Species Status Assessment

Common Name: Marsh fern moth **Date Updated:** March 2025

Scientific Name: *Fagitana littera* **Minor Edits by:** NYSDEC Wildlife Section

Class: Insecta

Family: Noctuidae

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

Information on the biology of the marsh fern moth is incomplete. This species inhabits open/shrubby marsh areas, acidic bogs/calcareous fens, and wet meadow areas. The marsh fern moth is distributed from Nova Scotia, Ottawa, Adirondacks, New York, westward to Wisconsin and southward to North Carolina (NYSDEC 2013). The larval foodplant for this species has been reported as marsh fern (*Thelypteris palustris*) and Virginia chain fern (*Woodwardia virginica*). Short and long-term population trends for this species are unknown. In the 1950s this species was affected by DDT spraying, which is thought to have extirpated some populations. Since the ban of DDT use, it is thought that populations should have had adequate time to recover, which recent records suggest. This species has re-colonized habitats in New Jersey; it is likely that populations have also rebounded on Long Island (Wagner et al. 2008, NatureServe 2012).

DEC is not aware of any additional data or new information on population trends or threats to this species since the last SWAP revision in 2015. This species was listed as SPCN in 2015, but with the removal of this status in the 2025 revision it has been changed to SGCN.

I. Status

a. Current legal protected Status

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

ii. **New York:** Not listed

b. Natural Heritage Program

i. **Global:** G4

ii. **New York:** S1S3 **Tracked by NYNHP?:** Yes

Other Ranks:

-NYS 2025 SGCN Status: SGCN

-IUCN Red List: N/A

-Northeast Regional SGCN: N/A

Status Discussion:

The marsh fern moth was affected by habitat loss and DDT spraying in the 1950s. Since the ban of DDT spraying, adequate time has passed to allow populations to recover, which is shown by recent records from Long Island, NY and the re-colonization of habitats in New Jersey (New York Natural Heritage Program 2011). This species is listed as possibly extirpated in Pennsylvania;

critically imperiled in Indiana; imperiled in New York and Quebec, Canada; and Vulnerable in Massachusetts (NatureServe 2012).

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Stable	Stable			-
Northeastern US	Yes	Unknown	Unknown			-
New York	Yes	Unknown	Unknown			Yes
Connecticut	No	-	-			-
Massachusetts	No data	-	-			-
New Jersey	No data	-	-			-
Pennsylvania	No data	-	-			-
Vermont	No	-	-			-
Ontario	No data	-	-	1954		-
Quebec	Yes	Unknown	Unknown			-

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

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

The short term population trend for the marsh fern moth is unknown. Historically this species suffered a population decline from DDT spraying; however, decades have passed since the use of DDT and populations should have had enough time to recover (New York Natural Heritage Program 2011). This species is ranges from Maine to the Adirondacks, New York, Ottawa, Canada, west to Wisconsin, and southward to North Carolina along the Atlantic Coast (NYSDEC 2013).

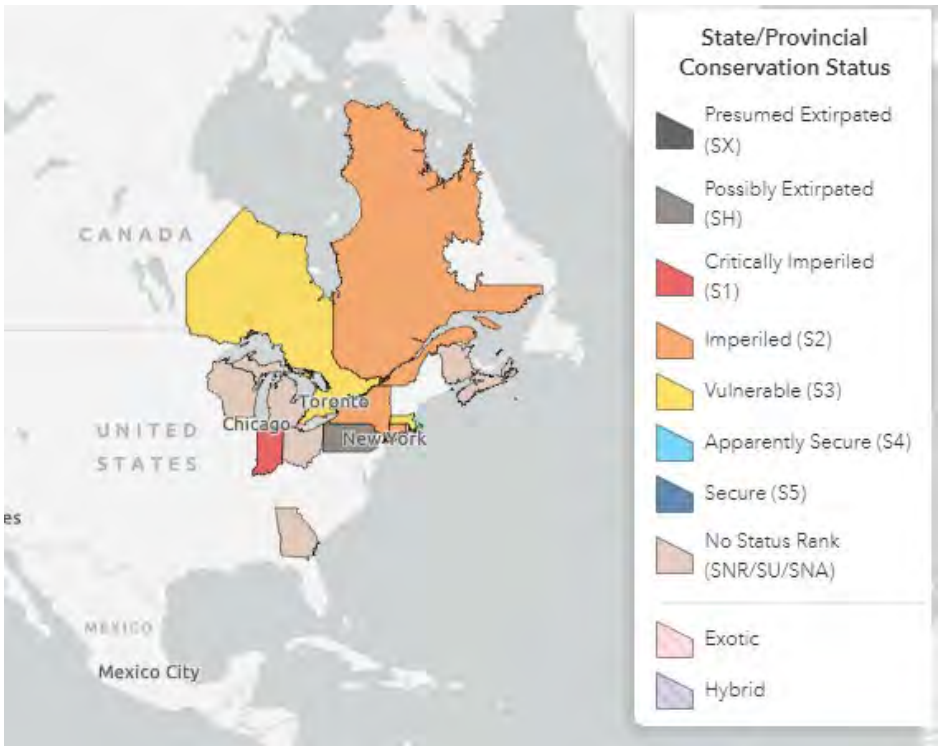


Figure 1. Conservation status of *Fagitana littera* in North America (NatureServe 2024).

