Species Status Assessment

Common Name: Prairie warbler **Date Updated:** January 10, 2024

Scientific Name: *Setophaga discolor* **Updated By:** Jed Hayden

Class: Aves

Family: Parulidae

Species Synopsis *(a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York):*

Formerly in the genus *Dendroica*, prairie warbler was reclassified to *Setophaga* in 2011 (Chesser et al. 2011). Breeding occurs in the eastern United States and wintering occurs in Florida, Central America, and Bermuda, Bahamas, Greater Antilles, Virgin Islands, and the Cayman Islands. Prairie warblers have experienced widespread declines since about 1970, often being cited as one of the most seriously declining Neotropical migrants (Nolan et al. 1999). Expansions are evident, however, at the northern edge of the range, including in New York. The second Breeding Bird Atlas documented a 20% increase in occupancy from 1980-85 to 2000-05. Breeding Bird Survey data show increasing (though nonsignificant) short term (2000-2010) and long term trends (1966-2010) of 2.1% and 1.9% respectively.

Prairie warblers breed in dry upland early-successional habitats of a wide variety. It is unclear why this warbler is expanding its range while other birds that use this habitat are declining.

I. Status

a. Current legal protected Status

i. **Federal:** Not listed **Candidate:** No

ii. **New York:** Not listed

b. Natural Heritage Program

i. **Global:** G5

ii. **New York:** S5 **Tracked by NYNHP?:** No

Other Ranks:

-New York 2025 SGCN status: Species of Greatest Conservation Need
-IUCN Red List: Least Concern
-Partners in Flight: Tier I
-National Audubon Society: Watch List
-Northeast Regional SGCN: Watchlist

Status Discussion:

Prairie warbler is a common breeder on Long Island, the Hudson Valley, and the Appalachian Plateau. The distribution is expanding northward in New York except at higher elevations. It is a locally common to rare migrant.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Declining	Stable	1966-2015	None	No
Northeastern US	Yes	Declining	Declining	2000-2010	None	Yes
New York	Yes	Increasing	Increasing	1980-2023	None	Yes
Connecticut	Yes	Declining	Declining	2000-2010	None	Yes
Massachusetts	Yes	Declining	Declining	1966-2002	None	Yes
New Jersey	Yes	Declining	Declining	2000-2010	None	Yes
Pennsylvania	Yes	Declining	Declining	1984-88, 2004-08	None	Yes
Vermont	Yes	Increasing	Increasing	1976-2007	None	Yes
Ontario	Yes	Stable	Stable	1981-2005	None	No
Quebec	No	-	-			No

Column options
Present?: Yes; No; Unknown; No data; (blank) or Choose an Item
Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item
SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York *(specify any monitoring activities or regular surveys that are conducted in New York):*

The Albany Pine Bush Preserve Commission (APBPC) conducts regular, shrubland/early successional bird species monitoring including periodic breeding season point count surveys in the Albany Pine Bush (Albany County). The APBPC also initiated prairie warbler demography research in the Preserve and supports a MAPS (Measurements in Avian Productivity and Survivorship) station to understand how Preserve management influences long-term breeding season bird population dynamics. This work at the Albany Pine Bush demonstrated that prairie warblers are the single best avian indicator of high-quality pitch pine – scrub oak barrens (Gifford et al. 2010).

Trends Discussion *(insert map of North American/regional distribution and status):*

This species often cited as example of alarming decline among Neotropical migrants. Declines are apparent across the range. The short term BBS trend (2000-2010) for the Eastern region shows a significant decrease of -1.14% per year; the long-term trend (1966-2010), also significant, is -2.2% per year.

However, expansion has occurred in the northern edges of the range, including New York and Vermont. In New York, the short term (2000-2010) trend is a nonsignificant 2.10% increase per year; long-term (1966-2010) is a nonsignificant increase of 1.99% per year. The second Breeding Bird Atlas (2000-05) documented a 20% increase in occupancy since the first Atlas in 1980-85. The distribution expanded northward except in higher elevations, with the greatest expansion evident west of the Catskills on the Appalachian Plateau (Smith 2008).

