

## Species Status Assessment

**Class:** Birds  
**Family:** Parulidae  
**Scientific Name:** *Cardellina canadensis*  
**Common Name:** Canada warbler

### Species synopsis:

Formerly *Wilsonia canadensis*, Canada warbler was recently placed in the genus *Cardellina*. It breeds across Canada and in the northeastern United States, where populations extend southward along the highest elevations of the Appalachian Mountains. This is an early-successional species that prefers moist, mixed deciduous-coniferous forests with a well-developed understory. Populations rangewide have declined steadily over the past 30 years. New York's second Breeding Bird Atlas shows a 23% decline in occupancy over the past 20 years. Declines are likely in response to forest maturation, deer over-browse, and loss of forested wetlands in the breeding range, and habitat loss outside of the breeding range.

### I. Status

#### a. Current Legal Protected Status

- i. **Federal** Not Listed **Candidate:** No
- ii. **New York** Not Listed; SGCN

#### b. Natural Heritage Program Rank

- i. **Global** G5
- ii. **New York** S5 **Tracked by NYNHP?** No

**Other Rank:**

The North American Bird Conservation Initiative designated the Canada Warbler as a Highest Priority Landbird in Bird Conservation Region 14 (North Atlantic Forest; Dettmers 2003). Partners In Flight North American Landbird Conservation Plan lists this as a species of high conservation concern in the Northern Forest region (Rich et al. 2004). The Northeast Endangered Species and Wildlife Diversity Technical Committee recognize Canada Warbler as one of the region’s highest priorities for conservation and research (Therres 1999).

**Status Discussion:**

Canada warbler is a fairly common breeder at higher elevations in the state. About 80% of its breeding range is in Canada.

**II. Abundance and Distribution Trends**

**a. North America**

**i. Abundance**

  X   declining    \_\_\_increasing       \_\_\_stable       \_\_\_unknown

**ii. Distribution:**

  X   declining    \_\_\_increasing       \_\_\_stable       \_\_\_unknown

**Time frame considered:** 1966-2012 BBS: declining; 2002-2012 BBS: statistically stable with declining trend.

**b. Regional**

**i. Abundance**

  X   declining    \_\_\_increasing       \_\_\_stable       \_\_\_unknown

**ii. Distribution:**

  X   declining    \_\_\_increasing       \_\_\_stable       \_\_\_unknown

**Regional Unit Considered:** Eastern BBS

**Time frame considered:** 1966-2012 BBS: declining; 2002-2012 BBS: statistically stable with declining trend.

c. Adjacent States and Provinces

**CONNECTICUT**                      Not Present \_\_\_\_\_                      No data \_\_\_\_\_

i. Abundance

  X   declining    \_\_\_ increasing                      \_\_\_ stable                      \_\_\_ unknown

ii. Distribution:

  X   declining    \_\_\_ increasing                      \_\_\_ stable                      \_\_\_ unknown

Time frame considered:   1966-2012 BBS: declining; 2002-2012 BBS: statistically stable with a declining trend.  

Listing Status:                     Not Listed                                          SGCN?   Yes  

**MASSACHUSETTS**                      Not Present \_\_\_\_\_                      No data \_\_\_\_\_

i. Abundance

  X   declining    \_\_\_ increasing                      \_\_\_ stable                      \_\_\_ unknown

ii. Distribution:

  X   declining    \_\_\_ increasing                      \_\_\_ stable                      \_\_\_ unknown

Time frame considered:   1966-2012 BBS: declining; 2002-2012 BBS: statistically stable with declining trend  

Listing Status:                     Not Listed                                          SGCN?   Yes  

**NEW JERSEY**                      Not Present \_\_\_\_\_                      No data \_\_\_\_\_

i. Abundance

  X   declining    \_\_\_ increasing                      \_\_\_ stable                      \_\_\_ unknown

ii. Distribution:

