Ready, Offset, Go!

Using Wetland Creation, Restoration, and Preservation for Developing Carbon Offsets

Creating markets to reduce greenhouse gases has been a central component in efforts to mitigate climate change. Wetlands can be both sources and sinks of greenhouse gases. As an active member of the Society of Wetland Scientists, the author has been engaged in identifying what types of wetland projects are good candidates for carbon offsets.

By Scott Luchessa

Wetlands are extremely important in the global carbon balance. Up to one-third of the global, organic, terrestrial carbon stores are found in wetlands.[1] There are a number of initiatives and mechanisms, both here in the United States and internationally, that are looking at or enable project proponents to develop offsets to reduce the amount of greenhouse gases (GHGs) in the atmosphere that can be sold on existing and emerging carbon markets, such as closely regulated cap-and-trade programs. Creating carbon offsets through wetland restoration, creation, and avoided degradation is beginning to receive closer attention in both regulated markets, such as the Clean Development Mechanism (CDM), and voluntary or over-the-counter markets, in recognition of their importance to the global carbon balance. Offsets are emission reduction projects undertaken to address emissions not included in a cap-and-trade program. An offset mechanism enables covered entities to offset their own emissions by purchasing emission reduction credits generated through projects that address emissions not covered by the cap. The primary purpose of offsets is to reduce compliance costs, while ensuring the environmental integrity of the cap.

Wetland GHG Science Basics

All wetlands are generally effective at sequestering and storing carbon through photosynthesis and accumulation of organic matter in soils, sediments, and plant biomass. In a recent review of carbon storage and fluxes within freshwater wetlands, Kayranli et al. identified five main carbon reservoirs or pools in wetlands: plant biomass carbon; particulate organic carbon; dissolved organic carbon; microbial biomass carbon; and gaseous end products, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).[2] Some of these pools, such as microbial biomass, CO_2, and CH_4, appear to be relatively small. Whereas fluxes of CO_2 and CH_4 can be relatively large. Carbon accumulation in soils or sediments generally occurs as a result of the relatively slow anaerobic decomposition processes that control carbon cycling, at least part of the time, in wetlands. Though it is an oversimplification of the inherently variable and complex processes that occur in wetlands, in general, wetland plants grow at a faster rate than they decompose, contributing to a net annual carbon sink. Rates of both photosynthesis and decomposition vary geographically, as well as within individual wetlands, in both time and space. In addition to sequestering and storing carbon through these processes, consideration of carbon offsets must take into account net fluxes of all GHGs. This is where science meets policy and things get more challenging.

Not all GHGs are created equal, and there are many very real and valid concerns about accounting methods and systems and other equally complex issues. Leakage, additionality, and permanence are a few of these equally complex issues that must be carefully considered. This point is painfully clear, as illustrated by the recent disclosures of widespread fraud that have surfaced pertaining to the European Union Emissions Trading Scheme (EU ETS).[3] The EU ETS is the primary cap-and-trade market for European countries participating in the Kyoto Protocol.

CO_2 is the most abundant and common GHG. However, other GHGs have much greater global warming potential (GWP) than equiv-

Scott Luchessa is a wetland restoration expert and senior manager for the Environ International Corporation's office in Seattle, Washington. Environ is an international consultancy headquartered in Arlington, Virginia.

