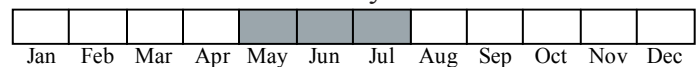


Best Survey Period



Status: State special concern

Global and state rank: G5/S2S3

Family: Noctuidae (owlet moth family)

Range: The dune cutworm moth occurs as a series of disjunct populations throughout a large area of North America having been recorded from the following states: Arizona, Colorado, Idaho, Illinois, Michigan, Montana, Nebraska, North Dakota, Oregon, Utah, and Washington. It has also been recorded from the Canadian provinces of Alberta, Manitoba, Ontario, and Saskatchewan (Hardwick 1970).

State distribution: The dune cutworm is known from a total of nine Lake Michigan shoreline locations. It has been collected from six counties in Michigan including Berrien, Charlevoix (High Island), Chippewa, Muskegon, Oceana, and Ottawa counties.

Recognition: The following descriptive notes follow Hardwick (1970). This moth, in the family Noctuidae, has a wingspan from 1.4-1.6 inches (35.3-39.3 mm). The **forewing of most individuals is light fawn**, often heavily irrorate with white or pale grey. There is a chocolate-brown color phase as well. **Hind wing varying from pure creamy-white to uniform medium smoky-brown; hind wing most frequently white suffused with brown and often with a brown outer-marginal band with a white fringe. Underside of forewing white, often suffused with brown.** Underside of hind wing usually paler than forewing. Because there are many similar looking moths within the genus *Euxoa* and *Agrotis*, a voucher specimen(s)

need to be collected for this species for positive identification.

Best survey time: The dune cutworm is reported to be an early flier within the *Euxoa* with dates ranging from 6 May to 23 July. The Michigan records range from 26 May to 12 July. The best way to survey for this species is by blacklighting, a technique where a sheet is stretched across two trees or poles and an ultraviolet light is used to attract moths to the sheet. Moths can be collected directly from the sheet.

Habitat: The dune cutworm is reported occurring in disjunct populations in sandy areas throughout North America (Hardwick 1970). No other information on specific habitat requirements is in the literature. The Michigan locations are all sparsely vegetated, high quality coastal dune habitats such as those found at Grand Mere dunes and Warren Dunes State Park in Berrien County; Muskegon State Park, Muskegon County; and Whitefish Point, Chippewa County.

Biology: The dune cutworm moth is univoltine (one generation per year) and likely overwinters as a pupae. The immature stages have not been described for this cutworm. No other information is known on the life history or biology of this species although it is speculated to feed on some species of dune grass. In Michigan specimens have been collected in close proximity to the beach grasses (*Ammophila breviligulata* and *Calmovilfa longifolia*).

Conservation/management: Unfortunately, significant parts of the high-quality dunes habitat have been degraded or destroyed by shoreline home and recreational develop-



ment. The known remaining sites need to be protected as well as high-quality sand dune habitats. Further survey and resurvey of the nine known Michigan sites along with blacklighting in nearby sandy areas is urgently needed to assess the status and to learn more about this species. Several open sand dunes along the Lake Michigan, Huron, and Lake Superior shorelines should be surveyed. Until we know more about its habitat affinities and more on the species biology, life history, and ecology, we cannot make any specific management recommendations.

Research needs: The species is found in many disjunct localities throughout North America in sandy areas. Nothing else about its life history or biology is known. Research designed to study the life history and ecology of the moth is urgently needed including identification of the larval food plant. In addition to surveys for new sites, known sites should be studied to determine the micro-habitat requirements the moth needs to persist.

Related abstracts: open dunes, Lake Huron locust, fascicled broomrape, Houghton's goldenrod, Lake Huron tansy, Pitcher's thistle

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