

# UC Santa Barbara

## Newsletters

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UCSB Restoration Register - March 2026

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UC **SANTA BARBARA**  
Cheadle Center for Biodiversity  
& Ecological Restoration

# Restoration Register

March 2026



Devereux Slough on February 1st, 2026. Photo by Bill Dewey.

## Updates

*UCSB field classes explore restoration conundrums at NCOS*





**Soils of California class in the field at NCOS. Photo by Iris Holzer.**

Professor Iris Holzer's Soils of California class dug a 1-meter pit on the Mesa at NCOS to explore how the restoration strategy of creating a layer cake of topsoil, compost, and biochar above excavated clay-rich soils from the formerly filled wetland is functioning. Students measured pH, electrical conductivity (salinity), soil texture, bulk density, and characterized the soil profile. Students from Dr. Lee Anderegg's Plant Physiology class complemented the soils class by collecting plant samples from 4 different species and evaluating their water potential, which is a measure of plant stress.

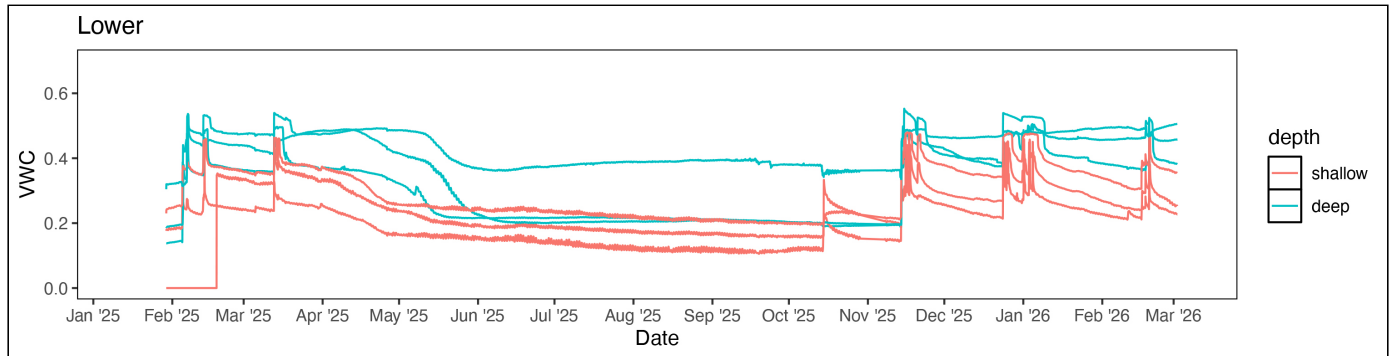




Soil pit at NCOS. Photo by Andrea Abrego Gutierrez.



Along with more than seven students who have been mapping plants and taking smaller soil cores, we are gaining insight into how incredibly impermeable and salty the sub-soils are and developing an understanding about how that is affecting plant growth and survivorship. Soil moisture probes tell us that the soil water saturation ranges from 10% to 55% by volume, meaning there is very little room for oxygen in the soil. This can create significant stress on plants despite plentiful moisture.



Graph derived from soil moisture probe data showing that soil water saturation ranges from 10% to 55% by volume.

The research into the plant–soil relationships at NCOS is ongoing, with new experiments testing the salinity tolerance of native grasses and understanding the survivorship of native shrubs under saturated soil conditions. We welcome your participation—please fill out the [research internship form](#) on our "Get Involved" tab.

## Art in Service of the Land



Art in Service of the Land at the UCSB Library Mountain Gallery.



Explore the intersection of art and conservation at [Art in Service of the Land](#), running from March 9 to June 26, 2026, at the UCSB Library Mountain Gallery. This collaborative exhibition highlights the Oak Group, the Cheadle Center, and Coal Oil Point Reserve, showcasing how art documents and amplifies the ongoing work to conserve Devereux Slough and NCOS.

Santa Barbara's premier plein air collective, the Oak Group, has been raising awareness and funds for open spaces since 1986, generating over \$3 million in sales and presenting more than 100 exhibitions benefiting over 20 conservation organizations. Their work captures threatened landscapes and inspires stewardship of local lands.