  X   declining    \_\_\_ increasing                      \_\_\_ stable                      \_\_\_ unknown

Time frame considered:   "last several decades" (No BBS data)  

Listing Status:   Special Concern (breeding only)                        SGCN?   Yes

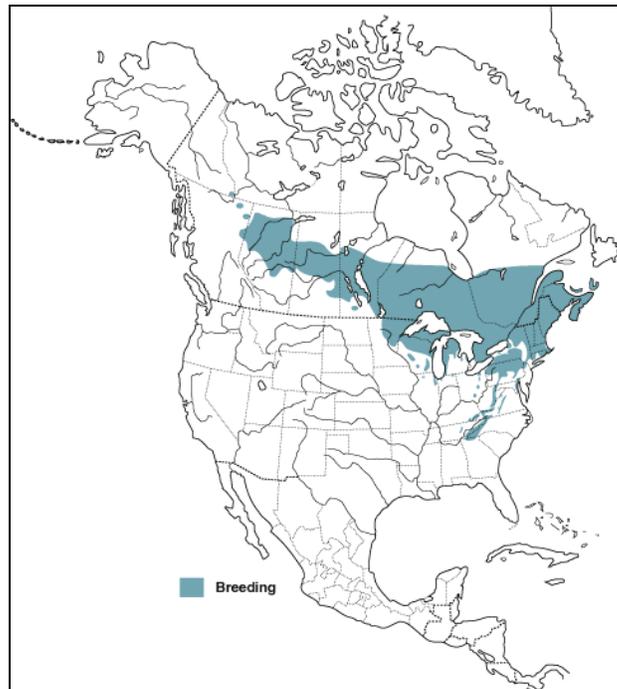




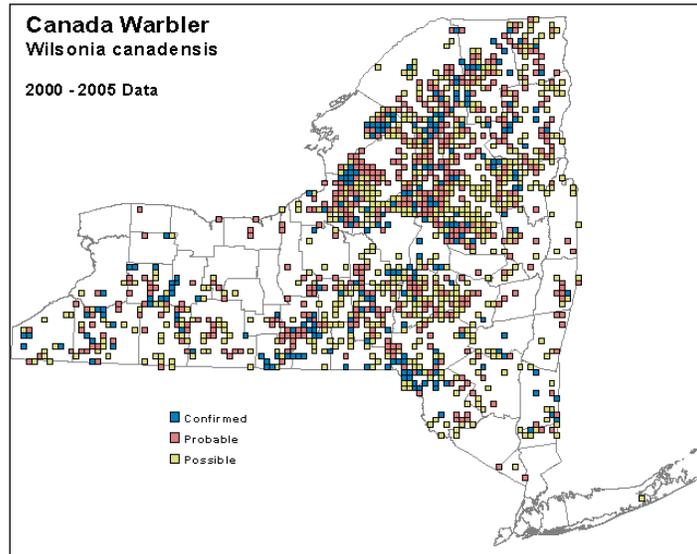
### Trends Discussion:

Breeding Bird Survey (BBS) data for Canada suggest that the species has declined by -2.2%/year between 1966 and 2012. Between 2000 and 2012, BBS shows statistically significant declines in Canada -1.26%/year. These declines are most evident in the eastern portions of the breeding range, where the majority of the population occurs (COSEWIC 2008). In the Eastern U.S. region, the long-term BBS trend (1966-2012) shows a -2.3% decline per year and the short-term (2000-2012) shows a -1.4% per year (Sauer et al. 2014).

