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UC SANTA BARBARA
Cheadle Center for Biodiversity & Ecological Restoration

Restoration Register

July 2025



Fledgling Say's phoebe seen near the Dilling's Link bridge at NCOS on 7/13/25. Photo by Lynn Scarlett.

Updates

Investigating Riparian Birds at Atascadero and Ellwood

A new project led by Santiago Lupi, a research intern at the Cheadle Center, is continuing work initiated by Conor McMahon to better understand the factors shaping riparian bird communities. Oliver Johnson, a graduate student at the Bren School, and research intern Toby Fowler are assisting with the project. The study focuses on two local sites - Atascadero and Ellwood - and investigates what may be driving the observed differences between the two areas.



Oliver Johnson, Santiago Lupi, and Toby Fowler listen closely for bird calls during a five-minute point count at one of the monitoring sites along Atascadero Creek.

The project combines several approaches. The team is using AudioMoth recorders to capture acoustic data, monitoring trees for arthropods to assess the availability of insect prey, and conducting five-minute point counts at both sites to document which bird species are present and how the communities differ. Weather data is also being recorded alongside point counts conducted near each AudioMoth device to help correlate environmental conditions with bird behavior.



Deployed AudioMoth acoustic monitoring unit.

Previous observations by Conor revealed notable differences in bird species between Atascadero and Ellwood. Riparian obligate bird species are increasingly rare or extirpated in the region, largely due to their reliance on both freshwater access and native riparian trees. Data from 2023–2024 show that species such as Warbling Vireo, Wilson's Warbler, and Black-headed Grosbeak were almost exclusively detected at Atascadero Creek, which features native cottonwood-willow forest and higher insect abundance.

In contrast, more generalist species like Purple Finch and Western Flycatcher were found at both Atascadero and Ellwood, though the latter was more frequently detected by sound at Ellwood, likely due to the availability of Eucalyptus bark as nesting substrate. Orange-crowned Warbler and Western Scrub-Jay were also much more common in the native-dominated habitat at Atascadero, underscoring the importance of intact riparian vegetation for supporting diverse bird communities. By integrating bird surveys, acoustic monitoring, and food availability data, this study aims to further clarify how habitat quality influences bird diversity and to inform future restoration efforts in riparian ecosystems.

Ellwood Marine Terminal

Contractors are continuing to excavate the remaining slightly contaminated soils below Line 96 on-site this summer. In August, we expect to begin the majority of the site grading to restore historic landforms while preserving wetlands and protecting natural and cultural resources. This schedule will allow the Cheadle Center team to begin restoration planting in the fall, with initial efforts focused on restoring the woodland along the eastern edge, the wetlands within the former tank berms, and the coastal sage scrub on the western edge.

Remediation of the ballast pond sediments is expected to continue through 2026, depending on sampling results and agency permit requirements. We are also developing grant proposals for public access trails and interpretive features, and we hope to secure funding and begin installation in late 2026 or early 2027.



Aerial view of EMT project - 7/14/25.

The Cove Housing Development



The Cove Housing Development.

The Cove Housing project, located adjacent to the North Campus Open Space, is nearly complete, with student move-in expected this August. We're excited to welcome our new neighbors and are developing an informative brochure to help residents understand and connect with the unique landscape surrounding them. The brochure will introduce residents to the history and restoration of NCOS, highlight seasonal wildlife and native plants, outline the Cheadle Center's role and contact information, and provide guidance on responsible recreation and pet management.

Vegetation Monitoring Begins



Cheadle Center staff and student workers assess vegetation cover along a transect in the NCOS Mesa grassland habitat.

Vegetation monitoring season is here! Across all of our management areas, Cheadle Center staff and student workers are assessing vegetation cover in a variety of habitats to help inform future management decisions. While most of the monitoring involves the quadrat-transect method, point-intercept sampling is also used in riparian areas where a multilayered vegetation structure is present. Working on vegetation monitoring provides a valuable opportunity for student workers to deepen their knowledge of local plant species.

Adopt-a-spot at Ellwood Monarch Grove

Community members can now “adopt” areas of the Ellwood Monarch Grove restoration site by committing to care for a specific section - removing invasive species, supporting native plant growth, and contributing to the long-term health of the ecosystem. The first section has already been adopted by a local community member, and thanks to their efforts, the drainage at Ellwood Main is now sparkling. Many invasive species - like the once ever-present cape ivy - have been removed, allowing hundreds of native plants in the drainage to thrive and mature.