alent amounts of CO_2. GWP is defined as the cumulative radiative-forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas.[4] The reference gas typically used is CO_2. With respect to wetlands, CH_4 and N_2O are the two gases of greatest concern, because they have 25 and 298 times the global warming potential of an equivalent amount of CO_2 over a 100-year time horizon.[5] Natural wetlands are responsible for about 25 percent (1.45×10^{11} kilograms CH_4-C $year^{-1}$) of global anthropogenic and natural CH_4 emissions. Though similar contributions of wetlands to global N_2O emissions from wetlands are not provided by these authors in this study, constructed and restored wetlands reportedly can have high N_2O emissions.[6] In order to look at the opportunities for creating carbon offsets through wetland creation, restoration, or preservation, it becomes necessary to determine the net fluxes of GHGs. In order to calculate net GHG reduction, the fluxes of relevant GHGs are converted to common units of equivalent CO_2 (CO_2e), then changes between baseline and post-project conditions are calculated. Research has shown that creation or management of some wetlands makes them increased sources for GHGs, while other changes make them increased sinks. In other words, not all wetlands are equal. Freshwater wetlands, in particular, can be significant sources of CH_4. To determine whether specific types of wetlands might be good candidates for creating carbon offsets requires a solid understanding of potential net fluxes in carbon pools and other GHGs over the life of the project. It now seems clear that a few types of wetlands are consistently large enough net sinks for all GHGs to be ideal candidates for creating carbon offsets that can be bought or sold in regulated or over-the-counter markets. The remainder of this article focuses on existing and developing mechanisms for creating carbon offset projects through wetland restoration, creation, or preservation.

International Mechanisms and Initiatives

There are three mechanisms for Kyoto Protocol-participating countries to pursue carbon offsets using approved methods or protocols. Other than carbon offsets in mangroves (see discussion on the Ramsar Convention below), approved methods or protocols do not expressly allow or prohibit offset projects that involve wetlands. The three mechanisms are: generation of emission reduction units (ERUs) using approved projects through Joint Implementation (JI); creating certified emission reductions (CERs) in developing countries through the CDM; and trading of ERUs and CERs in approved markets, such as the EU ETS. The process for designing, developing, and obtaining approval of carbon offsets is a very rigorous one, and few projects have been approved to date that involve carbon offsets through wetland restoration. Kyoto expires in 2012 and indications are that any post-Kyoto agreement likely will include links to other trading schemes, such as other national or regional programs in the United States.

More recently, an initiative for exploring carbon offsets in wetlands was begun in 2009 by the Ramsar Convention's Scientific Technical Review Panel (STRP).[7] The STRP has been tasked to examine how existing international climate agreements can be used to develop carbon offsets through wetlands. In 2009, the STRP invited members of the Society of Wetlands Scientists, other nongovernmental organizations, and the World Bank to help with this. In addition, a November 2009 workshop, "Achieving Carbon Offsets Through Mangroves and Other Wetlands," was sponsored by the Danone Fund for Nature, a 2008 tri-party agreement between the Danone Group, the International Union for the Conservation of Nature, and the Ramsar Convention to develop carbon offset projects for wetlands, especially mangroves. The workshop report[8] includes a summary of the CDM small-scale method and Programme of Activities that can be used for creating carbon offsets for mangrove wetland restoration projects. The CDM is one of the mechanisms and includes adopted methods or protocols for creating various carbon offset project types for Kyoto participants (see additional discussion under Regional Initiatives below). The CDM-approved methods include those for afforestation/reforestation.[9] To date, less than 20 afforestation/reforestation projects have been registered through the CDM, which is in part a reflection of the very complex nature of the project development design methods for quantifying, verifying, and monitoring prospective offsets. Though it is critical that offsets must be real and verifiable, more incentives would appear to be necessary to stimulate carbon offsets in wetlands that take advantage of the effective ecosystem services they provide.

