

Species Status Assessment

Common Name: Black meadowhawk **Date Updated:** December 5, 2023

Scientific Name: *Sympetrum danae* **Updated By:** Erin L. White

Class: Insecta

Family: Libellulidae

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

The black meadowhawk's range covers boreal habitats across North America and Eurasia. Recent genetic analysis has revealed that a subdivision exists for this species between the North American population and the Eurasian-Beringian population, where individuals from these two populations should be recognized as separate species (Pilgrim 2007). In North America, the species has been documented from Alaska east across Canada to Newfoundland, the western mountains of the U.S., where it is fairly common, and east across the northern states, where it is less common (Dunkle 2000, Abbott 2007). In the Northeast, it is known from New Jersey, New York, Vermont, New Hampshire, and Maine (NatureServe 2023; Abbott 2023). In New York, extant populations occur on the Chubb River where there is a pond with marshy habitat and a stream nearby, at a site on the West Branch of the Ausable River near a field, and at a wetland near the Ausable (New York Natural Heritage Program 2010). There is an older record from a private fen in Genesee County (Donnelly 1999). In North America, this species is known from wetland habitats including bogs, fens, and marshes, and less often, ponds and lakes and moving water (Dunkle 2000).

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:** S1 **Tracked by NYNHP?:** Yes

Other Ranks:

-NYS 2025 SGCN Status: High Priority Species of Greatest Conservation Need

-IUCN Red List: Least Concern

-Northeast Regional Rank (White et al.2015): R3R4

Status Discussion:

White *et al.* (2010) calculated a revised draft S-rank S1 from S2S3. Due to an oversight, this was never changed in the Element occurrence database and the 2015 SWAP mistakenly used S2S3 for the species state rank.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Stable	Stable	Last assessment in 1985 for US; 2012 for Canada		Choose an item.
Northeastern US	Yes	Unknown	Declining	pre-post 2000	R3R4	No
New York	Yes	Unknown	Declining to Stable	Pre-post 2005	S1; HPSGCN	Yes
Connecticut	No	-	-			Choose
Massachusetts	No	-	-			Choose
New Jersey	No	-	-			Choose
Pennsylvania	No	-	-			Choose
Vermont	Yes	Unknown	Unknown		S1	Yes
Ontario	Yes	-	Stable		S4	Choose
Quebec	Yes	-	Stable		S5	Choose

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 New York State Dragonfly and Damselfly Survey was conducted from 2005-2009, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where it has been documented.

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

White *et al.*, (2015) found declines in county-level distributions since 2000 in the Northeast. In NY, *S. danae* has been documented at two locations in Essex County since 2005, there is a third location known from 1996 in the same county and a historical record from a swamp in Genesee County with no known recent surveys there to confirm their persistence. The species was historically rare in the state with two locations known pre-2005. The two locations known pre-2005 are different sites than the two locations known post-2005 (New York Natural Heritage Program 2023).

