

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**WETLAND WILDLIFE HABITAT MANAGEMENT
(ACRE)
Code 644**

DEFINITION

Retaining, developing or managing wetland habitat and communities for wetland wildlife.

ensure that stated ecological objectives are being met.

PURPOSE

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

Species and communities will be suited to the region, soil-site conditions, and will be suitable for the planned purpose.

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 ([657](#)), enhanced ([659](#)), and created ([658](#)).

Identify wildlife species/community management goals and objectives. For the desired species/communities, identify the types, amount and distribution of habitat elements and the management actions necessary to achieve the management objectives.

Native plants will be used wherever possible. See [Conservation Cover \(327\)](#).

Sites containing hazardous waste will be cleaned prior to the installation of this practice.

CRITERIA

A habitat evaluation or appraisal, approved by the NRCS state office, shall be used to identify habitat-limiting factors in the planning area.

Invasive plant species and federally/state listed noxious and nuisance species shall be controlled on the site. See [Iowa Agronomy Technical Note 23](#).

In addition to official plant community descriptions, high quality, well protected, like-type plant communities found within the same Major Land Resource Area (MLRA) and on the same or similar soil series should be used as a reference in developing management plans.

Timing and use of equipment will be appropriate for the site, soil, and weather conditions.

Undisturbed areas shall be conserved on a sufficient extent of the area to sustain disturbance-intolerant species.

Application of this practice shall remove or reduce limiting factor(s) in their order of significance, as indicated by results of the habitat evaluation.

PLANNING CONSIDERATIONS

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

Application of this practice alone, or in combination with other supporting and facilitating practices, shall 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.

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

Consider effects on fish and wildlife habitats that would be associated with the practice.

Management will be conducted upon set objectives. The impacts of restoration and management activities will be monitored to

Establishing vegetative buffers on surrounding uplands can reduce the delivery of sediment and soluble and sediment-attached contaminants carried by runoff and/or wind.

The nutrient and pesticide tolerance of the species planned should be considered where known nutrient and pesticide contamination exists.

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.

Adding dead snags, tree trunks, logs, etc., can provide structure and loafing cover for wildlife and serve as a carbon source for food chain support.

For discharge wetlands, consider underground upslope water and/or groundwater source availability.

When determining which species to plant, consider microtopography and different hydrology levels (refer to [Agronomy Technical Note 27](#)).

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

Water level draw-downs may increase the potential for turtle mortality if conducted between September 1st and April 15th (4).

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

Adding artificial nesting, basking, or hibernacula structures that are appropriate for the region can increase utilization of these areas. (Refer to [Biology Technical Note No. 11, NRCS Artificial Nesting Structures Leaflet #20](#), Iowa NRCS Restoring and Managing Habitat for Reptiles and Amphibians website, etc.)

Locating this practice adjacent to existing wetlands and other water bodies will provide connectivity to these cover types.

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.

Mowing/haying may be used as an alternative to grazing and burning but will not emulate the effects of either aforementioned process. See [Forage Management \(511\)](#).

Duff from mown sites may need to be removed, burned, or mulched if too dense.

Brush control (mechanical, chemical or by hand) on weedy pasture sites and within woodlands should be accomplished prior to burning. See [Brush Management \(314\)](#), [Pasture and Hayland Planting \(512\)](#), [Forage Harvest Management \(511\)](#), and [Timber Stand Improvement \(666\)](#).

Varying the proportion, location, size, frequency, intensity, and timing (spring, summer, winter, fall) of management will add complexity to a site.

For sites that have existing, desirable vegetation, burning and/or mowing the site the year or two prior to interseeding will promote the establishment of newly seeded flora.

Burn, mow, hay, or graze to remove duff prior to no-till interseeding. See [Conservation Cover \(327\)](#) and [Restoration and Management of Declining Habitats \(643\)](#).

First and foremost, the use of fire should be prescribed to meet set objectives for the site. In some instances, more aggressive use of fire may be warranted to accomplish desired effects, while a break in fire interval may be desired to meet a different objective. Objectives evolve over time; therefore burn prescription should evolve accordingly. See [Prescribed Burn \(338\)](#). Below are considerations to keep in mind when planning to use prescribed fire as a management tool:

- Frequent burning within the same area may impose significant negative impacts on plant and invertebrate populations.
- Burning hinders succession to a shrub/scrub habitat. Burning has been shown to encourage forb seed recruitment to the seed bank and contribute to plant community richness.
- Frequent burning may create greater graminoid dominance and the depletion of forb seed in the seed bank.
- Burning during drought conditions may destroy organic soils.

- Graminoid species predominantly spread vegetatively and are little affected by periodic burning.
- With appropriate return intervals, burning removes dense graminoid litter and allows short-lived forb establishment and reproduction; thus helping to maintain forb species, especially annual and biannual, within the seed bank.
- Annual forbs typically increase in frequency the first growing season after a burn while perennial forb frequency increases for two growing seasons after a burn.

