Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

WETLAND WILDLIFE HABITAT MANAGEMENT

CODE 644

(ac)

DEFINITION

Retaining, developing, or managing wetland habitat for wildlife.

PURPOSE

This practice is used to accomplish the following purpose:

- To maintain, develop, or improve wetland habitat for waterfowl, shorebirds, furbearers, or other wetland- dependent or associated flora and fauna

CONDITIONS WHERE PRACTICE APPLIES

This 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 have been previously restored (657), enhanced (659), or created (658).

Federal, Tribal, State, and Local Laws

Users of this standard shall comply with applicable federal, tribal, state, and local laws, rules, regulations, or permit requirements governing wetland wildlife habitat management. This standard does not contain the text of federal, tribal, state, or local laws.

CRITERIA

General Criteria Applicable to All Purposes

Interagency coordination of wetland project site selection, planning, and approvals early in the planning process are essential to meet the various requirements of technical and regulatory agencies.

A habitat evaluation shall be conducted utilizing an appraisal tool, approved by Wisconsin NRCS to identify habitat-limiting factors by target wildlife species within the planning unit.

Wisconsin recognized habitat assessment tools can be found in the References section of this practice standard and Section III of the Wisconsin NRCS Field Office Technical Guide (WI FOTG).

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

Implementation 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.

Identify target wildlife species for the planning unit and develop management goals and objectives by species to address the habitat limitations identified by the assessment tools. For the target species,

identify the types, amount and distribution of habitat elements to be created or enhanced and the management actions necessary to achieve the management objectives.

Evaluate the planning unit for the presence of threatened or endangered species (T&E) utilizing the Wisconsin Natural Heritage Inventory (NHI). When T&E species are present in the planning unit evaluate the potential to maintain or enhance beneficial T&E species habitat as a part of the overall wetland wildlife habitat management plan. The type and/or timing of wetland habitat management activities specified by the plan shall not cause a substantial long term negative impact on the T&E species. Consult a biologist for T&E species specific habitat management recommendations. NRCS clients shall obtain all required T&E permits prior to implementation of wetland habitat management activities and implement all actions required by the T&E permit.

Establishment or enhancement of native plants will be shall be included in management plans wherever feasible. Plant material specifications shall include only high quality and adapted species. Site preparation, planting dates, and planting methods shall optimize vegetation survival and growth.

Sites containing hazardous waste shall be remediated to the extent practical prior to the installation of this practice.

Invasive plant species and federally/state listed noxious and nuisance species shall be controlled or managed to limit spreading on the planning unit.

All disturbed areas will be seeded to wildlife friendly vegetation according to a re-vegetation plan. Use WI FOTG, Section IV, Conservation Practice Standard 327, Conservation Cover, unless the area is subject to concentrated flow conditions. Where concentrated flow conditions exist use WI FOTG Standard 342, Critical Area Planting, to plan site revegetation.

Equipment travel, grazing, haying and other disturbance to habitat (i.e., prescribed fire/management) shall be restricted during critical periods such as nesting, brood rearing, fawning or calving seasons. An exception may be made for disturbance causing activities as necessary to maintain the health of the plant community and control noxious weeds.

Additional Criteria for Shallow Water Habitat Management

WI FOTG Standard 657, Wetland Restoration, will be used to design embankments, scrapes, ditch plugs, or tile breaks when needed to address an identified habitat limitation.

Where feasible create a diversity of topographic relief during creation of shallow water habitats (typical maximum design depth of 2 feet or less). A combination of very shallow areas with minor ridges (microtopography) to deeper wetland habitats that include some upland characteristics (macrotopogrphy) will provide a more diverse vegetative community. This diversity results in greater overall wildlife benefits through the development of a variety of habitats.

When open water is created utilize randomly placed scrapes to intersperse open water and emergent cover. Irregular-shaped scrape areas should be used instead of straight-sided (square/rectangular) areas.

