Species Status Assessment

Common Name: Scarlet tanager **Date Updated:** March 13, 2025

Scientific Name: *Piranga olivacea* **Updated By:** Heidi Kennedy

Class: Aves

Family: Cardinalidae

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

The scarlet tanager is found in extensive mature forests of a wide variety, especially those with maples and oaks. It breeds throughout the eastern half of the United States, though only reaching the northernmost parts of Louisiana, Mississippi, Alabama, and Georgia. Wintering populations are found in South America. In New York, scarlet tanager breeds in every county though it is less widespread in the agricultural regions of the Great Lakes Plain and the most highly developed urban areas of the Coastal Lowlands.

Breeding Bird Survey protocol document this species well, although it is unclear whether source-sink dynamics related to forest fragmentation may influence BBS data. Data for North America show a significant long-term decline of 0.27% per year between 1966 and 2022 and a significant short-term decline of 1.08% per year between 2012 –2022. BBS data for New York show a significant long-term decline of 1.18% per year from 1968-2022 and a non-significant short-term decline of 0.94% per year from 2012 – 2022. Breeding Bird Atlas data show no change in occupancy since the mid to late 1980s (McGowan and Corwin 2008).

I. Status

a. Current legal protected Status

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

ii. **New York:** Not listed; SGCN

b. Natural Heritage Program

i. **Global:** G5

ii. **New York:** S5B **Tracked by NYNHP?:** No

Other Ranks:

-NYS 2025 SGCN Status: Species of Greatest Conservation Need
-IUCN Red List: Least Concern

Status Discussion:

Scarlet tanager is widespread across New York, breeding in every county except in the New York City metropolitan area. It is a common and widespread migrant. Scarlet tanager is ranked as Secure or Apparently Secure in all adjacent states and provinces.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Declining	Stable	BBS: 1966-2022: significant annual decline of 0.27%, 2012-2022: significant annual decline of 1.08%	Not listed	Choose an item.
Northeastern US	Yes	Stable	Stable	2012 – 2022: Non-significant BBS trends	Not listed	Choose an item.
New York	Yes	Declining	Declining	BBA: 1980-85 to 2000-05, stable, but appears to be a decline in occupancy between second and third BBAs BBS 1968-2022: significant annual declining trend of 1.18% per year. Short term trend declining, but not significant: (-0.94% per year from 2012-2022)	Not listed	Yes
Connecticut	Yes	Unknown	Unknown	2000-2010 (data from most recent BBA not yet available)	Not listed	Yes

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
Massachusetts	Yes	Declining	Stable	BBA: 1975-79 to 2007-11 BBS 2000-2022: significant annual decline of 1.44%, 1968-2022: significant annual decline of 1.3%	Not listed	Yes
New Jersey	Yes	Unknown	Stable	2000-2022 Non-significant BBS trend	Not listed	Yes
Pennsylvania	Yes	Declining	Stable	BBS: 2012 – 2022: significant declining annual trend of 2.09%; BBA:1984-89 to 2004-08	Not listed	Yes
Vermont	Yes	Declining	Stable	BBS: 1966-2022: declining, but non-significant trend; BBA: 1976-81 to 2003-07	Not listed	No
Ontario	Yes	Increasing	Stable	2000-2022: BBS: significantly increasing annual trend of 1.19% BBA: stable 1981-1985 to 2001-2005	Not listed	Choose an item.
Quebec	Yes	Stable	Increasing	BBS: 1966-2022: non-significant	Not listed	Choose an item.

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
				trends. BBA: increase in squares 1984-89 to 2010-2014		

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):*

None currently. Project Tanager was conducted from 1993 to 1996 at 2,000 study sites across North America to gain an understanding of area-sensitivity and provide recommendations for protecting forest-interior species.

