Species Status Assessment

Common Name:	Faded Gray Geometer	**Date Updated:**	2025-02-07
Scientific Name:	*Stenoporpia polygrammaria*	**Updated By:**	Hollie Shaw
Class:	Insecta		
Family:	Geometridae		

Species Synopsis

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

Stenoporpia polygrammaria has a wingspan of 30mm – 40 mm. The forewing and hind wing are whitish to gray and is peppered with dark gray and brownish-gray scales. The outer margin of the forewing is scalloped with a black to brownish-black terminal line. Wing fringes are white. The head, thorax, and abdomen are similar to the wing patterns (whitish to gray and peppered with dark gray scales). It resembles *Anavitrinella pampinaria* (Common Gray) except Common Gray is smaller and darker (Nelson 2020).

The historical range is not completely known. *S. polygrammaria* occurs from southeastern Saskatchewan, southern Manitoba, and Ontario in Canada. In the Unites States, the range extends from northern Wisconsin to coastal Maine, Massachusetts, south to Georgina, Arkansas and Northern Carolina. There are not many specimens, and this species is not known from several states where they would be assumed to be present (e.g. New Jersey and Connecticut) (NatureServe 2025). It is rare and locally distributed throughout its range (Nelson 2020).

Recent trends are unknown. Long term trends indicate that this species has nearly disappeared in the eastern portions of its range in the United States. Reasons for the decline are unknown (NatureServe 2025).

S. polygrammaria is typically found in barrens and woodlands with oak species (food plant) present. On Martha's Vineyard it is typically found in pitch pine-bear oak barrens (Wagner et al. 2001). Larval food plants include several species of the oak family, such as, *Quercus ilicifolia* (scrub oak), *Q. macrocarpa* (burr oak), *Q. alba* (white oak), and *Q. rubra* (red oak) (Mass Moths 2025). There have been reports of *Galium* spp., but those are likely incorrect (Schweitzer et al. 2018).

I. Status

a. Current legal protected Status

i. Federal: not protected **Candidate:** no

ii. New York: Unprotected

b. Natural Heritage Program

i. Global: GU

ii. New York: S1 **Tracked by NYNHP?** On Active Tracking List

Other Ranks:

NYS 2025 SGCN Status: HPSGCN

COSEWIC: Not listed in Canada
IUCN Red List: Not assessed by IUCN Red List
Northeast Regional SGCN: Not listed

Status Discussion:

S. polygrammaria is considered critically imperiled in New York and is ranked S1 (New York Natural Heritage Program 2025). It was first documented in the state in 2012 and has not been found since then. However, experts believe there is a population in Jefferson County and possible elsewhere (H. McGuinness, personal communication, January 7, 2025).

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
North America	Yes	Unknown	Unknown	Unknown		
Northeastern US	Yes	Unknown	Unknown	Unknown		
New York	Yes	Unknown	Unknown	Unknown	S1	proposed
Connecticut	No	-	-	-		
Massachusetts	No	Unknown	Unknown	Unknown	S1	
New Jersey	No	-	-	-		
Pennsylvania	No	-	-	-		
Vermont	No	-	-	-		

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
Ontario	No	Unknown	Unknown	Unknown	SU	
Quebec	No	Unknown	Unknown	Unknown	SNR	

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):

Trends Discussion

Recent trends are unknown. Long term trends indicate that this species has nearly disappeared in the eastern portions of its range in the United States. Reasons for the decline are unknown (NatureServe 2025). The closest records are from Ontario (north of Barrie) (iNaturalist 2025) and Massachusetts (Nelson 2020).