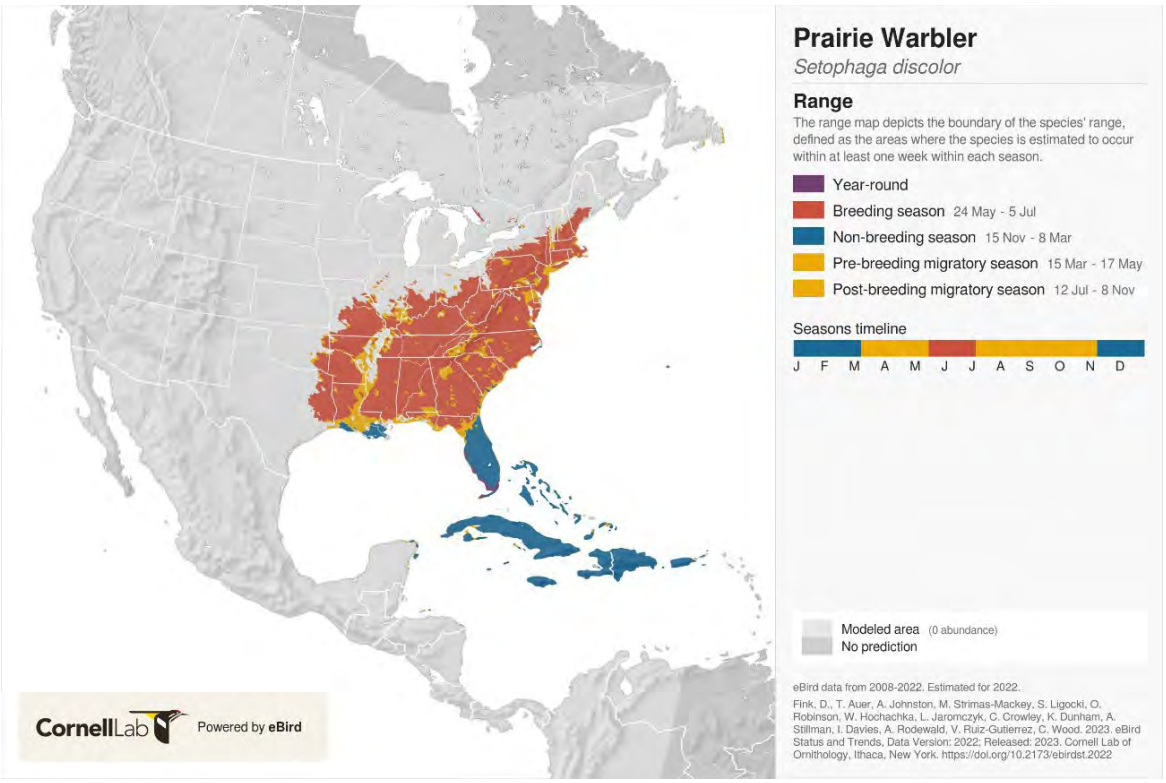

Figure 1. Prairie warbler distribution in North America (Source: eBird).

