

## Appendix A: Birds

### Cerulean Warbler

*Setophaga cerulea*

Federal Listing	N/A
State Listing	SC
Global Rank	G4
State Rank	S1
Regional Status	Very High



Photo by Dennis Skillman

#### Justification (Reason for Concern in NH)

The Cerulean Warbler has been declining across its range at -2.91%/year, and in the Northeast (USFWS Region 5) at -2.14%/year (Sauer et al. 2014). The New Hampshire population has always been quite small, and Cerulean Warblers may have disappeared from their only reliable breeding site – Pawtuckaway State Park – after 2012. Cerulean Warbler is considered an SGCN in all states where it occurs, as well as an RSGCN in USFWS Region 5. It is also on the Partners in Flight Watch List and the focus of a working group dedicated to range-wide and full life cycle conservation of the species.

#### Distribution

The Cerulean Warbler currently breeds across much of the Midwest and Appalachians from Minnesota and Arkansas to North Carolina and New York, although its distribution is highly patchy in much of this range. It is rare in New England, where it occurs in small isolated populations in Connecticut, Massachusetts, Vermont, and New Hampshire. It winters in the highland of northwestern South America from Venezuela to (rarely) Bolivia. Populations in the northeastern United States expanded somewhat during the 1980s (McGowan and Corwin 2008, MassAudubon 2014), including scattered breeding season records in New Hampshire (Foss 1994). It was first recorded breeding in the state in 1995 at Pawtuckaway State Park (Deerfield/Nottingham), where a maximum of four singing males have been reported. Birds were reliable at Pawtuckaway from the early 1990s through 2010, but there is only one record – from late May 2012 – since that time and the species may have disappeared from the site. Other sites with multiple records include Mount Wantastiquet (Hinsdale), where birds were reported in 1987, 1991, 2010, and 2012; and near the Blackwater River (Salisbury/Webster), with records from 1988, 1989, and 1998.

#### Habitat

During the breeding season, cerulean warblers occupy two different types of hardwood forest: floodplain and upland. Most of the global population occurs in the latter, particularly in the Appalachians, where the species occurs primarily in productive hardwood forests on north or east-facing slopes (Buehler et al. 2013). Within these forests, birds prefer areas with scattered large trees, canopy gaps or other disturbances, and a relatively open mid-story layer. Similar structural features are selected in floodplain forests. Most records of the species in New Hampshire are from upland hardwood forests. The small population at Pawtuckaway State Park occupies a mixed red oak/red maple/white pine forest (New Hampshire Division of Parks and Lands, unpublished data) that occurs at relatively high elevation (400 to 900 ft) on variable slopes. Mount Wantastiquet in Hinsdale and Chesterfield is another steep, upland hardwood site (35% grade).

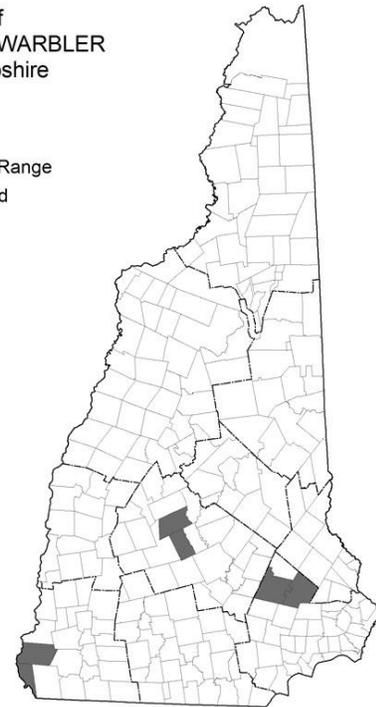
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### NH Wildlife Action Plan Habitats

- Appalachian Oak Pine Forest
- Floodplain Habitats

Distribution of  
CERULEAN WARBLER  
in New Hampshire

■ Current Range  
▨ Localized



Distribution Map

### Current Species and Habitat Condition in New Hampshire

Has always been rare and local in NH, and possibly extirpated from the site that has hosted the majority of records.

### Population Management Status

Management is not currently in place for this species.

### Regulatory Protection (for explanations, see Appendix I)

- Migratory Bird Treaty Act (1918)

### Quality of Habitat

unknown

### Habitat Protection Status

Both Pawtuckaway and Wantastiquet are protected and managed by the NH Department of Resources and Economic Development.

