

UC Santa Barbara

Newsletters

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UCSB Restoration Register - July 2026

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UC **SANTA BARBARA**

Cheadle Center for Biodiversity
& Ecological Restoration

Restoration Register

July 2026



Tansy mustard sweat bee (*Lasioglossum sisymbrii*) visiting a California poppy (*Eschscholzia californica*) at the NCOS Visitor Plaza. The heavy coating of pollen on this bee highlights the important role native sweat bees play in pollinating California's wildflowers as they forage.

Updates

Ellwood Monarch Grove



Sticky monkeyflower (*Diplacus aurantiacus*), heartleaf keckiella (*Keckiella cordifolia*), and branching phacelia (*Phacelia ramosissima*) blooming in the Monarch Grove.

Nearly two years after restoration began at the Ellwood Monarch Butterfly Grove, the native understory is becoming increasingly established. This spring and early summer, many of the flowering species planted beneath the eucalyptus canopy are thriving, with heartleaf keckiella (*Keckiella cordifolia*), sticky monkeyflower (*Diplacus aurantiacus*), western vervain (*Verbena lasiostachys*), golden yarrow (*Eriophyllum confertiflorum*), branching phacelia (*Phacelia ramosissima*) and California fuchsia (*Epilobium canum*) producing abundant blooms throughout the grove.



Heartleaf keckiella (*Keckiella cordifolia*).



Sticky monkeyflower (*Diplacus aurantiacus*).



Western vervain (*Verbena lasiostachys*).



Golden yarrow (*Eriophyllum confertiflorum*) with a tiny native hoverfly visitor.



Yellow-faced bumble bee (*Bombus vosnesenskii*) on branching phacelia (*Phacelia ramosissima*).

These native flowering plants provide important nectar resources for monarch butterflies and a wide variety of native pollinators while increasing the diversity and resilience of the grove understory. As the plantings continue to mature alongside newly established trees, they are helping create a more complex habitat that supports overwintering monarch butterflies and contributes to the long-term ecological recovery of this iconic coastal grove.



Two downy woodpeckers (*Dryobates pubescens*) foraging in the Ellwood Monarch Grove eucalyptus trees. The bird on the left is a juvenile, identified by the red feathering on its cap, while the bird on the right is a female. By increasing native understory diversity and maintaining healthy grove habitat, restoration supports the insect communities that provide an important food source for insectivorous birds like downy woodpeckers, which feed on beetle larvae, ants, caterpillars, and other insects.



Juvenile red-tailed hawk (*Buteo jamaicensis*), one of two young birds recently observed venturing beyond their nest in the Ellwood Monarch Grove.

Salt marsh bird's-beak



Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) in the eastern salt marsh at the North Campus Open Space.

Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) is a state and federally endangered annual herb in the broomrape family (Orobanchaceae). Members of this family include hemiparasitic wildflowers such as owl's clover and Indian paintbrush (*Castilleja* spp.). Like its relatives, salt marsh bird's-beak is hemiparasitic: it is capable of photosynthesis, but relies on connections to nearby host plants to supplement its nutrient needs. In salt marsh systems, it commonly associates with species such as saltgrass (*Distichlis spicata*).



Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) flower.

The species is native to Southern California salt marshes from Carpinteria to northern Baja California, but it had not previously been documented in the Goleta or Devereux Slough systems. For the plantings at NCOS, seed was sourced from the nearest known population in Carpinteria Salt Marsh to reflect regional genetic and ecological context.

Following initial experimental seeding efforts in spring 2023 (5,000 seeds distributed across restored marsh areas in collaboration with Tidal Influence and the U.S. Fish and Wildlife Service), early establishment was concentrated in sandy, moderately vegetated zones. Initial surveys recorded 57 flowering individuals later that season.

Since establishment, the population has expanded rapidly. Individuals increased to 1,914 in 2024 and reached 15,542 in spring 2025. Monitoring in 2026 shows continued expansion, with even higher numbers of individuals recorded across established patches and additional colonization of suitable habitat adjacent to previous planting zones.



A dense patch of salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) in the eastern salt marsh, visible from a distance during peak flowering.

New staff members



Eli Dewald



Garrett Mellinger

We are pleased to welcome Eli Dewald and Garrett Mellinger as the newest members of the Cheadle Center ecological restoration team. They will be supporting restoration efforts across several Cheadle Center projects, including s'o' hil xus (Bear Spring), North Campus Open Space, the Ellwood Monarch Grove, and the Sierra Madre and San Joaquin restoration sites.

Eli is a 2026 graduate of UCSB, where he earned a bachelor's degree in Environmental Studies with an

emphasis in Ecology. As an undergraduate, he conducted research on wildfire ecology, examining the effectiveness of prescribed fire and the role of native plant communities in wildfire dynamics. During his sophomore year, Eli took a Restoration Skills course offered by the Cheadle Center, which sparked his interest in ecological restoration. He soon began volunteering and working with the Cheadle Center as a student and has remained with the program ever since. Eli is excited to continue restoring natural landscapes while expanding his knowledge and experience as a member of the Cheadle Center staff.

