WETLAND MITIGATION BANKING FOR SURFACE MINING ACTIVITIES[1]

by

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Abstract. This paper provides general information on wetlands regulations and the mitigation banking concept as may apply to surface mining activities. Wetland mitigation banking, while not a new concept in certain regions, is relatively new on a national basis and has only recently been accepted by the wetland regulatory and resource agencies as a viable means of addressing wetland impacts and mitigation through the Clean Water Act, Section 404 permit program. Surface mining activities under jurisdiction of the federal Office of Surface Mining (OSM) may be authorized by Corps of Engineers (COE) Nationwide Permit No. 21, or may require an individual permit. An OSM approved mitigation plan to offset wetland impacts is now required under the newly revised Nationwide Permit No. 21 (effective February 11, 1997). It is now an almost given assumption that mitigation of at least a 1:1 ratio for wetland losses will be required for the majority of COE permit actions. A mitigation bank is designed to pre-establish wetland credits that can be drawn upon over time, much like an escrow account at a financial institution. The planning, design and implementation of a mitigation bank may require several years to achieve. It, therefore, needs to be looked at as a long-term planning solution to wetland issues rather than a quick fix to immediate situations.

Key Words: waters of the US, Section 404 regulations, nationwide permits, credits, wetland values

Introduction

Areas subject to jurisdiction under Section 404 of the Clean Water Act include oceans, bays, major rivers, all tributary streams with a defined channel (including intermittent streams), all impoundments on surface streams, wetlands as defined by Corps of Engineers (COE) guidelines, and, in some cases, man-made features such as ditches, borrow pits, upland ponds and areas affected by artificial diking. All areas subject to jurisdiction are referred to as "waters of the U.S." The term "wetland" is actually a category of "waters" that is defined as an area which is inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and under normal circumstances, does support, vegetation typically adapted for saturated conditions. As that statutory definition is vague and subject to a great deal of interpretation, the COE promulgated guidelines for identification and delineation of wetlands in 1987 (Environmental Laboratory, 1987). The COE guidelines generally require three technical criteria (vegetation, soils and hydrology) to exhibit hydric characteristics in order to declare an area a wetland. Technical specifications have been described in the guidelines which define the hydric characteristics for each of those parameters.

The COE administers a permit program under Section 404 which regulates the placement of fill in waters of the U.S., including wetlands. The term "fill" has been given rather broad meaning under the regulations to include any dredged or excavated material; any dirt, rock, rubble, concrete or other structural material; pilings and piers; return of excavated materials from trenches or excavated areas; and even water that is impounded behind a dam. Under recent clarifications for the term fill, the COE also included all excavation as well as mechanical land clearing as activities subject to regulation (58 FR 45008; 8/25/93; effective 9/24/93). However, in a January, 1997, federal court ruling (American Mining Congress, et.al. *v.* U.S. Army Corps of Engineers, et.al.), the regulation of excavation by the COE under Section 404 was declared invalid and set aside.

The COE permit program provides for permits to be issued allowing fill activities in waters of the U.S. There are two primary permit categories: general and individual. General permits are pre- authorizations for certain common activities, which have only minimal effects on waters of the U.S. Thirty-nine such general permits exist on a national basis (nationwide permits) and a number of others exist on

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a regional or district basis (regional permits). If a certain fill activity meets the criteria and special conditions of a general permit, then the activity can be authorized by the COE in a relatively short period of time (30 to 45 days). If an activity does not meet the criteria of a general permit, then an individual permit, which can require 4 months or more to complete, is necessary. Surface mining activities under jurisdiction of the federal Office of Surface Mining (OSM) may be authorized under the general permits, usually under Nationwide Permit No. 21. If the COE determines that wetland losses, or other environmental impacts associated with a proposed surface mining activity, exceed the limitations of the general permits, an individual permit may be required.

