evaluate the performance of the functions corresponding to the Units under his charge;



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- II. Agree with his hierarchical superior on the resolution of matters within his competence;
- III. To provide the opinions, advice, opinions, reports or documents requested by the Director General or by the Administrative Unit that may require them for the performance of its duties in its area of competence;
- IV. To channel to the competent authority the matter or procedure that is referred to it and is not within its competence, or to coordinate with it when it is within the competence of both;
- V. It is the obligation of the Administrative Units to coordinate among themselves, or with the employees of other Departments, when the matters in their charge require documentation, criteria or any other necessary information in order to contribute to the achievement of the Agency's goals;
- VI. To prepare the preliminary drafts of the Procedures and Services Manuals corresponding to the Units under his/her charge;
- VII. Coordinate the functions of the personnel under his charge and supervise their performance;
- VIII. To apply and oversee the management and proper use of the financial and material resources assigned to it;
- IX. Draw up the appropriate administrative records in accordance with labor legislation for the personnel under his/her charge, immediately notifying the Human Resources Department;
- X. To keep the General Directorate informed of all legal matters received or arising within the area of its competence;
- XI. To negotiate with the General Directorate and the Directorate of Administration and Finance to obtain the resources that are strictly necessary for the performance of the functions of his office;
- XII. Determine, in accordance with the instructions and guidelines of the hierarchical superior, the procedures and norms for the fulfillment of the established programs and objectives;
- XIII. To follow up on the procedures or requests submitted by users, individuals or any authority within the deadlines established by the latter, respecting at all times the deadlines and provisions set forth in the applicable laws;



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XIV. Keeping a control of current procedures, as well as following up on them until their total conclusion;

XV. Attend to consultations requested by the Director General, Administrative Units or individuals;

XVI. To oversee compliance with the Laws, Regulations, Organic Statute and other applicable legal provisions in the areas of its competence and notify the General Director of any acts contrary to the law that may affect or could affect the Operating Agency;

XVII. To conserve and safeguard the basic documentation generated in the area of its competence for the time indicated by the competent Law. Likewise, it shall keep the current documentation and the historical archives of the Agency within its competence;

XVIII. To turn over the information requested by the Directorates or Administrative Units, within a term not to exceed five calendar days from the date of receipt of the corresponding request. In urgent cases, the information must be forwarded within the term established by the requesting authority or administrative unit;

XIX. Other duties inherent to their position, or those conferred by their hierarchical superior, the Bylaws, manuals and other legal regulations applicable to the area of their competence.

ARTICLE 36.- With the prior agreement of the Director General, the Heads of the Administrative Units shall be assisted by the technical and administrative personnel required by the needs of the service.

ARTICLE 37. The functions of the Administrative Units not provided for in the Bylaws shall be established in the respective procedures and services manuals.

ARTICLE 38. Pending the issuance of the procedures and services manuals, the Director General shall resolve the matters to be regulated pursuant to said manuals.



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CHAPTER XIII
PENALTIES

ARTICLE 39. Failure to comply with the obligations of the heads of each Administrative Unit and Departments shall be internally sanctioned by the Director General if they are not considered serious, with:

- I. Verbal or written warning.
- II. Verbal or written reprimand.
- III. Financial penalty: It may not be less than one day's salary, nor exceed thirty days' salary.
- IV. Suspension - Temporary separation, which may not exceed one month.

When the misconduct committed by any of the heads of the Administrative Units, Departments or the Director General is considered serious, the provisions of the Law of Responsibilities of Public Servants shall apply.

ARTICLE 41.- Offenses committed by the heads of the Administrative Units, Departments or the General Director shall be prosecuted and punished under the terms of the Criminal Legislation in force in the State of Baja California Sur.

ARTICLE 42. These Bylaws shall enter into force on the day following their publication in the Official Gazette of the Government of the State of Baja California Sur.

ARTICLE 43.- All internal provisions previously issued are hereby repealed insofar as they oppose these Organic Bylaws, approved at the Fifty-fifth Ordinary Meeting of the Governing Board of the Municipal Water and Sewerage System Operator Agency of Loreto, Baja California Sur, held on October 4, 2012.

OOMSAPA
LORETO



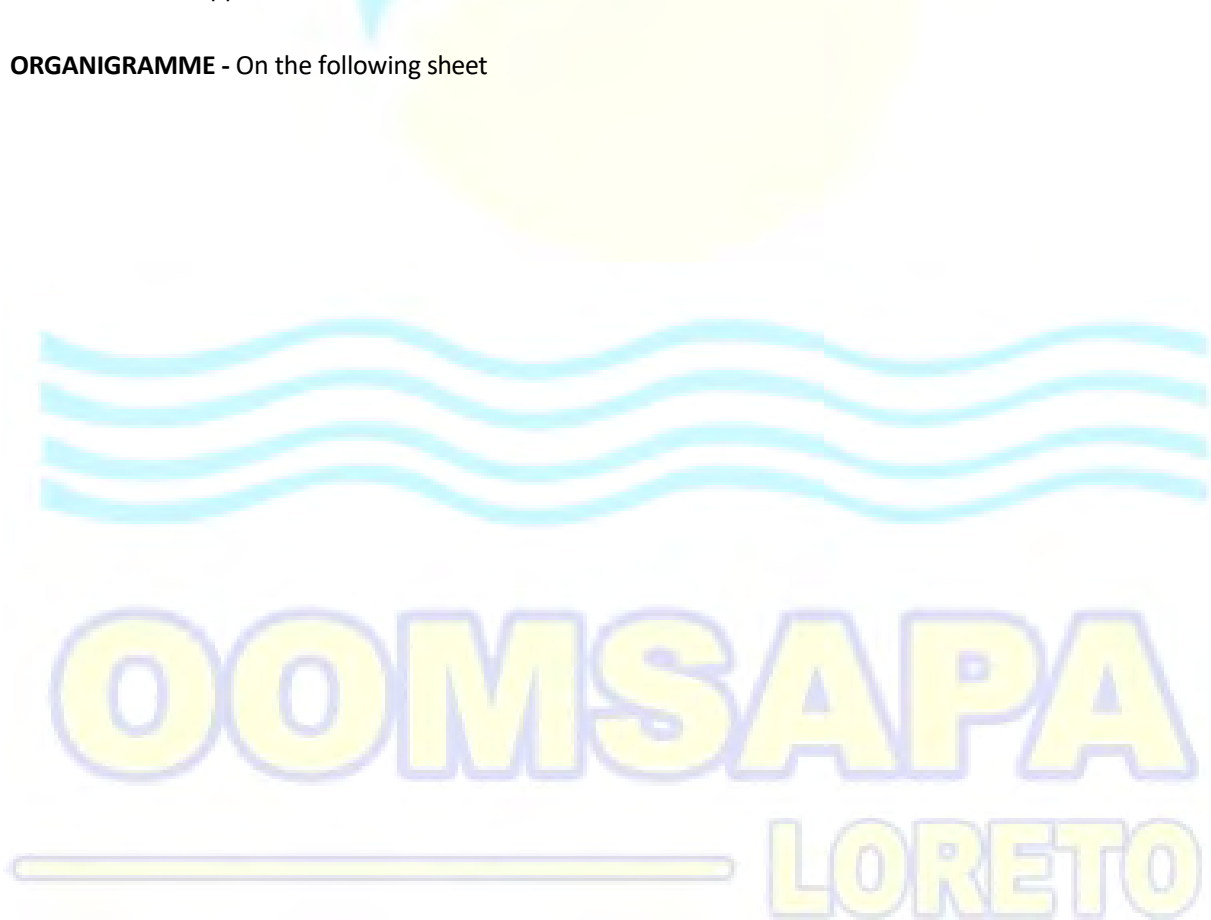
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CHAPTER XIV
ORGANIZATIONAL
STRUCTURE

The ORGANIZATIONAL STRUCTURE under which the Agency currently operates has been adjusted according to the needs of operation, as well as to the criteria of the officers to carry out their activities in the most adequate manner.

The organizational and functional structure responds basically to operational aspects, rather than to a formal study and a restructuring based on job and function analysis, which seeks the best use of resources with an efficient performance that is reflected in the provision of services, respecting organizational standards and the delimitation of functions and responsibilities. This will allow for a better distribution of functions according to the nature of each area and, in addition, the delimitation of support, substantive and staff areas.

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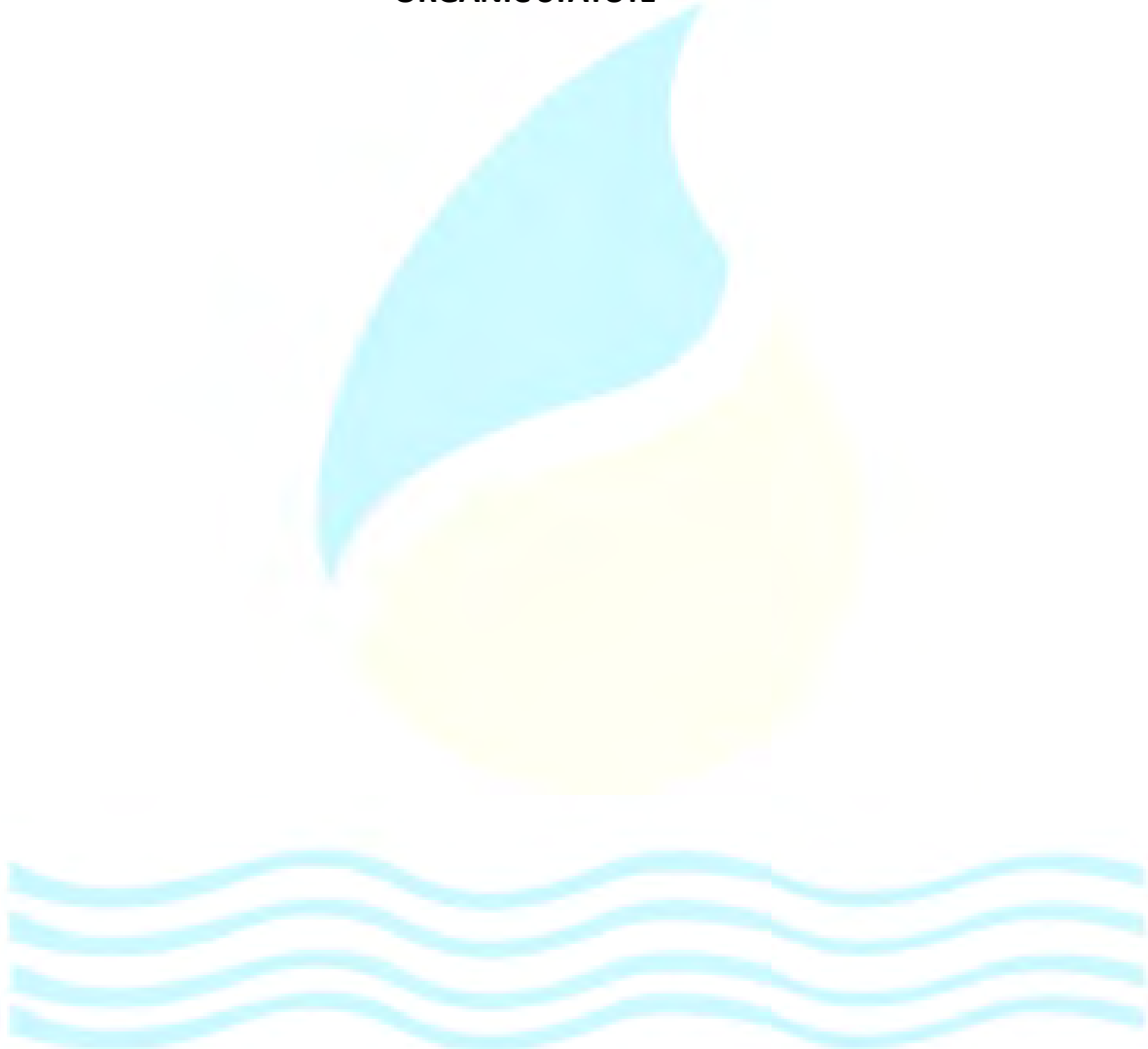




MUNICIPAL OPERATING AGENCY OF THE DRINKING WATER AND
SEWERAGE SYSTEM



SEWERAGE OF LORETO
ORGANIC STATE



OOMSAPA
LORETO



**MUNICIPAL OPERATING AGENCY OF THE DRINKING WATER AND
SEWERAGE OF LORETO
"ORGANIC STATUTE".**

C. PROFRA. ARELY ARCE PERALTA

MUNICIPAL PRESIDENT OF THE H. VIII MUNICIPALITY OF LORETO AND PRESIDENT OF THE GOVERNING BOARD OF OOMSAPA LORETO.

C. JESUS DAVIS YEE

GENERAL DIRECTOR OF OOMSAPA LORETO AND TECHNICAL SECRETARY OF THE GOVERNING BOARD OF OOMSAPA LORETO.

C. ING. JOSE ALBERTO BIBO AMADOR

REPRESENTATIVE OF THE STATE WATER COMMISSION AND REPRESENTATIVE OF SAID COMMISSION ON THE OOMSAPA LORETO GOVERNING BOARD.

C. ALCIDES AGUIAR CUNNINGHAM

COUNCILMAN IV OF THE H. VIII MUNICIPALITY OF LORETO AND COUNCIL REPRESENTATIVE ON THE GOVERNING BOARD OF OOMSAPA LORETO.

C. ARTURO SUSARREY AMADOR

PRESIDENT OF THE ADVISORY COUNCIL OF OOMSAPA LORETO.

C. MARTINA ISELA DAVIS RUBIO

REPRESENTATIVE OF DOMESTIC USERS OF THE ADVISORY COUNCIL OF OOMSAPA LORETO.

C. ROSARIO DE FATIMA TALAMANTES DAVIS

REPRESENTATIVE OF COMMERCIAL USERS OF THE OOMSAPA LORETO ADVISORY COUNCIL.

C. ING. ARISTIDES RAFAEL HERNANDEZ DIAZ

REPRESENTATIVE OF INDUSTRIAL USERS OF THE OOMSAPA LORETO ADVISORY COUNCIL.

C. JUAN GERARDO VILLAGRAN FLORES

OOMSAPA LORETO COMMISSIONER.

THIS SHEET IS AN INTEGRAL PART OF THE DOCUMENT "**ESTATUTO ORGANICO**" OF THE MUNICIPAL OPERATING AGENCY OF THE POTABLE WATER AND SEWERAGE SYSTEM OF LORETO, AUTHORIZED IN THE ORDINARY MEETING NUMBER OCTOGESIMA OCTOGESIMA SECOND OF THE GOVERNING BOARD DATED OCTOBER 23, 2015.

AGREEMENT ENTERED INTO BY THE MUNICIPALITY OF LORETO" IN THE STATE OF BAJA CALIFORNIA SUR, HEREINAFTER "THE MUNICIPALITY", REPRESENTED IN THIS ACT BY ITS MUNICIPAL PRESIDENT C. ARELY ARCE PERALTA, NACIONAL FINANCIERA, SOCIEDAD NACIONAL DE CRÉDITO, INSWTUCIÓN DE BANCA DE DESARROLLO, AS TRUSTEE IN THE TRUST NAMED FONDO NACIONAL DG FOMENTO ALTURISMO, HEREINAFTER "FONATUR", REPRESENTED IN THIS ACT BY ELARQ. FELIPG MOISÉS BEILES TAPIA, IN HIS CHARACTER OF GENERAL APODERATIVE, AND THE MUNIOPAL OPERATING ORGAFIISNIO OF THE DRINKING WATER AND SEWERAGE SYSTEM OF LORETO, HEREINAFTER "OOMSAPA LORETD", REPRESENTED BY ITS GENERAL DIRECTOR, C.ALMANDRO VILLEGAS TIMBRES; WHO TOGETHER WILL BE REFERRED TO AS "THE PARTIES", IN ACCORDANCE WITH THE FOLLOWING:

ANTECEDENTS

- I. The supply of drinking water to the towns of Loreto and the tourist development of Nopoló is historically supplied by the extraction of water from two local wells, whose production volume is limited.
- II. At the end of the 1976-1982 administration, agreements were initiated to enter into an agreement between the Federal Government through the then Secretariat of Agriculture and Hydraulic Resources, the Government of Baja California Sur and FONATUR to supply drinking water to the town of Loreto and the Nopoló development in the short and medium term.
- IR. The then Secretary of Agriculture and Hydraulic Resources carried out basic geohydrological studies, which determined that the San Juan Londó Valley, located within the San Juan B. Londó aquifer 32 km north of the town of Loreto, with an aquifer potential of 300 liters per second (LPS), was an alternative source of supply.
- IV. On February 20, 1990, the Government of the State of Baja California Sur, the Municipality of Loreto, the National Water Commission, the Secretary of Tourism and FONATUR entered into an agreement where joint actions were agreed upon for the construction and operation of the San Juan Londó-Loreto Aqueduct expansion, for which reason FONATUR took charge of the management, administration, construction and equipping of the Aqueduct expansion. In this agreement, a pipeline was agreed upon to provide 160 lt/sec. to Nopoló and 160 lt/sec. to the city of Loreto.
- V. On March 1, 1983, a promise of sale agreement was executed between FONATUR and C. Juan Orew Drev [REDACTED] faces in the property called Montecabello, where wells 6 and 7 and part of the Aqueduct in the San Juan Londó-Loreto section are located.
- Vi. The Organismo Operador Municipal del sistema de Agua Potable y Alcantarillado de Loreto, is the holder of the assignments from the Comisión Nacional de Agua for the exploitation of drinking water wells located in the San Juan B. Londó aquifer, specifically within the Montecabello property.

Eliminated:
 name. Legal
 basis: Article
 113, Section I of
 the Federal
 Law on
 Transparency
 and Access to
 Information. a
 to
 Public
 Information.
 At
 virtue of
 it is
 informat
 ion that
 contains
 personal data
 concerning an
 identified or
 identifiable
 person.

VII. According to the study for the analysis of electromechanical efficiencies of wells and pumping plant and leak detection of the San Juan Londó Aqueduct, in Loreto, B.C.S., the design flow of the Aqueduct is 300 lt/sec., but only 220 lt/sec. is extracted.

DECLARACIONES

I. FONATUR declares the following:


- 1.1 That it is a public trust of the Federal Government established in Nacional Financiera S.N.C. Institución de Banca de Desarrollo, by means of a trust agreement dated March 29, 1974, entered into between the Ministry of Finance and Public Credit 'as sole trustor of the Federal Government and the trustee in accordance with the provisions of the then Federal Law for the Promotion of Tourism published in the Official Gazette of the Federation on January 28, 1974. This agreement was modified by means of an agreement dated June 30, 2000, in order to adapt it to the regulations in force for parastatal entities.
- 1.2 That it is a parastatal entity pursuant to Articles 40 and following of the Federal Law of Parastatal Entities and in terms of Article 42 of the General Law of Tourism, FONATUR will contribute to the planning, programming, promotion and development of the tourist activity and tourist resources, as well as to the promotion of the financing of private and social investments. Likewise, article 44 refers, among other functions, to the creation and consolidation of tourist centers, in accordance with the master development plans, in which the urban and architectural designs of the zone must be identified, preserving the ecological balance and guaranteeing the economic and social development of the region.
- 1.3 Its attorney-in-fact accredits *its* personality in terms of **public** deed No. 70,429 dated November 10, 2008, granted before the faith of Liz. Luis Antonio Montes de Oca Mayagoitia, Notary Public No. 29 in Mexico City, registered in the Public Registry of Property and Commerce, under commercial folio 1275, powers that to date have not been revoked, limited or modified in any way.
- 1.4. For the purposes of this Collaboration Agreement, states as its domicile the address located at Tecoyotitla hlo. 100, Colonia Florida, Alcaldía Álvaro Obregón, Postal Code 01030, Mexico City.
- I.S. Appears to the celebration of the present instrument, in order to make delivery of the facilities related to the aqueduct in the Sañ Juan Londó-Loreto section, which has been operating through its subsidiary FONATUR INFRESTRUCTURA, S.A. DE C.V., for which reason it is of interest to contribute with the Municipality of Loreto in the operating expenses, in accordance with the terms of this agreement.