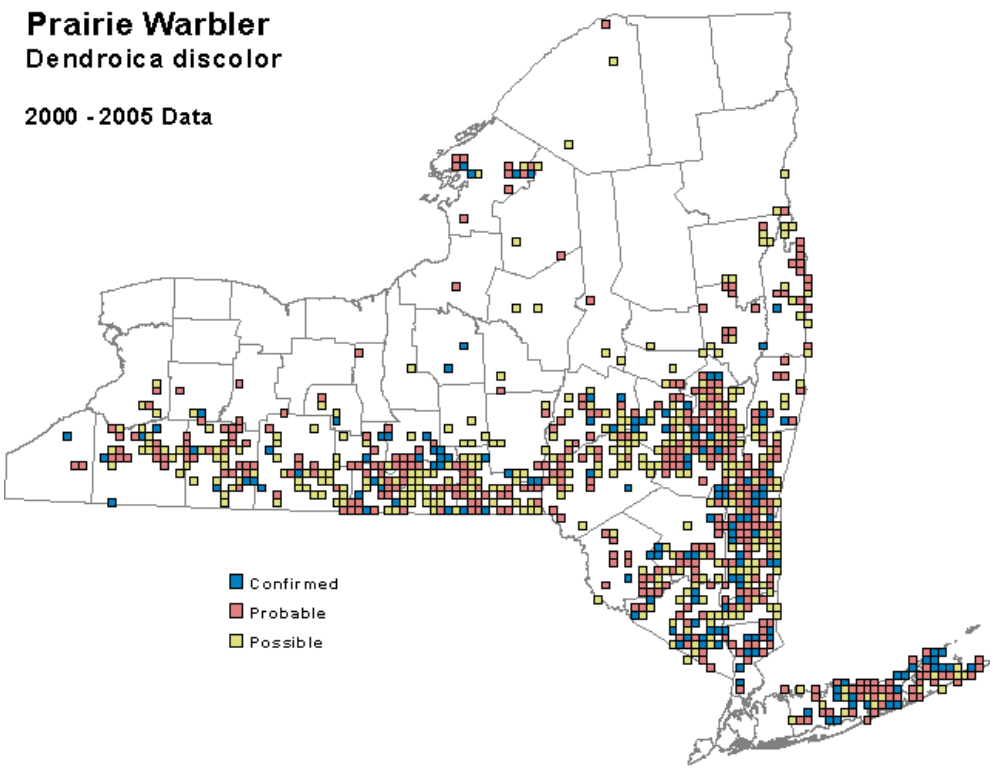

Figure 2. Prairie warbler occurrence in New York State during the second Breeding Bird Atlas (McGowan and Corwin 2008).

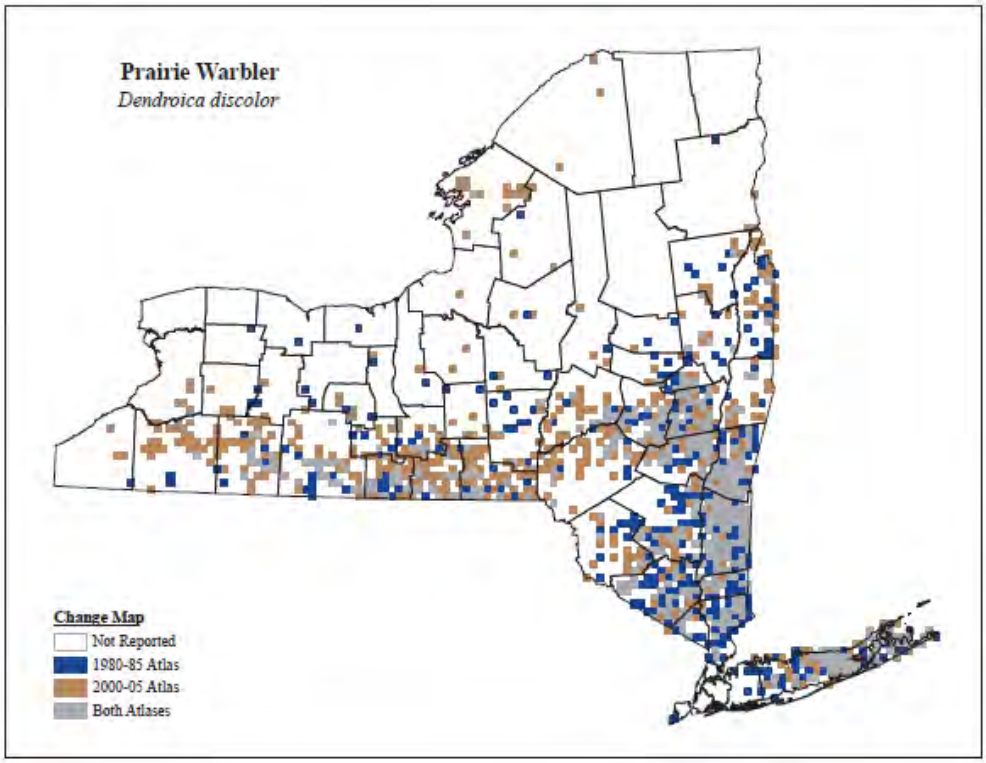

Figure 3. Change in Prairie warbler occurrence in New York State between the first Breeding Bird Atlas and the second Breeding Bird Atlas.