PLANS AND SPECIFICATIONS

Document how habitat needs will be provided for the desired kinds of wildlife/communities:

- required depth and timing of water during the different seasons;
- types and sizes of structures required;
- Desired native plant species or communities and the means of establishing and maintaining them.

Specific information may be provided within NatureServe Explorer species or community profiles, the [Restoration and Management of Declining Habitats \(643\)](#) and [specification](#), the Iowa Plant Community Database, appropriate job sheets or written documentation in the conservation plan.

OPERATION AND MAINTENANCE

A plan for operation and maintenance, at a minimum, should include monitoring and management of structural and vegetative measures.

Ensure both vertical and horizontal structure within the plant community are preserved.

Vegetative manipulations to restore plant and/or animal diversity can be accomplished by prescribed burning, mechanical, biological, or chemical methods, or by a combination of the four.

Haying and livestock grazing plans, if haying or livestock grazing is used as a needed wildlife management tool, will be developed to allow the establishment, development and management of wetland and associated upland vegetation for the intended wetland and/or wildlife purpose. See [Forage Harvest Management \(511\)](#).

Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible.

Added water depth and duration may be utilized as a method to control unwanted vegetation (e.g., reed canary grass, cattails, etc.).

Rotate periodic planned management or other treatments to mimic natural disturbance types and regimes, with no more than 1/3 of the restored/managed area treated per year.

Habitat conditions should be evaluated on a regular basis in order to adapt conservation plans and scheduled maintenance to ensure the desired habitat conditions are achieved.

Management measures must be provided to control invasive species and noxious weeds to less than 5-10% of the vegetative cover. Compliance with state noxious weed laws must be met. Refer to [Conservation Cover Practice \(327\)](#), [Brush Management Practice \(314\)](#), and [Pest Management \(595\)](#).

When possible, weed control will be completed on a "spot" basis to protect native forbs and legumes that benefit pollinators and other wildlife. Refer to [Conservation Cover Practice \(327\)](#) and [Brush Management Practice \(314\)](#), and [Pest Management \(595\)](#).

REFERENCES

Wetland Classification and habitats

Classification of Wetlands and Deepwater Habitats of the United States:
http://www.fws.gov/nwi/Pubs_Reports/Class_Manual/class_titlepg.htm

National Wetlands Inventory Digital Data and Mapping: <http://wetlandsfws.er.usgs.gov/NWI/>

Wetland Assessment and Monitoring

EPA Methods for Evaluating Wetland Condition:
<http://www.epa.gov/waterscience/criteria/wetlands/>

Ohio Rapid Assessment Method for Wetlands (ORAM) Documents:
<http://www.epa.state.oh.us/dsw/wetlands/WetlandEcologySection.html>

Species or Community Information

Iowa *Odonata* (Dragonflies & Damselflies) Survey: <http://www.iowaodes.com/>

Mayflies (*Ephemoptera*) of the United States: <http://www.npwrc.usgs.gov/resource/distr/insects/mfly/index.htm>

Butterflies and Moths of North America: <http://www.butterfliesandmoths.org/>

Dragonflies and Damselflies (*Odonata*) of the United States - *Odonata* of Iowa: <http://www.npwrc.usgs.gov/resource/distr/insects/dfly/ia/toc.htm>

PARC Habitat Management Guidelines for Amphibians and Reptiles of the Midwest: <http://herpcenter.ipfw.edu/index.htm?http://herpcenter.ipfw.edu/outreach/MWHabitatGuide/index.htm&2>

Restoring and Managing Native Wetland Vegetation: <http://www.bwsr.state.mn.us/wetlands/publications/nativewetveg.pdf>

Stoneflies of the United States – Stoneflies of Iowa: <http://www.npwrc.usgs.gov/resource/distr/insects/sfly/ia/toc.htm>

Ponds and Marshes for Wild Ducks on Farms and Ranches in the Northern Plains. Farmers' Bulletin No. 2234, USDA.

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.

Smith, Loren M. and Roger L. Pederson. 1989. Habitat management for migrating and wintering waterfowl in North America. Texas Tech University Press, 574 pp.

Restoration and management of habitat for Reptiles and Amphibians - Iowa NRCS: <http://www.ia.nrcs.usda.gov/news/brochures/ReptilesAmphibians.html> or <ftp://ftp-fc.sc.egov.usda.gov/IA/news/Reptiles.pdf>

NatureServe Explorer Species & Communities Database: <http://www.natureserve.org/explorer/>

Amphibians and Reptiles. NRCS Fish and Wildlife Habitat Management Leaflet Number 35, May 2006: http://policy.nrcs.usda.gov/media/pdf/tn_b_49_a.pdf

General Habitat Information

Payne, Neil F. 1992. Techniques for wildlife habitat management of wetlands. McGraw-Hill, Inc. 549 pp.

Wildlife Brush Piles. NRCS Conservation Practice Job Sheet 645 – Indiana <http://www.in.nrcs.usda.gov/technical/biology/645%20Wildlife%20Brushpile%20Jobsheet.doc>

Artificial Nesting Structures Leaflet # 20. http://directives.schttp://directives.sc.egov.usda.gov/media/pdf/tn_b_23_a.pdf.