II. "THE MUNICIPALITY" declares the following:

- II.2 That it is a free and sovereign municipality with legal personality and its own patrimony, in accordance with the provisions of Section II of Article 115 of the Political Constitution of the United Mexican States.
- II.Z In accordance with Article 115, Section III, paragraph a) of the **Political** Constitution of the United Mexican States, it is established that the Municipality is responsible for providing the public services of drinking water, drainage, sewage, treatment and disposal of wastewater.
- 11.3 That in accordance with the provisions of Article 21 of the Water Law of the State of Baja California Sur, the Municipalities may provide public drinking water, sewerage and sanitation services through municipal operating agencies, and that within said locality the "OOMSAPA **LORETO**" is already formed to provide said public service.
- 11.4 a. Arely Arce Peralta, Municipal President of Loreto, Baja California Sur, has the powers to enter into this Collaboration Agreement, in accordance with the provisions of Articles 51 sections III clause e) and IV, 53 sections VII and XIII of the Organic Law of the Municipal Government of the State of Baja California Sur, as well as the authorization of the City Council.
- 11.5 That the address for the purposes of this contract is located at Magdalena de Kino Street between Fco. I. Madero and Paseo Juan M. de Sálvatierra, Colonia Centro, C.P. 23880, Loreto, Baja California Sur.
- 11.6 Appears to the celebration of the present instrument with the purpose that "**OOMSAPA LORETO**" receives for its operation, the facilities related to the Aqueduct in the San Juan Londó- Loreto section.

III. OOMSAPA LORETO" declares the following:

- III.1. It is a decentralized agency of the municipal public administration with legal personality and its own assets, in terms of the provisions of Article 25 of the Water Law of the State of Baja California Sur.
- III.2 That it has the powers conferred upon it by Article 27, in connection with Article 19, of the Law of Aguas del Estado de Baja California Sur, for the operation and distribution of water table in the jurisdiction of the Municipality of Loreto.
- III.3 That its creation and reason for existence is for the purpose of providing drinking water supply services, for which it has sufficient technical, administrative and legal capacities recognized and provided by that municipal entity.



III.4 That its General Director is empowered to sign this agreement, in terms of the provisions of Article 36, Section VI, of the Water Law of the State of Baja California Sur.

III.5 That its domicile for purposes of this Collaboration Agreement is located at Paseo Pedro de Ugarte, S/N, Esquina Laimones, Colonia Centro, C.P. 23880, Loreto Baja California Sur.

IV. "THE PARTIES" declare the following:

IV.1 that it is their will to collaborate in the broadest and most respectful manner for the fulfillment and development of the object and activities derived from this agreement.

IV.2 that they have the necessary means to provide each other with mutual assistance, collaboration and support for the achievement of the purpose of this instrument, in accordance with the following:

C L A U S E S

FIRST. The purpose of this agreement is to carry out the Handover-Reception of the hydraulic infrastructure, electromechanical equipment and facilities operated by FONATUR in San Juan Loreto, Baja California Sur to "THE MUNICIPALITY", facilities that will be operated by "OOMSAPA LORETO" Operating Agency to provide the service of potable water supply in the Municipality of Loreto in the State of Baja California Sur, including Nopoló, which until today are operated, managed and maintained by FONATUR through its subsidiary FONATUR INFRAESTRUCTURA.

SECOND. For the DELIVERY-RECEPTION of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londó, Baja California Sur, which are described in Annex 1 of this agreement, "THE MUNICIPALITY" will offer its support and will carry out the necessary actions that in law correspond to carry out the DELIVERY-RECEPTION" referred to in this agreement in favor of "OOMSAPA LORETO", so that this agency can operate the facilities for the provision of public service of drinking water supply in Loreto and Nopoló.

THIRD.- "OOMSAPA LORETO" agrees to receive from "FONATUR", within 15 (fifteen) working days following the signing of this instrument, the hydraulic infrastructure, its electromechanical equipment and facilities operated by "FONATUR" in San Juan Londó, Baja California Sur, as identified in Annex 1, in the physical state in which they are operating, as well as all documentation that supports the operation of these, therefore, the "OOMSAPA LORETO" is made responsible for the operation, administration and maintenance of the same, being in charge of the distribution, maintenance, sanitation, operation, regularization and all those resulting from the DELIVERY-RECEPTION of the facilities, which will be stated in the corresponding certificate.

In the event of a contingency in the operation of the San Juan Londó facilities during the first quarter of 2021, "FONATUR" through FONATUR INFRAESTRUCTURA will provide training to "OOMSAPA LORETO" personnel.

Likewise, "OOMSAPA LORETO" will receive from "FoNATUR", on the date of DELIVERY-RECEIPT all documentation, files, reports, licenses, permits, regulations, plans, reports, folders that are listed in Annex 1 of this Agreement.

FOURTH: "FONATUR" agrees to deliver monthly to "OOMSAPA LORETO" the amount corresponding to the costs and expenses of operation of the infrastructure of the San Juan Londó-Loreto Aqueduct section that FONATUR INFRESTRUCTURA has been paying during the fiscal year 2020 for a monthly amount of \$160,000.00 (one hundred sixty thousand pesos 00/100 m.n.) VAT included. Likewise, "FONATUR" undertakes to pay CFE the payment of the electric service originated by the operation of the facilities described in Annex 1, including the debt for the electric service to CFE for the amount of \$4'324,008.11 (four million three hundred and twenty-four thousand and eight pesos 11/100 M.N.) corresponding to 4 maturities for said concept; both payments referred to in this clause will be made during a period of 2 years following the date of signature of this agreement.

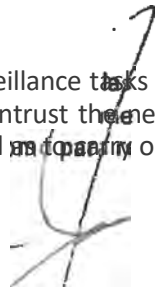
FIFTH.- "THE MUNICIPALITY" releases "FONATUR" and FONATUR INFRAESTRUCTURA of all The PARTIES hereby agree that "OOMSAPA LORETO", as of the date of signature of the delivery-receipt certificate, assumes all liability before third parties, and therefore said Agency will be liable for any judicial or extrajudicial claim that may be filed against "FONATUR" and FONATUR INFRAESTRUCTURA for acts or facts subsequent to the date of signature of the aforementioned certificate.

As a consequence of the foregoing, "OOMSAPA LORETO" undertakes to indemnify "FONATUR" and FONATUR INFRAESTRUCTURA from any judicial or extrajudicial claim, including fines or sanctions imposed by the competent authority, which may be attempted against it and/or which derive from events or acts subsequent to the signing of this agreement.

MUNICIPALITY°, within the scope of its competencies, will celebrate and expedite any necessary administrative procedure so that "OOMSAPA LORETO" may assume the functions that "FONATUR" performed before the signing of this agreement, reason enough for "FONATUR" to deliver the facilities to "OOMSAPA LORETO" upon the signing of the DEED OF DELIVERY-RECEPTION.

"THE MUNICIPALITY and OOMSAPA LORETO do not reserve any legal right to exercise against FONATUR and FONATUR INFRAESTRUCTURA as of the signing of this agreement, derived from the operation of the San Juan Londó Aqueduct facilities

SEVENTH: "THE MUNICIPALITY" will implement protection and surveillance tasks for the facilities that make up the HYDRAULIC INFRASTRUCTURE, for which it will entrust the necessary security elements to continue with the operation of this infrastructure, as well as carry out the DELIVERY RECEPTION of the same.



EIGHTH.- This agreement shall become effective as of the date of its signature and shall be enforceable by "THE PARTIES", in accordance with the commitments assumed in this agreement.

NINTH.-"THE PARTIES" agree that any change to the addresses indicated in the declarations of each one of them, must be previously known to the other, for such purpose they shall notify in writing with acknowledgement of receipt of the change of address that corresponds with 10 (ten) working days prior to the date on which such change is to take effect.

In the absence of such notification of change of **address, any** notice, **request** or application made at the address indicated in this **agreement** shall be fully effective.

TENTH: This agreement is a product of good faith, for which reason "THE PARTIES" undertake to carry out all possible actions for its compliance and only in case of discrepancy regarding its interpretation, they expressly agree that it shall be resolved in amicable composition.

Notwithstanding the foregoing, in the event that no agreement is reached, "THE PARTIES" agree to submit to the competence and jurisdiction of the federal courts of the City of La Paz, Baja California Sur, expressly waiving any other jurisdiction or venue that may correspond to them due to their present or future domiciles.

Having read this agreement and duly informed "THE PARTIES" of its contents and legal scope, they sign it in three copies in La Paz, State of Baja California Sur on the 23rd day of December, 2020.

MUNICIPAL PRESIDENT OF LORETO

GENERAL DIRECTOR OF
OOMSAPA LORETO



PROFRA- A DE ARCE PERALTA

ALEJANDRO VILLEGAS FIMBRES

FONATUR



ANICELINO MOSES BILESTAMA
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ANCEO 1

CHARACTERISTICS OF THE INSTALLED INFRASTRUCTURE OF THE PUMPING STATION, DRINKING WELLS AND STORAGE OF SAN JUAN LONDÓ AND LORETO, WHICH FORM AN INTEGRAL PART OF THE DELIVERY AND RECEPTION SUBJECT TO THIS AGREEMENT.

SAN JUAN LONDÓ

- 28 km aqueduct from pumping station to surface tank in Loreto
- Steel piping of various diameters (20", 18"), 52 relief valves and safety fence and guard.
- Pump House of 1,400 m², in which it is housed:
 - o Electric substation with two transformers of 1,000 kva each and one of SOD kva.
 - o Pumping equipment (4 vertical turbine type centrifugal pumps to handle a flow rate of 120 lt/sec. Each one at a total dynamic load of 184 mca. with an electric motor of 400 hp of power each one).
 - o A 350 hp, vertical centrifugal turbine pump to handle an output of 100 lt/sec with a 350 hp electric motor.
 - o A seccionator for pump control. a Motor control house 185 m².
 - o Guardhouse (45 m²)
- a Two tanks (air chambers)
 - o Warehouse, gardens and parking lot.
- 4 wells extracting 30 lt/sec each.
 - o 4 submersible pumps of 60 hp 3,000 rpm,
 - o 4 pole type transformers of 75 kva.
 - o 4 control walls
 - o perimeter mesh

LORETO

- 1100 m³ surface tank made of reinforced hydraulic concrete to provide drinking water supply to the urban area of Loreto.
- 1100 m³ surface tank made of reinforced hydraulic concrete, built to supply drinking water to FONATUR's housing developments (Polígono II and Nopoló).

PUMPING STATION SITE

In this area is located the electrical substation (two transformers of 1,000 VA each), which supplies the operation of the disconnecter and 4 vertical centrifugal pumps tipo turbina to handle an output of 120 LPS. each at a total dynamic load of 184 lvi.C.A. with an electrical power of 400 hp. each, a 500 KVA transformer that feeds a vertical centrifugal pump with a power of 400 hp. each, a 500 KVA transformer that feeds a vertical centrifugal pump with a power of 400 hp. each, a 500 KVA transformer that feeds a vertical centrifugal pump with a total dynamic load of 184 lvi.C.A. each.

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turbine type to handle an output of 100 LPS, which pump the vital liquid to the concentration tanks in urban areas.


The zone is delimited in an area of 2,500 m² , of which 750 m* are constructed between civil works, accesses and exterior sidewalks.

cfDriving cfDriving cfNEA

The pipeline has a total length of 28 km, from the pumping station in San Juan Londó to the town of Loreto, and an 8 km overflow line from Loreto to Nopoló.

WELLS IN OPERATION

There are currently four wells in operation: well number 6 located 20 meters from the pumping station at coordinates (450157.78 E 2896275.40 N); well number 7 located 970 meters from the same station, at coordinates (449215.11 m E 289635s.m N); well number 8 located 2,100 meters from the pumping station at coordinates (449446.40 E 2898322.77 N) and well number 10 located 1,480 meters from the pumping station at coordinates (450805.60 r z897g.so N), each well operates with a 60 HP pump and generates 30 LPS of potable water supply each.

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Luis Gerardo Garcia Toriz, Specialized Analyst attached to the Loreto Delegation of the National Fund for Tourism Development, based on Articles 123, 125, 128 and 145 of the Federal Law of Transparency and Access to Public Information and the Criterion 06/17 issued by the Plenary of the National Institute of Transparency, Access to Information and Protection of Personal Data, I hereby certify that this is a faithful and exact reproduction of the simple copy of the Agreement dated December 23, 2020.

Mexico City, Mexico, October 26, 2022

C. APPLICANT PRESENT

Based on Article 61 of the Federal Law of Transparency and Access to Public Information (LFTAIP), we refer to the request for access to information identified with the folio number 330014822000442, addressed to this Transparency Unit, on September 28, 2022, which reads as follows:

Description of the request: "

On energy and hydraulic infrastructure. -

1. Based on the Agreement entered into by the Municipality of Loreto, Nacional Financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, as Trustee in the Trust named Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua Potable y Alcantarillado de Loreto (OOMSAPA LORETO) with the purpose of taking the delivery of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londo Baja California Sur to the Municipality of Loreto. In particular, with the exposed in the fourth clause referring to the payment of the debt for the electric energy service to CFE for the amount of \$4'324,008.11 million pesos, corresponding to maturities by concept of payment of Light, please answer the following questions:

- 1.1. For how many months and/or years is the light payment due?
- 1.2. Are electricity bills broken down by month or yearly for electromechanical equipment and hydraulic installations operated by FONATUR?
- 1.3. Show the breakdown of payment amounts for light in relation to electromechanical equipment and facilities operated by FONATUR for 2020, 2021 and so far in 2022?

2. Based on the operation of NOPOLO's hydraulic infrastructure managed by FONATUR:

- 2.1. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the NOPOLO WWTP?
- 2.2. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO?
- 2.3. How much is paid to the CFE for pumping drinking water in wells 5A and 5B in the years 2019, 2020, 2021, and so far in 2022?
- 2.4. How much was paid to the CFE for pumping drinking water in wells 5A and 5B in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?
- 2.5. How much is paid to the CFE for pumping drinking water in the Gemelos wells in 2019, 2020, 2021, and so far in 2022?

2.6. How much was paid to the CFE for pumping drinking water in the Twin wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

3. Based on the operation of San Juan Londo and the commitment to pay electric energy to CFE for the consumption in the hydraulic infrastructure paid by FONATUR:

3.1. How much is paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in 2019, 2020, 2021, and the remainder of 2022?

3.2. How much was paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

3.3. How much is paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in 2019, 2020, 2021, and the remainder of 2022?

3.4. How much was paid to the CFE for pumping potable water in wells Loreto 6, 7, 8 9 and 10 in each month (12 months from January to December) of the years 2019, 2020, 2021, and the remainder of 2022?

4. On payment of fees for concession titles or extraction assignment of water wells. -

4.1. What are the annual amounts of (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction assignment in Loreto 6, 7, 8 9 and 10 wells?

4.2. What are the annual amounts of (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction allocation in Zacatel I, II, III and IV wells?

4.3. What are the annual amounts of the (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction allocation in Zacatel I, II, III and IV wells?

Additional information: 1. Agreement between OOMSAPA and FONATUR 2.

In response to your request, the **Development Department**, by e-mail dated October 17, 2022, stated the following:

"[...]

By instructions of Mr. Saúl Reyes Palafox, Deputy Director of Planning and Patrimonial Control, in accordance with numeral 1.2.1, subnumeral 17, of the Organization Manual of the National Fund for the Promotion of Tourism (FONATUR), in response to the request for information with folio number 330014822000442, submitted through the Information Request System (SISAI 2), the content of which is as follows:

"On energy and hydraulic infrastructure. - Based on the Agreement entered into by the Municipality of Loreto, Nacional Financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, as Trustee in the Trust named Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua Potable y Alcantarillado de Loreto (OOMSAPA LORETO) in order to take the delivery receipt of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londo Baja California Sur to the Municipality of Loreto. In particular, with what is set forth in the fourth clause referring to the payment of the debt for the electric energy service.

To CFE for the amount of \$4'324,008.11 million pesos, corresponding to maturities for the payment of electricity, please answer the following questions:

- 1.1. For how many months and/or years does the payment of electricity correspond?
- 1.2. Are the electricity bills broken down by month or annually with respect to the electromechanical equipment and hydraulic installations operated by FONATUR?
- 1.3.

Show the breakdown of amounts of payment for light in relation to electromechanical equipment and facilities operated by FONATUR in 2020, 2021 and so far in 2022? 2. Based on the operation of the hydraulic infrastructure of NOPOLO managed by FONATUR: 2.1. What are the expenses for energy consumption generated by the electromechanical equipment and hydraulic facilities operated by the PTAR of NOPOLO? 2.2. What are the expenses for energy consumption generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO? 2.3. How much is paid to the CFE for pumping drinking water in wells 5A and 5B in the years 2019, 2020, 2021, and so far in 2022? 2.4. How much was paid to the CFE for pumping drinking water in wells 5A and 5B in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 2.5.

How much is paid to the CFE for pumping potable water in the Twin wells in the years 2019, 2020, 2021, and so far in 2022? 2.6. How much was paid to the CFE for pumping potable water in the Twin wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 3. Based on the operation of San Juan Londo and the commitment to pay CFE for the consumption in the hydraulic infrastructure paid by FONATUR: 3.1. How much is paid to CFE for pumping drinking water in the Zacatel I, II, III and IV wells in 2019, 2020, 2021, and so far in 2022? 3.2. How much was paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 3.3. How much is paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in the years 2019, 2020, 2021, and so far in 2022? 3.4. How much was paid to the CFE for pumping drinking water in the wells Loreto 6, 7, 8, 9 and 10 in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022? 4. On payment of rights for concession titles or extraction assignment of water wells. - 4.1. What are the annual amounts (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction assignment in Loreto 6, 7, 8, 9 and 10 wells? 4.2. What are the annual amounts (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction allocation in Zacatel I, II, III and IV wells? 4.3. What are the annual amounts of the (2019, 2020, 2" (SIC)

In this regard, in accordance with numeral 1.2 DIRECCIÓN DE DESARROLLO, del Manual de Organización del FONATUR, based on Article 133 of the Federal Law of Transparency and Access to Public Information, after conducting an exhaustive search in the files of all areas of the Directorate of Development, in accordance with the information provided by said areas, attached hereto is the response from the Sub-Directorate of Works, which is part of the aforementioned Directorate, who through the Work Follow-up Management in the CIP Los Cabos and the Work Residence in the PTI Loreto, is pleased to respond to the request.

[...]"



On the other hand, the **Regional Coordination and Donations Sub-Directorate** attached to the Strategic Management and Institutional Liaison Directorate, through an e-mail dated October 6, 2022, stated the following:

"[...]

Felipe Moises Beiles Tapia, Commissioner in Charge of the Office of the CIP Los Cabos and CIP Loreto, I am pleased to send the response of the Regional Delegation CIP Loreto, to the request for access to information (manual) with folio number 330014822000442 submitted through the Information Request System (SISAI 2).

[...]"

By virtue of the foregoing, the responses indicated above are attached as **Annex 1**.

Without further ado, I send you my best regards.

A T T E N T A M E N T S

LIC. DAVID G. VASTO DOBARGANES
FONATUR TRANSPARENCY UNIT

Request for access to information (manual) with folio number 330014822000442 submitted through the Information Request System (SISAI 2).

I refer to the request for access to information with folio number 330014822000442, submitted through the Information Request System (SISAI 2), by which the National Fund for Tourism Development (FONATUR) was required to provide diverse information, and therefore, based on numeral 1.3.2.3 function 17 of Fonatur's Organization Manual, by means of which the Regional Delegation of the National Fund for Tourism Development is empowered to take the appropriate actions with respect to matters related to requests for information from the National Institute for Transparency, Access to Information and Protection of Personal Data.

In this regard, I would like to point out that once I have instructed and conducted an exhaustive search within the files and databases of this Delegation in order to respond to the request for information formulated in relation to payments for electric energy and fees derived from the operation of various infrastructures for the extraction of drinking water and wastewater treatment in Loreto, Baja California Sur, I would like to provide a timely response to each of the questions contained in the request:

Item 1 of the application

Based on the Agreement entered into by the Municipality of Loreto, Nacional Financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, as Trustee in the Trust named Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua Potable y Alcantarillado de Loreto (OOMSAPA LORETO) with the purpose of taking the delivery of the hydraulic infrastructure, its electromechanical equipment and facilities operated by FONATUR in San Juan Londó Baja California Sur to the Municipality of Loreto. In particular, with the exposed in the fourth clause referring to the payment of the debt for the electric energy service to CFE for the amount of \$4'324,008.11 million pesos, corresponding to maturities by concept of payment of Light, please answer the following questions:

1.1. For how many months and/or years does the payment of electricity correspond?

ANSWER: For two years from December 23, 2020.