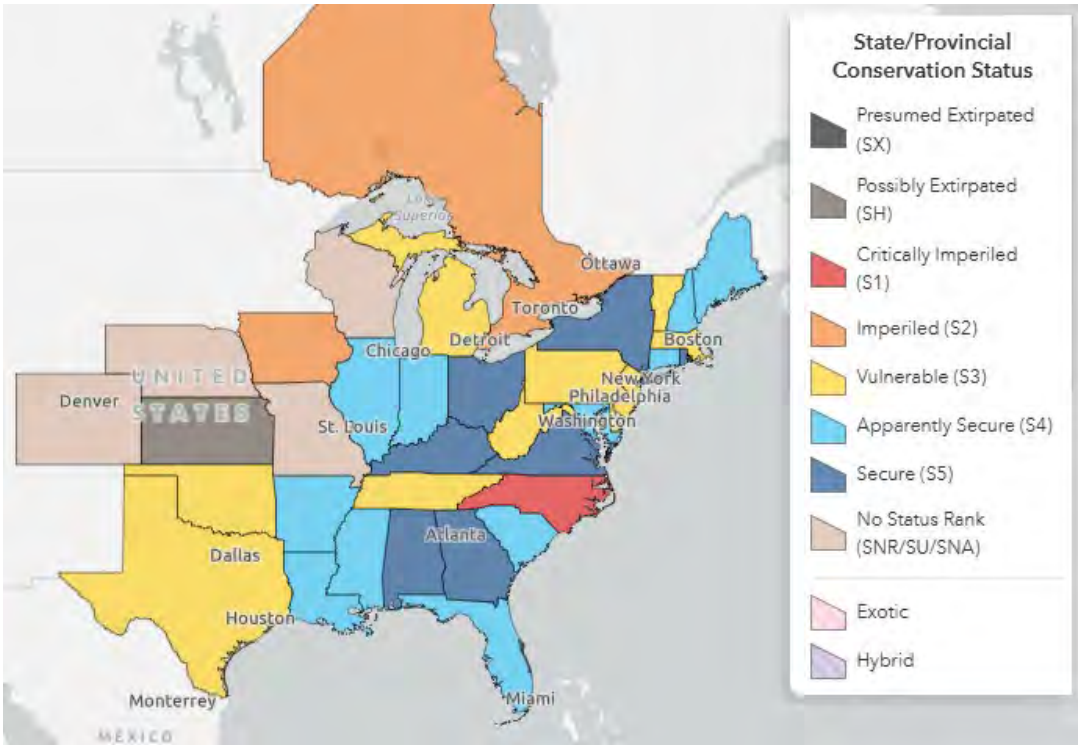

Figure 4. Conservation status of the prairie warbler in North America (NatureServe 2024).