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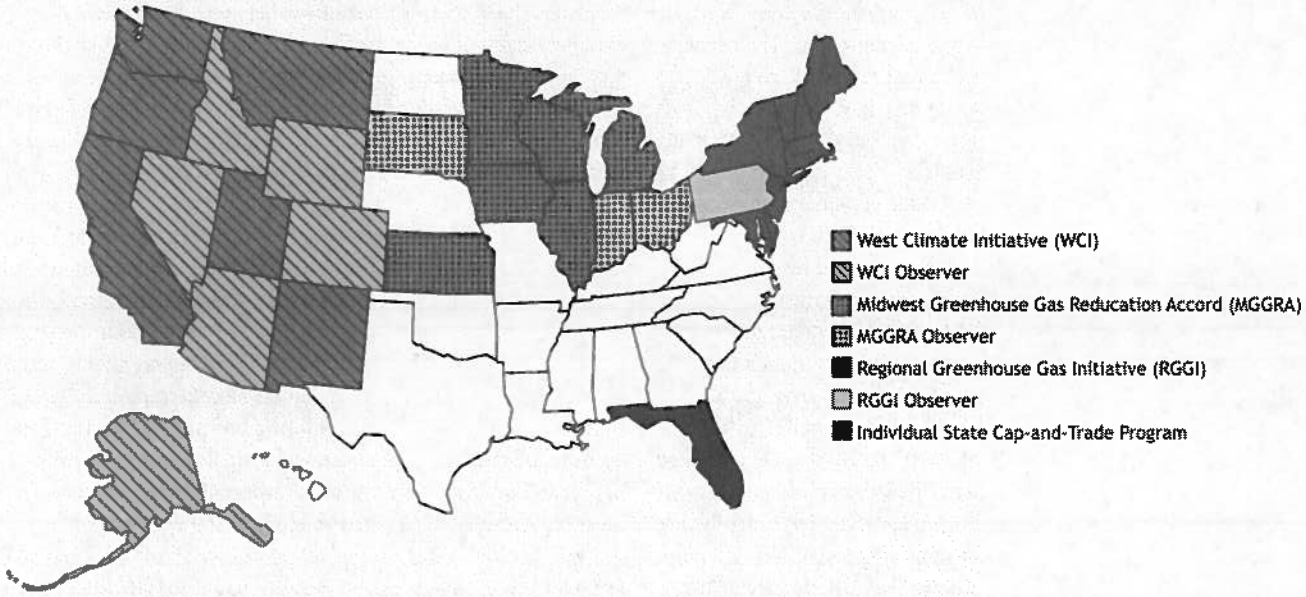
In February 2010, a follow-up STRP workshop developed an ongoing collaborative effort to better summarize which wetlands are sources and sinks of GHGs, and what types of wetlands may be best suited for consideration as potential carbon offsets. All wetlands provide functions and services that society has come to value, and all wetlands sequester and store carbon. However, many wetland types are at least seasonal sources of more potent GHGs, such as CH_4 and N_2O. Attempting carbon offsets through creation, restoration, or preservation of these wetland types may not be justified, although the many other ecosystem services and values these wetlands provide remain important. More scientific research is required to better quantify and verify what management actions or activities likely will lead to real and permanent carbon offsets. Ongoing collaboration is intended to better synthesize the existing science on what wetland types are significant sources and sinks of GHGs, most important to protect because of existing carbon stores, or potential candidates for carbon offsets through restoration, creation, preservation, or other management actions. A technical paper discussing several of these topics and popular misperceptions is expected to be published in *Wetlands* or another scientific journal later this year or sometime in 2011.

National Initiatives

At the national level in the United States, cap-and-trade legislation that would mandate GHG reductions is moving through the U.S. Congress. The first bill, the American Clean Energy and Security Act, passed the U.S. House of Representatives by a vote of 219 to 212 last year. The

Existing Carbon Offset Initiatives in the United States



Act (H.R. 2454) would establish an economywide cap-and-trade program for GHGs. A number of similar bills have been introduced in the U.S. Senate, several of which include cap-and-trade programs that contain an offset element.[10] Though none of the bills identify specific protocols or methods for quantifying carbon offsets, several do refer to afforestation/reforestation projects as candidates. Wetland restoration to reduce GHGs is identified in at least one bill, the Clean Energy Jobs and American Power Act of 2009 (S.1733). No bills have yet passed through the Senate, and it is unclear when that might happen.

Legislative efforts aside, existing voluntary markets for purchasing carbon offsets are thriving. There are two major climate change programs in the United States. These are the Chicago Climate Exchange (CCX) and the California Climate Action Registry (CCAR). Participation requires registered members of these programs to meet stipulated emission reduction goals to remain active participants. The CCX includes afforestation as permissible offsets. The CCAR includes several forestry activities, including afforestation and reforestation, as permissible offsets. There are many different standards for carbon offsets in these markets and some are more rigorous than others. Some entities, such as the Gold Standard and Voluntary Carbon Standard (VCS), have developed robust methodologies to ensure that carbon credits verified to their standards are of high quality. The VCS is currently one of the leading carbon credit standards. The VCS provides detailed guidance and methodologies for carbon offset projects, including those for afforestation and reforestation, under Agriculture Forestry and Other Land Use links.[11] At present, the VCS accepts carbon credits approved through the CCAR (i.e., carbon credits can be transferred from the CCAR to the VCS). Others buy, sell, and trade carbon credits that do not meet the same standards.

