Species Status Assessment

Common Name: Appalachian grizzled skipper **Date Updated:** March 5, 2025

Scientific Name: *Pyrgus centaureae wyandot* **Updated By:** Annie Stupik

Class: Insecta

Family: Hesperiidae

Species Synopsis

The Appalachian grizzled skipper is currently considered by some to be a subspecies of *Pyrgus centaureae*, though its taxonomic classification is uncertain and subject to change with further research (Pohl et al. 2010, NatureServe 2025). Schweitzer et al. (2018) considered *P. centaureae* to be a distinct species from *P. wyandot*, noting differences in genitalia, color patterns, and habitat. In this assessment, we refer to *P. centaureae wyandot* as a subspecies of *P. centaureae* (Integrated Taxonomic Information System 2025). It is the only subspecies of *P. centaureae* to have occurred in New York. This subspecies is univoltine, producing one generation per year typically in early spring.

Its preferred habitat is rocky outcrops or forest openings created by natural disturbance (Schweitzer et al. 2018). It also occurs in other patches with early successional growth such as pastures or powerlines. Documented host plant species range wide include wild strawberry (*Fragaria virginiana*), dwarf cinquefoil (*Potentilla canadensis*) (Schweitzer et al. 2018).

Along with the parent species *Pyrgus centaureae*, it is highly vulnerable to pesticides used for spongy moth control, which has caused significant declines throughout its historic range (Schweitzer et al. 2018). The last records of this species in New York was in 1970 from Tioga and Tompkins counties (New York Natural Heritage Program 2022).

I. Status

a. Current legal protected Status

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

ii. **New York:** Endangered

b. Natural Heritage Program

i. **Global:** G5T1T2

ii. **New York:** SH **Tracked by NYNHP?:** Yes

Other Ranks:

- NYS 2025 SGCN Status: SGCN
- Northeast Regional SGCN: RSGCN
- IUCN Red List: Not listed

Status Discussion:

P. centaureae wyandot is considered historic in New York, New Jersey, and currently persists as fragmented colonies across southern Pennsylvania, Virginia, Maryland, Michigan, and North Carolina (NatureServe 2025). As of 2002, there was one colony remaining in Ohio (Parshall 2002) but its current status is unknown.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Declining	Declining			(blank)
Northeastern US	Yes	Declining	Declining			Yes
New York	Unknown	Extirpated	Extirpated	Since 1970s	Endangered; presumed extirpated	Yes
Connecticut	No	N/A	N/A			Choose an item.
Massachusetts	No	N/A	N/A			Choose an item.
New Jersey	Unknown	Extirpated	Extirpated	Since 1950s	Endangered; presumed extirpated	Yes
Pennsylvania	Yes	Declining	Declining	Since 1985		Yes
Vermont	No	N/A	N/A			No
Ontario	No	N/A	N/A			No
Quebec	No	N/A	N/A			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

New York Natural Heritage Program (NYNHP) conducted surveys targeting *P. centaureae wyandot* in the spring of 2022, 2023, and 2024. NYNHP visited historical occurrence sites in addition to other areas containing suitable habitat (barrens communities with shrubland, grassland, and wooded areas over limestone bedrock). *P. centaureae wyandot* was not observed in these search efforts. Future lepidoptera survey work will include document any incidental observation of this species (NYNHP 2024).

Trends Discussion:

P. centaureae wyandot was once a common species in all suitable habitat locations throughout the Appalachian Mountains (Schweitzer et al. 2018). Pesticide application for spongy moth (*Lymantria dispar*) has caused significant declines throughout its range, resulting in extirpations of many populations (Schweitzer et al. 2018, Parshall 2002, NatureServe 2025). Few colonies remain in the core of its range in the Appalachians (Schweitzer et al. 2018).

Long term trends estimate a decline of greater than 80-90% due to spongy moth pesticide applications, vegetative succession resulting in loss of host plant species, and drought (NatureServe 2025).