Where water level manipulation capabilities are included in the wetland management plan evaluate the risk to increase turtle and amphibian mortality. Develop a Water Management plan to address habitat requirements of the wildlife species targeted to use the site. Adjust the timing, duration and frequency of water level draw down as necessary to minimize identified risks.

Additional Criteria for Vegetative Management

Vegetative cover re-establishment will be comprised of plant species that are native to the wetland type being restored where feasible.

When non-native plants are utilized the planned cover must meet minimum habitat requirements for the target wildlife specie(s) as defined by the NRCS approve habitat model used to develop the wetland management plan.

Planting rates and species will be based on WI FOTG Standard 327, Conservation Cover and Wisconsin Agronomy Technical Note 5, Prairie Establishment/Restoration Seeding Recommendations.

In soils where seed banks of desirable species exist or natural succession of selected species will begin to occur in less than five years, natural regeneration will be the preferred method for revegetation. The topsoil from wetland- excavated areas will be stock piled and redistributed to maintain plant seed banks. A vegetative management plan shall be developed to manage the spread of undesirable plant species during the regeneration period.

Nesting cover is a vital component of the wetland wildlife habitat. Monotypic stands of cool season grass are not ideal nesting cover and may be subject to excessive predation or may be extremely dense. Where feasible include upland nesting cover seeded to a grass or a grass/legume combination in the wetland management plan.

Nesting areas planned for use by waterfowl should not be over one-half mile from brood water.

Utilize WI FOTG Standards 338, Prescribed Burning; and/or 528, Prescribed Grazing, where feasible to maintain or improve the vegetative composition of the wetland management area.

Minimize the use of herbicides near wetland habitat to prevent the loss of submerged aquatic plants or aquatic organisms important to waterfowl and to prevent harm amphibians.

Utilize spot treatment by mowing or herbicide as needed to minimize cover disturbance.

Where runoff from adjoining land contains pesticides utilize WI FOTG Standards 393, Filter Strip; 386, Field Border, and/or 327, Conservation Cover, as necessary to create a vegetative buffer between the management unit and the adjacent land use.

When appropriate conditions are identified, establish northern wild rice or other seed producing vegetation based on Wisconsin Biology Technical Note 4, Wild Rice Seeding Guidelines.

If tree and/or shrub planting is recommended select trees that are adapted to wet sites. Use WI FOTG Standard 612, Tree and Shrub Establishment, to develop the planting plan.

Additional Criteria for Establishment of Habitat Complexes

A wetland with a diverse topography that supports a variety of mud flat, emergent and submergent vegetation zones can support abundant wildlife populations. For many wetland dependent birds, landscape context of varying wetland complexes and habitats is important.

Management of adjacent grasslands can create essential upland habitat for breeding shorebirds through practices such as prescribed grazing, mowing or prescribed burning.

Where feasible manage wetland areas as a complex to create different habitat types. Drawdown and flooding may be utilized to increase the diversity of foods available to migrating and resident water birds. When this food diversity occurs within a wetland, several water bird guilds will use the area simultaneously.

Utilize wetland complexes where amphibians and reptiles are target species for management. Amphibians and reptiles have small home ranges and depend on a diversity of wetland habitats offering differing hydrologic periods being available in relatively close proximity

Additional Criteria for Placement of Artificial Habitat Structures

Apply this component to construct nest boxes, roost poles, nesting/loafing platforms, basking sites, tree drops and other artificial structures for wetland wildlife species.

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

Utilization of artificial habitat structure shall be based on an identified need using a species specific habitat assessment tool. Improper placement and lack of maintenance of artificial habitat structures can result in a net negative impact on wildlife species.

Artificial nesting structures can be used to increase wildlife reproductive success in areas where natural nest sites are unavailable or unsuitable. Artificial nesting structures must be installed in habitat conducive to the targeted species. Improperly sited structures can lead to territorial issues, competition and predation. Nest monitoring and nesting structure maintenance must be conducted to limit competing or undesirable species and assess reproductive success. Specifications for nest boxes can be found at USDA-NRCS Wildlife Habitat Management Institute: www.ms.nrcs.usda.gov/whmi/pdf/woodduck.pdf.

