Wetland Wildlife Habitat Management (Acre) 644

DEFINITION

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

PURPOSES

To maintain, develop, or improve wetland habitat for waterfowl, 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 water bodies as well as wetlands that may have been previously restored (657), enhanced (659), or created (658).

CRITERIA

A. General Criteria Applicable to All Purposes

A habitat evaluation shall be used to identify habitat-limiting factors in the planning area.

Application of this practice alone, or in combination with other supporting and facilitating practices, shall result in a conservation system that will meet or exceed the minimum quality criteria for wetland wildlife habitat established below.

A1. When the client's objective is a specific wildlife species, the following habitat criteria will be used:

1. A habitat index rating of 0.75 or greater for the planned condition using either the U.S. Fish and Wildlife Service HSI Models **or the Michigan Wildlife Habitat Evaluation Module, (Michigan Biology Technical Note 12)**.

2. The following description of species habitat requirements may be used when the landowner is targeting management of these species.

Waterfowl, Herons, or Shorebirds

A favorable land use pattern (within 40 acres) consists of at least 5% in shallow open water habitats, 10% in undisturbed woody or herbaceous wetlands, 5-10% in protected herbaceous cover, and the remainder in other land uses. Key habitat needs include adequate water and safe and secure nesting and brood rearing areas.

Water: A maximum of 20% of the surface water area will have water depths from 3-6 feet deep; 30% of areas, 1.5-3 feet deep; and the remainder in areas less than 1.5 feet deep. Side slopes will vary from 8:1 to 16:1. An irregular shoreline is preferred. If the wetland is greater than 5 acres in size, nesting or submerged islands that are a minimum of 400 square feet in size and at least 200 feet from shore should be developed.

Nesting and brood rearing cover: A minimum of 2 acres of undisturbed nesting and brood rearing cover, which is suitable for the species, will be provided adjacent to the wetland. A ratio of undisturbed upland cover to wetland of 4:1 or greater is desired. Nesting structures, such as wood duck boxes at a rate of 1 per acre of wetland, may be installed.

Amphibians and Reptiles

The above criteria apply with the following exceptions:

Water: A maximum of 30% of the surface water area will have water depths from 3-6 feet deep and at least 40% of the area will be less than 1.5 feet deep. A complex of wetlands, of varying size and depth, including ephemeral and permanent water is desired.

Basking structures such as semi submerged logs, stumps, and log piles at the rate of 4 per surface acre will be installed.

Aquatic Furbearers

A favorable land use pattern (within 80 acres) consists of at least 5% in shallow emergent habitats, 5% in other undisturbed wetland habitats, and the remainder in various land uses. Key habitat needs include permanent water, dry banks for denning sites, and adequate winter habitats.

Water: At least 40% of the surface water area will have permanent water depths from 4-5 feet deep with the remainder of the area less than 3 feet deep. Side slopes will vary from 3:1 to 16:1.

A2. When the client's objective is general wildlife, the Michigan Wildlife Habitat Evaluation Module will be used to assess habitat (Michigan Biology Technical Note 12). A minimum of.0.50 index value is needed to meet quality criteria.

B. Addition Criteria Applicable to All Purposes

As indicated by the wildlife habitat evaluation, certain habitat elements may be limiting the population. For the desired species, identify the types, amounts, and distribution of habitat elements and management actions necessary to achieve the management objectives.

The amount and kinds of habitat elements planned and their location and management shall be identified in the plan.

Use vegetation adapted to the site that will accomplish the desired purposes. Preference shall be given to native species in order to reduce the introduction of invasive plant species; provide management of existing invasive species; and minimize the economic, ecological, and human health impacts that invasive species may cause. If native plant materials are not adaptable or proven effective for the planned use, then non-native species may be used. Refer to the Field Office Technical Guide, Section I, Invasive Plant Species for plant materials identified as invasive species.

Management measures shall be provided to control invasive species and noxious weeds.

Manipulation of water regimes may impact more than the desired kinds of wildlife. These possible effects will be evaluated and taken into consideration during the planning process. This practice will be used to promote the conservation of declining species, including federal or state threatened and endangered species.

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

The landowner shall obtain all necessary local, state, tribal, and federal permits that apply.

CONSIDERATIONS

All land uses provide habitat for wildlife, but there is great variability in the condition of the land to support wildlife. A habitat use may provide one or more of the habitat elements necessary for a particular species during specific seasons of the year.

Consider the effects on watershed or landscape objectives. Natural ecosystems and landscapes vary significantly throughout the state. Habitat manipulations and species objectives should be in harmony with natural landscape characteristics and ecosystem objectives.

Consider the effects of this practice on adjacent wetlands. The interspersion or the intermixing of the various wildlife habitat components is habitat diversity. A complex of diverse wetland types within the landscape is very beneficial to wetland species. A mixture of open water, mudflats, emergent, scrub shrub, forested, and riparian wetlands will attract the greatest diversity of game and non-game wetland animal species.

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

Consider the effects on resident and migratory species. Wildlife is not restricted by human property boundaries so adjoining properties should also be considered when providing necessary habitat components. Home ranges vary by species but appropriate food, cover and water must be present and in sufficient quantity and quality to be useable for the species daily and seasonal needs. Many migratory wetland wildlife species benefit from seasonal water bodies that provide resting areas and food sources.

Consider effects of management actions on compliance with state and federal hunting regulations such as baiting. The landowner should contact the Michigan Department of Natural Resources

concerning hunting regulations and follow their recommendations.

Consider the effects of hydrologic manipulations on downstream flows or aquifers, the water budget, the groundwater and the movement of sediment and sediment-attached substances. Also consider the effects on adjacent wetlands and water bodies.

Consider the effects on fish habitat and populations including impacts to water temperature.

Consider the effects management will have on disease vectors such as insects.

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

PLANS AND SPECIFICATIONS

This broad practice includes many components. These components include, but not limited to, the following: **plantings** of trees, shrubs, grass, food plots, and wildflowers; creating, restoring and enhancing wetlands; **constructing** shallow water areas, nesting islands, birds boxes, and nesting platforms; and **management** practices such as timber stand improvement and shallow water management. The specifications for this practice are found in other standards, national and Michigan conservation sheets, and in "**Managing Michigan's Wildlife: A Landowner's Guide**," available at: (http://www.michigandnr.com/publications/pdfs/huntingwildlifehabitat/Landowners_Guide/index.htm).

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use. Plans and specifications shall be developed for the specific field site to meet the objectives of the landowner.

Document how the following habitat needs will be provided for the desired wildlife species:

- Required depth of water during the different seasons.
- Types and sizes of structures required.
- Desired native plant species and the means of establishment and maintenance.

Plans and specifications may include engineering plans, conservation sheets, technical notes, or narrative statements in conservation plans.

OPERATION AND MAINTENANCE

The plan of operation and maintenance will include monitoring and management of structural and vegetative measures.

Actions will be carried out to ensure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice, such as prescribed fire or mowing, and repair and upkeep of the practice, such as replacement of dead plants or repairing dikes and dams.

Biological control of undesirable plant species shall be implemented where available and feasible. Added water depth and duration may be utilized as a method to control unwanted vegetation.

Haying and livestock grazing plans, if haying or 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.

REFERENCES

Helmers, D.L. 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.