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

Breeding Bird Survey protocol lends well to this forest-breeding bird and trends are significant in most areas. BBS data for North America show significant declining annual trends in abundance for both short-term and long-term trends (1.08% annual decline for 2012–2022 and 0.27% annual decline for 1966-2022). BBS data for Massachusetts show a significant long-term declining trend of 1.3% per year between 1968 and 2022 and a significant shorter-term declining trend of 1.44% per year for 2000-2022. Pennsylvania BBS data also indicates significant declining trends for both long term (1966 - 2022: -0.42% per year) and short term (2012 – 2022: -2.09% per year) periods.

BBS data for New York from 1966 to 2022 show a significant long-term decline of 1.18% per year and a non-significant short-term decline of 0.94% per year from 2012-2022. New York Breeding Bird Atlas data from 1980-85 to 2000-05 show a stable rate of occupancy with detection in 81% of survey blocks during both periods. Lowe and Hames (2008) analyzed BBS data for the Adirondack region from 1980 to 2005 and found a significant declining trend of -3.9% per year. The third BBA for NY is currently showing this species in 47% of survey blocks statewide which seems to indicate a decline in occupancy since 2005 (NYS BBA III Overview, 2023).

In recent years, however, forest fragmentation and source-sink population dynamics related to fragmentation have become increasingly important and may influence BBS data (Mowbray 1999); i.e., it remains unclear whether BBS surveyors are often recording unmated males in forest fragments too small for breeding territories, unmated second-year males in areas of high population density who are unable to attract females (Roberts and Norment 1999), and breeding pairs in woodlots whose nests are unlikely to produce successful broods because of nest predation and brood parasitism (Robinson et al. 1995, Brawn and Robinson 1996).

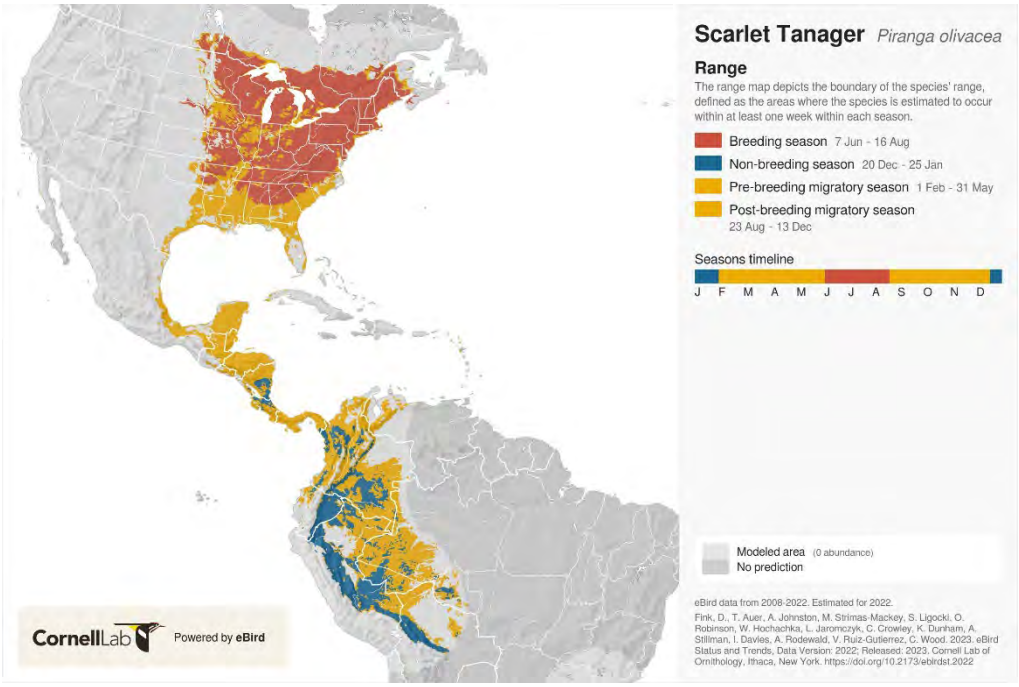

Figure 1. Scarlet tanager distribution (eBird 2022)

