Subcommittee on Energy and Mineral Resources
and
Subcommittee on National Parks, Forests and Public Lands
of the
Committee on Natural Resources

1334 Longworth House Office Building
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Oversight hearing on The Future of Fossil Fuels:
Geological and Terrestrial Sequestration of Carbon Dioxide.

Good Afternoon. My name is George W. Kelly and it is my pleasure to be present today to address the issue of terrestrial carbon sequestration. I am here as a member of the Board of the National Mitigation Banking Association. The focus of my testimony will be on the use of forestry-based sequestration from the perspective of an entrepreneur in the natural resource credit business.

National Mitigation Banking Association and Mitigation Banking

As a matter of background, the National Mitigation Banking Association ("Association") represents commercial businesses committed to the restoration and preservation of our nation's wetlands and natural habitat through the use of mitigation and conservation banks. The Association's members have established and operated mitigation banks throughout the United States since the early 1990s.

Environmental Banc & Exchange ("EBX") has been a member of the Association since 2003. Founded in 1997, EBX is one of America's leading full-service providers of ecosystem mitigation and offsets. It has completed over 35 mitigation banks and client specific projects nationwide, restored 34 miles of stream, restored over 6,000 acres of wetlands and rehabilitated hundreds of acres of forest and other critical habitats. EBX has demonstrated a particular expertise with the restoration of bottomland hardwood systems.

Mitigation banking is a market-based industry which involves creation of sites of advanced, consolidated mitigation for the express purpose of compensating for the adverse impacts on wetlands or streams authorized by a permit under Section 404 of the Clean Water Act ("CWA"), 33 U.S.C. § 1344, or other similar laws. Mitigation bankers are in the business of restoring, enhancing and sometimes creating wetlands, in advance, to sell as compensatory mitigation when mitigation cannot be achieved at the development site. A mitigation bank typically utilizes a medium to large degraded wetland site, and improves the ecological characteristics of the site through restoration and enhancement efforts, or through wetlands creation. The units of restored, enhanced or created wetlands are expressed as "credits," which mitigation bankers sell to developers or other Section 404 permittees to offset the "debits" that will result from permitted filling at the project development site.

Since the seminal report, *Protecting America's Wetlands: An Action Agenda*, the Final Report of the National Wetlands Policy Forum (The Conservation Foundation, 1988), mitigation banking has been recognized as most appropriate for CWA compensatory mitigation. Indeed, after a comprehensive two-year study, the National Academy of Sciences affirmed that mitigation banking offers advantages over traditional mitigation approaches. National Research Council, *Compensating For Wetland Losses Under the Clean Water Act* (National Academy Press 2001). The Society of Wetland Scientists also expressed support for mitigation banking in its Wetland Mitigation Banking, Position Paper, February 2004.

In the last 15 years, mitigation banks have proliferated across the country. The Environmental Protection Agency estimates that mitigation banking has grown from 46 banks in 1992, to 219 banks by the end of 2001, to an estimated more than 450 in 2005. According to Corps of Engineers data, as of 2000, there were between 370 and 400 mitigation banks nationwide, in more than 35 states. The Environmental Protection Agency has recognized that "entrepreneurial providers of bank credits have emerged as a nationally-organized industry contributing hundreds of millions of dollars annually to the domestic product." With respect to wetland restoration in general, the Fish and Wildlife Service estimated that more than $139 million would be spent in 25 states and one territory by the end of Fiscal Year 2004 to restore or protect more than 167,000 acres of wetlands.

There are approved wetland and stream mitigation banks in at least 42 States, based on 2004 data:

Alabama	Florida	Kentucky	Mississippi	Ohio	Texas
Alaska	Georgia	Louisiana	Missouri	Oklahoma	Utah
Arizona	Idaho	Maine	Montana	Oregon	Virginia
Arkansas	Illinois	Maryland	Nevada	Pennsylvania	Washington
California	Indiana	Massachusetts	New Jersey	South Carolina	West Virginia
Colorado	Iowa	Michigan	New York	South Dakota	Wisconsin
Delaware	Kansas	Minnesota	North Carolina	Tennessee	Wyoming

It is important to note that the mitigation banking marketplace is entirely driven by rules and regulations under the Clean Water Act and the Endangered Species Act. Those who want to impact wetlands, streams or protected species are required to obtain permits and compensate for the impacts; the basic standard is to provide a "no net loss" in functions and area. Without strict rules and enforcement of the rules, there is no market for mitigation credits. Because mitigation banks are heavily regulated and have a proven track record of success, Congress has provided a preference for mitigation banking where there are impacts from federally-funded road projects. The preference ensures a certain allocation of the marketplace to mitigation banking.