1.2. Are the electricity bills broken down by month or yearly for electromechanical equipment and hydraulic installations operated by FONATUR?

ANSWER: Per month

1.3. Show the breakdown of amounts of payment for light in relation to electromechanical equipment and facilities operated by FONATUR for 2020, 2021 and so far in 2022?

ANSWER.

December 2020	\$ 909,271.00
January 2021	\$ 926,190.00
February 2021	\$ 806,360.00
March 2021	\$ 936,582.00
April 2021	\$ 1,119,192.00
May 2021	\$ 1,232,486.00
June 2021	\$ 1,163,142.00
July 2021	\$ 1,165,204.00
August 2021	\$ 1,155,854.00
September 2021	\$ 1,041,517.00
October 2021	\$ 1,062,053.00
November 2021	\$ 868,915.00
December 2021	\$ 899,199.00
January 2022	\$ 861,600.00
February 2022	\$ 822,361.00
March 2022	\$ 912,162.00
April 2022	\$ 1,072,320.00
May 2022	\$ 1,110,599.00
June 2022	\$ 1,034,399.00
July 2022	\$ 1,095,079.00
August 2022	\$ 1,122,396.00
September 2022	\$ 1,038,597.00

With respect to periods prior to December 2020, no record or record was found that this area had made, requested or authorized any payment related to the electric energy service of the aforementioned infrastructures.

Item 2 of the application

2. Based on the operation of NOPOLO's hydraulic infrastructure managed by FONATUR:

2.1. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the NOPOLO WWTP?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, and the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual do not include any function that grants it

The Company has the power, authority or competence to pay for such services.

2.2. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.3. How much is paid to the CFE for pumping drinking water in wells 5A and 5B in 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.4. How much was paid to the CFE for pumping drinking water in wells 5A and 5B in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.5. How much is paid to the CFE for pumping drinking water in the Gemelos wells in 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

2.6. How much was paid to the CFE for pumping drinking water in the Twin wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

3. Based on the operation of San Juan Londó and the commitment to pay electric energy to CFE for the consumption in the hydraulic infrastructure paid by FONATUR:

3.1. How much is paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in 2019, 2020, 2021, and the remainder of 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructure, without any of the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of section 1.3.2.3 of Fonatur's Organization Manual that grants it attributions, faculties or competence to make the payment of said services.

3.2. How much was paid to the CFE for pumping drinking water in Zacatel I, II, III and IV wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER: No record or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures, without the inherent functions of the CIP Loreto Regional Delegation of the

FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of the Fonatur's Organization Manual, there is any that grants it attributions, faculties or competence to carry out the payment of such services.

3.3. How much is paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in the years 2019, 2020, 2021, and so far in 2022?

ANSWER:

2020: \$ 909,271.00 (December only)

2021: \$ 12,376,694.00

So far in 2022: \$ 9,069,513.00

With respect to periods prior to December 2020, no record or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said services, for which reason there is no reason to suppose that this area has or should have the required information.

3.4. How much was paid to the CFE for pumping drinking water in wells Loreto 6, 7, 8, 9 and 10 in each month (12 months from January to December) of the years 2019, 2020, 2021, and so far in 2022?

ANSWER.

December 2020	\$ 909,271.00
January 2021	\$ 926,190.00
February 2021	\$ 806,360.00
March 2021	\$ 936,582.00
April 2021	\$ 1,119,192.00
May 2021	\$ 1,232,486.00
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August 2022	\$ 1,122,396.00
September 2022	\$ 1,038,597.00

With respect to periods prior to December 2020, no record or record was located that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said services, for which reason there is no reason to suppose that this area has or should have the required information.

4. On payment of fees for concession titles or water well extraction assignment.

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the referred fees. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed, as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said fees, for which reason there is no reason to suppose that this area has or should have the required information.

4.1. What are the annual amounts (2019, 2020, 2021, and so far in 2022) that FONATUR pays to CONAGUA for water rights for concession titles or extraction assignment in Loreto 6, 7, 8, 9 and 10 wells?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the referred fees. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed, as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of the Fonatur's Organization Manual

There is no provision that grants it any powers, authority or competence to make the payment of such fees, for which reason there is no reason to assume that this area has or should have the required information.

4.2. What are the annual amounts for (2019, 2020, 2021, and so far in 2022) ? that FONATUR pays to CONAGUA for water rights for concession or extraction assignment titles in Zacatel I, II, III and IV wells?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the referred fees. Likewise, and in order to support the lack of information in this area, it is important to point out that, from the background mentioned in the request being addressed, as well as from the functions inherent to the CIP Loreto Regional Delegation of FONATUR, contained in functions 1 to 18 of numeral 1.3.2.3 of Fonatur's Organization Manual, there is no provision that grants it attributions, powers or competence to make the payment of said fees, for which reason there is no reason to suppose that this area has or should have the required information.

4.3. What are the annual amounts of the (2019, 2020, 2020, 2

ANSWER: It is not possible to issue an answer as the question is not complete.

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Request for access to information (manual) with folio number 330014822000 42 submitted through the Information Request System (SISAI 2).

I refer to the request for access to information with folio number 3Z0014822000442, filed through the Information Request System (SISAI 2), by which the National Fund for the Promotion of Tourism (FONATUR) was asked for diverse information related to the operation of drinking water wells.

In this regard, I would like to state that once instructed and after an exhaustive search was performed within the files and databases of this Works Residence in order to respond to the request for information formulated in relation to payments for electric energy and fees derived from the operation of various infrastructures for the extraction of drinking water and wastewater treatment in Loreto, Baja California Sur, I am pleased to provide a timely response to each of the questions contained in the request:

Item 1 of the application

I. Having corrobated the Agreement entered into by the Municipality of Loreto, Nacional financiera, Sociedad Nacional de Crédito, Institución de Banca de Desarrollo, corresponsaria de the Fideicomiso called Fondo Nacional de Fomento al Turismo (FONATUR) and the Organismo Operador de Agua D potable y Alcantarillado de Loreto (OOMSADA L. OQETO) in order to carry out the delivery reception of the hydraulic infrastructure Orura, its electromechanical equipment and facilities operated by FONATUR in Con Juan Londó Baja California Sur (OQETO) with object to take the delivery reception of the hydraulic infrastructure Orura, its electromechanical equipment and facilities operated by FONATUR in Con Juan Londó Baja California Sur to the Municipality of Loreto. In particular, with the exposed in the fourth clause referring to payment of the debt for the service of electric energy to CFE by IO COCTIDOO Q \$4 224,008. 11 million pesos, corresponding or maturities by concept of payment of Light, please answer the following questions."

1.1. For how many months and/or years does the payment of electricity correspond?

ANSWER: For two years from December 23, 2020.

1.2. Are the luz receipts broken down by month or yearly for the electromechanical equipment and hydraulic installations operated by FONATUR?

ANSWER: Per month

1.3. Show the breakdown of payment amounts by luz in relation to electromechanical equipment and facilities operated by FONATUR for the 2020, 2021 and so far in 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

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Item 2 of the application

2. Running the operation of NOPOLO's water infrastructure managed by FONATUR.

2.7. What are the expenses for energy consumption generated by the equipment electromechanical and hydraulic installations operated at the NOPOLO WWTP?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

2.2. What are the energy consumption costs generated by the electromechanical equipment and hydraulic installations operated by the drinking water supply system in NOPOLO?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Z. How much was paid to the CFE for pumping drinking water in the SA and SB wells in the years 2019, 2020, 2021, so far in 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any paperwork related to the electric energy service of the referred infrastructures.

2.4. How much has been paid to the CFE for drinking water in the SA and SB wells in each month (72 months from January to December) of the years 2019, 2020, 2021, and the remainder of 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

2.5. How much will the CFE pay for the oil wells in the Cemelos wells in 2019, 2020, 2020, 2020, 2020, and 2022?

ANSWER: There is no record or record that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

2.6. How much was paid or the CFE for drinking water oomDeo in Cemelos wells in each month (12 months from January to December) of the years 2019, 2020, 2021, and what goes che/ 2022?



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ANSWER: No antecedent or record was found that this area has performed, requested or authorized anything related to the electric energy service of the referred infrastructures.

Item 3 of the application

Z. The operation of Son Juan Londó and the commitment to pay electric energy to CFE for the consumption in the hydraulic infrastructure paid for by

5.1. How much is paid to the CFE for drinking water supply in the wells Zocarel I, II, III and IV in 2019, 2020, 2021, and so far of 2022?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Z.2. How much was paid to the CFE for drinking water supply to the Zocatel I, II, lily IV wells? in each quarter (12 months from January to December) of the years 2019, 2020, 2021, and the remainder of the year.

ANSWER: We did not find any record or record that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Z.S. How much was paid to the CFE for water supply in the wells Loreto 6, 7, 8 and 9 IO in the years 2019, 2020, 2021, so far in 2022?

ANSWER: There is no record or record that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

3.4. How much was paid to the CFE for 6 days of drinking water in the wells Loreto 6, 7, 8, 9 and IO in each year (12 months from January to December) in the years 2019, 2020, 2021, and so far in the year 2019, 2020, 2021, and so far in the year 2019, 2020 and 2021?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the electric energy service of the referred infrastructures.

Item 4 of the application

4. Soóre payment of fees for concession or extraction assignment of extraction in wells of Og uO.

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ANSWER: No antecedent or record was located that this area has made, requested or authorized any payment related to the referred fees.

4.1. What are the annual amounts (2019, 2020, 2021, and the remainder of 2022) that FONATUR paid or CONAC UA for the concept of royalties for concession titles or extraction assignment in wells Loreto 6, 7, B 9 and 70?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the rights referred to.

4.2. What are the amounts of (2019, 2020, 2021, and what vo of 2022) that FONATUR pays or CONAC UA for Oonocepto of water rights for concession titles or allocation of extrOC:CIÓN in the wells Zacotol I, II, lily IV?

ANSWER: No antecedent or record was found that this area has made, requested or authorized any payment related to the rights referred to.

4.3. What are the annual amounts of the (2019, 2020, 2020, 2020, 2020, 2020, 2020)?

ANSWER: It is not possible to issue an answer since the question is not in the form of a poet.

DECREE declaring the 6,217-52-05.48 hectares of Loreto II Natural Protected Area, located in the municipality of Loreto, state of Baja California Sur, as a national park.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Presidencia de la República.

ANDRÉS MANUEL LÓPEZ OBRADOR, President of the United Mexican States, in exercise of the power vested in me by Article 89, section I, of the Political Constitution of the United Mexican States; based on Articles 4, fifth paragraph, and 27, third paragraph, of the Constitution; 13 and 32 Bis of the Organic Law of the Federal Public Administration; 1o, Sections I, IV and VI, 2nd, Section II, 3rd, Sections II, XXV, XXVII and XXX, 5th, Sections VIII and XI, 6th, 15th, Sections I, III, V, VI and IX, 44, 45, 46, first paragraph, Section III, second, fifth, sixth and seventh, 47, 47 BIS, 47 BIS 1, 50, 57, 58, 60, 61, 63, 64, 74 and 161 of the General Law of Ecological Balance and Environmental Protection; 29, section X, 30, section XXII, and 34, section III, clause e, of the General Law of Climate Change; 4th of the General Law of Wildlife; and

WHEREAS

That the fifth paragraph of Article 4 of the Political Constitution of the United Mexican States (CPEUM) establishes that "[e]very person has the right to a healthy environment for his or her development and well-being. The State shall guarantee respect for this right";

That the third paragraph of Article 27 of the CPEUM establishes that "[t]he nation shall at all times have the right to impose on private property the modalities dictated by the public interest", and that the State shall dictate "the necessary measures to order human settlements and establish adequate provisions, uses, reserves and destinations of land, water and forests (...) to preserve and restore the ecological balance", as well as "to avoid the destruction of natural elements and the damages that property may suffer to the detriment of society";

That the Convention on Biological Diversity, signed *ad referendum* by Mexico on June 13, 1992 and published in the Official Gazette of the Federation (DOF) on May 7, 1993, states in Article 8, paragraphs a and d, respectively, that each contracting party shall "[e]stablish a system of protected areas or areas where special measures must be taken to conserve biological diversity", and "[p]romote the protection of ecosystems and natural habitats and the maintenance of viable populations of species in natural surroundings";

The Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights "Protocol of San Salvador", ratified by Mexico on April 16, 1996 and published in the DOF on September 1, 1998, provides in Article 11 that "[e]very person has the right to live in a healthy environment and to have access to basic public services", and that "[t]he States Parties shall promote the protection, preservation and improvement of the environment";

That the Paris Agreement, published in the DOF on November 4, 2016, provides in its Article 7 that "...the Parties establish the global goal on adaptation, which is to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change with a view to contributing to sustainable development...";

That one of the "Framework Principles on Human Rights and the Environment" presented by the United Nations Special Rapporteur on Human Rights and the Environment to the United Nations Human Rights Council, in March 2018, is that "[s]tates must respect, protect and fulfill human rights in order to ensure a safe, clean, healthy and sustainable environment"; therefore, they must adopt effective measures for their compliance, prevent environmental damage, reduce it and provide for reparations;

The purpose of the General Law of Ecological Balance and Environmental Protection (LGEEPA) is to promote sustainable development and establish the bases for "[t]he preservation and protection of biodiversity, as well as the establishment and administration of protected natural areas" (Article 1, Section IV);

That the LGEEPA provides that preservation is the "set of policies and measures to maintain the conditions that favor the evolution and continuity of ecosystems and natural habitats, as well as to conserve viable populations of species in their natural environments and the components of biodiversity outside their natural habitats", and that protection is the "set of policies and measures to improve the environment and control its deterioration" (article 3o., fractions XXV and XXVII);

That the aforementioned law considers the establishment, protection and preservation of natural protected areas and ecological restoration zones to be of public utility (Article 2, Section II);

The LGEEPA provides that for the formulation and conduct of environmental policy and the issuance of official Mexican standards and other instruments provided for in said law, in matters of preservation and restoration of the ecological balance and environmental protection, the Federal Executive shall observe as a principle that the most effective means to avoid ecological imbalances is the prevention of the causes that generate them (Article 15, Section VI);

That, in accordance with the LGEEPA, the national parks will be constituted, in the case of biogeographic representations, at national level, of one or more ecosystems that are significant for their scenic beauty, their scientific, educational, recreational, historical value, for the existence of flora and fauna, for their aptitude for the development of tourism (article 50);

Protected natural areas will be established by means of a declaration issued by the Federal Executive, following the completion of supporting studies, which must be made available to the public (Articles 57 and 58 of the LGEEPA);

That natural protected areas contribute to adopting measures to combat climate change and its effects, and to halt the loss of biodiversity, in order to achieve Sustainable Development Goals 13 and 15 of the United Nations 2030 Agenda;

That the National Development Plan 2019-2024, approved by the Senate of the Republic and published in the DOF on July 12, 2019, states in its General Axis II. "Social Policy", section "Sustainable Development" that "[t]he Government of Mexico is committed to promoting sustainable development, which in the present era has been evidenced as an indispensable factor of well-being. It is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. This formula summarizes unavoidable ethical, social, environmental and economic mandates that must be applied in the present to guarantee a minimally habitable and harmonious future";

That the Sector Program for the Environment and Natural Resources 2020-2024, published in the DOF on July 7, 2020, states as a specific action "[c]onsolidating and promoting protected natural areas (...) giving priority to the representativeness and connectivity of ecosystems, the conservation of priority species and the biocultural heritage of the communities that inhabit them";

That the protection and conservation of ecosystems and their biodiversity reduce the vulnerability of the population and increase their resilience, in addition to favoring the adaptation of biodiversity and species at risk to climate change;

That the accelerated destruction of the natural environment highlights the need to preserve all the elements that make it up, so it has been considered that the establishment of natural protected areas is one of the most effective measures for biological conservation;

That, in order to guarantee the people of Mexico their right to a healthy environment, their development and well-being, as well as to avoid the excessive exploitation of natural resources and the alteration of ecosystems, the President of the Republic, through an agreement published in the DOF on February 15, 2023, instructed the National Fund for the Promotion of Tourism (Fonatur) to identify the properties that are part of its patrimony that, due to their characteristics and the presence of species of flora and fauna in them, have an important environmental value and, therefore, could be declared as natural protected areas;

That the Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas (Conanp), in collaboration with Fonatur, prepared the previous justification study for the Loreto II site, located in the municipality of Loreto, state of Baja California Sur, within the physiographic province of the Baja California peninsula and in the physiographic subprovince of the Sierra de la Giganta, and made available to the public by means of a notice published in the DOF on July 6, 2023;

That in said previous study the biological characteristics and land use vocation were considered, and it was concluded that it meets the necessary requirements to be declared as a natural protected area with the category of flora and fauna protection area, in accordance with articles 45 and 46 of the Regulation of the General Law of Ecological Balance and Environmental Protection in the matter of Natural Protected Areas, since it has orographic features in which are distinguished lomeríos, canyons, ravines, and valleys, with some morphological associations, located in a descent with lomerío, in high sierra and a basaltic plateau with ravines, which has allowed the establishment of fragile ecosystems typical of the Baja California peninsula in a good state of conservation such as thorny scrub with lateral thorns, sarco-crasicaule scrubland, sarco-caule scrubland, subperennial riparian forest, halophilic vegetation, coastal scrubland, coastal dune vegetation, and mangroves;

Loreto II provides important ecosystem services such as pollination, biological control, climate regulation, water and carbon capture and storage, protection against extreme weather events, landscape diversity for recreation and cultural identity, among others;

Loreto II is home to 557 native species of flora and fauna, which represents 13% of the biodiversity reported for the state of Baja California Sur, of which 94 vascular plant species, 4 invertebrate species, and 12 vertebrate species are endemic; 7 vascular plant species and 44 vertebrate species are in some category of risk according to the "Norma Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres- Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo", its modification and errata, published in the DOF on December 30, 2010, November 14, 2019 and March 4, 2020, respectively, and 35 species that are considered a priority for conservation in Mexico in accordance with the "Acuerdo por el que se da a conocer la lista de especies y poblaciones prioritarias para la conservación" published in the DOF on March 5, 2014;

That among the species present in Loreto II, seven are in some category of risk according to NOM-059-SEMARNAT-2010: black mangrove (*Avicennia germinans*), red mangrove (*Rhizophora mangle*) and white mangrove (*Laguncularia racemosa*), which are in the threatened category; palo fierro (*Olneya tesota*), garambullo (*Lophocereus schottii*), Evermann's biznaga (*Mammillaria evermanniana*) and the Baja California alicoche (*Morangaya pensilis*), subject to special protection; as well as fauna species such as the rattlesnake (*Crotalus mitchelli*) known in the site as the peninsular spotted rattlesnake, southern lizard (*Elgaria multicarinata*), northwestern banded gecko (*Coleonyx variegatus*), aura eagle (*Buteo albonotatus*), least tern (*Sternula antillarum*), blue-footed booby (*Sula nebouxii*) and bighorn sheep (*Ovis canadensis*), all in the category of subject to special protection; desert fox (*Vulpes macrotis*), tlalcoyote (*Taxidea taxus*), and Californian rat (*Neotoma bryanti*), in the endangered category; as well as sea turtles: Olive Ridley turtle (*Lepidochelys olivacea*) and black sea turtle (*Chelonia mydas*), in the endangered category;

In Loreto II there are archaeological sites such as open-air and cave dwellings, as well as shell middens, so called because they have mounds of shells whose mollusks were consumed by the ancient inhabitants; there are also paintings and petroglyphs dedicated to the cult of nature, which show the presence of groups such as the Monquis, also known as Monguies, who were the ancient and original inhabitants of the Baja California peninsula;

That in Loreto II there are socio-environmental problems such as unregulated tourism and poor tourism practices, overexploitation of aquifers, illegal extraction and sale of biodiversity, introduction of exotic and invasive species, unregulated extraction of stone materials and social problems related to the unauthorized entry of people from the surrounding localities to the Loreto II site, which benefit from the illegal extraction and use of natural resources;

