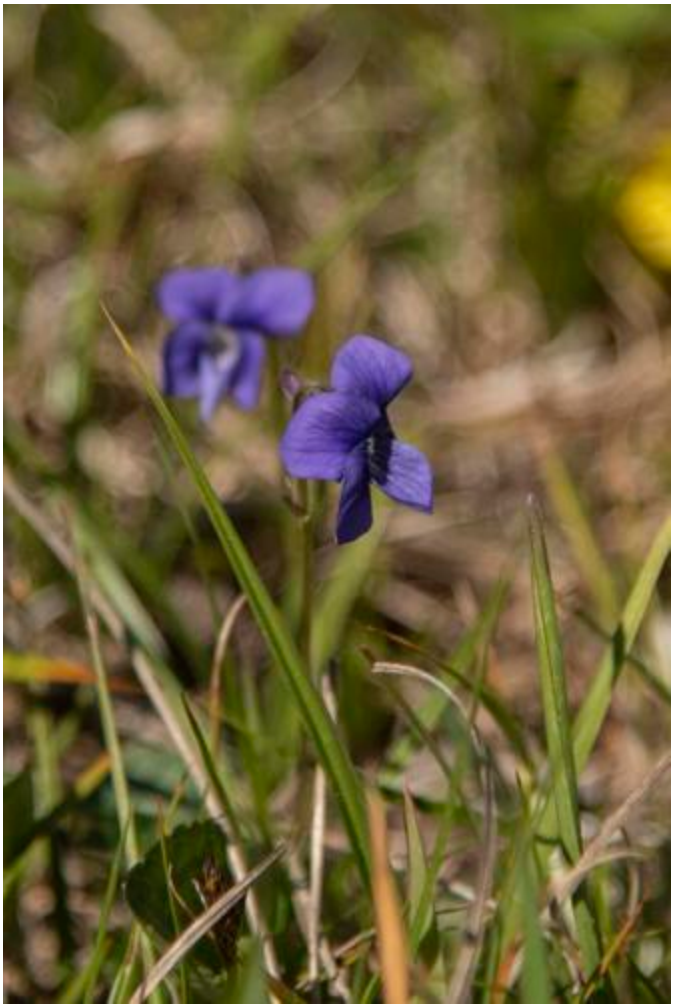
https://www.dailyastorian.com/news/local/on-the-north-coast-silverspot-butterfly-and-coastal-prairie-recovery-go-hand-in-hand/article_c7efdd86-2e6a-11ef-8735-1bde3de9e7e7.html

SPOTLIGHT

On the North Coast, silverspot butterfly and coastal prairie recovery go hand in hand

Early blue violets are a key component

By Olivia Palmer The Astorian
Jun 24, 2024



The North Coast Land Conservancy has planted early blue violets near Surf Pines to help Oregon silverspot butterflies.

Shanna Madison/The Astorian

On a recent May afternoon, Eric Owen shuffled through tall swaths of grass in a prairie near Surf Pines, approaching a sandy patch of soil dotted with native wildflowers.

The prairie — part of the North Coast Land Conservancy's Neacoxie Prairie Habitat Reserve — might seem expansive, but it gives just a small glimpse into what used to cover the landscape.

"This is a good example of a remnant coastal prairie," Owen said, looking out past a sprawl of western buttercups. "But it's just that — it's a remnant. You know, this might be going on for acres before we really disrupted the habitat."

Owen, the stewardship manager for the North Coast Land Conservancy, is part of a growing effort to restore coastal prairies and the species that depend on them. At one point, coastal prairie habitat flourished across Clatsop Plains. Years of development and invasive species introduction, however, have left a fraction of those plant communities remaining.

Now, the land conservancy's Surf Pines property and others nearby offer a fragmented patchwork of what once was.

That's not good news for threatened species like the Oregon silverspot butterfly.