Notwithstanding the positive rules, the mitigation banking marketplace has also suffered from the growth of in-lieu fee projects, under which mitigation requirements may be met through payment of fees. The fees are often set by rule, or in other methods that fail to capture the real cost of mitigation because the actual plan for mitigation (how to spend the money) is developed after the fees are collected. Such programs undermine investment in effective mitigation. Recognizing the importance of a level playing field among mitigation providers, Congress

recently enacted a law that requires that the Army Corps promulgate regulations that promote equivalent standards for all forms of mitigation. This was also intended to address the variability in regional approaches that can undermine the marketplace for mitigation credits.

We believe that any policy relating to the carbon market should take into account the lessons learned in the wetland mitigation marketplace, including: (1) establishment of clear regulatory drivers; for wetlands and streams, the driver is the very strict requirement to obtain a permit and the mitigation requirement for impacts; (2) consistent application of the rules and inclusiveness for all or most sources of emissions; for wetlands and streams, very few impacters are exempt from the regulatory system; (3) authorization for private markets in offsets; for wetlands and streams, this means authorization for off-site mitigation; and (4) let the market decide the price of the credits; for wetlands and streams, mitigation fees set by statute or rule (in-lieu fees) impede the credit market and often fail to meet the offset goals.

Carbon

Carbon markets can be separated into two major categories: the regulatory (or compliance) and voluntary markets. Currently, in the US, in light of the lack of national standards, there exists a patchwork of both voluntary and regional regulatory markets. Unlike the regulated market, the voluntary market does not rely on legally mandated reductions to generate demand. Often, the voluntary market participants are motivated by positive public relations and the potential to position themselves as early movers in a marketplace. At the consumer level, participants are trying to reduce their carbon footprint through acquisition of carbon offsets. Currently, there exists the Chicago Climate Exchange whose 52 members have voluntarily committed to reduce their emissions. Also, there exist some three dozen companies offering voluntary carbon offsets. The voluntary market suffers from fragmentation, lack of standards and pricing variability.

From a regulatory perspective, the states and regions are serving as the laboratory for the carbon marketplace. California and the Northeastern states have taken the lead. California enacted in 2006 the Global Warming Solution Act, which contemplates a market-based approach to achieve a statewide emissions cap. Regulations are being formulated and must be in place by 2011. Also, California announced that it would participate in the recently publicized Western Regional Climate Action Initiative with Washington, Oregon and New Mexico. In the Northeast, some 10 states in the Northeast and the Mid-Atlantic have committed to enter into the Regional Greenhouse Gas Initiative, otherwise known as RGGI. RGGI only applies to power plants in those 10 states and imposes a cap on the total emissions, which in turn is allocated among the states. The states have the discretion to allocate to the power plants. The goal is to meet these standards by 2009. RGGI also allows carbon offsets to cover 3.3% of a facility's carbon emissions, and that percentage will rise to 5% if the price of CO_2 goes beyond $7/ton.

Carbon offset trading will need a regulatory system with features similar to wetland mitigation banking, if there is to be a viable market in such credits. As noted with respect to the wetland and stream mitigation marketplace, without a clear legal driver mandating carbon reductions, the market will remain fragmented. In addition, policies need to be in place that allow for flexible mechanisms, such as cap-and-trade, which in turn allows for emitters to identify the most cost-effective options in reducing their carbon emissions. All or most emitters must be included in

the regulatory system. The system must require actual offset projects, rather than establish regulatory fees or allow in-lieu fee programs. If all players must meet meaningful limits, the price will be set by the marketplace at the cost effective level. Both the California Act and RGGI provide for such market-based approaches. In this fashion, emitters can decide whether to internally reduce emissions, or purchase either carbon offsets or allowances from another facility.

Carbon offsets from natural resource restoration projects will involve issues of restoration science and land management very familiar to wetland mitigation bankers. Habitat restoration, primarily forestry projects fall under the category of carbon offsets projects. To develop a market for carbon from habitat restoration/forestry, the regulatory system for greenhouse gas reduction needs to authorize a significant percentage of reductions to be met through offsets. It is our current understanding that there are a number of bills pending before Congress, some of which would authorize up to 30% of the carbon reductions to be met through offsets. The offset policy is key to determining the extent that habitat restoration and forestry projects would participate in greenhouse gas emission control. As we mentioned, RGGI allows 3.3% of a facility's emissions to be met by offsets.

