Land Trust Training Course:
Taking on Long-Term Stewardship Responsibilities of Wetland Mitigation Sites

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Advance Materials

The Environmental Law Institute
2000 L Street, NW, Suite 620
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Land Trust Training Course:
Taking on Long-Term Stewardship Responsibilities of Wetland Mitigation Sites

Advance Materials: Table of Contents

Federal Guidance and Regulation

Expert Guidance and Commentary

**These articles will be the topic of a discussion on Day Three of the training. Please record any questions you have while reading to ask our speakers during the discussion.

United States Environmental Protection Agency

Wetlands Compensatory Mitigation

The objective of the Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Toward achievement of this goal, the CWA prohibits the discharge of dredged or fill material into waters of the United States unless a permit issued by the Army Corps of Engineers or approved State under CWA Section 404 authorizes such a discharge.

When there is a proposed discharge, the impact of the discharge must be avoided and minimized to the extent practicable. For unavoidable impacts, compensatory mitigation is required to replace the loss of wetland functions in the watershed. Compensatory mitigation is defined as, "the restoration, creation, enhancement, or in exceptional cases preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable impacts."

Source: *Federal Guidance for the Establishment, Use and Operation of Mitigation Banks.* 60 Fed. Reg. 228, 58605-58614. 1995

Mitigation Sequencing Guidelines

In 1990, the Environmental Protection Agency (EPA) and the Department of Army entered into a Memorandum of Agreement (MOA) to clarify the type and level of mitigation required under Section 404 regulations. The agencies established a three-part process, known as mitigation sequencing to help guide mitigation decisions:

1. Avoid - Adverse impacts are to be avoided and no discharge shall be permitted if there is a practicable alternative with less adverse impact.

2. Minimize - If impacts cannot be avoided, appropriate and practicable steps to minimze adverse impacts must be taken.

3. Compensate - Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain.

Photo by James Valentine

The American Crocodiles, a Federal Endangered Species, makes its home in the Everglades Mitigation Bank.

Methods of Compensatory Mitigation:

Proposed projects that will cause adverse impacts to wetlands and other aquatic resources typically require some type of compensatory mitigation. The Army Corps of Engineers (or approved state authority) is responsible for determining the appropriate form and amount of compensatory mitigation required. Some types of mitigation are wetland establishment, restoration, enhancement and protection/maintenance.

- **Establishment (Creation):** The development of a wetland or other aquatic resource through manipulation of the physical, chemical or biological characteristics where a wetland did not previously exist. Successful creation results in a net gain in wetland acres.

- **Restoration:** Re-establishment or rehabililitation of a wetland or other aquatic resouce with the goal of returning natural or historic functions and characteristics to a former or degraded wetland. Restoration may result in a gain in wetland function and/or wetland acres.

- **Enhancement:** Activities conducted within existing wetlands that heighten, intensify, or improve one or more wetland functions. Enhancement is often undertaken for a specific purpose such as to improve water quality, flood water rention or wildlife habitat. Enhancement results in a change in wetland function(s), but does not result in a gain in wetland acres.

- **Protection/Maintenance (Preservation):** The protection of ecologically important wetlands or other aquatic resources into perpetuity through the implementation of appropriate legal and physical mechanisms (i.e. conservation easements, title transfers). Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the aquatic ecosystem. Preservation does not result in a net gain of wetland acres and should only be used in exceptional circumstances.

Source: US Army Corps of Engineers Regulatory Guidance Letter No. 02-2, December 24, 2002

Mechanisms for Compensatory Mitigation:

Compensatory mitigation for unavoidable wetland impacts can be located on or adjacent to the development site (on-site mitigation) or when environmentally preferable can be performed at another location (off-site mitigation). Mitigation Banking and In-Lieu Fee Programs are typically off-site mitigation, while project-specific mitigation can be located on- or off-site.

- **Project Specific Mitigation:** Restoration, creation, enhancement and, in exceptional circumstances, preservation of wetlands undertaken by a permittee in order to compensate for wetland impacts resulting from a specific project. The permittee performs the mitigation after the permit is issued and is ultimately responsible for implementation and success of the mitigation.
- **Mitigation Banking:** A wetlands mitigation bank is a wetland area that has been restored, created, enhanced or (in exceptional circumstances) preserved, which is then set aside to compensate for future conversions of wetlands for development activities. The value of a bank is determined by quantifying the wetland functions restored or created in terms of "credits." Permittees, upon approval of regulatory agencies, can acquire these credits to meet their requirements for compensatory mitigation. The bank sponsor is ultimately responsible for success of the project.
- **In-Lieu Fee Mitigation:** Mitigation that occurs where a permittee provides funds to an in-lieu-fee sponsor, generally a public agency or non-profit organization, instead of completing project-specific mitigation or purchasing credits from a mitigation bank. The Fee Adminstrator is responsible for the the success of the mitigation.

EPA-843-F-03-002

Compensatory Mitigation Resources

Federal Wetlands Mitigation Policy Guidance

Available at: www.epa.gov/owow/wetlands/guidance

Memorandum Of Agreement Between The Department of the Army and The Environmental Protection Agency. 1990. Contains the policy and procedures to be used in determining the type and level of mitigation necessary to demonstrate compliance with the Section 404(b)(1) guidelines.

Federal Guidance for the Establishment, Use and Operation of Mitigation Banks. Interagency guidance issued in 1995 to clarify the use of mitigation banks to compensate for authorized impacts to aquatic resources.

Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Interagency guidance issued in 2000 to clarify the agencies policy on the manner in which in-lieu-fee mitigation may be used to satisfy compensatory mitigation requirements.

National Wetlands Mitigation Action Plan. Interagency guidance issued in 2002 to further achievement of the national goal of achieving no net loss of wetlands. Includes a series of actions to improve the ecological performance and results of wetlands compensatory mitigation under the Clean Water Act and related programs.

Wetlands Mitigation Regulatory Guidance Letter (RGL). Guidance to Corps field staff on Compensatory Mitigation Projects (issued in 2002). This RGL supports the national policy for "no overall net loss" of wetlands, clarifies mitigation requirements for authorized impacts to aquatic resources and reinforces the Corps commitment to protect waters of the United States.

Recent Evaluations of Wetlands Compensatory Mitigation

BANKS AND FEES: The Status of Off-Site Wetland Mitigation in the United States. 2002. Environmental Law Institute, Washington, D.C. Available at www.eli.org

Stakeholder Forum on Federal Wetlands Mitigation. 2001-2003. Environmental Law Institute, Washington, D.C. Available at www.eli.org

National Academy of Sciences. *Compensating for Wetland Losses Under the Clean Water Act.* 2001. National Academy Press, Washington, D.C. Available at www.nap.edu

Wetlands Protection: Assessments Needed to Determine Effectiveness of In-Lieu-Fee Mitigation. 2001. General Accouting Office Report GAO-01-325. Available at www.gao.gov

Federal Guidance for the Establishment, Use and Operation of Mitigation Banks

NOTICE
Federal Register: November 28, 1995 (Volume 60, Number 228)
Page 58605-58614

I. Introduction

A. Purpose and Scope of Guidance

This document provides policy guidance for the establishment, use and operation of mitigation banks for the purpose of providing compensatory mitigation for authorized adverse impacts to wetlands and other aquatic resources. This guidance is provided expressly to assist Federal personnel, bank sponsors, and others in meeting the requirements of Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act, the wetland conservation provisions of the Food Security Act (FS) (i.e., ``Swampbuster''), and other applicable Federal statutes and regulations. The policies and procedures discussed herein are consistent with current requirements of the Section 10/404 regulatory program and ``Swampbuster'' provisions and are intended only to clarify the applicability of existing requirements to mitigation banking.

The policies and procedures discussed herein are applicable to the establishment, use and operation of public mitigation banks, as well as privately-sponsored mitigation banks, including third party banks (e.g. entrepreneurial banks).

B. Background

For purposes of this guidance, mitigation banking means the restoration, creation, enhancement and, in exceptional circumstances, preservation of wetlands and/or other aquatic resources expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar resources.

The objective of a mitigation bank is to provide for the replacement of the chemical, physical and biological functions of wetlands and other aquatic resources which are lost as a result of authorized impacts. Using appropriate methods, the newly established functions are quantified as mitigation ``credits'' which are available for use by the bank sponsor or by other parties to compensate for adverse impacts (i.e., ``debits''). Consistent with mitigation policies established under the Council on Environmental Quality Implementing Regulations (CEQ regulations) (40 CFR Part 1508.20), and the Section 404(b)(1) Guidelines (Guidelines) (40 CFR Part 230), the use of credits may only be authorized for purposes of complying with Section 10/404 when adverse impacts are unavoidable. In addition, for both the Section

10/404 and ``Swampbuster'' programs, credits may only be authorized when on-site compensation is either not practicable or use of a mitigation bank is environmentally preferable to on-site compensation. Prospective bank sponsors should not construe or anticipate participation in the establishment of a mitigation bank as ultimate authorization for specific projects, as excepting such projects from any applicable requirements, or as preauthorizing the use of credits from that bank for any particular project.

Mitigation banks provide greater flexibility to applicants needing to comply with mitigation requirements and can have several advantages over individual mitigation projects, some of which are listed below:

1. It may be more advantageous for maintaining the integrity of the aquatic ecosystem to consolidate compensatory mitigation into a single large parcel or contiguous parcels when ecologically appropriate;

2. Establishment of a mitigation bank can bring together financial resources, planning and scientific expertise not practicable to many project-specific compensatory mitigation proposals. This consolidation of resources can increase the potential for the establishment and long- term management of successful mitigation that maximizes opportunities for contributing to biodiversity and/or watershed function;

3. Use of mitigation banks may reduce permit processing times and provide more cost-effective compensatory mitigation opportunities for projects that qualify;

4. Compensatory mitigation is typically implemented and functioning in advance of project impacts, thereby reducing temporal losses of aquatic functions and uncertainty over whether the mitigation will be successful in offsetting project impacts;

5. Consolidation of compensatory mitigation within a mitigation bank increases the efficiency of limited agency resources in the review and compliance monitoring of mitigation projects, and thus improves the reliability of efforts to restore, create or enhance wetlands for mitigation purposes.

6. The existence of mitigation banks can contribute towards attainment of the goal for no overall net loss of the Nation's wetlands by providing opportunities to compensate for authorized impacts when mitigation might not otherwise be appropriate or practicable.

II. Policy Considerations

The following policy considerations provide general guidance for the establishment, use and operation of mitigation banks. It is the agencies' intent that this guidance be applied to mitigation bank proposals submitted for approval on or after the effective date of this guidance and to those in early stages of planning or development. It is not intended that this policy be retroactive for mitigation banks that have already received agency approval. While it is recognized that individual mitigation banking proposals may vary, it is the intent of this guidance that the fundamental precepts be applicable to future mitigation banks.

For the purposes of Section 10/104, and consistent with the CEQ regulations, the Guidelines, and the Memorandum of Agreement Between the Environmental Protection Agency (EPA) and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines, mitigation means sequentially avoiding impacts, minimizing impacts, and compensating for remaining unavoidable impacts. Compensatory mitigation,

under Section 10/404, is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts. A site where wetlands and/or other aquatic resources are restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar resources is a mitigation bank.

A. Authorities

This guidance is established in accordance with the following statutes, regulations, and policies. It is intended to clarify provisions within these existing authorities and does to establish any new requirements.

1. Clean Water Act Section 404 (33 U.S.C. 1344).

2. Rivers and Harbors Act of 1899 Section 10 (33 U.S.C. 403 et seq.)

3. Environmental Protection Agency, Section 404(b)(1) Guidelines (40 CFR Part 230). Guidelines for Specification of Disposal Sites for Dredged or Fill Material.

4. Department of the Army, Section 404 Permit Regulations (33 CFR Parts 320-330). Policies for evaluating permit applications to discharge dredged or fill material.

5. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines (February 6, 1990).

6. Title XII Food Security Act of 1985 as amended by the Food, Agriculture, Conservation and Trade Act of 1990 (16 U.S.C. 3801 et seq.).

7. National Environmental Policy Act (42 U.S.C. 4321 et seq.), including the Council on Environmental Quality's implementing regulations (40 CFR Parts 1500-1508).

8. Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

9. Fish and Wildlife Service Mitigation Policy (46 FR pages 7644- 7663, 1981).

10. Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

11. National Marine Fisheries Service Habitat Conservation Policy (48 FR pages 53142-53147, 1983).

The policies set out in this document are not final agency action, but are intended solely as guidance. The guidance is not intended, nor can it be relied upon, to create any rights

enforceable by any party in litigation with the United States. This guidance does not establish or affect legal rights or obligations, establish a binding norm on any party and it is not finally determinative of the issues addressed. Any regulatory decisions made by the agencies in any particular matter addressed by this guidance will be made by applying the governing law and regulations to the relevant facts.

B. Planning Considerations

1. Goal Setting

The overall goal of a mitigation bank is to provide economically efficient and flexible mitigation opportunities, while fully compensating for wetland and other aquatic resource losses in a manner that contributes to the long-term ecological functioning of the watershed within which the bank is to be located. The goal will include the need to replace essential aquatic functions which are anticipated to be lost through authorized activities within the bank's service area. In some cases, banks may also be used to address other resource objectives that have been identified in a watershed management plan or other resource assessment. It is desirable to set the particular objectives for a mitigation bank (i.e., the type and character of wetlands and/or aquatic resources to be established) in advance of site selection. The goal and objectives should be driven by the anticipated mitigation need; the site selected should support achieving the goal and objectives.

2. Site Selection

The agencies will give careful consideration to the ecological suitability of a site for achieving the goal and objectives of a bank, i.e., that it posses the physical, chemical and biological characteristics to support establishment of the desired aquatic resources and functions. Size and location of the site relative to other ecological features, hydrologic sources (including the availability of water rights), and compatibility with adjacent land uses and watershed management plans are important factors for consideration. It also is important that ecologically significant aquatic or upland resources (e.g., shallow sub-tidal habitat, mature forests), cultural sites, or habitat for Federally or State-listed threatened and endangered species are not compromised in the process of establishing a bank. Other significant factors for consideration include, but are not limited to, development trends (i.e., anticipated land use changes), habitat status and trends, local or regional goals for the restoration or protection of particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for species of concern), water quality and floodplain management goals, and the relative potential for chemical contamination of the wetlands and/ or other aquatic resources.

Banks may be sited on public or private lands. Cooperative arrangements between public and private entities to use public lands for mitigation banks may be acceptable. In some circumstances, it may be appropriate to site banks on Federal, state, tribal or locally-owned resource management areas (e.g., wildlife management areas, national or state forests, public parks, recreation areas). The siting of banks on such lands may be acceptable if the internal policies of the public agency allow use of its land for such purposes, and the public agency grants approval. Mitigation credits generated by banks of this nature should be based solely on those values in the bank that are supplemental to the public program(s) already planned or in place, that is, baseline values represented by existing or already planned public programs, including preservation value, should not be counted toward bank credits.

Similarly, Federally-funded wetland conservation projects undertaken via separate authority and for other purposes, such as the Wetlands Reserve Program, Farmer's Home Administration fee title transfers or conservation easements, and Partners for Wildlife Program, cannot be used for the purpose of generating credits within a mitigation bank. However, mitigation credit may be given for activities undertaken in conjunction with, but supplemental to, such programs in order to maximize the overall ecological benefit of the conservation project.

3. Technical Feasibility

Mitigation banks should be planned and designed to be self- sustaining over time to the extent possible. The techniques for establishing wetlands and/or other aquatic

resources must be carefully selected, since this science is constantly evolving. The restoration of historic or substantially-degraded wetlands and/or other aquatic resources (e.g., prior-converted cropland, farmed wetlands) utilizing proven techniques increases the likelihood of success and typically does not result in the loss of other valuable resources. Thus, restoration should be the first option considered when siting a bank. Because of the difficulty in establishing the correct hydrologic conditions associated with many creation projects and the tradeoff in wetland functions involved with certain enhancement activities, these methods should only be considered where there are adequate assurances to ensure success and that the project will result in an overall environmental benefit.

In general, banks which involve complex hydraulic engineering features and/or questionable water sources (e.g., pumped) are most costly to develop, operate and maintain, and have a higher risk of failure than banks designed to function with little or no human intervention. The former situations should only be considered where there are adequate assurances to ensure success. This guidance recognizes that in some circumstances wetlands must be actively managed to ensure their viability and sustainability. Furthermore, long-term maintenance requirements may be necessary and appropriate in some cases (e.g., to maintain fire-dependent plant communities in the absence of natural fire; to control invasive exotic plant species).

Proposed mitigation techniques should be well-understood and reliable. When uncertainties surrounding the technical feasibility of a proposed mitigation technique exist, appropriate arrangements (e.g., financial assurances, contingency plans, additional monitoring requirements) should be in place to increase the likelihood of success. Such arrangements may be phased-out or reduced once the attainment of prescribed performance standards is demonstrated.

4. Role of Preservation

Credit may be given when existing wetlands and/or other aquatic resources are preserved in conjunction with restoration, creation or enhancement activities, and when it is demonstrated that the preservation will augment the functions of the restored, created or enhanced aquatic resource. Such augmentation may be reflected in the total number of credits available from the bank.

In addition, the preservation of existing wetlands and/or other aquatic resources in perpetuity may be authorized as the sole basis for generating credits in mitigation banks only in exceptional circumstances, consistent with existing regulations, policies and guidance. Under such circumstances, preservation may be accomplished through the implementation of appropriate legal mechanisms (e.g., transfer of deed, deed restrictions, conservation easement) to protect wetlands and/or other aquatic resources, accompanied by implementation of appropriate changes in land use or other physical changes as necessary (e.g., installation of restrictive fencing).

Determining whether preservation is appropriate as the sole basis for generating credits at a mitigation bank requires careful judgment regarding a number of factors. Consideration must be given to whether wetlands and/or other aquatic resources proposed for preservation (1) perform physical or biological functions, the preservation of which is important to the region in which the aquatic resources are located, and (2) are under demonstrable threat of loss or substantial degradation due to human activities that might not otherwise be expected to be restricted. The existence of a demonstrable threat will be based on clear evidence of destructive land use changes which are consistent with local and regional land use trends and are not the consequence of actions under the control of the bank sponsor. Wetlands and other aquatic resources restored under the Conservation Reserve Program or similar programs requiring only temporary conservation easements may be eligible for banking credit upon termination of the original

easement if the wetlands are provided permanent protection and it would otherwise be expected that the resources would be converted upon termination of the easement. The number of mitigation credits available from a bank that is based solely on preservation should be based on the functions that would otherwise be lost or degraded if the aquatic resources were not preserved, and the timing of such loss or degradation. As such, compensation for aquatic resource impacts will typically require a greater number of acres from a preservation bank than from a bank which is based on restoration, creation or enhancement.

5. Inclusion of Upland Areas

Credit may be given for the inclusion of upland areas occurring within a bank only to the degree that such features increase the overall ecological functioning of the bank. If such features are included as part of a bank, it is important that they receive the same protected status as the rest of the bank and be subject to the same operational procedures and requirements. The presence of upland areas may increase the per-unit value of the aquatic habitat in the bank. Alternatively, limited credit may be given to upland areas protected within the bank to reflect the functions inherently provided by such areas (e.g., nutrient and sediment filtration of stormwater runoff, wildlife habitat diversity) which directly enhance or maintain the integrity of the aquatic ecosystem and that might otherwise be subject to threat of loss or degradation. An appropriate functional assessment methodology should be used to determine the manner and extent to which such features augment the functions of restored, created or enhanced wetlands and/or other aquatic resources.

6. Mitigation Banking and Watershed Planning

Mitigation banks should be planned and developed to address the specific resource needs of a particular watershed. Furthermore, decisions regarding the location, type of wetlands and/or other aquatic resources to be established, and proposed uses of a mitigation bank are most appropriately made within the context of a comprehensive watershed plan. Such watershed planning efforts often identify categories of activities having minimal adverse effects on the aquatic ecosystem and that, therefore, could be authorized under a general permit. In order to reduce the potential cumulative effects of such activities, it may be appropriate to offset these types of impacts through the use of a mitigation bank established in conjunction with a watershed plan.

C. Establishment of Mitigation Banks

1. Prospectus

Prospective bank sponsors should first submit a prospectus to the Army Corps of Engineers (Corps) or Natural Resources Conservation Service (NRCS)***1*** to initiate the planning and review process by the appropriate agencies. Prior to submitting a prospectus, bank sponsors are encouraged to discuss their proposal with the appropriate agencies (e.g., pre-application coordination).

1 The Corps will typically serve as the lead agency for the establishment of mitigation banks. Bank sponsors proposing establishment of mitigation banks solely for the purpose of complying with the ``Swampbuster'' provisions of FSA should submit their prospectus to the NRCS.

It is the intent of the agencies to provide practical comments to the bank sponsors regarding the general need for and technical feasibility of proposed banks.