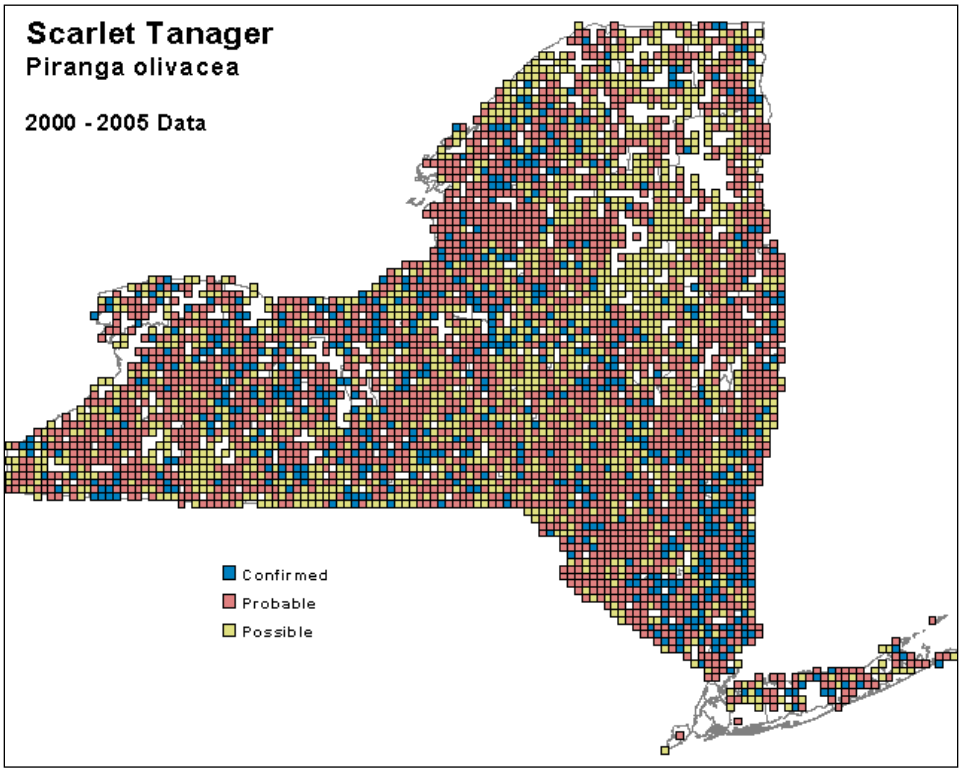

Figure 2. Scarlet tanager occurrence in New York State during the second Breeding Bird Atlas (McGowan and Corwin 2008).

