

Wildlife Habitat Improvements in Wetlands: Guidance for Soil and Water Conservation Districts and Local Government Units in Certifying and Approving Wetland Conservation Act Exemption Proposals

Minnesota Interagency Wetlands Group
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Guidelines

All wetlands provide habitat for certain sets of wildlife species. Any alteration of the habitat is likely to improve the habitat for some species and degrade it for others. Activities authorized under the wildlife habitat exemption must improve the habitat overall, not just make it different. The Wetland Conservation Act (WCA) calls for achieving no net loss in biological diversity and increasing biological diversity by restoring or enhancing diminished or drained wetlands. Habitat exemption proposals should be evaluated in light of these goals, with consideration of biological diversity at various geographic scales.

In the absence of locally developed guidelines, soil and water conservation districts and local government units are encouraged to use the following when certifying and approving wildlife habitat exemption applications:

- X Excavations within wetlands should generally be confined to wetlands that have been previously degraded, particularly those invaded by exotic and/or invasive plants, such as reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), or cattail monotypes (often hybrid cattail *Typha x glauca*). Excavation should generally not be allowed in wetlands having a vegetative diversity rating of “moderate” or higher when evaluated using the Minnesota Routine Assessment Method For Evaluating Wetland Functions (MnRAM).
- X Exceptions to the previous guideline may be appropriate in areas having extensive wetlands that are missing habitat components for one or more wetland-dependent wildlife species that are known to inhabit the area, provided that populations of other wildlife species are not adversely affected. The post-project wildlife habitat rating should be higher than the pre-project rating when evaluated using the MnRAM.
- X Excavations in wetlands known to be utilized by state or federally listed endangered, threatened or special concern species should not be allowed unless the habitat will be improved for such species.
- X Where feasible, excavated material should be removed from the wetland to minimize the loss of wetland habitat. Small, artificial islands should be discouraged because they are usually ineffective at protecting nesting ducks from predation and tend to contribute to nuisance Canada goose problems.

- X The wildlife habitat exemption should not be used to authorize the placement of excavated material in wetlands for the purpose of constructing roads or trails through the wetland.
- X Excavated areas should have irregular shorelines (not square or circular). This increases the amount of shoreline per unit area and will increase waterfowl use by providing isolated areas for feeding and loafing.
- X Bottom contours should be undulating to produce variable water depths. Water depth in shallow areas should be 12 - 18 inches and 3 - 6 feet in the deepest areas. The excavated area should have variable, but generally shallow side slopes (no steeper than 5:1).

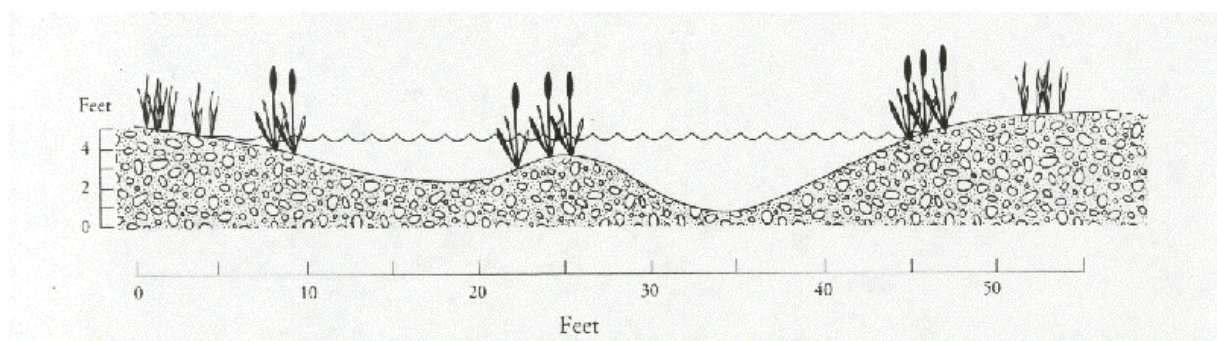


Figure 1. Cross section of wetland showing undulating bottom contours and shallow side slopes.

- X Excavated material deposited within the wetland should be vegetated immediately with a native seed mixture.
- X After operating in areas infested with exotic or invasive plant species, particularly purple loosestrife and reed canary grass, all equipment should be thoroughly cleaned to avoid transporting seeds or live vegetation to other areas. Excavated material that may be contaminated with seeds or propagules of exotic/invasive species should not be deposited within or adjacent to wetlands that have not been previously invaded.

Rationale

1.0 Introduction

The rules for implementing the Minnesota Wetland Conservation Act (WCA) establish the following exemption (Minn. Rules Ch. 8420.0122):

Subp. 10. Wildlife habitat. A replacement plan for wetlands is not required for:

(1) excavation or the associated deposition of spoil within a wetland for a wildlife habitat improvement project, if:

(i) the area of deposition, and excavation if within the permanently and semi-permanently flooded areas of type 3, 4, and 5 wetlands, does not exceed five percent of the wetland area or one-half acre, whichever is less, and the spoil is stabilized and permanently seeded to prevent erosion;

(ii) the project does not have an adverse impact on any species designated as endangered or threatened under state or federal law; and

(iii) the project will provide wildlife habitat improvement as certified by the soil and water conservation district; or

(2) duck blinds.

