Wetland Creation (Acre) 658

DEFINITION

A wetland created on a site 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.

NOTE: Wetlands created for the primary purpose of water quality improvements are identified as "Constructed Wetlands" and the 656 Standard should be followed.

PURPOSES

To create wetlands that have wetland hydrology, hydrophytic plant communities, hydric soil conditions, and wetland functions and 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, if hydric soils have developed 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 class/subclass as identified in the Cowardin System will be specified.

This practice does not apply to: Constructed Wetland Standard (656) intended to treat point and non-point sources of water pollution; Wetland Enhancement Standard (659) intended to rehabilitate a degraded wetland where specific functions and/or values are enhanced beyond original conditions; or Wetland Restoration Standard (657) 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, tribal, and federal permits that apply before the practice is applied. The landowner shall be notified that wetland regulations may apply to the created wetland in the future. Existing easements, rights-of-ways, and deed restrictions will not adversely impact the planned creation. If required, all water rights are assured prior to creation.

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

A vegetative buffer on surrounding upland will be established to reduce sediment and soluble and sediment-attached substances from being carried into the wetland. Use the Filter Strip (393A) Standard to determine the width of the vegetative buffer.

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

If the presence of hazardous waste materials in the sediment or fill is suspected by a governmental agency, 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 created under this standard.

Wetland Hydrology Criteria

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.

Wetland hydrology should be created which will support the wetland type being established. As a minimum, the hydrologic soil conditions must be able to support hydrophytic vegetation.

If embankments, water control structures, surface or subsurface drainage manipulation, or grade stabilization structures are required, the standards and specifications for Wetland Restoration Standard (657) will be followed as appropriate.

The effect of any modification to the existing surface and/or subsurface drainage system on upstream and downstream landowners shall be evaluated.

Hydrophytic Vegetation Criteria

Use vegetation adapted to the site that will accomplish the desired purpose. Preference shall be given to native species in order to reduce the introduction of invasive plant species; provide management of existing invasive species; and minimize the economic, ecological, and human health impacts that invasive species may cause. If native plant materials are not adaptable or proven effective for the planned use, then non-native, non-invasive species may be used. Refer to the Field Office Technical Guide, Section I, Invasive Plant Species for plant materials identified as invasive species.

Preference is given to topdressing at least 60 percent of the site with soil containing seedbanks of desired native species to a minimum depth of 4 inches. The soil will not contain seeds of non-native invasive species such as purple loosestrife or aggressive native species such as reed canarygrass and phragemites. If natural colonization of native species will realistically dominate within 5 years, then natural regeneration can be left to occur.

Preference is given to allowing natural regeneration to occur. If natural regeneration will not occur, then the following requirements apply:

- If the targeted hydrophytic vegetation is predominately herbaceous, then a minimum of three plant species adapted to the site will be planted. Herbaceous vegetation may be established by a variety of methods including: mechanical seeding, broadcast seeding, or plug plantings. Site preparation will be conducted to prepare a seedbed adequate for proper establishment.

- Forested wetland plantings will include a minimum of three species adapted to the site. Where appropriate, two of the species will be mast-producing species. Tree planting will meet the criteria in the Tree/Shrub Establishment Standard (612).

- Preference will be given to native plant species which are collected or grown from material collected within the climatic growing zone for the site being created.

Wetland Functions Criteria

Created wetland goals and objectives should include targeted wetland functions for the wetland type and site location.

A functional assessment shall be performed on the site prior to creation using the Hydrogeomorphic approach, as identified in the National Food Security Act Manual, or similar method.

CONSIDERATIONS

If practical, this practice should be applied to sites that are 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.

If practical, link wetlands by corridors to enhance the wetland's use and colonization by wetland flora and fauna. (See NRCS-MI Conservation Sheet: Corridor Establishment.)

Adverse effects on downstream flows or aquifers that would impact other water uses will be considered.

Nutrients and pesticides contained in surface and ground water, as well as accumulated sediments, may have an adverse effect on wetland vegetation. The nutrient and pesticide tolerance of the species planned along with the wetland objectives should be considered where known nutrient and pesticide contamination exists.

Sediment delivery to created wetlands from surface water inflow should be reduced when low maintenance is required. This may be accomplished with watershed treatment or through the establishment of such practices as grassed waterways, riparian filter strips, or sediment basins.

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

Consider the impacts upon both state and federally listed threatened and endangered species. Use the Natural Features Database as the first level of review. Any potential impacts to threatened and endangered species will need to be reviewed with the appropriate federal or state agency.

Consider the potential impact of this practice on cultural resources. Follow Michigan policy on cultural resources.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice will be prepared for each site. Specifications shall be recorded using conservation sheets, narrative statements in the conservation plan, engineering designs, or other documentation. Specifications shall describe the requirements for applying this practice to achieve its intended purpose.

As a minimum, specifications will include the objective of the practice, location map, permit requirements, survey notes, design records, construction specifications, vegetative requirements, and construction inspection records.

OPERATION AND MAINTENANCE

An operation and maintenance plan will be prepared for each wetland restoration site.

The following activities will be addressed in the plan: (1) timing and level setting of water control structures required for establishment of desired vegetation; (2) inspection schedule of embankments and structures; (3) depth of sediment accumulation allowed before removal required; (4) management needed to maintain vegetation, including control of unwanted vegetation and pests; and (5) acceptable uses and timing (grazing and haying).

REFERENCES

Cowardin, L.M., V. Carter, F. C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service. FWS/OBS-79-31.