

Wetland Restoration (657)

DEFINITION:

The return of a wetland and its functions to a close approximation of its original condition as it existed prior to disturbance on a former or degraded wetland site.



ESJAA INFORMATION:

Job Classes	Control Factors
	Complexity
Job Class I	Low
Job Class II	Medium
Job Class III	High
Job Class IV	All

CONTROL FACTORS:

- Low Complexity: no hydrologic manipulation, hydrophytic vegetation restoration only
- Medium Complexity: minimal hydrology restoration such as tile break or ditch plug
- High Complexity: more complex hydrology restoration such as dikes, dams and water control structures

KNOWLEDGE, SKILLS, AND ABILITIES (KSA):

Inventory and Evaluation (I&E) Planning

-Job Class I-

- Read and understand the standard & SOW.
- Ability to describe the differences between practice standards Wetland Restoration (657), Wetland Creation (658), Wetland Enhancement (659) and Shallow Water Development (646).
 - Basic knowledge for recognizing potentially special sites and Threatened and Endangered (T&E) species, sufficient to initiate contact with the appropriate specialist.
- Knowledge of hydric soils – Ability to identify hydric soils using the soil survey.

-Job Class II-

- Familiar with the “Midwest Regional Supplement” to the US Corps of Engineers Wetland Delineation Manual and other wetland identification resources located on the National NRCS website at: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water/wetlands/boundaries/>

- Knowledge of wetland hydrology – Demonstrate ability to identify hydrology indicators using historical and LiDAR imagery.

-Job Class III-

- Knowledge of hydric soils - Ability to identify hydric soils in the field by referencing “Field Indicators of Hydric Soils in the United States”.
- Ability to delineate the boundaries of a degraded wetland using indicators of hydrology and soils.
- Ability to determine if restoring hydrology according to requirements in the practice standard is achievable.
- Knowledge of common wetland drainage techniques such as tiling and surface drainage.
- Knowledge of the Minnesota Wildlife Action Plan located on the Minnesota DNR website at: <https://www.dnr.state.mn.us/mnwap/index.html>
- Ability to design a filter strip according to the Filter Strip (393) practice standard using the Filter Strip Design Tool.
 - Awareness of the National Biology Technical Notes located on the [NRCS eDirectives](#) website.
- Ability to document environmental benefits of wetland restoration.
- As determined by the supervisor, job approval authority for ecological sciences and engineering practices common to wetland restoration in the location the conservation planner serves.

Design and Development of the Conservation Practice Requirements

-Job Class I-

- Demonstrate the ability to write a seeding plan using the Minnesota NRCS Seed Calculator.
- Knowledge of the [Minnesota Wetland Restoration Guide](#)
- Ability to use the Minnesota Wildlife Habitat Evaluation Guides.
- Knowledgeable of the recommendations found in Agronomy Technical Note #31
- Knowledge of planting dates for introduced plant species used.
- Knowledge of planting methods and equipment.
- Knowledge of site preparation methods.
- Reviewed National Engineering Handbook, Part 650, Chapter 13 “Wetland Restoration, Enhancement or Creation”.

-Job Class II-IV-

- Go through Minnesota NRCS Engineering Job Approval Authority

Construction/Installation/Certification

-Job Class I-

- Ability to conduct wetland functional assessments
 - Knowledge of wetland plant identification – Ability to identify common wetland plants to the taxonomic family using references. Ability to recognize wetland plant communities.
 - Ability to read seed tags.
 - Ability to calculate pure live seed.
 - Knowledge of Minnesota Seed Law and MN Noxious Weed Law.
 - Knowledge of operation and maintenance for introduced vegetative establishment. (i.e. mowing & herbicide strategies)
 - Ability to determine if an herbaceous seeding is established based on Ag Tech Note #17
- Job Class II-IV-
- Go through Minnesota NRCS Engineering Job Approval Authority

COMMON ASSOCIATED PRACTICES:

Wetland Restoration (657) is commonly applied with practices such as Conservation Cover (327), Restoration of Rare or Declining Natural Communities (643) and Upland Wildlife Habitat Management (645).

ADDITIONAL MATERIALS:

- Minnesota Agronomy Technical Notes:
 - #31 - Herbaceous Vegetation Establishment Guide
 - #17 - Guidelines for Herbaceous Stand Evaluation
- [Wildlife Guide Sheets](#)
- [Minnesota Biology Technical Notes](#)
- Biology Jobsheets:
 - #11 – Wetland Restoration
- Other References
 - Galatowitsch, Susan, et al, 1994. Restoring Prairie Wetlands: an ecological approach. Iowa State University Press, Ames, IA. 246 pp.
 - Minnesota Board of Water and Soil Resources. 2012. Minnesota Wetland Restoration Guide. Second Edition. Main Page -Wetland Restoration Guide -BWSR
 - USDA, NRCS, 2003. ECS 190-15 Wetland Restoration, Enhancement, Management & Monitoring <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21179>
 - USDA, NRCS. Wetland Restoration, Enhancement, or Creation, Engineering Field Handbook Chapter 13, Part 650. 121 pp. <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21429>
 - USDA, NRCS. 2018. Field Indicators of Hydric Soils in the U.S., Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA-NRCS in cooperation with the National Technical Committee for Hydric Soils https://www.nrcs.usda.gov/sites/default/files/2022-09/Field_Indicators_of_Hydric_Soils.pdf
 - USDA-NRCS. Hydric Soil Technical Note 13, Deliberations of the National Technical Committee for Hydric Soils (NTCHS) <https://nrcs.app.box.com/s/6bd9555mxciaofpudib31etctkxmwl6/file/1049318460945>