



U. S. DEPARTMENT OF THE INTERIOR  
OFFICE OF SURFACE MINING  
RECLAMATION AND ENFORCEMENT  
**DIRECTIVES SYSTEM**

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Subject: Construction of Wetlands as a Postmining Land Use.

Approval:

Title: Director

1. Purpose. This directive clarifies policy and procedures for the construction of wetlands to supplement and enhance postmining land use.

2. Summary.

Throughout much of the nation's historical development, wetlands had been regarded as undesirable and useless. Today, however, scientific discoveries have led to a new and positive attitude toward wetlands. Most people now recognize that wetlands provide benefits such as improved water quality, reduction in storm and flood damages, aesthetic and recreational opportunities, biological diversity, and wildlife habitat.

Surface mining activities provide an opportunity for the construction of wetlands where they did not previously exist. The construction of new wetlands is already allowable where practicable under Title IV (Abandoned Mine Reclamation) and has been done with great success under the experimental practice program. However, wetland construction has not been widely accepted under normal permitting procedures because of a perception that regulatory barriers prohibit such activities.

This perception is inconsistent with the Federal regulations at 30 CFR 701.5, 780.25, 816.46, and 816.49 (Impoundments); 816.84(b)(1) (Coal Mine Waste Impounding Structures); 816.97 (Protection of Fish and Wildlife); 816.102 (Backfilling and Grading); 816.111 and 816.116 (Revegetation); and 816.133 (Postmining Land Use). These regulations allow for the construction of wetlands that supplement and enhance fish and wildlife habitat.

3. Definitions

a. Wetlands. Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

b. Biological Treatment Systems. Passive aquatic systems constructed to treat pollutants (e.g., iron, manganese, aluminum, sulfates) and/or to buffer receiving streams and water bodies from the toxic impacts of mine discharges on aquatic biota.

c. Small Depressions. Constructed low lying areas within a minesite that are needed to retain moisture, minimize erosion, create and enhance wildlife, or assist revegetation.

f. Fish and Wildlife Habitat. A postmining land use category dedicated wholly or partially to the protection, production, or management of species of fish or wildlife.

d. Impoundments. A water, sediment or other liquid holding structure or depression, either natural or artificially built.

e. Impounding Structure. A dam, embankment, or other structure used to impound water, slurry, or other liquid or semi-liquid material.

4. Policy and Procedures. This directive applies to the construction of diverse, functional wetlands that supplement and enhance fish and wildlife habitat as a postmining land use. Specifically, this directive refers to diverse, high quality wetlands, which are not to be confused with biological treatment systems (TSR-10) constructed for the purpose of treating acid mine drainage (AMD). Wetlands constructed in accordance with this directive do not supersede mitigation requirements under section 404 of the Clean Water Act, or those wetlands which existed in the pre-mining landscape and are being replaced in accordance with a required mitigation plan.

OSM's regulations provide three options to leave wetlands on completed mine sites. The options are small depressions, fish and wildlife habitat, and impoundments and differ in nature and extent with respect to construction specifications and bond release requirements. The small depression option includes wetlands constructed in dug-outs and basins. The fish and wildlife habitat option allows wetlands to be created as part of the postmining land use of fish and wildlife habitat. The impoundment option applies to large wetlands which may utilize existing impoundments. In all cases, bond release for the created wetland areas will be based upon a finding that the site meets the Federal wetland definition.

a. Small Depressions. 30 CFR 816.102(h) allows small depressions to be constructed on backfill areas for purposes of creating or enhancing wildlife habitat. Under this provision, wetlands may be created and retained on reclaimed lands without regard to the permanent impoundment requirements. The depressions must be "small." The surface area or depth of water which would qualify as "small" are not defined in the Federal rules. Depressions may be of any size compatible with the postmining land use and must not pose a safety risk associated with potential failure of an impoundment.

Small depressions must be a dugout or basin as opposed to an embankment-type construction. Sides or shores of depressions should be gently sloping to allow for zonation of vegetation communities. Deep pits with steep sloping sides are not suitable small depressions for the purposes of wetland wildlife habitat. Small depressions also must not be located so as to cause instability of an excess spoil fill (30 CFR 816.71(e)(4)).