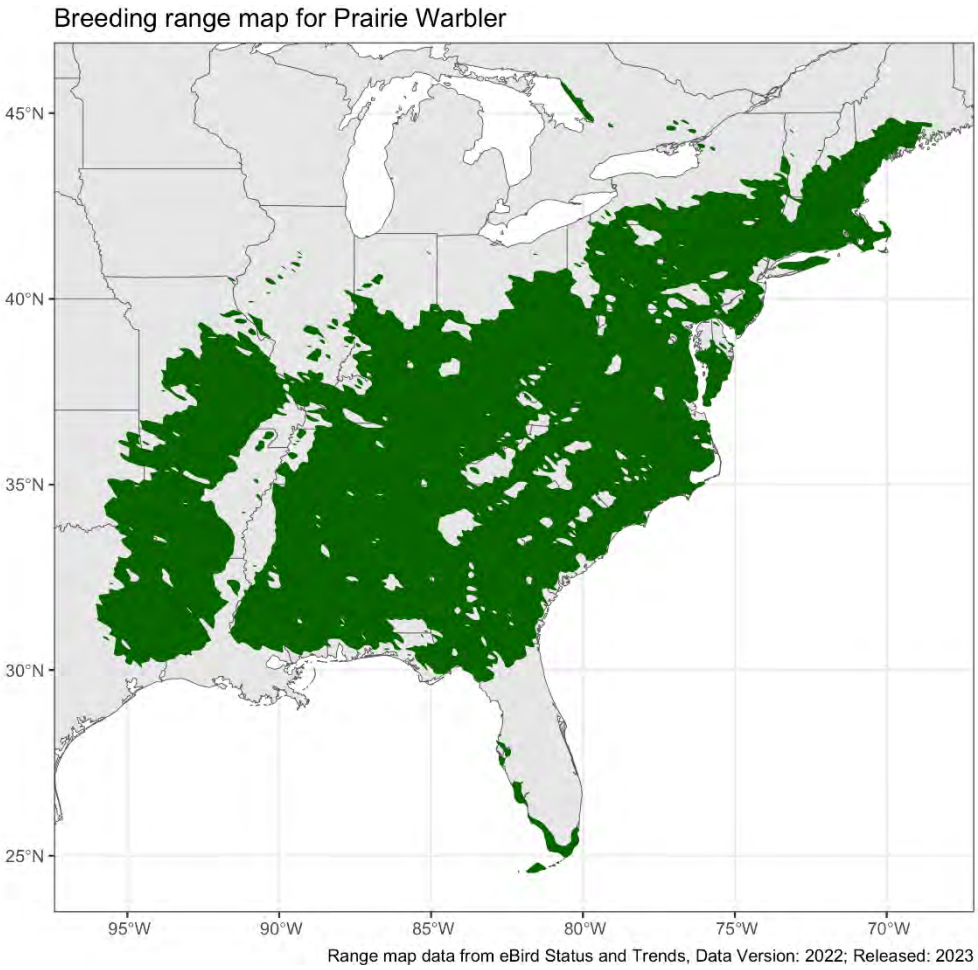

Figure 5. Breeding range of prairie warbler (eBird).

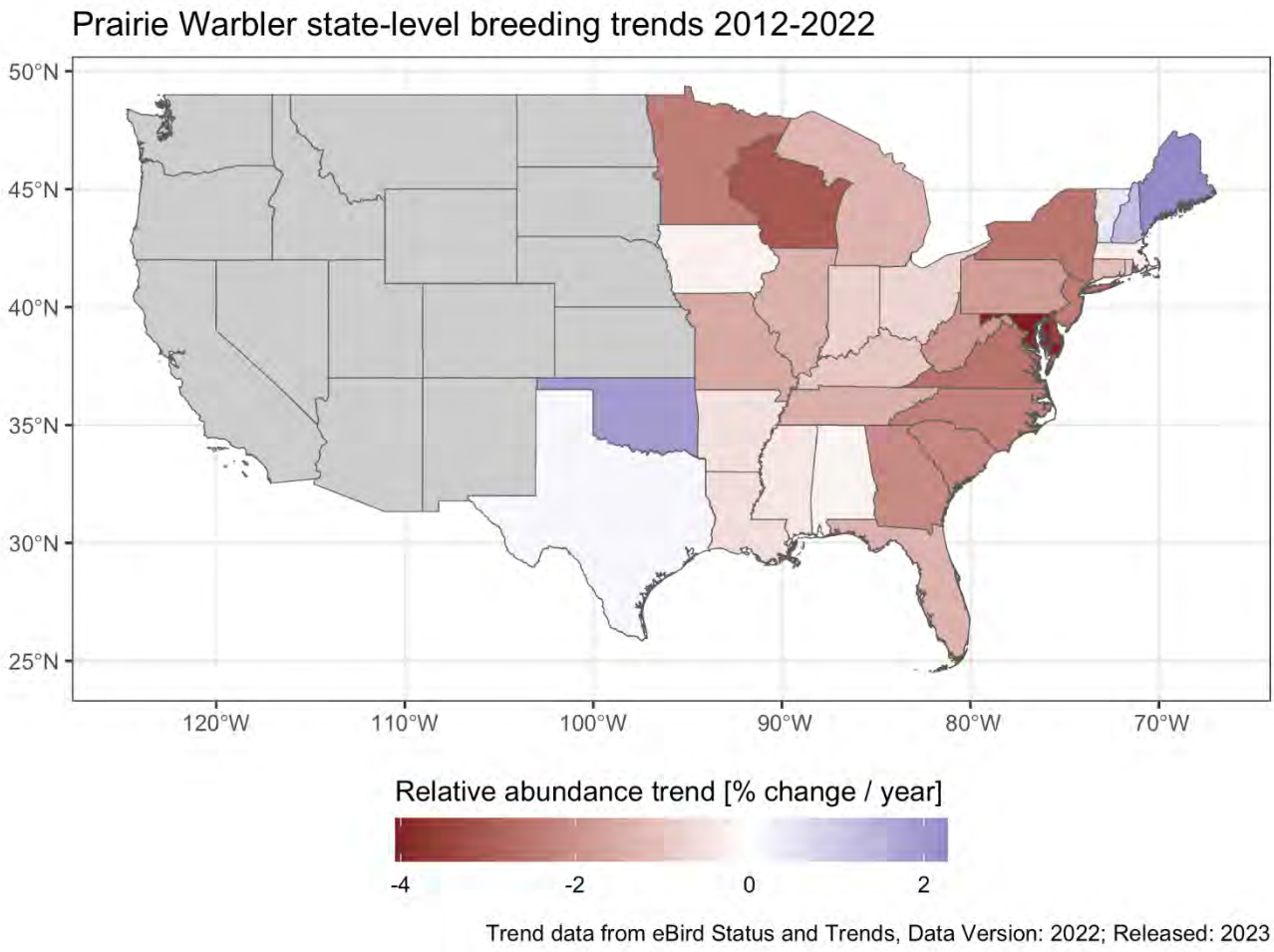

Figure 6. Trends, by state, of prairie warbler (eBird).

