

Species Status Assessment

Class: Birds
Family: Picidae
Scientific Name: *Picoides dorsalis*
Common Name: American three-toed woodpecker

Species synopsis:

The Northern three-toed woodpecker was separated into distinct New World and Old World species in 2006: *P. dorsalis* in North America and *P. tridactylus* in Europe and Asia. The American three-toed woodpecker has the northernmost distribution of any woodpecker in North America, remaining year-round in boreal regions of Canada and northernmost regions of the United States. The disjunct population in New York is found in the Adirondack Mountains where breeding occurs in black spruce bogs and mountain spruce-fir forests. In all areas where the three-toed woodpecker occurs, it is thinly distributed and is thus a difficult species to monitor. There are indications of decline in New York: the second Breeding Bird Atlas documented the species in 32% fewer survey blocks than 20 years ago, though Peterson (1988) noted that the difficulties in finding this species result in uncertainty regarding its true status.

Although trends are difficult to interpret, populations at the southern edge of the range are thought to be lower than they were previously. The three-toed woodpecker's use of old-growth forests and its dependence on ephemeral habitats created by natural disturbances make it a conservation concern.

I. Status

a. Current and Legal Protected Status

i. **Federal** Not Listed **Candidate?** No

ii. **New York** SGCN

b. Natural Heritage Program Rank

i. **Global** G5

ii. New York S2 Tracked by NYNHP? Yes

Other Rank:

IUCN Red List Category: LC - Least concern

Status Discussion:

Three-toed woodpecker is a rare local resident in the Adirondacks and the Tug Hill Plateau, and a very rare winter resident elsewhere in the state. It is ranked as vulnerable, imperiled, or critically imperiled in all northeastern states, but appears to be secure across Canada.

II. Abundance and Distribution Trends

a. North America

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Time frame considered: 2000-2010

b. Regional

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Regional Unit Considered: Eastern BBS

Time Frame Considered: 2000-2010

c. Adjacent States and Provinces

CONNECTICUT	Not Present <u> X </u>	No data _____
MASSACHUSETTS	Not Present <u> X </u>	No data _____
NEW JERSEY	Not Present <u> X </u>	No data _____
PENNSYLVANIA	Not Present <u> X </u>	No data _____
ONTARIO	Not Present _____	No data _____

i. Abundance

___ declining ___ increasing X stable ___ unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Time frame considered: _____

Listing Status: _____ SGCN? _____

QUEBEC	Not Present _____	No data _____
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i. Abundance

___ declining ___ increasing X stable ___ unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Time frame considered: 1984-89 to 2012

Listing Status: Not Listed

Trends Discussion:

Breeding Bird Survey data show inconsistencies due to low relative abundance on the routes. Noting this, it can be said that trends for North America and the Eastern routes both show long-term (1966-2010) and short-term (2000-2010) increases. There is no trend for New York or Vermont. Vermont populations are thought to have been more abundant previously (Oatman 1985); the second VT Breeding Bird Atlas documented only one breeding record.

In New York, Bull (1974) noted that only three breeding records of three-toed woodpecker had been documented in the past 30 years, and he called it “much scarcer than formerly.” Peterson (1988) cited the changing ratio of black-backed woodpecker to three-toed woodpecker as further—yet not conclusive—evidence of the decline outlined by the Breeding Bird Atlas. The ratio of black-backed woodpecker to three-toed woodpecker was reported as 2:1 in Bull (1974); during the first Atlas the ratio was 5:1 and during the second Atlas the ratio was 8:1.

The Wildlife Conservation Society conducted point counts for 12 boreal species at 59 sites in the Adirondack Park from 2007-2011. Fewer than five detections were obtained for three-toed woodpecker, which prevented occupancy modeling.



Figure 1: Distribution of three-toed woodpecker in North America (Birds of North America Online).

