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CONSERVATION BANKING

In the U.S., a variety of laws require that any transportation projects that receive federal money compensate in some way for their adverse environmental impacts, in a process known as mitigation.

- Under the Clean Water Act of 1972, agencies that wish to dredge and fill a wetland area must obtain a permit from the Army Corps of Engineers (USACE). After demonstrating avoidance and minimization of impacts, the

species or its habitat require a consultation and permit from the U.S. Fish and Wildlife Service (USFWS). Often, compensatory mitigation is required in order for a permit to be issued.

The traditional form of compensatory mitigation is conducted on a project-by-project basis. First, a project is planned and designed. Then, during the subsequent environmental review and permit phase, regulatory agencies determine the amount of environmental damage that can be expected and suggest actions that can be taken to mitigate that damage. Often, this mitigation is conducted on-site, by setting aside a portion of the land in the project area. For example, if a new highway project fills 25 acres of wetland, the project sponsor might be required to create an additional 25 acres of wetland. Mitigation areas are chosen ad-hoc, rather than as part of a large-scale planning effort. This is not only expensive and time-consuming for the project sponsor; it is rarely effective for the environment.

Transportation officials often divide one large project into many smaller, more manageable phases. While this might make sense from an operational and administrative standpoint, it creates additional problems for mitigation. Applicants conducting mitigation projects often seek the most inexpensive solution that meets the minimum acceptable standards.

Corps may also require permittees to engage in compensatory mitigation efforts.

- Under the Endangered Species Act of 1973, the “taking” of endangered species is prohibited. Federal actions that impact a listed



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However, mitigation on several small projects can be very expensive. When small mitigation sites are used to compensate for small development phases, economies of scale are lost. The cost per acre will increase as size of the mitigation site decreases.

Not only is small-scale mitigation expensive, it is rarely ecologically sound. Small, isolated patches of natural area are vulnerable to stochastic events and can be degraded over time by such things as off-road vehicle traffic, invasion of non-native species and illegal dumping. Numerous small areas are also costly to monitor, which is imperative to successful mitigation.

The shortcomings of traditional, on-site mitigation have led to the concept of mitigation banking, defined in 1995 as “the restoration, creation, enhancement or preservation of wetlands and other aquatic resources for purposes of providing compensatory mitigation in advance of authorized impacts to similar resources at another site.”¹ Under this concept, the mitigation banker assembles a large, contiguous area where new wetlands can be created or degraded ones restored. As the bank creates or restores the wetlands, it earns mitigation credits from the relevant regulatory agencies. Those credits can then be sold at market rates to either public or private developers that face mitigation requirements for their projects. Buying the credits would then relieve the developer of the need to conduct mitigation efforts as a direct part of the project. Banks can be established by private investors who seek to

profit from conserving land, public agencies or non-profits.

The practice of banking, then, is both anticipatory and aggregative. Banks are established in anticipation of future demands for compen-



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satory mitigation, and are designed to consolidate at one site the mitigation for activities that may be widely dispersed.²

Mitigation banking places a dollar value on wetlands — which had long been considered worthless — and thus brings a market approach to conservation. This reverses the phenomenon of property losing its value once designated as conservation land.

Mitigation banks have existed for more than 20 years, and policies within the FHWA have promoted wetland mitigation banking for more than a decade. The majority of early mitigation banks were single-user banks established by state DOTs. In 1992, nearly half of all banks were state highway banks.³

Wetland mitigation banking has not been

without its critics. In both the conservation and scientific communities, opinions range from reserved support to strong opposition. Among the many concerns:

- Federal law requires that project builders follow a particular sequence with regard to environmental damage. First, they must avoid as much damage as possible. Next, they must minimize the damage that can't be avoided. Last, they must mitigate the remaining damage. The establishment of mitigation banks can compromise this process by leading developers and regulators immediately to mitigation, thus avoiding the requirements to first avoid or minimize damage.
- Regulators find it difficult to deny a permit to projects which otherwise pose unacceptable impacts, because they provide existing mitigation.
- Sites are often selected based upon availability and price, rather than appropriate features and a strong probability of success. Mitigation lands should be chosen from identified conservation priority areas, established under a large-scale planning effort.
- By mitigating off-site, the impacted area loses the biological values and hydrologic functions that wetlands provide, and created wetlands cannot replace the equivalent attributes of natural wetlands.⁴