Garrett joins the Cheadle Center restoration team after working as a student during the final two years of his undergraduate studies while earning a bachelor's degree in Environmental Studies at UCSB. His passion for fieldwork comes from the opportunity to spend time outdoors while connecting with the native plants, wildlife, and landscapes of the Santa Barbara region. Garrett's interest in studying and restoring these ecosystems is rooted in the belief that understanding the natural world fosters a deeper appreciation for it. He looks forward to continuing to build his knowledge of local ecosystems and applying his experience to restoration efforts across Cheadle Center project sites.

From Killdeer Chicks to Fox Kits: Making Space for Young Wildlife on Campus

A pair of killdeer (*Charadrius vociferus*) successfully nested at Commencement Green this season, with fencing installed around the nesting area shortly before graduation to protect the birds from disturbance. After the nest was identified in advance of commencement activities, campus staff coordinated to temporarily protect the area, allowing the birds to complete incubation while minimizing disruption in one of the busiest areas on campus.



Killdeer parent and chick near commencement green.

The chicks hatched successfully following graduation and were observed shortly afterward exploring the protected area. Killdeer chicks are highly precocial, leaving the nest soon after hatching and relying on camouflage and parental protection rather than prolonged care in the nest. Their ability to successfully raise young in a high-use campus setting demonstrates both the adaptability of wildlife and the importance of small-scale actions that create space for animals during critical life stages.



Caution tape delineating the killdeer nesting area.

Elsewhere on campus, a family of red foxes (*Vulpes vulpes*) was observed raising kits on Lagoon Island, where the protected island habitat provides a quiet refuge within the broader campus landscape. Red fox kits spend their first few weeks sheltered in an underground den before venturing out to explore and play. Both parents help raise the young, bringing food back to the den until the kits are old enough to begin exploring and foraging on their own.



Trail camera footage from Lagoon Island showing a family of red foxes (*Vulpes vulpes*). Thanks to our Lagoon Steward, Chris Berry, for capturing this wonderful glimpse into local wildlife.

Together, these stories highlight the remarkable diversity of wildlife that thrives across UCSB's natural areas and demonstrate how thoughtful stewardship can help people and wildlife successfully coexist.

s'o' hil xus Volunteer Day



Join us on Saturday, July 11, to continue restoration efforts at the s'o' hil xus restoration site. Enjoy ocean views from the recreated high point on Ellwood Mesa, participate in native planting activities, and receive your own s'o' hil xus – Bear Spring T-shirt. [Visit our website](#) to learn more about the s'o' hil xus project.

We will meet at the site ([click here for location](#)) at 9:30 AM. If you are able to walk, please meet us directly at the site. If you are driving, parking is available in the NCOS lot ([click here for location](#)). Please arrive there by 9:00 AM for the guided walk to s'o' hil xus. Don't forget to bring water, a hat, and comfortable outdoor clothing.

Please RSVP to ncos@ccber.ucsb.edu. We hope to see you there!

SERCAL Talks from Cheadle Center Staff

Recordings from recent SERCAL presentations are now available, featuring talks from Cheadle Center Director of Ecosystem Management Lisa Stratton and Ellwood Monarch Grove manager Ethan Anadon.



Emilee Doering and Lisa Stratton.



Jacob Pike and Zephyr Moss.

The presentation “[Adaptively Managing Restoration on Excavated Estuarine Fill Soils](#)” by Lisa Stratton featured research conducted by Emilee Doering, Jacob Pike, Zephyr Moss, Francis Joyce, Kellen Pierce, and Lara Roelofs. The research examined how restored landscapes develop over time in engineered coastal systems such as North Campus Open Space, highlighting how soil conditions and water movement can have a greater influence on vegetation establishment than planting design alone. These findings are helping refine restoration practices by supporting more site-specific, adaptive management strategies.



Newly planted red ironbark (*Eucalyptus sideroxylon*) trees in the Ellwood Monarch Grove.

Ethan Anadon presented “[Progress Over Perfection: Integrating Monarch Overwintering Habitat with Fuels Reduction](#),” which focused on the Ellwood Monarch Grove restoration project in Goleta. The project is working to maintain monarch overwintering habitat while also addressing fire risk and widespread eucalyptus decline. Rather than replacing trees one-for-one, the approach focuses on rebuilding functional habitat structure with a mix of selected trees and native understory species, with attention to long-term resilience.

NCOS Trail Use & Wildlife Protection Reminder

We have received recent reports of unsafe e-bike use on North Campus Open Space trails, as well as incidents of wildlife feeding, specifically involving crows. To help protect sensitive habitats and maintain a safe experience for all visitors, we would like to remind the public of a few important guidelines.

Under UCSB policies:

- E-bikes must have fully operable pedals and an electric motor rated at 750 watts or less.
- Only pedal-assist operation is allowed on campus bike paths; throttles may not be used.
- Maximum speed on campus bike paths is 20 mph.

- Class 1 e-bikes (pedal-assist up to 20 mph) are permitted.
- Class 2 e-bikes (throttle-assist up to 20 mph) are permitted only when the throttle is not used.
- E-scooters are not permitted on campus sidewalks or bike paths.

We also ask visitors to please avoid feeding wildlife. Feeding animals, including crows, can alter natural behaviors, increase dependence on people, and negatively impact sensitive ecosystems.