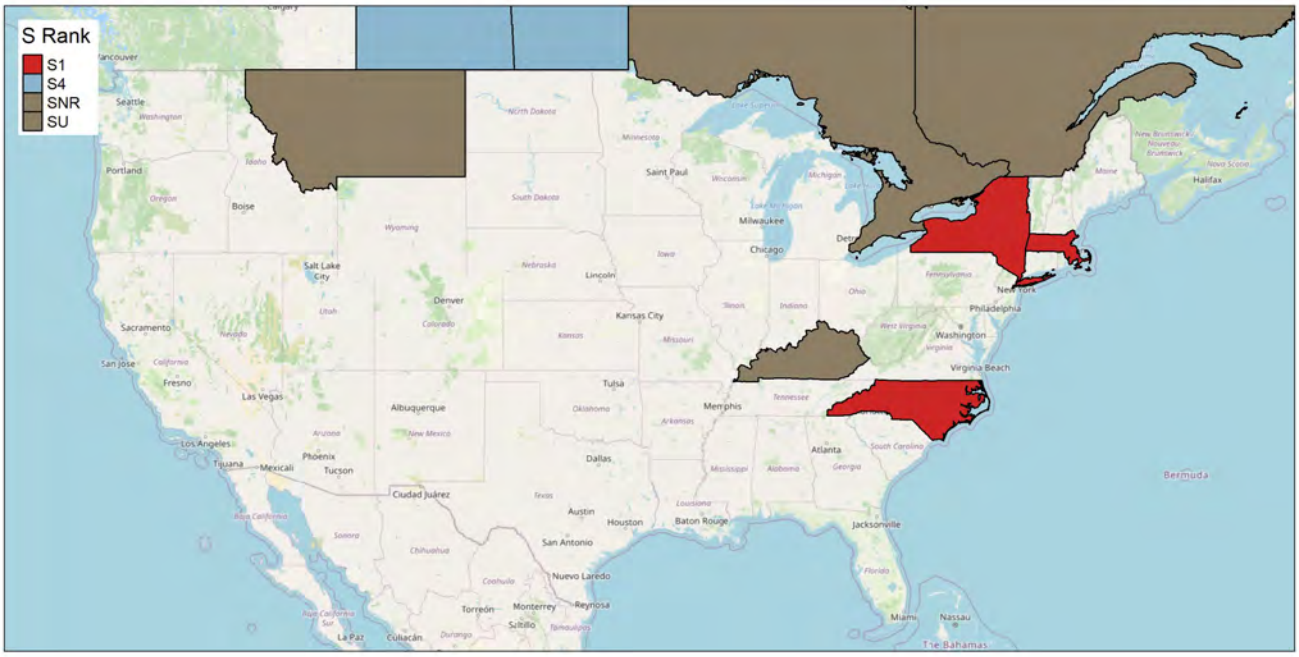

Figure 1. *Stenoporpia polygrammaria* North American distribution. Points show research-grade iNaturalist observations.

Figure 2. *Stenoporpia polygrammaria* regional distribution as reported at https://northeastwildlifediversity.org/rsgcn .

III. New York Rarity

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

Figure 3. NYS distribution for *Stenoporpia polygrammaria* based on element occurrence data.

Years	eo count	# of Counties	% of counties in State
Pre-2000	0	0	0.0
2000-2023	1	1	1.6

Table 1. Number of observations of *Stenoporpia polygrammaria* 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:

There are no known historical records in New York. This species was found at Fort Drum in 2012 during a Natural Heritage inventory field survey (New York Natural Heritage Program 2025). Hugh McGuinness (personal communication, January 7, 2025) believes there is a population at the site and there are likely more in the state. The first record in Massachusetts is from 1956 and is a state threatened species (Nelson 2020, Mass Moths 2025).

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):

Barrens habitats or oak woodlands.

Habitat or Community Type Trend in New York

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

S. polygrammaria is typically found in barrens and woodland with oak species (food plant) present. On Martha's Vineyard it is typically found in pitch pine-bear oak barrens (Wagner et al. 2001). Larval food plants include several species of the oak family, such as, *Quercus ilicifolia* (scrub oak), *Q. macrocarpa* (burr oak), *Q. alba* (white oak), and *Q. rubra* (red oak) (Mass Moths

2025). There have been reports of *Galium* spp., but those are likely incorrect (Schweitzer et al. 2018).

