

The Karner Blue Butterfly in Michigan

By Jennifer Fettingner

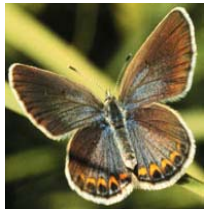


Photo by Mary Rabe

Actual size



Male Karner blues have light blue coloring.
Photo by Mary Rabe



Female Karner blues have dark blue coloring and orange crescents lining the hind wings. Photo by Mary Rabe

Scientific Name

Lycaeides melissa samuelis

What do Karner blue butterflies look like?

Size – About the size of a nickel with wings spread

Identifying marks – orange spots line the underside of the hind wings (visible when wings are folded) on both males and females

Gender characteristics – The top side of the wings (exposed when wings are spread) are different between males and females. Males are baby blue with white-fringed black margins. Females are dark blue to brownish-purple with orange crescents inside a narrow black border on the hind wings.

When can I see Karner blue butterflies?

Flight times – Adult butterflies can be observed from late May to early June and mid-July to early August.

Life Cycle – Female Karner blue butterflies lay eggs twice a year on wild lupine plants. Caterpillars hatch in April from eggs laid the previous year, feed on lupine leaves until mid-May, pupate and emerge as the first generation of adults in late May and early June. These adults mate, and females lay eggs once again on lupine plants. Those eggs hatch about a week later, caterpillars feed, pupate, and emerge as the second generation of adults in mid-July and early August. These adults mate, females lay eggs, and those eggs remain dormant over winter until the next spring.

Where are Karner blue butterflies found?

Range – Karner blues were once known from 12 states and the Canadian province of Ontario. Currently they occur in just seven states - Indiana, Michigan, Minnesota, New Hampshire, New York, Ohio, and Wisconsin. In Michigan, of 11 counties that once had Karner blue populations, 10 still contain the butterfly, and half support only one to five small, isolated sites at risk for extinction from habitat degradation.



Eleven counties in Michigan have supported Karner blue populations, 10 currently have the butterfly present.

Where do Karner blue butterflies live?

Habitat – Karner blue butterflies are found in barrens and savanna habitats that support wild lupine (*Lupinus perennis*). Lupine is found in open, sunny areas with sandy soils and is critical to Karner blue survival because it is the only food source for Karner blue caterpillars. Adult Karner blues drink the nectar of several flowering plants like butterfly weed, horsemint, and dewberry. Oak barrens and savannas provide ideal Karner blue habitat when lupine and nectar plants are present, but such areas are rare. Agriculture, development, and succession of these open areas to forest have greatly reduced Karner blue habitat. The butterflies are now largely restricted to small pockets of barrens, managed openings, old fields, and utility rights-of-way. As a result, Karner blue populations are likely to further decrease if no steps are taken to restore habitat.



Wild lupine is the only food source for the Karner blue caterpillar *Photo courtesy MNFI*

Why should we help the Karner blue butterfly?

The Karner blue butterfly was listed as endangered by the U.S. Fish and Wildlife Service in 1992. Endangered species are plant or animal species that are at risk of becoming extinct.

Karner blues are considered an “indicator species,” acting as a gauge for the health of a particular ecosystem. The rarity of the Karner blue indicates a loss of barrens and savanna ecosystems. These ecosystems historically were maintained by fires, which kept woody vegetation from turning them into forest. Fire suppression coupled with the conversion of land to agriculture, pine plantations, residential areas, and other uses have severely reduced the range and availability of barrens and savanna in Michigan.



Efforts to save the Karner blue are, in effect, efforts to protect an important ecosystem and all of the plant and animal species associated with it. Over 30 other rare plant and animal species also depend on savanna and barrens ecosystems in Michigan.

Savannas and barrens containing wild lupine are the main habitats that support Karner blue populations *Photo by Ray Rustem, MDNR*

How can I help prevent Karner blue from becoming extinct?

Learn – Visit your local library, zoo, or nearby conservation group to find out more about the species.

Join – Contact and join a conservation or naturalist group. Many conservation groups have local chapters and may be active in helping endangered species in your area.

Inform – If you have wild lupine on your land or think you’ve seen a Karner blue butterfly, contact Jennifer Fettinger at the Michigan Natural Features Inventory at fettingj@michigan.gov, or (517)241-5437. Jennifer can provide you with more information about the butterfly, its habitat, and conservation efforts. Learn more about MNFI at www.msue.msu.edu/mnfi/.



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