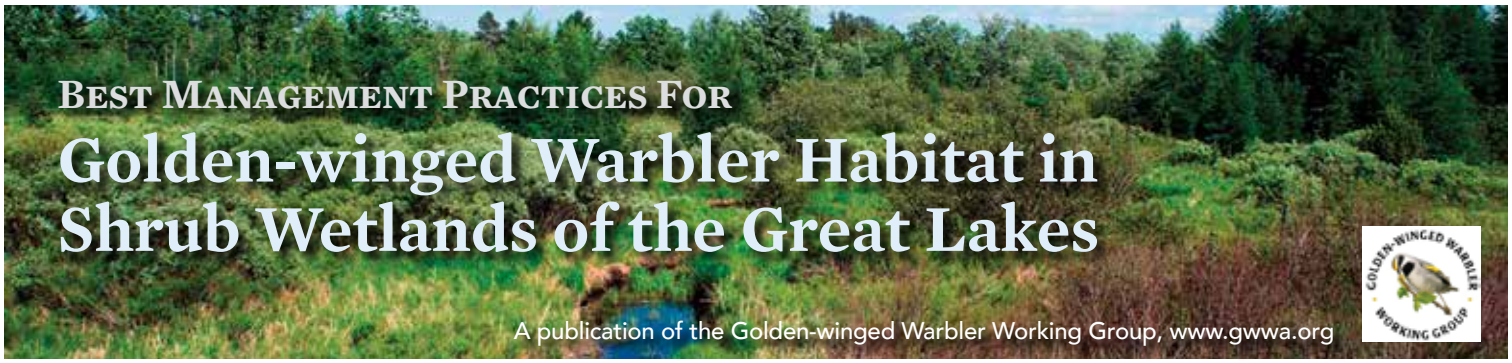

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Best Management Practices For Golden-winged Warbler Habitat in Shrub Wetlands of the Great Lakes

A publication of the Golden-winged Warbler Working Group, www.gwwa.org

This supplement for Shrub Wetlands accompanies *Best Management Practices for Golden-winged Warbler Habitats in the Great Lakes Region*, which includes general information that applies to all habitat types in this area. Users should refer to both documents to develop a comprehensive management strategy for Golden-winged Warbler. The following are guidelines and not absolute rules for the creation of breeding habitat, thus prescriptions that fall outside the numerical ranges presented can provide habitat, too. Consult a Golden-winged Warbler or young forest habitat expert for assistance in tailoring a management plan to your property.

Shrub wetlands are extensive in the region, particularly in the western Great Lakes. Not all shrub wetlands are occupied by Golden-winged Warbler for a variety of reasons including high water levels, lack of desired woody and herbaceous vegetation patchiness, lack of scattered canopy trees, and distance to upland deciduous forest. Dense mature stands of unbroken woody shrub cover over large areas often are unsuitable. Reduced flooding and beaver activity may be partially responsible for these conditions and restoration of these natural disturbance regimes could improve habitat quality. In other cases, mechanical treatments provide the mechanism for creating or restoring breeding habitat (Figure 1) and are the focus of the included guidelines.

For this insert, shrub wetlands are defined as palustrine wetlands dominated by broad-leaved deciduous woody vegetation less than 20 feet tall. The species include true shrubs, young trees, and scattered trees of varying size. See Table 1 for common dominant shrub and tree species.

Amber Roth

Figure 1. *Five-year old alder cut in Marathon County, Wisconsin.*

Promote Golden-winged Warbler use and limit Blue-winged Warbler co-occurrence by working in landscapes:

- within defined focal areas or < 5 miles (preferably < 1 mile) from known breeding populations and < 1 mile from other early successional patches
- with > 50% forest cover composed of at least 70% deciduous trees within 1.5 miles of the site, preferably < 1 mile from other early successional patches
- with shrub wetlands ≥ 5 acres in size where rotational management can be applied so that at least 20% of the area is cut every 4–5 years

Is Management Necessary?

Wetland shrub communities might not need management if they have **1)** many small open herbaceous patches with either dry ground or sedge tussocks for nest sites, **2)** scattered patches or clumps of woody shrubs that are not continuous in large blocks, **3)** scattered trees throughout, and **4)** natural processes that regularly disturb the area (e.g., flood, fire). The absence of any of these characteristics suggests that there is a current or future management opportunity to improve habitat. Certainly not all wetland shrub communities should be managed, particularly those that are not accessible with the necessary equipment, have rare plants or animals that may be harmed by the management activities, or where soils remain wet or are sensitive even in winter.

Table 1. *Dominant shrub and tree species associated with Golden-winged Warbler shrub wetland habitats in the Great Lakes.*

Dominant Shrub Species
alders (*Alnus* spp.)
willows (*Salix* spp.)
buttonbush (*Cephalanthus occidentalis*)
red osier dogwood (*Cornus stolonifera*)
meadowsweet (*Spirea alba*)
bog birch (*Betula pumila*)
Dominant Tree Species
red maple (*Acer rubrum*)
tamarack (*Larix laricina*)
balsam poplar or aspen (*Populus* spp.)