The ongoing efforts to protect monarch butterflies and enhance native biodiversity at Ellwood Mesa wouldn’t be possible without the generous support of the community. If you’d like to adopt your own segment of the Ellwood Preserve, please reach out to anadon@ccber.ucsb.edu.


BRUTE



Before and after volunteer work on cape ivy removal in the monarch grove.

Feature Story

Conserving a Coastal Rarity: Salt Marsh Bird's-Beak at NCOS



This dense patch of salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) can be viewed from Venoco Road.

Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) is a state and federally-endangered annual herb in the Orobanchaceae (broomrape family). This plant family is largely parasitic or hemiparasitic and includes striking wildflowers such as owl's clover and Indian paintbrush (*Castilleja* spp.). Like its relatives, the salt marsh bird's-beak is a hemiparasite - it can photosynthesize and produce some of its own sugars, but its disproportionately large flowers and small leaves limit its energy production. To meet its full nutritional needs, it parasitizes the roots of nearby plants, such as saltgrass (*Distichlis spicata*).



Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) growing among saltgrass (*Distichlis spicata*).

Salt marsh bird's-beak is native to Southern California's salt marshes, ranging from Carpinteria to northern Baja California. Interestingly, it had never been observed or collected in the Goleta or Devereux Sloughs. Because populations in Southern California wetlands tend to develop unique local forms, the seed introduced to the North Campus Open Space (NCOS) restoration site was sourced from the nearest known population in the Carpinteria Salt Marsh.

In spring 2023, 5,000 seeds were sown at multiple experimental sites across the newly restored marsh in collaboration with Tidal Influence and the U.S. Fish and Wildlife Service. The trials identified sandy areas as the most successful habitat. Several months later, 57 plants were growing and just beginning to flower, marking a promising start for the species in Devereux Slough.



Aerial view of Salt marsh bird's-beak populations in the NCOS salt marsh - 7/14/25.

Despite a dry winter, salt marsh bird's-beak is thriving this year. The population increased from 57 individuals in 2023 to 1,914 in 2024, and surged to 15,542 in spring 2025. Data from previous years

helped identify the plant's ideal ecological niche: patches of medium-density saltgrass in sandy soil along the slough edge, at an elevation between 6 and 7.5 feet. Thin saltgrass cover did not provide sufficient nutrients for the plant to grow tall and mature, while overly dense saltgrass created too much shade and competition for space. Additional seed was spread at a few new sites in January 2025 with these optimal conditions, but the majority of the plants growing this spring are second or third-generation descendants of seeds sown in 2023 and 2024.

The unique plant-insect interactions observed in salt marsh bird's-beak have inspired new research led by Katerina Bischel, a graduate student at the Bren School of Environmental Science & Management, who is conducting summer research with the Cheadle Center. She is developing a machine learning model in Python to identify insect pollinators visiting two endangered coastal plant species: salt marsh bird's-beak and Ventura marsh milkvetch (*Astragalus pycnostachyus var. lanosissimus*). These plants rely on insect pollination for reproduction, but detailed information about their pollinator communities is currently lacking.



California bumblebee (*Bombus californicus*) digging into salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) flowers.

To support conservation efforts, her team is deploying camera traps at NCOS to capture video footage during peak bloom periods. Using this field-collected footage, Katerina will train and refine a neural network to detect pollinator presence and behavior. The long-term goal is to develop a non-invasive, scalable method for monitoring pollinator activity—one that can inform land management decisions and strengthen species recovery strategies. This interdisciplinary project integrates field ecology, computer vision, and conservation biology, and involves collaboration with UCSB faculty, staff, and pollinator specialists.

Volunteer Opportunities



Second Saturdays at NCOS

August 9th, 9:00 - 12:00

Please RSVP to ncos@ccber.ucsb.edu

Help us restore and create NCOS with plants and more! Meet at 6969 Whittier Drive at 9am. Bring water, sunscreen, and wear a hat, clothes and shoes that are suitable for outdoor work.



Thursdays - Greenhouse Associates

Thursdays 9:00 - 12:00

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



Nature Guide Tour

August 16th, 9:30 - 11:00

Please RSVP to ncos@ccber.ucsb.edu

Come take a walk around NCOS and learn about native plants and animals with a trained nature guide.

Community Photos

We are interested in any observations of wildlife activity on NCOS, as well as plants and landscapes. Please send your observations, with or without photos, to ncos@ccber.ucsb.edu. Thank you!



Yellow-crowned Night Heron near Phelps Bridge at NCOS. Photo by Daniel Forseth.



Mallard ducklings at the Campus Lagoon. Photo by Daniel Forseth.