That not taking preventive protection actions with respect to the Loreto II site implies putting at risk the ecosystems and species that live there, since environmental deterioration would continue for future generations due to the development of activities contrary to the conservation of the environment in the area, which transgresses the principles of responsibility and prevention established in the LGEEPA;

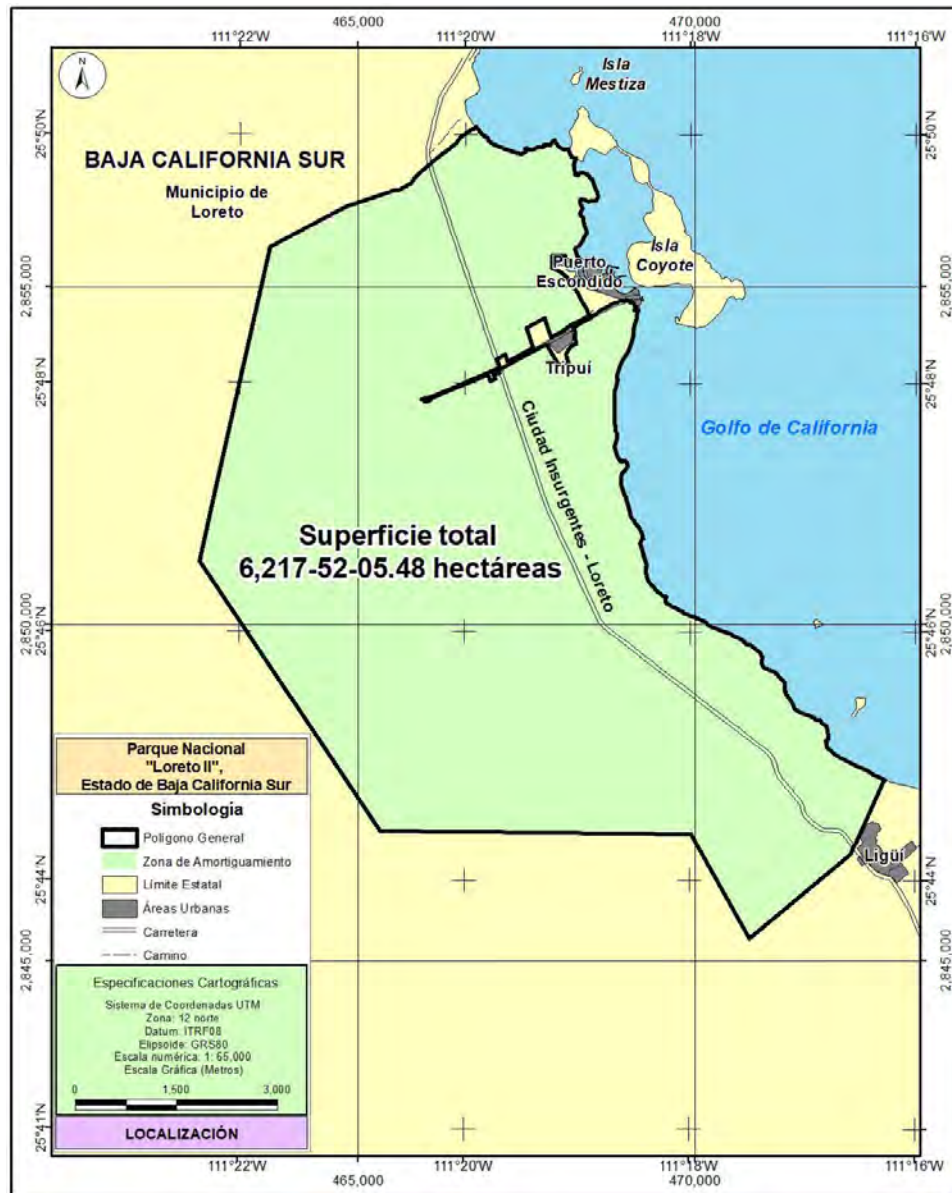
That, in the face of the challenge posed by climate change, various measures must be implemented with a cross-cutting and multidisciplinary vision, in order to conserve the natural heritage, use it in a sustainable manner and increase social welfare, and

That in order to protect the Loreto II site under schemes that guarantee the integral preservation of the natural elements that compose it, I have had the good will to issue the following

DECREE

ARTICLE ONE. The area of 6,217-52-05.48 hectares (six thousand two hundred and seventeen hectares, fifty-two areas, five point forty-eight centimeters), which according to the Geostatistical Framework, version 2022 of the National Institute of Statistics and Geography, is located in the municipality of Loreto, state of Baja California Sur, conformed by a general polygon that corresponds to the buffer zone, is declared Loreto II Natural Protected Area, with the character of a national park.

The boundary description of the general polygon that makes up Loreto II National Park is in a Universal Transverse Mercator (UTM) coordinate system, zone 12 north, with Ellipsoid GRS80 and Horizontal Datum ITRF08 epoch 2010.0.



The official map of Loreto II National Park that contains the analytical-topographical boundary description of the general polygon described in this decree is located at the central offices of the National Commission of Natural Protected Areas, located at Avenida Ejército Nacional, number 223, 12th floor, colonia Anáhuac, I Sección, alcaldía Miguel Hidalgo, postal code 11320, in Mexico City; at the office of the Dirección Regional Península de Baja California y Pacífico Norte, located at 1555 Agricultura Street, number 1555, building F, 2nd floor, colonia Emiliano Zapata, postal code 23070, La Paz, state of Baja California Sur, and at the representative office of the Secretaría de Medio Ambiente y Recursos Naturales, located at 1045 Melchor Ocampo Street, colonia Centro, postal code 23000, La Paz, state of Baja California Sur.

**General Polygon (Surface
area 6,217-52-05.48 hectares)**

Est-PV	Rumbo	Distance (meters)	Vertex No.-	UTM coordinates	
				X	Y
			1	466,751.502000	2,857,377.258300

From this vertex 1 we continue along the border of Loreto Bay National Park, with a general southeast course, for a n approximate distance of 1,734.52 meters until we reach vertex 2.

			2	468,121.889400	2,857,049.312000
2 - 3	76°30'35"SE	17.85	3	468,122.893200	2,857,031.494800
3 - 4	76°30'35"SE	108.70	4	468,170.820700	2,856,933.927600
4 - 5	01°59'10"SW	62.75	5	468,230.838500	2,856,915.605600

From this vertex 5, we continue along the border of Loreto Bay National Park, with a general southeast course, for a n approximate distance of 2,178.33 meters until we reach vertex 6.

			6	468,314.936100	2,855,396.386500
6 - 7	01°59'11"SW	28.43	7	468,287.246000	2,855,389.953700
7 - 8	86°28'53"NW	21.14	8	468,268.929400	2,855,379.390700
8 - 9	88°21'08"NW	31.24	9	468,243.321000	2,855,361.493900
9 - 10	01°57'21"SW	26.48	10	468,229.154400	2,855,339.118600
10 - 11	01°57'21"SW	1.19	11	468,227.979400	2,855,338.940500
11 - 12	88°29'32"SE	52.76	12	468,178.125300	2,855,356.197900
12 - 13	00°22'53"NE	33.71	13	468,158.963800	2,855,383.928100
13 - 14	88°32'08"SE	7.42	14	468,151.959900	2,855,386.390200
14 - 15	01°59'11"SW	86.48	15	468,078.071900	2,855,431.324600
15 - 16	87°55'53"NW	39.15	16	468,078.071900	2,855,470.479400
16 - 17	87°55'52"NW	205.67	17	467,872.419800	2,855,467.957400
17 - 18	87°55'52"NW	189.15	18	467,881.962200	2,855,279.048700
18 - 19	02°04'07"SW	106.77	19	467,982.075200	2,855,241.929700
19 - 20	02°04'08"SW	149.32	20	468,099.574400	2,855,149.793800
20 - 21	88°13'23"NW	118.89	21	468,148.311000	2,855,041.346800
21 - 22	81°43'00"SW	60.83	22	468,186.165900	2,854,993.733700
22 - 23	71°25'25"SW	35.19	23	468,219.782700	2,854,983.330000
23 - 24	60°52'47"SW	101.82	24	468,268.281400	2,854,893.802600
24 - 25	60°26'37"SW	21.95	25	468,278.734500	2,854,874.506400
25 - 26	61°03'12"SW	84.43	26	468,318.949500	2,854,800.270400
26 - 27	61°03'13"SW	30.19	27	468,333.331600	2,854,773.721200
27 - 28	60°00'24"SW	86.40	28	468,374.486400	2,854,697.750500
28 - 29	04°13'59"SW	4.08	29	468,376.429500	2,854,694.163600
29 - 30	04°14'00"SW	21.95	30	468,386.882600	2,854,674.867300
30 - 31	90°00'00"NE	89.82	31	468,429.666000	2,854,595.890100
31 - 32	75°30'36"NE	1.27	32	468,430.349800	2,854,594.824900
32 - 33	72°54'48"NE	1.27	33	468,431.182300	2,854,593.871300
33 - 34	72°23'08"NE	1.27	34	468,432.145500	2,854,593.050100
34 - 35	54°15'47"NE	1.27	35	468,433.218800	2,854,592.378900
35 - 36	54°15'45"NE	3.61	36	468,434.949300	2,854,589.206900
36 - 37	89°34'30"SE	16.54	37	468,420.548100	2,854,581.062700

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
37 - 38	01°59'11"NE	51.90	38	468,374.879300	2,854,556.406400
38 - 39	01°59'11"NE	21.90	39	468,355.608500	2,854,546.002200
39 - 40	01°59'10"NE	22.80	40	468,335.620900	2,854,535.040500
40 - 41	01°59'11"NE	53.79	41	468,288.458900	2,854,509.175500
41 - 42	76°30'35"SE	56.64	42	468,238.674400	2,854,482.163400
42 - 43	76°30'35"SE	21.72	43	468,219.903000	2,854,471.245100
43 - 44	76°30'35"SE	36.50	44	468,187.883800	2,854,453.714200
44 - 45	76°30'35"SE	26.15	45	468,165.197800	2,854,440.701300
45 - 46	76°30'35"SE	22.12	46	468,146.424400	2,854,429.007900
46 - 47	76°30'35"SE	21.71	47	468,128.651500	2,854,416.537000
47 - 48	76°30'35"SE	19.83	48	468,112.484900	2,854,405.058800
48 - 49	76°21'22"SE	13.42	49	468,101.839500	2,854,396.889600
49 - 50	05°03'23"SE	9.30	50	468,094.707900	2,854,390.926800
50 - 51	78°18'16"NW	12.34	51	468,085.665800	2,854,382.532200
51 - 52	31°56'41"NW	11.17	52	468,076.928000	2,854,375.576600
52 - 53	10°12'00"SW	6.38	53	468,071.855700	2,854,371.712400
53 - 54	78°05'50"NW	6.37	54	468,066.784800	2,854,367.849200
54 - 55	06°58'01"NE	6.29	55	468,061.680700	2,854,364.175300
55 - 56	02°54'40"NW	7.69	56	468,055.437700	2,854,359.681700
56 - 57	12°47'24"NW	13.39	57	468,043.993200	2,854,352.732600
57 - 58	22°40'10"NW	11.85	58	468,034.127300	2,854,346.161500
58 - 59	32°32'55"NW	1.61	59	468,032.706800	2,854,345.396600
59 - 60	42°25'40"NW	9.05	60	468,024.740200	2,854,341.106900
60 - 61	52°18'27"NW	6.29	61	468,019.117500	2,854,338.295600
61 - 62	62°11'08"NW	6.35	62	468,013.442300	2,854,335.458000
62 - 63	72°03'52"NW	14.93	63	468,000.399200	2,854,328.193400
63 - 64	81°56'44"NW	14.18	64	467,988.046500	2,854,321.225400
64 - 65	88°10'40"SW	6.00	65	467,982.821700	2,854,318.278100
65 - 66	78°17'46"SW	11.65	66	467,972.686800	2,854,312.526100
66 - 67	68°25'07"SW	15.47	67	467,959.231700	2,854,304.889600
67 - 68	58°32'19"SW	12.71	68	467,947.805500	2,854,299.318500
68 - 69	48°39'39"SW	15.80	69	467,933.599900	2,854,292.392200
69 - 70	38°46'48"SW	16.64	70	467,918.957500	2,854,284.493000
70 - 71	28°54'07"SW	20.34	71	467,901.054900	2,854,274.835000
71 - 72	76°13'22"NW	38.13	72	467,868.983000	2,854,254.204900
72 - 73	13°53'33"NE	309.42	73	467,767.819000	2,854,546.617900
73 - 74	11°05'39"NE	304.96	74	467,500.818000	2,854,399.276900
74 - 75	07°16'13"NE	311.41	75	467,602.611000	2,854,104.972900
75 - 76	06°23'22"NE	431.48	76	467,225.673000	2,853,894.988900
76 - 77	04°24'55"NE	113.03	77	467,188.883000	2,854,001.860900
77 - 78	03°18'40"NE	105.09	78	467,096.896000	2,853,951.035900
78 - 79	13°53'32"NE	40.37	79	467,059.470200	2,853,935.901500

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
79 - 80	88°00'31"SW	140.59	80	467,105.011500	2,853,802.888500
80 - 81	73°39'52"SW	57.24	81	467,052.357800	2,853,780.436600
81 - 82	64°30'26"SW	24.06	82	467,030.228300	2,853,771.005300
82 - 83	55°21'00"SW	988.26	83	466,121.138100	2,853,383.423600
83 - 84	46°11'21"SW	87.54	84	466,037.695800	2,853,356.952900
84 - 85	37°01'53"SW	40.57	85	465,999.022500	2,853,344.684400
85 - 86	27°52'19"SW	20.25	86	465,988.919200	2,853,362.238700
86 - 87	12°00'39"SW	51.12	87	465,944.611100	2,853,336.737400
87 - 88	14°54'22"SW	3.37	88	465,947.582100	2,853,335.153200
88 - 89	24°30'10"SW	7.98	89	465,953.185800	2,853,329.474300
89 - 90	34°05'45"SW	16.26	90	465,965.760800	2,853,319.170600
90 - 91	43°41'32"SW	12.29	91	465,975.981900	2,853,312.348500
91 - 92	53°17'18"SW	6.29	92	465,980.174900	2,853,307.657700
92 - 93	62°52'53"SW	2.60	93	465,981.448800	2,853,305.388000
93 - 94	72°28'47"SW	9.93	94	465,990.583000	2,853,309.282300
94 - 95	82°04'29"SW	17.33	95	465,998.035900	2,853,293.638700
95 - 96	88°19'50"NW	53.14	96	466,048.061300	2,853,311.573900
96 - 97	78°44'05"NW	17.82	97	466,061.335800	2,853,323.465300
97 - 98	70°11'50"NW	8.39	98	466,069.058700	2,853,326.749100
98 - 99	70°11'50"NW	15.07	99	466,066.295600	2,853,341.561600
99 - 100	17°47'48"NE	931.08	100	466,922.784700	2,853,706.717300
100 - 101	22°17'12"NW	6.53	101	466,925.366000	2,853,700.722900
101 - 102	67°01'48"NW	100.99	102	466,965.308000	2,853,607.968900
102 - 103	67°27'41"SW	77.20	103	467,036.231000	2,853,638.462900
103 - 104	21°22'00"SW	100.72	104	466,996.499000	2,853,731.014900
104 - 105	87°53'28"NW	6.14	105	466,994.078500	2,853,736.653300
105 - 106	86°01'04"SW	29.13	106	467,020.773200	2,853,748.314500
106 - 107	85°50'23"SW	6.19	107	467,023.212000	2,853,742.629900
107 - 108	01°59'11"SW	39.95	108	467,038.962000	2,853,705.918900
108 - 109	71°52'15"SW	12.90	109	467,050.832100	2,853,710.969800
109 - 110	79°18'50"SW	24.07	110	467,072.978800	2,853,720.393600
110 - 111	83°06'51"SW	23.00	111	467,094.142000	2,853,729.398900
111 - 112	89°15'24"NW	40.14	112	467,078.340000	2,853,766.292900
112 - 113	88°09'40"SW	6.03	113	467,075.964200	2,853,771.839900
113 - 114	86°21'59"NW	37.75	114	467,110.694400	2,853,786.641200
114 - 115	81°32'19"NW	40.00	115	467,148.630400	2,853,799.319900
115 - 116	87°56'10"NW	7.52	116	467,153.352700	2,853,805.167500
116 - 117	81°44'24"SW	7.52	117	467,158.655600	2,853,810.494100
117 - 118	31°50'38"NW	7.52	118	467,164.481900	2,853,815.242500
118 - 119	70°32'15"NE	7.52	119	467,170.768900	2,853,819.361500
119 - 120	20°49'17"NW	703.73	120	467,788.424000	2,854,156.622600
120 - 121	75°36'06"SW	362.67	121	467,976.673900	2,853,846.637700

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
121 - 122	20°59'45"SE	94.98	122	468,069.522000	2,853,866.660200
122 - 123	69°35'24"NE	49.18	123	468,117.601000	2,853,877.028300
123 - 124	31°50'38"SE	133.04	124	468,089.556600	2,854,007.076000
124 - 125	70°35'27"SW	46.91	125	468,104.277900	2,854,051.614300
125 - 126	73°18'22"SW	39.62	126	468,126.456300	2,854,084.443500
126 - 127	76°01'17"SW	45.13	127	468,159.417400	2,854,115.267700
127 - 128	78°44'10"SW	60.03	128	468,206.195900	2,854,152.887500
128 - 129	73°02'01"SW	22.69	129	468,228.621100	2,854,156.318800
129 - 130	61°31'35"SW	125.90	130	468,219.196900	2,854,281.861500
130 - 131	52°29'43"SW	125.90	131	468,209.772700	2,854,407.404100
131 - 132	47°20'25"SW	136.35	132	468,325.078700	2,854,480.180400
132 - 133	47°51'27"SW	6.83	133	468,330.997400	2,854,483.593300
133 - 134	39°25'47"SW	254.35	134	468,551.336000	2,854,610.645700
134 - 135	30°59'57"SW	33.66	135	468,574.912100	2,854,634.673400
135 - 136	43°35'13"SW	14.65	136	468,585.173700	2,854,645.131700
136 - 137	45°18'34"SW	3.09	137	468,587.336100	2,854,647.335500
137 - 138	55°16'35"SW	73.47	138	468,651.844400	2,854,682.501500
138 - 139	34°14'27"SW	89.80	139	468,730.435000	2,854,725.947400
139 - 140	22°31'59"SW	46.53	140	468,771.285100	2,854,748.220600
140 - 141	34°35'46"SW	26.05	141	468,794.867600	2,854,759.286900
141 - 142	35°56'41"SW	31.32	142	468,823.864500	2,854,771.130700
142 - 143	34°12'19"SW	23.72	143	468,846.335900	2,854,778.718800
143 - 144	21°59'27"SW	24.41	144	468,869.608700	2,854,786.083600
144 - 145	21°56'18"SW	25.07	145	468,893.881200	2,854,792.338700
145 - 146	20°33'21"SW	17.52	146	468,911.129500	2,854,795.398800
146 - 147	08°02'08"SW	46.98	147	468,957.719600	2,854,801.458600
147 - 148	04°45'48"SW	32.79	148	468,990.197500	2,854,805.943500
148 - 149	12°00'41"SW	1.65	149	468,991.440200	2,854,804.855600
149 - 150	20°55'28"SW	2.00	150	468,992.941700	2,854,803.541100
150 - 151	32°28'15"SW	53.98	151	469,033.557500	2,854,767.984100
151 - 152	88°49'38"NW	30.00	152	469,063.270600	2,854,772.106200
152 - 153	39°18'23"SW	12.21	153	469,063.486000	2,854,784.309300
153 - 154	08°17'27"SW	2.37	154	469,063.528000	2,854,786.681000
154 - 155	89°21'50"NE	94.45	155	469,124.397800	2,854,714.467100
155 - 156	07°07'59"NE	16.02	156	469,126.057300	2,854,698.530300
156 - 157	88°49'43"NW	42.97	157	469,094.735200	2,854,669.107600
157 - 158	32°28'16"NE	62.61	158	469,155.214600	2,854,652.911700

From this vertex 158 we continue along the boundary of Loreto Bay National Park, with a general southeast course, for an approximate distance of 9,341.82 meters until we reach vertex 159.