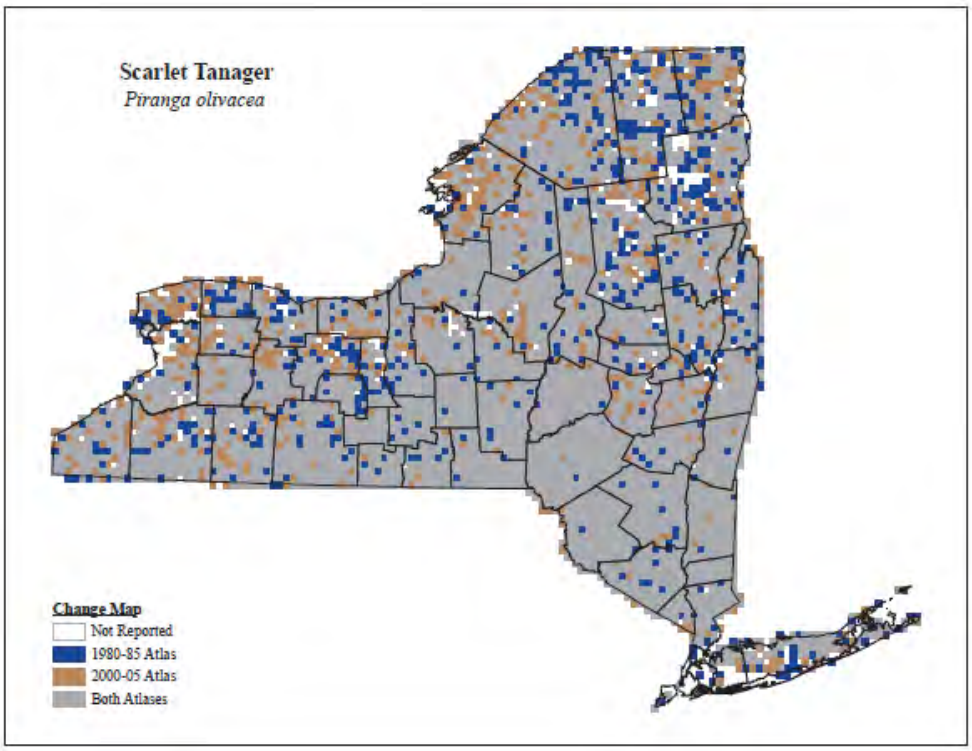

Figure 3. Change in scarlet tanager occurrence in New York State between the first Breeding Bird Atlas and second Breeding Bird Atlas (McGowan and Corwin 2008).

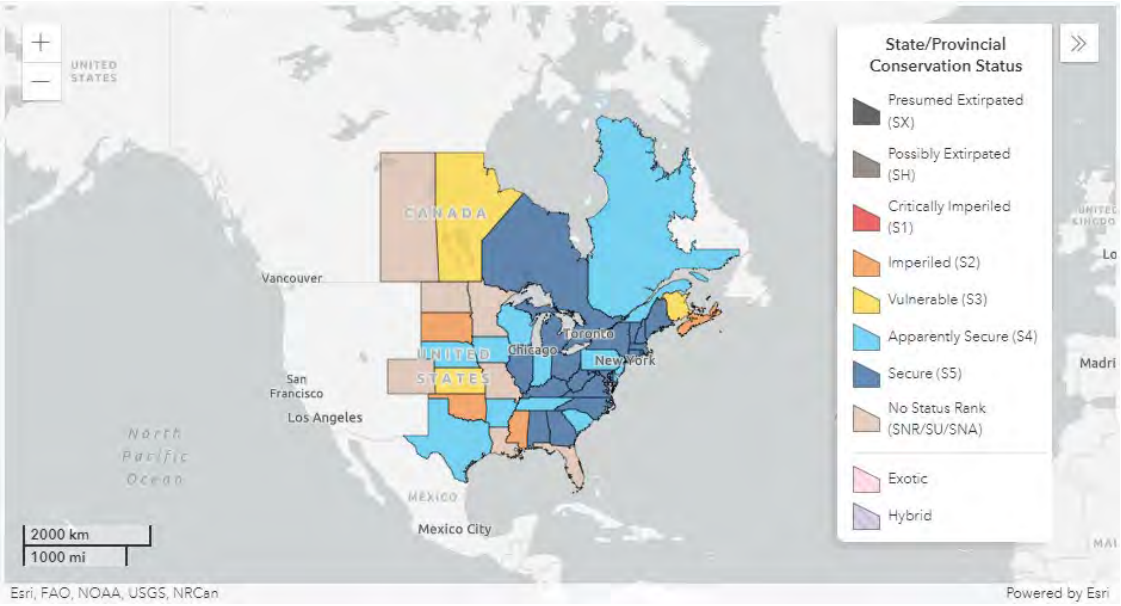

Figure 4. Conservation status of scarlet tanager in North America (NatureServe 2023).