Restore America's Estuaries, a nonprofit coalition of 11 community-based conservation organizations, has put forward an initiative exploring carbon offsets for tidal wetlands in the voluntary market place. Restore America's Estuaries has launched a Blue Ribbon Panel composed of scientists, environmental engineers, and public policy experts. Among the panel's charges is to develop a GHG offset protocol for tidal wetlands. This initiative builds on a tidal wetlands restoration typology developed for the Climate Action Reserve (CAR).[12] The CAR is a voluntary, national offsets program that has established standards for development, quantification, and verification of GHG emission reduction projects in North America.[13] The CAR issues carbon offset credits as Climate Reserve Tons for GHG emission reduction projects approved and verified in North America. It is anticipated that protocol development of an estuarine intertidal wetland carbon offset protocol will be led by the CAR beginning in July 2010. Unlike freshwater wetlands, the high sulfate content of many estuarine intertidal wetland soils inhibits methane-producing bacteria. Such wetlands are not significant sources of methane. There remain information gaps in both the science and policy of using tidal wetlands restoration for legitimate GHG offsets. It is intended that the resultant protocol would be adopted by the CAR and be consistent with proposed federal legislation. Among the critical issues in creating an estuarine intertidal wetland offset protocol is ensuring that such offsets are real, additional, permanent, verifiable, owned unambiguously, and avoid negative externalities.

Regional Initiatives

In the absence of a federal program, several regional GHG initiatives developed and are now in operation or are being developed in various parts of the United States. Of these initiatives, the Regional Greenhouse Gas Initiative (RGGI) is fully developed and the Western Climate Initiative (WCI) is well underway. The RGGI is the first functional regional GHG initiative, but has relatively limited scope, setting caps and reducing CO_2 emissions from the power sector for a 10-state region in the Northeast and Mid-Atlantic region of the country (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont). The RGGI is a regional cap-and-trade system that requires a 10 percent reduction in emissions by 2018. Though it does include a carbon offset component, it does not recognize wetland creation or restoration per se as an offset cat-

egory. Afforestation is a recognized carbon offset category, but refers to the "conversion of land from a non-forested to forested condition." This does not seem to preclude conversion of marginal agricultural lands, which historically were forested wetlands, from being restored. There are very strict rules and regulations for creating afforestation and other carbon offset projects, which establish legally binding, permanent conservation easements and rigorous monitoring and verification to confirm that estimated offsets are actually achieved. Potential carbon offsets are determined using a baseline approach. The potential carbon offset that could be traded from an afforestation project is the net difference in CO_2e from time zero (baseline) to the agreed-upon future forested condition that meets all relevant requirements, including consistency, additionality, monitoring, and verification.[14]