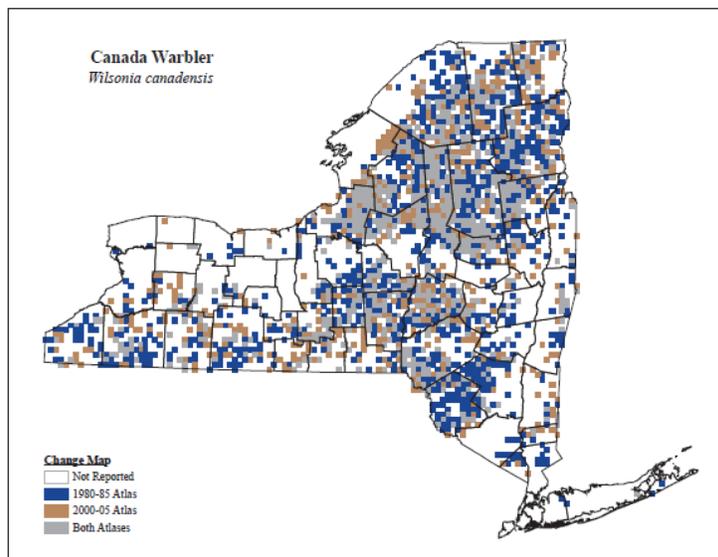
The second Breeding Bird Atlas in New York shows a decline in occupancy of 23% between 1980-85 and 2000-05. BBS data show a significant short-term decline of -3.2% per year for the period 2000-2010.



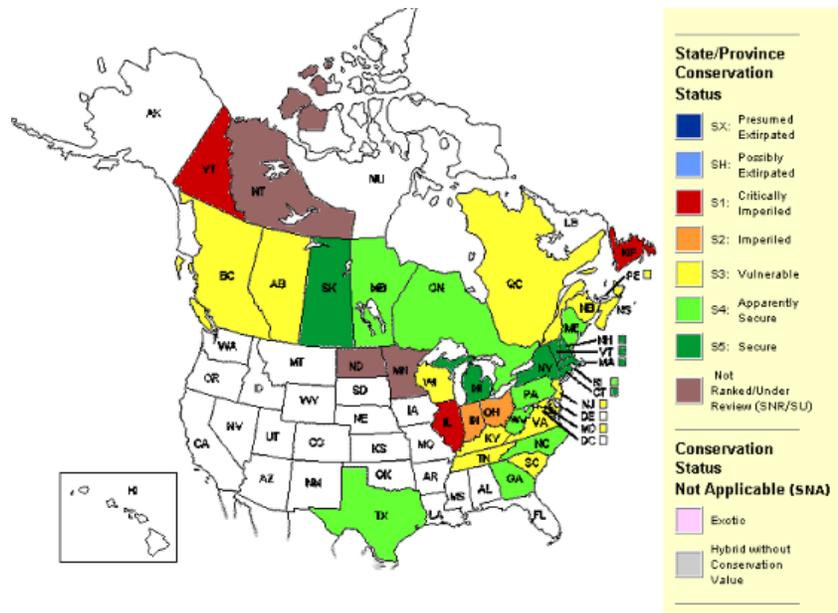
**Figure 1.** Range of the Canada warbler in North America (Birds of North America Online 2013).



**Figure 2.** Canada warbler occurrence in New York State during the second Breeding Bird Atlas (McGowan and Corwin 2008).



**Figure 3.** Change in Canada warbler occurrence in New York State between the first Breeding Bird Atlas and the second Breeding Bird Atlas (McGowan and Corwin 2008).



**Figure 4.** Conservation status of the Canada warbler in North America (NatureServe 2012).

**III. New York Rarity, if known:**

<b>Historic</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
<b>prior to 1970</b>	_____	_____	_____
<b>prior to 1980</b>	_____	_____	_____
<b>prior to 1990</b>	_____	<u>1,684 blocks</u>	<u>32%</u>

**Details of historic occurrence:**

New York's first breeding bird atlas (1980-85) recorded Canada warbler in 32% of survey blocks statewide (Andrle and Carroll 1988).

<b>Current</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
	_____	<u>1,299 blocks</u>	<u>24%</u>

**Details of current occurrence:**

New York's second breeding bird atlas (2000-05) recorded Canada warbler in 24% of survey blocks statewide, a decline of 23% since the first atlas survey (McGowan and Corwin 2008). Most occupied blocks are in the Adirondack Mountains, Tug Hill, and the Appalachian Plateau.

