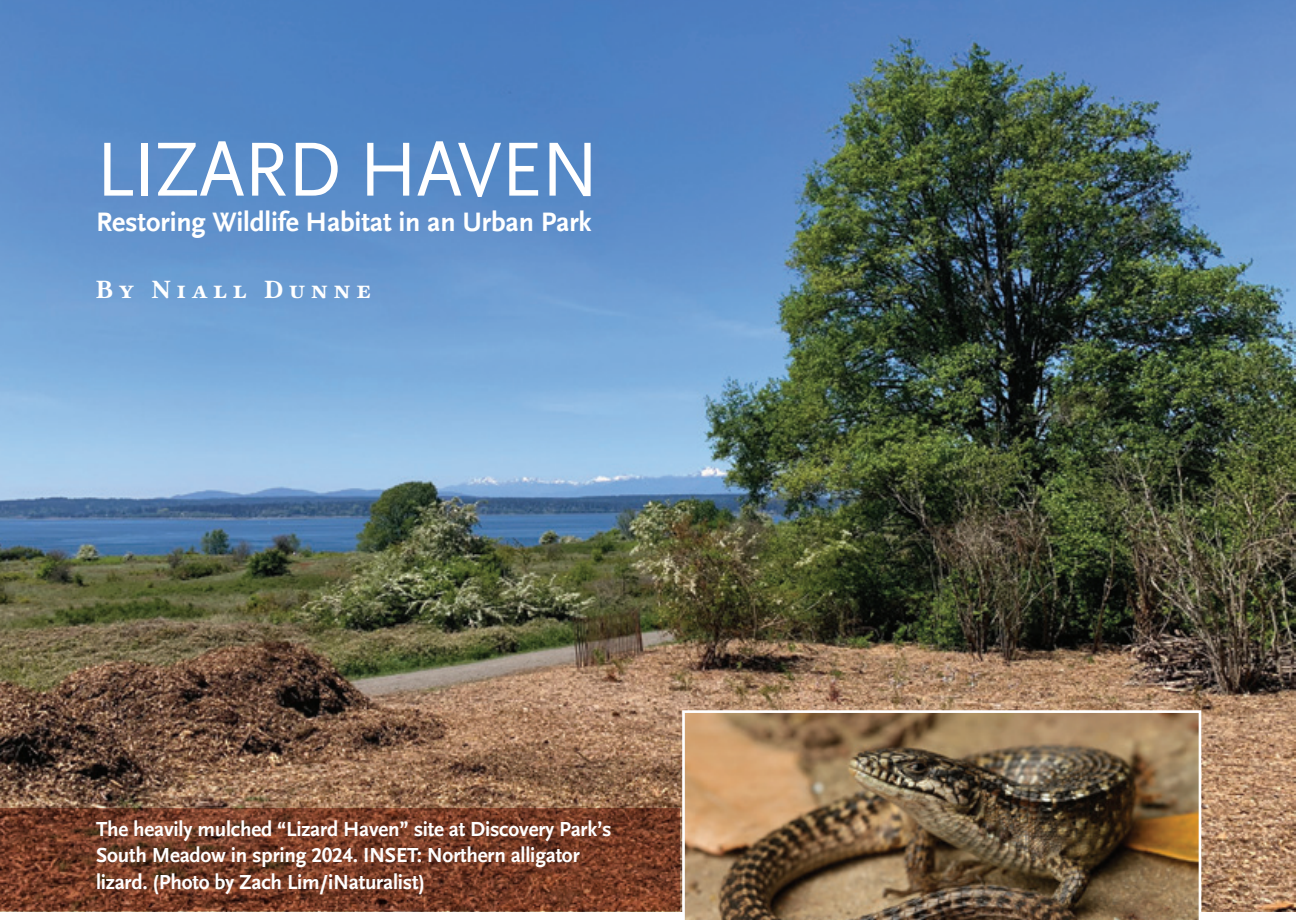
LIZARD HAVEN

Restoring Wildlife Habitat in an Urban Park

By Niall Dunne



The heavily mulched "Lizard Haven" site at Discovery Park's South Meadow in spring 2024. INSET: Northern alligator lizard. (Photo by Zach Lim/iNaturalist)

About a year ago, some University of Washington students emailed me wondering if I could post a flyer in the Arboretum's visitor center. They were trying to raise a little money to purchase native plants for an ecological restoration project in Discovery Park, and I was happy to help. The name they gave their restoration site was "Lizard Haven," which immediately had me intrigued.

It also had me a little confounded and embarrassed. Seattle has a native lizard? How did I not know this!