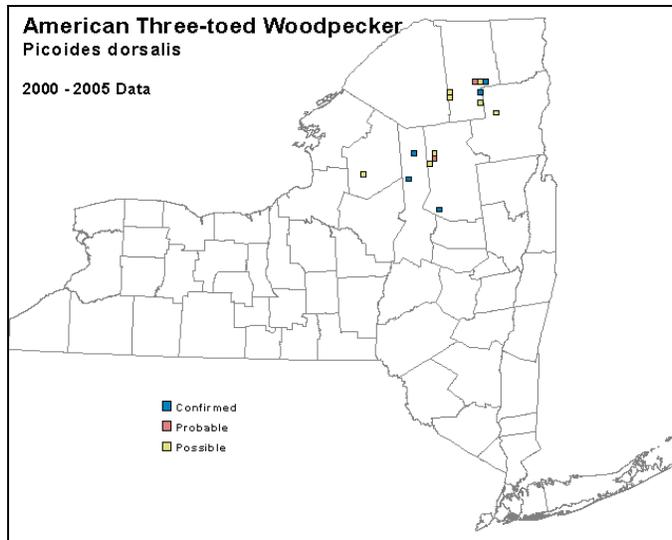


Figure 2. American three-toed woodpecker occurrence in New York State during the second Breeding Bird Atlas (McGowan and Corwin 2008).

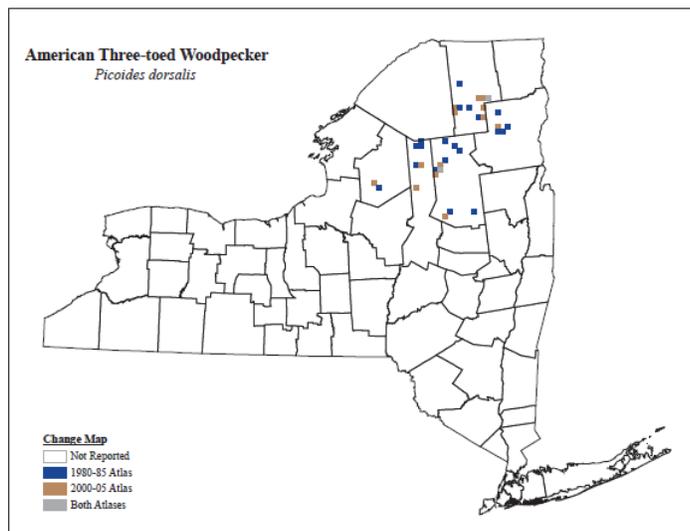


Figure 3. Change in American three-toed woodpecker occurrence in New York State between the first Breeding Bird Atlas and the second Breeding Bird Atlas (McGowan and Corwin 2008).

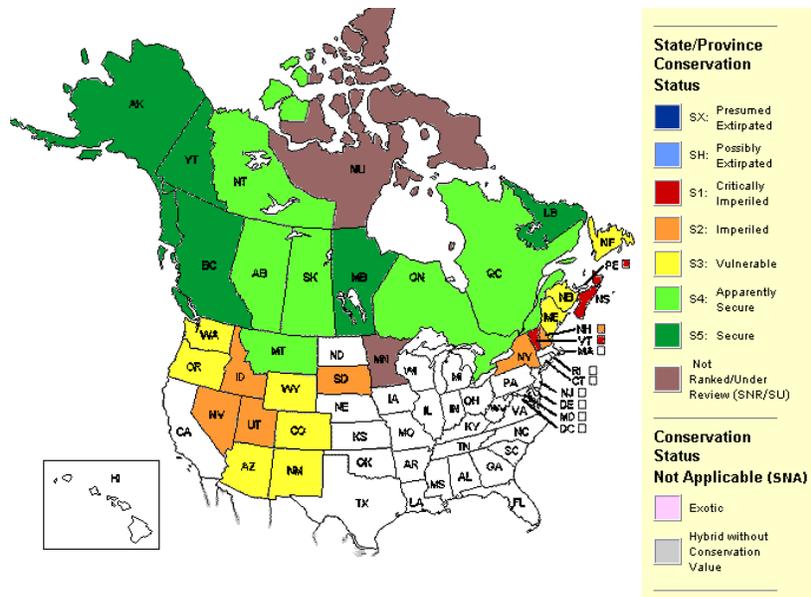


Figure 4: Conservation status of three-toed woodpecker in North America (NatureServe 2013).

III. New York Rarity, if known:

Historic (select one)	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
prior to 1970	_____	_____	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	<u>22 blocks</u>	<u><1%</u>

Details of historic occurrence:

The first Breeding Bird Atlas (1980-85) documented occupancy in 22 survey blocks statewide with confirmed breeding in only 8 blocks.

Current	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
	_____	<u>15 blocks</u>	<u><1%</u>

Details of current occurrence:

The second Breeding Bird Atlas (2000-05) documented occupancy in 15 survey blocks statewide with confirmed breeding in only 5 blocks, a decline of 32% overall.