In order for a project to qualify for this exemption, it must meet the specified size criteria and it *must be certified by the county soil and water conservation district (SWCD) as a wildlife habitat improvement*. The purpose of this document is to provide guidance to SWCD staff on making habitat determinations. Ultimately, the goal is to ensure that projects authorized under the exemption are in fact improving wildlife¹ habitat and to achieve more consistency in the application of this exemption statewide.²

¹ For the purposes of this guidance, the term “wildlife” is used inclusively to refer to all indigenous wild species that utilize wetlands for all or part of their habitat requirements, including birds, mammals, amphibians and reptiles.

² Notes on application of the exemption: Wetland types 1, 2, 6, 7 and 8 – Excavation in these wetland types is not regulated under the WCA. Landowners can legally excavate any area of these wetland types without having to comply with the WCA exemption or replacement requirements *if the excavated material is completely removed from the wetland*. However, if a habitat improvement project involves deposition of fill (usually sidecasting of the excavated material), then the project is regulated under the WCA. To qualify for the habitat exemption, the area excavated is not limited, but the area *filled* must be less than five percent of the wetland area or 0.5 acre, whichever is less and the *entire* project (excavation and fill) should be evaluated and certified by the SWCD as a habitat improvement. Wetland types 3, 4, and 5 – Filling and excavation are both regulated under the WCA. The wildlife habitat exemption applies as long as the *filled and excavated* area combined is less than five percent of the wetland area or 0.5 acre, whichever is less. The entire project should be evaluated and certified by the SWCD as a habitat improvement. The WCA habitat exemption does not apply to Public Waters Wetlands regulated by the Department of Natural Resources.

2.0 Principles and Goals

A basic tenet of wildlife management is that wildlife populations are dependent on the availability of suitable habitat. It's also well known that different wildlife species have different habitat requirements (Weller 1978). For example, wood ducks are typically found in floodplain forests with an abundance of tree cavities while blue wing teal prefer prairie pothole wetlands with grassy upland cover. Furthermore, some species utilize a fairly broad range of habitats, while others have very specific habitat needs. Therefore, it's intuitive that any manipulation of habitat has the potential to benefit some species and harm others. In this context, it becomes somewhat problematic to determine whether an activity qualifies as a habitat *improvement*. Any habitat alteration is likely to improve habitat for some species and worsen it for others, making a determination of the overall effect somewhat subjective.

The subjectivity inherent in such determinations can be reduced to some extent by evaluating each proposal in light of an overall goal. The WCA establishes the following goals:

- (1) achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands;
- (2) increase the quantity, quality, and biological diversity of Minnesota's wetlands by restoring or enhancing diminished or drained wetlands;
- (3) avoid direct or indirect impacts from activities that destroy or diminish the quantity, quality, and biological diversity of wetlands; (103A.201, Subd. 2)

The criteria that follow are based on these goals.

3.0 Criteria for Evaluating Wildlife Habitat Exemption Proposals

The purpose of the wildlife habitat exemption is to allow some wetland impact (filling for all wetland types and excavation for the permanent and semi-permanently flooded portions of Types 3, 4, and 5 wetlands) to occur without replacement as long as the net effect of the project is to improve wildlife habitat. If the intent of a project is something other than wildlife habitat improvement, such as improved aesthetics, or to gain access through the wetland, then the project does not qualify for the habitat exemption. Assuming that the intent is to improve wildlife habitat, the following criteria should be considered.

3.1 Factors Affecting Wetland Quantity

By definition, the exemption allows a certain amount of wetland loss, up to 0.5 acre of fill (which will usually be dredged material) in all wetland types or, in the case of Type 3, 4, and 5 wetlands, combined excavation and fill. Even though deposition of fill in the

wetland is allowed under the exemption, applicants should generally be encouraged to remove the dredged material to an upland site if feasible to avoid the loss of wetland habitat.

Some applicants may desire to deposit the dredged material in the wetland to create waterfowl nesting islands. When islands are located too close to shore, they are easily accessed by predators, leading to recurrent nesting failure. To provide optimal nesting habitat for ducks, islands should be between 400 and 1500 feet from shore and be located within or near a wetland complex (Lokemoen and Messmer, 1994). Islands constructed under the wildlife habitat exemption will rarely be able to meet these criteria and are therefore not desirable. Distance from shore is not as critical for Canada geese because they aggressively defend their nests from predators. However, in some parts of the state, populations of resident Canada geese have reached nuisance levels. In these areas in particular, nesting islands should be discouraged.