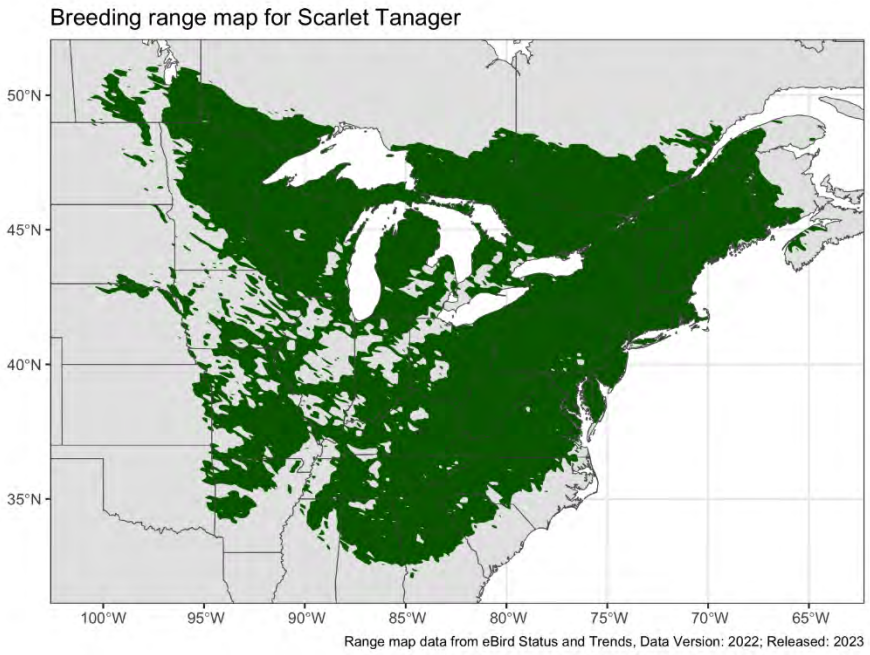

Figure 5. Breeding range map for scarlet tanager (eBird)

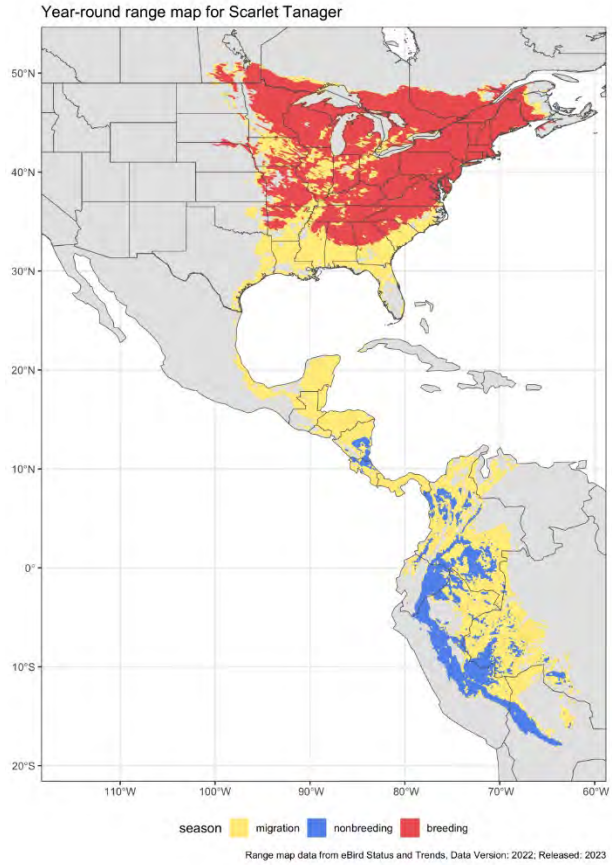

Figure 6. Year-round map for scarlet tanager (eBird)