Turns out, the Puget Sound region is home to two lizard species—the western fence lizard (*Sceloporous occidentalis*) and the northern alligator lizard (*Elgaria coerulea*)—and both are pretty big. The focus species for the student project was the alligator lizard, a beautiful, black-speckled brown reptile that grows up to 11 inches long. It forages for insects and other prey—such as baby mice—on the grassy-shrubby-rocky edges of wet coniferous forests, including at the South Meadow in Discovery Park.

The alligator lizard is not a species of conservation concern; it enjoys a wide distribution from British Columbia south to California, as well as east into Idaho and Montana. However, it is a charismatic critter that the UW students cleverly recruited in their efforts to excite the public to help them restore a patch of the meadow.

Discovery Park's 30-acre South Meadow is hugely popular with visitors because of its stunning, bluff-top views of the Sound and Olympic Mountains beyond. It provides habitat not only for alligator lizards but also for a variety of insects, small mammals and native birds, including the white-crowned sparrow, the spotted towhee, and the orange-crowned warbler. However, it is chockful of non-native grasses and plagued by numerous invasive species, such as Himalayan blackberry, scotch broom, spurge laurel, English hawthorn and European mantis.

Restoration practitioners have their work cut out for themselves at the meadow, but it also makes an excellent "living classroom" for budding restoration ecologists eager to cut their teeth.

Capstone Project

Not long after the email, I paid a visit to the restoration site and met the five undergraduate students involved at Lizard Haven: Olivia Anderson, Arianna Fardad, Ava Jeanne Gutheil, Elise Hall and Nova Moss Ravenscroft. Meeting these savvy, enthusiastic and hard-working young scientists gave me hope for the future of our planet!

They were all close to graduating, and Lizard Haven was their capstone project for an eight-month program overseen by the UW Restoration Ecology Network (REN). Each year for the last last 25 years, this program has pulled together UW students of various academic backgrounds to partner with local organizations to plan, design, and execute restoration projects in parks around the city, including the Arboretum. (Over 1000 students have worked on more than 180 restoration projects as part of this program.)

It was mid-May, and the students had been working on the site since the previous fall. Lizard Haven was about a half-acre in size, located by a small woodlot along a heavily trafficked trail at the upper eastern perimeter of the meadow. At the start of the project, the site was densely covered in Himalayan blackberry, some of it up to three meters high! Working over a period of months, the students—with help from local volunteers and their partner organization, Green Seattle Partnership (GSP)—manually removed the blackberry, laid down a thick layer of wood-chip mulch, and installed hundreds of native plants.

The five UW students working on the Lizard Haven project.

My first question for the students was, obviously, whether they'd seen any lizards!

"Yes," said Olivia. "We've seen them hanging out on the stone piles we created on the site. These are stones that we pulled from the ground while weeding the blackberries and digging planting holes for the natives. The lizard adapts to different habitats, but is happier in more open areas. We'll be adding downed wood to the site to give it more places to hide."

Yarrow blooming at Lizard Haven in fall of 2024.

As soon as she mentioned the stone piles, I noticed one nearby, along with large piles of decaying blackberry canes arranged along the north perimeter of the site.

"The blackberry canes that we cut and piled into 'fences' around the site should give the lizard lots of good hiding places, too," said Ava. "We're hoping they'll also act as barriers to prevent the non-native grasses in the larger, surrounding meadow from encroaching on the restoration site."

An existing Garry oak growing across the trail from Lizard Haven.

A stone pile and blackberry cane "fence" on the site provide habitat and cover for the alligator lizard.

Garry Oak Savanna

To maximize lizard habitat, the students decided to try to create a small Garry oak savanna (an open plant community mixing prairie with scattered trees), which is now rare and imperiled in Washington state, due to fire suppression. The only native oak species in the Pacific Northwest, Garry oak (*Quercus garryana*) is not a tree that grew historically at Discovery Park; however, it does grow well in the meadow. The students were inspired to plant it by Rob Stevens, who leads restoration efforts here for GSP and has planted about 60 Garry oaks in the meadow over the years. Growing conditions in the meadow can be tough for other native trees, as Rob explained to me via email: "The South Meadow has a sandy outwash soil that dries out during the summertime, but the tap-rooted oaks are acclimated to handling these conditions once they get established."

Along with Garry oaks, the students planted a diverse array of native shrubs, grasses and herbaceous perennials. Shrubs included blue elderberry (*Sambucus cerulea*), ocean spray (*Holodiscus discolor*), and Saskatoon (*Amelanchier alnifolia*). Grasses and herbaceous perennials included Roemer's fescue (*Festuca roemeri*), nodding onion (*Allium cernuum*), yarrow (*Achillea millefolium*), camas (*Camassia quamash*), big leaf lupine (*Lupinus polyphyllus*) and pearly everlasting (*Anaphalis margaritacea*).

