

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
WETLAND WILDLIFE HABITAT MANAGEMENT

(Acre)

CODE 644

DEFINITION

Retaining, developing, or managing habitat for wetland wildlife.

PURPOSE

To maintain, develop, or improve habitat for waterfowl, fur-bearers, or other wetland associated flora and fauna.

CONDITIONS WHERE PRACTICE APPLIES

On or adjacent to wetlands, rivers, lakes and other water bodies where wetland associated wildlife habitat can be managed. This practice applies to natural wetlands and water bodies as well as manmade water bodies and wetlands that may have been previously restored, created, or enhanced using the Oklahoma NRCS Wetland Restoration (657), Wetland Creation (658), or Wetland Enhancement (659) standards, respectively.

CRITERIA

Identify species management goals and objectives. For the desired species, identify the types, amount, and distribution of habitat elements and the management actions necessary to achieve the management objectives. This information will be identified in a wetland wildlife management plan.

A habitat evaluation or appraisal method will be used to determine the habitat element(s) that are weak or missing. Application of this practice will remove or reduce the limiting factor(s) in their order of significance until a minimum of 50 percent of the optimum habitat conditions for the wetland site are achieved.

Practice application alone, or in combination

with other supporting and facilitating practices, will result in a conservation system that will enable the planning area to meet or exceed the minimum quality criteria for wildlife habitat established in Section III of the FOTG.

Existing natural wetlands will be preserved and protected from manipulation or use that will alter the wetland functions presently being provided by the site.

Following wetland restoration, enhancement, or creation, all disturbed areas not inundated with water, will be seeded or planted to vegetation that is beneficial to the targeted wildlife species.

Use native plants wherever possible for re-vegetating disturbed areas or for seeding buffers and adjacent areas for nesting and cover.

Oklahoma NRCS Conservation Cover (327) or Range Planting (550) standards will be used for re-vegetating disturbed areas unless the area is subject to overflow and erosion, then use the Critical Area Planting (342) standard.

Structures and management will not increase flood impacts, create seepage problems, or back water onto adjacent properties or non-wetland areas where saturation or inundation is not desirable.

Wetlands will be protected from livestock damage in accordance with the Oklahoma NRCS standard for Access Control (472). Periodic short duration grazing or prescribed burning can be used on a case by case basis to maintain or improve vegetation structure and composition for management purposes. Use the Oklahoma Prescribed Grazing (528) or Prescribed Burning (338) standards for this purpose

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

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Management practices will be provided to control invasive species and noxious weeds using spot treatment methods on targeted plants.

Use the Oklahoma NRCS Tree/Shrub Establishment (612) standard where woody vegetation is determined to be necessary for improving habitat and is included in the management plan.

The landowner shall obtain all applicable and necessary local, state and federal permits.

Emergent Marsh Development and Management

Development should fit the site and landscape position. Larger areas will provide more diverse habitat and attract and hold more wetland wildlife species.

In general, at least 50 percent of the marsh should be designed to have water depths of less than 12 inches. Between 20 and 40 percent should have water depths from 1 to 3 feet and the remainder of the wetland can have deeper water in borrow areas, depressions, or in constructed macro-topographic structures.

On soils where a seedbank of desirable plant species exists or natural succession is expected to re-establish vegetation on the site in less than 5 years, no planting is necessary.

Where no seedbank is present and planting is required, a minimum of two adapted wetland species will be planted. Species and seeding rates will be based on recommendations from the NRCS Biologist, Resource Conservationist, or ODWC Wetland Biologist.

Borrow material for any required berms or water level control structures should be obtained at least 50 feet away from the dike or control structure in order to reduce wave action and the impacts from burrowing activity by beaver, muskrat, and other aquatic mammals.

A device for regulating water levels is not required for emergent marsh management where water is typically maintained at stable levels. However, it can be a useful tool for managing vegetation, and providing habitat for specific wetland wildlife species. See the Oklahoma NRCS Structure for Water Control

(587) standard for information on designing these types of structures.

Islands, swales and other macro-topographic features can provide additional diversity and interspersed habitat for loafing, resting, and nesting sites.

See the Oklahoma NRCS standard for Wetland Restoration (657) and JS 657 02, Using Micro and Macro-topography in Wetland Restoration, for specific information on these features.

Place partially submerged logs, rock piles, or other structures in varying water depths throughout the marsh in order to provide habitat for reptiles and amphibians.

The Oklahoma standard for Shallow Water Development and Management for Wildlife (646) and JS 646 01, Shallow Water Development and Management for Wildlife, provide extensive information on managing vegetation, maintaining water levels, timing of drawdown, and managing for specific wetland wildlife species. Refer to these documents for more detailed information.

Bottomland Hardwood Wetland Development and Management

Bottomland hardwood wetland units that are seasonally flooded with shallow water during the dormant growing season are referred to as "Greentree Reservoirs". The acorns, nuts, and fruits from hard and soft mast producing trees and the invertebrates living in decomposing leaf litter, attract feeding waterfowl when the area is inundated with shallow water in the fall, winter, and early spring.

Minimum size for management of a flooded hardwood area is one acre.

Bottomland hardwood areas should be flooded to an average of no more than 8 inches during the dormant season, which typically begins after leaves drop in the fall and ends before trees bud out in the spring.