If you observe activities on the trails that may negatively impact wildlife, restoration efforts, or visitor safety, please let us know at ncos@ccber.ucsb.edu. If you feel comfortable, we would also appreciate you politely reminding others not to feed wildlife or ride throttle-powered e-bikes or e-motorbikes on site. Friendly reminders from fellow community members are often more effective than enforcement alone in encouraging responsible trail use. Thank you for helping keep North Campus Open Space a safe and healthy place for both wildlife and visitors.

Campus Lagoon trail signage



Visitors to the UCSB Campus Lagoon will notice several new trail signs installed this spring. These new metal interpretive signs for the Dilling Yang Lagoon Loop Trail have been placed at West Depression and Campus Point, matching the style of those found throughout the North Campus Open Space. The new signage commemorates Dilling Yang's lasting contributions to the UCSB community.

Flow State: Exploring Stormwater Management at UCSB



The Stormwater Team at the Campus Lagoon.

Thanks to support from [The Green Initiative Fund](#) (TGIF), a team of UCSB student researchers spent the academic year investigating how stormwater moves through the campus landscape through mapping, fieldwork, and data analysis. The project team included Bren School graduate students Justin Gutierrez, Nadav Kempinski, and Karlie Hayes, along with undergraduate researchers Franky Carbajal, Evelyn Le, Pearl Feil, and Minh Tri Ngo. The team was supported by advisors Mason King from UCSB Environmental Health & Safety and Lisa Stratton, our Director of Ecosystem Management here at the Cheadle Center.

The team's findings, methods, and lessons learned are highlighted in an interactive StoryMap exploring UCSB's stormwater network, field sampling, mapping, and data analysis. [Explore the StoryMap here!](#)

Species Spotlight

Corethrogyne filaginifolia

A major problem in conservation is the slow erosion of species, resulting in local extinctions and the loss of local and regional biodiversity. Too often this happens with both species and their locally adapted forms, or ecotypes.

This is most notable with rare species, but also happens with common ones. The California sand aster,

Corethrogyne filaginifolia, is a widespread native plant in California that, like our state flower, is incredibly rich in ecotypic diversity. In other words, this plant is locally adapted to so many places in the state that its appearance is drastically different from one place to another.



The flower heads are about 1 cm across, with a ring of lavender (occasionally white) ray flowers surrounding a central cluster of yellow disk flowers. Photographed at the North Campus Open Space outdoor classroom.

In the late 1990s, the still undeveloped Costco site was the last known location of this species in the Goleta Valley, at least in the lower elevations. Before ground was broken for that large development, we were given permission to salvage any native plants that would have otherwise been destroyed. We collected all of the plants and seeds we could find and brought them back to our nursery for sowing and repotting.



This low-growing native perennial typically reaches 0.2–0.8 meters in height, with some plants growing up to 1 meter tall.
Photographed on Lagoon Island.

Today, this plant grows on many of our natural areas on campus, and they are all the descendants of the salvaged Costco site.

Had those plants been destroyed, *Corethrogyne filaginifolia* would not have gone extinct. But the region would have experienced another extirpation, or local extinction. Furthermore, we saved the local ecotype, which would have been lost forever.



The silvery, soft-hairy leaves grow along slender stems that range from upright to spreading. Its simple, narrow to oval-shaped leaves give the plant its distinctive appearance and help it thrive in the dry, sunny habitats where it occurs. Photographed on Lagoon Island.

In the wind-swept dunes of Northern Santa Barbara county, this plant grows its long inflorescences flat across the ground, to stay out of the wind. In the stabilized dunes there off the coast, it is erect but has larger ray flowers that are almost white - distinctly unique from the smaller purplish flowers ours possess. It seems wherever you go, the habit, foliage, and flowers of this species are different. Another “wild heirloom” among so many in California.

We’re glad to have given this species, and its unique form, another lease on life.



Low, spreading coastal form growing in the windswept dunes of northern Santa Barbara County.



Coastal form with larger, nearly white ray flowers, photographed in stabilized dunes of northern Santa Barbara County.

