Species Status Assessment

Common Name: Coastal heathland cutworm **Date Updated:** Dec. 18, 2023

Scientific Name: *Abagrotis benjamini*

(formerly *Abagrotis nefascia benjamini*) **Updated By:** Hollie Shaw

Class: Insecta

Family: Noctuidae

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

The coastal heathland cutworm moth (*Abagrotis benjamini*) was elevated to species status after morphological and preliminary barcode analyses (Goldstein and Nelson 2017). It was previously considered a subspecies of *Abargotis nefascia* which has a core population over 2000 miles away in the western United States.

The distribution extends from New Brunswick, Canada to Cape Cod and offshore islands west to Plymouth, Massachusetts, and includes eastern Long Island and an offshore island in New York in the United States. In the early 1900s, it also included East River, Connecticut. It has also been reported from Singletons at Lakehurst (1951) and Dividing Creek (1996) in southern New Jersey, but no populations have been confirmed (NatureServe 2023). LaFontaine (1998) indicated that a disjunct population occurs near the mouth of the St. Lawrence River in Canada. In New York, it is likely restricted to Long Island and nearby islands (NYNHP 2023b). The population is most likely restricted to coastal areas (Goldstein and Nelson 2017).

I. Status

a. Current legal protected Status

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

ii. **New York:** not listed

b. Natural Heritage Program

i. **Global:** G3

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

Other Ranks:

-NYS 2025 SGCN Status: Species of Greatest Conservation Need

-IUCN Red List: not listed

-Northeast Regional SGCN: Listed (high priority)

Status Discussion:

The status of coastal heathland cutworm is somewhat unknown. Additional surveys are needed at known sites to determine abundance and habitat quality and in areas with suitable habitat on Long Island to determine the full range.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown			No
Northeastern US	Yes	Declining	Declining	Unknown	RSGCN (high priority)	Yes
New York	Yes	Stable	Increasing	2007-2015	Not listed, S1S3, SGCN	Yes
Connecticut	Yes	Unknown	Unknown	Prior to 2015 (SWAP updates)	Threate ned, S2, SGCN	Yes
Massachusetts	Yes	Unknown	Unknown	Prior to 2015 (SWAP updates)	Special Concern ,SGCN, S3	Yes
New Jersey	Yes	Unknown	Unknown	Unknown	Not Listed, SU	No
Pennsylvania	No	-	-			-
Vermont	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):*

There are no regular monitoring efforts or regular surveys. There have been periodic moth surveys on Long Island by the New York Natural Heritage Program (NYNHP 2023a).

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

Coastal heath cutworm has been documented at eight sites in New York. It's difficult to determine the status due to the lack of surveys at sites documented prior to 2000 when there were four known sites. The 1951 record at Montauk, based on a specimen collected in 1951, is vague. The other two records are from Montauk County Park and Robin Island. Since 2000, several sites have been documented or reconfirmed on Long Island. The species was found again in Montauk County Park in 2012. New locations were documented Hither Hills State Park, Napeague State Park, and Plum Island. The post-2000 surveys may indicate a range expansion or simply that survey efforts

never took place at the sites. It appears to be restricted to eastern Long Island in New York (NYNHP 2023a).

