

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**WETLAND WILDLIFE HABITAT MANAGEMENT
(Ac.)**

CODE 644

DEFINITION

Retaining, developing or managing wetland habitat for wetland wildlife.

PURPOSE

To maintain, develop, or improve wetland habitat for waterfowl, shorebirds, fur-bearers, or other wetland dependent or 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/or water bodies as well as wetlands that may have been previously restored, enhanced, and created.

This standard will **not** be used to create, restore or enhance wetlands.

CRITERIA

Use of this standard requires compliance with all applicable federal, state, and local laws and regulations.

Application of this practice 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 Field Office Technical Guide (FOTG).

The target wildlife species will be identified. All plantings and management practices will be based on the habitat needs of the target wildlife species.

This practice will be established to or managed for species of permanent vegetation that accomplish the design objective, are adapted

to the site, and do not function as hosts for field crop diseases or become a source of weeds in the crop field.

Native plant species will be used whenever possible. Known invasive species will not be used. Plant species known to limit wildlife habitat or wildlife movement will not be used.

Use other Indiana (IN) Field Office Technical Guide (FOTG) Standards as necessary to create a wildlife management plan.

Management practices and activities will be conducted as needed to maintain plant communities yet avoid negative impacts to the life cycle needs of target and non-target species to the greatest extent possible, such as nest disturbance or reduction in winter cover.

Application of this practice will remove or reduce limiting factor(s) in their order of significance.

Habitat will be managed so that soil loss does not exceed tolerable limits.

Habitat will be monitored at a frequency and during times of the year, and actions taken as needed, to ensure the critical habitat elements for the target species are met.

When managing for early successional species, such as shorebirds, regular, periodic disturbance of the habitat is required. See IN FOTG Standard (647) Early Successional Habitat Development and Management for further guidance.

If a natural cover (other than what was planted) establishes, and this cover meets the intended purpose and the landowner's objective, the cover will be considered adequate.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service State Office, or download it from the Field Office Technical Guide for your State.

If the presence of hazardous waste materials is suspected, soil samples will be collected and analyzed as defined by local, state, or federal regulations. The nutrient and pesticide tolerance of the plant and animal species likely to occur will also be evaluated where known nutrient and pesticide contamination exists.

Additional Criteria for Developing Food, Cover, and shelter for target wildlife species.

Vegetation will be managed to replicate the historic native plant community to the extent site conditions will allow. Determination of the historic plant community will be based upon reference wetlands of the type being restored, or suitable technical reference.

Wetland seedbanks can persist over many years. Use natural regeneration of vegetation when there is evidence supporting a large seedbank. Reference wetlands, existing vegetation, and current land use may all provide evidence of the condition of the seedbank.

In some instances, planting enhances the restoration of the wetland and increases the overall plant diversity, or compensates for a small or depleted seed bank. Plantings, seeding, or other types of vegetative establishment will be comprised of native species that occur on the wetland type being restored, and will be compatible with the planned hydrologic condition. Refer to the [IN NRCS Seeding Tool](#), or [IN Biology Technical Note Wetland Plantings for Wildlife](#), for acceptable shrub, tree, grass, and forb species.

Invasive species and vegetation that may jeopardize the establishment of vegetation, whether through natural regeneration or planting, such as Reed Canarygrass, will be controlled prior to planting. See IN FOTG Standard (314) Brush Management or IN FOTG Standard (315) Herbaceous Weed Control for more information.

Moist Soil Plantings - Graminoids, Legumes and Forbs

Herbaceous plantings will be designed to meet the needs of the target wildlife species.

Typically 40-60 live seeds, or one (1) plug per square foot, are considered appropriate. The mix will consist of at least:

- a) Two (2) graminoids (grasses, sedges, etc.), plus
- b) A minimum of one-half (½) pound of native forbs, consisting of at least six (6) species, one of which is a perennial legume. A minimum of 1 forb or legume will be planted for each bloom period (early, mid, late). Additional amounts of forbs are encouraged to provide additional habitat diversity.

Moist Soil Plantings - Trees and Shrubs.

Tree and shrub planting density will be based on requirements of the target wildlife species.

Tree and/or shrub plantings will follow IN FOTG Standard (612) Tree/Shrub Establishment for site preparation, planting dates, planting and storage guidelines.

Associated Upland Habitats. Refer to the [IN NRCS Seeding Tool](#), or [IN FOTG Standard \(645\) Upland Wildlife Habitat Management](#) for species selection and seeding rates when planting the upland component of the wetland restoration.

Water Level Management

Where water level can be controlled and managed, a water level management plan will be developed.