Therefore, bank sponsors are encouraged to include in the prospectus sufficient information concerning the objectives for the bank and how it will be established and operated to allow the agencies to provide such feedback. Formal agency involvement and review is initiated with submittal of a prospectus.

2. Mitigation Banking Instruments

Information provided in the prospectus will serve as the basis for establishing the mitigation banking instrument. All mitigation banks need to have a banking instrument as documentation of agency concurrence on the objectives and administration of the bank. The banking instrument should describe in detail the physical and legal characteristics of the bank, and how the bank will be established and operated. For regional banking programs sponsored by a single entity (e.g., a state transportation agency), it may be appropriate to establish an ``umbrella'' instrument for the establishment and operation of multiple bank sites. In such circumstances, the need for supplemental site-specific information (e.g., individual site plans) should be addressed in the banking instrument. The banking instrument will be signed by the bank sponsor and the concurring regulatory and resource agencies represented on the Mitigation Bank Review Team (section II.C.2). The following information should be addressed, as appropriate, within the banking instrument:

a. Bank goals and objectives;

b. Ownership of bank lands;

c. Bank size and classes of wetlands and/or other aquatic resources proposed for inclusion in the bank, including a site plan and specifications;

d. Description of baseline conditions at the bank site;

e. Geographic service area;

f. Wetland classes or other aquatic resource impacts suitable for compensation;

g. Methods for determining credits and debits;

h. accounting procedures;

i. Performance standards for determining credit availability and bank success;

j. Reporting protocols and monitoring plan;

k. Contingency and remedial actions and responsibilities;

l. Financial assurances;

m. Compensation ratios;

n. Provisions for long-term management and maintenance.

The terms and conditions of the banking instrument may be amended, in accordance with the procedures used to establish the instrument and subject to agreement by the signatories.

In cases where initial establishment of the mitigation bank involves a discharge into

waters of the United States requiring Section 10/404 authorization, the banking instrument will be made part of a Department of the Army permit for that discharge. Submittal of an individual permit application should be accompanied by a sufficiently- detailed prospectus to allow for concurrent processing of each. Preparation of a banking instrument, however, should not alter the normal permit evaluation process timeframes. A bank sponsor may proceed with activities for the construction of a bank subsequent to receiving the Department of the Army authorization. It should be noted, however, that a bank sponsor who proceeds in the absence of a banking instrument does so at his/her own risk.

In cases where the mitigation bank is established pursuant to the FSA, the banking instrument will be included in the plan developed or approved by NRCS and the Fish and Wildlife Service (FWS).

3. Agency Roles and Coordination

Collectively, the signatory agencies to the banking instrument will comprise the Mitigation Bank Review Team (MBRT). Representatives from the Corps, EPA, FWS, National Marine Fisheries Service (NMFS) and NRCS, as appropriate given the projected use for the bank, should typically comprise the MBRT. In addition, it is appropriate for representatives from state, tribal and local regulatory and resource agencies to participate where an agency has authorities and/or mandates directly affecting or affected by the establishment, use or operation of a bank. No agency is required to sign a banking instrument; however, in signing a banking instrument, an agency agrees to the terms of that instrument.

The Corps will serve as Chair of the MBRT, except in cases where the bank is proposed solely for the purpose of complying with the FSA, in which case NRCS will be the MBRT Chair. In addition, where a bank is proposed to satisfy the requirements of another Federal, state, tribal or local program, it may be appropriate for the administering agency to serve as co-Chair of the MBRT.

The primary role of the MBRT is to facilitate the establishment of mitigation banks through the development of mitigation banking instruments. Because of the different authorities and responsibilities of each agency represented on the MBRT, there is a benefit in achieving agreement on the banking instrument. For this reason, the MBRT will strive to obtain consensus on its actions. The Chair of the MBRT will have the responsibility for making final decisions regarding the terms and conditions of the banking instrument where consensus cannot otherwise be reached within a reasonable timeframe (e.g., 90 days from the date of submittal of a complete prospectus). The MBRT will review and seek consensus on the banking instrument and final plans for the restoration, creation, enhancement, and/or preservation of wetlands and other aquatic resources.

Consistent with its authorities under Section 10/404, the Corps is responsible for authorizing use of a particular mitigation bank on a project-specific basis and determining the number and availability of credits required to compensate for proposed impacts in accordance with the terms of the banking instrument. Decisions rendered by the Corps must fully consider review agency comments submitted as part of the permit evaluation process. Similarly, the NRCS, in consultation with the FWS, will make the final decision pertaining to the withdrawal of credits from banks as appropriate mitigation pursuant to FSA.

4. Role of the Bank Sponsor

The bank sponsor is responsible for the preparation of the banking instrument in consultation with the MBRT. The bank sponsor should, therefore, have sufficient opportunity to discuss the content of the banking instrument with the MBRT. The bank sponsor is also responsible for the overall operation and management of the

bank in accordance with the terms of the banking instrument, including the preparation and distribution of monitoring reports and accounting statements/ledger, as necessary.

5. Public Review and Comment

The public should be notified of and have an opportunity to comment on all bank proposals. For banks which require authorization under an individual Section 10/404 permit or a state, tribal or local program that involves a similar public notice and comment process, this condition will typically be satisfied through such standard procedures. For other proposals, the Corps or NRCS, upon receipt of a complete banking prospectus, should provide notification of the availability of the prospectus for a minimum 21-day public comment period. Notification procedures will be similar to those used by the Corps in the standard permit review process. Copies of all public comments received will be distributed to the other members of the MBRT and the bank sponsor for full consideration in the development of the final banking instrument.

6. Dispute Resolution Procedure

The MBRT will work to reach consensus on its actions in accordance with this guidance. It is anticipated that all issues will be resolved by the MBRT in this manner.

a. Development of the Banking Instrument

During the development of the banking instrument, if any agency representative considers that a particular decision raises concern regarding the application of existing policy or procedures, an agency may request, through written notification, that the issue be reviewed by the Corps District Engineer, or NRCS State Conservationist, as appropriate. Said notification will describe the issue in sufficient detail and provide recommendations for resolution. Within 20 days, the District Engineer or State Conservationist (as appropriate) will consult with the notifying agency(ies) and will resolve the issue. The resolution will be forwarded to the other MBRT member agencies. The bank sponsor may also request the District Engineer or State Conservationist review actions taken to develop the banking instrument if the sponsor believes that inadequate progress has been made on the instrument by the MBRT.

b. Application of the Banking Instrument

As previously stated, the Corps and NRCS are responsible for making final decisions on a project-specific basis regarding the use of a mitigation bank for purposes of Section 10/404 and FSA, respectively. In the event an agency on the MBRT is concerned that a proposed use may be inconsistent with the terms of the banking instrument, that agency may raise the issue to the attention of the Corps or NRCS through the permit evaluaiton process. In order to facilitate timely and effective consideration of agency comments, the Corps or NRCS, as appropriate, will advise the MBRT agencies of a proposed use of a bank. The Corps will fully consider comments provided by the review agencies regarding mitigation as part of the permit evaluation process. The NCRS will consult with FWA is making its decisions pertaining to mitigation.

If, in the view of an agency on the MBRT, an issued permit or series of permits reflects a pattern of concern regarding the application of the terms of the banking instrument, that agency may initiate review of the concern by the full MBRT through written notification to the MBRT Chair. The MBRT Chair will convene a meeting of the MBRT, or initiate another appropriate forum for communication, typically within

20 days of receipt of notification, to resolve concerns. Any such effort to address concerns regarding the application of a banking instrument will not delay any decision pending before the authorizing agency (e.g., Corps or NRCS).

D. Criteria for Use of a Mitigation Bank

1. Project Applicability

All activities regulated under Section 10/404 may be eligible to use a mitigation bank as compensation for unavoidable impacts to wetlands and/or other aquatic resources. Mitigation banks established for FSA purposes may be debited only in accordance with the mitigation and replacement provisions of 7 CFR Part 12.

Credits from mitigation banks may also be used to compensate for environmental impacts authorized under other programs (e.g., state or local wetland regulatory programs, NPDES program, Corps civil works projects, Superfund removal and remedial actions). In no case may the same credits be used to compensate for more than one activity; however, the same credits may be used to compensate for an activity which requires authorization udner more than one program.

2. Relationship to Mitigation Requirements

Under the existing requirements of Section 10/404, all appropriate and practicable steps must be undertaken by the applicant to first avoid and then minimize adverse impacts to aquatic resources, prior to authorization to use a particular mitigation bank. Remaining unavoidable impacts must be compensated to the extent appropriate and practicable. For both the Section 10/404 and ``Swampbuster'' programs, requirements for compensatory mitigation may be satisfied through the use of mitigation banks when either on-site compensation is not practicable or use of the mitigation bank is environmentally preferable to on-site compensation.

It is important to emphasize that applicants should not expect that establishment of, or purchasing credits from, a mitigation bank will necessarily lead to a determination of compliance with applicable mitigation requirements (i.e., Section 404(b)(1) Guidelines or FSA Manual), or as excepting projects from any applicable requirements.

3. Geographic Limits of Applicability

The service area of a mitigation bank is the area (e.g., watershed, county) wherein a bank can reasonably be expected to provide appropriate compensation for impacts to wetlands and/or other aquatic resources. This area should be designated in the banking instrument. Designation of the service area should be based on consideration of hydrologic and biotic criteria, and be stipulated in the banking instrument. Use of a mitigation bank to compensate for impacts beyond the designated service area may be authorized, on a case-by-case basis, where it is determined to be practicable and environmentally desirable.

The geographic extent of a service area should, to the extent environmentally desirable, be guided by the cataloging unit of the ``Hydrologic Unit map of the United States'' (USGS, 1980) and the ecoregion of the ``Ecoregions of the United States'' (James M. Omernik, EPA, 1986) or section of the ``Descriptions of the Ecoregions of the United States'' (Robert G. Bailey, USDA, 1980). It may be appropriate to use other classification systems developed at the state or regional level for the purpose of specifying bank service areas, when such systems compare favorably in their objectives and level of detail. In the interest of the integrating banks with other resource management objectives, bank service areas

may encompass larger watershed areas if the designation of such areas is supported by local or regional management plans (e.g., Special Area Management Plans, Advance Identification), State Wetland Conservation Plans or other Federally sponsored or recognized resource management plans. Furthermore, designation of a more inclusive service area may be appropriate for mitigation banks whose primary purpose is to compensate for linear projects that typically involve numerous small impacts in several different watersheds.

4. Use of a Mitigation Bank vs. On-Site Mitigation

The agencies' preference for on-site mitigation, indicated in the 1990 Memorandum of Agreement on mitigation between the EPA and the Department of the Army, should not preclude the use of a mitigation bank when there is no practicable opportunity for on-site compensation, or when use of a bank is environmentally preferable to on-site compensation. On-site mitigation may be preferable where there is a practicable opportunity to compensate for important local functions including local flood control functions, habitat for a species or population with a very limited geographic range or narrow environmental requirements, or where local water quality concerns dominate.

In choosing between on-site mitigation and use of a mitigation bank, careful consideration should be given to the likelihood for successfully establishing the desired habitat type, the compatibility of the mitigation project with adjacent land uses, and the practicability of long-term monitoring and maintenance to determine whether the effort will be ecologically sustainable, as well as the relative cost of mitigation alternatives. In general, use of a mitigation bank to compensate for minor aquatic resource impacts (e.g., numerous, small impacts associated with linear projects; impacts authorized under nationwide permits) is preferable to on-site mitigation. With respect to larger aquatic resource impacts, use of a bank may be appropriate if it is capable of replacing essential physical and/or biological functions of the aquatic resources which are expected to be lost or degraded. Finally, there may be circumstances warranting a combination of on-site and off-site mitigation to compensate for losses.

5. In-kind vs. Out-of-kind Mitigation Determinations

In the interest of achieving functional replacement, in-kind compensation of aquatic resource impacts should generally be required. Out-of-kind compensation may be acceptable if it is determined to be practicable and environmentally preferable to in-kind compensation (e.g., of greater ecological value to a particular region). However, non-tidal wetlands should typically not be used to compensate for the loss or degradation of tidal wetlands. Decisions regarding out-of-kind mitigation are typically made on a case-by-case basis during the permit evaluation process. The banking instrument may identify circumstances in which it is environmentally desirable to allow out-of-kind compensation within the context of a particular mitigation bank (e.g., for banks restoring a complex of associated wetland types). Mitigation banks developed as part of an area-wide management plan to address a specific resource objective (e.g., restoration of a particularly vulnerable or valuable wetland habitat type) may be such an example.

6. Timing of Credit Withdrawal

The number of credits available for withdrawal (i.e., debiting) should generally be commensurate with the level of aquatic functions attained at a bank at the time of debiting. The level of function may be determined through the application of performance standards tailored to the specific restoration, creation or enhancement activity at the bank site or through the use of an appropriate functional assessment methodology.

The success of a mitigation bank with regard to its capacity to establish a healthy and fully functional aquatic system relates directly to both the ecological and financial stability of the bank. Since financial considerations are particularly critical in early stages of bank development, it is generally appropriate, in cases where there is adequate financial assurance and where the likelihood of the success of the bank is high, to allow limited debiting of a percentage of the total credits projected for the bank at maturity. Such determinations should take into consideration the initial capital costs needed to establish the bank, and the likelihood of its success. However, it is the intent of this policy to ensure that those actions necessary for the long-term viability of a mitigation bank be accomplished prior to any debiting of the bank. In this regard, the following minimum requirements should be satisfied prior to debiting: (1) banking instrument and mitigation plans have been approved; (2) bank site has been secured; and (3) appropriate financial assurances have been established. In addition, initial physical and biological improvements should be completed no later than the first full growing season following initial debiting of a bank. The temporal loss of functions associated with the debiting of projected credits may justify the need for requiring higher compensation ratios in such cases. For mitigation banks which propose multiple-phased construction, similar conditions should be established for each phase.

Credits attributed to the preservation of existing aquatic resources may become available for debiting immediately upon implementation of appropriate legal protection accompanied by appropriate changes in land use or other physical changes, as necessary.

7. Crediting/Debiting/Accounting Procedures

Credits and debits are the terms used to designate the units of trade (i.e., currency) in mitigation banking. Credits represent the accrual or attainment of aquatic functions at a bank; debits represent the loss of aquatic functions at an impact or project site. Credits are debited from a bank when they are used to offset aquatic resource impacts (e.g. for the purpose of satisfying Section 10/404 permit or FSA requirements).

An appropriate functional assessment methodology (e.g., Habitat Evaluation Procedures, hydrogeomorphic approach to wetlands functional assessment, other regional assessment methodology) acceptable to all signatories should be used to assess wetland and/or other aquatic resource restoration, creation and enhancement activities within a mitigation bank, and to quantify the amount of available credits. The range of functions to be assessed will depend upon the assessment methodology identified in the banking instrument. The same methodology should be used to assess both credits and debits. If an appropriate functional assessment methodology is impractical to employ, acreage may be used as a surrogate for measuring function. Regardless of the method employed, the number of credits should reflect the difference between site conditions under the with-and without-bank scenarios.

The bank sponsor should be responsible for assessing the development of the bank and submitting appropriate documentation of such assessments to the authorizing agency(ies), who will distribute the documents to the other members of the MBRT for review. Members of the MBRT are encouraged to conduct regular (e.g., annual) on-site inspections, as appropriate, to monitor bank performance. Alternatively, functional assessments may be conducted by a team representing involved resources and regularly agencies and other appropriate parties. The number of available credits in a mitigation bank may need to be adjusted to reflect actual conditions.

The banking instrument should require that bank sponsors establish and maintain an accounting system (i.e., ledger) which documents the activity of all mitigation

bank accounts. Each time an approved debit/ credit transaction occurs at a given bank, the bank sponsor should submit a statement to the authorizing agency(ies). The bank sponsor should also generate an annual ledger report for all mitigation bank accounts to be submitted to the MBRT Chair for distribution to each member of the MBRT.

Credits may be sold to third parties. The cost of mitigation credits to a third party is determined by the bank sponsor.

Party Responsible for Bank Success

The bank sponsor is responsible for assuring the success of the debited restoration, creation, enhancement and preservation activities at the mitigation bank, and it is therefore extremely important that an enforceable mechanism be adopted establishing the responsibility of the bank sponsor to develop and operate the bank properly. Where authorization under Section 10/404 and/or FSA is necessary to establish the bank, the Department of the Army permit or NRCS plan should be conditioned to ensure that provisions of the banking instrument are enforceable by the appropriate agency(ies). In circumstances where establishment of a bank does not require such authorization, the details of the bank sponsor's responsibilities should be delineated by the relevant authorizing agency (e.g., the Corps in the case of Section 10/404 permits) in any permit in which the permittee's mitigation obligations are met through use of the bank. In addition, the bank sponsor should sign such permits for the limited purpose of meeting those mitigation responsibilities, thus confirming that those responsibilities are enforceable against the bank sponsor if necessary.

E. Long-Term Management, Monitoring and Remediation

1. Bank Operational Life

The operational life of a bank refers to the period during which the terms and conditions of the banking instrument are in effect. With the exception of arrangements for the long-term management and protection in perpetuity of the wetlands and/or other aquatic resources, the operational life of a mitigation bank terminates at the point when (1) Compensatory mitigation credits have been exhausted or banking activity is voluntarily terminated with written notice by the bank sponsor provided to the Corps or NRCS and other members of the MBRT, and (2) it has been determined that the debited bank is functionally mature and/or self-sustaining to the degree specified in the banking instrument.

2. Long-term Management and Protection

The wetlands and/or other aquatic resources in a mitigation bank should be protected in perpetuity with appropriate real estate arrangements (e.g., conservation easements, transfer of title to Federal or State resource agency or non-profit conservation organization). Such arrangements should effectively restrict harmful activities (i.e., incompatible uses \2\) that might otherwise jeopardize the purpose of the bank. In exceptional circumstances, real estate arrangements may be approved which dictate finite protection for a bank (e.g., for coastal protection projects which prolong the ecological viability of the aquatic system). However, in no case should finite protection extend for a lesser time than the duration of project impacts for which the bank is being used to provide compensation.

\2\ For example, certain silvicultural practices (e.g. clear cutting and/or harvests on short-term rotations) may be incompatible with the objectives of a mitigation bank. In contrast, silvicultural practices such as long-term rotations, selective cutting, maintenance of vegetation diversity, and undisturbed buffers are more likely to be

considered a compatible use.

The bank sponsor is responsible for securing adequate funds for the operation and maintenance of the bank during its operational life, as well as for the long-term management of the wetlands and/or other aquatic resources, as necessary. The banking instrument should identify the entity responsible for the ownership and long-term management of the wetlands and/or other aquatic resources. Where needed, the acquisition and protection of water rights should be secured by the bank sponsor and documented in the banking instrument.

3. Monitoring Requirements

The bank sponsor is responsible for monitoring the mitigation bank in accordance with monitoring provisions identified in the banking instrument to determine the level of success and identify problems requiring remedial action. Monitoring provisions should be set forth in the banking instrument and based on scientifically sound performance standards prescribed for the bank. monitoring should be conducted at time intervals appropriate for the particular project type and until such time that the authorizing agency(ies), in consultation with the MBRT, are confident that success is being achieved (i.e., performance standards are attained). The period for monitoring will typically be five years; however, it may be necessary to extend this period for projects requiring more time to reach a stable condition (e.g., forested wetlands) or where remedial activities were undertaken. Annual monitoring reports should be submitted to the authorizing agency(ies), who is responsible for distribution to the other members of the MBRT, in accordance with the terms specified in the banking instrument.

4. Remedial Action

The banking instrument should stipulate the general procedures for identifying and implementing remedial measures at a bank, or any portion thereof. Remedial measures should be based on information contained in the monitoring reports (i.e., the attainment of prescribed performance standards), as well as agency site inspections. The need for remediation will be determined by the authorizing agency (ies) in consultation with the MBRT and bank sponsor.

5. Financial Assurances

The bank sponsor is responsible for securing sufficient funds or other financial assurances to cover contingency actions in the event of bank default or failure. Accordingly, banks posing a greater risk of failure and where credits have been debited, should have comparatively higher financial sureties in place, than those where the likelihood of success is more certain. In addition, the bank sponsor is responsible for securing adequate funding to monitor and maintain the bank throughout its operational life, as well as beyond the operational life if not self-sustaining. Total funding requirements should reflect realistic cost estimates for monitoring, long-term maintenance, contingency and remedial actions.

Financial assurances may be in the form of performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, legislatively-enacted dedicated funds for government operate banks or other approved instruments. Such assurances may be phased-out or reduced, once it has been demonstrated that the bank is functionally mature and/or self-sustaining (in accordance with performance standards).