III. New York Rarity *(provide map, numbers, and percent of state occupied)*

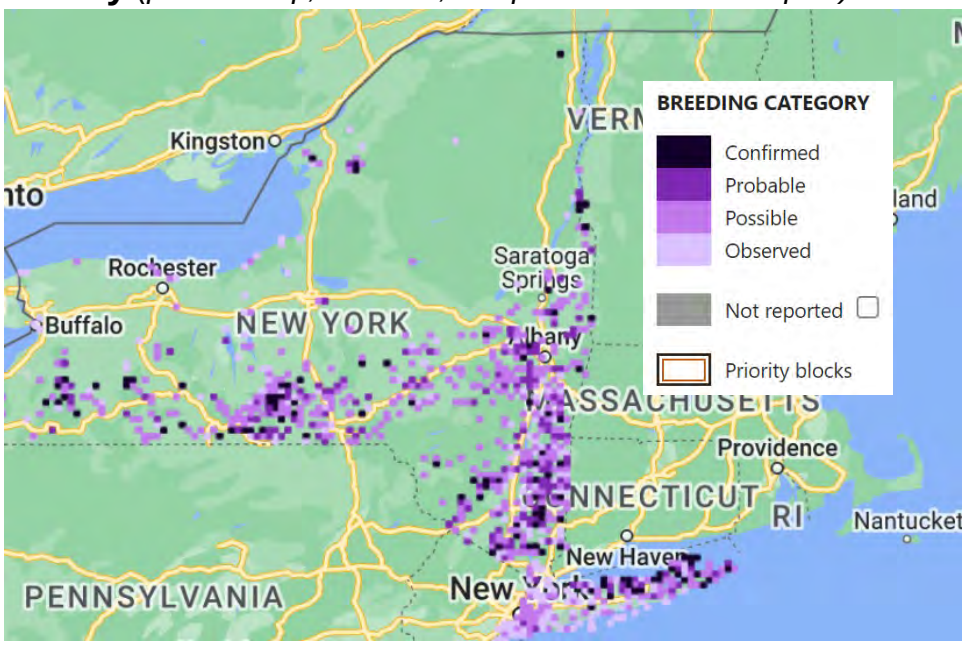

Figure 7. Breeding Bird Atlas 3 records of prairie warbler in New York (BBA-ebird).