**New York's Contribution to Species North American Range:**

**Classification of New York Range**

- Core
- Peripheral
- Disjunct

**Distance to core population:**

\_\_\_\_\_

**Distribution** (percent of NY where species occurs)

- 0-5%
- 6-10%
- 11-25%

**Abundance** (within NY distribution)

- abundant
- common
- fairly common

26-50%  
 >50%

uncommon  
 rare

**NY's Contribution to North American range**

0-5%  
 6-10%  
 11-25%  
 26-50%  
 >50%

**IV. Primary Habitat or Community Type:**

1. Mixed Northern Hardwoods
2. Hardwood Swamp
3. Conifer Forest Swamp
4. Mixed Hardwood Swamp
5. Northern White Cedar Swamp
6. Floodplain Forests

**Habitat or Community Type Trend in New York:**

Declining       Stable       Increasing       Unknown

Time frame of decline/increase: \_\_\_\_\_

Habitat Specialist?       Yes       No

Indicator Species?       Yes       No

**Habitat Discussion:**

The Canada warbler inhabits a variety of deciduous and coniferous forests with a well-developed understory. At the southern edge of the range, where New York lies, Canada warblers are more common in higher elevations, especially in tangled thickets and streamside vegetation. They can, however, also be found at lower elevations in wooded swamps and bogs. New findings suggest that Canada warbler densities are naturally highest in swamps and riparian forests with a well-developed shrub layer (Lambert and Faccio 2005). Canada warblers require large forested tracts for breeding in settled landscapes, but it appears not to be area-sensitive in forest-dominated regions (Lambert and Faccio 2005).

**V. New York Species Demographics and Life History**

Breeder in New York

Summer Resident

Winter Resident

Anadromous

Non-breeder in New York

Summer Resident

Winter Resident

Catadromous

Migratory only

Unknown

## **Species Demographics and Life History Discussion:**

Canada warblers breed in the first spring after hatching. Evidence strongly suggests that only one brood is produced each year. Nest site (and often mate) fidelity is high, and individuals have been known to persist in local breeding populations for up to six years. In New Hampshire, reproductive success is generally high among years, with relatively low nest loss to depredation. The maximum reported life span is 7 years, 11 months (Klimkiewicz et al. 1983). The frequency and distance of dispersals from breeding sites is unknown (Reitsma et al. 2011).

## **VI. Threats:**

Processes that increase forest understory vegetation (tree blow downs, fire, logging, grazing) usually increase abundance, while processes that decrease forest understory (deer browse, forest maturation) decrease abundance (Reitsma et al. 2011). Deer browse might explain much of the decline in New York, but Canada warbler is declining in areas where other understory species (e.g., hooded warbler, mourning warbler) are increasing, so other problems are likely playing a role (McGowan 2008).

As an area-sensitive species, Canada warbler is threatened by fragmentation from roads and urbanization. The effects of exurban development on wildlife in the Adirondack Park have been studied by the Wildlife Conservation Society. A pattern has been observed in which the introduction of houses and roads into the landscape via residential development brings in a different set of predators and competitors that previously occurred in lower numbers (e.g., blue jay, American crow, gray squirrel). The combined effect of these changes tend to favor certain kinds of species over others – omnivores over insectivores, residents over migrants, generalists over habitat specialists (especially interior forest specialists), and tree nesters over ground nesters (Glennon and Kretser In Press, Reed et al. In Press). Canada warbler is a more specialized species that must compete with, or suffer higher predation from, the more common ones for which exurban development creates habitat (Reitsma et al. 2011).

Both acid rain and mercury are threats to high-elevation forest birds. Osborne et al. (2011) showed that the effects of mercury can be exacerbated in boreal species that use high-acid habitats such as peatlands. Collisions with television towers and chimneys are reported in the literature (Reitsma et al. 2011).