In 1990, the COE and the EPA reached an interagency agreement that required no net loss of wetlands nationwide for the COE permit program (55 FR 9211, 3/12/90). This agreement essentially mandated a significant reduction of wetland losses and the requirement for mitigation (creation or enhancement of wetlands) as part of nearly every COE permit action. It is now usually assumed that mitigation of at least a 1:1 ratio to wetland losses will be required for most COE permit actions. The newly revised Nationwide Permit No. 21 (61 FR 65874; 12/13/96; effective 2/11/97) now requires an OSM or state approved mitigation plan for surface mine 404 authorizations. Additionally, nearly all other nationwide permits, as well as individual permits, require some form of mitigation to offset unavoidable wetland losses. Mitigation may include physical creation of wetlands from low value upland areas, or may include enhancement or conservation of other existing wetlands. Mitigation ratios (i.e., the amount of wetland to be created or enhanced to compensate for the wetland losses) can be variable depending on project specific circumstances. Generally, wetland creation will count for greater mitigation credit than enhancement or conservation of existing wetlands.

One of the major difficulties in mitigating wetland impacts from large-scale surface mining activities is attempting to prescribe affordable and convenient mitigation programs. Such mitigation requirements, when dealt with on a piecemeal basis, can add many thousands, or tens of thousands, of dollars of cost per acre to specific reclamation plans.

The concept of mitigation banking, as discussed more fully in the next section, is intended to provide a large scale mitigation program that is much less expensive on a unit basis. Another important benefit to the concept is that the mitigation will already be completed and accepted by the regulatory agencies prior to anticipated mining impacts. Thus, permit negotiation time is significantly reduced and the likelihood of an individual permit being required is minimized. A large, well designed and managed wetland area is usually more ecologically valuable than numerous, small, discontinuous wetland areas that might be created on a piecemeal basis.

The Mitigation Banking Concept

In brief, a mitigation bank is designed to establish wetland credits that can be drawn upon over time, much like an escrow account at a financial institution. In the case of a financial escrow account, money is deposited in the account in advance, then draws are made on the account over time as financial resources are needed. The escrow account is managed by a financial institution which keeps track of the draws and balance. Fundamentally, a wetland mitigation bank operates in much the same way. Wetlands are created, enhanced or conserved in advance, thus establishing mitigation credits. As wetland impacts occur within the bank planning region, credits are drawn from the mitigation bank. A management entity is established to keep an accounting of the draws and balance. The fundamental difference between a financial escrow account and a wetlands mitigation bank is that wetlands do not necessarily have a predetermined value. Therefore, a mitigation bank requires considerable planning, design, regulatory review and approval prior to its establishment. Values must be ascribed to various wetlands creation or enhancement activities and the credit system must be accepted by the regulatory agencies prior to its use.

The COE (regulatory agency), in cooperation with various other federal agencies (the review agencies), have recently approved guidelines for the planning, design and establishment of mitigation banks (60 FR 228; 11/28/95; effective 12/28/95). The guidelines provide a general framework for mitigation banks and outline the regulatory procedures that are necessary to gain approval under Section 404 statutes.

A mitigation bank can be created on a small individual basis (i.e., for a single mine or a 5-year mine block) or can be created on a large regional basis, possibly to include several mines as well as other development in the region. The planning and design efforts vary considerably depending on the size and intended application of a bank. The regulatory approval process is generally similar for large or small banks, but large regional banks may require more time for review and approval due to the greater complexity of issues to be addressed.

The development process for a mitigation bank, particularly a larger regional design, would most efficiently be accomplished in various phases. The usual phases are as follows:

- Planning
- Design
- Regulatory Approval
- Construction
- Operational

A brief discussion of each of these phases follows.