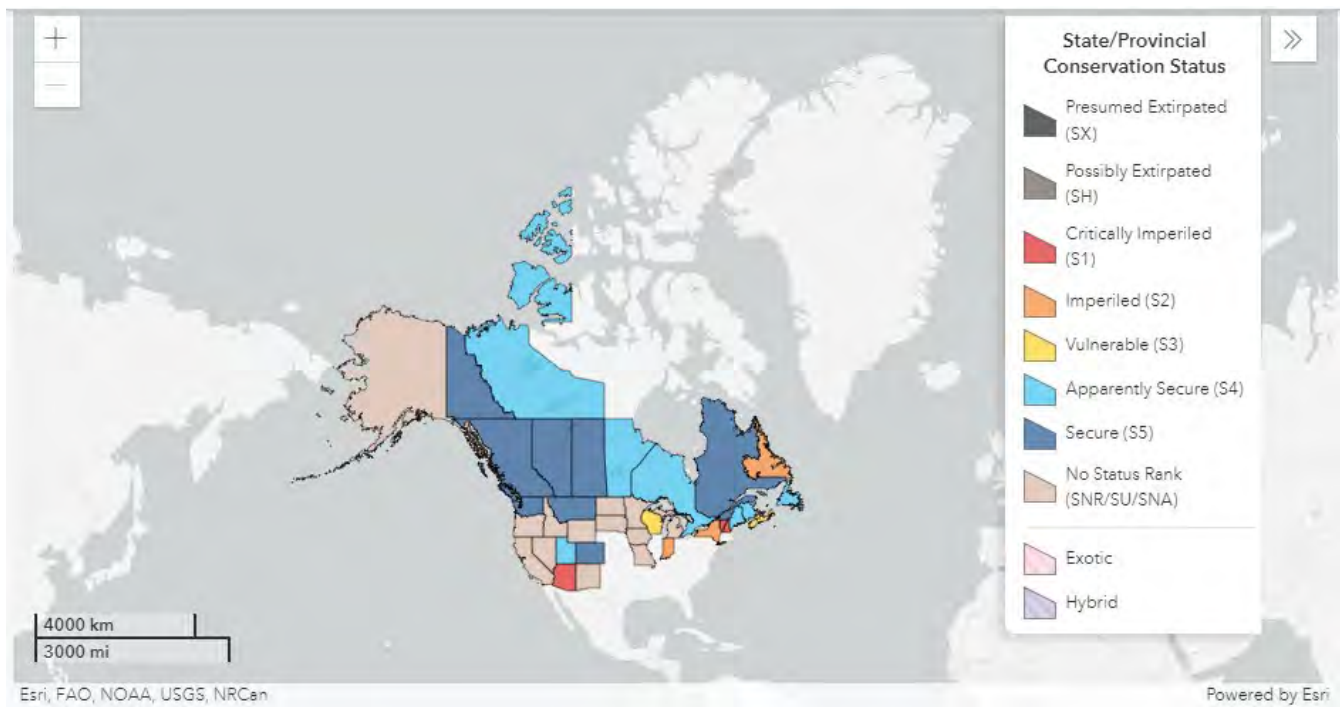


Figure 1. Conservation status of the black meadowhawk in North America (NatureServe 2023).