Don't miss this chance to see stunning artwork that celebrates the beauty and complexity of our local environment while supporting conservation efforts. Visit the [Oak Group website](#) to learn more about their history and artists.

### ***Ellwood Marine Terminal***



**The first purple needlegrass (*Stipa pulchra*) from drill seeding efforts is popping up!**

Planting is beginning at the Ellwood Marine Terminal (EMT) restoration project, and we're inviting volunteers to help! Starting in April, our Second Saturday volunteer days will focus on habitat restoration at EMT, and you can also join us during the week to take part in planting efforts. Volunteers will receive free s'o'hil xus T-shirts while supplies last. To get involved during the week, contact [ncos@ccber.ucsb.edu](mailto:ncos@ccber.ucsb.edu).

### ***Wildflowers***





Lagoon island wildflowers on March 1st, 2026.

Now is the time to take a walk around [Lagoon Island](#) and [Henley Gate](#) to enjoy the stunning wildflowers! Visitors may spot red maids (*Calandrinia ciliata*), California poppy (*Eschscholzia californica*), seaside fiddleneck (*Amsinckia spectabilis*), common popcorn flower (*Cryptantha clevelandii*), miniature suncups (*Camissoniopsis micrantha*), blue toadflax (*Nuttallanthus texanus*), Nuttall's snapdragon (*Antirrhinum nuttallianum*), and common phacelia (*Phacelia distans*), among others. Watch the video above to step into the spring wildflower show on Lagoon Island.



Miniature lupine (*Lupinus bicolor*) flowering at the South Parcel restoration site.



While Lagoon Island and Henley Gate offer the most diverse wildflower displays, you can also find pockets of wildflowers at many of our other sites. Use the [map on our website](#) to explore all our locations and see what wildflowers you can find!

### ***NCOS Aquatic Invertebrate Lab Survey***



**A thriving community of aquatic invertebrates in the freshwater marsh at the Sierra Madre restoration site.**

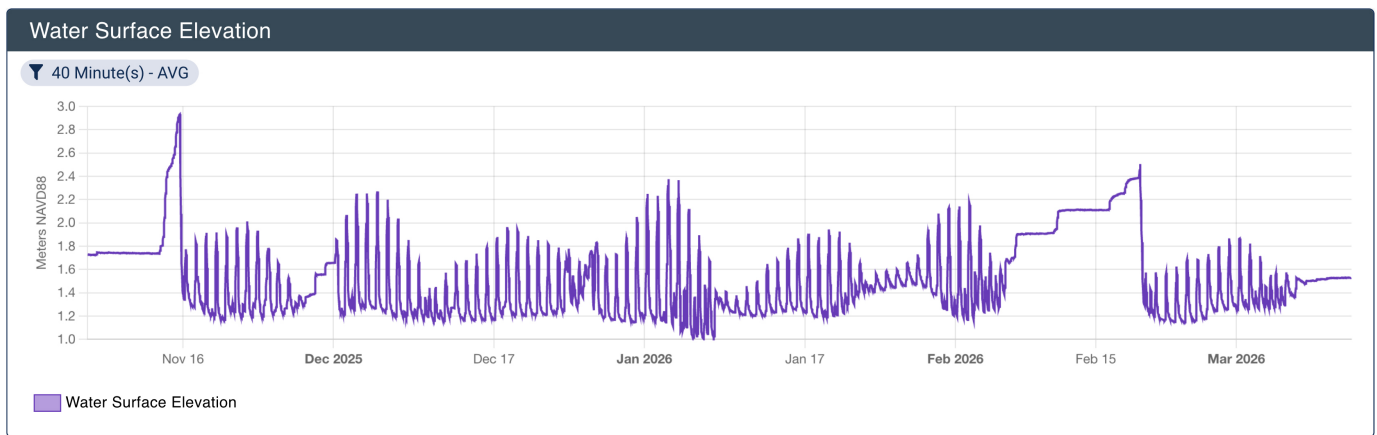
We want to know what you think about aquatic invertebrates—help us by taking a short survey! This survey is a part of a research study being conducted by UCSB undergraduate student Sequoia Marx under the supervision of Dr. Francis Joyce, our new restoration research coordinator. Participation in this study is voluntary, and its purpose is to understand public perceptions and knowledge of aquatic invertebrates in relation to Devereux Slough restoration projects. The results of this survey will be used to understand the current knowledge and perceptions of aquatic invertebrates among visitors of Devereux Slough.