New York's Contribution to Species North American Range:

Distribution (percent of NY where species occurs)

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

Abundance (within NY distribution)

- ___ abundant
- ___ common
- ___ fairly common
- ___ uncommon
- X rare

NY's Contribution to North American range

- X 0-5%
- ___ 6-10%
- ___ 11-25%
- ___ 26-50%

___ >50%

Classification of New York Range

___ Core

___ Peripheral

X Disjunct

Distance to core population:

~450 mi

Rarity Discussion:

In New York, the three-toed woodpecker occurs as a disjunct population south of the main breeding distribution in Canada. It occurs sparsely in the Adirondack Mountains, about 450 miles south of the population in Quebec.

IV. Primary Habitat or Community Type (from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):

1. Boreal Forested Peatland
2. Mountain Spruce-Fir Forests
3. Spruce-Fir Forest and Flats
4. Conifer Forest Swamp
5. Mixed Hardwood Swamp

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 three-toed woodpecker is associated with spruce-fir and spruce-fir-northern hardwood forests, which are often associated with bogs and swamps. It is found in areas where dead standing timber remains following burning or logging. Occasional irruptions of this woodpecker follow increased bark beetle populations that result from disturbances including burns, but also storms and flooding.

In New York, three-toed woodpeckers breed in mountain spruce-fir forests and black spruce bogs, as well as forests with deciduous trees.

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:

Little is known of the demography and life history of three-toed woodpeckers. The age at first breeding is probably one year; one brood is raised per season. There is very few data on life span. In Oregon, one banded individual was still alive after at least 6 years. There is no data on survivorship. The degree of site fidelity is unknown in North America (Leonard 2001).

Three-toed woodpeckers move into areas where insect populations increase following disturbance such as fire, disease, flooding, and storms. The opportunistic use of disturbed habitats and invasive tendencies suggest an evolutionary history tied to exploiting ephemeral resources resulting from periodic, natural disturbances (Leonard 2001).

VI. Threats:

Threats include incompatible forestry practices and deforestation (Leonard 2001). This woodpecker's association with spatially unpredictable disturbance and its large home range make it sensitive to timber harvest and to forest fragmentation, and these activities have undoubtedly resulted in population declines (Hunter 1992, Hagan et al. 1997, Imbeau et al. 1999, Leonard 2001). In black-spruce dominated forests in Quebec, this species is restricted to forests that are older than planned cutting rotations (Imbeau et al. 1999).

Modern forestry practices use fire suppression, salvage logging (cutting of burned trees), and suppression logging (cutting of insect infested trees), all of which reduce or remove the dead and dying trees on which this species depends. In addition to fire suppression, alteration of natural fire intensity (i.e., from intense stand replacement to "cool" understory fires) has likely resulted in population declines of this species (Hutto 1995).

Three-toed woodpecker was classified as "presumably stable" in regard to predicted climate change in an assessment of vulnerability conducted by the New York Natural Heritage Program (Schlesinger et al. 2011).

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

No Unknown

Yes

Three-toed woodpecker is protected under the Migratory Bird Treaty Act of 1918.

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

This woodpecker benefits from burning, so efforts to prevent fire are likely detrimental (Spahr et al. 1991). Large forest tracts should be protected so that adequate habitat is continuously available as local conditions change through time.

In Oregon, Goggans et al. (1988) reported a close tie between three-toed woodpeckers and tree disease and decay. Trees with heartrot were necessary for nests, and dying and decaying trees were necessary for a sufficient prey base; such conditions, however, are counter to maximizing timber output. They recommend providing or setting aside areas exempt from commercial or salvage-timber management and managing these areas to retain characteristics of old-growth or late-successional habitat. They recommend rotating protected areas as current sites become degraded and others become suitable, and to minimize fragmentation of protected areas.

The NY Comprehensive Wildlife Conservation Strategy (CWCS; NYSDEC 2005) states the need for a management plan for high-altitude conifer forest birds that incorporates the results of the 2004 State Wildlife Grant study on boreal forest birds (Glennon 2010). 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

The CWCS includes recommendations for the following actions for boreal forest birds, which includes three-toed woodpecker (NYSDEC 2005).

Habitat monitoring:

___ Conduct field studies to determine causes for declines of species known to be declining.

Habitat research:

___ Complete an inventory and analysis of the distribution and abundance of boreal species.

Population monitoring:

___ Develop a long term monitoring program to determine population trends of boreal forest birds.

State land unit management plan:

___ Review Department wildfire management for Forest Preserve lands.

VII. References

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