NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

WETLAND ENHANCEMENT

(acre)

CODE 659

DEFINITION

The modification or rehabilitation of an existing or degraded wetland, where specific functions and/or values are modified for the purpose of meeting specific project objectives. Some functions may remain unchanged while others may be degraded.

PURPOSE

To modify the hydrologic condition, hydrophytic plant communities, and/or other biological habitat components of a wetland for the purpose of favoring specific wetland functions or values. For example; managing site hydrology for waterfowl or amphibian use, or managing plant community composition for native wetland hay production.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on any degraded or existing wetland where the objective is to specifically enhance a selected wetland function(s)and/or value(s).

Enhancement should not significantly change the primary wetland functions provided at the site without compensation for those lost functions.

Upon completion of the enhancement the site will meet the current NRCS soils, hydrology, and vegetation criteria of a Wetland.

This practice does not apply to: a constructed wetland (656) intended to treat point and non-point sources of water pollution; wetland restoration (657) intended to rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions; or wetland creation (658) for creating a wetland on a site location which historically was not a wetland or on a site which was formerly a wetland but will be replaced with a wetland type not naturally occurring on the site.

CRITERIA

General Criteria

The landowner shall obtain necessary local, state, and federal permits that apply before wetland enhancement.

NRCS wetland policy will be reviewed prior to any change in wetland type.

Water rights are assured prior to enhancement if required.

Grazing will be omitted from any forested wetland areas.

The design will not back water on neighboring land without an easement.

Document the soil, hydrology, and vegetative characteristics of the site and its contributing watershed before alteration.

The potential for occurrence of threatened or endangered species shall be evaluated for each site proposed for enhancement. Sites containing threatened or endangered species will not be enhanced under this standard unless it can be demonstrated that the impact will

benefit the species at risk.

If the presence of hazardous waste materials in the sediment or fill is suspected, soil samples will be collected and analyzed for the presence of hazardous waste as defined by local, state, or federal authorities. Sites containing hazardous waste will not be enhanced under this standard.

Criteria for Hydrology Enhancement

The hydrology of the site (defined as the rate and timing of inflow and outflow, source, duration, frequency, and depth of flooding, ponding or saturation) is modified to meet the project objectives. An adequate source of water must be available to meet designs for increased hydrology.

The standards and specifications for Dike (356) 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 information. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

Within floodplains, impoundments shall not be constructed that significantly reduce floodwater storage potential during the normal wet period.

Criteria for Vegetation Enhancement

Where possible, native plant materials shall be used; however, introduced or cultivated plant species can be used to meet specific project objectives. Introduced species may become invasive or detrimental and caution must be exercised.

When using native species, 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.

In soils where seed banks realistically exist, or where natural colonization of targeted species will dominate within 5 years, then natural regeneration can be allowed. Specific guidelines that consider soil, seed source, and species will be developed by the states.

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

Criteria for Wetland Functions

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

As a minimum, document the target wetland function and impacts to other functions prior to implementation of wetland enhancement.

Project goals and objectives shall minimize adverse impacts to wetland functions not specifically targeted for enhancement.

Where possible, wetland functions not targeted for enhancement should also be maximized.

CONSIDERATIONS

Consider existing wetland functions and/or values that may be adversely impacted.

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 and specifically the effects on carbon sequestration.

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

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

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

Consider establishing vegetative buffers on surrounding uplands to reduce sediment and soluble and sediment-attached substance carried by runoff and/or wind.

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.

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 pests (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, including control of unwanted vegetation;

Haying and livestock grazing will be managed to protect and enhance established and emerging vegetation.

APPROVAL

/s Gary Valentine

State Wildlife Biologist

September 4, 2001

Date

STATEMENT OF NEED

This practice is needed in the

FOTG.

Natural Resources Manager

CERTIFICATION

Reviewed and determined adequate without need of revision:

Zone Wildlife Biologist

Date

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Zone Wildlife Biologist

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Date

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Zone Wildlife Biologist

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Zone Wildlife Biologist

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Date

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Zone Wildlife Biologist

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Date