OFICIAL Tuesday, August 15, 2023

Est-PV	Rumbo	Distance (meters)	Vertex No.-	UTM coordinates	
				X	Y
			159	472,809.412700	2,847,679.591000
159 - 160	12°00'41"NE	36.04	160	472,784.869300	2,847,653.193900
160 - 161	04°45'49"NE	1,005.07	161	472,372.025700	2,846,736.833100
161 - 162	08°02'08"NE	45.27	162	472,353.785800	2,846,695.398700
162 - 163	20°33'22"NE	126.48	163	472,302.806600	2,846,579.646200
163 - 164	21°56'18"NE	32.40	164	472,278.364100	2,846,558.375200
164 - 165	21°59'27"NE	24.59	165	472,259.811300	2,846,542.237600
165 - 166	34°12'19"NE	1,896.58	166	470,805.206800	2,845,325.214000
166 - 167	35°56'41"NE	1,779.31	167	469,933.835800	2,846,876.560000
167 - 168	34°35'46"NE	2,167.53	168	467,766.453300	2,846,901.565000
168 - 169	22°31'59"NE	2,432.72	169	465,333.891000	2,846,929.617900
169 - 170	34°14'27"NE	4,825.16	170	462,648.498000	2,850,938.467900
170 - 171	55°16'35"NE	1,072.89	171	462,884.570000	2,851,985.063100
171 - 172	45°18'34"NE	3,704.66	172	463,699.727100	2,855,598.926000
172 - 173	43°35'12"NE	1,149.15	173	464,715.313200	2,856,136.629200
173 - 174	04°19'02"SE	137.97	174	464,837.244000	2,856,201.185200
174 - 175	12°48'39"SE	681.57	175	465,482.965700	2,856,419.326600
175 - 176	21°18'12"SE	61.51	176	465,541.274500	2,856,438.896600
176 - 177	29°47'51"SE	74.81	177	465,615.625400	2,856,447.205500
177 - 178	20°17'51"SE	194.31	178	465,783.673000	2,856,544.753200
178 - 179	18°52'05"SE	102.12	179	465,845.371800	2,856,626.128000
179 - 180	30°34'48"SE	100.94	180	465,915.833000	2,856,698.401200
180 - 181	75°33'40"SW	20.48	181	465,928.342000	2,856,714.615200
181 - 182	52°36'00"SW	182.33	182	466,069.562700	2,856,829.945700
182 - 183	43°13'08"SW	43.97	183	466,103.709600	2,856,857.646300
183 - 184	33°50'29"SW	222.84	184	466,276.721700	2,856,998.087800
184 - 185	24°27'33"SW	30.36	185	466,300.293900	2,857,017.220300
185 - 186	15°04'45"SW	195.88	186	466,452.401300	2,857,140.646700
186 - 187	05°42'12"SW	121.56	187	466,530.271200	2,857,233.990600
187 - 188	03°41'04"SE	202.31	188	466,699.784000	2,857,344.413600
188 - 189	13°03'36"SE	11.61	189	466,709.643500	2,857,338.274000
189 - 190	22°26'10"SE	17.49	190	466,718.887800	2,857,353.119500
190 - 191	78°22'32"SW	4.43	191	466,719.805600	2,857,357.456000
191 - 192	29°04'30"SE	7.44	192	466,726.038200	2,857,361.516000
192 - 1	69°30'15"NE	29.94	1		

ARTICLE TWO. The general polygon of Loreto II National Park is made up of the buffer zone that will be subzoned in the management program, in accordance with articles 47 BIS and 47 BIS 1 of the General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente).

ARTICLE THREE. The Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, is in charge of administering, managing, preserving and restoring the ecosystems and elements of Loreto II National Park, as well as overseeing that the actions carried out within the park comply with the purposes of the General Law of Ecological Balance and Environmental Protection, this decree and other applicable provisions.

ARTICLE FOUR: The following activities can be carried out within the buffer zone of Loreto II National Park:

- I. Scientific research;
- II. Environmental monitoring;
- III. Environmental education;
- IV. Low environmental impact tourism;
- V. Conservation, preservation, protection and restoration of ecosystems;
- VI. Controlled species repopulation;
- VII. Eradication or control of exotic species, invasive exotic species or species that become harmful;
- VIII. Construction and maintenance of support infrastructure as required, and
- IX. Any others provided for in the General Law of Ecological Balance and Environmental Protection, in accordance with the subzone where they are intended to be carried out, and those considered as permitted in the administrative rules indicated in the corresponding management program.

For the activities referred to in this article that require authorization, in accordance with the applicable legal provisions, the respective administrative unit must have the prior opinion of the National Commission of Natural Protected Areas and, in any case, the competent authorities must observe the response deadlines set forth in the corresponding regulations.

ARTICLE FIVE: Activities permitted within the buffer zone of Loreto II National Park should be carried out in accordance with the corresponding subzoning and subject to the following modalities:

- I. Scientific research, environmental monitoring and environmental education should be carried out in such a way that they do not imply substantial modifications to natural characteristics or conditions;
- II. Low environmental impact tourism may only be carried out provided that its development does not imply modifications to the original natural characteristics or conditions;
- III. The reintroduction or controlled repopulation of wildlife should be carried out with native species or, if applicable, with species that are compatible with the functioning and structure of the original ecosystems, taking into consideration that these activities should not compromise or affect the recovery of other existing species in the area, particularly those that are in some category of risk;
- IV. Ecosystem restoration should be carried out in order to recover the continuity of ecological processes;
- V. The eradication or control of exotic or invasive alien species, or those that become harmful, must be carried out in accordance with the measures authorized by the Ministry of the Environment and Natural Resources, in order to prevent the continuity of ecological and evolutionary processes, as well as ecosystem services from being affected or, if applicable, to promote the recovery of both;
- VI. Maintenance or construction of support infrastructure must be carried out in a manner that does not involve the removal of natural populations or the fragmentation of ecosystems and microenvironments, in the subzones in which the management program permits it, taking into consideration the physical and biological characteristics of the subzones themselves, and must be carried out in accordance with the specific rules established in the program;

- VII. Supporting infrastructure works must be carried out with the application of eco-techniques and traditional construction materials typical of the region, in order to avoid fragmentation of the habitat of the species protected by this decree;
- VIII. Supporting infrastructure works to be carried out in the natural protected area must not interfere with the natural water catchment or its infiltration into the soil; and
- IX. Other provisions of the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife, and other applicable legal provisions.

SIXTH ARTICLE: Within the buffer zone of Loreto II National Park, it is prohibited:

- I. Dumping, dumping or discharging any type of organic waste, solid or liquid waste or any other type of contaminant, such as insecticides, fungicides and pesticides, among others, on the ground or in bodies of water;
- II. Filling, draining or modifying natural permanent and intermittent stream channels;
- III. Dumping or abandoning waste outside the authorized sites;
- IV. Build landfills for solid waste, as well as for hazardous materials and substances;
- V. To carry out activities of extractive exploitation of wild flora or fauna;
- VI. To carry out fishing, aquaculture, forestry, agricultural and livestock activities;
- VII. Introducing exotic or exotic invasive wildlife specimens or populations;
- VIII. Introducing genetically modified organisms, except for bioremediation purposes;
- IX. Harass, disturb or harm wildlife species in any way;
- X. Altering or destroying by any means or action the feeding, nesting, shelter or reproduction sites of wildlife;
- XI. Use any source of sound emission that alters the behavior of wild species;
- XII. To carry out any private work;
- XIII. To carry out works and works for the exploration, exploitation and benefit of minerals or substances referred to in the Mining Law, and the extraction of stone materials;
- XIV. Build deposits or final disposal sites for tailings, slag, slag and grease from mines and mineral processing plants;
- XV. Final disposal of mining and metallurgical wastes;
- XVI. Modify the natural environment where historical and archaeological remains are located;
- XVII. Establish inhabited or urbanized areas that, starting from a central nucleus, present physical continuity in all directions, in which there are concentrated human settlements, including public administration, organized commerce and industry, and which have infrastructure, equipment and urban services such as electricity, drainage and drinking water supply; and
- XVIII. Any others required by the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife and other applicable legal provisions.

ARTICLE SEVENTH: No new population centers will be authorized in Loreto II National Park, including the ecological preservation zones of the population centers.

ARTICLE EIGHTH: Any public work or activity intended to be carried out within Loreto II National Park should be subject to the modalities established in this decree, the area's management program, and other applicable legal dispositions.

Likewise, those who intend to carry out such works or activities must have, if applicable and prior to their execution, the corresponding environmental impact authorization under the terms of the General Law of Ecological Balance and Environmental Protection and its regulations on environmental impact assessment, independent of the permits, licenses and authorizations that must be issued by other authorities in accordance with the applicable legal provisions.

ARTICLE NINTH. For the establishment and administration of representative collegiate bodies, the creation of economic instruments and the elaboration of the area's management program, the requirements and procedures established in the General Law of Ecological Balance and Environmental Protection and its regulations on natural protected areas must be observed.

ARTICLE TEN. The owners or holders of other land and water rights that may be found within Loreto II National Park are subject to the modalities established in the General Law of Ecological Balance and Environmental Protection and in the present decree. Therefore, they are obligated to carry out their activities according to the criteria for the preservation and conservation of the ecosystems and their elements established in this decree, and they must respect the provisions contained in the management program and other applicable legal dispositions.

ARTICLE ELEVEN. The Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, with the participation of other agencies of the Federal Public Administration, shall propose the celebration of coordination agreements with the government of the state of Baja California Sur, with the intervention that, as the case may be, corresponds to the municipality of Loreto; as well as the agreement of actions with the social and private sectors subject to the provisions contained in the General Law of Ecological Equilibrium and Environmental Protection, its regulations in the matter of protected natural areas, the established in the present decree, in the respective management program, as well as in the other applicable legal dispositions.

ARTICLE TWELFTH. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must formulate the management program for Loreto II National Park, in accordance with Article 65 of the General Law of Ecological Balance and Environmental Protection.

The content of this program must comply with the provisions of the General Law of Ecological Balance and Environmental Protection, its regulations on natural protected areas, this decree, and other applicable legal provisions. It must also contain a set of policies and measures for protection, management, sustainable use, and restoration, as well as knowledge, culture, and management processes that must be applied for the conservation of Loreto II National Park.

ARTICLE THIRTEEN. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must delimit the zone of influence of Loreto II National Park in the management program, in order to generate new patterns of sustainable regional development in accordance with this decree and promote that the competent authorities that regulate or authorize activities in this zone consider the congruence between these activities and the natural protected area.

ARTICLE FOURTEENTH: The Secretary of the Environment and Natural Resources, through the Federal Attorney General's Office for Environmental Protection, will be in charge of inspection and vigilance in Loreto II National Park, with the participation of the other agencies and entities of the Federal Public Administration.

TRANSITIONS

FIRST. This decree enters into effect on the day of its publication in the Official Gazette of the Federation.

SECOND. The Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, within a term not to exceed 30 calendar days, counted from the date of publication of this decree, must manage its inscription in the corresponding public registries of property, in the National Agrarian Registry, as well as in the National Registry of Natural Protected Areas.

THIRD: Permits, authorizations, or concessions granted by the competent agencies prior to the entry into force of this decree to carry out activities within Loreto II National Park will remain in effect until the corresponding titles cease to be effective.

FOURTH: The disbursements that, if applicable, are generated as a result of the entry into force of this decree, must be covered through compensated movements, in accordance with the applicable legal provisions, charged to the budget approved for the corresponding executors of expenditure in the current fiscal year, and no additional resources will be authorized in the current or subsequent fiscal years.

Given at the residence of the Federal Executive, in Mexico City, on August 15, 2023.- **Andrés Manuel López Obrador.**- Rubric.- The Secretary of the Environment and Natural Resources, **María Luisa Albores González.**- Rubric.

DECREE declaring the 2,076-51-91.75 hectare Nopoló natural protected area, located in the municipality of Loreto, state of Baja California Sur, as a national park.

On the margin a seal with the National Coat of Arms, which reads: Estados Unidos Mexicanos - Presidencia de la República.

ANDRÉS MANUEL LÓPEZ OBRADOR, President of the United Mexican States, in exercise of the power vested in me by Article 89, section I, of the Political Constitution of the United Mexican States; based on Articles 4, fifth paragraph, and 27, third paragraph, of the Constitution; 13 and 32 Bis of the Organic Law of the Federal Public Administration; 1o, Sections I, IV and VI, 2nd, Section II, 3rd, Sections II, XXV, XXVII and XXX, 5th, Sections VIII and XI, 6th, 15th, Sections I, III, V, VI and IX, 44, 45, 46, first paragraph, Section III, second, fifth, sixth and seventh, 47, 47 BIS, 47 BIS 1, 50, 57, 58, 60, 61, 63, 64, 74 and 161 of the General Law of Ecological Balance and Environmental Protection; 29, section X, 30, section XXII, and 34, section III, clause e, of the General Law of Climate Change; 4th of the General Law of Wildlife, and

WHEREAS

That the fifth paragraph of Article 4 of the Political Constitution of the United Mexican States (CPEUM) establishes that "[e]very person has the right to a healthy environment for his or her development and well-being. The State shall guarantee respect for this right";

That the third paragraph of Article 27 of the CPEUM establishes that "[t]he nation shall at all times have the right to impose on private property the modalities dictated by the public interest", and that the State shall dictate "the necessary measures to order human settlements and establish adequate provisions, uses, reserves and destinations of land, water and forests (...) to preserve and restore the ecological balance", as well as "to avoid the destruction of natural elements and the damages that property may suffer to the detriment of society";

That the Convention on Biological Diversity, ratified by Mexico on June 13, 1993, and published in the Official Gazette of the Federation (DOF) on May 7, 1993, states in its Article 8, paragraphs a and d, respectively, that each contracting party shall "[e]stablish a system of protected areas or areas where special measures must be taken to conserve biological diversity", and "[p]romote the protection of ecosystems and natural habitats and the maintenance of viable populations of species in natural surroundings";

That the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights "Protocol of San Salvador", ratified by Mexico on April 16, 1996 and published in the DOF on September 1, 1998, provides in Article 11 that "[e]very person has the right to live in a healthy environment and to have access to basic public services", and that [t]he States Parties shall promote the protection, preservation and improvement of the environment";

That the Paris Agreement, published in the DOF on November 4, 2016, provides in its Article 7 that "...the Parties establish the global goal on adaptation, which is to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change with a view to contributing to sustainable development...";

That one of the "Framework Principles on Human Rights and the Environment" presented by the United Nations Special Rapporteur on Human Rights and the Environment to the United Nations Human Rights Council, in March 2018, is that "[s]tates must respect, protect and fulfill human rights in order to ensure a safe, clean, healthy and sustainable environment"; therefore, they must adopt effective measures for their compliance, prevent environmental damages, reduce them and provide for reparations;

The purpose of the General Law of Ecological Balance and Environmental Protection (LGEEPA) is to promote sustainable development and establish the bases for "[t]he preservation and protection of biodiversity, as well as the establishment and administration of protected natural areas" (Article 1, Section IV);

That the LGEEPA provides that preservation is the "set of policies and measures to maintain the conditions that favor the evolution and continuity of ecosystems and natural habitats, as well as to conserve viable populations of species in their natural environments and the components of biodiversity outside their natural habitats", and that protection is the "set of policies and measures to improve the environment and control its deterioration" (article 3o., fractions XXV and XXVII);

That the aforementioned law considers the establishment, protection and preservation of natural protected areas and ecological restoration zones to be of public utility (Article 2, Section II);

The LGEEPA provides that for the formulation and conduct of environmental policy and the issuance of official Mexican standards and other instruments provided for in said law, in matters of preservation and restoration of the ecological balance and environmental protection, the Federal Executive shall observe as a principle that the most effective means to avoid ecological imbalances is the prevention of the causes that generate them (Article 15, Section VI);

That, in accordance with the LGEEPA, the national parks will be constituted, in the case of biogeographic representations, at national level, of one or more ecosystems that are significant for their scenic beauty, their scientific, educational, recreational, historical value, for the existence of flora and fauna, for their aptitude for the development of tourism (article 50);

That natural protected areas will be established by means of a declaration issued by the Federal Executive, prior to the completion of the justifying studies, which must be made available to the public (articles 57 and 58 of the LGEEPA);

That natural protected areas contribute to adopting measures to combat climate change and its effects, and to halt the loss of biodiversity, in order to achieve Sustainable Development Goals 13 and 15 of the United Nations 2030 Agenda;

That the National Development Plan 2019-2024, approved by the Senate of the Republic and published in the DOF on July 12, 2019, states in its General Axis II. "Social Policy", section "Sustainable Development" that "[t]he Government of Mexico is committed to promoting sustainable development, which in the present era has been evidenced as an indispensable factor of well-being. It is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. This formula summarizes unavoidable ethical, social, environmental and economic mandates that must be applied in the present to guarantee a minimally habitable and harmonious future";

That the Sector Program for the Environment and Natural Resources 2020-2024, published in the DOF on July 7, 2020, sets forth as a specific action [c]onsolidating and promoting protected natural areas (...) giving priority to the representativeness and connectivity of ecosystems, the conservation of priority species and the biocultural heritage of the communities that inhabit them";

That the protection and conservation of ecosystems and their biodiversity reduce the vulnerability of the population and increase their resilience, in addition to favoring the adaptation of biodiversity and species at risk to climate change;

That the accelerated destruction of the natural environment highlights the need to preserve all the elements that make it up, so it has been considered that the establishment of natural protected areas is one of the most effective measures for biological conservation;

That, in order to guarantee the people of Mexico their right to a healthy environment, their development and well-being, as well as to avoid the excessive exploitation of natural resources and the alteration of ecosystems, the President of the Republic, through an agreement published in the DOF on February 15, 2023, instructed the National Fund for the Promotion of Tourism (Fonatur) to identify the properties that form part of its patrimony that, due to their characteristics and the presence of species of flora and fauna in them, have an important environmental value and, therefore, could be declared as natural protected areas;

That the Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas (Conanp), in collaboration with Fonatur, prepared the previous justification study for the Nopoló site, located in the state of Baja California Sur, in the physiographic province of the Baja California Peninsula and in turn within the Sierra de la Giganta subprovince, and made available to the public by means of a notice published in the DOF on July 4, 2023;

That in said previous study the biological characteristics and land use vocation were considered, and it was concluded that it meets the necessary requirements to be declared as a natural protected area with the category of national park, in accordance with articles 45 and 46 of the Regulation of the General Law of Ecological Balance and Environmental Protection in the Matter of Natural Protected Areas, since it has orographic features in which are distinguished lomeríos, This has allowed the establishment of fragile ecosystems typical of the Baja California Peninsula in a good state of conservation, such as thorny scrub with lateral spines, sarco-caule scrub, sarco-crasicaule scrub, and coastal scrub, as well as riparian vegetation, halophytes, and coastal dunes;

That the Nopoló site provides ecosystem services such as nutrient regulation, pollination, biological control, microclimate regulation, continuity of the water cycle due to the processes of evapotranspiration, capture and recharge of aquifers, soil retention and erosion control; It is habitat, refuge and breeding ground for endemic species; its ecosystems are a source of protection against extreme meteorological events; it provides food, fuel and medicine; it is also part of the identity of the surrounding communities; and its rich and beautiful landscapes make it a favorite place for tourism;

That Nopoló is home to 499 native species, representing 10% of the biodiversity reported for the state of Baja California Sur, of which 74 species of flora and 11 species of fauna are endemic, 3 vascular plants and 31 priority vertebrates for conservation in Mexico and 49 are listed in some category of risk, according to the "Norma Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión or change-List of species at risk", and its "Modification of Normative Annex III, List of species at risk of the Official Mexican Standard NOM-059-SEMARNAT-2010, Environmental protection-Mexican native species of wild flora and fauna-Categories of risk and specifications for their inclusion, exclusion or change-List of species at risk, published in the DOF on December 30, 2010 and November 14, 2019;

Among the species present in Nopoló, included in the NOM-059-SEMARNAT-2010, are in the special protection category: the ironwood (*Olneya tesota*) and the bighorn sheep (*Ovis canadensis*). In the threatened category: black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), Baja California night snake (*Hypsiglena slevini*), golden eagle (*Aquila chrysaetos*), tlalcoyote (*Taxidea taxus*), desert fox (*Vulpes macrotis*), and *Ferocactus emoryi subsp. rectispinus*, known on site as the straight-spined barrel cactus. And in the endangered category: olive ridley turtle (*Lepidochelys olivacea*), peninsular mascarita (*Geothlypis beldingi*) and fishing bat (*Myotis vivesi*);

