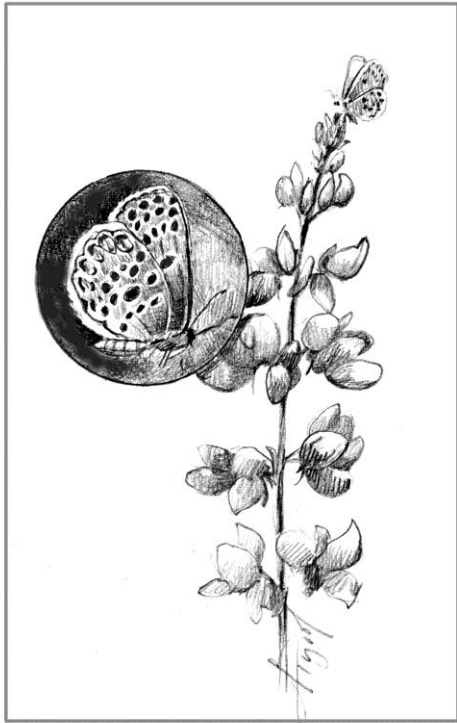


The Outside Story



Karner Blues Make a Comeback By: Meghan McCarthy McPhaul

The Karner blue, New Hampshire's state butterfly, is a wisp of a thing, a tiny fluttering of silvery-blue wings. Unless you happen to be wandering through a pine barren or black-oak savannah, however, you're unlikely to spot one. Even then, it would be a challenge, as the butterflies have been listed as federally endangered since 1992.

The larvae are exceptionally picky eaters – so picky, in fact, that they eat only the leaves of wild lupine (*Lupinus perennis*). And the wild lupine is a bit picky itself.

Unlike the more common – and non-native – garden lupine (*Lupinus polyphyllus*), the wild lupine requires the sandy soil and unshaded openness found in pine barrens.

This type of habitat – known for its dry and acidic soil, shrubby understory, and canopy of scrub oak and pitch pine – was once found along New Hampshire's Merrimack River Valley, from the southern reaches of the state to the north, past Concord. Karner blues thrived in these pine barrens and in similar habitats from Maine to Minnesota. Unfortunately for the Karner blue, land developers also favored these sandy areas. The majority, and some 90 percent of the pine barrens in New Hampshire, has been plowed under or paved over.

With the pine barrens went the Karner blues, which were considered extirpated from the state in 2000. It's a story that's been repeated throughout the Karner's range, which is now restricted to pockets of habitat around Concord, in the Albany Pine Bush Reserve in New York State, and in a few areas in the Midwest.

It was novelist Vladimir Nabokov, a butterfly enthusiast, who first identified the subspecies *Lycaeides melissa samuelis*. The nickname "Karner blue" comes from the hamlet in New York State where Nabokov discovered the butterfly, a place once so heavily populated by the fluttering wings of scores of butterfly species that scientists dubbed the area "Butterfly Station." The town of Karner lies within the protected Albany Pine Bush, one of the few places where its namesake butterfly survives – and, biologists hope, is beginning to thrive again.

Wildlife biologists from the New Hampshire Fish and Game Department have been working to restore and maintain habitat in the last remaining pine barrens, situated near the Concord Municipal Airport and along nearby power lines. The effort was already underway when Karner blues disappeared from the state, but biologists were able to release captive-raised butterflies into the Concord pine barrens in 2001.

“The Karner blue butterfly disappeared, but not for long,” said Fish and Game biologist Heidi Holman. “We’ve found that if the habitat is created and it’s of high enough quality, they tend to need very little introduction; they’ll take off on their own.”

Pine barrens historically depended on natural fires to maintain the successional growth that is a hallmark of the ecosystem. Habitat restoration in Concord has included controlled burning to reduce leaf litter and control non-native species, cutting brush to maintain sunny openings, and the planting of native vegetation, including wild lupine.

The population of Karner blues in New Hampshire has grown to a stable count of 1,500 in most years, and as high as 2,400. Biologists continue to release some captive-raised butterflies each spring, with a goal of reaching 3,000 Karner blues by next year and maintaining a population at that healthy number. But it’s not only Karner blues benefiting from biologists’ efforts in the pine barrens. Other species, from birds to amphibians, have also rebounded here.

“We have seen nesting of the state-endangered common nighthawk in areas

that were recently burned to promote lupine. The dense scrub oak, which is native to pine barrens, supports a lot of our declining species of shrubland birds like the brown thrasher and eastern towhee,” said Holman. “Black racers and hognose snakes, both state-listed species, have been documented in the pine barrens. And the diversity of moths and butterflies is some of the greatest in the state, with over 60 species of butterflies and 500 species of moths.”

It all began with an effort to save a tiny butterfly. And so it seems that, while the Karner blue is quite small, its reach is far greater than its wingspan.

Meghan McCarthy McPhaul is an author and freelance writer. She lives in Franconia, New Hampshire. The illustration for this column was drawn by Adelaide Tyrol. The Outside Story is assigned and edited by Northern Woodlands magazine, northernwoodlands.org, and sponsored by the Wellborn Ecology Fund of New Hampshire Charitable Foundation: wellborn@nhcf.org

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PO Box 471, Corinth, Vermont 05039
Tel. 802.439.6292 Fax 802.439.6296
www.northernwoodlands.org

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