

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WETLAND CREATION

(Acre)
CODE 658

DEFINITION

A wetland that has been created on a site location which historically was not a wetland or is a wetland but the site will be converted to a wetland of a different hydrology, vegetation type, or function than naturally occurred on the site.

PURPOSE

To create wetlands that have natural hydrology or artificial water supplies necessary to establish wetland functions and values, hydrophytic plant communities and hydric soil conditions.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to sites where no natural wetland occurred or where a wetland exists, or existed, and the wetland characteristics (hydrology, vegetation, and functions) will be different from what historically occurred.

Upon completion of the practice the site will meet the current NRCS definition of Wetland, if hydric soils exist at the site.

This practice is applicable only if hydrologic conditions can be approximated by modifying drainage and/or artificial flooding of a duration and frequency to create and maintain wetland conditions during an average annual precipitation event. The wetland system, subsystem and class will be specified using the USFWS Classification System.

This practice does not apply to: Constructed Wetland (656) intended to treat point and non-point sources of water pollution; Wetland Enhancement (659) intended to rehabilitate a degraded wetland where specific functions and/or values are enhanced beyond original conditions; Wetland Restoration (657) intended to rehabilitate a degraded wetland where soils, hydrology, vegetative community, and biological habitat are returned to original conditions, or to constructed permanent water areas such as Ponds (378), which, except for the perimeter of the pond, are not considered to be wetlands but Waters of the United States.

CRITERIA

General Criteria

The landowner shall obtain all necessary local, state and federal permits before the practice is applied, including compliance with local zoning and grading regulations, state and local water quality certifications and Endangered Species Act legislation.

Water rights and water availability will be assured prior to creation.

Created wetlands will only be located where the soils, hydrology, and vegetation can be modified to meet current NRCS criteria for wetland.

Establish vegetative buffers on surrounding uplands to reduce sediment and soluble and sediment-attached substances carried by runoff and/or wind into the wetland area.

Document the soil, hydrology/water supply, vegetative plant community and its contributing watershed before alteration.

Criteria for Hydric Soil Conditions

Establish an approximation of the soil microtopography typical for the wetland type(s) being established.

Although the presence of hydric soil is not a prerequisite for Wetland Creation, soil characteristics shall include heavier-textured soils which exhibit moderately slow to very slow permeability or that have an impermeable subsurface layer which will effectively reduce the downward movement of water.

Criteria for Wetland Hydrology

The hydrology of the site is defined as the rate, path, and timing of inflow and outflow; duration, frequency and depth of flooding, ponding and saturation.

The standards and specifications for Dike (356), Structure for Water Control (587) and Land Grading (744) will be used as appropriate. Refer to the

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Engineering Field Handbook, Chapters 13, "Wetland Restoration, Enhancement, and Creation," and 6, "Structures," for additional design information. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

Criteria for Hydrophytic Vegetation

Native vegetation will be established whenever feasible. In soils where seed banks for selected species exist, or where natural colonization of selected native species (identified from reference wetlands) will dominate within 5 years, then natural regeneration can be allowed. Refer to the Vegetative Guide for approved species lists, planting rates, Vegetative Soil Groups and MLRA information for detailed planting recommendations.

Preference shall be given to native wetland plants with localized genetic material. Plant materials collected or grown from material collected within a 200-mile radius from the site is considered local.

Adequate substrate material, site preparation, seeding method, depth and timing, fertilization and weed control necessary for proper establishment of the selected plant species shall be included in the design.

If the targeted hydrophytic vegetation is predominately herbaceous, a minimum of two species adapted to the site will be established. Herbaceous vegetation may be established by a variety of methods including mechanical or aerial seeding, topsoiling, organic mats, etc., over the entire site, or a portion of the site and at densities and depths appropriate.

Forested wetland establishment will include a minimum of two species. Seedling preparation and planting will follow the criteria of Conservation Practice 612, Tree/Shrub Planting.

Criteria for Wetland Functions

A functional assessment (Hydrogeomorphic approach or similar method) shall be performed on the site prior to creation.

Created Wetland goals and objectives will include targeted natural wetland functions for the wetland type and the site location. Preexisting site information, including baseline documentation of the vegetative plant community, will be supplied, as well as documentation of existing and planned wetland types using USFWS Classification system, subsystem and class categories.

CONSIDERATIONS

Threatened & Endangered Species

Where the potential exists, efforts should be made to emphasize the restoration of habitat for listed and proposed listed species as well as species of concern. Flexibility for this standard allows for modifications in the extent and type of wetland components, i.e. shallow water areas, mudflats, upland nesting habitat, semi-permanent wetlands and the establishment of tree and shrub plant communities, in order to emphasize habitat for targeted species. Reference the California Natural Diversity Database, State and Federal wildlife agencies and local resource inventory information for species lists and habitat needs.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example, there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment

depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Habitat Diversity

Effort will be made to maximize habitat diversity by creating various water depths and associated uplands within the restored area. In areas where woody vegetation was present in the climax plant community, restoration will include reestablishment of native woody species similar to the types and composition that previously existed.

Water Management

Water management, including the ability to drain water from the wetland area, should be provided for long-term maintenance

Water Quantity

Consider effect of volumes and rates of runoff, infiltration, evaporation, and transpiration on the water budget.

Evaluate the potential for a change in rates of plant growth and transpiration because of changes in the volume of available soil water.

Consider effects on downstream flows or aquifers that would affect other water uses or users.

Consider effects on the rate of volume of downstream flow to minimize or prohibit environmental, social or economic effects.

Water Quality

Consider effects on movement of sediment and soluble and sediment attached substances carried by runoff.

Consider effects on movement of dissolved substances to ground water to downstream surface waters.

Consider effects on short-term changes, construction, and maintenance related activities on the quality of water resources.

Consider effects on temperature of water resources to prevent undesired effects on aquatic and wildlife communities.

Consider effects on wetlands or water-related resources, wildlife habitats that would be associated with the practice.

Consider effects on the visual quality of water resources.

Consider effect of volumes and rates of runoff, infiltration, evaporation, and transpiration on the water budget.

Consider the potential for a change in rates of plant growth and transpiration because of changes in the volume of available soil water.

Consider effects on downstream flows or aquifers that would affect other water uses or users.

Consider effects on wetlands or water-related resources and wildlife habitat that would be associated with the practice.

Consider positioning site(s) adjacent to existing wetlands to increase wetland system complexity and diversity, decrease habitat fragmentation, and ensure colonization of the site by wetland flora and fauna.

Consider linking wetlands by corridors wherever appropriate to enhance the wetland's use and colonization by the flora and fauna.

The nutrient and pesticide tolerance of the species planned should be considered where known nutrient and pesticide contamination exists.

Consider effects on temperature of water resources to prevent undesired effects on aquatic and wildlife communities.

PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other documentation. Requirements for the operation and maintenance of the practice shall be incorporated into site specifications.

A NRCS Biologist prior to the application of this practice shall review plans, drawings, and site specifications.

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance).

Any use of fertilizers, mechanical treatments, prescribed burning, pesticides and other chemicals to assure the wetland enhancement function shall not compromise the intended purpose.

Biological control of undesirable plant species and pest (e.g., using predator or parasitic species) shall be implemented where available and feasible.

Timing and level setting of water control structures is required for the establishment of desired hydrologic conditions, for management of vegetation and for optimum wildlife use.

Inspection schedule for embankments and structures for damage assessment.

Depth of sediment accumulation to be allowed before removal is required.

Management needed to maintain vegetation, included control of unwanted vegetation.

Haying and livestock grazing, disking, crusting, and mowing may be utilized to manage vegetation.