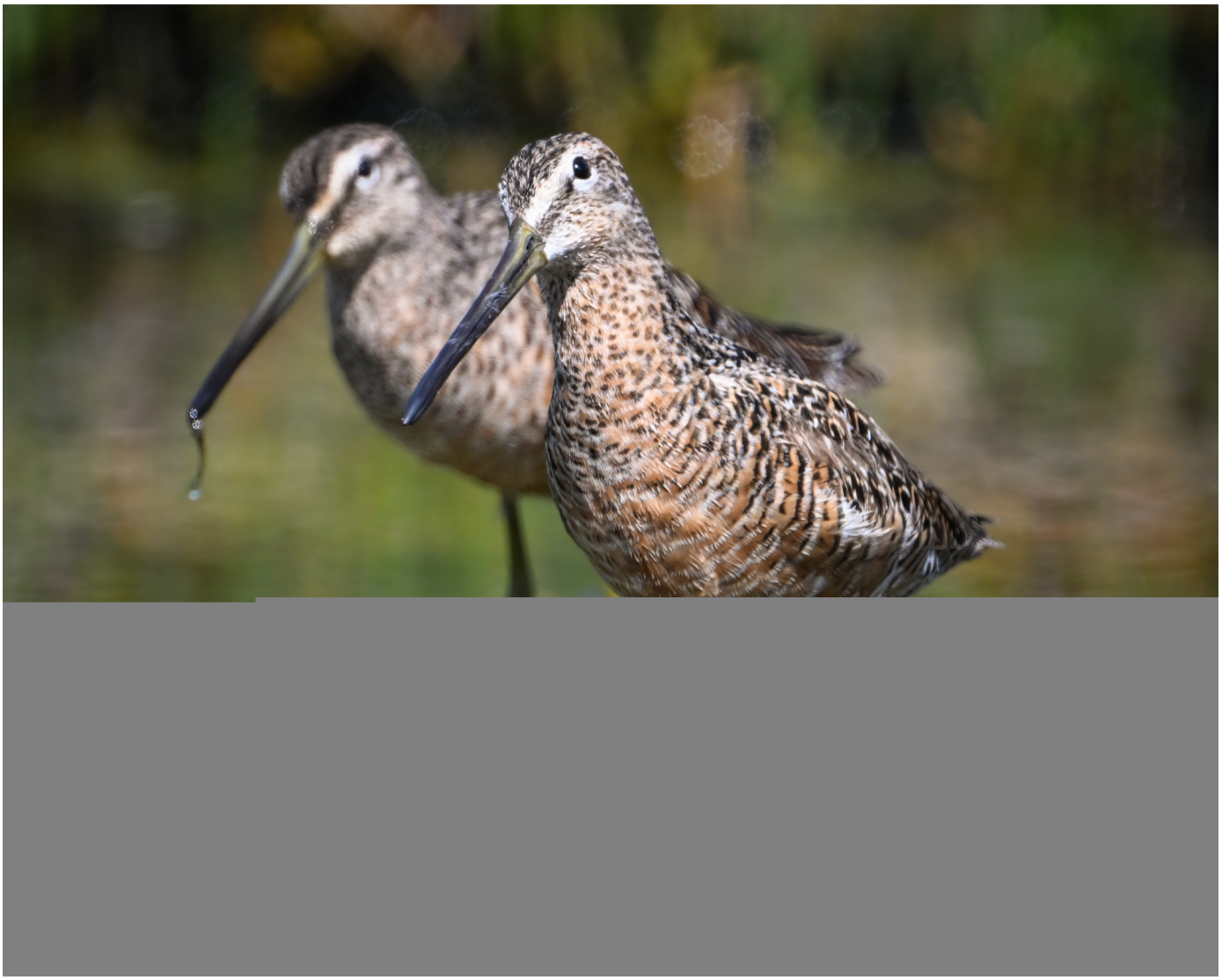
Common yellowthroat at Whittier Pond on NCOS. Photo by Sally Colman.



Juvenile Killdeer foraging on the shore of the slough near Phelps Bridge at NCOS - 6/17/25. Photo by Jeremiah Bender.



Double-crested cormorant at the Campus Lagoon. Photo by Jeremiah Bender.