They planted the prairie species and Garry oaks in the drier, more open, upland section of the site, while adding serviceberries, elderberries and other woodland-edge species to the wetter, downslope section of site, which was dominated by a large, pre-existing native red alder (*Alnus rubra*). Though the students aimed to improve lizard habitat on their site, they were also looking to provide more food and lodgings for a rich mix of animal life.

Social Restoration

"Most folks don't know we have a native lizard here, so when they hear about it, it gets them excited, and they are more inclined to help out," said Nova.

"Our community partner at Green Seattle Partnership really wanted us to stress the habitat value of the restoration. It not only helps the lizard, but also pollinators and birds. Most of the shrubs we are planting produce fruits that birds will eat. The pomes of the Saskatoon, for example, are eaten by towhees, waxwings and all sorts of other bird species, while the nectar is fed on by hummingbirds and spring azure butterflies."

I asked the students how much help they got from local volunteers.

"We simply could not have done this project without them," said Arianna. "The scale of the blackberry weeding was immense. But it was a rewarding experience because the volunteering builds community. We had people of all ages and backgrounds helping, and traveling from as far as West Seattle. Bringing folks together to work on a project like this is a kind of social restoration. We were also able to feed our volunteers, thanks to partnerships and sponsorships with local restaurants."

To help recruit volunteers and sponsors, and to raise awareness, the students launched their own Lizard Haven website and did a lot of outreach, including posting flyers around the city.

Volunteer at Your Local Park

At the end of spring term last year, the graduating students handed over the management and maintenance of Lizard Haven to Rob at GSP. Rob does a lot of similar restoration projects on the meadow, removing invasive weeds and planting native prairie species.

He says the lizards seem to prefer restored sites to areas with non-native grasses. "The difficulty is that the exotic grasses tend to work their way back in," Rob adds, "so I'm hoping that I can find native plants that will either coexist with the exotic grasses or hopefully outcompete them."

Rob is focused a lot on the native birds that use the meadow, but also does whatever he can to help the alligator lizards: "I build rock piles, too, and these are great habitat enhancements not just for lizards but also garter snakes. Probably the most effective thing I do is kill European mantises, which must have been released on the meadow years ago. The mantis is a direct competitor for the same insects that the lizards feed on."

Rob says the lizards seem to be doing well overall. "Recently, I was restoring a small area of the meadow about 500 feet west of Lizard Haven and saw a lizard on my site every day I was there, about five separate days. They also seem to love the areas underneath the piles of dead blackberry canes; I see one whenever I have to move a pile."

Unfortunately, at Lizard Haven, living blackberries quickly began to recolonize the restoration site. What's more, the Garry oak seedlings failed to establish over the hot, dry summer of 2024. As a result, Rob and his colleagues at Seattle Parks and Recreation decided to adjust the management plan for the site—bringing in some native conifers last fall to provide more shade, which will hopefully help suppress the troublesome blackberry.

This is adaptive management in action and not unusual for ecological restoration, especially in disturbed urban sites, which can be unpredictable.

If you'd like to help out the lizards and other animals at Discovery Park's meadow, Rob is always looking for assistance with weeding and other restoration tasks. Check out seattle.greencitypartnerships.org/event/map for volunteer opportunities there and at other Seattle parks. There are great people working to create havens for wildlife all around the city!

Niall Dunne is the editor of the "Arboretum Bulletin" and the communications manager at the Arboretum Foundation.

Student Restoration at the Arboretum

Multiple UW student ecological restoration projects have been completed at Washington Park Arboretum over the past two decades. The majority of them have involved the hard-core removal of invasive weeds, deep mulching, and planting of natives along the banks of Arboretum Creek in the Pinetum area. Some have also taken place in natural areas out on Foster Island.

In the 2023–24 school term, three separate capstone projects were completed in the Arboretum, one at the creek and two on Foster Island. At the creek site, students removed 378 square meters of Himalayan blackberry, English ivy, and buttercup; laid down 230 cubic meters of mulch; and installed 270 native plants. The work on Foster Island was similar in nature. In an exciting development, one of the student groups got to partner with the Muckleshoot Tribe to restore a site within the tribe's primary Usual and Accustomed Area on the island.

Sadly, the UW REN's three-quarter capstone program is ending this year, according to the Arboretum's Horticulture Supervisor Roy Farrow, who coordinates the projects with the students here. "We have just one project taking place in 2024–25," says Roy, "down at the creek. UW students will still have the option to engage independently in quarter-long restoration projects and courses, but it won't be the same."