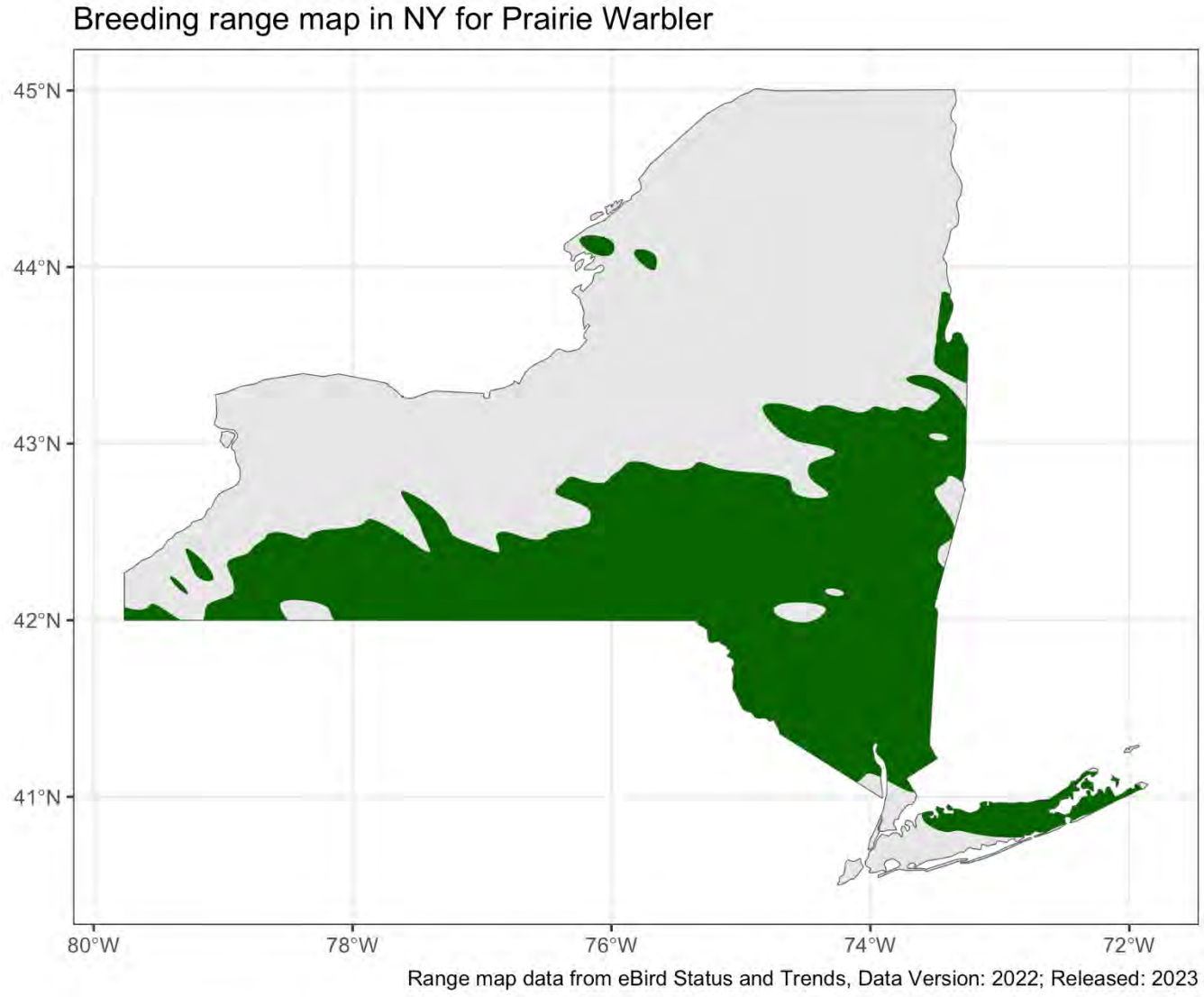

Figure 8. New York breeding range of prairie warbler (eBird).

Details of historic and current occurrence:

The first Breeding Bird Atlas (BBA) (1980-85) documented occupancy in 731 blocks, 14% of the survey blocks statewide (Andrle and Carroll 1988). The second BBA (2000-05) documented occupancy in 857 blocks, 16% of the survey blocks statewide, and increase of 2% since the first atlas (McGowan and Corwin 2008).

The third BBA (2020-05) is currently underway and utilizes a different number and layout of survey blocks across New York, making direct comparison with the first two Atlases difficult. There were 5,333 blocks in the first and second BBA's, and there are 5,710 blocks in the current BBA, of which 1815 are considered priority blocks. To date, Prairie warbler has been documented in 368 priority blocks, 20.3% of all priority blocks statewide during the third BBA (NY BBA III Overview, 2024).

New York's Contribution to Species North American Range:

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	

Column options
Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item
Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

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

1. Pine Barrens
2. Coastal Coniferous Barrens
3. Plantation and Disturbed Land Pioneer Forest
4. Native Barrens and Savanna
5. Powerline
6. Old Field Managed Grasslands
7. Non-native Shrublands

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/ Community Trend	Time frame of Decline/Increase
No	Yes	Declining	Approx the last 70 years

Column options
Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item
Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

Prairie warblers breed in dry upland early-successional, regenerating hardwood forest, old field, shrub/dune, upland shrub habitats; prefers open canopy (however uses closed canopy palustrine forest in Mid-Atlantic breeding areas). Smith (2008) describes the habitat as having a “savannah-like appearance with widely-spaced woody plants of low stature interspersed with grasses and forbs.” Levine (1998) noted that though prairie warblers are rare at high elevations, breeding has been documented at the Connecticut Hill WMA in Tompkins County at an elevation of about 2,100 feet.