Feature Story

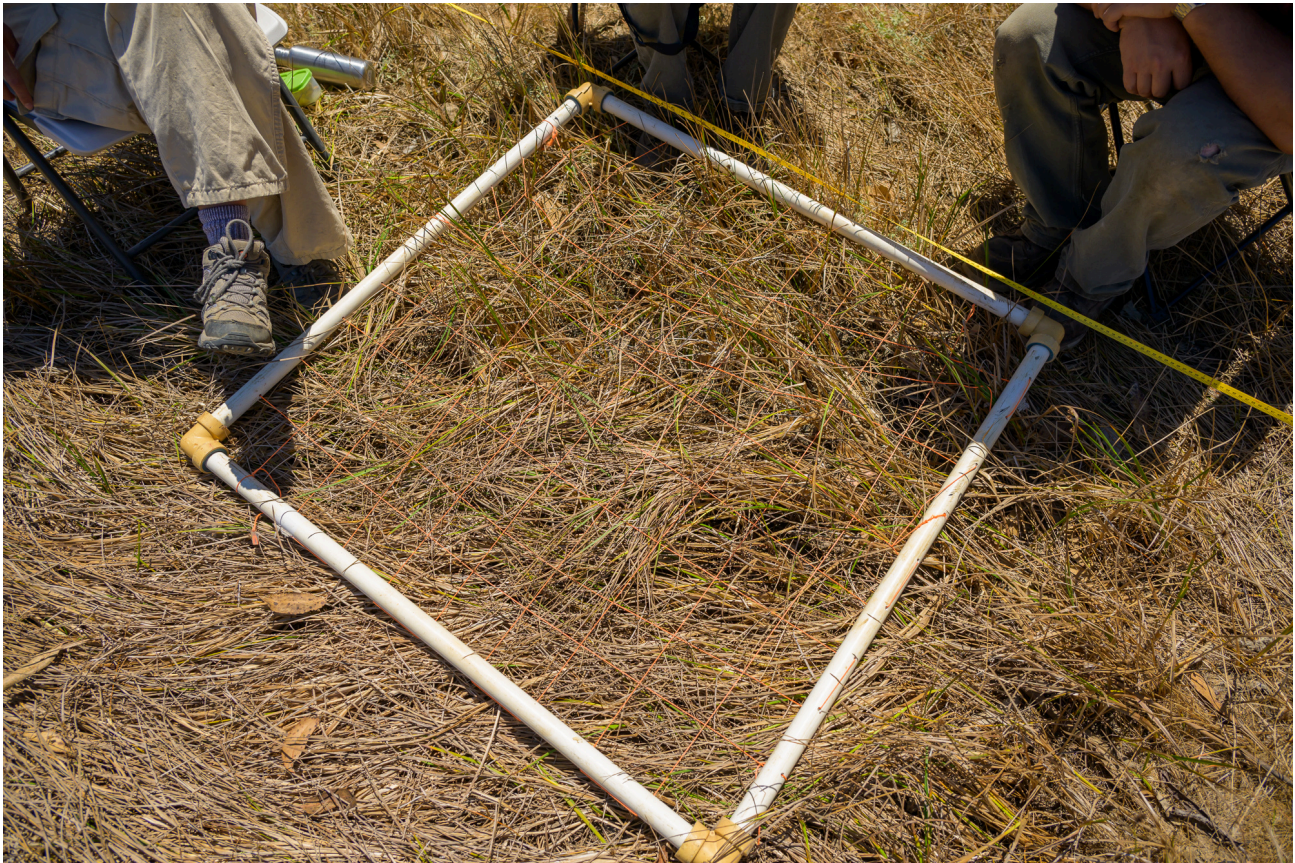
Reading the Landscape: Yearly Vegetation Monitoring



Cheadle Center staff and students conducting vegetation monitoring in South Parcel vernal pool habitat.

Every summer, Cheadle Center staff and students conduct vegetation monitoring across restoration project sites and management areas. These surveys are a core component of adaptive management, providing standardized field data to evaluate restoration outcomes and inform management decisions for the coming year.

Monitoring methods vary by habitat type. In low-growing plant communities, quadrat-transect sampling is used to quantify plant composition and ground cover. A 1 m² PVC quadrat divided into a 10 × 10 grid is placed at fixed intervals along alternating sides of a 30-meter transect line, typically every 3 meters. Within each quadrat, observers estimate percent cover for all plant species, along with ground cover components such as bare soil, litter, algae, moss, and restoration materials.



Quadrat along transect in vernal pool habitat at South Parcel.

This approach is adjusted for habitat context. In smaller systems, such as vernal pools and seasonal wetlands, transect length is determined by the length of the major axis of the wetland, and sampling is conducted more frequently to better capture fine-scale variation. In habitats where vegetation can exceed 2 meters in height, such as riparian woodland, point-intercept monitoring is used. For this method, a 2-meter wooden pole is placed vertically at 1-meter intervals along a transect, and every contact between the pole and vegetation is recorded. Contacts are documented separately for the sub-canopy (at or below 2 meters) and canopy (above 2 meters), with a laser pointer mounted on the pole used to determine whether the monitoring point intersects overhead vegetation.



Point-intercept monitoring in riparian woodland habitat along Whittier Channel at the North Campus Open Space.

Quadrat-transect and point-intercept methods provide complementary information about vegetation composition and structure. Quadrat-transect monitoring estimates absolute percent cover by visually assessing the area occupied by each species and ground cover type within a defined plot, providing detailed information on vegetation abundance and dominance in low-growing communities. Point-intercept monitoring measures the frequency of vegetation contacts along a transect, providing estimates of species occurrence and relative abundance while also capturing vertical structure and canopy development. Together, these methods allow vegetation changes to be tracked across a range of habitat types, from low-growing wetland communities to structurally complex woodlands.