Planning Phase

The planning phase of mitigation bank development needs to identify and establish a number of criteria upon which bank design and implementation are to be based. Those criteria include, but may not be limited to, the following:

- Determine area of mitigation banking applicability (5-year mine block, single mine, several mines, county, multi-county area);
- Determine the potential extent and nature of wetland resources to be impacted within the area of applicability;
- Determine the potential rate of wetland impacts;
- Determine the mitigation bank sponsor or manager;
- Determine availability of adequate area(s) for mitigation bank creation;
- Determine potential costs for establishment and management; and,
- Determine the most advantageous financing mechanism.

Any number of other technical, institutional, legal and regulatory criteria may also need to be determined on a case by case basis.

Design Phase

The design phase essentially takes all the planning information and produces the detailed plans (technical, financial, institutional, and regulatory) for the banking system. Considerable expertise (biological, legal, administrative, and regulatory) is required to design the bank and banking system. Specific bank sites are identified and the technical specifications are generated on a site specific basis for the creation, enhancement or conservation of wetlands. Studies of the bank site(s) are usually required in order to determine a pre-existing ecological value, such that when wetlands are created or enhanced, a net value increase can be assessed to establish the credit per unit area that will be available from the bank. Intricate biological design may be required to assure maximum credit potential from the bank. The exact management, institutional and financial details also need to be designed.

Regulatory Approval Phase

The regulatory approval phase is the presentation of the plan to the regulatory and review agencies (which include the COE and all state and federal 404 review agencies) for review, comment and approval. Depending on the size and complexity of the plan, this process can require from several weeks to many months to complete. A successful mitigation bank plan should be coordinated with the regulatory and review agencies throughout its planning and design phases to ensure that later regulatory review will not necessitate significant changes and wasted efforts in the design phase. The final approval of the banking plan will result in the development of a memorandum of agreement (MOA) between the bank sponsor, or manager, and the regulatory and review agencies. The MOA will form the regulatory procedure by which the bank can be utilized to satisfy mitigation requirements in the bank planning region. It is by the MOA that individual permit time frames are shortened and simplified, since the mitigation is already established and approved. It is important to note, however, that the presence of a mitigation bank, or the offer of mitigation, does not in itself provide justification for permit issuance by the COE. Avoidance and minimization of impacts are still mandatory. The mitigation bank simply shortens the task of negotiating mitigation for unavoidable impacts.

Construction Phase

The construction phase involves the physical creation of the mitigation bank. This may involve creation of various wetland habitats, or enhancement of existing wetland areas. Specific procedures can be variable, depending on the nature of the bank to be created. The construction phase also includes a period of establishment and growth for created or enhanced wetlands. It may require one or more years to achieve acceptable wetland development to exhibit the value necessary for mitigation credit. The guidelines for mitigation banking indicate that the created or enhanced wetlands should be sufficiently established and developed to ensure their long-term viability. For herbaceous wetlands, this may be 1-2 years, whereas, for forested wetlands, 5 or more years may be required. Such time frames point to the opportunities available in phased mining operations. Mitigation for future 5-year mine blocks can be developed coincidentally with reclamation of existing 5-year mine areas. Enhancement of sedimentation ponds and end lakes can be a viable means of wetland development, but should be pre-coordinated with OSM and/or the state mining regulatory agency to minimize problems with changes of land use.

Operational Phase

The operational phase is the stage at which the mitigation bank is actually utilized as mitigation credit for impacts in the planning region. The use period can be highly variable in time, depending on the rate of credit debit. The bank is utilized until all available mitigation credits have been metered out. The bank is then closed and the area is permanently dedicated as a conservation area. It may be given or sold to a conservation agency or organization, such as a state conservation department, Ducks Unlimited, The Nature Conservancy, etc. It can also be retained by the bank sponsor or a local government and utilized as a nature park or other public facility, as long as the use does not degrade the value.

Summary

The above discussion points out that the planning, design and implementation of a mitigation bank may require several years to achieve. It, therefore, needs to be looked at as a long-term planning solution to wetland issues, rather than a quick fix to immediate situations. However, as wetland regulations are only getting tougher and more inclusive, a well planned and long-term solution will be of ultimate benefit.

Literature Cited

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