

SPECIES PROFILE

Bay-Breasted Warbler

Dendroica castanea

Federal Listing: Not listed

State Listing: Not listed

Global Rank: G5

State Rank: S4B

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ELEMENT 1: DISTRIBUTION AND HABITAT

1.1 Habitat Description

Bay-breasted warblers use small forest openings, particularly the edges of clearings, bogs, and ponds. They appear to favor vigorous, mature conifers with thick lower branches (MacArthur 1958). In New England, they prefer second growth boreal forest with trees 6 to 10 ft (1.8 to 3.4 m) tall (Pough 1949, DeGraaf and Yamasaki 2001). Bay-breasted warblers have been known to breed at elevations up to 4,000 ft in coniferous or mixed woods in New Hampshire (Andrews in Foss 1994). Bay-breasted warblers forage primarily among the interior branches in the middle section of conifers and often experience population fluctuations in response to spruce budworm outbreaks.

1.2 Justification

Bay-breasted warblers are a species of concern due to the loss of mature spruce-fir habitat from short rotation harvesting and forest conversion. In the eastern spruce hardwood forest, bay-breasted warblers are considered a priority bird species indicative of forest health. According to BCR trend data, bay-breasted warblers are decreasing by 1.4% annually, and in New Hampshire there is a suspected decrease of 6.6% (Hunt 2005). Over a 20-year period, Breeding Bird Survey (BBS) data documented a 77.1% decline of the bay-breasted warbler population in the Northeast (NatureServe 2005). Reasons for bay-breasted warbler decline may include reduced foraging op-

portunity due to the suppression of spruce budworm, forest fragmentation, large-scale clear cutting, loss of wintering habitat (tropical deforestation) and climate change (Pearson 1996).

1.3 Protection and Regulatory Status

The bay breasted warbler is a BCR 14 priority bird species (Highest concern), and a PIF (physiographic area 28) priority bird species.

1.4 Population and Habitat Distribution

Bay-breasted warblers were once the most common bird in virgin spruce forests at East Inlet, Pittsburg (Andrews 1994) and were considered by some the most abundant warbler at Lake Umbagog (Maynard 1871). In Jefferson, the bay-breasted warbler was considered a “not uncommon summer resident” (Wright 1911). Historic information shows that the species experienced periodic population fluctuations with only few breeding records south of the White Mountains.

Bay-breasted warblers can now be found primarily in the boreal coniferous forests of central and eastern Canada (Pearson 1996). Their breeding distribution in New England is confined to northeast Vermont, northern New Hampshire, and much of central and northern Maine (Andrews 1994). Bay-breasted warbler populations in the Northeastern United States are highly associated with outbreaks of spruce budworm (Andrews 1994).

1.5 Town Distribution Map

Not completed for this species.

1.6 Habitat Map

See High Elevation Spruce-Fir Forest habitat profile.

1.7 Sources of Information

Primary sources of information included DeGraaf and Yamasaki (2001), Hunt (2005), NHFG data, BCR and PIF conservation plans, and Internet sources.

1.8 Extent and Quality of Data

New Hampshire lacks data on the distribution and population trends of bay-breasted warblers. Consistent and comprehensive breeding surveys are needed.

1.9 Distribution Research

New Hampshire needs more consistent data from BBS surveys, research into the effects of spruce budworm control on warbler populations (BCR 14), and research into the effectiveness of maintaining existing patches of mature coniferous trees under current forest management practices (BCR 14).

Element 5: References

5.1 Literature

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- DeGraaf, R.M., and M. Yamasaki. 2001. New England Wildlife Habitats, Natural History, and Distribution. University Press of New England, Hanover, New Hampshire, USA.
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- Pough, R.H. 1949. Audubon bird guide: eastern land birds. Doubleday, Garden City, New York, USA.
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