

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
SOUTH DAKOTA SUPPLEMENTS ITALICIZED**

WETLAND CREATION

(ac.)
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 *to create specific 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 *class and functions* will be different from what historically occurred.

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 *with average annual precipitation that are appropriate for the wetland class/subclass being created.*

This practice does not apply to: a 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; or Wetland Restoration (657) intended to rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions.

CRITERIA

General Criteria

Those wetland functions or values that are to be created will be clearly identified and documented.

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

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

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

Establish vegetative buffers on surrounding uplands to reduce sediment and soluble and sediment-attached 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 standards and specifications for Dike (356), Pond (378), and Structure for Water Control (587) will be used as appropriate. Refer to the Engineering Field Handbook, Chapters 13, "Wetland Restoration, Enhancement, and Creation," and 6, "Structures," for additional design

Conservation practice standards are reviewed periodically and updated if needed. The current version of this standard is posted on our website at www.sd.nrcs.usda.gov or may be obtained at your local Natural Resources Conservation Service.

information. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

Criteria for Hydrophytic Vegetation

Establish hydrophytic vegetation typical for the wetland type(s) being established *using Resource Publication 92 (1971) or South Dakota Biology Technical Note 10 as a guide*. Preference shall be given to native wetland plants with localized genetic material.

Where natural colonization of selected species will realistically dominate within five years, then natural regeneration can be left to occur.

Adequate substrate material 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 *one of the following* methods: mechanical or aerial seeding, topsoiling, *or* organic mats.

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

Seed planting rates and site preparation will meet the criteria of Conservation Practice 652, Woodland Direct Seeding. Seed viability will be checked immediately prior to 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 *class/subclass* and the site location.

CONSIDERATIONS

When creation is for mitigation purposes, consider the wetland class and the functions that are to be replaced.

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

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 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 of 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 *surrounding* landscape.

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.

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.

Assessment tools, such as the hydrogeomorphic wetland assessment models, may be used to gage functional performance goals set in the creation or mitigation plan. Such an assessment will help to identify any missing components of the creation.

REFERENCES

Stewart, R. E. and H. A. Kantrud. 1971.

Classification of Natural Lakes and Ponds in the Glaciated Prairie Region. Resource Publication 92, Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, USDI, Washington, D.C.

South Dakota Biology Technical Note Number 10, Wetland Plants.