### Habitat Management Status

Habitat is not managed for this species in New Hampshire.

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### Threats to this Species or Habitat in NH

*Threat rankings were calculated by groups of taxonomic or habitat experts using a multistep process (details in Chapter 4). Each threat was ranked for these factors: Spatial Extent, Severity, Immediacy, Certainty, and Reversibility (ability to address the threat). These combined scores produced one overall threat score. Only threats that received a “medium” or “high” score have accompanying text in this profile. Threats that have a low spatial extent, are unlikely to occur in the next ten years, or there is uncertainty in the data will be ranked lower due to these factors.*

#### Habitat conversion due to development (Threat Rank: Medium)

Ongoing residential and commercial development results in permanent loss of habitats for wildlife. This threat is ranked as “moderate” largely because it was ranked this way for one or more of the habitats used by Cerulean Warblers. In reality the sites recently occupied by this species are probably at relatively low risk due to protected status.

#### Habitat impacts from road fragmentation (Threat Rank: Medium)

Given the New Hampshire sites for Cerulean Warbler, this threat is likely lower for the species than for the habitat as a whole. Cerulean Warblers also prefer canopy gaps, and while those are not directly analogous to roads, this preference may make roads less of a fragmenting feature than for other species.

#### Habitat degradation from insect pests (introduced species) (Threat Rank: Medium)

Introduced insects have the potential to alter forest tree species composition. However, the specific effects of such changes to habitat on Cerulean Warblers are unknown. See also the Appalachian oak-pine habitat profile.

#### Disturbance (parasitism) and mortality from subsidized or introduced predators (Threat Rank: Medium)

Although Brown-headed Cowbirds (*Molothrus ater*) are known to parasitize Cerulean Warblers, the incidence of parasitism is highly variable, and its overall population impacts unclear (Buehler et al. 2013).

#### List of Lower Ranking Threats:

Habitat impacts and disturbance from acid deposition that can reduce prey  
Disturbance from noise associated with recreational activity  
Habitat conversion and degradation from timber harvest  
Habitat conversion and fragmentation from tower and turbine development  
Habitat conversion and degradation from agriculture on winter grounds

## Actions to benefit this Species or Habitat in NH

### Cerulean Warbler Surveys

**Objective:**

Assess population status

**General Strategy:**

Birders in suitable habitat in southern New Hampshire should be familiar with this species and its songs, and report it if detected. This action includes periodic surveys of Pawtuckaway, Wantastiquet, and possibly the Blackwater River to determine current status and population size. See the Appalachian oak-pine forest habitat profile for more specific actions that may benefit this species.

**Political Location:**

Statewide

**Watershed Location:**

Statewide

See the Appalachian oak-pine forest habitat profile for more specific actions that may benefit this species.

## References, Data Sources and Authors

### Data Sources

Trend data from Breeding Bird Survey (Sauer et al. 2014, above).

NH distribution data from NHBR/NH eBird

### Data Quality

Pawtuckaway State Park is frequently visited by birders, so there is high confidence that the recent absences from that site are real, although much of the park is not thoroughly surveyed most years. Wantastiquet is only occasionally visited, so it is unclear how regular the species is there, and the Blackwater River has almost no regular birding activity. Because of their very low density in the state, it is certainly possible that Cerulean Warblers occur elsewhere in suitable habitat but have not been discovered. Detection is complicated by the similarity of the song to those of other species, including Northern Parula, Black-throated Blue Warbler, and American Redstart.

### 2015 Authors:

Pamela Hunt, NHA

### 2005 Authors:

### Literature

Buehler, D.A., P.B. Hamel and T.Boves. 2013. Cerulean Warbler (*Setophaga cerulea*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology: Retrieved from the Birds of America Online:

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- Massachusetts Audubon Society. 2014. Massachusetts Breeding Bird Atlas. Online results at: <http://www.massaudubon.org/our-conservation-work/wildlife-research-conservation/statewide-bird-monitoring/breeding-bird-atlases/bba2/>
- McGowan, K.J., and K. Corwin (eds.). 2008. The Second Atlas of Breeding Birds in New York State. Cornell University Press, Ithaca, NY.
- Sauer, J.R., J.E. Hines, J.E. Fallon, K.L. Pardieck, D.J. Ziolkowski, Jr., and W.A. Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015 USGS Patuxent Wildlife Research Center, Laurel, MD.