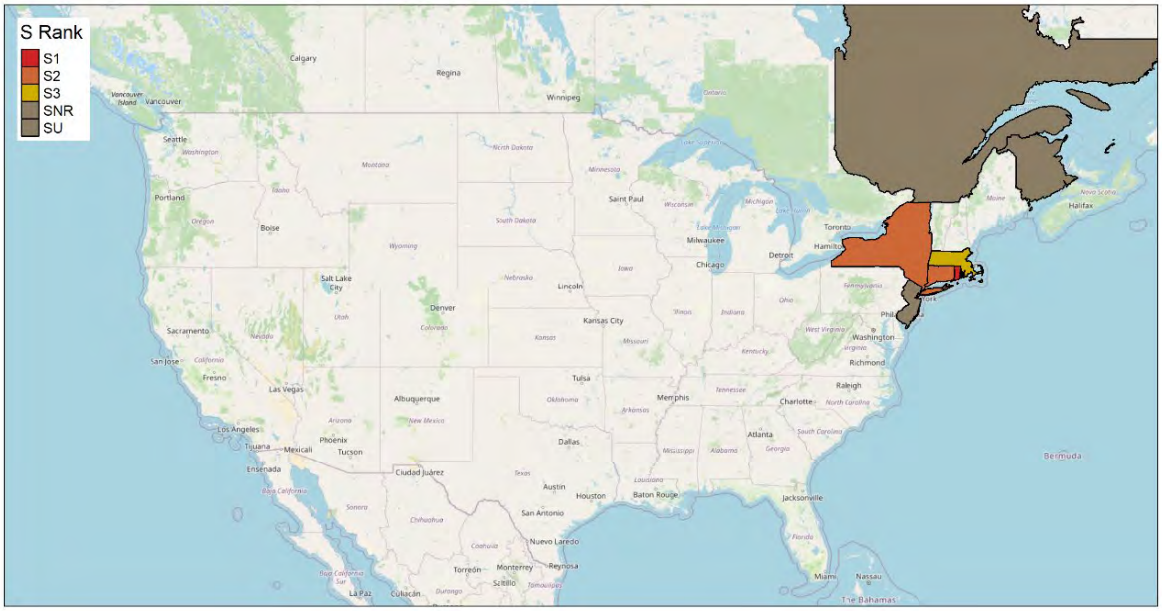

Figure 1. *Abagrotis benjamini* distribution and status
(Distribution may not be complete. NatureServe 2023)