F. Other Considerations

1. In-lieu-fee Mitigation Arrangements

For purposes of this guidance, in-lieu-fee, fee mitigation, or other similar arrangements, wherein funds are paid to a natural resource management entity for implementation of either specific or general wetland or other aquatic resource development projects, are not considered to meet the definition of mitigation banking because they do not typically provide compensatory mitigation in advance of project impacts. Moreover, such arrangements do not typically provide a clear timetable for the initiation of mitigation efforts. The Corps, in consultation with the other agencies, may find there are circumstances where such arrangements are appropriate so long as they meet the requirements that would otherwise apply to an offsite, prospective mitigation effort and provides adequate assurances of success and timely implementation. In such cases, a formal agreement between the sponsor and the agencies, similar to a banking instrument, is necessary to define the conditions under which its use is considered appropriate.

2. Special Considerations for ``Swampbuster''

Current FSA legislation limits the extent to which mitigation banking can be used for FSA purposes. Therefore, if a mitigation bank is to be used for FSA purposes, it must meet the requirements of FSA.

III. Definitions

For the purposes of this guidance document the following terms are defined:

A. Authorizing agency. Any Federal, state, tribal or local agency that has authorized a particular use of a mitigation bank as compensation for an authorized activity; the authorizing agency will typically have the enforcement authority to ensure that the terms and conditions of the banking instrument are satisfied.

B. Bank sponsor. Any public or private entity responsible for establishing and, in most circumstances, operating a mitigation bank.

C. Compensatory mitigation. For purposes of Section 10/404, compensatory mitigation is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

D. Consensus. The term consensus, as defined herein, is a process by which a group synthesizes its concerns and ideas to form a common collaborative agreement acceptable to all members. While the primary goal of consensus is to reach agreement on an issue by all parties, unanimity may not always be possible.

E. Creation. The establishment of a wetland or other aquatic resource where one did not formerly exist.

F. Credit. A unit of measure representing the accrual or attainment of aquatic functions at a mitigation bank; the measure of function is typically indexed to the number of wetland acres restored, created, enhanced or preserved.

G. Debit. A unit of measure representing the loss of aquatic functions at an impact or project site.

H. Enhancement. Activities conducted in existing wetlands or other aquatic resources which increase one or more aquatic functions.

I. Mitigation. For purposes of Section 10/404 and consistent with the Council on Environmental Quality regulations, the Section 404(b)(1) Guidelines and the Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines, mitigation means sequentially avoiding impacts, minimizing impacts, and compensating for remaining unavoidable impacts.

J. Mitigation bank. A mitigation bank is a site where wetlands and/ or other aquatic resources are restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar resources. For purposes of Section 10/404, use of a mitigation bank may only be authorized when impacts are unavoidable.

K. Mitigation Bank Review Team (MBRT). An interagency group of Federal, state, tribal and/or local regulatory and resource agency representatives which are signatory to a banking instrument and oversee the establishment, use and operation of a mitigation bank. L. Practicable. Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

M. Preservation. The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the aquatic ecosystem.

N. Restoration. Re-establishment of wetland and/or other aquatic resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

O. Service area. The service area of a mitigation bank is the designated area (e.g., watershed, county) wherein a bank can reasonably be expected to provide appropriate compensation for impacts to wetlands and/or other aquatic resources.

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Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act

I. Purpose

Compensatory mitigation projects are designed to replace aquatic resource functions and values that are adversely impacted under the Clean Water Act Section 404 and Rivers and Harbors Act Section 10 regulatory programs. These mitigation objectives are stated in regulation, the 1990 Memorandum of Agreement on mitigation between Environmental Protection Agency (EPA) and the Department of the Army, the November 28, 1995, Federal Guidance on the Establishment, Use and Operation of Mitigation Banks ("Banking Guidance"), and other relevant policy. The advent of in-lieu-fee approaches to mitigation has highlighted the importance of several fundamental objectives that the agencies established for determining what constitutes appropriate compensatory mitigation. The purpose of this memorandum is to clarify the manner in which in-lieu-fee mitigation may serve as an effective and useful approach to satisfy compensatory mitigation requirements and meet the Administration's goal of no overall net loss of wetlands. This in-lieu-fee guidance elaborates on the discussion of in-lieu-fee mitigation arrangements in the Banking Guidance by outlining the circumstances where in-lieu-fee mitigation may be used, consistent with existing regulations and policy.

II. Background

A. "In-lieu-fee" mitigation occurs in circumstances where a permittee provides funds to an in-lieu-fee sponsor instead of either completing project-specific mitigation or purchasing credits from a mitigation bank approved under the Banking Guidance.

B. A fundamental precept of the Section 404(b)(1) Guidelines is that no discharge of dredged or fill material in waters of the U.S. may be permitted unless appropriate and practicable steps have been taken to minimize all adverse impacts associated with the discharge. (40 CFR 230.10(d)) Specifically, the Section 404(b)(1) Guidelines establish a mitigation sequence, under which compensatory mitigation is required to offset wetland losses after all appropriate and practicable steps have been taken to first avoid and then minimize wetland impacts. Compliance with these mitigation sequencing requirements is an essential environmental safeguard to ensure

that CWA objectives for the protection of wetlands are achieved. The Section 404 permit program relies on the use of compensatory mitigation to offset unavoidable wetlands impacts by replacing lost wetland functions and values.

C. The agencies further clarified their mitigation policies in a Memorandum of Agreement (MOA) between the EPA and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines (February 6, 1990). That document reiterates that "the Clean Water Act and the Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions." Moreover, the MOA clarifies that mitigation "should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site," and that "if on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable (i.e., in close proximity and, to the extent possible, the same watershed)." As outlined in the MOA, the agencies have also agreed that "generally, in-kind compensatory mitigation is preferable to out-of-kind." The MOA further states that mitigation banking may be an acceptable form of compensatory mitigation. The agencies recognize the general preference for restoration over other forms of mitigation, given the increased chance for ecological success.

D. Pursuant to these standards, project-specific mitigation for authorized impacts has been used by permittees to offset unavoidable impacts. Project-specific mitigation generally consists of restoration, creation, or enhancement of aquatic resources that are similar to the aquatic resources of the impacted area, and is often located on the project site or adjacent to the impact area. Permittees providing project specific mitigation have a U.S. Army Corps of Engineers (Corps) approved mitigation plan detailing the site, source of hydrology, types of aquatic resource to be restored, success criteria, contingency measures, and an annual reporting requirement. The mitigation and monitoring plan becomes part of the Section 404 authorization in the form of a special condition. The permittee is responsible for complying with all terms and conditions of the authorization and would be in violation of their authorization if the mitigation did not comply with the approved plan.

E. In 1995, the agencies issued the Banking Guidance. Consistent with that guidance, permittees may purchase mitigation credits from an approved bank. Mitigation banks will generally be functioning in advance of project impacts and thereby reduce the temporal losses of aquatic functions and values and reduce uncertainty over the ecological success of the mitigation. Mitigation banking instruments are reviewed and approved by an interagency Mitigation Banking Review Team (MBRT). The MBRT ensures that the banking instrument appropriately addresses the physical and legal characteristics of the bank and how the bank will be established and operated (e.g., classes of wetlands and/or other aquatic resources proposed for inclusion in the bank, geographic service area where credits may be sold, wetland classes or other aquatic resource impacts suitable for compensation, methods for determining credits and debits). The bank sponsor is responsible for the operation and maintenance of the bank during its

operational life, as well as the long-term management and ecological success of the wetlands and/or other aquatic resources, and must provide financial assurances.

F. The Banking Guidance describes in-lieu-fee mitigation as follows: "...in-lieu-fee, fee mitigation, or other similar arrangements, wherein funds are paid to a natural resource management entity for implementation of either specific or general wetland or other aquatic resource development project, are not considered to meet the definition of mitigation banking because they do not typically provide compensatory mitigation in advance of project impacts. Moreover, such arrangements do not typically provide a clear timetable for the initiation of mitigation efforts. The Corps, in consultation with the other agencies, may find circumstances where such arrangements are appropriate so long as they meet the requirements that would otherwise apply to an offsite, prospective mitigation effort and provides adequate assurances of success and timely implementation. In such cases, a formal agreement between the sponsor and the agencies, similar to a banking instrument, is necessary to define the conditions under which its use is considered appropriate."

III. Use of In-Lieu-fee Mitigation in the Regulatory Program

In light of the above considerations and in order to ensure that decisions regarding the use of in-lieu-fee mitigation are made more consistently with existing provisions of agency regulations and permit policies, the following clarification is provided. It is organized in a tiered manner to reflect and incorporate the agencies' broader mitigation policies, and is based on relative assurances of ecological success.

A. Impacts Authorized Under Individual Permit: In-lieu-fee agreements may be used to compensate for impacts authorized by individual permit if the in-lieu-fee arrangement is developed (or revised, if an existing agreement), reviewed, and approved using the process established for mitigation banks in the Banking Guidance. MBRTs should review applications from such in-lieu-fee sponsors to ensure that such agreements are consistent with the Banking Guidance.

B. Impacts Authorized Under General Permit: As a general matter, in-lieu-fee mitigation should only be used to compensate for impacts to waters of the U.S. authorized by a Section 404 general permit, as described below:

1. Where "On-site" Mitigation Is Available and Practicable: As a general matter, compensatory mitigation that is completed on or adjacent to the site of the impacts it is designed to offset (i.e., project-specific mitigation done by permittees consistent with Corps approved mitigation plans) is preferable to mitigation conducted off-site (i.e., mitigation bank or in-lieu-fee mitigation). The agencies' preference for on-site mitigation, indicated in the 1990 Memorandum of Agreement on mitigation between the EPA and the Department of the Army, should not preclude the use of a mitigation bank or in-lieu-fee mitigation when

there is no practicable opportunity for on-site compensation, or when use of a bank or in-lieu-fee mitigation is environmentally preferable to on-site compensation, consistent with the provisions in paragraph 2 below.

2. Where "On-site" Mitigation Is Not Available or Practicable: Except as noted below in a. or b., where on-site mitigation is not available, practicable, or determined to be less environmentally desirable, use of a mitigation bank is preferable to in-lieu-fee mitigation where permitted impacts are within the service area of a mitigation bank approved to sell mitigation credits, and those credits are available. Use of a mitigation bank is also preferable over in-lieu-fee mitigation where both the available in-lieu-fee arrangement and the service area of an approved mitigation bank are outside of the watershed of the permitted project impacts, unless the mitigation bank is determined on a case by case basis to not be practicable and environmentally desirable.

a. Where Mitigation Bank Does Not Provide "In-kind" Mitigation: In those circumstances where wetlands impacts proposed for general permit authorization are within the service area of an approved mitigation bank with available credits, but the impacted wetland type is not identified by the Mitigation Banking Instrument for compensation within such bank, then the authorized impact may be compensated through an in-lieu-fee arrangement, subject to the considerations described in Section IV below, if the in-lieu-fee arrangement would provide in-kind restoration as mitigation.

b. Where Mitigation Bank Does Not Provide Restoration, Creation, or Enhancement Mitigation: In those circumstances where wetlands impacts proposed for general permit authorization are within the service area of an approved mitigation bank, but the only available credits are through preservation, then the authorized impact may be compensated through an in-lieu-fee arrangement subject to the considerations described in Section IV below, if the in-lieu-fee arrangement would provide in kind restoration as mitigation.

IV. Planning, Establishment, and Use of In-lieu-fee Mitigation Arrangements

This section describes the basic considerations that should be addressed for any proposed use of in-lieu-fee mitigation to offset unavoidable impacts associated with a discharge authorized under a general permit described in Section III above.

A. Planning considerations:

1. Qualified Organizations: Given the goal to ensure long-term mitigation success, the Corps, in consultation with the other Federal agencies, should carefully evaluate the demonstrated performance of natural resource management organizations (e.g., governmental organizations, land trusts) prior to approving them to manage in-lieu-fee arrangements. In fact, given the unique strengths and specialties of such organizations, it may be useful for the Corps, in consultation with other Federal resource agencies, to establish formal arrangements with several natural resource management organizations to ensure there are sufficient options to effectively replace lost functions and values. In any event, in-lieu-fee arrangements and subsequent modifications should be made in consultation with the other Federal agencies and only after an opportunity for public notice and comment has been afforded.

2. Operational Information: Those organizations considered qualified to implement formal in-lieu-fee arrangements should work in advance with the Corps to ensure that authorized impacts will be offset fully on a project-by-project basis consistent with Section 10/404 permit requirements. As detailed in the paragraphs that follow, organizations should supply the Corps with information in advance on (1) potential sites where specific restoration projects or types of restoration projects are planned, (2) the schedule for implementation, (3) the type of mitigation that is most ecologically appropriate on a particular parcel, and (4) the financial, technical, and legal mechanisms to ensure long-term mitigation success. The Corps should ensure that the formal in-lieu-fee arrangements and project authorizations contain distinct provisions that clearly state that the legal responsibility for ensuring mitigation terms are satisfied fully rests with the organization accepting the in-lieu-fee. In-lieu-fee sponsors should be able to demonstrate approval of all necessary State and local permits and authorizations. In-lieu-fee sponsors (e.g., State) should notify the Corps and MBRT if the service area of any mitigation bank overlaps the jurisdiction in which their in-lieu-fees may be spent.

3. Watershed Planning: Local watershed planning efforts, as a general matter, identify wetlands and other aquatic resources that have been degraded and usually have established a prioritization list of restoration needs. In-lieu-fee mitigation projects should be planned and developed to address the specific resource needs of a particular watershed.

4. Site Selection: The Federal agencies and in-lieu-fee sponsor should give careful consideration to the ecological suitability of a site for achieving the goal and objectives of compensatory mitigation (e.g., posses the physical, chemical and biological characteristics to support the desired aquatic resources and functions,

preferably in-kind restoration or creation of impacted aquatic resources). The location of the site relative to other ecological features, hydrologic sources, and compatibility with adjacent land uses and watershed management plans shall be considered by the Federal agencies during the evaluation process.

5. Technical Feasibility: In-lieu-fee mitigation should be planned and designed to be self-sustaining over time to the extent possible. The techniques for establishing aquatic resources must be carefully selected. The restoration of historic or substantially degraded aquatic resources (e.g., prior-converted cropland, farmed wetlands) utilizing proven techniques increases the likelihood of success and typically does not result in the loss of other valuable resources. Thus, restoration should be the first option considered for siting in-lieu-fee mitigation. This guidance recognizes that in some circumstances aquatic resources must be actively managed to ensure their sustainability. Furthermore, long-term maintenance requirements may be necessary and appropriate in some cases (e.g., to maintain fire dependent habitat communities in the absence of natural fire, to control invasive exotic plant species). Proposed mitigation techniques should be well-understood and reliable. When uncertainties surrounding the technical feasibility of a proposed mitigation technique exist, appropriate arrangements may be phased-out or reduced once the attainment of prescribed performance standards is demonstrated. In any event, a plan detailing specific performance standards should be submitted to ensure the technical success of the project can be evaluated.

6. Role of Preservation: As described in the Banking Guidance, simple purchase or "preservation" of existing wetlands may be accepted as compensatory mitigation only in exceptional circumstances. Mitigation credit may be given when existing wetlands and/or other aquatic resources are preserved in conjunction with restoration, creation or enhancement activities, and when it is demonstrated that the preservation will augment the functions of the restored, created or enhanced aquatic resource.

7. Collection of Funds: Funds collected under any in-lieu-fee arrangement should be used for replacing wetlands functions and values and not to finance non-mitigation programs and priorities (e.g., education projects, research). Funds collected should be based upon a reasonable cost estimate of all funds needed to compensate for the impacts to wetlands or other waters that each permit is authorized to offset. Funds collected should ensure a minimum of one-for-one acreage replacement, consistent with existing regulation and permit conditions. Land acquisition and initial physical and biological improvements should be completed by the first full growing season following collection of the initial funds. However, because site improvements associated with in-lieu-fee mitigation may take longer to initiate, initial physical and biological improvements may be

completed no later than the second full growing season where 1) initiation by the first full growing season is not practicable, 2) mitigation ratios are raised to account for increased temporal losses of aquatic resource functions and values, and 3) the delay is approved in advance by the Corps.

8. Monitoring and Management: The in-lieu-fee sponsor is responsible for securing adequate funds for the operation and maintenance of the mitigation sites. The wetlands and/or other aquatic resources in the mitigation site should be protected in perpetuity with appropriate real estate arrangements (e.g., conservation easements, transfer of title to Federal or State resource agency or non-profit conservation agency). Such arrangements should effectively restrict harmful activities (e.g., incompatible uses) that might otherwise jeopardize the purpose of the compensatory mitigation. In addition, there should be appropriate schedules for regular (e.g., annual) monitoring reports to document funds received, impacts permitted, how funds were disbursed, types of projects funded, and the success of projects conducted under the in-lieu-fee arrangement. The Corps, in conjunction with other Federal and State agencies, should evaluate the reports and conduct regular reviews to ensure that the arrangement is operating effectively and consistent with agency policy and the specific agreement. The Corps will track all uses of in-lieu-fee arrangements and report those figures by public notice on an annual basis.

B. Establishment of In-Lieu-Fee Agreements:

A formal in-lieu-fee agreement, consistent with the planning provisions above, should be established by the sponsor with the Corps, in consultation with the other agencies. It may be appropriate to establish an "umbrella" arrangement for the establishment and operation of multiple sites. In such circumstances, the need for supplemental information (e.g., site specific plans) should be addressed in specific in-lieu-fee agreements. The in-lieu-fee agreement should contain:

1. a description of the sponsor's experience and qualifications with respect to providing compensatory mitigation;
2. potential site locations, baseline conditions at the sites, and general plans that indicate what kind of wetland compensation can be provided (e.g., wetland type, restoration or other activity, proposed time line, etc.);
3. geographic service area;
4. accounting procedures;
5. methods for determining fees and credits;
6. a schedule for conducting the activities that will provide compensatory mitigation or a requirement that projects will be started within a specified time after impacts occur;
7. performance standards for determining ecological success of mitigation sites;

8. reporting protocols and monitoring plans;
9. financial, technical and legal provisions for remedial actions and responsibilities (e.g., contingency fund);
10. financial, technical and legal provisions for long-term management and maintenance (e.g., trust); and
11. provision that clearly states that the legal responsibility for ensuring mitigation terms are fully satisfied rests with the organization accepting the fee.

In cases where initial establishment of in-lieu-fee compensatory mitigation involves a discharge into waters of the United States requiring Section 10/404 authorization, submittal of a Section 10/404 application should be accompanied by the in-lieu-fee agreement.

V. General

A. Effect of Guidance. This guidance does not change the substantive requirements of the Section 10/404 regulatory program. Rather, it interprets and provides guidance and procedures for the use of in-lieu fee mitigation consistent with existing regulations. The policies set out in this document are not final agency action, but are intended solely as guidance. The guidance is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the United States. This guidance does not establish or affect legal rights or obligations, establish a binding norm on any party and it is not finally determinative of the issues addressed. Any regulatory decisions made by the agencies in any particular matter addressed by this guidance will be made by applying the governing law and regulations to the relevant facts.

B. Definitions. Unless otherwise noted, the terms used in this guidance have the same definitions as those terms in the Banking Guidance. Note that as part of the Administration's Clean Water Action Plan, the Federal agencies have proposed a tracking system to more accurately account for wetland losses and gains that includes definitions of terms such as restoration used in wetland programs. Future notice will be given when these definitions will be applied to Section 10/404 regulatory program.

C. Effective Date. This guidance is effective immediately on the date of the last signature below. Therefore, existing in-lieu-fee arrangements or agreements should be reviewed and modified as necessary in light of the above.

D. Conversion to Banks: If requested by the in-lieu-fee sponsor, the Corps, in conjunction with the other Federal agencies, will provide assistance and recommendations on the steps necessary to convert individual in-lieu-fee arrangements to mitigation banks, consistent with the Banking Guidance.

E. Future Revisions. The agencies are supporting a comprehensive, independent evaluation of the effectiveness of compensatory mitigation by the National Academy of Sciences. The technical results of this evaluation are expected to be used by the public to improve the

quality of wetlands and aquatic resource restoration, creation, and enhancement. The agencies will take note of the results of this evaluation and other relevant information to make any necessary revisions to guidance on compensatory mitigation, to ensure the greatest opportunity for ecological success of restored, created, and enhanced wetlands and other aquatic resources. At a minimum, a review of the use of this guidance will be initiated no later than 12 months after the effective date.