To address identified habitat limitations add dead snags, tree trunks or logs to provide structure and cover for wildlife as needed to address identified habitat needs. Woody debris can also serve as a carbon source for food chain support. Design, specifications and construction of tree drops shall be consistent with Wisconsin Biology Technical Note 6, Tree Drops for Fish Habitat.

To address identified habitat limitations, add rock piles or anchored floating rafts (4 feet by 4 feet) where islands or other structure are not available within the open water areas. Three loafing sites per 1 acre of surface water are recommended.

CONSIDERATIONS

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required criteria to ensure its basic conservation functions are as follows.

- Consider effects of wetland and water level management on downstream flows or aquifers that would affect other water uses or users.
- Consider effects of wetland and water level management on fish and wildlife habitats that would be associated with the practice.
- Consider the use of altered water depth and duration to control unwanted vegetation (e.g. reed canary grass) by altering water on sites with water control structures.
- Consider establishing vegetative buffers on surrounding uplands to reduce the delivery of sediment and soluble and sediment-attached contaminants carried by runoff and/or wind.
- Consider the nutrient and pesticide tolerance of the plant species to be planted where known nutrient and pesticide carryover or contamination exists.
- Consider the effects of temperature on water resources as a result of wetland and water level management activities to prevent undesired impacts on downstream aquatic and wildlife communities.
- Consider the potential of soil disturbance associated with the installation of this practice to increase the risk for establishment or spread of invasive or aggressive species.
- When considering enhancement of discharge wetlands, evaluate the availability of a reliable source of underground upslope water and/or groundwater.
- When determining which vegetative species to plant, consider the effects of microtopography and the variability of hydrology levels within the planning area.
- Consider effects on runoff, infiltration, wetland vegetation and nesting success when livestock grazed within or adjoining the planning area.
- Consider the benefits of locating this practice adjacent to existing wetlands and other water bodies

to optimize the benefit to wildlife by providing connectivity to the additional cover types.

- 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.
- Consider the risk for the improved habitat to increase crop depredation by wildlife on adjacent cropland.
- Consider effects of management actions on compliance with state and federal hunting regulation (e.g. food plots as baiting).
- Consider the use of haying or livestock grazing plans to manage the upland vegetation within the planning unit where use of other alternatives is limited by environmental or safety concerns.
- Consider the use of biological control of undesirable plant species and pests (e.g., using predator or parasitic species) where available and feasible.

PLANS AND SPECIFICATIONS

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

- target wildlife species, habitat type(s) and intensity of management;
- required depth of water during the different seasons;
- construction plans documenting; existing and practice design elevations, planned excavation boundaries, areas for fill borrow or spoil placement;
- types and sizes of habitat 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 present on the site.

The following activities shall be addressed in the plan as applicable:

- Timing and level setting of water control structures.
- Inspection schedule and instructions for embankments and structures.
- Vegetation management.
- Description of restricted or prohibited uses or activities.

REFERENCES

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.

USDA, NRCS Wisconsin Agronomy Technical Note 5, Prairie Establishment / Restoration Seeding Recommendations.

USDA, NRCS, Wisconsin Biology Technical Note 4, Wild Rice Seeding Guidelines.

USDA, NRCS, Wisconsin Biology Technical Note 6, Tree Drops for Fish Habitat.

USDA, NRCS, Wildlife Habitat Management Institute, website:
www.ms.nrcs.usda.gov/whmi/pdf/woodduck.pdf.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.

Helmers, 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.

USDA, NRCS, Wisconsin Habitat Evaluation Procedure and Worksheets: http://efotg.sc.egov.usda.gov/references/public/WI/Wildlife_Habitat_Evaluation_Procedure-Worksheets.docx.

Wisconsin Department of Natural Resources, Wisconsin's Natural Heritage Inventory (NHI) web site: http://dnr.wi.gov/topic/nhi/.