



Insects



Pine Pinion

Lithophane lepida lepida

Priority 2 Species of Greatest Conservation Need (SGCN)

Class: Insects (*Insecta*)

Order: Butterflies, Skippers, And Moths (*Lepidoptera*)

Family: Noctuid Moths (*Noctuidae*)

General comments:

The Pine Pinion, a member of the Noctuidae family (Owlet moths), is a subspecies known only from the northeastern U.S. and southeastern Canada. Larvae feed on hard pines, and the species is associated with extensive hard pine forests and barrens. It is rarely collected and may be extirpated from most of its range, including Maine, where it is known from four historical records and was not found in southern Pitch Pine-Scrub Oak barrens despite moderate past survey effort. However, hard pine woodlands in northern and eastern Maine are under-surveyed. The species is at risk due to its lack of modern occurrences, apparent declines elsewhere in its range, and its potential use of a rare habitat (Pitch Pine-Scrub Oak barrens).

Species Conservation Range Maps:

Town Map: [Lithophane lepida lepida_Towns.pdf](#)

Subwatershed Map: [Lithophane lepida lepida_HUC12.pdf](#)

SGCN Priority Ranking - Designation Criteria:

Regional Endemic:	<i>Lithophane lepida lepida</i> 's global geographic range is at least 90% contained within the area defined by USFWS Region 5, the Canadian Maritime Provinces, and southeastern Quebec (south of the St. Lawrence River).
High Regional Conservation Priority:	Northeast Regional Synthesis (RSGCN): Responsibility: High, Concern: High NatureServe: Global Rank: T2 State Rank: SU

Professional Discretion:

Current criteria ranked *Lithophane lepida lepida* as SGCN priority 1, however, species should be SGCN priority 2 based on professional discretion.

Justification: no change from 2015 priority

Habitat Associations:

Formation: Northeastern Upland Forest

Macrogroup: Acadian-Northern Appalachian Forest

Habitat System: Laurentian-Acadian Sub-boreal Dry-Mesic Pine-Black Spruce-Hardwood Forest
potential habitat where extensive tracts of hard pines (pitch, red, jack) present

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Formation: Northeastern Upland Forest

Macrogroup: Appalachian Oak - Pine Forest & Woodland

Habitat System: Central Appalachian Dry Oak-Pine Forest
potential habitat where extensive tracts of hard pines (pitch, red, jack) present

Habitat System: Central Appalachian Pine-Oak Rocky Woodland
potential habitat where extensive tracts of hard pines (pitch, red, jack) present

Macrogroup: North Atlantic Coastal Forest & Woodland

Habitat System: Northeastern Interior Pine Barrens
potential habitat where extensive tracts of hard pines (pitch, red, jack) present

Habitat System: Northern Atlantic Coastal Plain Pitch Pine Barrens
potential habitat where extensive tracts of hard pines (pitch, red, jack) present

Threats

Threat Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

IUCN Level 1 Threat Other Options

IUCN Level 2 Threat: Lack of knowledge

Severity: High Severity **Actionability:** Moderately Actionable

Notes: no modern occurrences; unknown stressor(s) caused past declines; lack of knowledge about distribution, status, threats, habitat, life history, and taxonomic status; uncertainty about extent of use of other hard pine habitats outside of PPSO barrens is a major limiting factor in understanding conservation status

IUCN Level 2 Threat: Other Threat

Severity: High Severity **Actionability:** Moderately Actionable

Notes: This species experienced apparent declines throughout much of its range, which may not be reversible. It is rarely collected and may be limited in its northeastern range, where it appears to be historic in all but New Hampshire. However, comprehensive surveys of hard pine habitats, particularly outside of PPSO barrens, could discover that this species has persisted.

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IUCN Level 1 Threat Other Options

IUCN Level 2 Threat: Resource Needs

Severity: High Severity

Actionability: Moderately Actionable

Notes: lack of funding and staff for implementing conservation actions (e.g., comprehensive surveys to determine presence, distribution and status)

IUCN Level 2 Threat: Unknown

Severity: High Severity

Actionability: Moderately Actionable

Notes: significant past declines caused by unknown stressor(s); unknown if loss of PPSO barrens would pose a significant threat to this species

Species Level Conservation Actions:

Only species specific conservation actions that address high (red) or medium-high (orange) priority threats are summarized here.

Conservation Action	Category	Biological Priority	Type
Conduct surveys to document if species is still extant and extent of potential habitat use outside of pitch pine - scrub oak barrens where extensive tracts of host plant (hard pines) are present, including in northern and eastern Maine.	Survey and Monitoring	high	new

Threat(s) Addressed By This Conservation Action

Lack of knowledge

Conservation Actions Associated with the Dry Barrens Lepidoptera Guild:

Conservation Action	Category	Biological Priority	Type
Communication with Maine Forest Service and Bureau of Pest Control is necessary to prevent unintended mortality from aerial pesticide spraying (e.g., for spongy moth and spruce budworm)	Species Management	high	on-going

Threat(s) Addressed By This Conservation Action

- Other Threat

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Conservation Action	Category	Biological Priority	Type
Conduct a statewide review of potential high quality barrens habitat that is threatened by ecological succession and identify strategic habitat restoration actions for implementation by key conservation partners.	Habitat Management	critical	on-going

Threat(s) Addressed By This Conservation Action

- Removing or Reducing Human Maintenance
- Fire and Fire Suppression

Conservation Action	Category	Biological Priority	Type
A concerted effort should be made to conserve as much of the remaining unprotected sandplain grasslands and PP/SO barrens as possible.	Habitat Management	critical	on-going

Threat(s) Addressed By This Conservation Action

- Commercial and Industrial Areas
- Roads and Railroads
- Housing and Urban Areas
- Other Threat
- Removing or Reducing Human Maintenance
- Fire and Fire Suppression
- Mining and Quarrying

Conservation Action	Category	Biological Priority	Type
Increase MDIFW staff capacity for survey and conservation of SGCN invertebrates.	Policy	critical	new

Threat(s) Addressed By This Conservation Action

- Education & Outreach
- Lack of knowledge
- Resource Needs

Conservation Action	Category	Biological Priority	Type
Develop/distribute guidelines and outreach materials to inform conservation partners, land use managers, and the general public about the impacts of pesticides on native pollinators and to promote the alternative use of Integrated Pest Management practices.	Public Outreach	moderate	on-going

Threat(s) Addressed By This Conservation Action

- Education & Outreach
- Other Threat

Broad Taxonomic Group Conservation Actions:

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's Wildlife

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Action Plan: Element 4.

Habitat Based Conservation Actions:

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's Wildlife Action Plan: Element 4. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, threats, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work