Naturally occurring rainfall or runoff will provide an adequate water source in many years. However, for optimum benefits and reliable habitat, an alternative source of water for flooding should be available. The source should be sufficient to flood the entire area within 4 to 6 weeks by such methods as

pumping, diverting, or releasing water from a supplemental water supply

Tree stands for development must consist of at least 40 to 50 percent mature hard mast bearing tree species that are adapted to inundation during the dormant season. In Oklahoma these species typically include such species as, overcup oak, water oak, willow oak, pin oak, and water hickory.

An adequate water control structure is a requirement in Green Tree Reservoir management. Water must be off of the area by the time of bud development in early spring. The water control structure must be of sufficient size to pass normal summer flow of water through the unit and be able to drain the site within one week in case of a heavy runoff event.

Design levees on the contour, with relatively small impoundment units, in order that the units can be flooded 2 to 8 inches over the majority of the area.

A water management plan will be developed to ensure that proper techniques and timing of water level manipulation is understood by the client. Consult with the NRCS Biologist, Resource Conservationist, or ODWC Wetland Biologist for specific recommendations.

Vary flooding dates, depths, and durations from year to year (within plant tolerance levels) to assure longevity and productivity of the trees. It may not be possible to flood every year and maintain a healthy bottomland hardwood stand.

Flood and drain the units slowly (4-6 weeks) to coincide with dabbling duck migration during the fall and spring.

Selective cutting can be used to improve production and provide openings for use by wetland wildlife. Use the Oklahoma NRCS standard for Forest Stand Improvement (666) for this purpose.

If tree planting is required, use species that are adapted to wetland sites. Use a minimum of three mast producing species, of which at least two species will be hard mast producing

species and the third will be a soft mast producing species. Bare root seedlings will be planted on a 12 foot by 12 foot spacing and containerized trees will be planted at no less than 25 trees per acre. Use the Oklahoma NRCS Tree/Shrub Establishment (612) standard for additional guidance on tree plantings and consult with the NRCS Forester or Biologist for assistance in species selection and tree planting plan development.

Moist Soil Management Areas

The Oklahoma NRCS standard for Shallow Water Development and Management (646) contains all of the information and requirements for management of moist soil areas and will be used as guidance for developing and managing these areas.

CONSIDERATIONS

Consider the accessibility of the site for installation and maintenance.

Consider the impacts of development and management on unique flora and fauna

Consider the aesthetics of the installation and impacts on the landscape.

Consider the need for buffers around the perimeter of the wetland that will reduce sediments and contaminants and provide supplemental habitat. Oklahoma NRCS standards such as Filter Strip (393), Field Border (386), and Conservation Cover (327) can be used to establish beneficial buffer areas.

Consider the effects on fish and wildlife that may be displaced by wetland development and management.

Consider the impacts on disease carriers such as mosquitoes

Consider effects of movement of dissolved substances on groundwater and on downstream surface waters.

Consider the effects that hazardous materials expected or known to occur on the site will have on wildlife or humans.

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Consider effects of management actions on compliance with state and federal hunting regulations (e.g., baiting).

Consider effects of management on non-target fish and wildlife species and Threatened and Endangered Species.

Consider effects of livestock grazing on runoff, infiltration, and wetland vegetation.

Consider using artificial nesting structures that will provide supplemental nesting opportunities for wood ducks, and other cavity nesting birds.

Consider locating the management practice adjacent to existing wetlands and other water bodies.

Consider the impact of increased wildlife uses on structures and adjacent lands (e.g., crop depredation and beaver damage).

Consider effect of volumes and rates of runoff, infiltration, evaporation, and transpiration on the water budget.

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

Consider adjacent wetlands or water bodies that contribute to wetland system complexity and diversity, decrease habitat fragmentation, and maximize use of the site by wetland-associated wildlife.

PLANS AND SPECIFICATIONS

Document the targeted wildlife species to be managed. At a minimum, plans and specifications will address the following criteria for targeted wetland wildlife species:

- The required depth of water and water control measures during all four seasons of the year.
- The types and sizes of required structures including appropriate engineering field sheets.
- Existing plant species and species to be planted with provisions for establishment and maintenance. Specific information may be provided using appropriate job sheets or written

documentation in the conservation plan.

- Plans and specifications will be reviewed and approved by the appropriate NRCS Engineering and Ecological Sciences Staff to insure that both the design specifications and management goals are achieved.

OPERATION AND MAINTENANCE

A plan for operation and maintenance should include monitoring and management of structural and vegetative measures. The area should be reviewed at least once annually to determine if any adjustments are needed in the management of water or vegetation.

The plan will be developed and recorded using approved job sheets, technical notes, or other forms of acceptable documentation.

Items to be included in the plan include:

- Habitat requirements for targeted wildlife species and specifics of how the requirements will be provided.
- Water elevations and depths.
- Timing of flooding and drawdown to coincide with migratory bird use.
- Inspection schedules.
- Vegetation management techniques such as water level control and prescribed burning.
- Acceptable uses and timing of practices such as grazing, haying, or herbicide use.
- Repair of damages caused by increased populations of aquatic and wetland species.
- Repair, replacement, and upkeep of all installed practices shall be carried out as needed.

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