



Featured Species Habitat Management Guidance for Karner Blue Butterfly

Latin Name: *Lycaeides melissa samuelis*

Scope: Statewide

Rationale - *why we value the species and the problem for the species:*

The Karner blue butterfly (KBB) is a federally listed endangered species (Michigan DNR 2015). Declines are tied to loss of the savanna cover type and associated KBB habitat elements.

Habitat Need - *the cause & effect relationship between habitat and species and its primary limiting habitat need:*

Suitable habitat is supported within patches that include lupine (the obligate food source for the caterpillars), nectar plants, and basking perches for adults, all within a local environment that provides partial shading. These habitat patches, need to be suitably connected to other like patches to provide sub or meta-populations.

Habitat Objectives - *the treatment or management to address the primary limiting habitat need:*

Michigan cooperates with the US Fish and Wildlife Service in implementing the draft Karner Blue Butterfly Statewide Habitat Conservation Plan. Habitat objectives include:

- 1) Habitat patches occur as corridor-connected islands included within and supported by over 20,000 acres of savanna (supporting habitat) found in west and southeast Michigan;
- 2) Patches ideally total 2,000 to 3,000 acres of connected habitat cover type;
- 3) Maintain lupine in the presence of nectar plants and basking perches in partial shade by prescribed burning, manual and mechanical cutting, and chemical treatment.

Priority Geographic Areas – *the specific geographic areas where we should focus management for the species:*

The 4 Karner blue recovery units where Karner blues are currently documented to occur in Allegan, Ionia, Kent, Lake, Mason, Mecosta, Montcalm, Muskegon, Newaygo, and Oceana counties; and a historic site at the Petersburg State Game Area in Monroe County.

Priority Landscapes – *the landscape, setting, or cover-type where we should focus management within the areas above:*

Savannas including: oak barrens, oak-pine barrens, pine barrens, and dry sand prairie.

Population Goal - *the goal for the species, its habitat, or a stakeholder's actions:*

Population goals for Karner blue is 1 or 2 meta-populations within each of the 4 west Michigan recovery units plus populations in Monroe County (Petersburg SGA).

Evaluation Method - *the monitoring method to measure progress towards the goal above:*

Protocols will include presence/absence and quantitative measurement of subpopulations, measurement of habitat by habitat patch, and measurement of subpopulation longevity. The schedule will include at least annual, bi-annual, and 5-year assessments (USFWS 2003; MDNR 2010).

Incidental Species – *other species which may benefit from management for this species:*

Bobolink; red-headed woodpecker; wild turkey; and white-tailed deer.

References - *citation for documents referenced in this guidance:*

Michigan Department of Natural Resources. Draft 2010. Michigan Statewide Habitat Conservation Plan. Michigan Department of Natural Resources and Environment, Lansing.

Michigan Department of Natural Resources (DNR). 2015. Michigan Department of Natural Resources (DNR) online list of Frequently Asked Questions on the 2009 Revision of the State Endangered Species List. < http://www.michigan.gov/dnr/0,1607,7-153-10370_12141-213610--,00.html >. Accessed 9 Sept. 2015.

USFWS. 2003. Karner Blue Butterfly Recovery Plan. USDI USFWS. Ft. Snelling, MN.