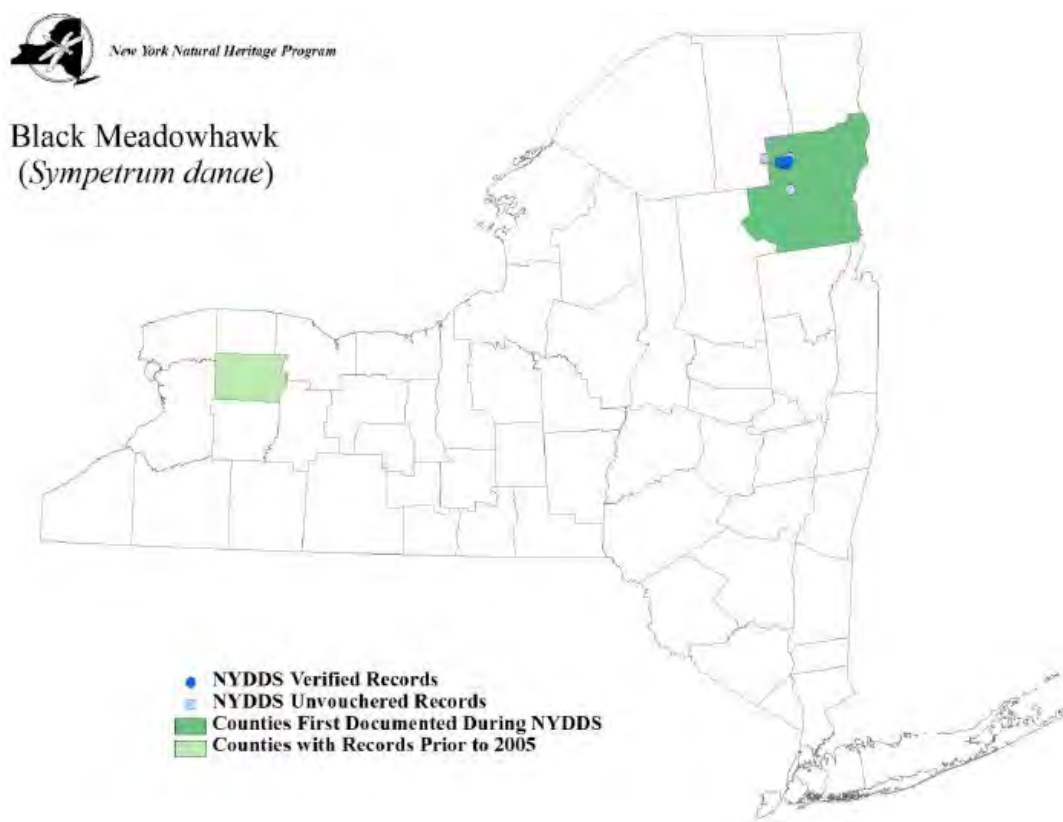


Figure 2. Occurrence records of the Black Meadowhawk in New York during the NYDDS (White *et al.* 2010).

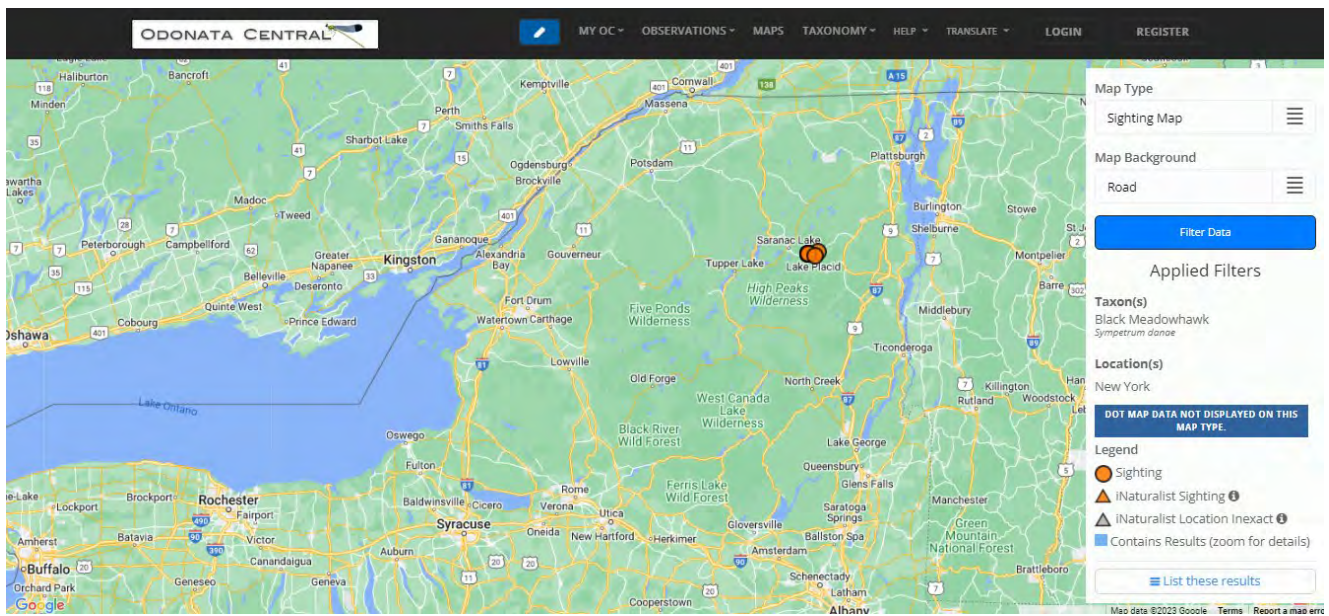


Figure 3. Distribution of the black meadowhawk in New York (Abbott 2023).

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

The species has a wide range across North America, but is less common in northeastern states (White *et al.* 2010). The species was historically rare in the state with two locations known pre-2005. The two locations known pre-2005 are different sites than the two locations known post-2005 (New York Natural Heritage Program 2023).

Years	# of Records	# of Counties	% of State
Pre-2004	2	2	<1%
2005-2009	0	0	<1%
2010-2023	2	1	<1%

Table 1. Records of black meadowhawk in New York.