FOR FURTHER INFORMATION CONTACT: *Mr. Jack Chowning (Corps) at (202) 761-1781; Ms. Lisa Morales (EPA) at (202) 260-6013; Ms. Susan Marie Stedman (NMFS) at (301) 713-2325; Mr. Mark Matusiak (USFWS) at (703) 358-2183.*

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US Army Corps of Engineers®

REGULATORY GUIDANCE LETTER

No. 02-2 **Date:** December 24, 2002

SUBJECT: Guidance on Compensatory Mitigation Projects for Aquatic Resource Impacts Under the Corps Regulatory Program Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899

1. Purpose and Applicability:

a. Purpose: Under existing law the Corps requires compensatory mitigation to replace aquatic resource functions unavoidably lost or adversely affected by authorized activities. This Regulatory Guidance Letter (RGL) clarifies and supports the national policy for "no overall net loss" of wetlands and reinforces the Corps commitment to protect waters of the United States, including wetlands. Permittees must provide appropriate and practicable mitigation for authorized impacts to aquatic resources in accordance with the laws and regulations. Relevant laws, regulations, and guidance are listed in Appendix A. This guidance does not modify existing mitigation policies, regulations, or guidance. However, it does supercede RGL 01-1 that was issued October 31, 2001. Districts will consider the requirements of other Federal programs when implementing this guidance.

b. Applicability: This guidance applies to all compensatory mitigation proposals associated with permit applications submitted for approval after this date.

2. General Considerations: Districts will use watershed and ecosystem approaches when determining compensatory mitigation requirements, consider the resource needs of the watersheds where impacts will occur, and also consider the resource needs of neighboring watersheds. When evaluating compensatory mitigation plans, Districts should consider the operational guidelines developed by the National Research Council (2001) for creating or restoring ecologically self-sustaining wetlands. These operational guidelines, which are in Appendix B, will be provided to applicants who must implement compensatory mitigation projects.

a. Watershed Approach: A watershed-based approach to aquatic resource protection considers entire systems and their constituent parts. Districts will recognize the authorities of, and rely on the expertise of, tribal, state, local, and other Federal resource management programs. During the permit evaluation process, Districts will coordinate with these entities and take into account zoning regulations, regional council and metropolitan planning organization initiatives, special area management planning initiatives, and other factors of local public interest. Watersheds will be identified, for accounting purposes, using the U.S. Geologic Survey's Hydrologic Unit Codes. Finally, applicants will be encouraged to provide compensatory mitigation projects that

include a mix of habitats such as open water, wetlands, and adjacent uplands. When viewed from a watershed perspective, such projects often provide a greater variety of functions.

b. Consistency and Compatibility. Districts will coordinate proposed mitigation plans with tribes, states, local governments, and other Federal agencies consistent with existing laws, regulation, and policy guidance to ensure that applicants' mitigation plans are consistent with watershed needs and compatible with adjacent land uses. Districts will evaluate applicants' mitigation proposals giving full consideration to comments and recommendations from tribes, states, local governments, and other Federal agencies. Districts may coordinate on a case-by-case basis during the application evaluation process, or on programmatic basis to promote consistent and timely decision making.

c. Impacts and Compensation: Army regulations require appropriate and practicable compensatory mitigation to replace functional losses to aquatic resources, including wetlands. Districts will determine what level of mitigation is "appropriate" based upon the functions lost or adversely affected as a result of impacts to aquatic resources. When determining "practicability," Districts will consider the availability of suitable locations, constructibility, overall costs, technical requirements, and logistics. There may be instances where permit decisions do not meet the "no overall net loss of wetlands" goal because compensatory mitigation would be impracticable, or would only achieve inconsequential reductions in impacts. Consequently, the "no overall net loss of wetlands goal" may not be achieved for each and every permit action, although all Districts will strive to achieve this goal on a cumulative basis, and the Corps will achieve the goal programmatically.

d. Measuring Impacts and Compensatory Mitigation. The Corps has traditionally used acres as the standard measure for determining impacts and required mitigation for wetlands and other aquatic resources, primarily because useful functional assessment methods were not available. However, Districts are encouraged to increase their reliance on functional assessment methods. Districts will determine, on a case-by-case basis, whether to use a functional assessment or acreage surrogates for determining mitigation and for describing authorized impacts. Districts will use the same approach to determine losses (debits) and gains (credits) in terms of amounts, types, and location(s) for describing both impacts and compensatory mitigation.

1. **Functional Assessment**: The objective is to offset environmental losses resulting from authorized activities. The ecological characteristics of aquatic sites are unique. Therefore, when possible, Districts should use a functional assessment by qualified professionals to determine impacts and compensatory mitigation requirements. Districts should determine functional scores using aquatic site assessment techniques generally accepted by experts in the field or the best professional judgment of Federal, tribal, and state agency representatives, fully considering ecological functions included in the 404 (b)(1) Guidelines. When a District uses a functional assessment method, e.g., a Hydrogeomorphic Assessment or Wetland Rapid Assessment Procedure, the District will make the method available to applicants for planning mitigation.

2. **Functional Replacement**: For wetlands, the objective is to provide, at a minimum, one-to-one functional replacement, i.e., no net loss of functions, with an adequate margin of safety to reflect

anticipated success. Focusing on the replacement of the functions provided by a wetland, rather than only calculation of acreage impacted or restored, will in most cases provide a more accurate and effective way to achieve the environmental performance objectives of the no net loss policy. In some cases, replacing the functions provided by one wetland area can be achieved by another, smaller wetland; in other cases, a larger replacement wetland may be needed to replace the functions of the wetland impacted by development. Thus, for example, on an acreage basis, the ratio should be greater than one-to-one where the impacted functions are demonstrably high and the replacement wetlands are of lower function. Conversely, the ratio may be less than one-to-one where the functions associated with the area being impacted are demonstrably low and the replacement wetlands are of higher function.

3. **Functional Changes**: Districts may account for functional changes by recording them as site-specific debits and credits as defined below.

> **a.) Credit:** A unit of measure, e.g., a functional capacity unit in the Hydrogeomorphic Assessment Method, representing the gain of aquatic function at a compensatory mitigation site; the measure of function is typically indexed to the number of acres of resource restored, established, enhanced, or protected as compensatory mitigation.
>
> **b.) Debit:** A unit of measure, e.g., a functional capacity unit in the Hydrogeomorphic Assessment Method, representing the loss of aquatic function at a project site; the measure of function is typically indexed to the number of acres impacted by issuance of the permit.

4. **Acreage Surrogate:** In the absence of more definitive information on the functions of a specific wetland site, a minimum one-to-one acreage replacement may be used as a reasonable surrogate for no net loss of functions. For example, information on functions might be lacking for enforcement actions that generate after-the-fact permits or when there is no appropriate method to evaluate functions. When Districts require one-to-one acreage replacement, they will inform applicants of specific amounts and types of required mitigation. Districts will provide rationales for acreage replacement and identify the factors considered when the required mitigation differs from the one-to-one acreage surrogate.

5. **Streams**. Districts should require compensatory mitigation projects for streams to replace stream functions where sufficient functional assessment is feasible. However, where functional assessment is not practical, mitigation projects for streams should generally replace linear feet of stream on a one-to-one basis. Districts will evaluate such surrogate proposals carefully because experience has shown that stream compensation measures are not always practicable, constructible, or ecologically desirable.

e. Wetland Project Types: Although the following definitions were developed to characterize wetland projects, the principles they reflect may also be useful for decisions on other aquatic resource projects.

1. **Establishment (Creation):** The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Establishment results in a gain in wetland acres.

2. **Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into:

> **a.) Re-establishment:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland acres.
>
> **b.) Rehabilitation:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres.

3. **Enhancement:** The manipulation of the physical, chemical, or biological characteristics of a wetland (undisturbed or degraded) site to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in wetland function(s) and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. This term includes activities commonly associated with enhancement, management, manipulation, and directed alteration.

4. **Protection/Maintenance (Preservation):** The removal of a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This term includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation. Preservation does not result in a gain of wetland acres and will be used only in exceptional circumstances.

f. Preservation Credit: Districts may give compensatory mitigation credit when existing wetlands, or other aquatic resources are preserved in conjunction with establishment, restoration, and enhancement activities. However, Districts should only consider credit when the preserved resources will augment the functions of newly established, restored, or enhanced aquatic resources. Such augmentation may be reflected in the amount of credit attributed to the entire mitigation project. In exceptional circumstances, the preservation of existing wetlands or other aquatic resources may be authorized as the sole basis for generating credits as mitigation projects. Natural wetlands provide numerous ecological benefits that restored wetlands cannot provide immediately and may provide more practicable long-term ecological benefits. If preservation alone is proposed as mitigation, Districts will consider whether the wetlands or other aquatic resources: 1) perform important physical, chemical or biological functions, the protection and maintenance of which is important to the region where those aquatic resources are located; and, 2) are under demonstrable

threat of loss or substantial degradation from human activities that might not otherwise be avoided. The existence of a demonstrable threat will be based on clear evidence of destructive land use changes that are consistent with local and regional (i.e., watershed) land use trends, and that are not the consequence of actions under the permit applicant's control.

g. On-site and Off-site Mitigation: Districts may require on-site, off-site, or a combination of on-site and off-site mitigation to maintain wetland functional levels within watersheds. Mitigation should be required, when practicable, in areas adjacent or contiguous to the discharge site (on-site compensatory mitigation). On-site mitigation generally compensates for locally important functions, e.g., local flood control functions or unusual wildlife habitat. However, off-site mitigation may be used when there is no practicable opportunity for on-site mitigation, or when off-site mitigation provides more watershed benefit than on-site mitigation, e.g., is of greater ecological importance to the region of impact. Off-site mitigation will be in the same geographic area, i.e., in close proximity to the authorized impacts and, to the extent practicable, in the same watershed. In choosing between on-site or off-site compensatory mitigation, Districts will consider: 1) likelihood for success; 2) ecological sustainability; 3) practicability of long-term monitoring and maintenance or operation and maintenance; and, 4) relative costs of mitigation alternatives.

h. In-kind and Out-of-kind Mitigation: Districts may require in-kind, out-of-kind, or a combination of in-kind and out-of-kind, compensatory mitigation to achieve functional replacement within surrounding watersheds. In-kind compensation for a wetland loss involves replacement of a wetland area by establishing, restoring, enhancing, or protecting and maintaining a wetland area of the same physical and functional type. In-kind replacement generally is required when the impacted resource is locally important. Out-of-kind compensation for a wetland loss involves replacement of a wetland area by establishing, restoring, enhancing, or protecting and maintaining an aquatic resource of different physical and functional type. Out-of-kind mitigation is appropriate when it is practicable and provides more environmental or watershed benefit than in-kind compensation (e.g., of greater ecological importance to the region of impact).

i. Buffers: Districts may require that compensatory mitigation for projects in wetlands or other aquatic resources include the establishment and maintenance of buffers to ensure that the overall mitigation project performs as expected. Buffers are upland or riparian areas that separate wetlands or other aquatic resources from developed areas and agricultural lands. Buffers typically consist of native plant communities (i.e., indigenous species) that reflect the local landscape and ecology. Buffers enhance or provide a variety of aquatic habitat functions including habitat for wildlife and other organisms, runoff filtration, moderation of water temperature changes, and detritus for aquatic food webs. Additional guidance regarding the appropriate use of buffers as a component of compensatory mitigation is forthcoming.

1. **Upland Areas:** Under limited circumstances, Districts may give credit for inclusion of upland areas within a compensatory mitigation project to the degree that the protection and management of such areas is an enhancement of aquatic functions and increases the overall ecological functioning of the mitigation site, or of other aquatic resources within the watershed (see Federal Mitigation Banking Guidance and Nationwide Permit General Condition 19). Such enhancement may be reflected in the amount of credit attributed to the mitigation project. Districts will evaluate and

document the manner and extent to which upland areas augment the functions of wetland or other aquatic resources. The establishment of buffers in upland areas may only be authorized as mitigation if the District determines that this is best for the aquatic environment on a watershed basis. In making this determination, Districts will consider whether the wetlands or other aquatic resources being buffered: 1) perform important physical, chemical, or biological functions, the protection and maintenance of which is important to the region where those aquatic resources are located; and 2) are under demonstrable threat of loss or substantial degradation from human activities that might not otherwise be avoided.

2. **Riparian Areas:** Districts may give credit for inclusion of riparian areas within a compensatory mitigation project to the degree that the protection and management of such areas is an enhancement of aquatic functions and increases the overall ecological functioning of the mitigation site, or of other aquatic resources within the watershed. Such enhancement may be reflected in the amount of credit attributed to the mitigation project. Districts will evaluate and document the manner and extent to which riparian areas augment the functions of streams or other aquatic resources. The establishment of buffers in riparian areas may only be authorized as mitigation if the District determines that this is best for the aquatic environment on a watershed basis. In making this determination, Districts will consider whether the streams or other aquatic resources being buffered: 1) perform important physical, chemical, or biological functions, the protection and maintenance of which is important to the region where those aquatic resources are located; and 2) are under demonstrable threat of loss or substantial degradation from human activities that might not otherwise be avoided.

j. Compensatory Mitigation Alternatives: Permit applicants may propose the use of mitigation banks, in-lieu fee arrangements, or separate activity-specific projects.

k. Public Review and Comment:

1. **Individual Permits**: Proposed compensatory mitigation will be made available for public review and comment, consistent with the form (mitigation bank, in-lieu fee arrangement, or separate activity-specific compensatory mitigation project) of proposed compensation. Although, as a matter of regulation at 33 CFR 325.1 (d)(9), compensatory mitigation plans are not required before the Corps can issue a public notice, Districts should encourage applicants, during pre-application consultation, to provide mitigation plans with applications to facilitate timely and effective review. Public Notices should indicate the form of proposed compensatory mitigation and include information on components of the compensatory mitigation plan. If mitigation plans are available, synopses may be included in Public Notices and the complete plans made available for inspection at District offices. If mitigation plans are available and reproducible, Districts will forward copies to Federal, tribal, and state resource agencies. Districts should not delay issuing Public Notices when mitigation plans are not submitted with otherwise complete applications proposing impacts to aquatic resources.

2. **General Permits**: Requests for nationwide and regional general permit verifications are not subject to public notice and comment. However, general permit compensatory mitigation provisions or requirements are published for public comment at the time general permits are

proposed for issuance or reissuance. Additional review of case-specific mitigation plans should be consistent with the conditions of the Nationwide or Regional Permit. Public review and comment should be provided for proposed mitigation banks and in-lieu-fee arrangements consistent with the Banking Guidance and In-lieu-fee Guidance provisions.

l. Permit Special Conditions: Districts will include in individual permits, and general permit verifications that contain a wetland compensatory mitigation requirement, special conditions that identify: 1) the party(s) responsible for meeting any or all components of compensatory mitigation requirements; 2) performance standards for determining compliance; and, 3) other requirements such as financial assurances, real estate assurances, monitoring programs, and the provisions for short and long-term maintenance of the mitigation site. Special conditions may include, by reference, the compensatory mitigation plan, monitoring requirements and a contingency mitigation plan. Permittees are responsible for assuring that activity-specific compensatory mitigation projects are implemented successfully and protected over the long-term. If mitigation banks or in-lieu fee arrangements are used to provide the mitigation, the party(s) identified as responsible for administering those facets of the bank or the in-lieu fee arrangement become liable for implementation and performance.

m. Timing of Mitigation Construction: Construction should be concurrent with authorized impacts to the extent practicable. Advance or concurrent mitigation can reduce temporal losses of aquatic functions and facilitate compliance. In some circumstances it may be acceptable to allow impacts to aquatic resources to occur before accomplishing compensatory mitigation, for example, in cases where construction of the authorized activity would disturb or harm on site compensatory mitigation work or where a simple restoration project is required. Some Federal-aid highway projects have legal and contractual requirements regarding the timing of mitigation that conflict with the policy to accomplish advance or concurrent mitigation. For compensatory mitigation involving in-lieu-fee arrangements or mitigation banks, the guidance applicable to those forms of mitigation should be followed with respect to timing of mitigation site development. After-the-fact mitigation may also be required for permits issued in emergencies or from an enforcement action.

n. Compensatory Mitigation Accomplished After Overall Project Construction: In general, when impacts to aquatic resources are authorized before mitigation is initiated, Districts will require: 1) a Corps-approved mitigation plan; 2) a secured mitigation project site; 3) appropriate financial assurances in place; and, 4) legally protected, adequate water rights where necessary. Initial physical and biological improvements in the mitigation plan generally should be completed no later than the first full growing season following the impacts from authorized activities. If beginning the initial improvements within that time frame is not practicable, then other measures that mitigate for the consequences of temporal losses should be included in the mitigation plan.

o. General Permits: For activities authorized by general permits, Districts may recommend consolidated compensatory mitigation projects such as mitigation banks and in-lieu fee programs where such sources of compensatory mitigation are available. Consolidated mitigation facilitates a watershed approach to mitigating impacts to waters of the United States. For regional

general permits associated with Special Area Management Plans or other types of watershed plans, the District may also recommend the use of mitigation banks or in-lieu-fee arrangements, consistent with the guidance for those forms of compensation.

3. <u>Compensatory Mitigation Plans:</u> Districts will strive to discuss compensatory mitigation proposals with applicants during pre-application consultation. If this does not occur, the scope and specificity of proposed compensatory mitigation plans merely represent the applicant's view of what is necessary, a view that may not be acceptable to the Corps or other governmental authorities. At the earliest opportunity, Districts will advise applicants of the mitigation sequencing requirements of the Section 404(b)(1) Guidelines, or what is required for general permits. Compensation is the last step in the sequencing requirements of the Section 404 (b)(1) Guidelines. Thus, for standard permit applications, Districts should not require detailed compensatory mitigation plans until they have established the unavoidable impact. In all circumstances, the level of information provided regarding mitigation should be commensurate with the potential impact to aquatic resources, consistent with the guidance from Regulatory Guidance Letter 93-2 on the appropriate level of analysis for compliance with the Section 404 (b)(1) Guidelines. Districts will identify for applicants the pertinent factors for this determination (e.g., watershed considerations, local or state requirements, uncertainty, out-of-kind compensation, protection and maintenance requirements, etc.). Districts also will identify for applicants the rationale to be used (e.g., best professional judgment, Hydrogeomorphic Assessment Method, Wetland Rapid Assessment Procedure, etc.) for determining allowable impact and required compensatory mitigation. Applicants will be encouraged to submit appropriate compensatory mitigation proposals with individual permit applications or general permit pre-construction notices. The components listed below form the basis for development of compensatory mitigation plans.

a. Baseline Information: As part of the permit decision Districts will include approved, written compensatory mitigation plans describing the location, size, type, functions and amount of impact to aquatic and other resources, as well as the resources in the mitigation project. In addition, they should describe the size, e.g., acreage of wetlands, length and width of streams, elevations of existing ground at the mitigation site, historic and existing hydrology, stream substrate and soil conditions, and timing of the mitigation. Baseline information may include quantitative sampling data on the physical, chemical, and biological characteristics of the aquatic resources at both the proposed mitigation site and the impact site. This documentation will support the compensatory mitigation requirement.

b. Goals and Objectives: Compensatory mitigation plans should discuss environmental goals and objectives, the aquatic resource type(s), e.g., hydrogeomorphic (HGM) regional wetland subclass, Rosgen stream type, Cowardin classification, and functions that will be impacted by the authorized work, and the aquatic resource type(s) and functions proposed at the compensatory mitigation site(s). For example, for impacts to tidal fringe wetlands the mitigation goal may be to replace lost finfish and shellfish habitat, lost estuarine habitat, or lost water quality functions associated with tidal backwater flooding. The objective statement should describe the amount, i.e., acres, linear feet, or functional changes, of aquatic habitat that the authorized work will impact and the amount of compensatory mitigation needed to offset those impacts, by aquatic resource type.

c. Site Selection: Compensatory mitigation plans should describe the factors considered during the site selection process and plan formulation including, but not limited to:

1. **Watershed Considerations:** Mitigation plans should describe how the site chosen for a mitigation project contributes to the specific aquatic resource needs of the impacted watershed. A compensatory mitigation project generally should be in the same watershed. The further removed geographically that the mitigation is, the greater is the need to demonstrate that the proposed mitigation will reasonably offset authorized impacts.

2. **Practicability:** The mitigation plan should describe site selection in terms of cost, existing technology, and logistics.