If you have any questions or concerns, feel free to contact Sequoia Marx at [sequoiamarx@ucsb.edu](mailto:sequoiamarx@ucsb.edu) or Francis Joyce at [francis.joyce@ucsb.edu](mailto:francis.joyce@ucsb.edu). If you have any questions regarding your rights as a research subject, please contact the Human Subjects Committee at (805) 893-3807 or [hsc@research.ucsb.edu](mailto:hsc@research.ucsb.edu). You may also write to the University of California, Human Subjects Committee, Office of Research, Santa Barbara, CA 93106-2050.

If you want to participate in this study, [click this link](#). Thank you!

### ***NCOS Hydrology***





Graph showing the months of tidal influence on the water level in the Devereux Slough. Credit: [UC Davis Coastal Oceanography Group](#)

This year, Devereux Slough was tidal for longer than any year since the NCOS Project began in 2017. The system is now closed off to the ocean again after several weeks of tidal influence following the storm system that occurred in mid-February. The chart above shows how large a portion of the year the slough has remained open to the ocean and influenced by tides.



Belted kingfisher (*Megasceryle alcyon*) after a dive into the slough.

We are interested in understanding how this increased tidal connection may be altering the fish community in the slough and the potential resulting impacts on bird populations. We are also curious to see what impacts this extended tidal period may have on the distribution of one of our rarest plant species on site, the salt marsh bird's-beak (*Chloropyron maritimum subsp. maritimum*). Stay tuned for updates!



The video above shows the contrast in water levels between February 18, when the slough was closed to the ocean after the mid-February storm, and a relatively low tide on February 26, 2026 following the second breach on February 19.

### ***Ernestine Ygnacio-DeSoto, Chumash Elder, 1938-2026***

By Wayne Chapman





**Ernestine lighting the 2023 cultural burn on the NCOS Mesa.**

On January 29, 2026, Ernestine Ygnacio-DeSoto left us to begin her journey to šimilaqša. A true original whose spirit, story, and rarity can scarcely be condensed into any short prose, she has already been memorialized beautifully several times over.

Ernestine was born in Santa Cruz, California, on August 18, 1938, and grew up in Santa Barbara in a household of 19. If her life could be simplified into two halves, the first was marked by struggle, beginning with a childhood plagued by illness and hospitalization. Born with a congenital heart defect, she was especially susceptible to many illnesses, and was plagued by pneumonia in her youth. Ernestine attended local schools when the area was largely still undeveloped, including expanses of now lost wetlands. She would have 5 children before the age of 28.

She survived and overcame many difficulties.

The second half of her life would be marked by independence, when she would earn a nursing degree, support herself, and leave her second husband. In this chapter she became a fierce advocate for and



prominent leader of her Chumash culture. Over the course of 50 years, she would care for many patients at 4 regional hospitals, including as a hospice nurse at Cottage, and lovingly recount many of them frequently. The many years of working the night shift seemed to have permanently altered her circadian clock, as she was a night owl of the highest order.



**Ernestine as Grand Marshal of Old Spanish days in 2023.**

In her life Ernestine traveled to Australia and Italy, served as a consultant and speaker at many museums and university classes, and was featured prominently in several films and documentaries, including Six Generations which she made with John Johnson, and so much more. Until the end, Ernestine was active in Chumash basketry, cordage making, and the preparation and consumption of traditional food. One of her favorites was acorn mush and honey. A devout Catholic, Ernestine cast a wide net over those she loved, from every walk of life. She was instrumental in the conception and installation of a life-sized bronze sculpture of a California grizzly with a Chumash woman that resides today in the Old Mission Cemetery; a tribute to the many Chumash interred there, as well as the nine Chumash killed in the revolt of 1824. Shortly before her death, she received a framed papal blessing from Pope Leo.