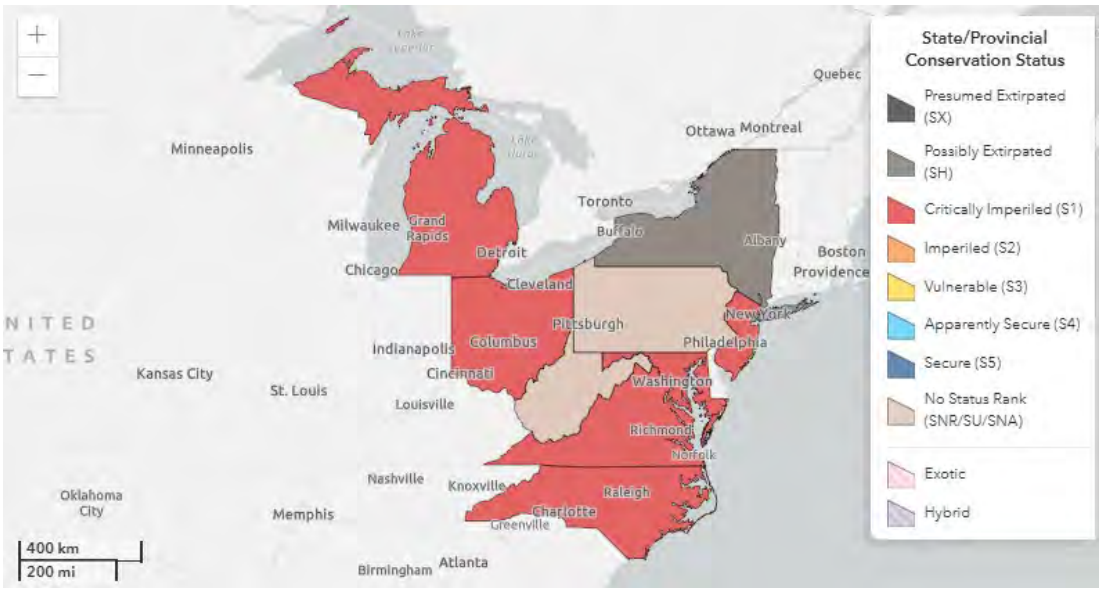

Figure 1. *P. centaureae wyandot* status in the eastern United States (NatureServe 2025).

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

The last record of this species in New York was in 1970 from Tioga and Tompkins counties (New York Natural Heritage Program 2022). The species was documented in Orange County near the Appalachian Trail in 1942 and in Wilmington Notch, Essex County in an unknown year (New York Natural Heritage Program 2024).

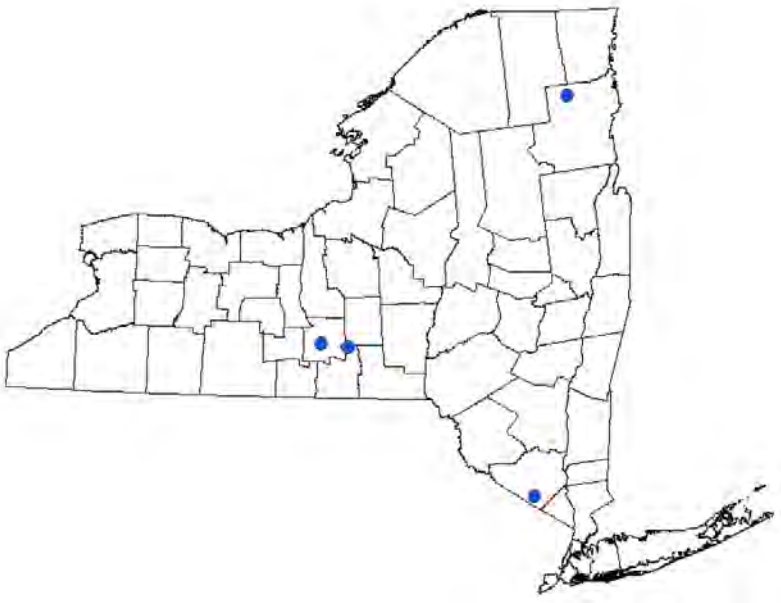

Figure 2: Known historic locations of *P. centaureae wyandot* in New York (NYNHP 2024).

Years	# of Records	# of Distinct Waterbodies/Locations	% of State
Pre-2000	4	4	0-5%
2000- 2023			

Table 1. Records of *P. centaureae wyandot* in New York.

Details of historic and current occurrence:

Despite recent search efforts, there are no current occurrence records for this species in New York.

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):*

a. Rocky outcrop

b. Powerline

c. Pasture/Hay

d. Oak forest

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Pollinator Species?	Habitat/ Community Trend	Time frame of Decline/Increase
Yes	No	Choose an item.	Choose an item.	