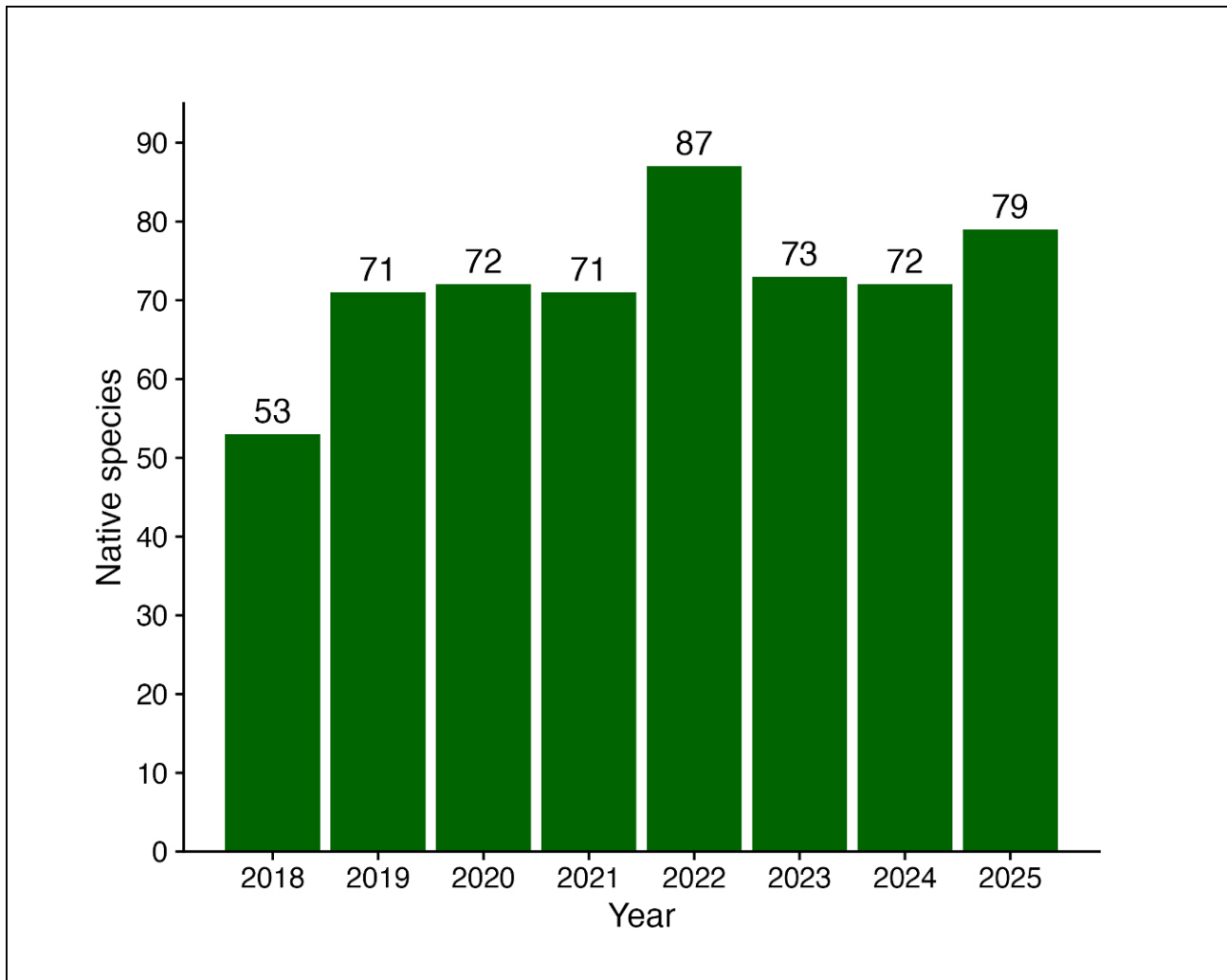
Field data are collected using ESRI Survey123 on tablets, allowing standardized data entry directly in the field and improving consistency across monitoring teams and years.

Across all sites, transect placement follows a randomized design within GIS-defined habitat areas to ensure representative coverage. Locations are selected with minimum spacing and buffered from edges, and orientation is adjusted to field conditions and site geometry. Field teams are trained to standardize species identification and vegetation measurements. Data are collected digitally using ESRI's Survey123 and later checked, compiled, and analyzed in R and Excel to produce summaries across habitats and years.