Nopoló's natural resources and abundant mountain landscapes, desert and unique vegetation make it a favorite place for national and foreign tourism, for recreational activities such as hiking, ecotourism and sun and beach tourism;

That in Nopoló there are archaeological sites such as open-air housing camps and others in caves, recognized as "concheros" because they have mounds of shells whose mollusks were consumed by the ancient inhabitants; as well as sites with cave paintings and petroglyphs dedicated to the cult of nature that show the presence of groups such as the Monquis, also known as Monguies, who were the ancient and original inhabitants of the Baja California peninsula;

That the Nopoló site presents socio-environmental problems such as unregulated tourism and poor tourism practices; overexploitation of aquifers; illegal extraction and sale of biodiversity; introduction of exotic and invasive species; unregulated extraction of stone materials; and social problems related to the unauthorized entry of people from outside the localities surrounding the Nopoló site, who benefit from the illegal extraction and exploitation of natural resources;

That not taking preventive actions to restore and protect the Nopoló site implies putting the ecosystems and species that live there at risk, since environmental deterioration would continue for future generations due to the development of activities contrary to the conservation of the environment in the area, which transgresses the principles of responsibility and prevention established in the LGEEPA;

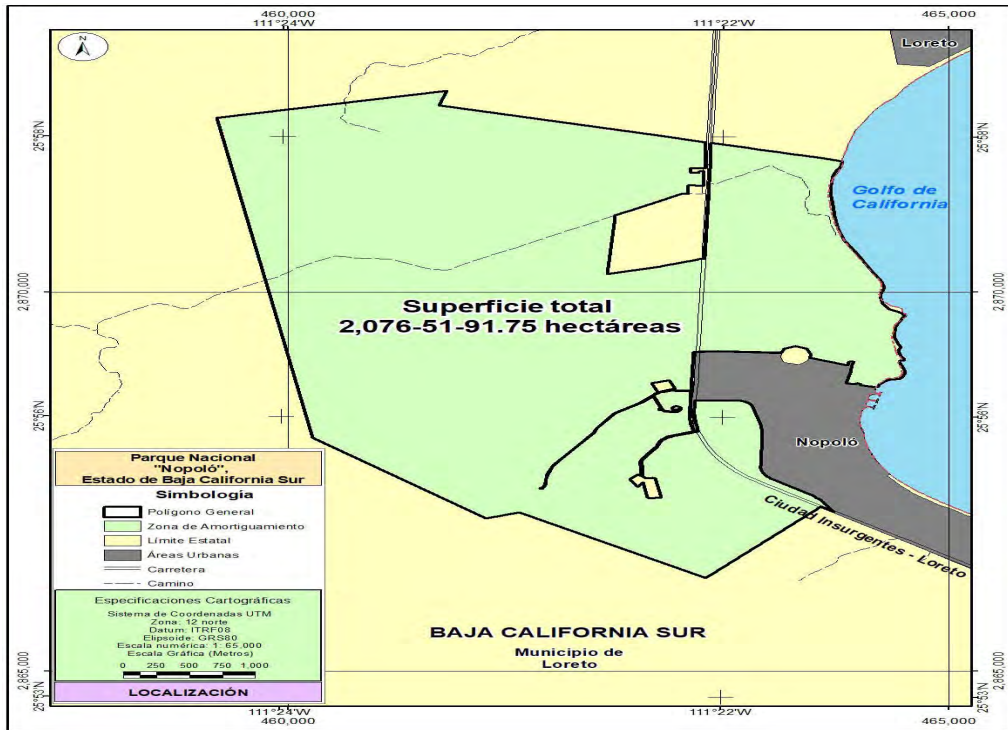
That, in the face of the challenge posed by climate change, various measures must be implemented with a cross-cutting and multidisciplinary vision, in order to conserve the natural heritage, use it in a sustainable manner and increase social welfare, and

That in order to protect the Nopoló site under schemes that guarantee the integral preservation of the natural elements that compose it, I have had the pleasure to issue the following

DECREE

ARTICLE ONE. The area of 2,076-51-91.75 hectares (two thousand seventy-six hectares, fifty-one areas, ninety-one point seventy-five centimeters), which according to the Geostatistical Framework, version 2022 of the National Institute of Statistics and Geography, is located in the municipality of Loreto, state of Baja California Sur, conformed by a general polygon that corresponds to the buffer zone, is declared Nopoló Natural Protected Area, with the character of national park.

The boundary description of the general polygon that makes up Nopoló National Park is in a Universal Transverse Mercator (UTM) coordinate system, zone 12 north, with Ellipsoid GRS80 and Horizontal Datum ITRF08 epoch 2010.0.



The official map of Nopoló National Park, which contains the analytical-topographic boundary description of the general polygon described in this decree, is located at the central offices of the National Commission of Natural Protected Areas, located at Avenida Ejército Nacional, 223, 12th floor, colonia Anáhuac, I Sección, alcaldía Miguel Hidalgo, postal code 11320, in Mexico City; at the offices of the Dirección Regional Península de Baja California y Pacífico Norte, located at 1555 Agricultura Street, between Mexico and Durango Streets, building F, 2nd floor, colonia Emiliano Zapata, postal code 23070, municipality of La Paz, state of Baja California Sur and at the representative office of the Secretaría de Medio Ambiente y Recursos Naturales, located at 1045 Melchor Ocampo Street, between Lic. Primo Verdad and Prof. Marcelo Rubio Ruiz, colonia Centro, zip code 23000, municipality of La Paz.

**General Polygon (Surface
area 2,076-51-91.75 hectares)**

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM coordinates	
				X	Y
			1	461,204.350300	2,872,653.016300
1 - 2	16°48'26"SW	202.23	2	461,145.873300	2,872,459.422300
2 - 3	76°30'35"SE	1,699.36	3	462,798.351200	2,872,062.995900
3 - 4	76°30'35"SE	377.45	4	463,165.390700	2,871,974.943800
4 - 5	01°59'10"SW	68.23	5	463,163.025800	2,871,906.756600
5 - 6	01°59'11"SW	79.63	6	463,160.265700	2,871,827.177900
6 - 7	01°59'11"SW	196.64	7	463,153.449700	2,871,630.658400
7 - 8	86°28'53"NW	41.69	8	463,111.840000	2,871,633.216900
8 - 9	88°21'08"NW	60.06	9	463,051.800000	2,871,634.943900
9 - 10	01°57'21"SW	39.99	10	463,050.435000	2,871,594.974900
10 - 11	01°57'21"SW	20.71	11	463,049.728000	2,871,574.272100
11 - 12	88°29'32"SE	60.75	12	463,110.457200	2,871,572.673800
12 - 13	00°22'53"NE	16.19	13	463,110.565000	2,871,588.858900
13 - 14	88°32'08"SE	41.41	14	463,151.963300	2,871,587.800600
14 - 15	01°59'11"SW	186.09	15	463,145.513100	2,871,401.827300
15 - 16	87°55'53"NW	11.52	16	463,134.001300	2,871,402.243100
16 - 17	87°55'52"NW	50.08	17	463,083.949000	2,871,404.051200
17 - 18	87°55'52"NW	50.15	18	463,033.826700	2,871,405.861800
18 - 19	02°04'07"SW	100.23	19	463,030.208400	2,871,305.696100
19 - 20	02°04'08"SW	9.05	20	463,029.881500	2,871,296.647600
20 - 21	88°13'23"NW	15.39	21	463,014.497300	2,871,297.124800
21 - 22	81°43'00"SW	34.42	22	462,980.437100	2,871,292.166100
22 - 23	71°25'25"SW	18.03	23	462,963.343000	2,871,286.421200
23 - 24	60°52'47"SW	143.51	24	462,837.969600	2,871,216.581600
24 - 25	60°26'37"SW	279.78	25	462,594.592900	2,871,078.569600
25 - 26	61°03'12"SW	25.77	26	462,572.046600	2,871,066.099500
26 - 27	61°03'13"SW	98.00	27	462,486.292300	2,871,018.670100
27 - 28	60°00'24"SW	11.51	28	462,476.325400	2,871,012.917300
28 - 29	04°13'59"SW	24.19	29	462,474.539800	2,870,988.794200
29 - 30	04°14'00"SW	754.90	30	462,418.812300	2,870,235.949300
30 - 31	90°00'00"NE	0.57	31	462,419.382100	2,870,235.949300
31 - 32	75°30'36"NE	415.85	32	462,822.007000	2,870,339.998200
32 - 33	72°54'48"NE	9.99	33	462,831.559600	2,870,342.934500
33 - 34	72°23'08"NE	287.46	34	463,105.545800	2,870,429.923200
34 - 35	54°15'47"NE	1.36	35	463,106.647600	2,870,430.716000
35 - 36	54°15'45"NE	6.55	36	463,111.964300	2,870,434.541700
36 - 37	89°34'30"SE	40.01	37	463,151.977800	2,870,434.245000
37 - 38	01°59'11"NE	1,369.27	38	463,199.440500	2,871,802.690600
38 - 39	01°59'11"NE	23.24	39	463,200.246100	2,871,825.918100
39 - 40	01°59'10"NE	82.95	40	463,203.121200	2,871,908.815800
40 - 41	01°59'11"NE	56.64	41	463,205.084500	2,871,965.421300

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
41 - 42	76°30'35"SE	259.15	42	463,457.084800	2,871,904.966900
42 - 43	76°30'35"SE	125.15	43	463,578.786000	2,871,875.771000
43 - 44	76°30'35"SE	131.05	44	463,706.223500	2,871,845.199000
44 - 45	76°30'35"SE	102.04	45	463,805.446400	2,871,821.395600
45 - 46	76°30'35"SE	58.83	46	463,862.653900	2,871,807.671600
46 - 47	76°30'35"SE	32.54	47	463,894.293400	2,871,800.081400
47 - 48	76°30'35"SE	146.26	48	464,036.519100	2,871,765.961600
48 - 49	76°21'22"SE	170.37	49	464,202.085200	2,871,725.772700

From this vertex 49, continue along the boundary of Loreto Bay National Park, with a general southeast course, for an approximate distance of 3,352.16 meters until reaching vertex 50.

			50	464,465.975400	2,868,743.329400
50 - 51	78°18'16"NW	78.78	51	464,388.835800	2,868,759.297700
51 - 52	31°56'41"NW	2.12	52	464,387.714000	2,868,761.096800
52 - 53	10°12'00"SW	1.53	53	464,387.442200	2,868,759.586200
53 - 54	78°05'50"NW	50.53	54	464,338.002200	2,868,770.007300
54 - 55	06°58'01"NE	3.87	55	464,338.472200	2,868,773.853400
55 - 56	02°54'40"NW	3.87	56	464,338.275400	2,868,777.723100
56 - 57	12°47'24"NW	3.87	57	464,337.417600	2,868,781.501700
57 - 58	22°40'10"NW	3.87	58	464,335.924200	2,868,785.077100
58 - 59	32°32'55"NW	3.87	59	464,333.839500	2,868,788.343300
59 - 60	42°25'40"NW	3.87	60	464,331.225400	2,868,791.203300
60 - 61	52°18'27"NW	3.87	61	464,328.159300	2,868,793.572400
61 - 62	62°11'08"NW	3.87	62	464,324.732200	2,868,795.380400
62 - 63	72°03'52"NW	3.87	63	464,321.045800	2,868,796.573600
63 - 64	81°56'44"NW	3.87	64	464,317.209300	2,868,797.116500
64 - 65	88°10'40"SW	3.87	65	464,313.336500	2,868,796.993300
65 - 66	78°17'46"SW	3.87	66	464,309.542300	2,868,796.207300
66 - 67	68°25'07"SW	3.87	67	464,305.939200	2,868,794.782100
67 - 68	58°32'19"SW	3.87	68	464,302.634100	2,868,792.759800
68 - 69	48°39'39"SW	3.87	69	464,299.724900	2,868,790.200500
69 - 70	38°46'48"SW	3.87	70	464,297.298000	2,868,787.179900
70 - 71	28°54'07"SW	3.87	71	464,295.425300	2,868,783.787800
71 - 72	76°13'22"NW	73.97	72	464,223.584000	2,868,801.403100
72 - 73	13°53'33"NE	167.04	73	464,263.690500	2,868,963.556400
73 - 74	11°05'39"NE	9.90	74	464,265.595200	2,868,973.269900
74 - 75	07°16'13"NE	21.98	75	464,268.377400	2,868,995.078100
75 - 76	06°23'22"NE	20.39	76	464,270.646200	2,869,015.338400
76 - 77	04°24'55"NE	20.95	77	464,272.259200	2,869,036.228000
77 - 78	03°18'40"NE	9.10	78	464,272.784700	2,869,045.310800
78 - 79	13°53'32"NE	40.30	79	464,282.459900	2,869,084.428500
79 - 80	88°00'31"SW	28.14	80	464,254.341800	2,869,083.450900
80 - 81	73°39'52"SW	2.06	81	464,252.360500	2,869,082.870200
81 - 82	64°30'26"SW	2.06	82	464,250.496900	2,869,081.981600
82 - 83	55°21'00"SW	2.06	83	464,248.798400	2,869,080.807700

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
83 - 84	46°11'21"SW	2.06	84	464,247.308500	2,869,079.378400
84 - 85	37°01'53"SW	2.06	85	464,246.065000	2,869,077.730100
85 - 86	27°52'19"SW	2.06	86	464,245.099800	2,869,075.905000
86 - 87	12°00'39"SW	31.48	87	464,238.549800	2,869,045.118700
87 - 88	14°54'22"SW	2.00	88	464,238.034100	2,869,043.181400
88 - 89	24°30'10"SW	2.00	89	464,237.202700	2,869,041.357300
89 - 90	34°05'45"SW	2.00	90	464,236.078900	2,869,039.697200
90 - 91	43°41'32"SW	2.00	91	464,234.694100	2,869,038.247700
91 - 92	53°17'18"SW	2.00	92	464,233.087000	2,869,037.049300
92 - 93	62°52'53"SW	2.00	93	464,231.302700	2,869,036.135500
93 - 94	72°28'47"SW	2.00	94	464,229.391000	2,869,035.532000
94 - 95	82°04'29"SW	2.00	95	464,227.405500	2,869,035.255600
95 - 96	88°19'50"NW	2.00	96	464,225.401600	2,869,035.314000
96 - 97	78°44'05"NW	2.00	97	464,223.435600	2,869,035.705600
97 - 98	70°11'50"NW	13.42	98	464,210.810400	2,869,040.251600
98 - 99	70°11'50"NW	277.28	99	463,949.930400	2,869,134.188000
99 - 100	17°47'48"NE	35.82	100	463,960.878400	2,869,168.293700
100 - 101	22°17'12"NW	90.65	101	463,926.500300	2,869,252.170900
101 - 102	67°01'48"NW	93.25	102	463,840.641300	2,869,288.562800
102 - 103	67°27'41"SW	92.16	103	463,755.522300	2,869,253.238300
103 - 104	21°22'00"SW	51.82	104	463,736.641700	2,869,204.978300
104 - 105	87°53'28"NW	484.01	105	463,252.960100	2,869,222.788900
105 - 106	86°01'04"SW	143.69	106	463,109.614600	2,869,212.810300
106 - 107	85°50'23"SW	40.23	107	463,069.489200	2,869,209.891700
107 - 108	01°59'11"SW	503.29	108	463,052.044100	2,868,706.903800
108 - 109	71°52'15"SW	16.15	109	463,036.691600	2,868,701.877200
109 - 110	79°18'50"SW	11.75	110	463,025.144600	2,868,699.698300
110 - 111	83°06'51"SW	11.75	111	463,013.478600	2,868,698.289500
111 - 112	89°15'24"NW	15.18	112	462,998.298900	2,868,698.486400
112 - 113	88°09'40"SW	15.18	113	462,983.125800	2,868,697.999300
113 - 114	86°21'59"NW	16.45	114	462,966.709900	2,868,699.041700
114 - 115	81°32'19"NW	32.40	115	462,934.661300	2,868,703.809300
115 - 116	87°56'10"NW	29.75	116	462,904.927300	2,868,704.880700
116 - 117	81°44'24"SW	10.81	117	462,894.226100	2,868,703.327200
117 - 118	31°50'38"NW	11.05	118	462,888.396100	2,868,712.713900
118 - 119	70°32'15"NE	44.54	119	462,930.393600	2,868,727.555000
119 - 120	20°49'17"NW	116.26	120	462,889.066200	2,868,836.226600
120 - 121	75°36'06"SW	138.12	121	462,755.287800	2,868,801.882600
121 - 122	20°59'45"SE	130.05	122	462,801.886700	2,868,680.463600
122 - 123	69°35'24"NE	87.24	123	462,883.645700	2,868,710.885700
123 - 124	31°50'38"SE	9.64	124	462,888.734300	2,868,702.692700
124 - 125	70°35'27"SW	10.27	125	462,879.050300	2,868,699.280700
125 - 126	73°18'22"SW	10.27	126	462,869.215600	2,868,696.331300
126 - 127	76°01'17"SW	10.27	127	462,859.252200	2,868,693.851100

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
127 - 128	78°44'10"SW	10.27	128	462,849.182400	2,868,691.845600
128 - 129	73°02'01"SW	33.05	129	462,817.573500	2,868,682.202100
129 - 130	61°31'35"SW	18.21	130	462,801.568000	2,868,673.521400
130 - 131	52°29'43"SW	14.65	131	462,789.945000	2,868,664.601300
131 - 132	47°20'25"SW	20.27	132	462,775.036100	2,868,650.863200
132 - 133	47°51'27"SW	3.77	133	462,772.239600	2,868,648.332600
133 - 134	39°25'47"SW	3.77	134	462,769.844200	2,868,645.419500
134 - 135	30°59'57"SW	3.77	135	462,767.901800	2,868,642.186700
135 - 136	43°35'13"SW	55.80	136	462,729.432100	2,868,601.771200
136 - 137	45°18'34"SW	82.76	137	462,670.595100	2,868,543.566800
137 - 138	55°16'35"SW	244.43	138	462,469.691900	2,868,404.333300
138 - 139	34°14'27"SW	238.99	139	462,335.220100	2,868,206.768100
139 - 140	22°31'59"SW	64.61	140	462,310.458700	2,868,147.086700
140 - 141	34°35'46"SW	152.15	141	462,224.069200	2,868,021.840500
141 - 142	35°56'41"SW	259.63	142	462,071.662900	2,867,811.646800
142 - 143	34°12'19"SW	117.84	143	462,005.416700	2,867,714.188500
143 - 144	21°59'27"SW	35.93	144	461,991.961500	2,867,680.870800
144 - 145	21°56'18"SW	49.33	145	461,973.531900	2,867,635.114500
145 - 146	20°33'21"SW	38.34	146	461,960.068600	2,867,599.212400
146 - 147	08°02'08"SW	54.93	147	461,952.390600	2,867,544.826600
147 - 148	04°45'48"SW	53.42	148	461,947.954300	2,867,491.590500
148 - 149	12°00'41"SW	30.09	149	461,941.692500	2,867,462.159900
149 - 150	20°55'28"SW	22.58	150	461,933.629300	2,867,441.071600
150 - 151	32°28'15"SW	25.69	151	461,919.835600	2,867,419.395700
151 - 152	88°49'38"NW	6.50	152	461,913.332500	2,867,419.528800
152 - 153	39°18'23"SW	7.93	153	461,908.307500	2,867,413.390900
153 - 154	08°17'27"SW	5.90	154	461,907.456100	2,867,407.548400
154 - 155	89°21'50"NE	21.98	155	461,929.432700	2,867,407.792300
155 - 156	07°07'59"NE	11.47	156	461,930.856600	2,867,419.170300
156 - 157	88°49'43"NW	4.00	157	461,926.856000	2,867,419.252100
157 - 158	32°28'16"NE	22.65	158	461,939.017000	2,867,438.362200
158 - 159	20°55'27"NE	23.65	159	461,947.463800	2,867,460.453900
159 - 160	12°00'41"NE	30.94	160	461,953.902000	2,867,490.713500
160 - 161	04°45'49"NE	53.63	161	461,958.355700	2,867,544.157600
161 - 162	08°02'08"NE	54.10	162	461,965.917700	2,867,597.722000
162 - 163	20°33'22"NE	37.61	163	461,979.124500	2,867,632.940000
163 - 164	21°56'18"NE	49.25	164	461,997.525000	2,867,678.624000
164 - 165	21°59'27"NE	35.29	165	462,010.739800	2,867,711.346400
165 - 166	34°12'19"NE	117.11	166	462,076.573900	2,867,808.198500
166 - 167	35°56'41"NE	259.61	167	462,228.968200	2,868,018.375600
167 - 168	34°35'46"NE	152.85	168	462,315.757700	2,868,144.201800
168 - 169	22°31'59"NE	64.63	169	462,340.526300	2,868,203.900600
169 - 170	34°14'27"NE	237.26	170	462,474.025100	2,868,400.036300
170 - 171	55°16'35"NE	243.84	171	462,674.442800	2,868,538.933300

