

**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 with a different hydrology, vegetation type, or function than naturally occurred on the site.

PURPOSE

To create wetlands that have wetland hydrology, hydrophytic plant communities, hydric soil conditions, and wetland functions and/or values.

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. (NOTE: If criteria in the paragraph above are met, hydric soil criteria does not have to be met.)

This practice is applicable only if modifying drainage and/or artificial flooding of duration and frequency to create and maintain wetland conditions during an average annual precipitation event can approximate hydrologic conditions. The wetland class/subclass will be specified.

This practice does not apply to: Conservation Practice Standards 656, Constructed Wetland, intended to treat point and non-point sources of water pollution; 659, Wetland Enhancement, intended to rehabilitate a degraded wetland where specific functions and/or values are enhanced beyond original conditions; or 657,

Wetland Restoration, intended to rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions.

CRITERIA

General Criteria

The landowner shall obtain necessary local, state, and federal permits that apply before the practice is started.

Water rights and availability are assured prior to creation if required.

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

Establish vegetative buffers on adjacent cropland to reduce sediment and soluble substances carried by runoff and/or wind.

Document the soil, hydrology, and vegetative characteristics of the site 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.

Criteria for Wetland Hydrology

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

The hydrology and hydraulic variability of the created wetland site shall maintain the conditions that will meet the current NRCS hydrology of a wetland. This will be documented by the use of the Engineering

Field Handbook, Chapter 19, "Hydrology Tools."

The Conservation Practice Standards and Construction Specifications 356, Dike, and 587, Structure for Water Control, will be used as appropriate. Refer to the Engineering Field Handbook, Chapter 13, "Wetland Restoration, Enhancement, and Creation," and Chapter 6, "Structures," for additional design information. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

On soil regimes (Osage, as an example) where dams and/or dike are cost prohibitive or not feasible, depressional areas may be used to provide storage to meet the criteria in the Engineering Field Manual. Depressions can be constructed 3 to 12 inches deep on 15 to 25 percent of the total area. Excavation material can be used as fill or spread evenly outside the excavated area.

Criteria for Hydrophytic Vegetation

Establish hydrophytic vegetation typical for the wetland type(s) being established. Preference shall be given to adapted native wetland plants.

Introduced or cultivated plant species can be used to meet specific project objectives, if they are approved by the Assistant State Conservationist for Technology on a case-by-case basis. Introduced species may become invasive or detrimental to adjacent ecosystems and caution must be exercised.

Adequate soil and site preparation necessary for proper establishment of the selected plant species shall be included in the design.

If the targeted hydrophytic vegetation is predominantly herbaceous, several species adapted to the site will be established. Herbaceous vegetation may be established by a variety of methods including: mechanical or aerial seeding, planting, placement of hydric soil that contains a hydrophytic seed source (topsoiling), organic mats, etc., over the entire site, or a portion of the site. Where desired plant species are present on site or adjacent areas in sufficient quantity, natural colonization can be considered as an establishment option. Specific guidelines that consider soil, seed

source, and species will be developed by the states.

Forested wetland establishment will include a minimum of three species, where appropriate and where it meets landowner objectives. Seedling preparation and planting will follow the criteria of Conservation Practice Standard 612, Tree Planting.

Seed planting rates and site preparation will meet the criteria of Conservation Practice Standard 652, Woodland Direct Seeding.

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 should include targeted natural wetland functions for the wetland type and the site location.

CONSIDERATIONS

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 habitats that would be associated with the practice.

Considering locating 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 nutrient and pesticide contamination exists.

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

Embankments and excavated slopes should be located and shaped in a manner that is compatible with the existing landscape.

Down stream outlets or overflow from the wetland will be established to permanent vegetation to prevent soil erosion.

Consider the invasive or nuisance potential of selected plant species on other aquatic systems.

Consider the effect of the constructed wetland on possible pest problems, i.e. mosquitoes.

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, design documentation, and other documentation. Requirements for the operation and maintenance of the practice shall be incorporated into 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 shall not compromise the intended purpose. Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible.
- Timing and level setting of water control structures required for the establishment of desired hydrologic conditions or for management of vegetation.
- 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, including control of unwanted vegetation.
- Haying and livestock grazing will be managed to protect and enhance established and emerging vegetation.