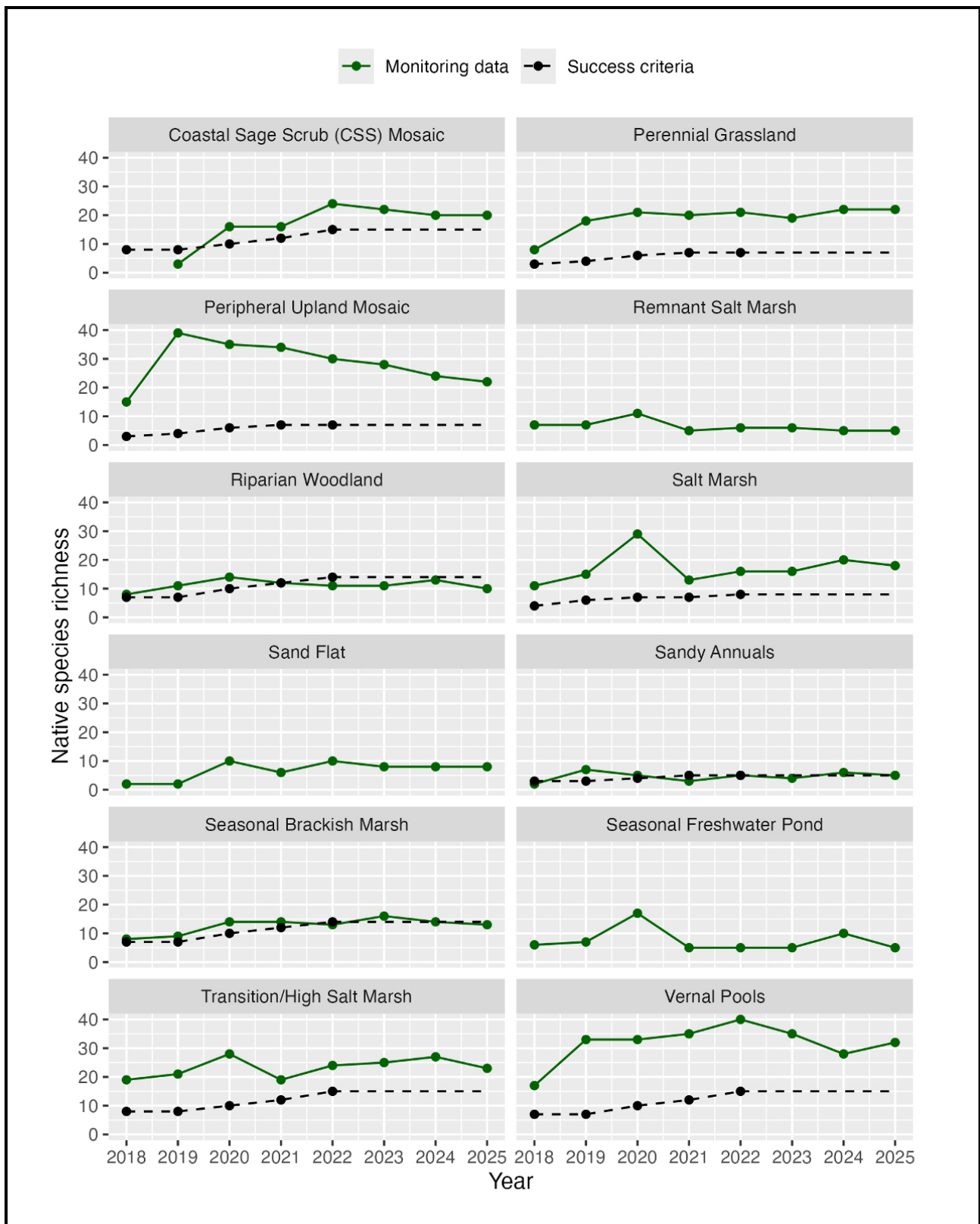
Map of the vegetation monitoring transects at the North Campus Open Space restoration project.

Vegetation monitoring at North Campus Open Space demonstrates how long-term data are used to evaluate restoration progress and guide adaptive management. As 2026 monitoring gets underway, the results from the 2025 surveys provide an opportunity to reflect on how these efforts help track restoration outcomes and reveal changes in plant communities over time. Annual monitoring results are compared with performance criteria established in the NCOS Restoration Plan, including native species richness and the composition of native and non-native vegetation across habitat types.



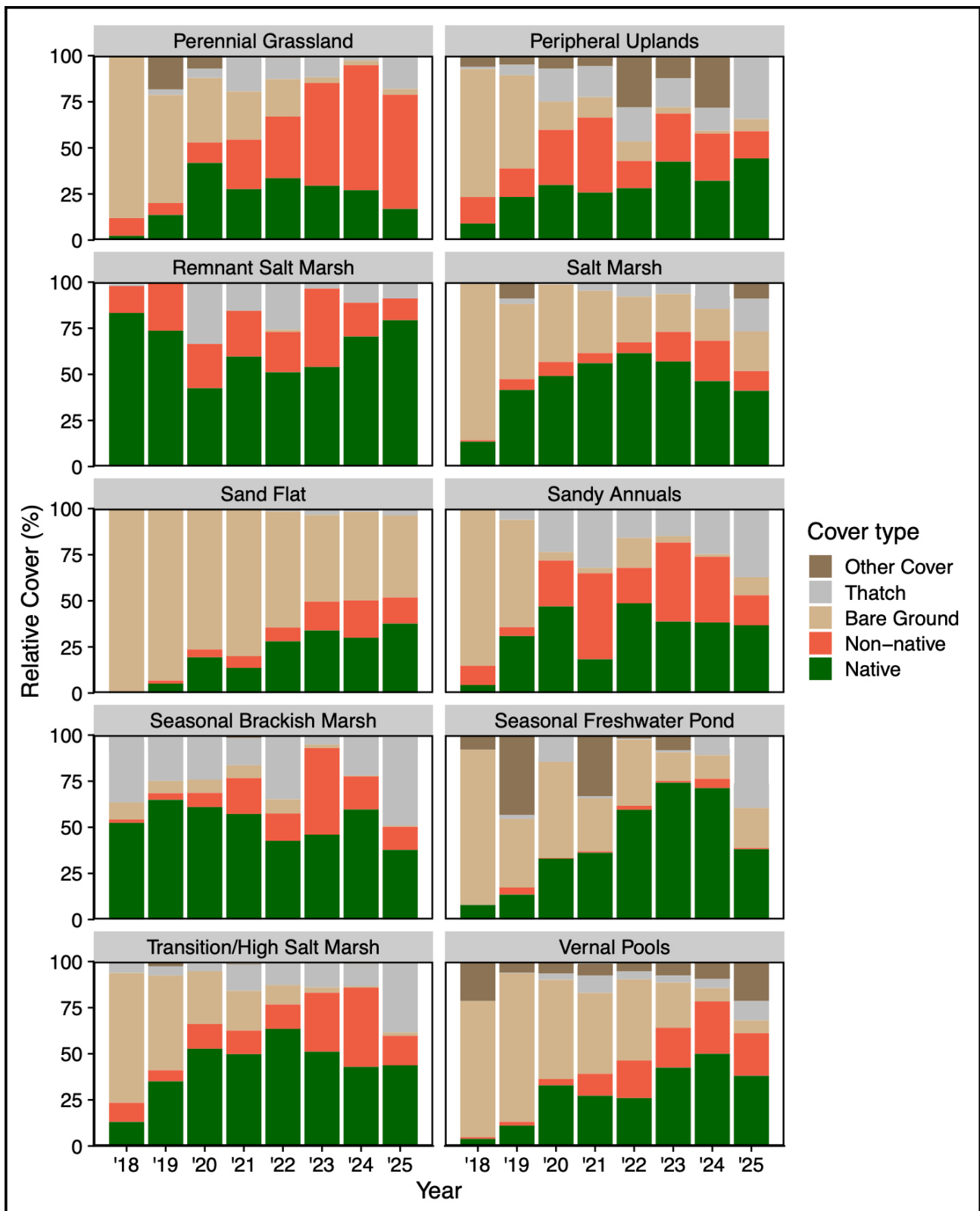
Total number of native species recorded across all quadrat and point-intercept monitoring transects in each year.