Ernestine was especially involved in her 'alapakaswa language, and was the last person on Earth to have grown up hearing it spoken fluently in the household. Her great-uncle Tomás Ygnacio was the second-to-last first-speaker, and her Mother Mary Yee, the last first-speaker, of any of the Chumash languages. Although she was not fluent herself, she was noted by linguist Marianne Mithun to have a keen ability to pronounce words in the language, no doubt the result of having heard it so frequently during her childhood.



years. For over 60 years, her family worked with famed ethnographer John P. Harrington and Madison Beeler, making significant contributions to the language's survival today. Her nephew, James Yee, is working towards his PhD in linguistics at UCSB on the very language Ernestine heard so frequently in her household as a young girl.

Ernestine's family genealogy traces back to the earliest Spanish records from the 1700's, but surely dates back to time immemorial. In her family's records are mentions of the natural world now long gone. Her mother, Mary Yee, had stories of interacting with burrowing owls on their property, a species once locally abundant, now all but extirpated. In one story, too poor for a doll, she dressed a small dead owl instead, which her mother, Lucrecia, threw into the fire. This was likely a burrowing owl. In the other, it was not ambiguous. Mary Yee recalled finding one that had been unearthed after a field was plowed. Holding it in her hand, she described it as light as a feather. Her great-uncle Tomás Ygnacio harpooned sea otters offshore from a plank tomol. As the hunter-provider, he brought home gutted deer whole, on his back. Maria Ygnacia creek, which flows past her family's Indian Orchard, bears the name of her great-great grandmother.

Ernestine had a particular fondness for and kinship with bears- of which she considered herself one. She illustrated and wrote a children's book- *The Sugar Bear Story*- based on one of her mother's stories- written in Chumash and English. One family story told of Maria Ygnacia (later changed to Ygnacio) being charged by a grizzly, which sat on top of her. With a glint in her eye, Ernestine further shared that Maria escaped the grizzly by pinching his testicles- causing the bear to run. Another was of an elderly relative, José Silinahuwit, the Indian who did not die. One day he told Luisa and José that his time had come to join the animals- the bears. Ernestine's great grandfather José Tumyalatset went to follow his tracks to see where they went. He said they turned into bear tracks, heading for the mountains. He was never found.

Ernestine once shared a story of Maria sneaking away in the night, afraid of being found out by Spanish guards, to perform the seaweed dance in the surf. I've often thought about her great-great grandmother making that trek, alone, in the dark, afraid of retribution. It's easy to see where her determination and bravery came from.

I first met Ernestine around 2016, at a meeting regarding Chumash input for the North Campus Open Space project at UCSB. A few years later, we hired her to record some of her mother's stories in Chumash and English, where I overheard her complaining of visiting the laundromat as Covid was beginning, among other difficulties. So began the mission to get her a washing machine and dryer, which, through the generosity and collaboration of many kind people, was installed brand new in short order. Laundry problem solved; so many others to go!



**Ernestine with her beloved cat Chica. Photo by Kathi Conti.**

Ernestine was famous for creating two problems for herself for every one solved. Her stubbornness never abated. Her actions never wavered. She was doing it her way, and that was just going to be that. She had a support network made up of community, friends, and family, that put out the fires- some small and some large- that she (and her cats) continuously started. Too long to list, they include her close friends Pam Kiel of Ventura, and Kathy Conti of Santa Barbara. This network kept her going, and living independently.

Ernestine was famously unfiltered, and despite her love for jelly beans, did not sugarcoat things. As has been said, you knew where you stood with her. This included waiters, and just about everyone else. While she could be feisty, she also had the softest of sides, thinking good thoughts of, and praying for, her 'enemies'. She was a gourmet, who could never stay on her diet, even as her health demanded it more acutely with the passing of each day.

