

Species Status Assessment

Common Name: Parnassia miner bee **Date Updated:** 2025-01-14
Scientific Name: *Andrena parnassiae* **Updated By:** Erin L. White
Class: Insecta
Family: Andrenidae

Species Synopsis

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

Andrena parnassiae is known from Manitoba, Canada as well as Wisconsin, Michigan, New York, Massachusetts, Connecticut, New Jersey, Vermont, and North Carolina (NatureServe 2025, DiscoverLife 2025, iNaturalist 2025).

The species is currently ranked an S2 based on rarity, trend, and threat information. The species was first documented in NY in 2023 and 2024, from fen habitats in Cortland, Dutchess, Livingston, and Tompkins Counties (iNaturalist 2025). It has not been previously known in NY.

Select host plants for *Andrena parnassiae* include: *Parnassia* L. (Fowler and Droege 2020). It is most likely to be found in fen habitats with these flowering grasses and wet meadows and shrub swamps.

I. Status

a. Current legal protected Status

i. **Federal:** Not Listed **Candidate:** No
ii. **New York:** Unprotected

b. Natural Heritage Program

i. **Global:** GNR
ii. **New York:** S2 **Tracked by NYNHP?** On Active Tracking List

Other Ranks:

-New York 2025 SGCN status: Species of Greatest Conservation Need
-COSEWIC: Not listed in Canada
-IUCN Red List: Not assessed by IUCN Red List
-Northeast Regional SGCN: Proposed RSGCN

Status Discussion:

The species is currently ranked an S2 based on rarity, trend, and threat information. It has been documented since 2023 in four counties in NY.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
North America	Yes	Unknown	Unknown	Unknown		
Northeastern US	Yes	Unknown	Unknown	Unknown		Proposed RSGCN
New York	Yes	Unknown	Unknown	Unknown	S1	Proposed
Connecticut	No	Unknown	Unknown	Unknown	S1	No
Massachusetts	Yes	Unknown	Unknown	Unknown		No
New Jersey	Yes	Unknown	Unknown	Unknown		No
Pennsylvania	No	-	-	-		
Vermont	No	Unknown	Unknown	Unknown	S2	No
Ontario	No	-	-	-		
Quebec	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 Empire State Native Pollinator Survey (ESNPS) was conducted from 2017-2021, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where they have been documented. Some regular monitoring may occur at protected sites that Heritage staff revisit if they occur on state properties, as part of OPRHP or State Lands inventory work.

Trends Discussion

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

The species was first documented in NY in 2023 and 2024, from fen habitats in Cortland, Dutchess, Livingston, and Tompkins Counties (iNaturalist 2025). It has not been previously known in NY.

Andrena parnassiae



Figure 11. *Andrena parnassiae* North American distribution (NatureServe 2025).



Figure 22. *Andrena parnassiae* distribution (DiscoverLife 2025).

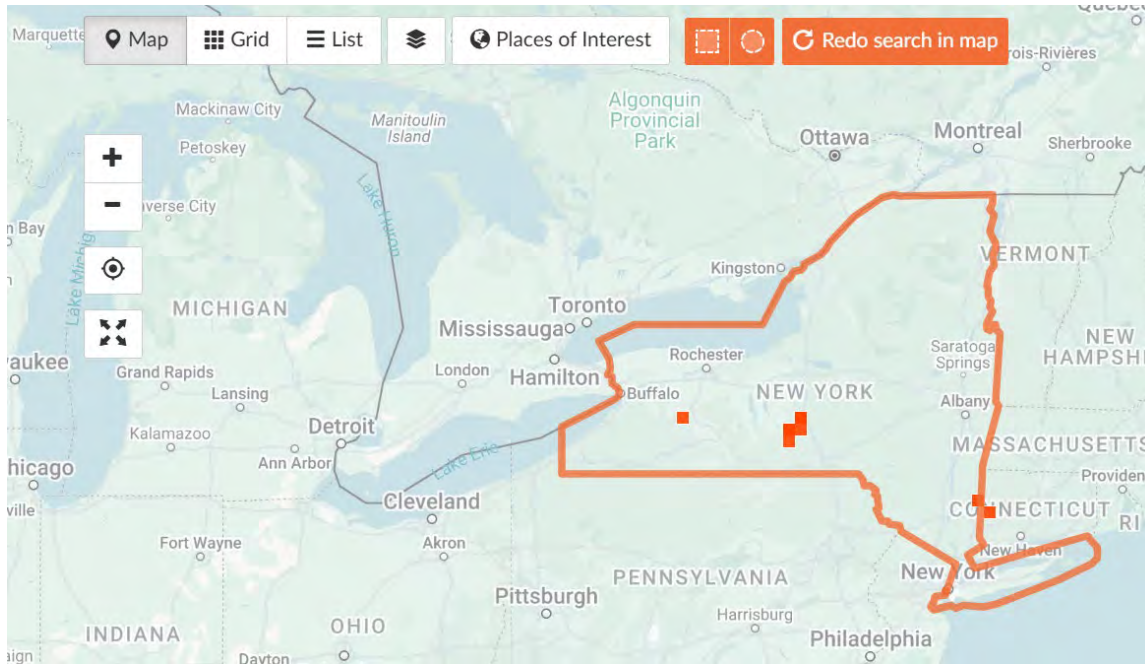


Figure 33. *Andrena parnassiae* NY distribution (iNaturalist 2025).

III. New York Rarity

(provide map, numbers, and percent of state occupied)

Years	Observations	# of Counties	% of counties in State
Pre-2000	0	0	0
2000-2023	5	4	6.5

Table 1. Number of observations of *Andrena parnassiae* grouped by the dates known to be extant (repeat observations (element occurrences) include the years spanning first observation to last observation) and the number and percent of total of counties these observations fall within for New York State.

