

BEST MANAGEMENT PRACTICES FOR Golden-winged Warbler Habitat on Utility Rights-of-way in the Appalachians

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This supplement for Utility Rights-of-way (ROWs) 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 for utility companies and landowners to manage ROWs using methods that create habitat for Golden-winged Warbler.

Utility ROWs consist of long, linear corridors that are often managed in a way that can provide habitat for Golden-winged Warbler and other shrubland birds. Many landscapes within the range of the species are traversed by extensive networks of electric transmission lines and gas pipelines, which are expanding in response to increased gas extraction in the northeastern United States (Figure 1). In some states, such as New Jersey, more than half of the breeding Golden-winged Warblers occur on ROWs. Only a small proportion of these utility ROWs are managed for Golden-winged Warbler; therefore, substantial opportunities exist to benefit this species while still meeting the vegetation management goals of utility companies and working within acceptable budgets.

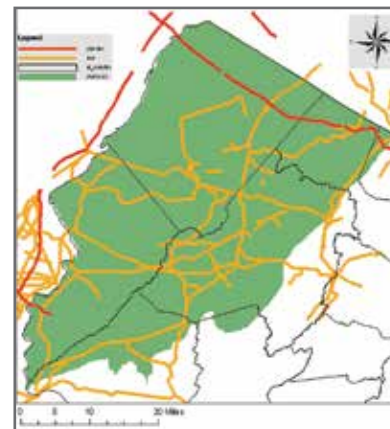


Figure 1. ROWs in the Appalachian Region transecting New Jersey.

Select and Manage ROWs in Landscapes:

- within defined focal areas or < 5 miles (preferably < 1 mile) from known breeding populations and < 1 mile from other early successional patches (e.g., timber harvests, old fields)
- > 60% (preferably > 70%) deciduous forest cover within 1.5 miles of the site, preferably < 1 mile from other early successional patches
- > 1 mile from residential areas and active croplands (to minimize disturbance by ATV operators, brown-headed cowbirds, and human-associated predators)
- > 165 ft wide unless they occur within or adjacent to larger areas of early successional habitat (Figure 2)
- < 300 ft from areas of moist or infertile soils to help sustain breeding habitat with minimal habitat maintenance



Figure 2. Narrow ROW adjacent to early successional habitat.

Other Issues to Consider

- Invasive plant species are often prevalent in utility ROWs, particularly *Phragmites* spp., reed canarygrass (*Phalaris arundinacea*), honeysuckles (*Lonicera* spp.), oleasters (*Elaeagnus* spp.), spotted knapweed (*Centaurea stoebe*) and common buckthorn (*Rhamnus cathartica*). Eradication of invasive plants is recommended when possible.
- Management of utility ROWs should be conducted in cooperation with the managing utility company and the owners of the properties within and bordering the ROW. Landowner incentive programs, such as those implemented by USDA Natural Resources Conservation Service, are available in many areas to encourage landowners to manage lands for conservation. These programs can be used to expand the area of appropriate habitat along the border of the ROW.

ROW Characteristics

- At least one side of the ROW must be bordered by an intact deciduous or mixed forest that is ideally managed as Golden-winged Warbler habitat.
- Patches of woody-plant cover should be 30–70% of the total area within the ROW (Figures 3 and 4).
- Patches of grasses and forbs should be 30–60% cover, be fairly distinct from shrubby patches, and also contain several woody plant stems.



Figure 3. ROW with minimum shrub cover for Golden-winged Warbler.



Figure 4. ROW with maximum shrub cover for Golden-winged Warbler.

How to Manage for Golden-winged Warbler Breeding Habitat in ROWs

1. Allow for growth of low woody vegetation within the ROW (Table 1). Growth of dense shrub thickets slows the establishment of trees, thus reducing vegetation management costs. To minimize the risk of arcs in the wire zone of power lines, allow woody vegetation to grow < 330 ft from the towers where electrical wires are farthest from the ground (depending on topography), and maintain grasses/forbs under the wire zone where the lines sag.
2. Maintain taller woody vegetation along the ROW edges for a feathered effect. When practical, thin adjacent forest along the ROW edge(s) to help widen the corridor of open habitat.
3. The type of management, timing, and resulting slash can impact Golden-winged Warblers (Table 2). Strategic placement of slash piles from cuttings may protect woody vegetation from deer while allowing grasses to grow where slash is cleared.
4. Maximize diversity in habitat structure and species composition within the ROW (Table 3), and stagger maintenance activities in space and time. Please consult the Appalachian BMP guide for additional information.

Table 1. Suggested low woody plant species for Golden-winged Warbler in ROWs.

Shrubs and Small Trees
hawthorn (<i>Crataegus</i> spp.)
dogwood (<i>Cornus</i> spp.)
willow (<i>Salix</i> spp.)
viburnums (<i>Viburnum</i> spp.)
alders (<i>Alnus</i> spp.)
brambles (<i>Rubus</i> spp.)
elderberry (<i>Sambucus</i> spp.)
beaked hazel (<i>Corylus cornuta</i>)
American hazel (<i>C. americana</i>)
scrub oak (<i>Quercus ilicifolia</i>)
dwarf chinkapin oak (<i>Q. prinoides</i>)

Table 2. Suggestions for ROW maintenance for Golden-winged Warbler.

	Management	Timing	Suggestions
Herbicide	Basal	–	not recommended
	Radiarc	–	not recommended
	Selective Foliar	Aug 16–Apr 30	retain shrubs and small trees
	Stump Treatment	Aug 16–Apr 30	retain shrubs and small trees
Mowing	Grass	Aug 16–Apr 30	retain shrubs and small trees; stagger mowing of adjacent spans
	Brush	Aug 16–Apr 30	retain shrubs and small trees; stagger mowing of adjacent spans
Other	Hand Cutting	Aug 16–Apr 30	retain shrubs and small trees; stack slash; stagger cutting of adjacent spans
	Hazard Tree Removal	as needed	retain shrubs and small trees
	Tree Pruning	as needed	retain shrubs and small trees
	Light Grazing	as needed	retain some tall herbaceous ground cover

Table 3. Management options to restore Golden-winged Warbler habitat on ROWs.

Condition	Vegetation Management
Adjacent or wide ROWs > 820 ft with few trees	Change from mowing to hand cutting or selective herbicide to maintain larger, non-hazard trees.
	Plant appropriate fast-growing trees along the edge or between corridors.
Shrubs evenly distributed	Mow in patches to create clumps with herbaceous openings.
	Restore hydrology on wetland sites to kill shrubs and slow re-growth.
< 30% shrub cover	Reduce mowing frequency, stagger cutting of adjacent spans.
	Plant patches of shrubs to initiate establishment of shrub cover.

Resources/References

- Golden-winged Warbler Status Review and Conservation Plan, www.gwwa.org
- 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.
- Confer, J.L. and S.M. Pascoe. 2003. Avian communities on utility rights-of-ways and other managed shrublands in the northeastern United States. *Forest Ecology and Management*. 185, pp. 193-205.
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