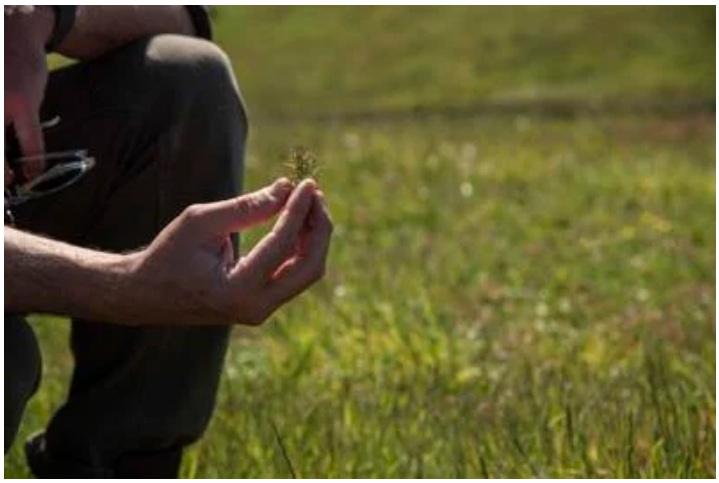
The silverspot was federally listed under the Endangered Species Act in 1980. The U.S. Fish and Wildlife Service has since developed and revised a recovery plan and engaged in research on the species. Despite those efforts, the little bug is still fighting to survive.

The butterfly can still be found along the coast in select areas like Mount Hebo, Rock Creek and Cascade Head, but it's been absent from Clatsop Plains since the 1990s. As an indicator species for Oregon's dwindling coastal prairies, that decline also sounds the alarm for other species, said Samantha Derrenbacher, a wildlife biologist with the U.S. Fish and Wildlife Service.

"If our Oregon silverspot is still doing poorly, then everything else that's reliant on coastal prairies and that type of plant community is also at very high risk of being winked off the face of this planet," Derrenbacher said. "Our ecosystem was built the way it was built for a reason. If you get rid of coastal prairies, you now just put your estuaries at risk. And now we're going to have a salmon problem, too, or we're going to have an elk problem."

Restoring critical habitat

Derrenbacher has been leading Oregon silverspot butterfly recovery efforts with the Fish and Wildlife Service for the past four years. In that time, she's helped secure a Recovery Challenge grant and partnered with researchers from the University of Washington and the U.S. Forest Service to better understand how the species behaves and what it would need to make a comeback.



Eric Owen examines a piece of dwarf owl clover growing near Surf Pines.

Shanna Madison/The Astorian

The work has included adult monitoring and dispersal and captive rearing of silverspot caterpillars at the Oregon and Woodland Park zoos.

It's also included adaptive landscape management and plant development.

In order for Oregon silverspot butterflies to have a chance of surviving, they need a habitat and a food source — and as it turns out, they're pretty picky eaters. In fact, the only thing the caterpillars eat is early blue violet leaves.

The solution might seem simple: plant more early blue violets, and recover more butterflies. But early blue violets rely on sandy, low-nutrient soil found in coastal prairies. Normally, natural disturbances like fire or weather would help maintain those early successional conditions, but development has transformed much of Clatsop Plains to a later stage of succession that's better suited for bigger plants that easily shade the violets out.

The question of how to recover the silverspot butterfly, then, goes hand in hand with the question of how to restore coastal prairies. As the Fish and Wildlife Service and local organizations like North Coast Land Conservancy work through research and restoration projects, they still don't have all the answers.

"I feel like we know what it should look like, but we don't exactly know how to get there," Owen said. "We're still figuring out some restoration techniques, so that's why a lot of this is pretty experimental still."

One technique has been topsoil removal. Owen said the North Coast Land Conservancy has used an excavator to scrape the top layer of dirt off certain areas of their Clatsop Plains properties. The idea is to expose the sandy soil below.