Native plant diversity has remained high across the NCOS restoration site. In 2025, 79 native plant species were documented, compared with 53 species recorded in 2018, representing one of the highest totals observed during the monitoring period.



Total native species richness over time by habitat.

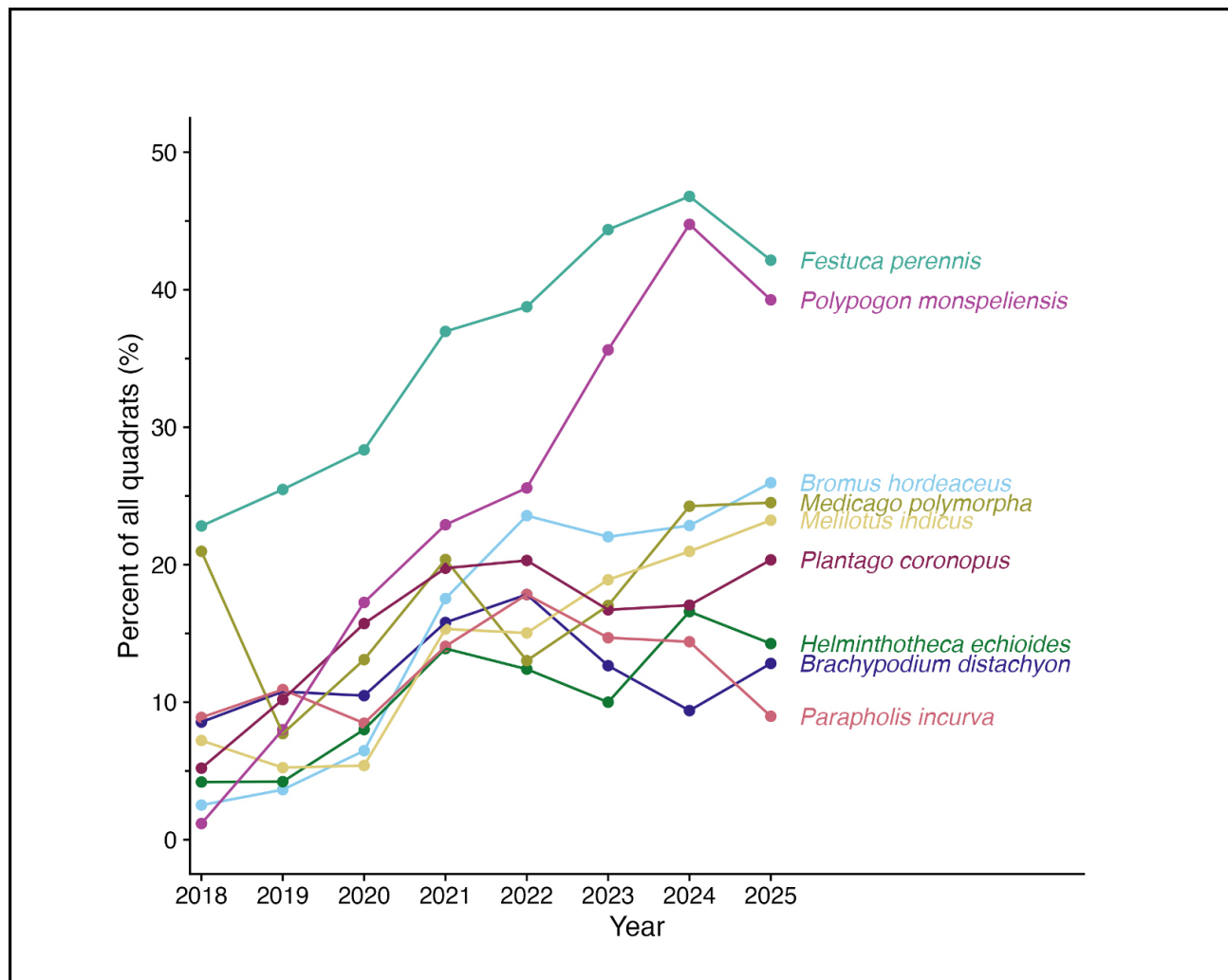
Most habitat types exceeded their restoration targets for native species richness, with particularly high diversity maintained in vernal pools, perennial grasslands, coastal sage scrub, transition/high salt marsh, and peripheral uplands. Seasonal brackish marsh also continued to exceed its target, while riparian woodland remained close to the established criterion. These results indicate that these restored habitats continue to support diverse native plant communities.