Timing of drawdowns will take into consideration the target wildlife species and vegetation management goals of the site.

No more than 50% of the wetland should be flooded to greater than 18 inches in depth.

Drawdowns will be conducted in a way that minimizes the potential establishment of invasive plants.

CONSIDERATIONS

General

Consider an interspersed of 50% open water and 50% emergent cover when general wildlife diversity use is the primary purpose.

Consider developing wildlife wetland habitat management plans with the assistance of a professional biologist when a plan is large or complex.

Consider following the planning guidelines for the appropriate species of concern in Indiana [Biology Technical Note Wetland Macrotopography](#).

Consider not disturbing cover during the primary nesting period of April 1 through August 1

Consider effects management will have on disease vectors such as mosquitoes.

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

Consider effects on temperature of water resources to prevent undesired effects on aquatic and wildlife communities.

Soil disturbance associated with the installation of this practice may increase the potential of invasion by unwanted species.

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

The improved habitat that results from the installation of this practice may lead to increased crop depredation by wildlife on adjacent cropland.

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.

Vegetation

Establishing vegetative buffers on surrounding uplands can reduce the delivery of sediment and soluble and sediment-attached contaminants carried by runoff and/or wind. [IN FOTG Standard \(645\) Upland Wildlife Habitat Management](#).

Consider planting plugs to elicit an immediate vegetative response, to increase plant diversity, or to supplement existing habitats.

Consider woodland establishment (including planted species and natural regeneration) will include a minimum of ten (10) species

Consider water level manipulation to manage vegetative composition and to expose mudflats or for food plot establishment.

Consider the use of biological control of undesirable plant species and pests (e.g.,

using predator or parasitic species) where available and feasible.

Other Wildlife Habitat

Adding artificial nesting structures that are appropriate for the region can increase utilization of these areas.

Adding dead snags, tree trunks or logs can provide structure and cover for wildlife and serve as a carbon source for food chain support. See IN FOTG Standard (649) Structures for Wildlife.

When shorebirds are the target species consider disking areas of exposed, emergent and submergent vegetation during late winter or fall drawdowns to set back vegetation and provide exposed soils (mudflats) for migrating shorebirds.

When amphibians and reptiles are a target species, prevent water level draw downs during winter months that will increase hibernation mortality.

When salamanders are a target species, consider creating a forest buffer with a minimum width of 150 feet. Note that some salamander species may need up to a 500 foot buffer.

PLANS AND SPECIFICATIONS

Plans and specifications for the establishment and management of the species or species of plants to be established may be recorded in narrative form, on job sheets, or on other forms.

Plans and specifications will be prepared for the practice site and how habitat needs will be provided for the desired kinds of wildlife. Plans will include the following as appropriate:

- Primary wildlife species to be attracted/managed for.
- The amounts and kinds of habitat elements, locations and management actions necessary to achieve the client's management objectives.
- Plan view.
- Species of plants to be established Seeding rates
- Seeding dates
- Establishment procedure

- Planned rates and timing of nutrient application
- Required depth of water during the different seasons
- Types and sizes of structures required
- Other information pertinent to establishing and managing the species or species of plants to be established

OPERATION AND MAINTENANCE

Any plant species, whose presence or overpopulation may jeopardize this practice, will be controlled. Spraying or other control methods will be performed on a “spot” basis to protect forbs/legumes that benefit native pollinators and other wildlife.

An operation and maintenance plan will be provided to and reviewed with the landowner. The plan will include the following items and others as appropriate.

1. Promptly repair eroded areas.
2. Reestablish vegetative cover immediately where scour erosion has removed established seeding.
3. Periodically inspect area for any new maintenance items and take immediate

action to protect from further damage or deterioration.

REFERENCES

- Hall, C.D. and F.J. Cuthbert. 2000. Impact of a controlled wetland drawdown on Blanding's Turtles in Minnesota. *Chelonian Conservation Biology*. Vol. 3, No. 4, pp. 643-649.
- Helmets, D.L. 1992. Shorebird management manual. Western Hemisphere Shorebird Reserve Network, Manomet, MA 58 pp.
- Payne, Neil F. 1992. Techniques for wildlife habitat management of wetlands. McGraw-Hill, Inc. 549 pp.
- Smith, Loren M. and Roger L. Pederson. 1989. Habitat management for migrating and wintering waterfowl in North America. Texas Tech University Press, 574 pp.
- U.S. Department of Agriculture Natural Resources Conservation Service. 2000. *Indiana Biology Technical Note No. 1 - Using Micro and Macrotopography in Wetland Restoration*.
- U.S. Department of the Interior Fish and Wildlife Service. 1988. *Waterfowl Management Handbook*.