The WCI is another regional cap-and-trade program. It is a partnership between seven western states (Arizona, California, Montana, New Mexico, Oregon, Utah, and Washington) and four Canadian provinces (British Columbia, Manitoba, Ontario, and Quebec. There are also 15 other American and Mexican states and Canadian provinces that are observers. Unlike the RGGI, the WCI has a much broader regulatory scope and includes multiple sectors and a more comprehensive program that reportedly will regulate nearly 90 percent of GHG emissions in participating states and provinces when fully implemented in 2015. The WCI's cap-and-trade program will launch or begin January 1, 2012, relative to initial emission reductions. Mandatory measurement and reporting for the six GHG emissions (CO_2, CH_4, N_2O, hydrofluorocarbons, perflurocarbons, and sulfur hexafluoride) began in January 2010 for all entities and facilities, e.g., first jurisdictional deliverer, fuel distributor, and fuel blender, subject to reporting. Entity refers to when the point of regulation is upstream of the point of emissions. The first jurisdictional deliverer is a company that has an obligation to surrender allowances to cover the emissions attributable to the generation of power the company is importing. Reporting of 2010 emissions will begin in early 2011. Initially, only sources that emit more than 25,000 metric tons of CO_2e per year will be regulated. The WCI includes consideration of an afforestation/reforestation offset component, but not a wetland restoration or creation element per se. Program design recommendations identify afforestation/reforestation as one of the priority project types for investigation and development as part of an offset program. At this time, forested wetland offset methods or protocols have not been officially adopted, but a number of existing afforestation/reforestation offset protocols that have been approved elsewhere have been identified by the Offsets Committee as potentially suitable for use within the WCI cap-and-trade program. Afforestation/reforestation protocols or methods approved by other entities include: the American Carbon Registry; the CCX; the CDM, the CAR; New South Wales (Australia); the RGGI, the U.S. Department of Energy 1605(b); the U.S. Environmental Protection Agency Climate Leaders; and the Voluntary Carbon Standard.[15] The WCI limits the use of all offsets and allowances from other GHG emission trading systems that are recognized by the WCI partner jurisdictions to no more than 49 percent of the total emission reductions from 2012-2020 in order to ensure that a majority of emission reductions occur at WCI-covered entities and facilities. Each WCI partner jurisdiction will have the discretion to set a lower percentage limit. All offsets and non-WCI allowances must meet the rigorous criteria established by the WCI partner jurisdictions. Critical components of any wetland carbon offset include careful examination and identification of leakage, permanence, additionality, ownership, quantification of real verifiable offsets, and other essential elements. The current internationally accepted permanence standard adopted by the Kyoto Protocol, which will be adopted by WCI partners, is 100 years.[16]

Conclusions

There are existing mechanisms for creating carbon offsets in wetlands through JI and the CDM. CER and ERU credits created through these existing mechanisms can be traded, bought, or sold on existing national markets, such as the EU ETS, and voluntary or over-the-counter markets in the United States. The Kyoto Protocol is scheduled to expire in 2012 and any post-Kyoto agreement is likely to expand and recognize any national or regional cap-and-trade programs and approved and verified offsets established in those programs. Given the importance of freshwater and estuarine intertidal wetlands in the global carbon cycle, it is likely that future agreements will include mechanisms for protecting existing carbon stored in these systems through avoided degradation policies. Furthermore, it is likely, with ongoing international and national initiatives being pursued by Ramsar and Restore Americas Estuaries, that more specific methods and/or protocols for creating carbon offsets in intertidal and possibly other wetlands will be forthcoming in the future. ■

ENDNOTES

1. Eville Gorham, *Northern Peatlands: Role in the Carbon Cycle and Probable Responses to Climatic Warming*, 1 ECOLOGICAL APPLICATIONS 182-95 (1991); Peter Weishampel et al., *Carbon Pools and Productivity in a 1-km² Heterogeneous Forest and Peatland Mosaic in Minnesota, USA*, 257 FOREST ECOLOGY & MGMT. 747-54 (2009) (as cited by Kayranli et al. 2010).
2. Birol Kayranli et al., *Carbon Storage and Fluxes Within Freshwater Wetlands: A Critical Review*, 30 WETLANDS 111-24 (2010).
3. For more information, see http://www.europol.europa.eu/index.asp?page=news&news=pr091209.htm.
4. U.S. Environmental Protection Agency, Glossary of Climate Change Terms, *at* http://www.epa.gov/climatechange/glossary.html#ShortTon (last visited May 22, 2010).