Mean relative cover of vegetation, thatch, other cover types, and bare ground in the habitats monitored using quadrat transects at the North Campus Open Space restoration project.

Since monitoring began in 2018, native vegetation cover in restored areas has increased substantially across nearly all habitat types while areas of bare ground have declined. Native cover is now the dominant component of most restored habitats, particularly in remnant salt marsh, seasonal brackish marsh, seasonal freshwater ponds, high salt marsh, and peripheral uplands. In contrast, the perennial grasslands continue to support relatively high levels of non-native annual

grass cover, reflecting the expected persistence of annual grass species in these habitat types. Despite this, native vegetation remains well established throughout these communities.



Relative frequency of occurrence in monitored quadrats for the nine most commonly recorded non-native plant species.

The monitoring record also documents continued progress in invasive plant management. Although Italian ryegrass (*Festuca perennis*), a Cal-IPC "Moderate" species, remains the most frequently recorded non-native plant at NCOS, its abundance varies with seasonal rainfall patterns. Another frequently observed species is Rabbitsfoot grass (*Polypogon monspeliensis*), while the remaining seven most common non-native species have remained relatively stable since 2021. Both *Festuca perennis* and *Polypogon monspeliensis* are associated with wetter soil conditions and increased during wetter years such as 2023 and 2024, but declined during the drier 2025 monitoring season.

Despite these fluctuations, no plant species ranked as "High" by the California Invasive Plant Council have been detected at NCOS since 2021. Previously widespread invasive plants, including pampas grass (*Cortaderia jubata*), fennel (*Foeniculum vulgare*), and black mustard (*Brassica nigra*), have been reduced to very low levels or eliminated through sustained management efforts.

Community observations also help expand our understanding of the plants and habitats found across Cheadle Center restoration areas. If you encounter interesting native plants, unusual blooms, or other noteworthy observations in our project sites, we invite you to share your photos with us at

ncos@ccber.ucsb.edu. Your observations help document seasonal changes and highlight the ongoing ecological recovery of these landscapes.

Volunteer Opportunities



Second Saturday Volunteer Day

s'o' hil xus: July 11, 9:00 a.m. - 12:00 p.m.

Please RSVP to ncos@ccber.ucsb.edu. Meet at 6969 Whittier Drive at 9:00 a.m. Bring water and sunscreen, and wear a hat, clothes, and shoes that are suitable for outdoor work.



Greenhouse Transplanting

Thursdays 9:00 a.m. - 12:00 p.m.

Come help transplant seedlings of native plants with the Cheadle Center team. To join, please send an email to ncos@ccber.ucsb.edu.

Community Photos

We are interested in any observations of wildlife activity from our [management areas](#), as well as plants and landscapes. Please send your observations, with or without photos, to ncos@ccber.ucsb.edu. Thank you!



A great egret (*Ardea alba*) displaying bright green lores, the area of bare skin between the eye and bill that becomes more vivid during the breeding season and is part of the visual signals used by adults during courtship and nesting. Photo by Sally Colman.



Black-necked stilt (*Himantopus mexicanus*) adult and juvenile foraging at the UCSB Campus Lagoon. Juvenile black-necked stilts continue to forage alongside their parents for several weeks after hatching while learning to navigate wetland habitats and locate prey. Photo by Sally Colman.



Yellow-crowned night-heron (*Nyctanassa violacea*) at the UCSB Campus Lagoon. These primarily nocturnal wading birds often remain motionless during the day before becoming active at dusk to hunt along wetland edges. Photo by Sally Colman.



Western fence lizard (*Sceloporus occidentalis*). Western fence lizards are common native reptiles that bask on exposed surfaces and feed on a variety of arthropods, including beetles, ants, spiders, and other invertebrates. As both predators and prey, they play an important role in California's terrestrial food webs. Photo by Jeremiah Bender.



Bush katydid (*Scudderia* sp.) on California poppy (*Eschscholzia californica*). Bush katydids have exceptionally long antennae covered with sensory receptors that help them detect touch, odors, and air movement as they move through vegetation. Photo by Jeremiah Bender.



Spotted tussock moth (*Lophocampa maculata*) caterpillar. This striking native moth caterpillar is covered in distinctive tufts of black and white hairs and feeds on a variety of trees and shrubs, including many native species. Like other moth caterpillars, it plays an important role in supporting food webs by providing a valuable food source for birds and other wildlife. Photo by Jeremiah Bender.



White-faced ibis (*Plegadis chihi*) at the s'o' hil xus (Bear Spring) restoration site. These wetland birds use shallow marshes, mudflats, and flooded fields to forage for insects, crustaceans, and other small aquatic organisms. Their long, curved bills are adapted for probing soft soils and shallow water in search of prey. Photo by Jeremiah Bender.

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