Shrub Wetland Management Guidelines

Treatment Practices:

Shrub management is needed when shrub cover is continuous in large blocks with few large patches of herbaceous vegetation (> 70% shrub cover). Use small machinery to shear, cut, or chip woody shrubs to open patches of herbaceous vegetation, regenerate decadent patches of mature shrubs, and to create a more balanced mix of shrub and herbaceous patches (Figure 2). Hand-cutting woody vegetation is an option for small areas. In most places, wetland shrub treatment will be noncommercial so material can be left scattered on-site or used by landowners for firewood. For private landowners, cost-share programs (e.g., Natural Resources Conservation Service EQIP) are available to reduce the expense of management.

Eric Borchert/Wisconsin Dept. of Natural Resources

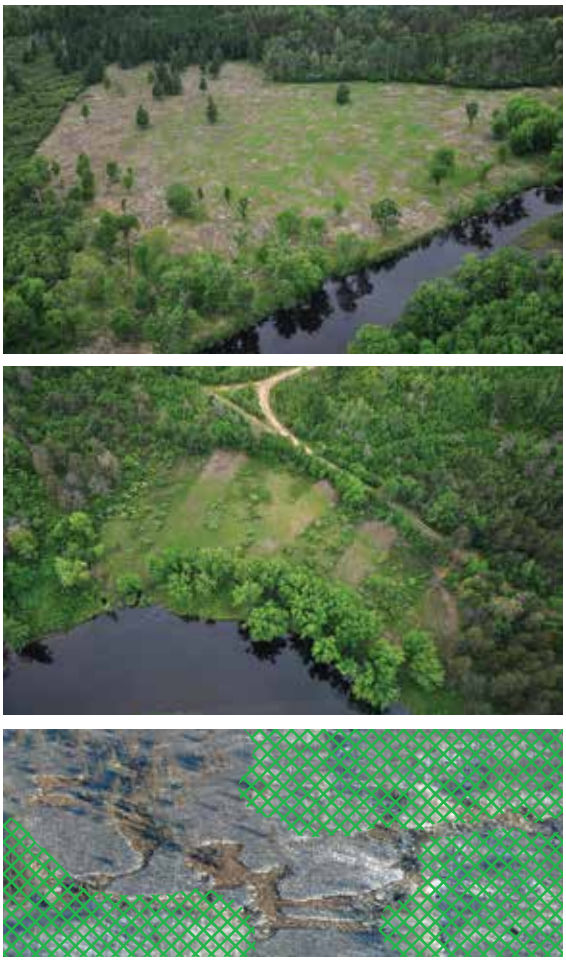
Figure 2. *Alder wetland treatment in progress during the winter months. Note adjacent deciduous forest and retention of scattered trees in the background.*

Treatment Patterns:

Cut shrub wetlands as strips or blocks on a rotational schedule (Figure 3). Ideally cut 20–25% of the wetland area every four to five years such that the entire area receives treatment every 20 years. If frequent entry is not possible, then a larger percent of the area can be cut but retention of shrub patches will be more important. Areas smaller than 5 acres can be treated as a block where all acreage is mowed, or strips or shrub clumps can be retained (Figure 3). Within treatment blocks > 5 acres, retain 50% of the shrubs in patches to create a patchwork of shrub and herbaceous vegetation throughout the managed area (Figure 3). Deciding which shrub patches to cut and which to retain is as much art as science. Follow the topography and retain trees and other features that increase vegetation structural diversity.

Canopy-tree Retention Guidelines:

Retention of live canopy trees is important for breeding habitat. Retain 10–15 trees/acre, especially deciduous trees that are > 9 inches diameter. Where there are less than 10 trees/acre, retain all trees including saplings that can be fostered for future retention. Cut shrubs and small trees in adjacent deciduous forest to create a more gradual, feathered transition from forest to shrubs.



Eric Borchert/Wisconsin Dept. of Natural Resources

Figure 3. *Aerial photos of shrub wetlands treated as a block (top), in strips (middle), and with 50% retention of shrubs within a block (bottom). All trees were retained in the cut areas. Note hatched area covers aspen forest that surrounds the wetland block.*

Other Management Considerations

Invasive Plants:

Prior to wetland shrub management, identify invasive plant species on-site or nearby. Pre-treatment of invasives may be necessary to prevent their spread or potential competition with desired regenerating species. Cut sites in winter and routinely clean machinery between sites to minimize the spread of invasive plants.

Riparian Zone Management:

Wetland shrubs in riparian zones, especially where adjacent to or intermixed with deciduous forests and in the absence of Blue-winged Warbler, can be managed for Golden-winged Warbler. Follow riparian zone management guidelines for your area.

Resources/References

- Golden-winged Warbler Status Review and Conservation Plan, **www.gwwa.org**
- Managing Your Brushland for Wildlife (from Minnesota DNR) at **http://files.dnr.state.mn.us/assistance/backyard/privatelandhabitat/brushlandmgmt.pdf**
- Refer to state breeding bird atlases, eBird (**www.ebird.org**), and the *Golden-winged Warbler Status Review* for distribution of Golden-winged and Blue-winged Warbler in your area

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