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

Habitat Discussion:

P. centaureae wyandot habitat consists of rocky outcrops, including trap rock glades and shale barrens. It also occupies early successional habitats (disturbed or naturally occurring) such as oak woods, pastures, and powerlines, if there is bare rock present (Schweitzer et al. 2018, NatureServe2025). While not currently found in New York, alvar pavement barrens -- grass and forb vegetation on limestone bedrock -- found in the Great Lakes region are considered suitable habitat (NYNHP 2025). Documented host plants for larvae include wild strawberry (*Fragaria virginiana*) and dwarf cinquefoil (*Potentilla canadensis*) (Schweitzer et al. 2018). Adults use flowers from a variety of plants for nectar.

V. Species Demographic, and Life History:

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

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

P. centaureae wyandot has one generation; adults typically emerge in early to mid-spring (Schweitzer et al. 2018, Parshall 2002). The larval period is approximately 100 days, beginning at the end of the adult season, and larvae remain on food plants at all hours (NatureServe 2013). Larvae build a leaf shelter to pupate in late summer and overwinter as pupae (Parshall 2002).

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

The primary reason for the decline of *P. centaureae wyandot* throughout its range is pesticide application for spongy moths. Most populations have been extirpated or eliminated in the Appalachians (Schweitzer et al. 2018, NatureServe 2025). Climate change has also affected this species; drought is believed to have reduced host plant populations in some parts of its range (Schweitzer et al. 2018). As its primary food plants occur in early successional habitat, vegetative succession due to fire suppression or other factors is also a threat (Schweitzer et al. 2018, NatureServe 2025). Vegetative succession was likely the cause of its extirpation in New York (Schweitzer et al. 2011).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent*	Severity*	Immediacy*	Trend	Certainty
11. Climate Change	11.4 Changes in Precipitation & Hydrological Regimes	11.4.2 Droughts	Restricted	Unknown	Long-term	Unknown	Unknown
9. Pollution	-	-	Unknown	Unknown	Unknown	Unknown	Unknown
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.1 Terrestrial animals Pesticide for spongy moth	Pervasive	Extreme	Long-term	Unknown	Unknown
7. Natural System Modifications	7.3 Other Ecosystem Modifications	7.3.2 Vegetation succession	Large	Unknown	Unknown	Unknown	Unknown
6. Human Intrusions & Disturbance	-	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	7.3.2 Vegetation succession	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *P. centaureae wyandot.*

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:

P. centaureae wyandot is listed as an endangered species in New York and is protected by Environmental Conservation Law (ECL) section 11-0535 and the New York Code of Rules and Regulations (6 NYCRR Part 182). A permit is required for any proposed project that may result in a take of a species listed as Threatened or Endangered, including, but not limited to, actions that may kill or harm individual animals or result in the adverse modification, degradation or destruction of habitat occupied by the listed species.

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

Conservation actions following IUCN taxonomy are categorized in the table.

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

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct Habitat Management	Maintenance and Establishment of early successional habitat
A.2 Direct Species Management	A.2.0.0.0 Direct Species Management	Invasive Species Control
B.3 Outreach	B.3.0.0.0 Outreach	Awareness & Communications
C.6 Design and Plan Conservation	C.6.0.0.0 Design and Plan Conservation	Site/Area Protection
C.7 Legislative and Regulatory Framework or Tools	C.7.0.0.0 Legislative and Regulatory Framework or Tools	Policies and Regulations
C.8 Research and Monitoring	C.8.1.5.1 Species Monitoring	Monitoring
C.9 Education and Training	C.9.0.0.0 Education and Training	Training

Table 3. Recommended conservation actions for *P. centaureae wyandot.*

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for other butterflies, and for the Appalachian grizzled skipper in particular.

Fact sheet:

____ Develop fact sheets and other outreach material to educate the public about species at risk Lepidoptera.

Habitat management:

____ Determine best management regimes for species in each locality.

Habitat research:

____ Determine precise habitat needs of all life stages.
____ Ascertain food plants.
____ Determine the relationship between food availability and species numbers.

Invasive species control:

____ Identify species which impact negatively on butterfly populations.
____ Determine the best control method for those exotic species with minimal repercussions for butterfly populations.

Life history research:

____ Investigate the metapopulation dynamics of those species which appear to have distinct populations.
____ Establish the duration of all life stages.
____ Taxonomic research for related species.

Other action:

____ Determine the actual sensitivity of species to chemical formulations, particularly diflubenzuron and other commonly used agricultural pesticides.
____ Determine the effect of Bacillus thuringiensis kurstaki (BTK) used in Gypsy moth sprayings on various species.

Population monitoring:

____ Inventory of species within historical range.

Statewide baseline survey:

____ Survey all species to more adequately define the list of species that need to be addressed.

VII. References

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