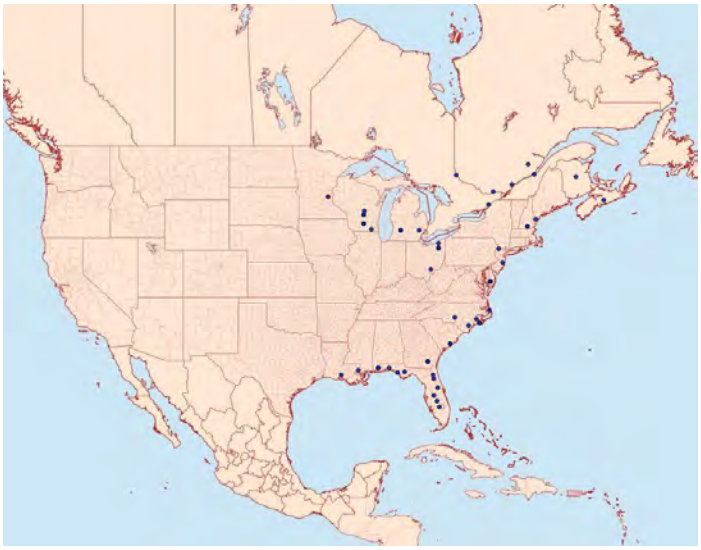
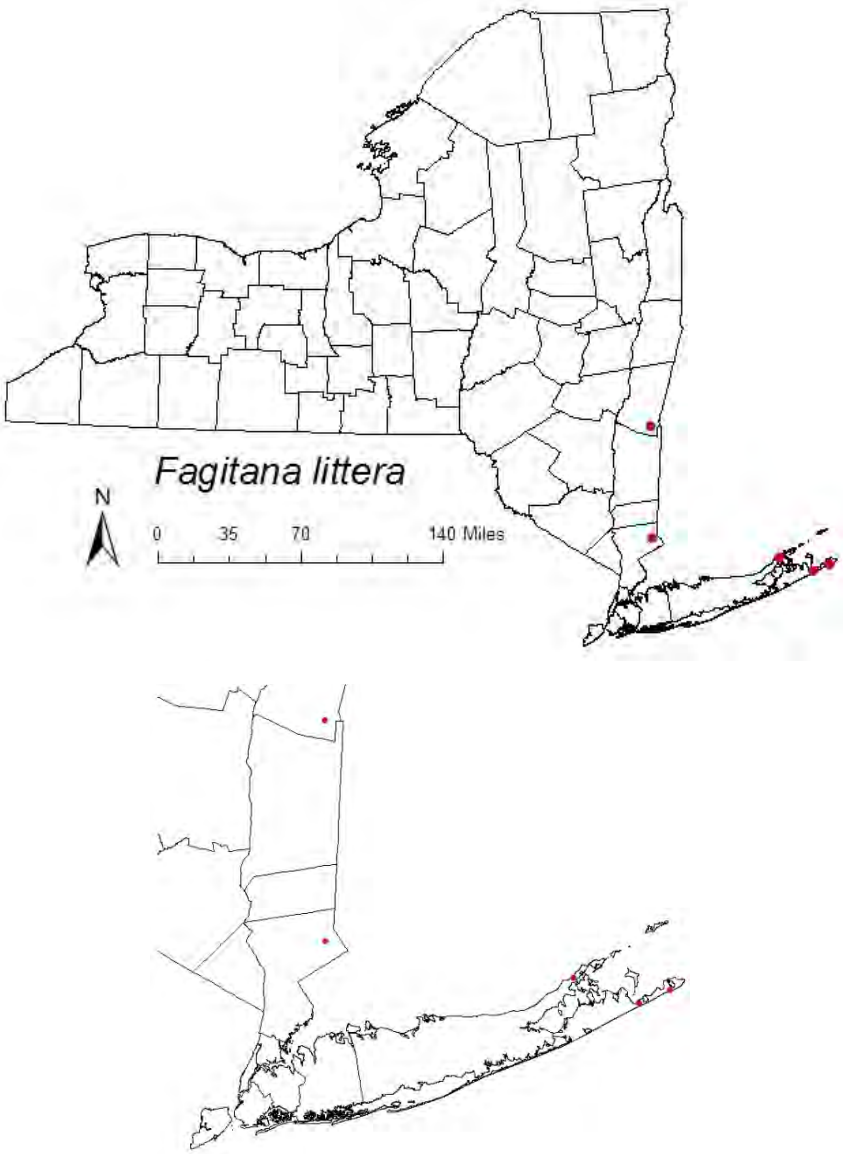


Figure 2. States and provinces with current records of occurrence of *F*. littera. Map data is collected from museum specimens and photographs. Some records may not be represents (North American Moth Photographers Group 2012).

