

BEST MANAGEMENT PRACTICES FOR Golden-winged Warbler Habitat in Deciduous Forests of the Appalachians

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



This supplement for Deciduous Forests accompanies *Best Management Practices for Golden-winged Warbler Habitats in the Appalachian 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, and, if available, follow forest management guidelines for your state.

Although the amount of forest cover has increased in the Appalachian Region recently, a lack of disturbance has limited the availability of young forest habitat. Natural disturbances in eastern forests that create young forest habitat used by Golden-winged Warbler may be caused by insects, mammals, fires, wind and storms, tree diseases, flooding, and drought. However, timber harvests will be an essential tool to supplement natural disturbance to meet the ambitious young forest goals established in the region.

Vegetation structure created through timber harvesting is typically used by breeding Golden-winged Warblers for two to twelve years post-harvest until stem exclusion or pole stage at 10–12 years. Because of the ephemeral nature of young forest habitat, stands must be re-harvested on short rotations or new young stands must be created continuously over time to provide a sustainable supply of habitat. An astounding amount (85%) of our eastern forests is located on private lands (Figure 1) and conservation efforts will require a balanced approach between private and public land opportunities.

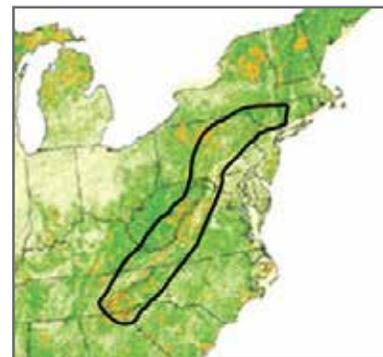


Figure 1. Forest cover in private (green) and public (orange) ownership with the approximate Appalachian Mountain breeding range for Golden-winged Warbler (black polygon). Produced by U.S.F.S. (FIA 2007).

Key Landscape and Stand Features for Golden-winged Warbler

Habitat management should occur in areas that will most effectively boost Golden-winged Warbler populations. In general, these areas have a high degree of deciduous forest cover (Figure 2), are high elevation, and are generally lacking Blue-winged Warblers.

Some basic rules of thumb:

- within defined focal areas or < 5 miles (preferably < 1 mile) from known breeding populations and < 1 mile from other early successional patches
- > 60% (preferably > 70%) deciduous forest cover within 1.5 miles of site, preferably < 1 mile from other early successional patches
- elevation generally > 1,300 ft in the northern Appalachians (NY, NJ, PA, MD, WV), lower in forested wetlands and heavily forested areas
- elevation > 2,000 ft in the southern Appalachians (GA, KY, NC, TN, VA, WV)
- few if any Blue-winged Warblers in the area (see state Breeding Bird Atlas)

Harvest unit shape will be influenced by soils, slope, aspect, topography, and accessibility, but where possible:

- increase the proportional amount of the young-mature forest edge by adjusting the harvest unit shape (i.e., linear shapes or meandering edges)
- provide a forested edge within 250 ft of the young forest habitat
- create a feathered edge that promotes gradual transition from young to mature forest



Figure 2. A highly forested landscape with young forest clustered throughout.



Figure 3. Examples of Golden-winged Warbler habitat (left and center photos) with a mix of residual trees, saplings, shrubs, and herbaceous cover and a harvested stand (right photo) where sapling regeneration has advanced beyond what is used by breeding Golden-winged Warblers. Photos: Marja Bakermans, Brian Smith, Jeffery Larkin

Key Within-stand Characteristics

- Golden-winged Warblers use deciduous trees for singing perches and foraging sites. Trees play an important role in habitat guidelines. Retain 10–15 residual trees per acre (Figure 3) at least 10 inches in diameter.
- Scattering trees throughout the harvest is the best arrangement for retaining deciduous trees. However, another method is to create small groups of trees embedded within the harvest (Figure 4). In most cases, patchy conditions will occur inherently after a harvest. Underplanting is rarely necessary because tree seedling and shrub density from natural regeneration is adequate.
- Golden-winged Warblers use stands with 2,500 saplings per acre (1,300–3,000) and 100–300 shrubs or stump sprouts/acre.

Goldenrod and other forbs are important to Golden-winged Warblers because they are used for nesting. The essential herbaceous component can be provided by properly retiring skid trails, hauls roads, and landings using this minimal maintenance approach:

1. Grade roads and landings to minimize erosion.
2. Seed with plants that will establish quickly.
3. Avoid non-native perennial cool season grasses.
4. Use a mix of native annuals and perennials.
5. Mulch with wheat or oat straw as necessary.

Before and after harvest there are additional considerations for the manager including assessing the adequacy of the regeneration and light conditions, retaining seed sources, and controlling excessive deer browsing and undesirable competitive plants. Prescribed fire, brush-hogging, and additional treatments may enhance and extend the suitability of stands for Golden-winged Warbler.



Figure 4. Retaining small groups of trees may reduce tree mortality from wind-throw.

Resources/References

- Golden-winged Warbler Status Review and Conservation Plan, www.gwwa.org
- For a more detailed version of this forestlands document see: Bakermans, M.H., J.L. Larkin, B.W. Smith, T.M. Fearer, and B.C. Jones. 2011. Golden-winged Warbler Habitat Best Management Practices for Forestlands in Maryland and Pennsylvania. American Bird Conservancy. The Plains, Virginia, 26 pp.
- NRCS Working Lands for Wildlife provides technical and financial assistance to private landowners in the Appalachian region. www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=stelprdb1046990
- North American Bird Conservation Initiative, U.S. Committee, 2011. The State of the Birds 2011 Report on Public Lands and Waters. U.S. Department of Interior. Washington, DC. 48 pages; available at www.stateofthebirds.org/State%20of%20the%20Birds%202011.pdf