

**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 Wetland Restoration (657), Wetland Enhancement (659), and Wetland Creation (658).

CRITERIA

A habitat evaluation or appraisal, approved by the Natural Resources Conservation Service (NRCS) state office, shall be used to identify habitat-limiting factors in the planning area. In South Dakota (SD), this evaluation may be done using one of the following:

- the minimum habitat requirements outlined in this standard;
- United States Fish and Wildlife Service Habitat Evaluation Procedure models, found at:
<http://www.nwrc.usgs.gov/wdb/pub/hsi/hsiindex.htm>;
- Natural Resources Conservation Service (NRCS) or other formally developed species specific models;

- Habitat criteria provided to the planner by a SD NRCS biologist for the species in question.

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 national quality criteria for wildlife habitat established in Section III of the SD Technical Guide (SDTG), which is met by providing all life requisites within the home range for the target species identified on the SD-CPA-26, Wildlife Habitat Management.

Identify wildlife 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. Use the SD-CPA-26 to identify the species of interest and document the existing habitat, and the needed habitat and management to be applied.

Application of this practice shall remove or reduce limiting factor(s) in their order of significance, as indicated by results of the habitat evaluation. Document the order of significance and reasoning using the SD-CPA-26.

Native plants will be used wherever possible.

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

Invasive plant species and federally/state listed noxious and nuisance species shall be controlled on the site.

Vegetative manipulations to improve or restore plant diversity at the wetland site shall be accomplished by prescribed burning, prescribed grazing, clipping, or similar mechanical means, or use of herbicides approved for wetland areas. Manipulation of wetland vegetation shall be done only as needed to address problems with excessive accumulation of plant litter, invasive species, or other documented problems.

TABLE 1. MINIMUM HABITAT REQUIREMENTS FOR SELECTED WILDLIFE SPECIES IN SOUTH DAKOTA

| SPECIES | HOME RANGE | HABITAT NEEDED | HABITAT CHARACTERISTICS AND EXPLANATIONS | QUANTITY OR MANAGEMENT |
|--|--|----------------|---|--|
| Upland ground nesting waterfowl, such as Mallard, (<i>Anas platyrhynchos</i>), Gadwall, (<i>A. strepera</i>), Northern pintail, (<i>A. acuta</i>), Northern shoveler, (<i>A. clypeata</i>), Blue-winged teal, (<i>A. discors</i>), American widgeon, (<i>A. americana</i>), etc. | Using a seasonal, semi-permanent, or permanent water body as the center point, pair cover, nesting cover, and brood cover will be provided within a one-half mile of the wetland edge. | Nesting Cover | Nesting cover consists of herbaceous cover that will provide new growth and/or standing residue with a visual obstruction reading of at least eight inches from mid-April through August 1. | Refer to Upland Wildlife Habitat Management (645) for guidance on development of nesting cover and appropriate management. A minimum of five units of nesting cover per square mile will be provided. There will be at least one unit of nesting cover for every acre of seasonal, semi-permanent, or permanent wetland habitat. |
| | | Pair Habitat | Shallow water areas provided by temporary and seasonal wetlands are needed to attract dabbling ducks to an area in the spring and provide an early food source. Temporary or seasonal wetlands will be located within one-half mile of nesting cover. | Provide at least one acre within one-half mile of nest cover. These areas may occur as separate basins or as the temporary or seasonal zone of a deeper wetland. |
| | | Brood Habitat | A semi-permanent or permanent wetland or another semi-permanent or permanent water body will be located within one mile of suitable nesting cover. Dense emergent vegetation along the shoreline and/or interspersed with open water is important for broods. | Provide at least one acre of semipermanent or permanent wetland habitat. Dugouts or ponds without dense surrounding emergent wetland vegetation shall not be considered as brood habitat. |
| | | Food | Food will be satisfied by providing the required wetlands. | Avoid use of herbicides or insecticides that could impact the food web of the wetlands in the area managed. |