Despite these concerns, the concept of mitigation banking is now being applied to other types of habitat and ecosystems. Much like wetland banking, conservation banking is the practice of proactively preserving large, con-

tiguous and viable tracts of habitat for the purpose of offsetting the adverse impacts of future development projects. Wetlands are but one of several imperiled ecosystems in the U.S. Rates of conversion for coastal areas, grasslands, forests and croplands rival those for wetlands. Without protection, many of our landscapes will be severely degraded within the next century. For example, if today's land consumption trends continue, more than one quarter of the country's coastal acreage will be developed by 2025 — up from 14 percent in 1997.⁵

Currently, the Endangered Species Act provides one of the few federal regulatory protections for non-wetland habitat. The ESA prohibits the "taking" of endangered animals, a prohibition that has been interpreted under some circumstances to include the destruction of habitat.⁶ The FWS can issue permits for limited take, as long as it is incidental to the carrying out of otherwise lawful activities. The permit is conditional upon the permittee mitigating the impacts of the project or the "take."

Wetlands and endangered-species habitat are alike in that both are federally protected. However, the differences between wetlands and other habitat make banking a generally more appropriate tool for habitat conservation.

First, existing wetlands can be protected and remain in their natural state without active management. By contrast, endangered species often need both protected status and active management in order to survive. Without protection and management, the habitat may degrade, the species can be displaced, and the

protection they both enjoyed under the ESA will disappear. Conservation banks are required to remain under active management in perpetuity.

Second, small isolated wetlands can remain functional and continue to provide hydrologic values within watersheds. Traditional on-site wetland mitigation may be preferred to off-site banking if the bank is located outside the watershed where the damage from a road project takes place. In contrast, small, isolated patches of land quickly cease to provide viable habitat for endangered species and thus are poor choices for mitigation.

Finally, wetland policy is based upon a “no net loss” goal. Wetlands are measured by acreage, not function, so it is possible to avoid losses through preservation. Endangered species policy is based upon a more ambitious goal of reducing the likelihood of extinction. Instead of simply maintaining the status quo, recovery requires actively reducing threats and increasing probability of survival.⁷ Success is not measured by saving individuals, but by securing viable populations with adequate habitat and appropriate distribution. If conservation banking is guided by policies that recognize these differences, it may prove to be more successful than wetland banking.⁸ And if conducted in the framework of large-scale conservation plans, banking has the potential to make great strides in protecting our biodiversity.

Just as wetland mitigation banking was pioneered and widely used by transportation agencies, conservation banking could be an espe-



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cially helpful tool for reducing delay in transportation projects and increasing environmental benefits. Road building has significant impacts on natural resources, wetlands and wildlife habitat. While the facilities are linear, the impacts are farther reaching. Here are some examples of state DOTs use of conservation banking to mitigate the impacts of road projects:

COLORADO'S SHORTGRASS PRAIRIE INITIATIVE

America's grasslands and shrublands are best known in the sagebrush steppes of the Rockies and in the prairies of the Midwest and Great Plains. However, the full system stretches from Florida's scrubs to Alaska's tundra. At 683 million acres, grasslands and shrublands comprise

the largest ecosystem type in the U.S., and the most mistreated. At least one-third of the country's rangelands have been converted to urban or agricultural uses since European settlement; 11 million acres between 1982 and 1997 alone.⁹ This reduction in habitat has led to a decline in many species, including grassland

highly vulnerable system. Rather than mitigating for each CDOT project in a piecemeal fashion, this initiative takes a large-scale and more ecologically meaningful approach. CDOT and FHWA will develop land-management plans that meet mitigation requirements, as well as incorporate the support and concerns of private landowners, who are integral to making the effort succeed.

Partners signed a memorandum of agreement which outlines the project's objectives. The Nature Conservancy will acquire some of the targeted lands in order to ensure proper management and oversight and CDOT will seek other bankers to host selected land and easements. In order to receive mitigation credits, the project partners must develop management plans that will benefit the species that are included in the planning efforts.

This mitigation approach serves as a model for addressing environmental concerns well in advance of adverse impacts. Conservation banking can save time and money for the transportation agency, encourage better habitat management and habitat connectivity, and provide an economic incentive to private landowners.

NCDOT'S RED-COCKADED WOODPECKER HABITAT BANK

Old-growth pine forests of the southeast United States are home to hundreds of species specialized to this unique ecosystem, including the red-cockaded woodpecker (RCW). The RCW (*Picoides borealis*) hunts insects on tree trunks



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birds, the prairie dog, burrowing owl, swift fox, and ferruginous hawk.