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
171 - 172	45°18'34"NE	83.38	172	462,733.715900	2,868,597.569100
172 - 173	43°35'12"NE	45.59	173	462,765.148300	2,868,630.591500
173 - 174	04°19'02"SE	3.80	174	462,765.434400	2,868,626.801900
174 - 175	12°48'39"SE	3.80	175	462,766.277100	2,868,623.096000
175 - 176	21°18'12"SE	3.80	176	462,767.657800	2,868,619.555300
176 - 177	29°47'51"SE	3.80	177	462,769.546400	2,868,616.257300
177 - 178	20°17'51"SE	32.61	178	462,780.858400	2,868,585.673200
178 - 179	18°52'05"SE	119.67	179	462,819.557700	2,868,472.436400
179 - 180	30°34'48"SE	4.78	180	462,821.987900	2,868,468.323900
180 - 181	75°33'40"SW	4.84	181	462,817.303600	2,868,467.117800
181 - 182	52°36'00"SW	0.87	182	462,816.611300	2,868,466.588500
182 - 183	43°13'08"SW	0.87	183	462,816.014600	2,868,465.953500
183 - 184	33°50'29"SW	0.87	184	462,815.529300	2,868,465.229700
184 - 185	24°27'33"SW	0.87	185	462,815.168500	2,868,464.436500
185 - 186	15°04'45"SW	0.87	186	462,814.941800	2,868,463.595100
186 - 187	05°42'12"SW	0.87	187	462,814.855200	2,868,462.728000
187 - 188	03°41'04"SE	0.87	188	462,814.911200	2,868,461.858400
188 - 189	13°03'36"SE	0.87	189	462,815.108100	2,868,461.009600
189 - 190	22°26'10"SE	0.87	190	462,815.440700	2,868,460.204100
190 - 191	78°22'32"SW	7.63	191	462,807.963300	2,868,458.665900
191 - 192	29°04'30"SE	17.03	192	462,816.238900	2,868,443.782400
192 - 193	69°30'15"NE	14.97	193	462,830.264900	2,868,449.025300
193 - 194	22°23'50"NW	14.19	194	462,824.859400	2,868,462.141700
194 - 195	78°22'30"SW	4.62	195	462,820.330000	2,868,461.209900
195 - 196	19°08'29"NW	0.07	196	462,820.307300	2,868,461.275300
196 - 197	14°25'52"NW	0.21	197	462,820.253800	2,868,461.483200
197 - 198	04°56'35"NW	0.21	198	462,820.235300	2,868,461.697100
198 - 199	04°32'31"NE	0.21	199	462,820.252300	2,868,461.911100
199 - 200	13°59'50"NE	0.21	200	462,820.304200	2,868,462.119300
200 - 201	23°28'19"NE	0.21	201	462,820.389700	2,868,462.316200
201 - 202	32°55'39"NE	0.21	202	462,820.506400	2,868,462.496400
202 - 203	42°24'49"NE	0.21	203	462,820.651200	2,868,462.654900
203 - 204	51°52'11"NE	0.21	204	462,820.820000	2,868,462.787400
204 - 205	61°21'27"NE	0.21	205	462,821.008400	2,868,462.890300
205 - 206	70°49'51"NE	0.21	206	462,821.211200	2,868,462.960800
206 - 207	75°33'39"NE	3.54	207	462,824.635900	2,868,463.842600
207 - 208	30°34'47"SE	6.63	208	462,828.008700	2,868,458.134900
208 - 209	36°28'09"SE	18.42	209	462,838.954700	2,868,443.325600
209 - 210	42°13'15"SE	9.32	210	462,845.218100	2,868,436.423100
210 - 211	43°18'30"SE	4.63	211	462,848.392800	2,868,433.055200
211 - 212	51°22'49"SE	4.63	212	462,852.009000	2,868,430.166400
212 - 213	59°27'02"SE	4.63	213	462,855.994900	2,868,427.813900
213 - 214	67°31'26"SE	4.63	214	462,860.271700	2,868,426.044500

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
214 - 215	75°35'42"SE	4.63	215	462,864.754500	2,868,424.893100
215 - 216	88°21'48"SE	17.80	216	462,882.547800	2,868,424.384700
216 - 217	80°03'19"SE	45.58	217	462,927.438600	2,868,416.514100
217 - 218	74°26'18"SE	3.14	218	462,930.458900	2,868,415.673000
218 - 219	83°35'13"SE	3.14	219	462,933.574600	2,868,415.322800
219 - 220	87°15'54"NE	3.14	220	462,936.706300	2,868,415.472400
220 - 221	78°06'59"NE	3.14	221	462,939.774300	2,868,416.118000
221 - 222	68°58'14"NE	3.14	222	462,942.700800	2,868,417.243100
222 - 223	59°49'15"NE	3.14	223	462,945.411100	2,868,418.819200
223 - 224	50°40'27"NE	3.14	224	462,947.836400	2,868,420.806100
224 - 225	41°31'27"NE	3.14	225	462,949.914900	2,868,423.153400
225 - 226	32°22'45"NE	3.14	226	462,951.593900	2,868,425.801200
226 - 227	33°00'39"NE	31.58	227	462,968.798500	2,868,452.282900
227 - 228	33°17'37"NE	13.51	228	462,976.216400	2,868,463.578300
228 - 229	35°45'11"NE	5.47	229	462,979.410600	2,868,468.014800
229 - 230	18°05'02"NE	1.43	230	462,979.854400	2,868,469.373900
230 - 231	08°12'42"NE	1.43	231	462,980.058600	2,868,470.788900
231 - 232	01°39'33"NW	1.43	232	462,980.017200	2,868,472.218100
232 - 233	11°31'53"NW	1.43	233	462,979.731400	2,868,473.618900
233 - 234	21°24'33"NW	1.43	234	462,979.209500	2,868,474.950000
234 - 235	31°16'42"NW	1.43	235	462,978.467200	2,868,476.171900
235 - 236	41°09'05"NW	1.43	236	462,977.526400	2,868,477.248400
236 - 237	51°01'26"NW	1.43	237	462,976.414900	2,868,478.147700
237 - 238	60°54'06"NW	1.43	238	462,975.165600	2,868,478.843000
238 - 239	70°46'08"NW	1.43	239	462,973.815700	2,868,479.313900
239 - 240	69°59'49"NW	4.34	240	462,969.733600	2,868,480.799900
240 - 241	74°42'30"NW	4.34	241	462,965.543200	2,868,481.945600
241 - 242	09°24'18"NE	1.29	242	462,965.753600	2,868,483.215800
242 - 243	11°38'45"NW	4.96	243	462,964.752000	2,868,488.075400
243 - 244	70°05'54"NW	7.66	244	462,957.551900	2,868,490.682000
244 - 245	61°34'26"NW	13.52	245	462,945.660000	2,868,497.118900
245 - 246	90°00'00"NW	16.07	246	462,929.591900	2,868,497.118900
246 - 247	50°04'29"SW	20.00	247	462,914.252200	2,868,484.281500
247 - 248	29°36'11"SW	5.83	248	462,911.373700	2,868,479.215100
248 - 249	02°48'55"SE	27.47	249	462,912.723100	2,868,451.774700
249 - 250	90°00'00"NE	28.32	250	462,941.038100	2,868,451.774700
250 - 251	86°15'57"NE	19.97	251	462,960.965300	2,868,453.075200
251 - 252	17°58'23"NE	12.27	252	462,964.752000	2,868,464.748100
252 - 253	00°07'42"NW	12.25	253	462,964.724500	2,868,477.002500
253 - 254	74°18'16"SE	3.99	254	462,968.566800	2,868,475.922800
254 - 255	69°31'18"SE	3.99	255	462,972.305700	2,868,474.526500
255 - 256	75°46'50"SE	0.55	256	462,972.842800	2,868,474.390400
256 - 257	66°10'41"SE	0.55	257	462,973.349700	2,868,474.166600

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
257 - 258	56°33'34"SE	0.55	258	462,973.812000	2,868,473.861300
258 - 259	46°57'35"SE	0.55	259	462,974.217000	2,868,473.483100
259 - 260	37°20'36"SE	0.55	260	462,974.553100	2,868,473.042600
260 - 261	27°43'32"SE	0.55	261	462,974.810900	2,868,472.552100
261 - 262	18°07'39"SE	0.55	262	462,974.983300	2,868,472.025500
262 - 263	08°30'42"SE	0.55	263	462,975.065300	2,868,471.477600
263 - 264	01°05'46"SW	0.55	264	462,975.054700	2,868,470.923600
264 - 265	10°42'42"SW	0.55	265	462,974.951700	2,868,470.379100
265 - 266	35°45'13"SW	4.89	266	462,972.095900	2,868,466.412700
266 - 267	33°17'36"SW	13.63	267	462,964.612400	2,868,455.017300
267 - 268	33°00'39"SW	31.84	268	462,947.268100	2,868,428.320600
268 - 269	31°41'21"SW	2.41	269	462,946.003700	2,868,426.272500
269 - 270	41°06'32"SW	2.41	270	462,944.421100	2,868,424.458900
270 - 271	50°31'34"SW	2.41	271	462,942.563200	2,868,422.928800
271 - 272	59°56'50"SW	2.41	272	462,940.479800	2,868,421.723400
272 - 273	69°21'56"SW	2.41	273	462,938.227300	2,868,420.875200
273 - 274	78°47'08"SW	2.41	274	462,935.866300	2,868,420.407100
274 - 275	88°12'09"SW	2.41	275	462,933.460500	2,868,420.331600
275 - 276	82°22'35"NW	2.41	276	462,931.074900	2,868,420.650900
276 - 277	72°57'30"NW	2.41	277	462,928.773600	2,868,421.356300
277 - 278	80°03'19"NW	46.42	278	462,883.053600	2,868,429.372300
278 - 279	88°21'48"NW	17.77	279	462,865.294800	2,868,429.879700
279 - 280	74°53'35"NW	3.88	280	462,861.552600	2,868,430.889900
280 - 281	66°55'12"NW	3.88	281	462,857.986700	2,868,432.409400
281 - 282	58°56'56"NW	3.88	282	462,854.666000	2,868,434.408700
282 - 283	50°58'37"NW	3.88	283	462,851.654700	2,868,436.849200
283 - 284	43°00'15"NW	3.88	284	462,849.011000	2,868,439.683800
284 - 285	42°13'16"NW	9.20	285	462,842.826300	2,868,446.499500
285 - 286	36°28'09"NW	17.91	286	462,832.182400	2,868,460.900000
286 - 287	30°34'45"NW	15.84	287	462,824.123200	2,868,474.538600
287 - 288	18°52'05"NW	119.22	288	462,785.569500	2,868,587.349200
288 - 289	20°17'51"NW	33.31	289	462,774.015300	2,868,618.588200
289 - 290	30°43'25"NW	3.53	290	462,772.211300	2,868,621.623600
290 - 291	20°55'16"NW	3.53	291	462,770.950400	2,868,624.921900
291 - 292	11°06'52"NW	3.53	292	462,770.269700	2,868,628.386800
292 - 293	01°18'40"NW	3.53	293	462,770.188900	2,868,631.917000
293 - 294	08°29'41"NE	3.53	294	462,770.710500	2,868,635.409300
294 - 295	18°17'50"NE	3.53	295	462,771.819100	2,868,638.761900
295 - 296	28°06'10"NE	3.53	296	462,773.482400	2,868,641.876600
296 - 297	37°54'26"NE	3.53	297	462,775.651900	2,868,644.662700
297 - 298	47°42'44"NE	3.53	298	462,778.264100	2,868,647.038600
298 - 299	47°20'25"NE	20.27	299	462,793.167700	2,868,660.771800
299 - 300	52°29'43"NE	14.03	300	462,804.298900	2,868,669.314500

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
300 - 301	61°31'35"NE	17.31	301	462,819.514400	2,868,677.566700
301 - 302	73°02'01"NE	32.24	302	462,850.348100	2,868,686.973700
302 - 303	78°42'31"NE	10.10	303	462,860.252500	2,868,688.951200
303 - 304	76°05'52"NE	10.10	304	462,870.056500	2,868,691.377800
304 - 305	73°29'13"NE	10.10	305	462,879.739800	2,868,694.248500
305 - 306	70°52'36"NE	10.10	306	462,889.282300	2,868,697.557200
306 - 307	81°44'26"NE	16.08	307	462,905.198600	2,868,699.867600
307 - 308	87°56'11"SE	29.02	308	462,934.202000	2,868,698.822600
308 - 309	81°32'19"SE	32.33	309	462,966.182600	2,868,694.065100
309 - 310	86°22'00"SE	16.96	310	462,983.104800	2,868,692.990600
310 - 311	88°08'12"NE	15.25	311	462,998.351300	2,868,693.486600
311 - 312	89°13'49"SE	15.25	312	463,013.604400	2,868,693.281700
312 - 313	83°48'56"NE	8.24	313	463,021.796600	2,868,694.169400
313 - 314	81°13'27"NE	8.24	314	463,029.940400	2,868,695.426600
314 - 315	78°38'01"NE	8.24	315	463,038.019000	2,868,697.050600
315 - 316	71°52'14"NE	14.56	316	463,051.859500	2,868,701.582200
316 - 317	01°59'11"SW	123.25	317	463,047.587200	2,868,578.403800
317 - 318	01°59'11"SW	82.91	318	463,044.713300	2,868,495.542300
318 - 319	03°07'43"SW	30.47	319	463,043.050500	2,868,465.121400
319 - 320	01°39'49"SW	30.47	320	463,042.166000	2,868,434.667900
320 - 321	00°11'53"SW	30.47	321	463,042.060600	2,868,404.201700
321 - 322	01°16'01"SE	30.47	322	463,042.734300	2,868,373.742800
322 - 323	02°43'56"SE	30.47	323	463,044.186600	2,868,343.311100
323 - 324	04°11'51"SE	30.47	324	463,046.416600	2,868,312.926400
324 - 325	05°39'45"SE	30.47	325	463,049.422800	2,868,282.608800
325 - 326	07°07'41"SE	30.47	326	463,053.203400	2,868,252.377900
326 - 327	08°35'35"SE	30.47	327	463,057.755700	2,868,222.253500
327 - 328	10°03'30"SE	30.47	328	463,063.076800	2,868,192.255500
328 - 329	11°31'26"SE	30.47	329	463,069.163300	2,868,162.403300
329 - 330	71°18'33"SW	176.97	330	462,901.528200	2,868,105.692500
330 - 331	65°44'48"SW	1.58	331	462,900.088800	2,868,105.044000
331 - 332	67°13'45"SW	22.57	332	462,879.276100	2,868,096.307700
332 - 333	58°00'20"SW	11.41	333	462,869.598300	2,868,090.261700
333 - 334	54°15'50"SW	11.41	334	462,860.335700	2,868,083.597000
334 - 335	50°31'23"SW	11.41	335	462,851.527700	2,868,076.342200
335 - 336	46°46'53"SW	11.41	336	462,843.211800	2,868,068.528000
336 - 337	43°02'24"SW	11.41	337	462,835.423600	2,868,060.187900
337 - 338	39°17'54"SW	11.41	338	462,828.196200	2,868,051.357300
338 - 339	35°33'26"SW	11.41	339	462,821.560400	2,868,042.073900
339 - 340	31°48'58"SW	11.41	340	462,815.544500	2,868,032.377400
340 - 341	28°04'29"SW	11.41	341	462,810.174100	2,868,022.308900
341 - 342	24°20'00"SW	11.41	342	462,805.472200	2,868,011.911500
342 - 343	20°35'30"SW	11.41	343	462,801.458800	2,868,001.229400

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
343 - 344	16°51'01"SW	11.41	344	462,798.151000	2,867,990.308200
344 - 345	22°32'53"SW	33.58	345	462,785.275500	2,867,959.297600
345 - 346	36°36'25"SW	27.17	346	462,769.075400	2,867,937.489800
346 - 347	34°23'25"SW	53.07	347	462,739.098200	2,867,893.693400
347 - 348	31°14'48"SW	110.34	348	462,681.861300	2,867,799.358300
348 - 349	28°06'24"SW	8.65	349	462,677.786700	2,867,791.729400
349 - 350	23°12'04"SW	8.65	350	462,674.379400	2,867,783.780000
350 - 351	18°17'43"SW	8.65	351	462,671.664400	2,867,775.568400
351 - 352	13°23'21"SW	8.65	352	462,669.661600	2,867,767.154600
352 - 353	08°29'02"SW	8.65	353	462,668.385600	2,867,758.600500
353 - 354	03°34'41"SW	8.65	354	462,667.845800	2,867,749.968500
354 - 355	01°19'37"SE	8.65	355	462,668.046100	2,867,741.322000
355 - 356	06°14'02"SE	25.27	356	462,670.790000	2,867,716.202900
356 - 357	02°09'20"SE	140.75	357	462,676.084000	2,867,575.553900
357 - 358	49°10'57"NW	38.89	358	462,646.652000	2,867,600.974400
358 - 359	41°30'20"SW	91.32	359	462,586.136700	2,867,532.587900
359 - 360	30°07'50"SE	117.38	360	462,645.056600	2,867,431.071300
360 - 361	34°05'24"NE	70.94	361	462,684.819800	2,867,489.823000
361 - 362	10°34'55"SE	195.75	362	462,720.768500	2,867,297.398000
362 - 363	51°42'36"SE	28.06	363	462,742.794900	2,867,280.008900
363 - 364	80°50'58"NE	84.23	364	462,825.956600	2,867,293.404200
364 - 365	10°09'15"NW	257.17	365	462,780.617100	2,867,546.549200
365 - 366	77°18'31"NW	19.22	366	462,761.861900	2,867,550.772900
366 - 367	79°34'26"SW	47.85	367	462,714.801400	2,867,542.113700
367 - 368	49°10'57"NW	37.49	368	462,686.427400	2,867,566.620400
368 - 369	02°09'20"NW	150.42	369	462,680.769600	2,867,716.934900
369 - 370	06°14'03"NW	25.40	370	462,678.010800	2,867,742.189400
370 - 371	01°12'29"NW	7.75	371	462,677.847300	2,867,749.942500
371 - 372	03°40'25"NE	7.75	372	462,678.344200	2,867,757.681300
372 - 373	08°33'20"NE	7.75	373	462,679.497900	2,867,765.349800
373 - 374	13°26'12"NE	7.75	374	462,681.299900	2,867,772.892300
374 - 375	18°19'06"NE	7.75	375	462,683.737200	2,867,780.254100
375 - 376	23°12'01"NE	7.75	376	462,686.792200	2,867,787.381800
376 - 377	28°04'54"NE	7.75	377	462,690.442600	2,867,794.223600
377 - 378	31°14'48"NE	110.01	378	462,747.505300	2,867,888.271600
378 - 379	34°23'25"NE	52.61	379	462,777.218200	2,867,931.681800
379 - 380	36°36'26"NE	28.21	380	462,794.038300	2,867,954.324100
380 - 381	22°32'52"NE	35.48	381	462,807.643900	2,867,987.093500
381 - 382	16°37'28"NE	10.76	382	462,810.722300	2,867,997.403600
382 - 383	20°21'57"NE	10.76	383	462,814.466900	2,868,007.490800
383 - 384	24°06'28"NE	10.76	384	462,818.861800	2,868,017.312100
384 - 385	27°51'00"NE	10.76	385	462,823.888400	2,868,026.825700
385 - 386	31°35'31"NE	10.76	386	462,829.525100	2,868,035.990900

Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
386 - 387	35°20'01"NE	10.76	387	462,835.747900	2,868,044.768700
387 - 388	39°04'32"NE	10.76	388	462,842.530300	2,868,053.121700
388 - 389	42°49'02"NE	10.76	389	462,849.843400	2,868,061.014300
389 - 390	46°33'33"NE	10.76	390	462,857.656000	2,868,068.412800
390 - 391	50°18'04"NE	10.76	391	462,865.934700	2,868,075.285600
391 - 392	54°02'36"NE	10.76	392	462,874.644400	2,868,081.603500
392 - 393	57°47'06"NE	10.76	393	462,883.747800	2,868,087.339500
393 - 394	67°13'45"NE	22.05	394	462,904.078600	2,868,095.873500
394 - 395	65°44'51"NE	1.22	395	462,905.193100	2,868,096.375600
395 - 396	71°18'33"NE	160.22	396	463,056.961600	2,868,147.718700
396 - 397	73°56'29"NE	15.60	397	463,071.953400	2,868,152.034100
397 - 398	74°21'27"NE	0.09	398	463,072.035900	2,868,152.057200
398 - 399	74°21'12"NE	39.41	399	463,109.988000	2,868,162.686800
399 - 400	13°44'53"NW	12.97	400	463,106.904900	2,868,175.288100
400 - 401	12°14'23"NW	29.71	401	463,100.605300	2,868,204.327100
401 - 402	10°43'52"NW	29.71	402	463,095.072400	2,868,233.521800
402 - 403	09°13'21"NW	29.71	403	463,090.310000	2,868,262.852100
403 - 404	07°42'52"NW	29.71	404	463,086.321200	2,868,292.297600
404 - 405	06°12'21"NW	29.71	405	463,083.109000	2,868,321.837900
405 - 406	04°41'51"NW	29.71	406	463,080.675500	2,868,351.452500
406 - 407	03°11'21"NW	29.71	407	463,079.022400	2,868,381.120800
407 - 408	01°40'50"NW	29.71	408	463,078.150900	2,868,410.822500
408 - 409	00°10'20"NW	29.71	409	463,078.061500	2,868,440.536700
409 - 410	01°20'10"NE	29.71	410	463,078.754400	2,868,470.243100
410 - 411	02°05'25"NE	107.19	411	463,082.664200	2,868,577.362400
411 - 412	88°00'18"SE	339.49	412	463,421.949100	2,868,565.545400
412 - 413	85°31'42"SE	9.15	413	463,431.070100	2,868,564.832100
413 - 414	80°34'29"SE	9.15	414	463,440.095500	2,868,563.333900
414 - 415	75°37'14"SE	9.15	415	463,448.957700	2,868,561.061900
415 - 416	70°40'01"SE	9.15	416	463,457.590700	2,868,558.033100
416 - 417	65°42'47"SE	9.15	417	463,465.929900	2,868,554.270100
417 - 418	60°45'34"SE	9.15	418	463,473.913000	2,868,549.801100
418 - 419	55°48'22"SE	9.15	419	463,481.480400	2,868,544.659500
419 - 420	50°51'07"SE	9.15	420	463,488.575500	2,868,538.883600
420 - 421	45°53'53"SE	9.15	421	463,495.145400	2,868,532.516500
421 - 422	40°56'40"SE	9.15	422	463,501.140900	2,868,525.606000
422 - 423	35°59'26"SE	9.15	423	463,506.517300	2,868,518.203500
423 - 424	31°02'14"SE	9.15	424	463,511.234400	2,868,510.364500
424 - 425	26°04'58"SE	9.15	425	463,515.256900	2,868,502.147400
425 - 426	21°07'46"SE	9.15	426	463,518.554900	2,868,493.613600
426 - 427	16°10'31"SE	9.15	427	463,521.103600	2,868,484.826900
427 - 428	13°41'55"SE	242.55	428	463,578.542900	2,868,249.181200
428 - 429	12°35'56"SE	18.18	429	463,582.507600	2,868,231.442600

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Est-PV	Heading	Distance (meters)	Vertex No.-	UTM Coordinates	
				X	Y
429 - 430	10°23'54"SE	18.18	430	463,585.788300	2,868,213.564800
430 - 431	08°11'54"SE	18.18	431	463,588.380300	2,868,195.574300
431 - 432	05°59'53"SE	18.18	432	463,590.279700	2,868,177.497500
432 - 433	03°47'54"SE	18.18	433	463,591.483800	2,868,159.361100
433 - 434	01°35'51"SE	18.18	434	463,591.990600	2,868,141.191900
434 - 435	00°36'07"SW	18.18	435	463,591.799600	2,868,123.016600
435 - 436	01°42'08"SW	411.00	436	463,579.590600	2,867,712.194000
436 - 437	00°01'59"SW	12.40	437	463,579.583400	2,867,699.795400
437 - 438	03°18'14"SE	12.40	438	463,580.298000	2,867,687.417400
438 - 439	06°38'31"SE	12.40	439	463,581.732100	2,867,675.102000
439 - 440	09°58'45"SE	12.40	440	463,583.880700	2,867,662.891000
440 - 441	13°19'02"SE	12.40	441	463,586.736600	2,867,650.825900
441 - 442	16°39'17"SE	12.40	442	463,590.290100	2,867,638.947400
442 - 443	19°59'34"SE	12.40	443	463,594.529200	2,867,627.296000
443 - 444	23°19'48"SE	12.40	444	463,599.439400	2,867,615.911200
444 - 445	26°40'03"SE	12.40	445	463,605.004100	2,867,604.831500
445 - 446	30°00'19"SE	12.40	446	463,611.204400	2,867,594.094600
446 - 447	33°20'35"SE	12.40	447	463,618.019300	2,867,583.736900
447 - 448	36°40'50"SE	12.40	448	463,625.425700	2,867,573.793500
448 - 449	40°01'06"SE	12.40	449	463,633.398400	2,867,564.298200
449 - 450	43°21'22"SE	12.40	450	463,641.910400	2,867,555.283200
450 - 451	46°41'37"SE	12.40	451	463,650.932800	2,867,546.779100
451 - 452	50°01'53"SE	12.40	452	463,660.435100	2,867,538.814600
452 - 453	53°22'08"SE	12.40	453	463,670.384900	2,867,531.416900
453 - 454	55°02'16"SE	334.57	454	463,944.572200	2,867,339.699200
454 - 455	53°55'43"SE	17.20	455	463,958.477800	2,867,329.569700
455 - 456	51°42'37"SE	17.20	456	463,971.981000	2,867,318.909500
456 - 457	49°29'29"SE	17.20	457	463,985.061300	2,867,307.734500
457 - 458	47°16'24"SE	17.20	458	463,997.699300	2,867,296.061700
458 - 459	45°03'17"SE	17.20	459	464,009.876000	2,867,283.908300
459 - 460	42°50'10"SE	17.20	460	464,021.573000	2,867,271.292700
460 - 461	40°37'04"SE	17.20	461	464,032.773000	2,867,258.233700
461 - 462	38°23'57"SE	17.20	462	464,043.459000	2,867,244.751000
462 - 463	36°10'52"SE	17.20	463	464,053.615200	2,867,230.864800
463 - 464	33°57'44"SE	17.20	464	464,063.226100	2,867,216.595800
464 - 465	32°51'11"SE	134.50	465	464,136.190600	2,867,103.608100
465 - 466	55°12'15"NW	125.21	466	464,033.368300	2,867,175.059700
466 - 467	40°24'39"SW	41.60	467	464,006.403300	2,867,143.388200
467 - 468	42°45'33"SW	1,240.00	468	463,164.541300	2,866,232.966300
468 - 469	58°37'23"NW	1,657.43	469	461,749.490200	2,867,095.929200
469 - 470	72°43'18"SW	263.41	470	461,497.964700	2,867,017.692600
470 - 471	51°02'58"NW	1,686.58	471	460,186.330400	2,868,077.954600
471 - 472	09°43'41"NW	4,283.38	472	459,462.558300	2,872,299.746300
472 - 1	78°32'05"NE	1,777.26	1		

ARTICLE TWO. The general polygon of Nopoló National Park is made up of the buffer zone that will be subzoned in the management program, in accordance with articles 47 BIS and 47 BIS 1 of the General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente).

ARTICLE THREE. The Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, is in charge of administering, managing, preserving and restoring the ecosystems and elements of Nopolo National Park, as well as overseeing that the actions carried out within the park comply with the purposes of the General Law of Ecological Balance and Environmental Protection, this decree and other applicable provisions.

ARTICLE FOUR. The following activities may be carried out within the buffer zone of Nopoló National Park:

- I. Scientific research;
- II. Environmental monitoring;
- III. Environmental education;
- IV. Low environmental impact tourism;
- V. Conservation, preservation, protection and restoration of ecosystems;
- VI. Controlled species repopulation;
- VII. Eradication or control of exotic species, invasive exotic species or species that become harmful;
- VIII. Construction and maintenance of support infrastructure as required, using traditional eco-techniques and materials, and
- IX. Any others provided for in the General Law of Ecological Balance and Environmental Protection, in accordance with the subzone where they are intended to be carried out, and those considered as permitted in the administrative rules indicated in the corresponding management program.

For the activities referred to in this article that require authorization, in accordance with the applicable legal provisions, the respective administrative unit must have the prior opinion of the National Commission of Natural Protected Areas and, in any case, the competent authorities must observe the response deadlines set forth in the corresponding regulations.

ARTICLE FIFTH: Activities permitted within the buffer zone of Nopolo National Park should be carried out in accordance with the corresponding subzoning and subject to the following modalities:

- I. Scientific research, environmental monitoring and environmental education should be carried out in such a way that they do not imply substantial modifications to natural characteristics or conditions;
- II. Low environmental impact tourism may only be carried out provided that its development does not imply modifications to the original natural characteristics or conditions;
- III. The reintroduction or repopulation of wildlife must be carried out with native species, or if applicable, with species compatible with the functioning and structure of the original ecosystems, taking into consideration that these activities do not compromise or affect the recovery of other existing species in the area, particularly those that are in some category of risk;
- IV. Ecosystem restoration should be carried out in order to recover the continuity of ecological processes;
- V. The eradication or control of exotic or invasive alien species, or those that become harmful, must be carried out in accordance with the measures authorized by the Ministry of the Environment and Natural Resources, in order to prevent the continuity of ecological and evolutionary processes, as well as ecosystem services from being affected or, if applicable, to promote the recovery of both;
- VI. Maintenance or construction of support infrastructure must be carried out in a manner that does not involve the removal of natural populations or the fragmentation of ecosystems and microenvironments, in the subzones in which the management program permits it, in consideration of the physical and biological characteristics of the subzones themselves, and must be executed in accordance with the specific rules provided for in said program;

- VII. Supporting infrastructure works must be carried out with the application of eco-techniques and traditional construction materials typical of the region, in order to avoid fragmentation of the habitat of the species protected by this decree;
- VIII. The support works to be carried out in the natural protected area must not interfere with the natural water catchment or its infiltration into the soil; and
- IX. Other provisions of the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife, and other applicable legal provisions.

ARTICLE SIX. Within the buffer zone of the Nopoló National Park, it is prohibited:

- I. Dumping, dumping or discharging any type of organic waste, solid or liquid waste or any other type of contaminant, such as insecticides, fungicides and pesticides, among others, on the ground or in bodies of water;
- II. Filling, draining or modifying natural permanent and intermittent stream channels, among others;
- III. Dumping or abandoning waste outside the authorized sites;
- IV. Build landfills for solid waste, as well as for hazardous materials and substances;
- V. To carry out activities of extractive exploitation of wild flora or fauna;
- VI. To carry out fishing, aquaculture, forestry, agricultural and livestock activities;
- VII. Introducing exotic or exotic invasive wildlife specimens or populations;
- VIII. Introducing genetically modified organisms, except for bioremediation purposes;
- IX. Harass, disturb or harm wildlife species in any way;
- X. Altering or destroying by any means or action the feeding, nesting, shelter or reproduction sites of wildlife;
- XI. Use any source of sound emission that alters the behavior of wild species;
- XII. To carry out any private work;
- XIII. To carry out works and works for the exploration, exploitation and benefit of minerals or substances referred to in the Mining Law and the extraction of stone materials;
- XIV. Build deposits or final disposal sites for tailings, slag, slag and grease from mines and mineral processing plants;
- XV. Final disposal of mining and metallurgical wastes;
- XVI. Modify the natural environment where historical and archaeological remains are located;
- XVII. To establish inhabited or urbanized areas that, starting from a central nucleus, present physical continuity in all directions, in which there are concentrated human settlements, including public administration, organized commerce and industry, and which have infrastructure, equipment and urban services such as electricity, drainage and drinking water supply; and
- XVIII. Any others required by the general laws of Ecological Balance and Environmental Protection, Sustainable Forestry Development, Wildlife, and other applicable legal provisions.

ARTICLE SEVENTH: No new population centers will be authorized in Nopoló National Park, including the ecological preservation zones of the population centers.

ARTICLE EIGHTH: Any public work or activity intended to be carried out within Nopoló National Park should be subject to the modalities established in this decree, the area's management program, and other applicable legal provisions.

Likewise, those who intend to carry out such works or activities must have, if applicable and prior to their execution, the corresponding environmental impact authorization under the terms of the General Law of Ecological Balance and Environmental Protection and its regulations on environmental impact assessment, regardless of the permits, licenses and authorizations that must be issued by other authorities in accordance with the applicable legal provisions.

ARTICLE NINTH. For the establishment and administration of representative collegiate bodies, the creation of economic instruments and the elaboration of the area's management program, the requirements and procedures established in the General Law of Ecological Balance and Environmental Protection and its regulations on natural protected areas must be observed.

ARTICLE TEN. The owners or holders of other land and water rights that may be found within Nopolo National Park are subject to the modalities established in the General Law of Ecological Equilibrium and Environmental Protection and in this decree. Therefore, they are obligated to carry out their activities in accordance with the criteria for the preservation and conservation of the ecosystems and their elements established in this decree, and they must respect the provisions contained in the management program and other applicable legal dispositions.

ARTICLE ELEVEN. The Ministry of Environment and Natural Resources, through the National Commission of Natural Protected Areas, with the participation of other agencies of the Federal Public Administration, will propose the celebration of coordination agreements with the government of the state of Baja California Sur, with the intervention that, if applicable, corresponds to the municipality of Loreto; as well as the agreement of actions with the social and private sectors subject to the provisions contained in the General Law of Ecological Equilibrium and Environmental Protection, its regulations in the matter of protected natural areas, the established in the present decree, in the respective management program, as well as in the other applicable legal dispositions.

ARTICLE TWELFTH. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must formulate the management program for Nopoló National Park, in accordance with Article 65 of the General Law of Ecological Balance and Environmental Protection.

The content of this program must comply with the General Law of Ecological Balance and Environmental Protection, its regulations on natural protected areas, this decree, and other applicable legal provisions. It must also contain a set of policies and measures for protection, management, sustainable use, and restoration, as well as knowledge, culture, and management processes that will be applied for the conservation of Nopoló National Park.

ARTICLE THIRTEENTH. The Secretary of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, must delimit the zone of influence of Nopoló National Park in the management program in order to generate new patterns of sustainable regional development in accordance with this decree and promote that the competent authorities that regulate or authorize activities in this zone consider the congruence between these activities and the natural protected area.

ARTICLE FOURTEENTH: Inspection and vigilance in Nopolo National Park is the responsibility of the Secretary of the Environment and Natural Resources, through the Federal Attorney General's Office for Environmental Protection, with the participation of the other competent Federal Public Administration agencies and entities.

TRANSITIONS

FIRST. This decree enters into effect on the day of its publication in the Official Gazette of the Federation.

SECOND. The Ministry of the Environment and Natural Resources, through the National Commission of Natural Protected Areas, within a term not to exceed 30 calendar days, counted from the date of publication of this decree, must manage its inscription in the corresponding public registries of property, in the National Agrarian Registry, as well as in the National Registry of Natural Protected Areas.

THIRD: Permits, authorizations, or concessions granted by the competent agencies prior to the entry into force of this decree to carry out activities within Nopoló National Park will remain in effect until the corresponding titles cease to be effective.

FOURTH: The disbursements that, if applicable, are generated as a result of the entry into force of this decree, must be covered through compensated movements, in accordance with the applicable legal provisions, charged to the budget approved for the corresponding executors of expenditure in the current fiscal year, and no additional resources will be authorized in the current or subsequent fiscal years.

Given at the residence of the Federal Executive, in Mexico City, on August 15, 2023.- **Andrés Manuel López Obrador**.- Rubric.- The Secretary of the Environment and Natural Resources, **María Luisa Albores González**.- Rubric.

ANNEX – "WATER PLAN FOR LORETO" – PROPOSED CONTENT AND BUDGET

Content

1. Analysis of existing information.
 - a. Existing assessments.
 - b. Data, variables and indicators provided by the utility and the municipality.
 - c. Population projections.
 - d. Social and economic statistics.
2. Assessment of the current situation.
 - a. Status of infrastructure, equipment and operation:
 - i. Energy management.
 - ii. Water supply sources.
 1. Surface water.
 2. Groundwater.
 3. Desalination.
 4. Reuse.
 - iii. Transport and distribution of drinking water.
 - iv. Sewage, sanitation and reuse.
 - b. Commercial Processes assessment.
 - i. Measurement.
 - ii. Rates.
 - iii. Collection.
 - iv. Attention to the public.
 - c. Legal framework situation.
 - i. Legal status of water rights and discharge permits.
 - ii. Status of service contracts.
 - iii. Water and sanitation services regulations and norms.
 - iv. Internal regulations.
 - d. Administration assessment.
 - i. Personnel.
 - ii. Material Resources.
 - iii. Finance.
 - iv. Communication and social participation.
3. Development of the plan.
 - a. Development of water and sanitation demand scenarios.

- b. Forecasted levels of service and needs for infrastructure expansion, equipment substitution and acquisition, personnel, main assets and supplies.
 - c. Projection of investment and operating revenues needs.
 - d. Projection of income and tariff structures required to maximize cost recovery.
 - e. Definition of alternative scenarios for the future development of SAPA Loreto.
4. Strategic analysis and plan development.
5. Presentation of the Loreto Water Program 2024-2028.

Activities

1. Information gathering and review.
 - a. Existing diagnostics and assessments of the water utility.
 - b. Legal framework of the service provision and tariff structures.
 - c. Structure, internal regulations and state of assets, human and financial resources.
 - d. Commercial information.
2. Field activities:
 - a. Revision of the infrastructure, equipment and operations.
 - b. Interviews with the personnel (technical, legal, commercial, communications and administrative areas) and the management.
 - c. Interviews with a sample of users, or surveys of the perceived quality of the services.
3. Analysis and assessment of the utility's areas and processes:
 - a. Water supply and sanitation infrastructure, equipment and levels of service.
 - b. Energy efficiency.
 - c. Commercial operations.
 - d. Personnel, financial resources and assets management.
4. Service demand and level forecasting.
 - a. Water and sanitation demand scenarios.
 - b. Infrastructure, equipment, other assets and resources projection.
 - c. Forecasting costs, expenses and income under different tariff and investment scenarios.
5. Strategic analysis.

- a. Review with the Board of Directors. Definition of strategic goals and vision.
 - b. Definition of the scope and dimensions of the service expansion and improvement over the planning horizon.
 - c. Description of the proposed actions, budgeting, calendar, responsibilities, relationships.
 - d. Development of the project components.
 - e. Presentation, adequations and approval.
6. Integration of the Loreto Water Plan 2025-2050
 - a. Water Program 2025-2028 – components, budget, financial sources, milestones, outcomes and instrumentation.
 - b. Water Plan 2025-2050 – medium- and long-term key activities and estimated budget.

Calendar

Activities	Duration (weeks)	Calendar (week)														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Information gathering and review.	3	■	■	■												
2. Field activities.	2				■	■										
3. Analysis and assessment of the utility's areas and processes.	4					■	■	■	■							
4. Service demand and level forecasting.	2									■	■					
5. Strategic analysis.	2											■	■			
6. Integration of the Loreto Water Plan 2025-2050	4												■	■	■	■

Preliminary Budget

The cost of the study is estimated at US\$48,300 plus VAT.