Saving a Butterfly

By Susan Morse

In Oregon's Willamette Valley, a fragile creature's survival has hung on refuge biologists' ability to woo private landowners to join in habitat restoration efforts. The effort is paying off, and now the Fender's blue butterfly, an endangered species, is enjoying its highest population in more than a decade.

"It's an exciting story," says Steve Smith, private lands biologist for the Willamette Valley National Wildlife Refuge Complex. "Valley-wide, Fender's blues now number as high as 6,000, up by more than 1,500 from estimates in 2005, not bad for a creature thought to be extinct until 1989."

The Willamette Valley, nestled between the Oregon Coast Range on the west and the Cascade Mountains on the east, is about 150 miles long and 50 miles wide. It stretches from the mountains south of Eugene to the Columbia River in Portland. Its population has grown dramatically in recent decades. Roughly 2.6 million people, or 70 percent of Oregonians, live in the valley.

It is also the only habitat for Fender's blue butterflies. The largest population of Fender's blues in the Refuge System occurs at Baskett Slough National Wildlife Refuge, one of three refuges in the Willamette Valley complex.

The small blue butterfly, with a wing span of one inch, lives only in native prairie, home to its host plant, Kincaid's lupine, and native wildflowers that provide the butterfly with nectar. The life cycle of a Fender's blue begins in late spring or early summer when an adult female deposits an egg on the underside of a Kincaid's lupine leaflet. The egg soon hatches and the larva feeds on lupine leaflets. The larva may pass through one molt before dropping to the ground in mid-June or July, when it goes into hibernation for the fall and winter. In the following March or April, the larva begins to feed on fresh lupine leaflets again. After three to four additional molts, it emerges as a butterfly in May and begins the cycle again.

However, Kincaid's lupine is a threatened species, and loss of native prairie has resulted in the isolation of butterfly populations that were once interconnected. That native prairie has shrunk to less than 1 percent of its historic distribution because of farming, development and a century's suppression of fire. Left alone, most of the undeveloped prairie land would turn to forest.

"The biggest threat to remnant prairies is the invasion of woody vegetation or nonnative or even native plants due to lack of fire," says Smith. "Prairie habitat is replaced by forest habitat."

So refuge staff have interceded, aggressively mowing, pulling or chemically treating weeds on refuge land, harvesting trees and staging controlled burns. They've also persuaded 65 to 70 private landowners to preserve prairie remnants on their land in the same manner for the benefit of the butterfly.

Working in partnership with state and university scientists, refuge biologists have identified areas of key habitat, protected core populations of the listed species and returned thousands of acres of habitat to their original condition. They have cultivated native forbs and expanded seed collections to ensure genetic diversity. They've not only doubled known parts of the Fender's blue butterfly population, they have discovered new populations of the species.

"We actually have more cooperators on projects than we have the resources to keep up with," says Smith, "so we're very excited about that."

For their efforts, staff at the Willamette Valley complex and their partners won a Recovery Champion award from the U.S. Fish and Wildlife Service. The awards recognize Service employees and colleagues for contributions to the recovery of threatened and endangered species.

For a complete list of the Recovery Champions, visit *http://www.fws.gov/endangered/recovery/champions/index.html.*

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Thanks to Willamette Valley National Wildlife Refuge Complex staff and partners, the Fender's blue butterfly is recovering in Oregon. (USFWS)