3. **Air Traffic:** Compensatory mitigation projects that have the potential to attract waterfowl and other bird species that might pose a threat to aircraft will be sited consistent with the Federal Aviation Administration Advisory Circular on Hazardous Wildlife Attractants on or near Airports (AC No: 150/5200-33, 5/1/97).

d. Mitigation Work Plan: Compensatory mitigation work plans should contain written specifications and work descriptions, including, but not limited to: 1) boundaries of proposed restoration, establishment, enhancement, or preserved areas (e.g., maps and drawings); 2) construction methods, timing and sequence; 3) source of water supply and connections to existing waters and proximity to uplands; 4) native vegetation proposed for planting; 5) allowances for natural regeneration from an existing seed bank or planting; 6) plans for control of exotic invasive vegetation; 7) elevation(s) and slope(s) of the proposed mitigation area to ensure they conform with required elevation and hydrologic requirements, if practicable, for target plant species; 8) erosion control measures; 9) stream or other open water geomorphology and features such as riffles and pools, bends, deflectors, etc.; and 10) a plan outlining site management and maintenance.

e. Performance Standards: Compensatory mitigation plans will contain written performance standards for assessing whether mitigation is achieving planned goals. Performance standards will become part of individual permits as special conditions and be used for performance monitoring. Project performance evaluations will be performed by the Corps, as specified in the permits or special conditions, based upon monitoring reports. Adaptive management activities may be required to adjust to unforeseen or changing circumstances, and responsible parties may be required to adjust mitigation projects or rectify deficiencies. The project performance evaluations will be used to determine whether the environmental benefits or "credit(s)" for the entire project equal or exceed the environmental impact(s) or "debit(s)" of authorized activities. Performance standards for compensatory mitigation sites will be based on quantitative or qualitative characteristics that can be practicably measured. The performance standards will be indicators that demonstrate that the mitigation is developing or has developed into the desired habitat. Performance standards will vary by geographic region and aquatic habitat type, and may be developed through interagency coordination at the regional level. Performance standards for wetlands can be derived from the criteria in the 1987 Corps of Engineers Wetlands Delineation Manual, such as the duration of soil saturation required to meet the wetland hydrology criterion, or

variables and associated functional capacity indices in hydrogeomorphic assessment method regional guidebooks. Performance standards may also be based on reference wetlands.

f. Project Success: Compensatory mitigation plans will identify all parties responsible for compliance with the mitigation plan and their role in the mitigation project. The special conditions for the permit will identify these responsibilities as required above. Restoration projects provide the greatest potential for success in terms of functional compensation; however, each type has utility and may be used for compensatory mitigation.

g. Site Protection: Compensatory mitigation plans should include a written description of the legal means for protecting mitigation area(s), and permits will be conditioned accordingly. The wetlands, uplands, riparian areas, or other aquatic resources in a mitigation project should be permanently protected, in most cases, with appropriate real estate instruments, e.g., conservation easements, deed restrictions, transfer of title to Federal or state resource agencies or non-profit conservation organizations. Generally, conservation easements held by tribal, state or local governments, other Federal agencies, or non-governmental groups, such as land trusts, are preferable to deed restrictions. Homeowners' associations should be used for these purposes only in exceptional circumstances, such as when the association is responsible for community open spaces with restrictive covenants. Districts may require third party monitoring if necessary to ensure permanent protection. In no case will the real estate instrument require a Corps official's signature. Also, Districts will not approve a requirement that results in the Federal government holding deed restrictions on properties, or that contains real estate provisions committing Corps Districts to any interest in the property in question, unless proper statutory authority is identified that authorizes such an arrangement.

h. Contingency Plan: Compensatory mitigation plans should include contingency plans for unanticipated site conditions or changes. For example, contingency plans may identify financial assurance mechanisms that could be used to implement remedial measures to correct unexpected problems. Additionally, contingency plans will allow for modifications to performance standards if mitigation projects are meeting compensatory mitigation goals, but in unanticipated ways. Finally, contingency plans could address the circumstances that might result in no enforcement or remedial action if forces beyond the control of responsible parties adversely impact mitigation sites. In any case, Districts will determine the course of action to be taken in the event of unexpected conditions based on the goals and objectives for the mitigation project, the performance standards, and the provisions of the contingency plan.

i. Monitoring and Long-term Management: Compensatory mitigation plans will identify the party(s) responsible for accomplishing, maintaining, and monitoring the mitigation. Districts will require monitoring plans with a reporting frequency sufficient for an inspector to determine compliance with performance standards and to identify remedial action. Monitoring will be required for an adequate period of time, normally 5 to 10 years, to ensure the project meets performance standards. Corps permits will require permanent compensatory mitigation unless otherwise noted in the special conditions of the permit. Districts may take enforcement action even after the identified monitoring period, if there has been a violation.

j. Financial Assurances: Compensatory mitigation plans will identify the party responsible for providing and managing any financial assurances and contingency funds set aside for remedial measures to ensure mitigation success. This includes identifying the party that will provide for long-term management and protection of the mitigation project. Financial assurances should be commensurate with the level of impact and the level of compensatory mitigation required. Permit conditions for minimal and low impact projects are generally sufficient for enforcing performance standards and requiring compliance, without the requirement of additional financial assurances. Financial assurances should be sufficient to cover contingency actions such as a default by the responsible party, or a failure to meet performance standards. District Engineers will generally emphasize financial assurances when the authorized impacts occur prior to successful completion of the mitigation, to include the monitoring period. Financial assurances may be in the form of performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, legislatively enacted dedicated funds for government operated banks or other approved instruments. Such assurances may be phased-out or reduced, once the project has been demonstrated functionally mature and self-sustaining in accordance with performance standards.

Financial assurances for third party mitigation should be consistent with existing guidance (e.g., Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, and the Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act). The District will determine project success, and the need to use financial assurances to carry out remedial measures, in accordance with the project performance standards.

4. <u>Duration</u>. This guidance remains effective unless revised or rescinded.

FOR THE COMMANDER:

Encl

ROBERT H. GRIFFIN
Major General, U.S. Army
Director of Civil Works

Appendix A: Authorities

This RGL is issued in accordance with the following statutes, regulations, and policies. It is intended to clarify provisions within these existing authorities and does not establish new requirements.

a. Clean Water Act Section 404 [33 USC 1344].

b. Rivers and Harbors Act of 1899 Section 10 [33 USC 403 et seq.].

c. Environmental Protection Agency, Section 404(b)(1) Guidelines [40 CFR Part 230]. Guidelines for Specification of Disposal Sites for Dredged or Fill Material.

d. Department of the Army, Section 404 Permit Regulations [33 CFR Parts 320-331]. Policies for evaluating permit applications to discharge dredged or fill material.

e. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines [February 6, 1990].

f. Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks [November 28, 1995].

g. Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act [November 7, 2000]

h. Title XII of the Food Security Act of 1985 as amended by the Farm Security and Rural Investment Act of 2002 [16 USC 3801 et seq.].

i. National Environmental Policy Act [42 USC 4321 et seq.], including the Council on Environmental Quality's implementing regulations [40 CFR Parts 1500-1508].

j. Fish and Wildlife Coordination Act [16 USC 661 et seq.].

k. Fish and Wildlife Service Mitigation Policy [46 FR pages 7644-7663, 1981].

l. Magnuson Fishery Conservation and Management Act [16 USC 1801 et seq.].

m. National Marine Fisheries Service Habitat Conservation Policy [48 FR pages 53142-53147, 1983].

n. The Transportation Equity Act for the 21st Century (TEA-21)

o. Federal Aviation Administration Advisory Circular on Hazardous Wildlife Attracts on or near Airports (AC No: 150/5200-33, 5/1/97)

p. Endangered Species Act of 1973, as amended [16 U.S.C. 1531 et seq.]

q. Migratory Bird Treaty Act [16 U.S.C. 703 et seq.]

r. Issuance of Nationwide Permits [67 FR 2020-2095, January 15, 2002]

Appendix B

Taken from ***Operational Guidelines for Creating or Restoring Self-Sustaining Wetlands*, National Research Council 'Compensating for Wetland Losses Under The Clean Water Act,' June 2001** (Chapter 7, pp. 123-128).

1. Consider the hydrogeomorphic and ecological landscape and climate. Whenever possible locate the mitigation site in a setting of comparable landscape position and hydrogeomorphic class. Do not generate atypical "hydrogeomorphic hybrids"; instead, duplicate the features of reference wetlands or enhance connectivity with natural upland landscape elements (Gwin et al. 1999).

Regulatory agency personnel should provide a landscape setting characterization of both the wetland to be developed and, using comparable descriptors, the proposed mitigation site. Consider conducting a cumulative impact analysis at the landscape level based on templates for wetland development (Bedford 1999). Landscapes have natural patterns that maximize the value and function of individual habitats. For example, isolated wetlands function in ways that are quite different from wetlands adjacent to rivers. A forested wetland island, created in an otherwise grassy or agricultural landscape, will support species that are different from those in a forested wetland in a large forest tract. For wildlife and fisheries enhancement, determine if the wetland site is along ecological corridors such as migratory flyways or spawning runs. Constraints also include landscape factors. Shoreline and coastal wetlands adjacent to heavy wave action have historically high erosion rates or highly erodible soils, and often heavy boat wakes. Placement of wetlands in these locations may require shoreline armoring and other protective engineered structures that are contrary to the mitigation goals and at cross-purposes to the desired functions

Even though catastrophic events cannot be prevented, a fundamental factor in mitigation plan design should be how well the site will respond to natural disturbances that are likely to occur. Floods, droughts, muskrats, geese, and storms are expected natural disturbances and should be accommodated in mitigation designs rather than feared. Natural ecosystems generally recover rapidly from natural disturbances to which they are adapted. The design should aim to restore a series of natural processes at the mitigation sites to ensure that resilience will have been achieved.

2. Adopt a dynamic landscape perspective. Consider both current and future watershed hydrology and wetland location. Take into account surrounding land use and future plans for the land. Select sites that are, and will continue to be, resistant to disturbance from the surrounding landscape, such as preserving large buffers and connectivity to other wetlands. Build on existing wetland and upland systems. If possible, locate the mitigation site to take advantage of refuges, buffers, green spaces, and other preserved elements of the landscape. Design a system that utilizes natural processes and energies, such as the potential energy of streams as natural subsidies to the system. Flooding rivers and tides transport great quantities of water, nutrients, and organic matter in relatively short time periods, subsidizing the wetlands open to these flows as well as the adjacent rivers, lakes, and estuaries.

3. *Restore or develop naturally variable hydrological conditions.* Promote naturally variable hydrology, with emphasis on enabling fluctuations in water flow and level, and duration and frequency of change, representative of other comparable wetlands in the same landscape setting. Preferably, natural hydrology should be allowed to become reestablished rather than finessed through active engineering devices to mimic a natural hydroperiod. When restoration is not an option, favor the use of passive devices that have a higher likelihood to sustain the desired hydroperiod over long term. Try to avoid designing a system dependent on water-control structures or other artificial infrastructure that must be maintained in perpetuity in order for wetland hydrology to meet the specified design. In situations where direct (in-kind) replacement is desired, candidate mitigation sites should have the same basic hydrological attributes as the impacted site.

Hydrology should be inspected during flood seasons and heavy rains, and the annual and extreme-event flooding histories of the site should be reviewed as closely as possible. A detailed hydrological study of the site should be undertaken, including a determination of the potential interaction of groundwater with the proposed wetland. Without flooding or saturated soils, for at least part of the growing season, a wetland will not develop. Similarly, a site that is too wet will not support the desired biodiversity. The tidal cycle and stages are important to the hydrology of coastal wetlands.

4. *Whenever possible, choose wetland restoration over creation.* Select sites where wetlands previously existed or where nearby wetlands still exist. Restoration of wetlands has been observed to be more feasible and sustainable than creation of wetlands. In restored sites the proper substrate may be present, seed sources may be on-site or nearby, and the appropriate hydrological conditions may exist or may be more easily restored.

The U.S. Army Corps of Engineers (Corps) and Environmental Protection Agency (EPA) Mitigation Memorandum of Agreement states that, "because the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, restoration should be the first option considered" (Fed. Regist. 60(Nov. 28):58605). The Florida Department of Environmental Regulation (FDER 1991a) recommends an emphasis on restoration first, then enhancement, and, finally, creation as a last resort. Morgan and Roberts (1999) recommend encouraging the use of more restoration and less creation.

5. *Avoid over-engineered structures in the wetland's design.* Design the system for minimal maintenance. Set initial conditions and let the system develop. Natural systems should be planned to accommodate biological systems. The system of plants, animals, microbes, substrate, and water flows should be developed for self-maintenance and self-design. Whenever possible, avoid manipulating wetland processes using approaches that require continual maintenance. Avoid hydraulic control structures and other engineered structures that are vulnerable to chronic failure and require maintenance and replacement. If necessary to design in structures, such as to prevent erosion until the wetland has developed soil stability, do so using natural features, such as large woody debris. Be aware that more specific habitat designs and planting will be required where rare and endangered species are among the specific restoration targets.

Whenever feasible, use natural recruitment sources for more resilient vegetation establishment. Some systems, especially estuarine wetlands, are rapidly colonized, and natural recruitment is often equivalent or superior to plantings (Dawe et al. 2000). Try to take advantage of native seed banks, and use soil and plant material salvage whenever possible. Consider planting mature plants as supplemental rather than required, with the decision depending on early results from natural recruitment and invasive species occurrence. Evaluate on-site and nearby seed banks to ascertain their viability and response to hydrological conditions. When plant introduction is necessary to promote soil stability and prevent invasive species, the vegetation selected must be appropriate to the site rather than forced to fit external pressures for an ancillary purpose (e.g., preferred wildlife food source or habitat).

6. *Pay particular attention to appropriate planting elevation, depth, soil type, and seasonal timing.* When the introduction of species is necessary, select appropriate genotypes. Genetic differences within species can affect wetland restoration outcomes, as found by Seliskar (1995), who planted cordgrass (*Spartina alterniflora*) from Georgia, Delaware, and Massachusetts into a tidal wetland restoration site in Delaware. Different genotypes displayed differences in stem density, stem height, below-ground biomass, rooting depth, decomposition rate, and carbohydrate allocation. Beneath the plantings, there were differences in edaphic chlorophyll and invertebrates.

Many sites are deemed compliant once the vegetation community becomes established. If a site is still being irrigated or recently stopped being irrigated, the vegetation might not survive. In other cases, plants that are dependent on surface-water input might not have developed deep root systems. When the surface-water input is stopped, the plants decline and eventually die, leaving the mitigation site in poor condition after the Corps has certified the project as compliant.

7. Provide appropriately heterogeneous topography. The need to promote specific hydroperiods to support specific wetland plants and animals means that appropriate elevations and topographic variations must be present in restoration and creation sites. Slight differences in topography (e.g., micro- and meso-scale variations and presence and absence of drainage connections) can alter the timing, frequency, amplitude, and duration of inundation. In the case of some less-studied, restored wetland types, there is little scientific or technical information on natural microtopography (e.g., what causes strings and flarks in patterned fens or how hummocks in fens control local nutrient dynamics and species assemblages and subsurface hydrology are poorly known). In all cases, but especially those with minimal scientific and technical background, the proposed development wetland or appropriate example(s) of the target wetland type should provide a model template for incorporating microtopography.

Plan for elevations that are appropriate to plant and animal communities that are reflected in adjacent or close-by natural systems. In tidal systems, be aware of local variations in tidal flooding regime (e.g., due to freshwater flow and local controls on circulation) that might affect flooding duration and frequency.

8. Pay attention to subsurface conditions, including soil and sediment geochemistry and physics, groundwater quantity and quality, and infaunal communities. Inspect and characterize the soils in some detail to determine their permeability, texture, and stratigraphy. Highly permeable

soils are not likely to support a wetland unless water inflow rates or water tables are high. Characterize the general chemical structure and variability of soils, surface water, groundwater, and tides. Even if the wetland is being created or restored primarily for wildlife enhancement, chemicals in the soil and water may be significant, either for wetland productivity or bioaccumulation of toxic materials. At a minimum, these should included chemical attributes that control critical geochemical or biological processes, such as pH, redox, nutrients (nitrogen and phosphorus species), organic content and suspended matter.

9. Consider complications associated with creation or restoration in seriously degraded or disturbed sites. A seriously degraded wetland, surrounded by an extensively developed landscape, may achieve its maximal function only as an impaired system that requires active management to support natural processes and native species (NRC 1992). It should be recognized, however, that the functional performance of some degraded sites may be optimized by mitigation, and these considerations should be included if the goal of the mitigation is water- or sediment-quality improvement, promotion of rare or endangered species, or other objectives best served by locating a wetland in a disturbed landscape position. Disturbance that is intense, unnatural, or rare can promote extensive invasion by exotic species or at least delay the natural rates of redevelopment. Reintroducing natural hydrology with minimal excavation of soils often promotes alternative pathways of wetland development. It is often advantageous to preserve the integrity of native soils and to avoid deep grading of substrates that may destroy natural below-ground processes and facilitate exotic species colonization (Zedler 1996).

10. Conduct early monitoring as part of adaptive management. Develop a thorough monitoring plan as part of an adaptive management program that provides early indication of potential problems and direction for correction actions. The monitoring of wetland structure, processes, and function from the onset of wetland restoration or creation can indicate potential problems. Process monitoring (e.g., water-level fluctuations, sediment accretion and erosion, plant flowering, and bird nesting) is particularly important because it will likely identify the source of a problem and how it can be remedied. Monitoring and control of nonindigenous species should be a part of any effective adaptive management program. Assessment of wetland performance must be integrated with adaptive management. Both require understanding the processes that drive the structure and characteristics of a developing wetland. Simply documenting the structure (vegetation, sediments, fauna, and nutrients) will not provide the knowledge and guidance required to make adaptive "corrections" when adverse conditions are discovered. Although wetland development may take years to decades, process-based monitoring might provide more sensitive early indicators of whether a mitigation site is proceeding along an appropriate trajectory.

Taking on the Long-Term Stewardship of Wetlands Mitigation Sites

www.ltanet.org MITIGATION go

by Rebecca L. Kihslinger, Jessica Wilkinson, Palmer Hough and Sherry Teresa

The Congaree Land Trust saves scenic open spaces, forests and waterways in its home state of South Carolina. But recently, like other land trusts across the country, Congaree has also accepted requests to protect wetlands compensation sites, often called mitigation projects, which have been restored or preserved under the federal wetlands regulatory program.

Among the pioneering land trusts in this work are the Great Land Trust in Alaska and The Nature Conservancy Mississippi Chapter, who have both opted to play a more complex role in the wetlands program by sponsoring an in-lieu fee mitigation program or a mitigation bank. Although separated by more than 4,000 miles and four time zones, all three organizations are well versed in the complicated workings of wetlands compensatory mitigation through their experience with the federal program.

Somewhere in the range of 40,000-60,000 acres of wetlands compensation is required through the federal wetlands regulatory program each year. Per federal guidance, these compensation sites should be protected in perpetuity; however, recent independent evaluations by the Government Accountability Office[1] and the National Research Council[2] have shown that federal natural resource agencies are not adequately ensuring that mitigation sites are effectively managed and protected. Thus, federal agencies are increasingly turning to third-party land conservation organizations to hold easements on or accept titles to compensation sites. The realization is dawning that land trusts are in the best position to provide the long-term protection of these important resources and to ensure that they are indeed protected forever.

The realization is dawning that land trusts are in the best position to provide the long-term protection of these important resources and to ensure that they are indeed protected forever.

This article will provide land trusts the basic tools needed for evaluating whether to engage in a mitigation project and if so, under what terms. Wetlands mitigation is a complex regulatory program replete with a dictionary's worth of acronyms and technical principles that can be a quagmire to newcomers. While the program can offer powerful opportunities for good conservation, skeptics can cite tales of mitigation gone wrong.

The Origins of Wetlands Mitigation

Passed by Congress in 1972, Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into "Waters of the United States," including wetlands. When creating the regulatory program, Congress split jurisdiction for it between the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA). The Corps administers the program on a day-to-day basis and takes the lead in issuing permits in its 38 district offices. EPA develops the environmental criteria by which the Corps evaluates proposed permits, and shares enforcement responsibilities with the Corps.

Two national goals underlie this program. First, the Clean Water Act was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Second, a national goal was set in 1989 by the first President Bush to achieve "no overall net loss" of wetlands acres and functions.

Over the past 25 years, EPA and the Corps have established a three-part mitigation process for issuance of wetlands permits:

- Impacts to wetlands and other aquatic systems must be avoided "to the maximum extent practicable."
- Unavoidable impacts must be minimized "to the extent appropriate and practicable."
- Remaining impacts must be compensated, again, "to the extent appropriate and practicable."

Satisfying Compensatory Mitigation Requirements

Each year the Corps permits impacts to approximately 22,000 acres of wetlands and other aquatic resources. Permit recipients are required to provide between 40,000 and 60,000 acres of wetlands and other aquatic resources to offset these annual losses. The mitigation allowed by the resource agencies generally fits within four methods:[3]

Establishment (creation) means the manipulation of the physical, chemical or biological characteristics present to develop an aquatic resource that did not previously exist at an upland or deepwater site.

Restoration means the manipulation of the physical, chemical or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource.

Enhancement means the manipulation of the physical, chemical or biological characteristics of an aquatic resource to heighten, intensify or improve a specific aquatic resource

function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s).

Preservation means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms.

The federal agencies have a long-standing preference for the use of restoration over the other methods of compensation because it has the greatest potential for replacing both lost aquatic resource functions and area, ensuring that the "no net loss" goal is met.[4] Establishment can also replace lost aquatic resource functions and area and has commonly been used to offset permitted impacts, however, its use has decreased in recent years due to concerns over a high project failure rate and the loss of productive upland habitat. Similarly, there are also concerns with the use of enhancement, which can offer functional improvements but does not replace lost acreage.