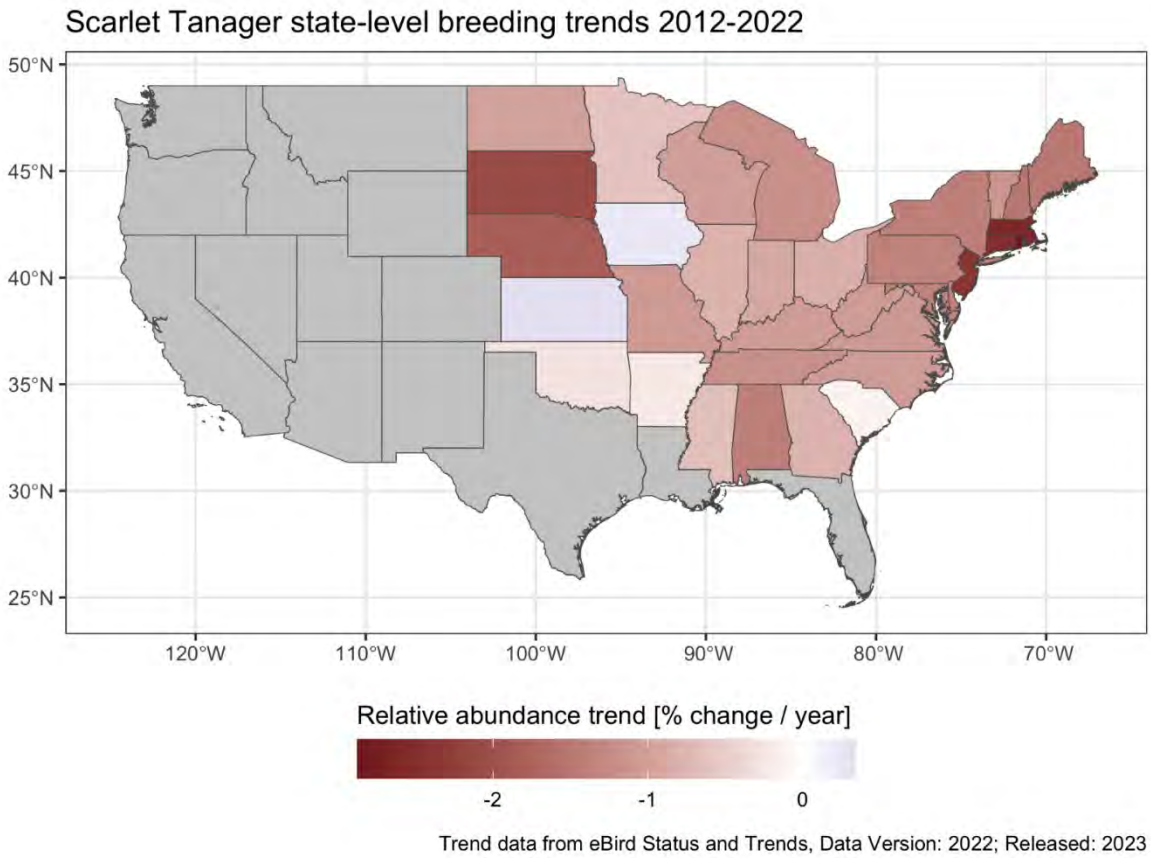

Figure 7. Trends, by state, for scarlet tanager (eBird)