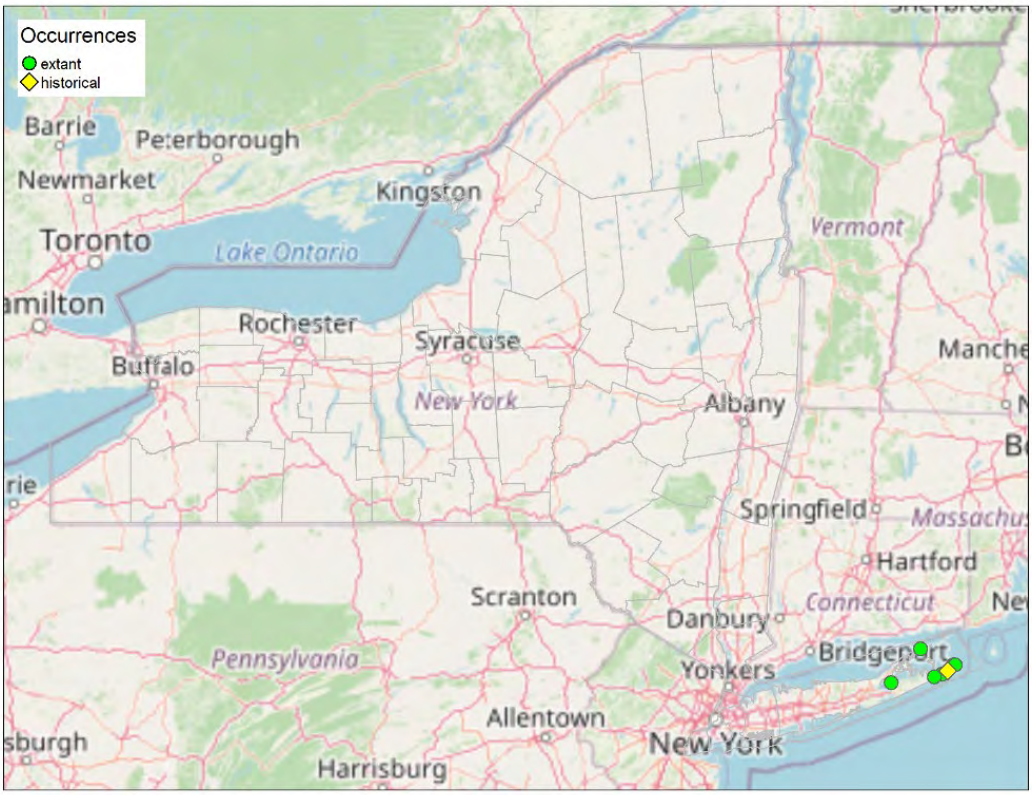

Figure 2. *Abagrotis benjamini* distribution and/or status (NYNHP 2023a)

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

Years	# of Records	# Counties	% of State
Pre-2000	3	1	1-5%
2000- 2023	4	1	1-5%

Table 1. Records of *Abagrotis benjamini* in New York.

Details of historic and current occurrence:

Prior to 2000, there were four known sites on Long Island. The 1951 record at Montauk, based on a specimen collected in 1951, is vague. The other 2 records are from Montauk County Park and Robin Island. The species was found again in Montauk County Park in 2012. New locations were documented Hither Hills State Park, Napeague State Park, and Plum Island (NYNHP 2023a).

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%	Core	

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. Maritime Dunes
2. Coastal Hardwoods
3. Old field/Managed Grasslands

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.	Unknown	

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

Species is somewhat a habitat specialist.

Habitat Discussion:

The coastal heathland cutworm occurs in dry, sandy, open coastal plain habitats. These habitats include sandplain grasslands, coastal heathlands, and dunes (except the first dunes inland from the beach). In New York State, the moth has been found in several habitats including partially

burned grasslands and shrublands, maritime dunes, maritime grasslands, maritime heathlands, and a coastal oak-heath forest (NYNHP 2023b).

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):*

Life history requirements of coastal heathland cutworm are largely unknown. Adults emerge in late June and are found until September with a peak in August in Massachusetts (Goldstein and Nelson 2017). The peak appears to be in July in New York (NYNHP 2023b). Beach plum (*Prunus maritima*) has been documented as a larval host by Goldstein and Nelson (2017), but there may be other hosts. Larvae are subterranean during the day. They overwinter partially grown and re-emerge in the spring to continue feeding (Massachusetts Natural Heritage and Endangered Species Program 2023). The pupal period is 25 to 33 days. This species is most likely restricted to coastal areas of New Brunswick to New England and New York (Goldstein and Nelson 2017).

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

General threats include development, insecticide spraying, fire suppression, and excessively large fires on unprotected sites. In New York State, development of habitat seems to be the most likely threat (NYNHP 2023b).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	(habitat loss/ degradation)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.1 Habitat Shifting & Alteration	(range shifting/alteration, southern edge of range species)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Abagrotis benjamin*

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:

Some sites are on protected lands that may or may not be managed.

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

This moth is likely to persist if adequate habitat remains and all habitat at a site is not engulfed in a fire during the same season. The moth can occupy small (less than 100 ha) as well as large habitats, and it can travel substantial distances to colonize other suitable habitats, but nonetheless areas where this moth is documented should be evaluated to avoid additional encroachment or fragmentation by development. At some locations, periodic controlled burns or other measures might be needed to restore or maintain habitats where the moth occurs. When prescribed burns are conducted, some areas should be left unburned to provide refugia for the moth. Minimizing lighting to maintain dark sky conditions would also be beneficial (NYNHP 2023b).

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 *Abagrotis benjamini*.

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for moths.

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

Goldstein, P.Z. and M.W. Nelson. 2017. Two psammophilic noctuids newly associated with beach plum *Prunus maritima* (Rosaceae): the Dune Noctuid (*Sympistis riparia*) and Coastal Heathland Cutworm (*Abagrotis benjamini*) in northeastern North America (Lepidoptera, Noctuidae). Zookeys 661: 61-89.

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