Ecological communities on Long Island that are frequently occupied include dwarf pine plains, pitch pine-scrub oak barrens, pitch pine-oak-heath woodlands, successional red cedar woodland, and pitch pine-oak forest (Edinger et al. 2002). Powerline rights-of-way are a frequently-used habitat. Several ecological communities support prairie warblers in the Albany Pine Bush including pitch pine scrub oak barrens, powerline rights-of-way, and successional old fields and regenerating forests that include low-woody cover. Abundances were highest in frequently managed pitch pine – scrub oak barrens characterized by a discontinuous/patchy scrub oak canopy that is less than 2 meters tall (Albany Pine Bush Preserve Commission, unpublished data).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/ Catadromous?
Yes	-	-	Yes	-	-

Column options
First 5 fields: Yes; No; Unknown; (blank) or Choose an item
Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion *(include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):*

From Nolan et al. (1999):

All young (≤1 yr) females, and probably all young males, breed. Older birds breed annually. Calculated lifetime production = 5.4 independent young (based on Nolan 1978). Prefledging mortality is very high; mortality from post-fledging to independence is about 18%; from independence to first breeding season, 61%; 35%/yr thereafter. Some independent young remain briefly near natal site; may join siblings and unrelated juveniles. Of 246 fledglings in Indiana, 26 (both sexes, ages 46–78 d) were seen on study area after independence. A banded male was recaptured at age ≥10 yr, 3 mo (Kennard 1975). Probably all surviving male adults return to previous year's territory. Of 105 adult females, 19 returned to study area in one or more years following banding in Indiana (Nolan 1978).

Nest success (fledged young) in Albany in 2010 was 53.8% (n=13), with an additional 23.3% of PRAW nests fledging brown-headed cowbirds. Mean territory size in Albany (n=70) is 1.56 acres (0.6ha) but ranged from 0.4 – 3.3 acres (0.16-1.34ha). Annual survival rates appear high in Albany where the three-year average annual re-sight rate for banded adult males was 57.1 percent (n = 119); 33.3% 2 years post banding; 10.3 % 3 years post initial banding. It is unlikely that all surviving males returning to the Albany study area were found, suggesting survival rates are higher than the re-sight rates reported. (APBPC unpublished data).

VI. Threats *(from NY 2015 SWAP or newly described):*

From Nolan et al. (1999): Threats to prairie warbler are typical of early-successional species. Since colonial times, deforestation has created extensive breeding habitat, much of which is now lost to urbanization and reforestation. The direct role of humans in places where abundance has declined is unclear. On breeding grounds, active habitat destruction and land uses that permit forest regeneration (e.g., suppression of fire) may be factors.

Wildland fire suppression may be an important threat in New York. Pitch pine scrub oak barrens are likely the most stable prairie warbler habitats and potential population sources in New York, especially at sites with active habitat management programs. In Albany abundance and distribution went up with management strategies designed to maintain and restore pitch pine scrub oak barrens. Additionally, not all dry shrubland habitat may be equally preferred. Prairie warblers in Albany responded favorably to a habitat management designed to reduce shrub cover and height. While occupancy appears to remain stable prairie warbler density increased when management created low patchy shrubland habitat; abundance was reduced in closed canopy thickets. Patchiness may be important, especially for females who often nested within a meter of an opening in the scrub oak canopy (Albany Pine Bush Preserve Commission, unpublished data).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
3. Energy Production & Mining	3.3 Renewable Energy	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	7.1.2 Suppression in the fire regime	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.3 Other Ecosystem Modifications	7.3.2 Vegetation succession	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.2 Problematic Native Plants & Animals	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.3 Agricultural & Forestry Effluents	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats facing prairie warblers in New York State.

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

Yes: _ü_ **No: _____** **Unknown: _____**

If yes, describe mechanism and whether adequate to protect species/habitat:

Prairie warbler 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:

Protection and management of native pine barrens and related habitats are important for prairie warblers in New York. Programs like New York's Landowner Incentive Program, NRCS early successional grants, and early successional habitat creation and maintenance on our state WMAs can certainly benefit prairie warblers and not be exorbitant in cost. Conservation actions following IUCN taxonomy are categorized in the table below.

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for early-successional forest/shrubland birds, which includes prairie warbler.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct Habiat management	Site/area management
A.1 Direct Habitat Management	A.1.1.0.0 Manage plants, animals, fungi, or bacteria	Invasive/Problematic species control
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation Planning	Site/Area protection Resource/Habitat Protection
C.6 Design and Plan Conservation	C.6.5.1.3Develop a conservation, management, or restoration plan for protected private lands	Habitat/Natural process restoration
C.7 Legislative and Regulatory Framework or Tools	C.7.1.3.0 Create, amend, or influence regulation	Policies and Regulations
B.3 Outreach	B.3.1.4.0 Public outreach and information	Awareness & Communications

Action Category	Action	Description
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 3. Recommended conservation actions for prairie warbler.

VII. References

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