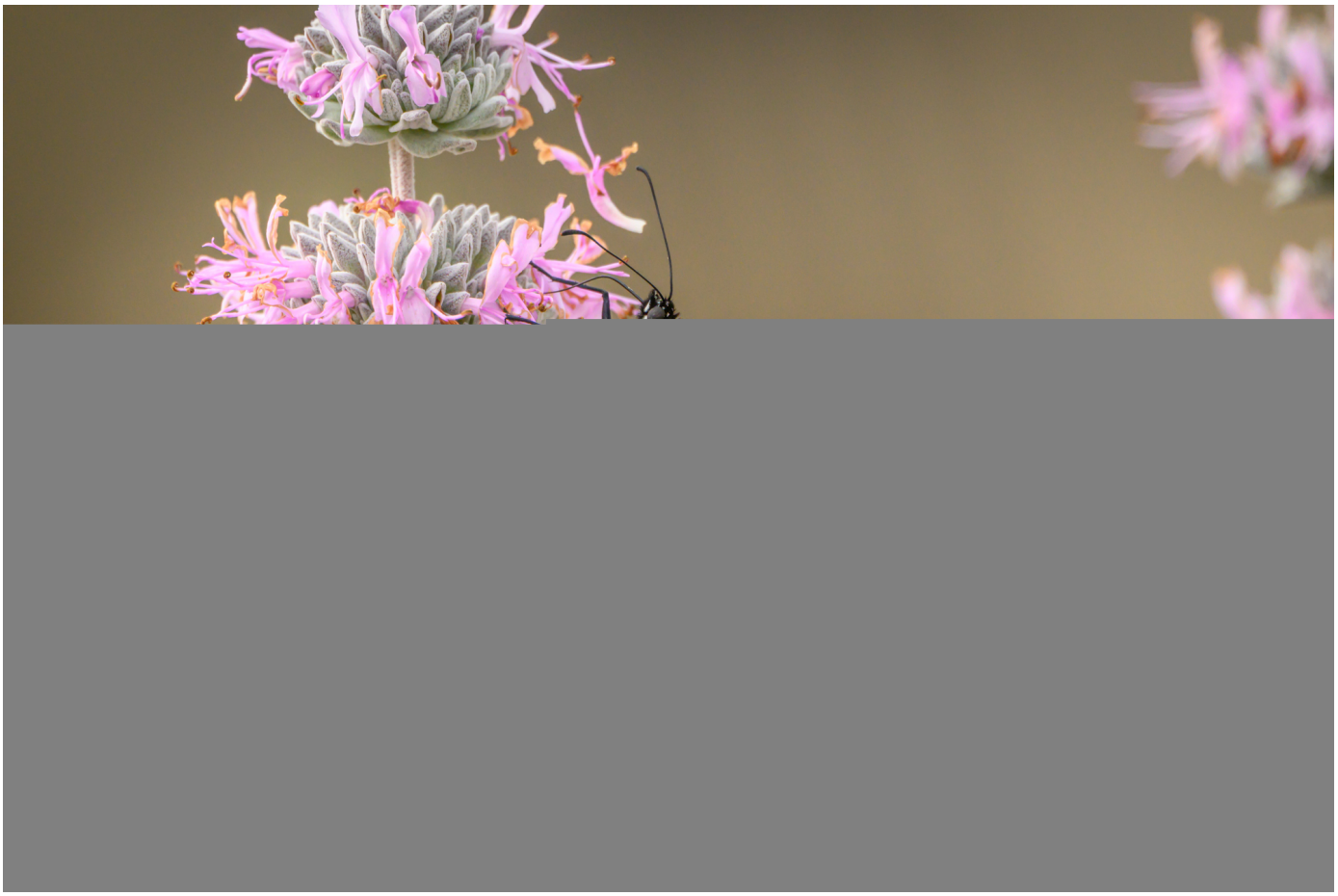
Long-billed dowitchers at the Campus Lagoon. Photo by Jeremiah Bender.



A brown pelican swoops low over the Campus Lagoon. Photo by Jeremiah Bender.



Juvenile red-tailed hawk (left) exhibiting begging behavior at NCOS - 6/21/25. Photo by Jeremiah Bender.



Western monarch butterfly (*Danaus plexippus*) on purple sage (*Salvia leucophylla*). Photo by Jeremiah Bender.

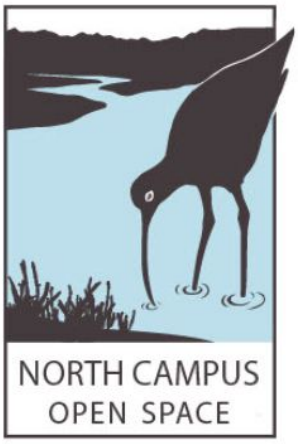
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For more information on the
North Campus Open Space Restoration Project, Click here**, or email** ncos@ccber.ucsb.edu

To support our work click here

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