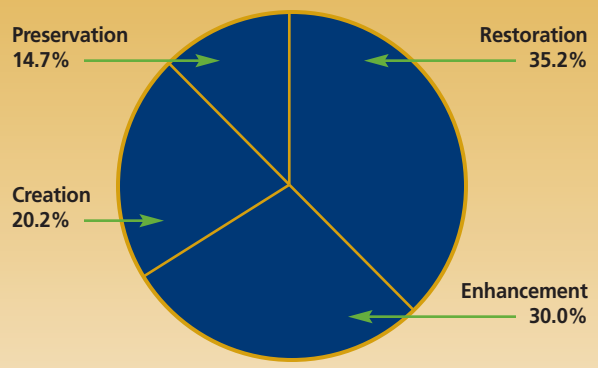
Don Poggensee / NRCS

By comparison, simple preservation of intact aquatic resources does not contribute directly to meeting the "no net loss" goal since it replaces neither lost functions nor lost acreage. Thus, its use as compensation is limited. However, resource agencies may, in certain circumstances, accept the preservation of an intact wetlands or stream system as adequate compensation for permitted losses if, for example, the preserved site is of exceptional quality and possesses some unique, rare or threatened ecological characteristics.

In general, most compensation projects include a combination of restored, enhanced and preserved complexes of wetlands, stream and other aquatic resources. Annually, over 65 percent of compensation takes the form of restoration and enhancement.[5]

FIGURE 1

Wetlands Mitigation Types



Proportion of required wetlands mitigation (out of a reported 43,549 acres, FY03) accomplished nationwide through restoration, enhancement, creation and preservation, calculated as percentages of the total amount of wetlands mitigation. *Source: Wilkinson and Thompson*

Mitigation Mechanisms

There are three mechanisms for providing compensatory mitigation under the federal program: permittee-responsible mitigation, mitigation banks, and in-lieu fee mitigation.

Permittee-Responsible Mitigation: Restoration, creation, enhancement and (in exceptional circumstances) preservation of wetlands undertaken by a permittee (or a contractor hired by the permittee) in order to compensate for impacts resulting from a specific project. *Responsibility for completing the work and ensuring success remains with the permittee.*

Mitigation Banking: A mitigation bank is a wetlands, stream or other aquatic resource area that has been restored, created, enhanced or (in exceptional circumstances) preserved, which is then set aside to compensate for future conversions of aquatic resources for development activities. The value of a bank is determined by quantifying the aquatic resource functions restored or created in terms of "credits." Permittees, upon approval of regulatory agencies, can acquire these credits to meet their requirements for com-

pensatory mitigation. *The permittee pays a mitigation banker to do the compensation work and the banker is ultimately responsible for success of the project.*

In-Lieu Fee Mitigation: A permittee provides funds to an in-lieu fee sponsor, generally a public agency or nonprofit organization, instead of completing permittee-responsible mitigation or purchasing credits from a mitigation bank. *The Fee Administrator is responsible for the success of the compensatory mitigation.*

While over half of compensatory mitigation completed each year is permittee-responsible compensation, in recent years, use of mitigation banks has rapidly expanded and these banks currently provide over one-third of the annual compensation.[6]

Roles for Land Trusts in Compensation

Land trusts can play a variety of roles in the federal wetlands program. They may agree to accept an easement on or title to a property on which a compensatory mitigation project (permittee-responsible, mitigation bank or in-lieu fee mitigation) has been conducted and thereby become the long-term steward of the site. Alternatively, land trusts can enter into an agreement to be a partner in a mitigation project or opt to sponsor a wetlands mitigation bank or in-lieu fee program. Or, land trusts may enter into some creative combination of the above. The role a land trust chooses to play must, of course, be evaluated against the backdrop of the organization's mission statement, the comfort level of the group's board of directors, its technical expertise, and the opportunities and potential liabilities that come with involvement in compensatory mitigation projects.

Long-Term Steward

The long-term steward is the entity that assumes control over, and legal responsibility for, a mitigation site after the ecological performance standards and administrative requirements have been met and the Corps has certified that the project is in compliance. The steward is accountable for implementing all of the long-term management responsibilities identified in the mitigation site's long-term management plan and real estate instrument (e.g., conservation easement, deed restriction or fee simple title).

The basic long-term stewardship responsibilities—monitoring site visits, site maintenance and easement defense—for a compensatory mitigation site can be similar to those required of a donated easement. However, mitigation projects often require a land trust to assume responsibilities that go above and beyond those required of traditional easements. And, because most mitigation sites have been restored or enhanced to some degree, they may require more intense long-term management (such as fire management or invasive species control) than typical easement sites. The long-term management plan may also define specific monitoring and reporting schedules that are required of the site steward in perpetuity.

The Congaree Land Trust first became involved with the long-term stewardship of wetlands mitigation sites when a local family asked the organization to hold an easement on one of their mitigation properties. Congaree currently holds nine easements on properties on wetlands compensation sites—both project-specific and wetlands mitigation bank sites.

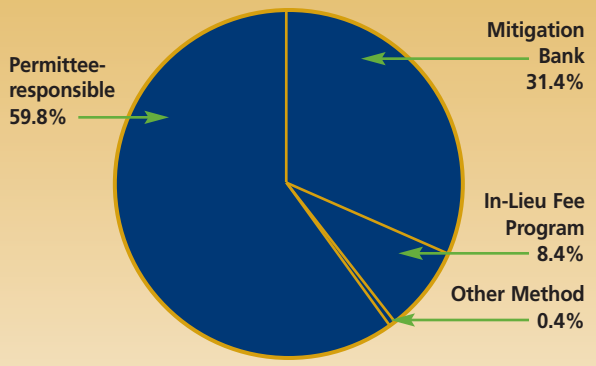
Accepting an easement or title on mitigation lands can provide land trusts, such as Congaree, with unique opportunities for adding to the portfolio of land in its target conservation area. In addition, because stewardship endowments are often part of the agreement for taking on the long-term responsibilities for a mitigation project, playing this role may also serve to increase the financial and professional capacity

Great Land Trust

***GREAT LAND TRUST PURCHASED** the 32-acre Fish Creek Estuary, Anchorage, Alaska's last undeveloped estuary, using funds from an in-lieu fee agreement with the Army Corps of Engineers. The trust then donated the property to the Municipality of Anchorage and retained a conservation easement.*

FIGURE 2

Wetlands Mitigation Methods



Proportion of required wetlands mitigation nationwide (43,549 acres, FY03) satisfied by permittee-responsible mitigation, purchase of credits from a mitigation bank, payment to an in-lieu fee program, and by other means.

Source: Wilkinson and Thompson

of the organization. However, becoming a long-term steward of a mitigation site can lead to unforeseen management expenses, public relations problems, permitting and legal hassles, staff burnout and mission drift—all potential problems that must be considered before taking on the project.

Project Partner

For some projects, a land trust may partner with an in-lieu fee sponsor or other mitigation provider to perform restoration work or assume permittee's required monitoring responsibilities. As a partner, the land trust should detail all their restoration or management responsibilities in a formal management agreement with the mitigation provider and regulatory agencies. Although the mitigation provider frequently retains liability for the success of the site (i.e., meeting performance standards), the land trust can be held accountable for the responsibilities outlined in this agreement.

The responsibilities and liabilities taken on by the project partner can vary widely with the site, the mitigation requirements and the capability of the land trust. Some land trusts may have the capacity to partner with an in-lieu fee provider to implement an entire restoration project. In this context, the land trust may be responsible for site selection, restoration or enhancement activities, or monitoring, among other responsibilities. Alternatively, a land trust may choose to solely assume the permittee's required monitoring responsibilities of the mitigation site.

Project partnership can strengthen the land trust's ability to take on a mitigation project. In addition, a land trust's input on site selection and direct role in the restoration activities can ultimately influence the success of the site itself. However, the land trust may find that the project leads to unanticipated expenses, board/staff burnout, or even public relations and legal problems if the project fails. Each land trust needs a process for fully evaluating and addressing potential risks.

Mitigation Sponsor

In some cases, land trusts have opted to become mitigation providers, either by sponsoring a mitigation bank or an in-lieu fee program. Under such arrangements, the land trust works with the relevant state and federal agencies to secure approval for the bank or program (mitigation bank or in-lieu fee agreement), secures the site, carries out the mitigation activities, and assumes full liability for the success of the mitigation site.

According to a recent survey of Corps districts, almost 60 percent of all of the nation's 42 approved in-lieu fee programs are sponsored by private, nonprofit conservation organizations, such as land trusts.[7] Land trusts sponsoring an in-lieu fee program may use the fees collected to acquire and restore wetlands in areas that are a geographic priority or under significant threat of development.

For example, the Great Land Trust in Alaska entered into an in-lieu agreement with the Corps and is now focused on protecting the wetlands resources associated with a local creek under severe development pressure in the Anchorage region. Since the program's inception, the trust has collected approximately $3 million in mitigation fees. The funds have primarily been used to support large wetlands restoration and acquisition projects in the trust's target areas of interest.

Few land trusts or conservation organizations have the capacity and resources to establish a mitigation bank. However, in November 1996, The Nature Conservancy's Mississippi Chapter acquired over 1,700 acres of converted loblolly pine commercial forest to establish the Old Fort Bayou Mitigation Bank. The carefully restored bank site now features several habitat types including wet pine savanna, bottomland hardwood, and emergent marsh. In addition to this bank, TNC also manages the Red Creek Consolidated Mitigation Project. Together, TNC's wetlands and stream mitigation banking efforts have helped preserve and maintain important aquatic resources in south Mississippi.

Loretta Leist

***THE MISSISSIPPI CHAPTER** of The Nature Conservancy manages Old Fort Bayou Mitigation Bank, including prescribed fire application to reduce woody vegetation, control invasive plant species and promote growth of native plant species.*

Although the Great Land Trust and TNC Mississippi examples may seem enticing—free money to preserve and manage priority lands—mitigation funding carries with it significant liabilities, not to mention the time, staff and resource investments that must be devoted to the process.

Know Where You Are Heading

Despite the time commitment, early involvement by the land trusts in a prospective project can help ensure that the land trust plays a more significant role in project design, which in turn will increase the likelihood that the project will meet the organization's protection priorities.

Before agreeing to play a role in any mitigation project,

land trusts should formally lay out all of their responsibilities and endowment expectations in a long-term stewardship or management and funding agreement. The mitigation provider, regulatory agencies and the land trust should sign the agreement. In addition, the land trust should build an effective system to track all of its mitigation responsibilities and deferred mitigation expenses.

For all potential mitigation projects land trusts should conduct an initial site visit to document baseline site conditions. All of the relevant mitigation documents should also be reviewed thoroughly to assess the terms of the real estate instrument employed, the extent of the trust's management responsibilities, and the group's financial and legal liabilities.

Mitigation Plans

Navigating the labyrinth of regulatory permits and mitigation plans can be overwhelming. However, for a land trust, the key sections of a mitigation plan or permit are the site protection provisions, contingency plans, monitoring and maintenance plans, and financial assurances.

Site Protection Provisions: This section lays out the type of real estate provision (title transfer, conservation easement, deed restriction or declaration of restriction), the entity to whom the real estate provision will be transferred, and the date or milestone for transfer.

Contingency Plans: The mitigation plan should include provisions for responding to unanticipated site conditions or changes. If, for example, the site is not in compliance with the terms of its permit or mitigation agreement, this section will lay out who is responsible and how remedial measures will be funded.

Monitoring and Maintenance Plans: Monitoring provisions may stipulate the responsible parties and their roles, the data that must be collected, the assessment tools used to monitor progress towards performance standards, and the reporting format, frequency, recipients and schedule. Maintenance provisions are the long-term responsibilities that may transfer to the long-term steward. This section should also specify the entity that will take over long-term management responsibilities from the provider, the source of the long-term endowment, and the time frame for long-term management activities.

Financial Assurances: Financial assurances come in two distinct flavors and come into play at different stages of mitigation projects. Contingency funds can be required during the "active phase" of the mitigation project and typically last until either the end of the monitoring period or after all of the credits have been sold. Contingency funds may be up to 10 percent of the annual operating budget. Long-term management funds are required after the monitoring period is over or after the mitigation bank's credits have been sold. The mitigation provider and the easement holder should establish an agreement that includes and identifies a financial assurance mechanism, financial entity that will manage the funds, date or milestone for the transfer of funds, schedule by which financial assurances may be reviewed and limitations on how the funds can be spent.

For permittee-responsible mitigation sites, the key elements may be found in the permit itself, included as a mitigation plan attached to the permit or in a mitigation plan yet to be submitted. For a mitigation bank, the key elements can be found in the mitigation banking agreement, which includes a detailed mitigation plan. For in-lieu fee mitigation sites, the key elements may be found in the in-lieu fee agreement, but may also be found in the specific in-lieu fee project plan/proposal that is drafted for each individual project conducted with the collected fees.

It is important to note, however, that mitigation plans differ significantly from Corps district to Corps district and mitigation project to mitigation project. It is therefore important that the land trust know whom to ask for information and what information to ask for. The district Corps office is the place to start for tracking down this information. The agency provides direct links to the district regulatory programs from one central webpage: www.usace.army.mil/cw/cecwo/reg/district.htm.

Check out the* National Wetlands Newsletter *at www.eli.org and the National Mitigation Banking Association at www.mitigationbanking.com.

Calculating Long-Term Stewardship Costs

The National Research Council report on compensatory mitigation emphasizes that third-party organizations taking on the long-term stewardship of compensation sites must receive adequate funding to provide for the long-term management needs of compensation sites under their care.[8] This is especially important because the costs for mitigation endowments can be many times higher than the costs for a regular donated conservation easement. Many land trusts calculate stewardship costs using either stewardship calculators or a computerized database methodology, such as the Property Analysis Record developed by the Center for Natural Lands Management.

Stewardship Calculators

Stewardship costs for compensation sites can be calculated using a worksheet that includes line items for one-time costs, such as a baseline documentation report and easement preparation, as well as ongoing stewardship costs. The latter may include estimates to cover staff salary and benefits, travel time, on-the-ground monitoring, landowner relations, meetings with town officials and community groups, direct costs for maps and supplies, overhead and office expenses, expert help such as foresters or wetlands ecologists, capital purchases and additional insurance.

The cost of defending an easement can be significant and should be carefully evaluated when determining the endowment. Easement enforcement costs can be calculated using the following approach: 1) assume that there will be, on average, one violation and enforcement action every eight

The Mitigation Program of the Solano Land Trust

In Solano County, California, located halfway between Sacramento and San Francisco, the now deflated housing boom that caused conflict between developers and the regulatory agencies trying to protect endangered species habitat resulted in a flood of calls to the Solano Land Trust (SLT) to assist in the mitigation process. This typically included planning and implementing habitat restoration projects on SLT property, holding conservation easements on other project sites, or accepting title and management obligations in perpetuity.

With a relatively small staff already responsible for over 10,000 acres of preserve lands and 5,000 more in conservation easements, the lengthy mitigation process proved to be burdensome. And it wasn't just the workload; if a project did not ultimately come to fruition there was not reimbursement for time already invested. It did not take many failed projects before SLT halted all mitigation work in order to develop a set of procedures to guide all future requests.

The first step was to develop criteria defining acceptable projects. While consistency with SLT's mission was most important, other important criteria included adequate funding, internal expertise, and consistency with existing plans, due diligence, project size and viability, contiguity with other conservation lands, manageability, and compatibility of surrounding land uses.

With criteria in place SLT developed a three-phase process to guide staff from initial inquiry to project execution. The first step is a **screening process** in which the project proponent is asked to submit an application summarizing project details and regulatory agency involvement and to provide a non-refundable fee. The completed application is reviewed by land trust staff and a mitigation committee composed of board and community members. If the project is consistent with SLT's criteria the project proponent is notified and asked to deposit a retainer fee, which is refundable to the extent that it is not expended during the second step, **project preparation and evaluation.** Using its template letter of agreement, SLT makes clear that further work on the project does not guarantee that the project will ultimately be accepted.

At this point a staff member devotes significant time to project development and communication with the appropriate regulatory agency to ensure that the project will fulfill requirements. In-depth cost analyses are undertaken to derive implementation costs and endowment costs. This is a critical part of step two and is often where projects fall apart. Capitalization rate and endowment investment guidelines are of particular interest to the project proponent.

Assuming all the details can be worked out between the land trust, the project proponent and the regulatory agency, the final step is **project execution.** Land trust staff can do this if the expertise exists; otherwise, hiring a consultant is built into the cost.

Establishing a mitigation program requires that an organization consider many factors including organizational identity and reputation; adequate staffing and expertise; consistency with mission; and an understanding of the liabilities associated with accepting projects. SLT debated these and other topics at length and ultimately recognized that these projects occur whether lands trusts participate or not. Active participation enables SLT to hold mitigation projects to the highest standards both during implementation and in perpetuity.

For a copy of the SLT mitigation program please visit www.solanolandtrust.org. ***—Julian Meisler***

Solano Land Trust

BEFORE AND AFTER PHOTOS FROM A CALIFORNIA RED-LEGGED FROG MITIGATION PROJECT. *"Before" (left) shows where cattle trampled near a pond with endangered California red-legged frogs in 2004 at Solano Land Trust's King Ranch Preserve. "After" (right) shows the same area two years later after a solar pump and fence excluding cattle were installed. The mitigation project also entailed native planting, invasive weed control, and the establishment of a bullfrog eradication program (a non-native species that eats baby California red-legged frogs).*

years; 2) Estimate a cost (in time or in dollars) for the enforcement action; and 3) Add 1/8th of the total cost to the annual estimate. The cost of an enforcement action may be determined based on a reasonable estimate for the hourly rate of legal representation and staff multiplied by the estimated number of hours that would be required for the action.

Both the stewardship endowment and easement enforcement endowment must be sufficient to—based on a reasonable rate of return after inflation—generate sufficient funds to support annual stewardship activities and cover the costs of an easement defense should it arise.

PAR

The Center for Natural Lands Management has developed the Property Analysis Record (PAR) [www.cnlm.org, click on "Services"]. The PAR is a computerized database methodology that is extremely effective in helping land managers to calculate the costs of land management for a specific project. The PAR helps analyze the characteristics and needs of the property from which management requirements and costs are derived. It helps pinpoint management tasks and estimates their costs as well as the necessary administrative costs to provide the full cost of managing any property. The PAR generates a concise report, which serves as a well-substantiated basis for long-term funding.

Conclusion

With adequate preparation, land trusts can be uniquely qualified to take on the long-term stewardship responsibilities of wetlands mitigation sites. Partnering with land trusts in the long-term stewardship of compensation sites will not only assist the federal resource agencies in improving their track record with compensation projects, but may provide land trusts with unique conservation opportunities and additional sources of funding with which to pursue their land preservation missions. However, each land trust should carefully consider all of the opportunities and liabilities associated with mitigation before taking on the long-term stewardship responsibilities of a mitigation site.

Rebecca L. Kihslinger *is science and policy analyst at the Environmental Law Institute. Her colleague,* ***Jessica Wilkinson,*** *is senior science and policy analyst and director of the wetlands program.* ***Palmer Hough*** *is an environmental scientist with the U.S. Environmental Protection Agency Headquarters, Wetlands Division. And* ***Sherry Teresa*** *is the executive director of the Center for Natural Lands Management.*

ENDNOTES

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THE KATOOMBA GROUP'S
Ecosystem Marketplace

Opinion

The Demise of The Environmental Trust

by Sherry Teresa

After 15 years in business, with 4,621 acres under management and over four million dollars in endowment funds, The Environmental Trust in California filed for bankruptcy on July 29, 2005. The organization listed "unperformed obligations" exceeding $13 million. Sherry Teresa, Executive Director of the Center for Natural Lands Management, delves into what happened and pulls out some lessons for conservation organizations everywhere.

Winston Churchill once said: "Man will occasionally stumble over the truth, but most of the time he will pick himself up and continue on." We have many opportunities on a daily basis to learn from our mistakes. The greatest mistake, however, is to ignore the lesson and just continue on unenlightened. This story—the demise of The Environmental Trust—presents an interesting lesson. It is the story of an environmental mitigation land management organization in the US that set out to achieve great things and in the end, set the example of how not to run a nonprofit organization.

Don "Doc" Hunsaker, a former San Diego State University biology professor, organized The Environmental Trust (TET) as a California 501(c) (3) (non-profit) private foundation in 1990 to acquire environmentally threatened and sensitive properties and then assume perpetual responsibility for their maintenance, monitoring, and management. TET operated primarily in San Diego County where its properties included mitigation lands, conservation easements, conservation and mitigation banks, and lands within the Multiple Species Conservation Plan (MSCP) created for endangered species listed under the state and federal Endangered Species Act (ESA).