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



Figures 3 and 4. Occurrence locations of *Fagitana littera* in New York (New York Natural Heritage Program 2013). Map created by Shawn Ferdinand.

Details of historic and current occurrence:

A specimen was collected in Centre, Albany County 1907 (New York State Museum 1907). Additional historic occurrences of this moth were reported in Rye, Westchester County, Poughkeepsie, Dutchess County, and the Adirondacks (Leonard 1928). This moth was captured at Drowned Woods Swamp, Columbia County in 1989.

This moth was captured at Shadmoor State Park and Napeague State Park, Suffolk County in 2007. Specimens were also observed in Ward Pound Park, Westchester County, in 2007. The most recent capture of four males was in Arshamomaque Preserve, Suffolk County in 2012 (New York Natural Heritage Program 2013).

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. Open Acidic Peatlands

b. Open Alkaline Peatlands

c. Freshwater Marsh

d. Wet Meadows/Shrub Swamp

Habitat or Community Type Trend in New York

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

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:

The marsh fern moth inhabits un-forested wetlands including costal bogs, shrub swamps and marshes. In New Jersey, this species has been found in wet power lines and wet open pinelands in New Jersey. This species can be found primarily bogs in Ohio and open/shrubby wetlands in Wisconsin (Rings et al. 1992, Ferge and Balogh 2000). In New York, this species has been recorded in open to shrubby wetlands, wet meadows and acidic bogs/ calcareous fens (New York Natural Heritage Program 2013).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/ Catadromous?
Yes	-	-	Yes	Yes	-

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):*

The flight season of adults is from June to early July with the larvae occurring after the adults. There are two color forms of the larvae, a bright green and a cinnamon. It is though that cinnamon form occurs when larval densities are high, foliage quality is poor, or caterpillars are experiencing stress (Wagner et al. 2008). Larvae pupate in less than a month. Larval hostplants are thought to be marsh fern (*Thelypteris palustris*), Virginia chain fern (*Woodwardia virginica*), bracken fern (*Pteridum aquilinum*), and royal fern (*Osmunda regalis*) (NYSDEC 2013).

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

Recent threats to this species are invasive plants such as purple loosestrife (Lythrum salicaria) and common reed (Phragmites australis) (New York Natural Heritage Program 2011). General threats identified to affect moths include habitat loss and degradation caused by development; habitat fragmentation; alteration of natural fire regimes; natural succession of shrubland, woodland, and barrens habitats; land clearing; coastal erosion; and sea level rise. Past use of chemical biocides to control gypsy moth and other pest insects continues to kill native Lepidoptera (Schweitzer 2004). Introduced parasitoid flies have been known to negatively affect native Lepidoptera (Boettner et al. 2000). Other threats may include light pollution affecting reproductive success, over grazing of host plants by wild deer populations, and off-road vehicle use (NYSDEC 2005).

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	(phragmites)	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.

Table 2. Threats to *Fagitana littera.*

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

Yes: _____ **No:** _X_ **Unknown:** _____

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

This species was collected in two state parks, a county park and a nature preserve. All of these locations are protected from development.

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

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.7 Legislative and Regulatory Framework or Tools	C.7.0.0.0 Legislative and Regulatory Framework or Tools	Policies and Regulations

Table 3. Recommended conservation actions for *Fagitana littera* (add more lines as needed).

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for other moths, and for *Fagitana littera* in particular.

Easement acquisition:

____ Where appropriate, acquire easements to promote moth protection and conservation.

Fact sheet:

____ Create fact sheets covering moths.

Habitat management:

____ Determine best management regime for moth species, including fire and other forms of management.

Habitat monitoring:

____ Develop standardized measures of habitat parameters for each species of listed moth.
____ Investigate threats to food and host plants.
____ Monitor land development projects.

Habitat research:

____ Examine role of light pollution as threat to moths.
____ Determine host/ food plant.

Life history research:

____ Investigate the metapopulation dynamics of those species which warrant it.
____ Examine role of introduced parasites and predators in threats to moths.

Other action:

____ Develop standard definition of what is needed for "viable" populations of moths.
____ Research the role of pesticide use in threats to moths.

Population monitoring:

____ Inventory of species within historical range.
____ Develop standardized survey protocols for moths.

Private fee acquisition:

____ Where appropriate, encourage/assist private entities to acquire land for moth protection and conservation.

State fee acquisition:

____ Where appropriate, acquire land essential to moth protection and conservation.

State land unit management plan:

____ Incorporate needs of moths into state land management plans.

VII. References

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Last revision	