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Resources

More information about GHG offset initiatives can be found at the following websites:

CDM
http://cdm.unfccc.int/methodologies/AR-methodologies/index.html

The VCS
www.v-c-s.org/afl.html

The Gold Standard
www.cdmgoldstandard.org

The CAR
www.climateaction reserve.org

The RGGI
www.rggi.org/offsets/categories/afforestation

THE WCI
www.westernclimate initiative.org

Information about RAE's Blue Ribbon Panel and copies of the protocol project description and tidal wetlands restoration typology can be found at
www.estuaries.org/climate-change.html

the new ORMS and RIBBITS databases established by the Corps, may not be sufficient for facilitating such analysis. Ideally, compensatory mitigation data should be publicly web-accessible,[10] allowing easy audits and limiting staff time commitments for external data requests, saving the time and resources of those inside and outside regulatory agencies.

Specific to the EEP and other comparable state and local programs, it may be helpful to reconsider the agency's specific role in the broader mitigation process. If the EEP focused exclusively on watershed planning, coordinating information between impactors and mitigators, sustaining complete and transparent databases for involved parties, and ensuring the environmental quality of restoration sites, then its role would narrow considerably. However, this focused effort could promote greatly elevated effectiveness of ongoing private mitigation efforts. We believe that institutions engaged in these activities are fundamentally important to the enduring quality of compensatory mitigation nationwide.

Of all the points on which we are in agreement with the EEP, there is one that is most critical for the coming years of mitigation: our shared concern over the potential expansion of new ecosystem markets. The expansion of ecosystem markets beyond wetlands and into other ecosystem services, like water quality and carbon, represents an immense opportunity. However, it could also present an insurmountable threat to the viability of existing institutions and structures to manage market-like approaches to environmental regulation. Oversight of already existing mitigation programs, in North Carolina and nationally, has been insufficient to ensure the quality of restored sites. Additional tasks being placed on existing agencies with existing resources would likely undermine both existing and future mitigation. We suggest that before diving headfirst into ecosystem service markets writ large, there is a more pressing need to carefully consider the successes, failures, and limitations of how existing programs have been working to date. Our research suggests that there is room for improvement. ■

ENDNOTES

1. These problems include large distances between impact and compensation sites, piecemeal and ad-hoc decisionmaking, and poor data management. Todd K. BenDor et al., *Assessing the Socioeconomic Impacts of Wetland Mitigation in the Chicago Region* 73 J. AM. PLAN. ASS'N (3) 263-82 (2007); Dennis M. King & Luke W. Herbert, *The Fungibility of Wetlands*, 19 NAT'L WETLANDS NEWSL. (Sept.-Oct.) 10–13 (1997); J. B. Ruhl & Jim Salzman, *The Effects of Wetland Mitigation Banking on People*, 28 NAT'L WETLANDS NEWSL. (Mar.-Apr.) 1, 9–14 (2006).
2. Leonard Shabman & Paul Scodari, *The Future of Wetlands Mitigation Banking*, 20 CHOICES MAG. (1) 65-70 (2005).
3. Todd K. BenDor & Martin Doyle, *Build the Environment, Too*, RALEIGH NEWS AND OBSERVER, March 5, 2009.
4. Todd K. BenDor & Martin Doyle, *Planning for Ecosystem Service Markets*, 76 J. AM. PLAN. ASS'N (1) 59-72 (2010).
5. This is based on phone and email correspondence to us after publication of original article, in which correspondents asked for clarification of this aspect of the program.
6. David Urban, *Mitigation: Corps Transparency—The Issue of Data Availability*, 31 NAT'L WETLANDS NEWSL. (Nov.-Dec.) 26 (2009).
7. E-mail from Derb S. Carter Jr., Director, North Carolina/South Carolina Office in Chapel Hill, Southern Environmental Law Center, to William G. Ross Jr., Secretary, North Carolina Department of Environment and Natural Resources, Eugene A. Conti Jr., Secretary, North Carolina Department of Transportation, and Col. Jefferson Ryscavage, District Engineer, Wilmington District, U.S. Army Corps of Engineers (copy on file with author); UNIVERSITY OF NORTH CAROLINA SCHOOL OF GOVERNMENT, EEP PROCUREMENT STUDY: PRIVATE SECTOR CONTRACTOR'S MEETING (2009), *available at* http://sogweb.sog.unc.edu/Water/Index.php/Private_Sector_Contractors_Meeting.
8. RESEARCH TRIANGLE INSTITUTE, BASELINE ASSESSMENT REPORT: PREPARED FOR N.C. ECOSYSTEM ENHANCEMENT PROGRAM (2004), at 7. This analysis noted considerable mistrust between the EEP and DOT, "marked by limited sharing of information and a lack of confidence in information that is exchanged. DOT is unclear how EEP will handle its former project and transferred assets."
9. NATURAL RESOURCES LEADERSHIP INSTITUTE, NORTH CAROLINA STATE UNIVERSITY, EEP NUTRIENT OFFSET ACTUAL COST PRICING METHOD STAKEHOLDER DELIBERATION FINAL REPORT (2009), *available at* http://www.ncsu.edu/nrli/decision-making/projects/NOPPStakeholderPage.php. In this report, the NRLI notes that the most commonly stated issues regarding the EEP's Nutrient Offset Program were those relating to agency accountability and transparency.
10. Data is now required to be available in the form of public notices (Corps and EPA 2008), but not in databases that facilitate analysis. Compensatory Mitigation for Losses of Aquatic Resources, 73 Fed. Reg. 19594 (Apr. 10, 2008)(Codified at 33 C.F.R. pts. 325 and 332 and 40 C.F.R. pt. 230), *available at* http://www.epa.gov/owow/wetlands/pdf/wetlands_mitigation_final_rule_4_10_08.pdf.