In order to preserve large tracts of prairie, the Colorado Department of Transportation (CDOT), Federal Highway Administration, U.S. Fish and Wildlife Service (USFWS), Colorado Division of Wildlife (DOW), and The Nature Conservancy of Colorado (TNC) developed the Shortgrass Prairie Initiative. Anticipating further impacts caused by the 20-year state transportation plan, the initiative seeks to mitigate in advance of expected impacts and protect a

and creates nests within living pines. These nests are occupied for several generations and are used by many other wild creatures, such as chickadees, flying squirrels, and raccoons.

The RCW, however, has had to compete for these same century-old trees with timber and paper-pulp industries, which have clearcut the forests and decimated the species. As a result, the RCW was added to the endangered species list in 1970.¹⁰ Protection of the scarce remaining habitat is essential to the existence of this and many other species.

The Palmetto Pear Tree Preserve was established in a partnership between the North Carolina Department of Transportation (NCDOT), the U.S. Fish and Wildlife Service (USFWS), and The Conservation Fund (TCF). The preserve encompasses some 9,732 acres of the Coastal Plain of North Carolina and is managed to provide suitable habitat for the RCW.

Pru Timber had intended to use the land for

commercial logging, which would have jeopardized the clusters of RCW observed within its boundaries. USFWS was concerned not only about the possible effects of logging, but of the possibility that without active management, the property would become inhospitable to the woodpecker, and would soon lose protection under the ESA.

Under advisement of USFWS, NCDOT purchased the land from Pru Timber for approximately \$16.3 million. The Conservation Fund, a non-profit group, will manage the site as a conservation bank. Credits may be used only when a state highway project has an unavoidable impact on the woodpecker and the NCDOT can demonstrate to the USFWS that there are no alternatives for avoiding or minimizing that impact. The credit ratio will range between 1:1 and 3:1 and will be decided on a case-by-case basis. For any given project, the USFWS can suggest that mitigation via the

IN LIEU FEE MITIGATION

“In lieu fee” (ILF) mitigation is another mechanism for securing compensation for impacts to wetlands under the Clean Water Act (CWA) Section 404 permit program. This arrangement allows for a developer to pay a fee to a natural resource agency or private conservation organization to implement the mitigation that the developer would otherwise be required to carry out itself. Fees are pooled from multiple permit recipients and are used to implement consolidated mitigation projects conducted away from the areas of the permitted impacts.

To date, the Corps has established 72 in-lieu-fee arrangements in 19 Corps districts across the U.S.¹² However, concerns have been raised about whether fees are being spent in a timely manner and whether the Corps is providing adequate monitoring and oversight of the mitigation projects. Reviews have found that ILF arrangements inadequately mitigate adverse impacts to wetlands. In response, federal agencies in October, 2000, issued guidelines for the use of ILF mitigation. In some cases, in lieu fees have the potential to be an effective mitigation tool that benefits the environment and provides developers flexibility.

bank is not the best means of mitigation. Although the agreement does not exclude the sale of credits to third parties, all or most of the credits will be used by NCDOT.

CALIFORNIA

Many states have enacted laws or stated policies for wetland mitigation banking, but only California has done so for conservation banking. In April, 1995, then-governor Pete Wilson established California's Official Policy on Conservation Banks. Taking the many environmental laws in California that require mitigation, including the California Environmental Quality Act, the California Coastal Act and the California Endangered Species Act, the policy provides guidance on banking for wetlands, endangered species habitat, and "environmentally sensitive habitat areas" such as mudflats and sub-tidal areas. (See Appendix C for California's Conservation Banking policy.)

California also employs a system of establishing expected management costs and the size of endowments needed to meet them that is widely used by both public agencies and nonprofit land trusts. Developed by the Center for Natural Lands Management, the system is known as the Property Analysis Record (PAR). The PAR is a computerized database methodology that helps land managers calculate the costs of management for a specific site. The PAR generates a concise report that serves as a well-substantiated basis for long-term funding, including endowments.¹¹

CONCLUSION

If current trends in land conversion and road building continue, conflict between roads and wildlife will continue to increase. The need to mitigate the impacts of roads will increase exponentially as the amount of suitable habitat is further fragmented and degraded. The price of mitigation will increase accordingly as natural areas become scarcer and more expensive. State and local governments will need to make wise use of remaining conservation areas as well as mitigation dollars.

While growth may be inevitable, loss of biodiversity is not. When considered simultaneously, both growth and biodiversity can be accommodated. Through a combination of comprehensive large-scale planning and a coordinated mitigation strategy, states and communities can reduce the amount of conflict between development and conservation aims.

Conservation banking can be used to solve problems with conventional mitigation, making it more cost effective by reducing the cost and increasing the ecological effectiveness. If guided by well-conceived policies, conservation banking also has the potential to address concerns with wetland mitigation banking and to contribute to endangered species conservation efforts. Using conservation banking, the transportation sector can make great strides in improving project delivery and controlling costs, while increasing the effectiveness of mitigation.