Design criteria for small depression wetlands should follow recommendations in current literature for creating wetland wildlife habitat. Optimum size, shape, depth, and number may vary depending on location, physiographic features, and habitat objectives. Maximum benefit is often

achieved when more than one such wetland is constructed in the same vicinity. Small depression wetlands may occur as wildlife enhancement features within any postmining land use if approved by the Regulatory Authority and the landowner.

b. Fish and Wildlife Habitat. When fish and wildlife habitat is the approved postmining land use, wetland establishment is an excellent means for creating a diverse land form. Both the flora and fauna associated with wetland ecosystems should have proven nutritional and cover values for wildlife as required by 30 CFR 816.97(g). Naturally occurring wetland systems (marine, estuarine, lacustrine, riverine, and palustrine) as defined by Cowardin et al. 1979, contain various combinations of trees, shrubs, emergents, mosses, and lichens depending on climate, hydrology, and topographic location.

30 CFR 816.116(b) (3) states that "for areas being developed for fish and wildlife habitat, . . . success of vegetation shall be determined on the basis of tree and shrub stocking and vegetative ground cover. Such parameters are described as follows: (i) Minimum stocking and planting arrangements shall be specified by the Regulatory Authority on the basis of local conditions and after consultation and approval by the State agencies responsible for administration of forestry and wildlife programs." QSM recognizes that the local and regional nature of wetland systems may not include woody plants in all cases and, therefore, will require the applicable standards as necessary. Therefore, the State Regulatory Authorities may establish specific revegetation standards provided that all land must meet the general revegetation success standards at 30 CFR 816.111 (a) (1), (2) and (b), (1), (3), (4) and (5), in addition to the specific requirements of 816.116 and that the wetland area meet the Federal definition of a wetland as defined by the U.S. Army Corps of Engineers (COE) 1987 Delineation Manual.

For all wetland creation projects, the most important concept is the establishment of a functional hydrologic regime that is appropriate for the development of the desired wetland system (D'Avanzo 1989). The plans and specifications for construction of a wetland will most likely determine the success of the project. Therefore, QSM will encourage industry and the State Regulatory Authorities to consult with the U.S. Fish and Wildlife Service, COE, the State wildlife management agency, or the local agency most familiar with wetland reclamation techniques for the region, during the planning and permitting of created wetlands and determining success. The Regulatory Authority shall ensure that its success criteria results in reclaimed areas that meet the definition of a wetland, the ultimate measure of success.

c. Impoundments. Large wetlands and those associated with sedimentation ponds must comply with the construction of impoundment regulations at 30 CFR 780.25, 816.46, and 816.49 if they remain unaltered to address safety concerns and water retention levels. Sedimentation ponds which contain sediment which would render them unsuitable for other purposes as permanent impoundments may be acceptable as wetlands for wildlife enhancement. After such structures have served their intended purpose and would otherwise be approved for removal, continuation of periodic sediment removal is not necessary if the pond is approved for retention as a wetland.

Wetlands may be created in ponds or embankments provided that the crest of the dam is reduced to the elevation necessary only to saturate the refuse or sediment to the extent necessary to sustain a diverse wetland ecosystem. Also, any possible safety concerns must be eliminated. After such an impoundment is modified to address the above, OSM would then consider it a wetland constructed for the purpose of wildlife enhancement rather than an impounding structure. Otherwise, impoundments involving coal refuse may only be converted to wetlands as part of a postmining land use with an experimental practice variance in accordance with 30 CFR 785.13.

d. Certification. In order to be consistent with the procedures of the COE and to apply a consistent method for determining the successful creation of a wetland at the time of bond release, OSM requires that all wetlands must meet the COE definition of a wetland (1987 Corps of Engineers Wetlands Delineation Manual). This determination must be made by qualified personnel from industry, or a cognizant State or Federal agency. The applicant is responsible for ensuring that this determination is made, subject to Regulatory Authority verification.

5. Reporting Requirements. None

6. Effect on Other Documents. None

7. References

- a. 30 CFR
- b. Environmental Protection Agency (EPA), Wetland Creation and Restoration: The Status of the Science; Vol. 1
- c. U.S. Army Corps of Engineers, 1987 Wetland Delineation Manual
- d. D'Avanzo; Long Term Evaluation of Wetland Creation Projects, 1989.
- e. Cowardin, et.al, Classification of Wetlands, 1987.

8. Effective Date. Upon Issuance

9. Contacts. Branch of State Program Support, (412)937-2858

10. Keywords. Wetlands, Depression, Impoundments, Habitat

11. List of Appendices. None