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

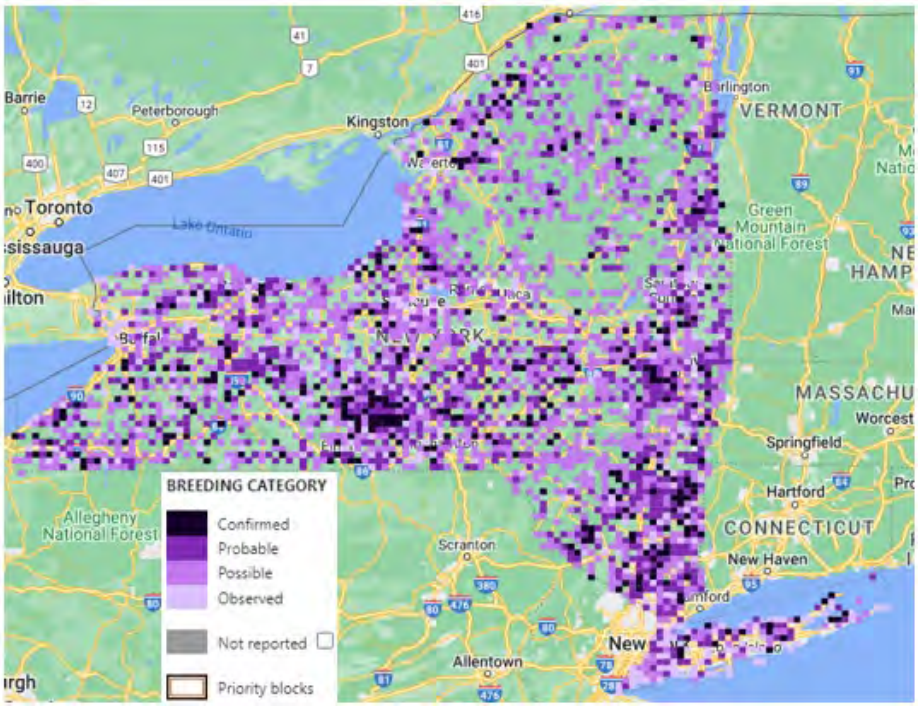

Figure 8. Records of scarlet tanager in New York (NYS BBA III Map, 2023)

Details of historic and current occurrence:

The first Breeding Bird Atlas (BBA) (1980-85) documented occupancy in 4,299 blocks, 81% of the survey blocks statewide (Andrle and Carroll 1988). The second BBA (2000-05) documented occupancy in 4,338 blocks, 81% of the survey blocks statewide, not a significant change since the first atlas (McGowan and Corwin 2008).

The third BBA (2020-25) 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 BBAs, and there are 5,710 blocks in the current BBA. To date, scarlet tanager has been documented in 2,661 blocks, 47% of survey blocks statewide during the third BBA (NYS BBA III Overview, 2023).

Scarlet tanagers are found throughout New York except in the agricultural areas of the Great Lakes Plain and in metropolitan areas.

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%	Core	

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):*

a. Oak-Pine Forest

b. Oak forest

c. Coastal Hardwoods

d. Mixed Northern Hardwoods

e. Plantation and Disturbed Land Pioneer Forests

f. Hardwood Swamp

g. Floodplain Forests

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/ Community Trend	Time frame of Decline/Increase
No	No	Stable	

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:

Scarlet tanagers breed in expansive mature forests of a wide variety, especially those forests with maples and oaks. They are area-sensitive, though the degree of sensitivity declines as forest density increases. Productivity is highest in areas that are at least 70% forested (Rosenberg et al. 1999). Although scarlet tanagers typically avoid forest edges, they will also breed in parks and orchards, and in large trees in suburban areas.

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/ Catadromous?
Yes	Yes	No	Yes	No	Choose an item.

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):*

Both male and female scarlet tanagers breed in their first year. Little information is available on hatching or fledging success (Mowbray 1999). In western New York (Roberts and Norment 1999), pairing success differed significantly among forest size classes. Pairing success was high (>75%) in all forest size classes that contained tanagers and was 100% in continuous forest plots >1,000 ha. Fledging success increased significantly with area of forest patch and differed significantly among forest-patch classes; no fledglings were present in forest patches <10 ha; there was a 22% fledging success rate in forest patches 10–50 ha; 39% fledging success in forest patches 50–150; and 64% fledging success in forest sites >1,000 ha. The maximum life span for the species is at least 10 years, 1 month (Klimkiewicz and Futcher 1987).

Few data are available on breeding site fidelity. In central Illinois, 50% of banded birds (*n* = 4) were recaptured on the breeding grounds the following year (Robinson 1992). Birds have not been monitored after fledging; anecdotal reports suggest they remain in, or near, territory until they migrate. There is no conclusive evidence of second broods.