After 15 years in business, with 4,621 acres under management and over four million dollars in endowment funds, TET filed for bankruptcy under Chapter 11 of the United States code on July 29, 2005 for "unperformed obligations" exceeding $13 million. A liquidating plan for reorganization was filed on December 30, 2005 and called for the sale or distribution of all TET assets to qualified parties. TET's president at the time observed "TET's liquidation marks a very sad event from both the commercial as well as from an environmental perspective. Environmentally, TET's winding up and closure represents a failure to maintain sensitive habitat entrusted by many interested parties with TET for perpetual maintenance, monitoring and preservation."

What Went Wrong?

I remember the first time I met Doc. He is an affable guy, the favorite uncle type. He came up to Sacramento to talk about our organizations joining forces. While I immediately liked him, the more we spoke the more I realized how vastly different were our philosophies of conservation land management and stewardship. These philosophical differences embodied the core issues, described below, that I believe eventually led to TET's decline and demise.

I believe that five factors contributed to TET's fate:

(1) TET failed to develop and execute a realistic business plan;

(2) TET, and arguably the wildlife agencies, had a vague definition of what constituted best management practices for habitat stewardship;

(3) State and federal regulators did not adequately monitor TET's business practices, its compliance with accepted nonprofit fiduciary duty standards, or monitor its habitat management practices;

(4) TET's staff and board had poor or non-existent internal financial management controls; and

(5) The organization made clear departures from sound corporate governance principles.

Lack of a Business Plan: TET failed to appreciate that it was in the business of conservation. It did not have a well-considered and well-crafted business plan that addressed both current conditions and changes that might occur in the future. TET had no strategic plan, no clear set of overarching guiding principles, and a limited understanding of its habitat protection mission. These failings had practical, serious consequences. For example, with some frequency, TET's Executive Director would enter into negotiations for the perpetual maintenance of habitat lands without performing any serious due diligence regarding the conservation property or the business transaction. Little consideration was given to the full range of stewardship tasks TET would have to assume or their actual costs. TET's key managers frequently disregarded their own staff's recommendations concerning the management and funding of property.

Stewardship endowments were frequently based on a fixed "dollar per acre" estimate, not upon any disciplined task-based analysis tied to an actual property. As a result, "deals" were too frequently negotiated far below actual cost, but justified by the overriding desire to add to the number of properties and total acreage under management. Sadly, TET often chose to underbid the competition to add property and money to its portfolio, the general approach was 'We'll make it up on the next deal.'

Lack of a Model for Conservation Land Stewardship: There remains a lack of clarity about what constitutes adequate habitat stewardship. In my mind, TET's bankruptcy was caused largely by the failure of resource agencies to define "the work" of the steward—the long-term mitigation requirements of a proponent's permit, as well as monitoring obligations and responsibilities. The goals or intent of "the work" are usually straightforward and well defined in the law and various project-specific documents, such as biological opinions. Actually setting forth tasks that achieve the goals is a different matter. Few entities know how to do that. Thus definitions became a ground for contentious negotiations. If you are a project proponent, you probably believe that stewardship ceases at the end of mandatory 5-year monitoring periods. A large number of people, including some in resource agencies, believe nature preserves are, or should be, self- sustaining after some minimal re-vegetation or restoration. Hunsaker's definition of TET's stewardship was simple: it will maintain fences (when funding was available), pick up trash, and conduct drive-by "monitoring" visits. Indeed, most mitigation permits set forth broad perpetual habitat management goals—leaving the interpretation of what actually must be done to achieve them to a land manager.

Adaptive management is an emerging issue that is not clearly addressed in permit conditions or property management plans. We have struggled to educate project proponents (who are dedicating land and contributing endowment funding as a condition of receiving permits to develop land) and define stewardship and to explain why certain activities are necessary—not just to maintain habitat, but to fend off invasive and exotic plants and animals, to control visitor use and trespass issues, to adequately monitor a property's biology, to maintain gates,

fences and roads, to educate the public, to anticipate the need for and maintain fuel breaks and to conduct controlled burns, and a myriad other stewardship tasks that are rarely if ever specifically identified in any permit.

Habitat managers will tell you how challenging it is to maintain and enhance endangered species habitat that are next to urbanized areas. How do you allow people to use and enjoy these sites while trying to protect species? At the Center's preserves, we have dealt with many totally unanticipated issues. They have ranged from dealing with marijuana plantations, to eliminating motocross and BMX tracks established by local teenagers, to stopping gangs target shooting concrete-encased telephone poles with machine-guns, to removing illegal migrant camps, to dealing with arson, to stopping the dumping of unwanted pets, to overcoming the results of ruptured oil pipelines—and the list goes on. We are constantly presented with new challenges. A funding strategy that anticipates the unanticipated—what we often call contingencies and adaptive management is the only way to manage preserves that are adjacent to or surrounded by urban areas.

Global issues such as climate change and local issues such as nitrogen deposition from smog have profound implications for habitat preservation and may totally change ecotypes. It is impossible to predict what unique things will occur over time and what impact those changes may have on the land. Stewardship is not easy, and it is not for the fainthearted! TET, in my opinion, was neither prepared nor willing to meet the challenges of modern day habitat management.

The California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) jointly composed a letter to TET in 2003 that clearly identified TET's most serious stewardship deficiencies. For the first time, state and federal natural resource agencies jointly gave specific directions on habitat stewardship and outlined what they expected from a manager While CDFG/USFWS made numerous requests of TET for habitat management and financial information, their entreaties were frequently unanswered.

Failure of Regulatory Agencies to Act: It was evident early on that TET was not conducting sound business or habitat management practices. Many resource agency personnel knew this and requested information from TET that would clarify what they were doing, and the results of those actions. Requests were frequently ignored and the agencies failed to take action. Was there blatant procrastination by the agencies in dealing with TET? Even today, months after TET's demise, there still exists a serious lack of oversight of habitat managers by the regulatory agencies. This external oversight problem is compounded by a lack of internal oversight by stewardship organizations. Reports are not submitted, or are poorly researched and written. Violations are not enforced. In fairness to the regulatory agencies, they have few trained personnel to address these issues. Yet they have failed to create a process to whereby they might know if a land manager is or is not doing their job.

Financial: TET failed to take its fiduciary responsibility seriously. An organization that relies on the income from endowments to fund its work must have a sound investment management strategy. Newly formed organizations and those with small endowments face different risks and have different investment obligations than larger, more stable entities. TET lacked a reliable investment policy—one that would assure adequate inflation-adjusted perpetual income from endowments to fund current and future preserve management.

TET endowments were pooled for investment purposes. That is lawful, typical and an efficient and appropriate practice. However, TET failed to account for each preserve's income and expense--something that is generally required by permits. Every preserve needs an original cost estimate and annual budgets. Because TET may have deliberately underbid projects, its endowments were "short". Money for annual management had to come from somewhere. That meant TET had a choice: it could either do less work than was required, or it could use

funding from another preserve to make up the difference.

TET often used the PAR® program, software created by the Center for Natural Lands Management, to estimate its future stewardship costs, but TET's bids to proponents included endowment requests based not on long-term inflation-adjusted earning rates of balanced debt and equity portfolios, ("capitalization rates"), but on guesses about investment earnings from its endowment. Incorrect cost and income assumptions allowed proponents to put up endowments that almost immediately began to waste. Investing endowments is complex, and generally requires the assistance of highly skilled, professional financial management experts. The Ford Foundation provides excellent advice for endowment holders on its website http://www.fordfound.org/ and see Investment Management for Endowed Institutions.

Under California's Nonprofit Integrity Act of 2004, charitable corporations with assets of $2 million or more must prepare annual financial statements audited by an independent certified public accountant (CPA). The statements must use generally accepted accounting principles (GAAP). The independent CPA must follow generally accepted auditing standards. The audited financial statements must be made available to the Attorney General and the public no later than nine months after the close of the fiscal year. It appears TET never obtained a formal annual opinion letter from any auditor.

TET's Board Abdicated Fiduciary Responsibility. Several of TET's board members have stated that they were not given complete financial reports and were not aware of the gravity of the situation until told so by a new executive director who realized that the organization could no longer sustain itself. However, board minutes show that prior to 2002 and following a special report in 2002, TET's dire financial situation and lack of sound management practices was brought before the board. Even if there was not complete financial information presented to the board, its members are not absolved—it is their responsibility to have asked questions. Nonprofit board members are accountable for any wrong doing in the organization and can be held personally liable. The California Attorney General could sue TET's board members personally. If this sends a chill down the spine of nonprofit board members everywhere, it should.

So What Now?

According to proceedings to "wind up" the The Environmental Trust, it appears that fee title to some properties will be offered back to the original owners, along with a portion of the endowment they provided. However, all habitat management and monitoring obligations and encumbrances (typically conservation easements) would remain with the land. According to information disclosed in bankruptcy proceedings (case# 05-0232l-LAl-l), TET failed to record many of these conservation easements and frequently deposited only 80% of endowment funds into investment accounts, keeping the other 20% as some kind of overhead reimbursement. Hunsaker, who had stated earlier, "basically, we are protectionists who wanted to grab land and save it," now believes TET "did not receive enough moneys to fund the obligations that it assumed and the services it agreed to provide."

This, according to Hunsaker, was due in large part to "under funding its services, poor planning, inefficiency in executing of its tasks, poor investment decision making and the general decline of the U.S. equity markets." The corporation's books were in disarray and its endowments without adequate funds. When push came to shove, most of TET's real estate could not be sold, and the wildlife agencies refused to renegotiate stewardship obligations. No entity will willing assume TET's habitat management obligations without adequate funding.

Under the bankruptcy proposal, if the original owners do not agree to take the property back, TET's nature

preserves will be offered to a local agency. But that agency must comply with regulatory permits. How will they, absent funding? If local agencies are not interested, TET property will be offered to the wildlife agencies, and if they pass, to qualified nonprofits.

TET properties were scheduled to be disposed of in this manner starting on February 9, 2006. It is unclear what will happen to the properties. Without adequate endowments, other organizations are unlikely to accept them. The owner of last resource may end up being the State of California. This may mean that the public may ultimately assume responsibility for the properties. And yet again, the public will end up subsidizing private development by paying for the perpetual maintenance of the habitat lands. Without recorded conservation easements, many of these mitigation properties could be in jeopardy of being developed or used for purposes other than nature preserves.

Ensuring the Future

A New York Times article estimates that by 2025 the population of the US will increase by 70 million people. This increase equals the current population of New York, Florida and California combined. All the population growth in the US in the last decade didn't equal the growth of just two Southern California counties, Riverside and San Bernardino. We are in the throes of a $25 trillion building boom. The needs and requirements to set aside lands to compensate for development impacts to endangered species and wetlands will only increase. The need for experienced, credible and professional land management entities will also increase. It is imperative that stringent guidelines and standards be established for these stewards, as well as for public agencies that hold mitigation lands. Regulatory agencies must find a way to correctly define stewardship goals and provide consistent and thorough oversight of the steward's work.

Private land trusts and conservation organizations are great innovators. They undertake groundbreaking work typically not found in any government controlled land conservation program. Therefore we cannot afford to lose the energy, effectiveness and efficiency of private stewards. Government is not the solution to the TET problem. But government is a key partner. The government needs the private sector to ensure the long-term sustainability of these lands and cost-effective protection of resources for future generations. Government must create a flexible and responsible regulatory framework for mitigation. It can provide oversight itself, or by outsourcing to qualified organizations. Indeed, oversight can probably be delegated to qualified private entities.

Organizations and individuals in California representing private and public conservation entities have developed a model: Standards and Guidelines for Managing Endowment Funds and Mitigation Lands. Legislation has been introduced to formally allow nonprofits and other public conservation entities to hold and manage mitigation endowment funds under these strict standards and guidelines. However, all this will be for naught and we could have many more failures like TET if the regulatory agencies fail to set goals and do not provide the necessary oversight to monitor an organization's activities.

Mitigation banks receive oversight from a committee made up of USFWS, U.S. Army Corps Of Engineers, CDFG & U.S. Environmental Protection Agency called the Mitigation Banking Review Team (MBRT). Perhaps a Mitigation Stewardship Review Team (MSRT) should be formed to review mitigation manager's biological and financial reports and audits, and to conduct site visits to ensure stewardship is being carried out under clearly defined best management practices. This would allow nonprofits concerned with conservation to conduct the day-to-day conservation land management, while allowing the regulatory agencies the oversight to ensure that these lands are properly managed. As new nonprofit organizations spring up to offer stewardship services and land

trusts enter the mitigation land management arena, it is imperative they will have learned lessons from the demise of TET.

Private stewardship is an experiment. Perhaps the private sector cannot assume all funding obligations in perpetuity. But it is equally clear that government has few mechanisms in place to assure perpetual funding. Most budgets are subject to annual appropriation. Government can rarely invest in a balanced portfolio of assets that has an adequate inflation and risk-adjusted return. If government does not earn enough to manage land, the land is not managed. We are back to TET. Only time will tell. But I think the answer must be a responsible partnership among all the players.

The Business of Conservation

I believe the lesson learned from TET is this: we are in the business of conservation. In order to be successful and accomplish our mission, however, we must conduct our activities using strong ethical, financial and professional standards. No nonprofit can abandon its fiduciary and moral responsibilities. As we have seen from Congressional hearings and legislation surrounding The Nature Conservancy's recent troubles, non-profits involved in conservation assume significant societal obligations under a sacred trust that cannot be abused. This means we must be absolutely open and operate transparently, meeting the highest of ethical and professional standards. To do anything less is to abdicate our fiduciary trust; worse yet, it is a breach of public trust.

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What Happens When a Wetland Mitigation Bank Goes Bankrupt?

The primary debate over wetland mitigation banking focuses on the extent to which banks fully replace acreage, functions, and values. While this concern is critical, the authors highlight another banking issue that receives far less attention. What happens to wetland acreage, functions, and values if the bank goes belly-up?

BY ROYAL C. GARDNER AND THERESA J. PULLEY RADWAN

Mitigation banking, like any other entrepreneurial venture, is a risky business. A mitigation banker devotes significant resources to a project with an uncertain financial return. The banker must first navigate regulatory hurdles to establish a framework for the construction and operation of the bank; this process can take months or even years. Then, to sell credits, the banker must satisfy performance standards designed to ensure the ecological success of the mitigation project.

The mitigation banker also shoulders risk related to demand for credits. The banker competes for the business of mitigation seekers against other mitigation options such as in-lieu-fee programs and traditional, permittee-responsible projects, both of which may be less expensive. Although a mitigation bank may offer a greater likelihood of ecological success than other options, potential clients are probably more concerned with the bottom line.

Another set of risks relates to ecological factors. What if, in the course of restoration, conditions at the mitigation site deteriorate? A properly structured mitigation banking arrangement should have financial assurances to address such a contingency. Financial assurances are necessary at two stages: during the bank's construction and credit sale phase, and in the post-sale phase, during long-term site stewardship. In fact, the presence of these assurances is one of the benefits of mitigation banking over other mitigation options.

Considering these risks and the nature of entrepreneurial ventures generally, it is not surprising that some mitigation bankers have filed for bankruptcy. This article examines how bankruptcy law can affect the rights and obligations of the mitigation banker and government agencies, and the consequences of bank bankruptcy for wetlands.

Bankruptcy Basics

Bankruptcy can allow an individual or business to purge certain debts and obligations, reorganize, and return to its affairs with a fresh start. Bankruptcy can also lead to the liquidation of a business. When an entity has continuing mitigation responsibilities, however, these changes can lead to a "clash of absolutes": the U.S. Bankruptcy Code versus an environmental agency's regulatory powers.[1]

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ALSO IN THIS ISSUE

When entering into a bankruptcy, a debtor selects the chapter of the bankruptcy code by which he will be governed. A business entering bankruptcy usually chooses either chapter 7 or chapter 11.

Chapter 7 involves liquidation. The bankruptcy trustee, a government-appointed individual who represents the debtor's estate and the interests of the creditors, runs the business for the purpose of liquidation. The trustee collects assets of the debtor, sells or otherwise disposes of them, and distributes the proceeds to creditors. At the conclusion of the bankruptcy proceeding, the business terminates, as does all remaining unpaid debt.[2]

Chapter 11 envisions a reorganization of the debtor company. In most cases, a chapter 11 debtor's business is run by the "debtor-in-possession," which is essentially the same entity as the debtor.[3] Rather than having an outside party run the company, the company decides for itself how to run. Debts are not paid through the sale of the company's assets, but rather through everyday operations.

The debtor-in-possession must consider how to prevent future insolvency, and often will restructure the company to increase profits. The court requires that a plan of reorganization specify how the company will be restructured and how debts will be paid. The debtor-in-possession or another entity may prepare plan proposals, but the court ultimately will approve only one.

Though most chapter 11 proceedings envision reorganization, chapter 11 also can result in liquidation. Sometimes the debtor-in-possession essentially sells its entire business, leaving only a shell company or litigation trust to handle remaining matters and then dissolve.

Regardless of the chapter, bankruptcy offers a debtor protections that can affect the rights of creditors. As soon as a debtor files a bankruptcy petition, an automatic stay is placed on actions against the debtor, albeit with some exceptions discussed below. The automatic stay applies even if the creditor is not yet aware of the bankruptcy filing.[4]

To share in the distribution to creditors, a creditor usually must file a "proof of claim" form.[5] Claims generally fall into one of three categories: secured, priority unsecured, or general unsecured. Secured claims have value ensured by collateral; all other claims are unsecured. In a chapter 7 bankruptcy, secured claims are generally paid from the value of the collateral. First payment from the unencumbered collateral goes to priority claims, and to the extent that any funds remain after payment to the priority claimants, general unsecured claims are paid. Though a chapter 11 proceeding gives more flexibility in determining the order of payment, a bankruptcy proceeding typically gives priority creditors more than general unsecured creditors.[6]

Sometimes a creditor's claim is not paid in full in the bankruptcy proceeding. In a chapter 7 proceeding, the remaining claim will not survive post-bankruptcy unless the successor entity has liability. With a successful chapter 11, however, there will often be a surviving debtor and thus the possibility of collecting claims after the bankruptcy is over. However, the plan of reorganization discharges the vast majority of claims under chapter 11.[7]

In sum, status matters in bankruptcy. Claims must be dealt with in the bankruptcy process. Creditors with general unsecured claims often receive little or nothing from bankruptcy proceedings—and courts have sometimes found government agencies enforcing environmental laws to be general unsecured creditors in bankruptcy proceedings.

Environmental "Claims" in Bankruptcy

Whether and how much of an environmental cost will be paid in bankruptcy depends on the classification of the cost. If the cost is not a claim, it will be paid outside of the bankruptcy proceeding.

In 1985, the U.S. Supreme Court in *Ohio v. Kovacs*[8] considered whether environmental cleanup costs constituted a claim in a bankruptcy proceeding. Kovacs, the CEO of a chemical company, had been charged with violating numerous state environmental laws. Kovacs and his company agreed to, but failed to complete, a site cleanup. A receiver was then appointed to take control of Kovacs's assets and perform the cleanup. Following the appointment, Kovacs filed for individual chapter 11 bankruptcy protection but later converted the bankruptcy to chapter 7. The state asked the bankruptcy court to declare that the money due to the state as a result of Kovacs's failure to clean the sites could not be discharged.[9]

When an entity has continuing mitigation responsibilities, bankruptcy can lead to a "clash of absolutes": the U.S. Bankruptcy Code versus an environmental agency's regulatory powers.

The Supreme Court first considered whether the money due constituted a claim in the bankruptcy proceeding, focusing on the state's right to money for a violation of its environmental laws. At first glance, the legislative history of the bankruptcy code implies that the mere right to payment creates a claim:

> Section 101(4)(B) . . . is intended to cause the liquidation or estimation of contingent rights of payment for which there may be an alternative equitable remedy with the result that the equitable remedy will be susceptible to being discharged in bankruptcy. For example, in some States, a judgment for specific performance may be satisfied by an alternative right to payment in the event performance is refused; in that event, the creditor entitled to specific performance would have a "claim" for purposes of a proceeding under title 11.[10]

However, the Court's interpretation of the provision considered not the state's *ability* to seek a monetary judgment but its *choice* to do so. The Court noted that by seeking a receivership over Kovacs, Ohio took away Kovacs's ability to clean up the site. The state was no longer enforcing its environmental laws, but rather was seeking repayment of costs already incurred. The state, therefore, had a monetary claim against Kovacs that was subject to the chapter 7 proceedings.

Lower court interpretations of *Kovacs* have not been consistent. There seems to be a consensus at the extremes: A dischargeable claim exists when the government seeks monetary reimbursement of funds already spent on remediation or restoration,[11] whereas no claim (and thus no possible discharge) exists when there is an injunction ordering the debtor to cease actions that harm the environment.[12] However, court decisions have been mixed in cases in which the government did not seek reimbursement but rather sought to require the debtor to remediate past environmental problems and prevent further environmental harm.

