

30 YEARS OF THE ENDANGERED SPECIES ACT

KARNER BLUE BUTTERFLY

The Karner blue butterfly lives in pine barrens of the upper Midwest and Northeast. Efforts under the Endangered Species Act to restore butterfly habitat may spark its recovery.

HISTORY OF ENDANGERMENT



The key to Karner blue survival is wild blue lupine, a wildflower that grows in pine barrens and oak savannas. The Karner blue butterfly

lays its eggs on the blue lupine, and its caterpillars feed exclusively on its leaves. Pristine pine barrens and oak savannas are mosaics of woody vegetation and open grasslands, maintained by wildfires that keep hardwood trees at bay. This ecosystem provides ideal habitat for the Karner blue because, in addition to blue lupine, resident species like dogbane and New Jersey tea supply nectar to the adults.

Development, fire suppression, and conversion of land for agriculture have destroyed these delicately balanced areas. Logging, grazing, and urbanization—all driven by rapid population growth—further damage butterfly habitat.

The Karner blue was listed as an endangered species in 1992. Biologists believe the species is now extinct in Massachusetts, Ohio, Pennsylvania, and perhaps Illinois. There have been few occurrences in Michigan, New York, New Hampshire, and Minnesota. The largest remaining concentration is in Wisconsin.

ROAD TO RECOVERY

The Wisconsin Department of Natural Resources has launched a habitat conservation plan that coordinates corpo-

rate interests, private landowners, and governmental agencies. The plan establishes guidelines that allow landowners to engage in development activities, even on butterfly habitat. For example, the Department of Transportation can help butterfly survival by adopting a mowing regime that avoids lupine areas from mid-April through September when the butterflies need the plants.

Habitat restoration programs in New Hampshire also have paid dividends for the Karner blue. The state Department of Fish and Game, working closely with the New Hampshire Army National Guard, U.S. Fish and Wildlife Service, and the city of Concord, has a prescribed fire program that restores butterfly habitat. In 2000, the last remaining wild butterfly populations had been extirpated from the state. With eggs from New York, the Department began rearing and breeding the butterfly in captivity to reintroduce into the wild. For the first time, in 2003 the butterfly began mating and reproducing in the wild. As early as next year, wildlife managers expect significantly improved populations.

CONSERVATION TODAY

Reintroduction and habitat restoration programs in Wisconsin and New Hampshire have helped to save Karner blue populations. In addition, researchers are studying the butterfly to determine ways to better manage the land for the butterfly's survival.

ECOLOGICAL VALUE

The Karner blue butterfly shares its habitat with other rare species, including the frosted elfin butterfly, Blanding's turtle, and loggerhead shrike. These species' survival prospects are improved by restored Karner blue habitat.

OUTLOOK FOR THE FUTURE

Under the Endangered Species Act, management at the state level may save the Karner blue butterfly from extinction. However, the species' numbers are still perilously low and habitat restoration continues, but with difficulty.

The butterfly's pine barren habitat is naturally maintained by fire. Recreating that process can pose problems, as human development often borders the targeted restoration areas. Habitat managers go to great lengths to protect surrounding communities from fire.

The greatest problem that plagues the butterfly is development that sprawls from urban areas into open space. When habitat is used for commercial and residential development, butterfly populations quickly decline. Fragmented habitat—small areas of ideal habitat separated by roads or other development—keep butterfly populations from expanding and colonizing nearby pine barrens.