TABLE 1 (CONTINUED). MINIMUM HABITAT REQUIREMENTS FOR SELECTED WILDLIFE SPECIES IN SOUTH DAKOTA

| SPECIES | HOME RANGE | HABITAT NEEDED | HABITAT CHARACTERISTICS AND EXPLANATIONS | QUANTITY OR MANAGEMENT |
|--|--|----------------------------|--|--|
| Diving ducks (Canvasback, Redhead, Ruddy duck, Lesser scaup) | A wetland or a wetland complex that provides semi-permanent wetland cover with 30 to 50 percent emergent vegetation. | Pair and Brood Cover | This habitat is provided by wetlands that have a water regime that will persist throughout most of the summer. Wetlands with cattail margins and open water centers, and wetlands with interspersed open water and emergent vegetation are the goal. | Provide at least 1 wetland basin that is either seasonal or semi-permanent, with 30 to 50 percent emergent vegetation. |
| | | Nest Cover | Nest cover used by these species is usually dense emergent vegetation, such as cattails, bulrushes, whitetop, slough sedge, or other emergent vegetation associated with cattails. Some nesting may occur in adjacent upland vegetation of suitable height and density. | Provide a semi-permanent or seasonal wetland with 30 to 50 percent emergent vegetation. Provide a vegetated upland buffer around the wetland that has a minimal visual obstruction reading of eight inches during the spring and summer. |
| | | Food Supply | Preferred foods are water milfoils, wild celery, widgeongrass, muskgrass, pondweed, coontail, duck potato, smartweeds, bulrushes, and aquatic invertebrates, such as snails, larvae, and insects. Temporary and seasonal wetlands within one-half mile that still have open water are important for feeding areas. | Improve water quality on wetlands within the management area through nutrient, pesticide and sediment management to maintain invertebrate production and native plant communities appropriate for the site. |
| | | General Habitat Management | Dense stands of emergent vegetation may be managed using grazing, haying, and/or burning to attain the open water areas and interspersed emergent vegetation important for these species. | |

TABLE 1 (CONTINUED). MINIMUM HABITAT REQUIREMENTS FOR SELECTED WILDLIFE SPECIES IN SOUTH DAKOTA

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|---|---|----------------|--|--|
| Cavity nesting ducks (Wood ducks, Mergansers, etc.) | Cavity nesting ducks use woodland areas along lakes, rivers, and wetlands. Provide at least 10 acres of essentially contiguous aquatic habitat. | Nest Cover | Woody riparian cover with cavity trees and/or nest boxes. Artificial nest structures can be constructed using guidance available at http://www.ms.nrcs.usda.gov/whmi/pdf/woodduck.pdf . | Provide woody cover with cavity trees or nest structures within 20 feet of the water's edge. |
| | | Brood Cover | Brood cover for these species is found at the margins of semipermanent wetlands, lakes, streams and rivers that have dense emergent herbaceous vegetation, emergent shrubs that crown about 3 to 4 feet above the water surface, or fallen woody debris that create an area with 60 percent coverage of the water surface. | Provide scattered areas of brood cover along 60 percent of the margin of the water body associated with the nesting cover. |
| | | Food | Food sources include seeds from trees, aquatic insects, aquatic vegetation, and small fish. | Provide adequate water quality to maintain invertebrate, aquatic plant, and fish populations. |

TABLE 1 (CONTINUED). MINIMUM HABITAT REQUIREMENTS FOR SELECTED WILDLIFE SPECIES IN SOUTH DAKOTA

| SPECIES | HOME RANGE | HABITAT NEEDED | HABITAT CHARACTERISTICS AND EXPLANATIONS | QUANTITY OR MANAGEMENT |
|---|---|-----------------|---|--|
| Shorebirds (Piping plovers, Killdeer, Upland sandpiper, Avocet, Long-billed curlew, Phalaropes, Marbled godwit, Yellowlegs, Stilts, etc.) | Landscape level context of varying wetland complexes and riparian habitats is important for many breeding shorebirds. Migrating shorebirds need abundant invertebrates in shallow water conditions. | Nesting | Adjacent grasslands with herbaceous height and density conditions suitable for the desired species. Killdeer and piping plovers use open, sparsely vegetated areas near shallow water, while long-billed curlews and marbled godwits use short or mixed prairie habitat that is relatively sparse. | Provide wide sloping beaches and wetland edges that are free from human disturbance. Provide precise vegetative conditions required for specific species of shorebirds if the planning is that narrowly focused. |
| | | Food | Terrestrial and aquatic invertebrates, aquatic insects, mollusks, small fish, reptiles and amphibians, and some plants. Foraging sites include grasslands, beaches, wetlands, mudflats, flooded croplands. Most forage in water less than four inches deep. | Provide a variety of wetland water regimes to have abundant shallow water averaging about four inches during migration and breeding. |
| | | General Habitat | Remove heavy emergent vegetation every two or three years with shallow disking or grazing to attract invertebrates. Water control structures on created or enhanced wetlands or shallow water developments can be used to regulate water levels to improve shorebird foraging habitats. Avoid pesticide and herbicide use around shorebird habitats to reduce degradation of food and cover sources. Find additional guidance on developing shorebird habitats at: ftp://ftp-fc.sc.egov.usda.gov/NHQ/ecs/Wild/SHOREbirds1.pdf . | |
| Wading birds (Hérons, Cranes and related birds) | | General Habitat | Please refer to the NRCS Fish and Wildlife Habitat Management Leaflet on Wading birds at: ftp://ftp-fc.sc.egov.usda.gov/NHQ/ecs/Wild/Wadingbirds.pdf . | Provide required habitat conditions for specific species if that level of management is desired. |
| | | Food | Fish, aquatic, and terrestrial invertebrates, amphibians, reptiles, and crustaceans. | Tailor food management to the desired wading bird species. |
| | | Nest Cover | Colonial nesters, such as herons, egrets, and ibises, nest together in clumps of woody vegetation close to rivers, marshes, and lakes. Rails and bitterns are solitary nesters that depend on a variety of emergent vegetation for nesting. | Tailor nest cover development according to desired species. |