For example, the Bankruptcy Court for the Middle District of Florida held in *In re Robinson*[13] that a claim includes the federal government's right to enforce a wetland restoration order if the restoration entails "substantial direct expenditure" by the debtor. In this case, the debtor destroyed a salt marsh in violation of the Clean Water Act and was ordered to restore the area. Rather than complying with the order, the debtor filed for chapter 7 bankruptcy protection. The federal government did not seek a money judgment and did not file a proof of claim in the bankruptcy proceeding. Instead, the government argued that because it did not have a claim in the proceeding, the obligations of the debtor could not be discharged.[14] However, the bankruptcy court rejected the government's position, indicating that a bankruptcy court may conclude that an obligation to restore or maintain a wetland site is a dischargeable claim.

In contrast, in 1993, the U.S. Court of Appeals for the Third Circuit concluded in *Torwico Electronics Inc. v. New Jersey*[15] that no claim existed when New Jersey demanded that a debtor remediate a hazardous waste site, despite the fact that the cleanup would require a substantial expenditure by the debtor. Torwico Electronics filed a chapter 11 bankruptcy petition and listed New Jersey as a potential creditor. Between receiving that bankruptcy notice and the bar date set by the bankruptcy court for filing proofs of claim, the state discovered numerous environmental law violations on Torwico's property. In determining whether New Jersey held a claim, the court distinguished *Torwico* from *Kovacs* because New Jersey did not have the ability to clean up the site and ask for payment from the debtor; rather, the state's only feasible option was to require the debtor to clean up the site.[16] The real focus, said the court, is on whether the claim seeks to remedy "an ongoing and continuing threat" or seeks compensation.[17] *Torwico* makes a distinction between the government's desire to obtain money (a claim) and its desire to enforce its environmental policies (not a claim).[18]

Woodbury Creek Wetland Mitigation Bank

The Woodbury Creek Wetland Mitigation Bank situation raises issues related to early release of credits, the vitality of financial assurances, and the ability of regulators to take enforcement actions against a mitigation banker.

In 1995, the New Jersey Freshwater Wetlands Mitigation Council granted conditional approval to U.S. Wetland Services Inc. to establish and operate a wetland mitigation bank in Gloucester County. Eventually, LandBank took over as the party legally responsible for the resulting Woodbury Creek Wetland Mitigation Bank.

The resolution and subsequent permit allowed LandBank to sell up to one-third of its credits in advance, after meeting requirements such as recording a conservation restriction and posting bonds to cover construction and maintenance costs. Additional credits were supposed to be sold when the site met planting and grading performance standards.

However, in the course of its creation efforts, LandBank inadvertently drained almost 19 acres of wetlands.[19] The New Jersey Department of Environmental Protection turned to the performance bonds to fund remediation work. LandBank, however, had failed to pay the premiums on the bonds.[20] The bonds had lapsed and there was no ready pool of money from which to draw.

NJDEP brought an administrative enforcement action against LandBank, ordering the company to restore the approximately 19 acres at a 3:1 ratio. In addition, the NJDEP levied a $9,000 penalty.[21] Well aware that LandBank's controlling corporation, the IT Group Inc., had filed for chapter 11 bankruptcy,[22] NJDEP took care to state that the order was binding on bankruptcy trustees and the obligations it imposed were not dischargeable in bankruptcy.[23] As the NJDEP soon learned, however, a state administrative order does not necessarily trump a federal bankruptcy judge's decision.

In its reorganization, the IT Group sold the vast majority of its assets to another entity, the Shaw Group Inc.[24] With its remaining assets, the IT Group formed litigation trusts to pay off the excluded liabilities. Significantly, one of the assets (and liabilities) retained was the Woodbury Creek property.[25]

The court required that all creditors seeking reimbursement of claims in the IT Group bankruptcy submit a proof of claim establishing entitlement to be paid by July 15, 2002. Although listed as a potential claimant holding a contingent, unsecured, non-priority claim, NJDEP did not file a claim. The IT Group then filed an adversary proceeding seeking a determination that, by not filing a proof of claim, the state of New Jersey waived its right to payment in the bankruptcy proceedings.[26]

The bankruptcy court found that New Jersey did have a right to payment, albeit an undetermined one.[27] However, the motion to enforce the bar date did recognize one potential problem with defining New Jersey's action as a claim. Despite its broad definition, a claim focuses on a "right to payment." But the New Jersey administrative proceeding, while clearly having a monetary component, was about more than just money. It sought injunctive relief to require the creation and maintenance of new wetlands. The trustee argued that such relief could be classified as a claim because "the Trust can perform the obligation only by payment of money."[28] Thus, noted the trustee, because LandBank no longer existed, any injunctive relief that New Jersey could otherwise seek would be reduced to a monetary judgment.[29] In December of 2004, the bankruptcy court agreed with the trustee, entering an order directing New Jersey to dismiss its administrative proceeding against LandBank.[30] The court's order,

which New Jersey is appealing, supports the broad reading frequently given to the definition of a claim under the bankruptcy code.

When Bankruptcy Occurs in Early Stages

When a mitigation bank is bankrupt, it will likely not have funds available to fulfill its continuing obligations to the mitigation site. This lack of funds is especially problematic if the mitigation bank has sold credits in advance. In LandBank's case, the Woodbury Creek bank sold 32.75 credits while creating 36.64 credits. Although Woodbury Creek had not oversold its mitigation credits, NJDEP determined that LandBank had failed to fulfill its continuing monitoring obligations. Furthermore, LandBank needed to account for the 19 acres of drained wetlands.

There are several approaches that regulatory agencies can take to reduce the likelihood of such a situation. First, as NJDEP later did, an agency could limit the amount of permissable early-release credits. NJDEP now allows the early release of no more than 10 percent of the total credits from a mitigation bank.[31] NJDEP also modified its regulations to remove an express reference to performance bonds as a financial assurance; regulations now suggest that letters of credit be used.[32] Another option used in Florida mandates that the bonding company provide 120-day notice to regulators prior to canceling a surety or performance bond.[33] The notice requirement allows the regulators to call the bond if necessary, minimizing the possibility of an unpleasant surprise.

However, what if an agency still finds itself confronting a mitigation provider that has filed for bankruptcy and has no valid financial assurances? If the agency has instituted an enforcement action, the agency must first determine whether the automatic stay applies to the action, and second, whether the agency holds a claim in the bankruptcy proceeding.

Fortunately, when considering claim assignation, most (though not all) courts look beyond the simple question of whether money is involved to the more complicated question of how the regulation is structured. To the extent that the government or even the debtor has the choice of money or remediation, a claim is more likely. The best chance that a governmental creditor has at avoiding such a claim is to establish that the enforcement action's underlying purpose is the prevention of future harm.

In the wetland context, the "continuing violation" theory may assist an agency in establishing such a purpose. Under this theory, each day that unpermitted fill remains in a wetland constitutes a violation of the Clean Water Act. A wetland restoration order thus may be viewed as both an effort to remedy a past violation and an effort to prevent a continuing violation (i.e., a future harm).

Ecobank: Florida and North Carolina Mitigation Banks

Another mitigation banker's experience shows that while bankruptcy might not result in a loss of ecological function, firm financial assurances are vital. The Ecosystems Land Mitigation Bank Corporation was legally responsible for at least three mitigation banks: the Lake Louisa/Green Swamp Regional Mitigation Bank and the East Central Florida Regional Mitigation Bank (also called the Hunter bank), both in central Florida, and the Barra Farms Cape Fear Regional Mitigation Bank in North Carolina. In contrast to the Woodbury Creek scenario, the mitigation work at these sites is nearly complete and has largely been successful.[34]

Ecosystems, through its subsidiary Ecobank, entered into a joint venture with Da Capo al Fine Ltd. to create the banks. In this venture, Ecobank provided the wetland mitigation expertise while Da Capo provided the financing.

The financial assurances for long-term maintenance of the banks differ in amount and type. The instrument for the Lake Louisa bank calls for a trust account of approximately $600,000[35] to fund restricted site access, removal of exotic and invasive species, and prescribed burning. Da Capo supplied a letter of credit to cover the amount. The Hunter bank also is required to have a trust account to fund prescribed burns and maintain protective fencing, but in the much smaller amount of $44,700.[36] This funding apparently was also guaranteed by a letter of credit supplied by Da Capo.[37]

The long-term maintenance requirements for the Barra Farms bank in North Carolina are much looser. The mitigation banking instrument leaves the details of the long-term trust fund to be resolved in the future:

> A separate, long-term trust fund will be provided by Ecosystems Land Mitigation Bank Corporation for long-term maintenance, management, and remedial actions. The trust fund will be established upon completion of debiting of the bank or at the end of the monitoring period, whichever is longer.[38]

Creditors with general unsecured claims often receive little or nothing from bankruptcy proceedings—and courts have sometimes found government agencies enforcing environmental laws to be general unsecured creditors in bankruptcy proceedings.

The trust fund for the Barra Farms bank has yet to be established.

Although the mitigation bank sites were satisfying their performance standards, thus freeing credits for sale, Ecosystems encountered financial challenges. The joint venture between Ecobank and Da Capo eventually failed due to a "difficult relationship" between the parties,[39] and Ecosystems sought chapter 11 bankruptcy protection.

Ecosystems and Da Capo filed competing plans of reorganization.[40] In November of 2005, the two parties settled their dispute[41] and the bankruptcy court dismissed the case, a rare development in such proceedings. As a result of the settlement, Da Capo gained control of the Florida banks; a new mitigation firm has since assumed their management. The long-term stewardship of the Lake Louisa and Hunter banks appears secure. Significantly, it was Ecosystem's joint venture partner, Da Capo, the entity *not* in bankruptcy, that supplied the letters of credit.

The financial arrangements for the Barra Farms bank in North Carolina are an entirely different story. The settlement agreement assigns the assets and obligations in North Carolina to the president of Ecobank, apparently in his individual capacity.[42] Yet he has filed personally for chapter 11 bankruptcy protection,[43] and the court may treat Barra Farms as part of the bankruptcy estate. In that case, without a performance bond, letter of credit, or some other financial assurance backing the long-term maintenance trust account, government agencies may have difficulty holding the president to his obligation to fund the account. The bankruptcy court could find that this obligation is a claim—if not a contingent claim (because the obligation would arise from the occurrence of future events), then certainly an unliquidated claim (because the amount of the claim is unknown and depends on the amount the mitigation bank review team finds acceptable). Moreover, this would be a general unsecured claim that would likely only be partially paid or would be discharged in its entirety.

In a Barra Farms-type situation, it seems difficult for government agencies to argue that they are exercising their police powers and should not be viewed as claimants. Maintaining a functioning wetland site does not have the urgency of the imperative to prevent future environmental harm. A court could conclude that an agency's attempt to procure monies for a long-term maintenance fund is less an exercise of police power and more a demand for payment. Such an obligation on the part of the banker would be subject to discharge in bankruptcy.

Ensuring the Presence of Long-Term Maintenance Funds

We recommend avoiding the Barra Farms model. There may be some benefits associated with delaying the decision about how the long-term maintenance account will be funded and at what level; waiting until after the restoration is complete can allow the MBRT to identify with more specificity what maintenance is necessary, thereby providing a better estimate of the funds needed. The downside to delaying the decision until the credits are sold is that the mitigation banker may be unable to come up with the funding that the MBRT decides is appropriate.

A benefit of identifying the amount of the long-term maintenance fund up front is that a mitigation banker can build this cost into the price of credits. Still, identifying the long-term costs up front but putting off the actual funding does not reduce the risk of the mitigation banker running into financial difficulties. Requiring an irrevocable letter of credit or a performance bond that cannot be canceled without notifying the agency reduces such concerns. To further eliminate risk, we recommend that the Corps and other agencies consider the approach used by other mitigation banks in Florida: fund the long-term maintenance account with cash as mitigation credits are released or sold.

For example, the mitigation banking instrument for the Bluefield Ranch Mitigation Bank in Florida notes that the banker has established a trust for the long-term maintenance of the site but has provided no other financial assurances.[44] Prior to selling mitigation credits from the initial two phases of the bank, the banker will fund the trust at $565 per acre. Later phases will require the banker to fund the trust at $1,121 per credit. Once all credits are sold, the banker will have contributed over $1.5 million, "which represents the MBRT's current estimated fund balance necessary to generate sufficient returns to manage the bank in perpetuity."[45] The cash in such a trust would not be subject to the mitigation banker's control and thus would not be included in any subsequent bankruptcy proceeding involving the banker.

As the Corps and other agencies develop new mitigation regulations, it is imperative that they ensure that financial assurances are available at every stage of a mitigation site's life. If appropriate financial assurances are not in place, the risk of failure will be shifted to government agencies and the public.

Concluding Observations

As the Corps and other agencies develop new mitigation regulations, it is imperative that they ensure that financial assurances are available at every stage of a mitigation site's life. During the construction and restoration phase, regulators must be given notice before performance bonds or other financial guarantees are canceled. Funds for long-term stewardship must be provided when credits are sold to ensure that a pool of money will be available after the bank is closed. But the closing of the bank—the sale of the final credit—merely opens the next chapter, that of long-term maintenance and stewardship. It is critical that the funds set aside for long-term care of the site reflect the true costs of the endeavor. If appropriate financial assurances are not in place, the risk of failure will be shifted to government agencies and the public. ■

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NOTES

1 Ingrid Michelsen Hillinger and Michael G. Hillinger, ENVIRONMENTAL AFFAIRS IN BANKRUPTCY: 2004, 12 Am. Bankr. Inst. L. Rev. 331 (2004).
2 David G. Epstein et al., Bankruptcy §7–1 (1993).
3 11 U.S.C. §1101(1).
4 *See, e.g.*, *id.* §1141(3).
5 The standard form can be found at U.S. Courts, *Form B10*, http://www.uscourts.gov/bkforms/official/b10.pdf (last visited June 29, 2005).
6 11 U.S.C. §1129(a)(9). *See, e.g.*, In re Pillowtex, 304 F.3d 246, 249 (3d Cir. 2002); In re Virginia-Carolina Financial Corp., 954 F.2d 193, 199 (4th Cir. 1992); *and* In re Tejano, 135 B.R. 686, 688 (Bankr. D. Kan. 1991).
7 Exceptions to chapter 11 discharge apply primarily to individuals who either would not be entitled to discharge under §523 of the Bankruptcy Code or to liquidating businesses that would not be entitled to discharge in a chapter 7 proceeding. 11 U.S.C. §1141(d)(2) & (3).
8 469 U.S. 274, 15 ELR 20121 (1985).
9 *Kovacs*, 469 U.S. at 277.
10 469 U.S. at 280, *citing* 124 Cong. Rec. 32393 (Sept. 28, 1978) (remarks of Rep. Don Edwards (D-Cal.)).
11 *See* Durham Inland Wetlands & Watercourses Agency v. Jimmo (In re Jimmo), 204 B.R. 655, 659–60 (Bankr. D. Conn. 1997).
12 *See* In re Robinson, 46 B.R. 136, 139 (Bankr. M.D. Fla. 1985), *rev'd on procedural grounds*, United States v. Robinson, 55 B.R. 355 (M.D. Fla. 1985).
13 In re Robinson, 46 B.R. at 139.
14 *Id.* at 138.
15 Torwico Elecs. v. New Jersey (In re Torwico), 8 F.3d 146, 24 ELR 20016 (3d Cir. 1993), *cert. denied*, 511 U.S. 1046 (1994).
16 *Id.* at 149–50.
17 *Id.* at 150.
18 The same distinction between a state enforcing its police powers and simply receiving money arises frequently in the context of bankruptcy's automatic stay provisions.
19 In the Matter of LandBank, New Jersey Department of Environmental Protection Administrative Order and Notice of Civil Administrative Penalty Assessment, at 2, para. 6 (July 17, 2002).
20 *Id.* at 1–2, para. 3.
21 *Id.* at 4, para. 15.
22 Voluntary Petition, In re The IT Group Inc., No. 02–10118 (Bankr. D. Del. filed Jan. 13, 2002). The debtor listed the NJDEP as a potential claimant, holding a contingent, unsecured, non-priority claim in an unlisted amount. *Id.* at 6.
23 *Id.* at 4, para. 19 & 5, para. 22.
24 Asset Purchase Agreement By and Among The IT Group Inc. and The Shaw Group Inc., No. 02-10118 (Bankr. D. Del. filed Jan. 23, 2002).
25 *See* Motion of the IT Litigation Trustee for an Order (I) Enforcing (A) the Bar Date Order, (B) the Administrative Bar Date Order, (C) the Confirmation Order, and (D) the Plan Injunction; (II) Directing the New Jersey Department of Environmental Protection to Dismiss Certain Administrative Actions Against the Debtors Pursuant to the Court's Orders, the Plan Injunction and 11 U.S.C. §§105(a) and 1142 (b); and (III) Granting Related Relief, at 7, No. 02–10118 (Bankr. D. Del. Nov. 16, 2004) (stating that LandBank "created the [m]itigation [b]ank" and "formed a subsidiary, U.S. Wetland Services Inc . . . to manage the site") (hereinafter the IT Litigation Trust Motion).
26 Motion of the IT Litigation Trust Trustee for an Order Enforcing the Bar Date, No. 02–10118 (Bankr. D. Del. Nov. 16, 2004) (Hereinafter the IT Bar Date Order).
27 IT Litigation Trust Motion, *supra* note 25.
28 IT Bar Date Order, *supr*a note 26, at 12.
29 *Id.* at 13.
30 IT Litigation Trust Motion, *supra* note 25, at 2. New Jersey has appealed the decision of the Bankruptcy Court to the U.S. District Court for the District of Delaware. Notice of Appeal, No. 02-10118 (Bankr. D. Del. filed Dec. 17, 2004).
31 N.J. Admin Code tit. 7, §7A–15.23(e)1.
32 Environmental Law Institute, BANKS AND FEES: THE STATUS OF OFF-SITE MITIGATION IN THE UNITED STATES 88 (2002).
33 Fla. Admin. Code Ann. r. 62–342.700(5)(e).
34 *See* Letter from Osvaldo Collazo, Jacksonville District Corps of Engineers, to William Gerber, Ecobank (Mar. 17, 2005) (releasing an additional 45.2 federal credits from the Hunter Bank based on four years of monitoring reports). As of March 2005, the Corps had authorized 144.64 credits released from the Hunter Bank, and 69.44 credits were still available to be sold. *See* East Central Florida Regional Mitigation Bank Ledger, Mitigation Credit Accounting Schedule (enclosure with Letter from Osvaldo Collazo, *supra*). The final release consists of 36.16 credits and "will depend on the future vegetative conditions" at two areas on the site. Letter from Osvaldo Collazo, *supra*. A letter from Ecobank also indicates that the Lake Louisa Bank has an existing inventory of released credits. *See* Letter from William G. Gerber et al., Ecobank, to Gerry Seitz, Da Capo al Fine Ltd., at 2 (June 23, 2004) (hereinafter the Gerber Letter). With respect the Barra Farms Bank, the Corps' website indicates that credits are currently available. *See* U.S. Army Corps of Engineers, *NC Mitigation Banks*, http://www.saw.usace.army.mil/WETLANDS/Mitigation/Banks/imap1/index.html (last visited June 29, 2005) (listing EcoBank as the bank sponsor).
35 *See* Gerber Letter, *supra* note 34, at 2.
36 *See* Mitigation Banking Instrument, East Central Florida Regional Mitigation Bank (South), Orange County, Florida, at tbl. 10.0 (1997) (Department of the Army Permit No. 199506135 (IP-ME)).
37 *See* Debtor's Second Amended Disclosure Statement, In re Ecosystems Land Mitigation Bank Corp., No. 6:04-bk-07391-KSJ, at 4 (Bankr. M.D. Fla. filed Mar. 4, 2005).
38 Mitigation Banking Instrument, Agreement to Establish the Barra Farms Cape Fear Regional Mitigation Bank in Cumberland County, North Carolina, at 12 (1999).
39 *See* Gerber Letter, *supra* note 34, at 2.
40 Debtor's Second Amended Plan of Reorganization, In re Ecosystems Land Mitigation Bank Corp., No. 6:04-bk-07391-KSJ (Bankr. M.D. Fla. filed Mar. 4, 2005); Da Capo Al Fine Ltd.'s Plan of Reorganization, In re Ecosystems Land Mitigation Bank Corp., No. 6:04-bk-07391-KSJ (Bankr. M.D. Fla. filed Mar. 4, 2005). Although Ecosystems' plan of reorganization initially overlooked the obligation to fund the long-term accounts, both competing plans eventually acknowledged that duty.
41 Term Sheet, Ecobank/Da Capo Settlement (Bankr. M.D. Fla. filed Nov. 30, 2005).
42 *Id.* at 1, para 5 ("Ecobank/Da Capo/ the Ventures will assign all North Carolina rights to Mccarthy.").
43 Voluntary Petition, In re Mccarthy, No. 6:04-bk-11540-KSJ (Bankr. M.D. Fla. filed Oct. 22, 2004).
44 Bluefield Ranch Mitigation Banking Instrument at iv (executive summary) (2001).
45 *Id.*