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5. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007: WORKING GROUP I: THE PHYSICAL SCIENCE BASIS (2007), *available at* http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html.
6. Johana Stadmark & Lars Leonardson, *Emissions of Greenhouse Gases From Ponds Constructed for Nitrogen Removal*, 22 ECOLOGICAL ENGINEERING 542-51 (2005); Sille Teiter et al., *Emission of N_2O, N_2, CH_4 and CO_2 From Constructed Wetlands for Wastewater Treatment and From Riparian Buffer Zones*, 25 ECOLOGICAL ENGINEERING 528-41 (2005); Ülo Mander et al., *Emission of Greenhouse Gases From Constructed Wetlands for Wastewater Treatment and From Riparian Buffer Zones*, 52 WATER SCI. & TECH. 167-76 (2005); Anu Liikanen et al., *Temporal and Seasonal Changes in Greenhouse Gas Emissions From a Constructed Wetland Purifying Peat Mining Runoff Water*, 26 ECOLOGICAL ENGINEERING 241-51 (2006).
7. The Ramsar Convention is the international agreement signed in 1971 in Ramsar, Iran, that established an international convention for recognizing and protecting wetland resources around the world. There are 159 member countries or contracting parties, including the United States. The STRP is the Convention's technical advisory body. For more information, see the Ramsar Convention website at http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1%5E7715_4000_0__.
8. The report is available at http://www.ramsar.org/pdf/DFN_report_Final.pdf.
9. For more information on CDM afforestation/reforestation project development methods, see http://cdm.unfccc.int/methodologies/ARmethodologies/index.html.
10. For a summary of these various bills, see the Pew Center on Global Climate Change, at http://www.pewclimate.org/. For the complete bills, see the Library of Congress website, at http://thomas.loc.gov, and enter the bill number.
11. For more information on the VCS guidance and methodologies for Agriculture Forestry and Other Land Use, see http://www.v-c-s.org/afl.html. For more information on the Gold Standard, see http://www.cdmgoldstandard.org/.
12. To see who the members of the panel are and for copies of the protocol project description and tidal wetlands restoration typology, see the Restore Americas Climate page, at https://www.estuaries.org/climate-change.html.
13. For more information on the CAR, see http://www.climateactionreserve.org/about-us/.
14. More details on afforestation project eligibility for RGGI can be found at http://www.rggi.org/offsets/categories/afforestation.
15. WESTERN CLIMATE INITIATIVE, GHG OFFSET PROTOCOLS BY PROJECT TYPE AND PROGRAM (July 31, 2009), *available at* http://www.westernclimateinitiative.org/component/remository/Offsets-Committee-Documents/.