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

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.	Choose an item.
2. Agriculture & Aquaculture	2.1 Annual & Perennial Non-Timber Crops	Choose an item. (intensification)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
3. Energy Production & Mining	3.1 Oil & Gas Drilling	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
3. Energy Production & Mining	3.3 Renewable Energy	3.3.2 Wind farms	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
5. Biological Resource Use	5.3 Logging & Wood Harvesting	Choose an item.	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. (cowbird parasitism)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.5 Air-Borne Pollutants	Choose an item. (mercury)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to scarlet tanager.

Explanations for trends in local and regional abundance of scarlet tanager include successional changes in habitat structure, variation in arthropod abundance, forest fragmentation, and source-sink population dynamics (Brawn and Robinson 1996, Villard et al. 1999).

As a forest-interior species, scarlet tanager is sensitive to forest fragmentation on breeding grounds (Robbins 1980, Robbins et al. 1989, Porter 1996, Roberts and Norment 1999). Their presence depends on the amount of fragmentation, size of forest patch, forest configuration, and degree of patch isolation. Throughout eastern North America, occurrence is significantly correlated with overall amount of fragmentation; probability of finding breeding tanagers <0.50 in highly fragmented sites (Rosenberg et al. 1999). Reduced reproductive success in fragmented forests appears to result from high rates of nest predation and brood parasitism by cowbirds and generalist species. In many fragmented landscapes, reproductive rates are low enough to suggest scarlet tanager populations function as reproductive sinks (Robinson et al. 1995, Brawn and Robinson 1996, Bollinger et al. 1997).

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 2013, Reed et al. 2013). Scarlet tanager is a more specialized species that must compete with, or suffer higher predation from, the more common ones for which exurban development creates habitat.

There is uncertainty whether BBS data are influenced by the effects of fragmentation on source/sink population dynamics. BBS surveyors may document non-breeding males in forest patches too small to support successful breeding, or unmated second-year males in forests where density of males is too high for them to attract a mate (Mowbray 1999).

Scarlet tanagers appear to be susceptible to harsh weather early in the breeding season. Populations declined 30% in New Hampshire and 50% in Maine in 1974, following a week of unusually cold, wet weather at the beginning of the breeding season.

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

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. In some areas, hunting remains a problem. As a night-migrating songbird, scarlet tanagers are susceptible to mortality from striking lighted towers and buildings (Stevenson and Anderson 1994, Goodrich et al. 2002).

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

Yes: ✓ **No:** _____ **Unknown:** _____

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

Scarlet tanager 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:

Forest tracts that are at least 7,500 acres in size should be preserved and landscapes that are at least 70% forested are most beneficial to scarlet tanagers and tend to minimize the adverse effect of intrusion by brown-headed cowbirds (Rosenberg et al. 1999). Prevention of further habitat loss, and preservation and restoration of extensive forested areas on breeding grounds, should be primary a management strategy (Robbins et al. 1989, Robinson et al. 1995, Villard et al. 1999).

Efforts should also include minimizing the effects of fragmentation on habitats due to development, and on implementing population control of white-tailed deer in areas where deer populations are affecting forest regeneration and species composition (NYSDEC 2005).

Conservation actions following IUCN taxonomy are categorized in the table below.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct habitat management	Site/Area management
A.1 Direct Habitat Management	A.1.1.0.0 Manage plants, animals, fungi, or bacteria	Invasive/Problematic species control
B.3 Outreach	B.3.1.4.0 Public outreach and information	Awareness & Communications
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Site/Area Protection
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Resource/Habitat Protection

Table 2. Recommended conservation actions for scarlet tanager

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for deciduous/mixed forest birds, which includes scarlet tanager.

Habitat management:

____ Minimize the effects of fragmentation of habitats due to human development.

____ Implement population control of whitetail deer in areas where deer populations are affecting forest regeneration and species composition.

Habitat research:

____ Research effects of logging on "forest interior" birds.

Other action:

____ Educate the public on the benefits and need for forest management to enhance populations of ground and shrub nesting forest breeding birds on public and private lands.

____ Educate the public on the benefits and need for forest management on public and private lands.

Population monitoring:
____ BBS appears adequate for most species.

VII. References

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