In an assessment of vulnerability to predicted climate change conducted by the New York Natural Heritage Program, Canada warbler was identified as a second-priority species whose sensitivity should be assessed in the future (Schlesinger et al. 2011).

General threats to the early successional forest/shrubland bird suite in New York include reversion of shrublands to forest; loss of small dairy farms; fire suppression; more intensive agriculture that results in loss of hedgerows, shrubs, and shrub wetlands; reversion of young forest habitat to

mature forest; inadequate amounts of forest management that includes even aged and heavy partial removal; and the erroneous public perception that forest management is harmful to birds (NYSDEC 2005).

Neotropical migrants face additional threats on wintering grounds and during migration including loss and degradation of wintering habitat, exposure to unregulated contaminants, and collision with various structures such as powerlines, towers, and turbines. Loss of habitat on South American wintering grounds is a concern.

**Are there regulatory mechanisms that protect the species or its habitat in New York?**

No       Unknown

Yes

Canada warbler is protected under the Migratory Bird Treaty Act of 1918. The Freshwater Wetlands Act provides protection for wetlands greater than 12.4 acres in size under Article 24 of the NYS Conservation Law. The Adirondack Park Agency has authority to regulate smaller wetlands.

**Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:**

A variety of habitats and management techniques are necessary to address the needs of early successional forest/shrubland birds. Lambert and Faccio (2005) provide stewardship guidelines and forest management strategies for Canada warbler. Conservation actions following IUCN taxonomy are categorized in the table below.

Conservation Actions	
Action Category	Action
Land/Water Protection	Site/Area Protection
Land/Water Protection	Resource/Habitat Protection
Land/Water Management	Site/Area Management
Land/Water Management	Invasive/Problematic Species Control
Land/Water Management	Habitat and Natural Process Restoration
Education and Awareness	Training
Education and Awareness	Awareness & Communications
Law and Policy	Policies and Regulations

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for early successional forest/shrubland birds, which includes Canada warbler.

**Curriculum development:**

- \_\_\_ Educate public to the benefits and need for early successional habitat including even-aged management.

**Easement acquisition:**

- \_\_\_ Implement a Landowner Incentive Project for early successional birds that will direct \$600,000 per year at conserving and creating habitat for early successional forest/shrub birds.

**Habitat management:**

- \_\_\_ Double the amount of early successional forest and shrub habitat on public and private land through sound planned management.
- \_\_\_ Increase early successional management on public and private lands.
- \_\_\_ Maintain, restore, and enhance fire adapted ecosystems. Increase use of prescribed fire in fire adapted ecosystems.

**Habitat monitoring:**

- \_\_\_ Precisely monitor trends of all species, in particular those that are not currently adequately monitored.
- \_\_\_ Complete an inventory and analysis for high priority focus species that identifies core habitats (highest abundance) and geographic areas (where appropriate).

**Habitat research:**

- \_\_\_ Determine effects of viburnum leaf beetle on early successional forest/shrub habitats and species utilizing them.
- \_\_\_ Research into causes for declines of Canada warbler and potential for forestry to be beneficial by opening up the canopy and promoting ground growth and thickets is needed.

**Population monitoring:**

- \_\_\_ Encourage full completion of BBS routes.

**Statewide management plan:**

- \_\_\_ Develop a management plan that provides guidance on maintaining, enhancing and restoring early successional forest/shrub bird species.
- \_\_\_ Identify the causes for the decline in Canada warblers and develop a management strategy to halt declines.

**Other actions:**

- \_\_\_ Develop better mechanisms for directing federal (NRCS and USFWS) funding programs into early successional forest/shrub habitats.
- \_\_\_ Develop BMPs for forest management in riparian areas that recognize the critical need maintain, enhance and restore early successional forest/shrub habitat in these areas.

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