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| SPECIES | HOME RANGE | HABITAT NEEDED | HABITAT CHARACTERISTICS AND EXPLANATIONS | QUANTITY OR MANAGEMENT |
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| Canada Goose | Semi-permanent and permanent wetlands at least 10 acres in size with 5-20 percent tall emergent vegetation. | Nest Cover | Nesting occurs usually in tall, dense, emergent vegetation such as bulrushes, cattails, whitetop, slough sedge, or prairie cordgrass. | Provide dense emergent vegetation or shrubby vegetation around/on seasonal and semi-permanent wetlands. Artificial nest structures may be installed into appropriate wetland sites. Please see plans for artificial structures at http://www.npwrc.usgs.gov/resource/birds/goosnest/place.htm . |
| | | Brood Cover | Open water areas | Should be present within the basic required wetland habitat in most years. |
| | | Food Supply | Preferred foods are water milfoils, wild celery, widgeongrass, muskgrasses, pondweeds, coontail, duck potato, smartweeds, bulrushes, snails, aquatic larvae, and insects. Grassland vegetation such as Kentucky bluegrass is a desired food source. Grain crops and stubble on uplands. | Provide a variety of wetland and upland food sources. |
| Muskrats and other wetland furbearers | Home range is variable, depending on prevailing regional water conditions. | Cover | These species inhabit seasonal and semipermanent wetlands, permanent wetlands, and stream areas that provide year-round cover and food. | Provide semi-permanent wetlands or intermittent streams with abundant emergent wetland cover or permanent wetlands or perennial streams with dense emergent vegetation along the shore. |
| | | Food Supply | | At least 50 percent of the wetland water area should have dense emergent vegetation consisting of cattails or bulrush species. |

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| SPECIES | HOME RANGE | HABITAT NEEDED | HABITAT CHARACTERISTICS AND EXPLANATIONS | QUANTITY OR MANAGEMENT |
|-------------------------|--|--------------------------|--|---|
| Amphibians and reptiles | These species have small home ranges that vary by species. | General Habitat Required | <p>Please contact a NRCS biologist for species specific habitat conditions to be met if that level of management is intended</p> <p>Amphibians and reptiles are quite sensitive to pesticides.</p> <p>For more information on reptile and amphibian habitat management, please refer to 'Habitat Management Guidelines for Amphibians and Reptiles of the Midwest' at http://herpcenter.ipfw.edu/index.htm?http://herpcenter.ipfw.edu/outreach/MWHabitatGuide/index.htm&2.</p> | <p>Provide wetlands, wetland complexes, and/or shallow stream or river habitats with various hydroperiods and mudflats, emergent, and submerged vegetation zones.</p> <p>Up to 20 percent of the area should be 3 to 5 feet deep and at least 50 percent of the area will be less than 1.5 feet deep at design level.</p> <p>Provide an adequate buffer between the wetland and adjacent areas where pesticides will be applied.</p> <p>Basking structures, such as submerged logs, stumps, log piles, and large partially submerged rocks will be available or developed so that there are five per surface acre.</p> <p>Protect the wetland basin from livestock grazing.</p> |

CONSIDERATIONS

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

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, or logs can provide structure and 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.

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.

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

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

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.

PLANS AND SPECIFICATIONS

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

required depth of water during the different seasons;

types and sizes of structures required;

desired native plant species and the means of establishing and maintaining them.

Specific information may be provided using 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.

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.

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 canarygrass).

REFERENCES

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