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):

In Massachusetts, adults have been observed between June 8 and July 1 (Mass Moths 2025). They are generally thought to be present from June to early July (Nelson 2020). There are two broods in the more southern portion of its range (North Carolina and, most likely, Kentucky) (Schweitzer et al 2018). Larvae feed on oaks and are typically fully grown by August or early September. The pupa overwinters underground (Nelson 2020).

VI. Threats

Threats include fire suppression, introduction of generalist parasitoids, insecticides, non-targeted herbicide use, and light pollution (Mass Moths 2025). Severe Spongy Moth (*Lymantria dispar*) infestations that cause extreme oak defoliation could eliminate the larval food plants (Schweitzer et al. 2018). Invasive species can alter the habitat. Climate change may impact the population.

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
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.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.1 Terrestrial animals (generalist parasitoids and spongy moth)	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	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Stenoporpia polygrammaria.*

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:

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

Additional surveys are needed to determine the occupied area in Jefferson County and in other areas with suitable habitat.

The best management strategy for this species is the management of the natural community, or habitat, where this species occurs. If populations occur in pine barrens habitats, maintaining the full suite of plant and animal species requires frequent (every few decades) disturbance to maintain open-canopy, shrub-dominated communities and to prevent succession to a closed-canopy hardwood forest (Jordan et al. 2003). Researchers have determined that "an active fire management program utilizing prescribed fire with appropriate mechanical treatments" is the preferred method (Jordan et al. 2003). Researchers have also determined that the size, type, intensity, and timing of fires (pyrodiversity) needs to be evaluated for each site to maximize benefits to the natural community and the species it supports (Jordan et al. 2003). The entire occupied habitat for a population should not be burned in a single year. For example, in places where prescribed burning is used, refugia (unburned areas) are needed for many species to ensure that any life stage can survive a fire.

In addition, minimizing lighting to maintain dark sky conditions would be beneficial. When lighting is necessary, it's best to use lights that emit red or yellow light because insects are generally not attracted to those colors. However, many sodium lights, which emit yellow light, are so bright that they do attract some insects. The best lighting appears to be low pressure sodium lights which have little effect on flying insects (Schweitzer et al. 2018).

Insecticide use should be avoided when possible if rare species are present. When insecticide use cannot be avoided, careful planning along with consistent rare species monitoring, can result in successful eradication of the target species without eliminating rare species. Attempt to control spongy moth populations to avoid extreme oak defoliation. A biocontrol alternative is *Bacillus thuringiensis* (Btk) for some target species, such as spongy moths. Sensitivity varies between species, and it appears that most species are not sensitive to Btk approximately two weeks post-application. There are two other spongy moth biocontrols that appear to be very effective at eliminating or slowing the spread of spongy moths with little effect on non-target species: Gypchek (Reardon et al. 2016) and *Entomophaga maimaiga* (a fungus). E. maimaiga was introduced in 1910 and 1911 and was rediscovered in 1989 in the northeast it can be highly variable (Shelton 2025).

Measures should be taken to reduce the spread of invasive species, such as, cleaning equipment before and after entering a site. Manage occupied sites to increase resiliency to help mitigate climate change.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct Habitat Management	Site Management
A.2 Direct Species Management	A.2.0.0.0 Direct Species Management	Invasive/problematic species control
B.3 Outreach	B.3.0.0.0 Outreach	Awareness and Communications
C.6 Design and Plan Conservation	C.6.0.0.0 Design and Plan Conservation	Site/Area Protection
C.6 Design and Plan Conservation	C.6.0.0.0 Design and Plan Conservation	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.7.0.0.0 Legislative and Regulatory Framework or Tools	Policies and Regulations
C.9 Education and Training	C.9.0.0.0 Education and training	Training

Table 3. Recommended conservation actions for *Stenoporpia polygrammaria*.

VII. References

This SSA drew heavily from these resources:

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