

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE SPECIFICATION**  
**WETLAND ENHANCEMENT**

(acre)

**CODE 659**

**GENERAL SPECIFICATION**

Procedures, technical details and other information listed below provide additional guidance for carrying out selected components of the named practice. This material is referenced from the conservation practice standard for wetland enhancement and supplements the requirements and considerations listed therein.

**PURPOSE**

To provide specific wetland conditions to favor specific wetland functions and targeted species by:

- hydrologic enhancement (depth duration and season of inundation, and/or duration and season of soil saturation).
- vegetative enhancement (including the removal of undesired species, and/or seeding or planting of desired species).

**HYDROLOGY**

Water must be available during a long enough period each year to insure the wetland is functioning. If water depth or duration is a concern, the use of water control structures may be required. Enough moisture must be present to keep the vegetation community functioning. Water must be present during the proper time periods to meet the needs of the desired species.

**VEGETATION**

Any native vegetation species to be planted should be collected within the areas MLRA. Local plants and seed sources should be used when possible.

The vegetation shall be restored as close to the original natural plant community as the restored site conditions will allow. Determination of the original plant community's species and percent composition shall be based upon reference wetlands of the type being restored.

Plantings, seeding, or other types of vegetative establishment will be comprised of native species that occur on the wetland type being restored.

Preference shall be given to native wetland plants with localized genetic material. Plant materials collected or grown from material collected within the same MLRA as the site, is considered local. Woody vegetation may need protection from beavers until established. In soils where seed banks realistically exist, or where natural colonization of selected native species (identified from reference wetlands) 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.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

## Specification – 659-2

On sites which were predominantly herbaceous vegetation prior to modification and planting and/or seeding is necessary, the minimum number of native species to be established shall be based upon the number of ecological sites present. Sites restored to only one ecological site shall be established with at least two species adapted to the site. Sites with two or more ecological sites (i.e., wet meadow, shallow marsh, or slough sites, etc.) shall be established with at least one native species on each ecological site.

Herbaceous vegetation may be established by a variety of methods including: aerial seeding, topsoiling, organic mat placement, wetland sod, wetland hay, or etc., over a portion of the site and at densities and depths appropriate.

Forested wetland plantings and/or seeding will include a minimum of three tree or shrub species on each ecological site (i.e., low flat, bottom ridge sites, etc.), where appropriate. Tree (and shrub) planting will follow the criteria of Conservation Practice 612 - Tree Planting. Dormant pole planting is also a viable method for restoration of cottonwoods and willows.

A vegetative buffer zone should be established in areas surrounding the wetland. The buffer will act as a filter for sediment and debris. The buffer zone must be wide enough to adequately filter overland runoff from the surrounding uplands.

Seed planting rates and site preparation will meet the criteria of Conservation Practice 652 - Woodland Direct Seeding. Seed viability will be determined prior to planting.

Planning for vegetation:

Planning for vegetation needs to begin early in the overall wetland planning process. Species selection can be effected by many factors of the design, construction, and site.

Changes in management may meet the cooperator's objectives for restoring the

wetland without implementing accelerating practices such as seeding or planting and should be considered.

Dikes, pond embankments, and other engineering structures installed in association with this practice may have non-hydric soil situations and require vegetation. Refer to Critical Area Stabilization (342) standard for vegetation considerations.

Specify required management of water and/or animals before seeding/planting is implemented.

Species in Table 1 are found in wetlands in New Mexico.

TABLE 1.

<u>Scientific name</u>	<u>Common Name</u>
Scirpus acutus	Hardstem bulrush
Scirpus validus	Softstem bulrush
Eleocharis	Spikerush
Scirpus pungens	Threesquare bulrush
Scirpus olneyi	Alkali bulrush
Polygonium sp.	Smartweeds
Carex nebrascensis	nebraska sedge
Juncus Balticus	Baltic rush
Salix species	Willows
Populus species	Cottonwoods

## SOILS

Examination of the soils found at the site are required. If soil conditions have been modified (filled over the surface), then the site must be returned to its original condition before the project can proceed. Hydric soils will be used, where possible, to interpret previous wet conditions in determining the extent of the degraded wetland and to design the enhancement.

## WETLAND FUNCTIONS

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

Restoration goals and objectives shall include targeted natural wetland functions

for the wetland type and the site location as determined by the functional assessment and reference site data. A post-project assessment will be performed after an adequate period to assess the success of the enhancement.

#### **MANAGEMENT OF WETLAND**

Water level and periods of wetting must be regulated to meet the objectives of the project. Where open channels were constructed to drain the wetland, the channel will be filled with earth or controlled with a grade stabilization structure to restore the wetland hydrologic conditions. A water control structure may be required to manage water levels for wetland operation and maintenance.

Wetland vegetative communities must be properly managed. If desired plants die, they should be replaced. Efforts should be made to keep excess sediment out of the wetland and to keep excess nutrients, and pesticide runoff from entering the wetland.

#### **APPLICABLE PRACTICES**

Shallow water Mgmt. For Wildlife (335); Dike (356); Tree/shrub establishment (612); Pond (378); Wetland wildlife habitat management (644);

#### **PLANS AND SPECIFICATIONS**

Specifications for this practice shall be prepared for each habitat type and locality. Specification shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

#### **OPERATION AND MAINTANENCE**

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. The activities may include normal repetitive activities in the application and use of the practice (operation) and repair and upkeep of the practice (maintenance).

Beavers, rabbits, deer, geese, ducks and other herbivores may damage or destroy vegetative plantings. Protective barriers may be required. Plantings that die will need to be replanted. Excessive sedimentation should be prevented from entering the wetland. If excess sediment begins filling the wetland, it must be removed. Dikes and berms must be maintained.