Forestry Projects

Forestry projects include afforestation (planting tress on area with no previous cover), reforestation, agroforestry, forest conservation and avoided deforestation. Forestry projects not only sequester carbon, they provide numerous co-benefits such as biological diversity, erosion reduction, enhanced water quality and enhanced recreational opportunities. Forestry projects also are tangible and provide a strong symbol of permanent conservation. They provide natural infrastructure for the planet. Absent incentives for restoration and protection, our forest resources continue to be lost and degraded. Areas needing re-vegetation or reforestation often cannot attract investments, and payments for the storage of carbon may help reduce the conversion of these systems to other so-called "highest and best use" alternatives.

As we explore the role of forest carbon sequestration, I thought it would be helpful for illustration to review a recent Request for Proposal to purchase 7.5m tons of CO_2 credits issued by the Climate Trust in February, 2007. The Request was initiated by the fact that there are 5 participants who are electric utilities under RGGI that will be subject to regulated standards in 2009. As noted, RGGI allows for six types of carbon offset projects, including afforestation. Afforestation under RGGI means the site had to have been in a non-forested state for 10 years or more. To obtain credit under RGGI for afforestation, the site must be replanted; it is subject to strict monitoring and verification protocols (every 5 years); it must be subject to a permanent easement and sustainable forest management practices; and credits may be generated over a 60-year period, even though other programs allow for a 100-year period. If the site is used for other regulatory purposes, such as wetland or "tree save" mitigation, it is not eligible for use for carbon offsets. Also, the project must start only after carbon funding is available to demonstrate "additionality." "Additionality" means that the project will add the function of carbon sequestration beyond the level attained without the project.

RGGI standards provide an example of forestry more strict than other offset forestry programs. RGGI does not allow avoided deforestation or forest conservation practices to get carbon credit. Also, the 60-year accounting period tends to make the unit price of a credit more expensive than a 100-year accounting period because there are fewer tons of CO_2 sequestered over the shorter period, yet the unit costs to produce the credit (i.e., grading, tree planting, monitoring) remain the same. Also, for those submitting a proposal to provide carbon offsets, it is imperative that the initial capital costs of a forestry project be recouped in the early stages, otherwise these projects would never be considered commercially reasonable. Accordingly, the concept of forward credit sale, where payments are made for credits before carbon is actually sequestered, is important in forestry projects. Such forward crediting should only be allowed if there exist adequate safeguards, such as reserves, insurance and monitoring and verification protocols. Prices may be discounted to account for time value of money and the risk of non-delivery. In this fashion, project developers could get early financing for up-front project costs, without waiting 60 to 100 years.

While many wetland and stream mitigation projects can meet performance standards quickly, the mitigation banking industry has experience with slow growth vegetation as well. The mitigation banking marketplace similarly uses the concept of forward selling for wetland mitigation projects involving slow growth trees. For example, it typically takes some 80 years for newly restored bottomland hardwood systems to reach maturity. Nevertheless, mitigation bankers are given credit over 5 to 10 year period, which covers the time while the project is graded, planted and closely monitored for early vegetation success. This monitoring period serves as a proxy for demonstrating whether these newly restored systems are on a trajectory to achieve success. There are also other protections, such as financial assurances and staggered release of credits, to provide additional safeguards to ensure performance. This provides a balance between ecology and economics. Without the ability to recoup an investment in a reasonable period, there would be very few investors in this significant restoration program.

Conclusion

While there are a number of bills pending in Congress addressing carbon and offset credits, the Association has not take a position on any particular bill. Therefore I am not going to comment on any specific bills.

However, I have been pleased to share with you our experience that certain features are important to creation of environmental credit markets. There need to be consistent standards applied nationwide, and these standards should be predictable in their application. There also should be built-in flexible market mechanisms with an allocation for carbon offset projects. For forestry projects, the concepts of forward selling should be considered, so long as there are adequate safeguards to ensure permanence of the trees. Insurance products supported by the US Government, such as those proposed under the 2007 Farm Bill would be helpful. Moreover, as the mitigation banking marketplace has taught us, having systems that set fee caps or allow fees to be paid in lieu of actual carbon reductions would undermine investment and likely produce inadequate results for carbon reduction.

Thank you for the opportunity to present this information to your joint committees. I would be happy to answer your questions.