Excavated areas should not be more than two meters deep at normal water levels. Two meters is generally recognized as the depth beyond which rooted aquatic plants will not grow and is considered to be the cutoff between wetland and deep water aquatic habitats (Cowardin et al., 1979).

3.2 Factors Affecting Wetland Quality and Biological Diversity

Generally, wetlands that are biologically diverse are considered indicative of good wildlife habitat. However, this general rule must be tempered by a consideration of wetland type and geographic scale. Some wetland types are naturally more diverse than others. For example, fewer species of plants and animals are found in northern peatlands than in prairie potholes (Mitsch and Gosselink 1993). Yet, for the wildlife species that inhabit northern peatlands, it provides perfectly good habitat. Any alteration of this habitat, conversion to open water for example, would be disadvantageous for those species while perhaps improving it for other species. The net effect would be to make the habitat *different*, but not necessarily better.

It's also important to consider that biological diversity and the quality of wildlife habitat can be measured at different geographic scales. Consider a wetland that, by itself, does not support a wide diversity of wildlife species and appears to rank low in habitat value. However, the wetland may provide particular habitat components that are important for maintaining populations of certain wildlife species over a broader area. Also, if that wetland is the only habitat in the area for the few species it supports, it's contribution to regional biological diversity would be significant. Finally, some species require large areas of unbroken habitat to maintain successful breeding populations. For any of these circumstances, alterations to enhance the diversity *within* the wetland may result in a loss of diversity and a decline in habitat quality at a larger scale.

In light of these considerations, the application of the wildlife habitat exemption should generally be confined to wetlands that have been degraded such that they no longer exhibit the biological diversity that would typically be expected of a particular type of wetland in a specified geographic area. Prime candidates for application of the exemption are wetlands that have been invaded by exotic and/or invasive plants, such as reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), or cattail monotypes (which are often hybrid cattail, *Typha x glauca*). Such wetlands generally exhibit low plant species diversity and do not provide the quality of wildlife habitat that similar type wetlands having an undisturbed plant community would provide. These wetlands would typically have a vegetative diversity rating of "low" as measured by the Minnesota Routine Assessment Method For Evaluating Wetland Functions (MnRAM) (Minnesota Interagency Wetlands Group, 1998). Exceptions to this general rule might be justified in areas with extensive wetlands that are missing habitat components for one or more species that are known to inhabit the area. Even in these areas, excavation proposals should be carefully evaluated to ensure that other species of wildlife will not be adversely affected. Usually, the objective of excavation projects is to improve the habitat for waterfowl. The design guidelines at the beginning of this document reflect this goal, although if implemented properly should also benefit other species, including wading birds and some reptiles and amphibians. Desirable projects would generally be reflected in an improved wildlife habitat rating when evaluated using the MnRAM (Minnesota Interagency Wetlands Group, 1998).

Wildlife habitat exemption proposals should not be approved in wetlands known to be utilized by state or federally listed threatened and endangered species unless it is clear that the activity will improve the habitat. Blanding's turtles, a state threatened species whose range extends throughout much of the east central and southern portion of Minnesota, utilize a variety of wetland types, including shallow wetlands dominated by cattails and sedges (Piepgras, et al. 1998). It has also been observed that Type 6 shrub swamps are important overwintering habitat for Blanding's turtles (Piepgras, et al. 1998). The yellow rail, a state special concern species, primarily inhabits sedge meadows and fresh wet meadows (Coffin and Pfannmuller, 1988). Some SWCD offices have copies of the Minnesota Natural Heritage Program (NHP) database showing known locations of listed species. Additional information on the locations of listed species can be obtained from NHP staff at 651-296-8324.

Literature Cited

- Coffin, B. and L. Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press. Minneapolis. 473 pp.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Services FWS/OBS-79/31. 131 pp.
- Lokomoen, J. T. and T.A. Messmer. 1994. Locating, Constructing, and Managing Islands for Nesting Waterfowl. The Berryman Institute. Logan, Utah. 19pp.
- Minnesota Interagency Wetlands Group. 1998. Minnesota Routine Assessment Method for Evaluating Wetland Functions, Version 2.0. 44 pp.
- Mitsch, W. J. and J. G. Gosselink . 1993. Wetlands. Van Nostrand Reinhold. New York. 722 pp.
- Piegras, S., T. Sajwaj, M. Hamernick and J.W. Lang. 1998. Blanding's turtle (*Emydoidea blandingii*) in the Brainerd/Baxter region: Population status, distribution and management recommendations. Unpublished report to Minnesota Dept. of Transportation. Biology Dept., University of North Dakota. Grand Forks.
- Weller, M. W. (1978). Wetland habitats. *in* Wetland Functions and Values: The State of Our Understanding. P. E. Greeson, J. R. Clark and J. E. Clark. Bethesda, MD, American Water Resources Association: 210-234.