RECOMMENDATIONS

- Use conservation banking when avoiding and minimizing impacts is impossible and when consolidating mitigation is biologically preferable to onsite mitigation.
- Create a revolving fund from which transportation officials can make interest-free withdrawals to acquire land that can be banked for mitigation purposes. Money would be reimbursed to the fund from project funding.
- Use existing conservation plans to determine the most valuable lands for banking. These include statewide comprehensive wildlife conservation plans, regional conservation plans, endangered species recovery plans and critical habitat designations.
- Site conservation banks strategically, with a particular conservation objective in mind.
- When establishing conservation banking in your state, develop a statewide MOU among all resource and action agencies involved.

RESOURCES

Bean, Michael and Dwyer, Lynn. 2000. *Mitigation Banking as an Endangered Species Conservation Tool*. Environmental Law Reporter 30: 10537-10556.

General Accounting Office. 2001. Wetlands Protection: assessment needed to determine effectiveness of In-Lieu-Fee Mitigation.

The National Academies, 2001. **Reforms needed in wetlands regulatory programs, June 26, 2001.** <http://www4.nas.edu/news.nsf/>

National Research Council (NRC), 2001. *Compensating for Wetland Losses under the Clean Water Act*: National Academy Press: Washington, D.C.

Environmental Law Institute. 2002. *Banks and Fees: The Status of Off-Site Wetland Mitigation in the United States*: Washington, D.C.

California's Policy on Mitigation Banking <http://ceres.ca.gov/wetlands/policies/mitbank.html>

Corps Guidelines: Habitat Mitigation and Monitoring Proposal Guidelines <http://www.spk.usace.army.mil/cespk-co/regulatory/habmitmon.html>

Sacramento Fish and Wildlife Office: Guide to Conservation Banks http://sacramento.fws.gov/es/cons_bank.htm

CONSERVATION BANKING AND TEA-21

TEA-21 contains a preference clause for banking over all other forms of mitigation. Under §103 Federal-Aid Systems, “With respect to participation in a natural habitat or wetland mitigation effort related to a project funded under this title that has an impact that occurs within the service area of a mitigation bank, preference shall be given, to the maximum extent practicable, to the use of the mitigation bank if the bank contains sufficient available credits to offset the impact and the bank is approved in accordance with the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (60 Fed. Reg. 58605 (November 28, 1995)) or other applicable Federal law (including regulations).” The final rule made mitigation for wetlands and natural habitat eligible for Federal-aid transportation funding, to include both current **and past** highway projects.¹³

OPPORTUNITIES FOR REAUTHORIZATION

- Create a federal revolving fund from which state DOTs can make interest-free withdrawals to acquire mitigation lands in anticipation of future project impacts. The fund would be reimbursed from project funding.
- Encourage states to use comprehensive wildlife conservation plans to identify mitigation opportunities for long-range transportation plans.
- Establish a small business loan program to encourage entrepreneurs in conservation banking.
- Amend the banking preference to allow maximum flexibility for the most effective mitigation.

1. Federal Register: November 28, 1995 (Volume 60, Number 228). Page 58605-58614.
2. Bean, Michael and Dwyer, Lynn. 2000. Mitigation Banking as an Endangered Species Conservation Tool. Environmental Law Reporter 30: 10537-10556.
3. Zinn, Jeffrey. Wetland Mitigation Banking: Status and Prospects. Washington, DC. Congressional Research Service, 1997
4. The National Academies, 2001. Reforms needed in wetlands regulatory programs, June 26, 2001.
5. Dana Beach. Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States. Pew Oceans Commission. 2002
6. Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995)
7. Section 7 (a)(1) of the ESA requires all federal agencies to do their part and “utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act.”
8. At publication, USFWS had drafted guidance on Conservation Banking.
9. The State of the Nation’s Ecosystems. The Heinz Center. Cambridge University Press. 2002
10. <http://endangered.fws.gov/wildlife.html#Species>
11. Bean, Michael and Dwyer, Lynn. 2000. Mitigation Banking as an Endangered Species Conservation Tool. Environmental Law Reporter 30: 10537-10556.
12. Environmental Law Institute. 2002. Banks and Fees: The Status of Off-Site Wetland Mitigation in the United States: Washington, D.C.
13. Federal Register, Volume 65, No. 251. December 29, 2000. Page 82913. The final rule established the preference for wetland mitigation banking, broadened the eligibility for Federal highway funds to include mitigation for current **or past** highway projects, and to mitigate impacts to natural habitat.