Details of historic and current occurrence:

The first known records for this species in NY are from 2023. In 2023 and 2024, it has been documented in fen habitats in Cortland, Dutchess, Livingston, and Tompkins Counties (iNaturalist 2025).

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	~500 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):

Fen habitat with *Parnassia* sp.

Wet Meadow/Shrub Swamp

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/ Community Trend	Time frame of Decline/ Increase
Yes	Unknown	Unknown	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:

Select host plants for *Andrena parnassiae* include: *Parnassia* L. (Fowler and Droege 2020). It is most likely to be found in fen habitats with these flowering grasses and Wet Meadows and Shrub Swamps.

V. Species Demographics and Life History

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

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):

Andrena parnassiae has been observed in August-September (Fowler and Droege 2020).

VI. Threats

Threats facing *Andrena parnassiae* and other ground-nesting bees include habitat loss and degradation, invasive plants and pathogens, pesticides, and climate change (White et al. 2022). Kammerer et al. (2020) found that warmer winters will result in fewer bees and solitary bees are more sensitive to drought conditions, which are predicted in the Northeast as a result of climate change.

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	3.2 Mining & Quarrying		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
4. Transportation & Service Corridors	4.1 Roads & Railroads		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.2 Terrestrial plants	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.4 Pathogens		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.3 Agricultural & Forestry Effluents	9.3.3 Herbicides & pesticides	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.1 Habitat Shifting & Alteration	(warmer winters, fewer bees)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.4 Changes in Precipitation & Hydrological Regimes	11.4.2 Droughts (solitary bees more sensitive to drought)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Andrena parnassiae*

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:

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:

Any efforts to protect wild bee populations from pathogen exposure would benefit this species. Suggested actions would include using mesh to prevent escape of bees from commercial breeding greenhouses, proper disposal of commercial bees, sanitation in greenhouses, and development of molecular screening. Tight restrictions on importing bees and elimination of parasites from commercial populations has been suggested as ideal (Meeus et al. 2011, Schweitzer et al. 2012). Limiting exposure of this bee to insecticides would also benefit them. Suggested actions include avoidance of application to flowers that bees are attracted to and application of solutions or soluble powders (rather than dusts or wettable powders) to the ground in calm wind and warmer temperatures during periods of dewless nights to minimize the impact to resident native bee populations (Schweitzer et al. 2012). Organic farming has also been suggested to benefit native bees. Ensuring habitat resources for foraging, nesting, and overwintering will also benefit *Andrena parnassiae*. These habitats should be within close proximity to each other and without road or railroads between them, which have been suggested as potential barriers to dispersal. Suggested actions for habitat management should include ensuring nectar availability throughout the spring and summer by improving flower abundance and species richness and species with overlapping blooms. Select food plants for *Andrena parnassiae* include *Parnassia* L. (Fowler and Droege 2020). If mowing of fields occurs, summer is the best time and mower blades should be raised to avoid ground nests. Staggering cutting times in different field areas will ensure nectaring sources are always available. Increasing available nesting habitat may be accomplished by reducing tillage in fields or leaving unplowed strips vegetated, or even providing artificial nesting boxes. Managing for rodents and ground-nesting birds should also benefit native ground-nesting bees (Schweitzer et al. 2012).

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

Action Category	Action	Description
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
C.6 Design and Plan Conservation	C.6.5.1.3 Develop 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	
C.7 Legislative and Regulatory Framework or Tools	C.7.2.1.0 Create or amend policies	
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 3. Recommended conservation actions for *Andrena braccata*.

VII. References

This SSA drew heavily from these resources:

New York Natural Heritage Program, State University of New York College of Environmental Science and Forestry. 2023. Element Occurrence and Element Dataset. Albany, New York. [Exported 12/14/2023].

NatureServe. 2023. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. [Accessed 12/14/2023 and 1/14/2025].

Additional references:

DiscoverLife. 2025. Online. Available at: <http://www.discoverlife.org/> [Accessed January 14, 2025].

Gawler, S.C. 2008. Northeastern Terrestrial Wildlife Habitat Classification. NatureServe, Boston, MA.

iNaturalist. Available from <https://www.inaturalist.org>. Accessed January 14, 2025.

IUCN 2025. IUCN Red List of Threatened Species. Version 2023.1. <www.iucnredlist.org>. Accessed 14 January 2025.

Fowler, J. and S. Droege. 2020. Pollen specialist bees of the eastern United States. Available at: https://jarrodowler.com/specialist_bees.html [Accessed January 14, 2025].

Kammerer, M., Goslee, S.C., Douglas, M.R., Tooker, J.F. and Grozinger, C.M., 2021. Wild bees as winners and losers: Relative impacts of landscape composition, quality, and climate. *Global change biology*, 27(6), pp.1250-1265.

Meeus, I., M. J. F. Brown, D. C. De Graaf, and G. Smagghe. 2011. Effects of invasive parasites on bumble bee declines. *Conservation Biology* 25(4):662–671.

Northeast Fish and Wildlife Diversity. 2024. Regional Species of Greatest Conservation Need (2024). <https://northeastwildlifediversity.org/rsgcn>. Accessed January 14, 2025.

Schweitzer, D.F., N.A. Capuano, B.E. Young and S.R. Colla. 2012. Conservation and management of North American bumble bees. NatureServe, Arlington, Virginia, and USDA Forest Service, Washington, D.C. 17 pp.

White, Erin L., Matthew D. Schlesinger, and Timothy G. Howard. 2022. The Empire State Native Pollinator Survey (2017-2021). New York Natural Heritage Program. Albany, NY.

Originally prepared by	Erin L. White
Date first prepared	January 14, 2025
First revision	
Last revision	