Details of historic and current occurrence:

There is an older (circa 1932) record from a private fen in Genesee County and a 1996 record from Essex County, at a site on the West Branch of the Ausable River near a (New York Natural Heritage Program 2023). Extant populations occur on the Chubb River where there is a pond with marshy habitat and a stream nearby, and at a wetland near the Ausable River (New York Natural Heritage Program 2023, White *et al.* 2010).

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	~2,000 mi

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. Open Acidic Peatlands
2. Freshwater Marsh (associated with boggy ponds or streams)
3. Wet Meadow Shrub Swamp (associated with boggy ponds or streams)

Habitat or Community Type Trend in New York

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

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:

The species occurs in wetland habitats including bogs, fens, and marshes, and less often, ponds and lakes and moving water (Dunkle 2000). Known New York locations fit these descriptions being marshy areas associated with rivers, ponds, and wetlands (White *et al.* 2010).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	Choose an item.	Choose an item.	Yes	Yes	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):

Black meadowhawk adults have been observed from mid-July into October in Wisconsin (Wisconsin Odonata Survey 2009). New York State Dragonfly and Damselfly Survey (NYDDS) and pre-NYDDS records have been documented from 19 July through 11 September (New York Natural Heritage Program 2010) and Dunkle (2000) notes the flight season as mid-June through mid-November for North America (White *et al.* 2010).

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

Little published information is available citing specific cases of negative impacts to bog/fen odonates, but any activities which degrade the sensitive hydrology of these habitats would threaten populations of these species. Examples include peat mining, ditching, filling, eutrophication and changes in dissolved oxygen content, direct effects of pesticides (e.g. for mosquito control or from agricultural runoff), and increases in the sediment load of the wetland (such as might result should logging occur down to the wetland edge). Natural succession could also threaten some sites as shallow pools fill in with vegetation over time (Novak 2006).

The black meadowhawk was classified as “not vulnerable/presumed stable” to predicted climate change in an assessment of vulnerability conducted by the New York Natural Heritage Program. Available evidence does not suggest that abundance and/or range extent within the geographical area assessed with change (increase/decrease) substantially by 2050. Actual range boundaries may change (Schlesinger et al. 2011).

Threats to NY Populations	
Threat Category	Threat
1. Climate Change & Severe Weather	Habitat Shifting & Alteration
2. Climate Change & Severe Weather	Temperature Extremes
3. Pollution	Industrial & Military Effluents (acid rain, mercury)
4. Climate Change & Severe Weather	Droughts

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:

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 the authority to regulate smaller wetlands within the Adirondack Park.

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

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2006) includes recommendations for the following actions for odonates of bogs, fens, and ponds, and for the black meadowhawk in particular.

Habitat monitoring:

_____ Support and encourage habitat monitoring efforts that would complete the baseline assessment of habitat quality and threats.

Habitat research:

_____ Support and encourage research projects that will help define preferred habitat in order to guide future monitoring, restoration and habitat protection efforts.

New regulation:

_____ Recommendations for official state endangered, threatened, and special concern listing are an anticipated result of the statewide inventory. It is expected that at least a few species will be recommended for listing and officially adding these species to the list would constitute a specific action.

Population monitoring:

_____ Conduct surveys to obtain repeatable, relative abundance estimates for these species at known sites and newly discovered sites where access permission to conduct surveys is obtained (as indicated in the State Wildlife Grant Odonate Inventory Project).

Complete Conservation Actions table using IUCN conservation actions taxonomy at link below. Use headings 1-6 for Action Category (e.g., Land/Water Protection) and associated subcategories for Action (e.g., Site/Area Protection) -

<https://www.iucnredlist.org/resources/conservation-actions-classification-scheme>

Conservation Actions	
Action Category	Action
1. Land/Water Protection	Resource and habitat protection
2. Land/Water Protection	Site/area protection
3. Land/water management	Site/area management
4. Land/water management	Habitat & natural process restoration
5. Land/water management	Invasives/problematic species control
3. Education and Awareness	Awareness & Communications
3. Education and Awareness	Training
4. Law and Policy	Policies and Regulations

Table 3. Recommended conservation actions for black meadowhawk

VII. References

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