Several years ago, the land conservancy sectioned off a 1-acre square in the middle of a grassy field off U.S. Highway 101 — one of their biggest topsoil removal experiments to date. At first, Owen said the plot basically looked like a giant sandbox. After some planting work, however, natives like coastal strawberries, yellow sand verbena and red fescue began sprouting up.

In search of seeds

Managing the landscape is only part of the equation, though. For that type of work to be effective, there also need to be native plants around to actually take root.

Chocolate lilies grow near Surf Pines.
Shanna Madison/The Astorian

Over the past few years, local partners in Oregon have been working to develop seed banks of early blue violets. Graham Klag, executive director of the North Coast Watershed Association, thinks of the efforts as a "high-level insurance policy" of sorts.

"When we're talking about trying to get to the point of actually having the violet subsist on the landscape to a level where we can also have the butterfly be reintroduced there, we need to really forecast out how much seed we're gonna need," he said.

This is the North Coast Watershed Association's first summer harvesting seeds. Like the Fish and Wildlife Service, the nonprofit has focused on getting early blue violet plants into the hands of nurseries and private landowners on the coast. That's easier said than done, though. The Northwest Oregon Restoration Partnership is one of the only sources of early blue violets in the North Coast region, and the program doesn't distribute seeds directly to landowners.

"It became clear to me that if we want violet seed on private lands we're going to have to grow it out ourself," Klag said.

So, the watershed association got 3,000 early blue violet plugs from the restoration partnership to send out to volunteer growers in the community, from local residents with a little extra space in their backyards to Clatsop County Master Gardners.

When Ryan Kennedy heard about the project, he jumped at the opportunity to participate.

"I was chatting with Graham and he told me about this (initiative) — this, in my opinion, incredibly creative project pathway to create a seed bank for the restoration work," Kennedy said. "And I said, 'Absolutely, we've got the space.'"

Over the past several months, Kennedy has been working to establish his own native plant nursery on a friend's property near Olney. In January, he received 650 violet plugs from the North Coast Watershed Association. A couple of months later, he laid out a layer of weed cloth in a bed near the road, using a small blowtorch to burn uniform holes into the fabric to place the plugs into.

The weed cloth is an intentional choice. Nearing summer, early blue violets' delicate purple-blue blossoms turn to seed pods that eventually pop open, scattering seeds across the nearby ground. The seeds themselves are tiny — far too small to find and pick up off the bare dirt — but Klag said the hope is for the fabric to provide a landing pad so they can easily be vacuumed up.

To him, that kind of creative problem-solving is necessary to respond to the species loss that's been seen on Clatsop Plains.

"That's a debt that we have to pay back," Klag said. "And so that debt that we're paying into is the seed bank, and that seed bank is ultimately going to be something that, as we continue to grow it and stockpile it, we can start paying back into some of these areas that are really indebted for restoration, if we want the butterfly."

A bigger picture

While Kennedy is excited to be growing early blue violets for seed, he sees the efforts as one part of a larger picture.

"It's a super important flower, but also, the grasses and other wildflowers have their role to play too," he said.

And he's right — early blue violets aren't a silver bullet. Once silverspot caterpillars grow into butterflies, they also need other materials and nectar sources to survive. Having a range of different native plants and wildflowers supports not only the silverspot, but other insects and

Land near Sunset Beach that the North Coast Land Conservancy has rehabilitated.

Shanna Madison/The Astorian

birds that rely on coastal prairie habitat. Owen sees that, too. Back at the Neacoxie Prairie Habitat Reserve, he's working to manage a coastal prairie filled not only with early blue violets, but pearly everlasting, goldenrod and other native species — and that kind of habitat has value for far beyond just one butterfly.

"We want to help the Oregon silverspot butterfly, of course," he said. "But also we are looking at overall habitat health, and so by doing work that helps restore coastal prairie habitat, it's also gonna benefit all the other species that use these habitats."

Olivia Palmer

Reporter