In 2023, Ernestine lit the cultural burn at the North Campus Open Space, a millennia-old Chumash practice, so old even her great-great grandmother had no memory of it. In so doing she became the first Chumash woman to purposely ignite a grassland fire since 1793, when it was outlawed (Maria was born in



1798). Today a series of illustrated benches are being planned for the Ellwood Marine Terminal restoration site on the UCSB campus, based on stories inherited from her great-great grandmother Maria Ygnacia, great grandmother Luisa Garcia, grandmother Lucrecia Ygnacio, and mother, Mary Yee.

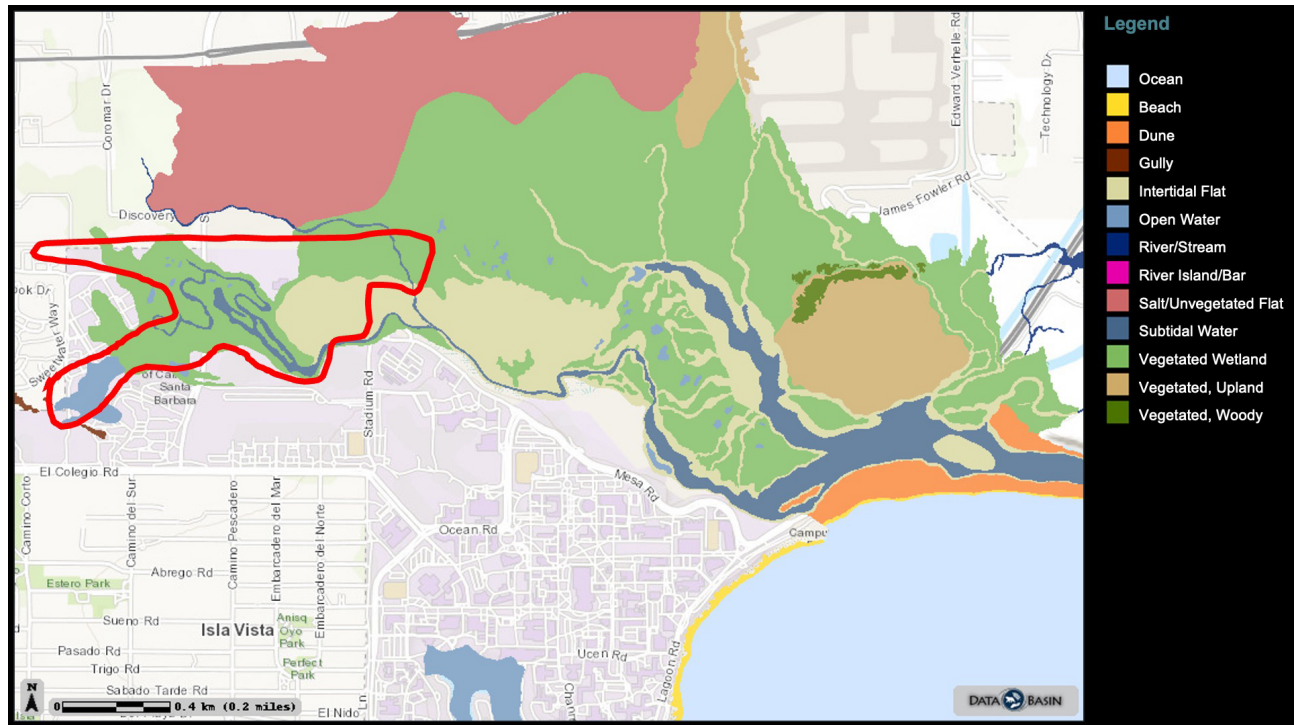


Ernestine, from everyone who knew you, it was a privilege. You were like xus (bear), rare and strong and unforgettable. Peleyep hi č'ho (travel well).

## Feature Story

### *West Goleta Slough Tidal Restoration Design*





**Historic wetlands in the project area, derived from 1871 mapping.**

Nearly 100 years ago Thomas Storke owned the land in the Western Goleta Slough and wanted to graze his cattle and potentially develop it, but it was wet and salty, so he constructed berms across the slough to stop the pesky salt water from getting into his 'ranch'. Rainfall and runoff had to get out of the area, so he constructed drainage ditches to take that water into the remaining slough to the east and added a tide gate to that ditch to keep the salt water out.

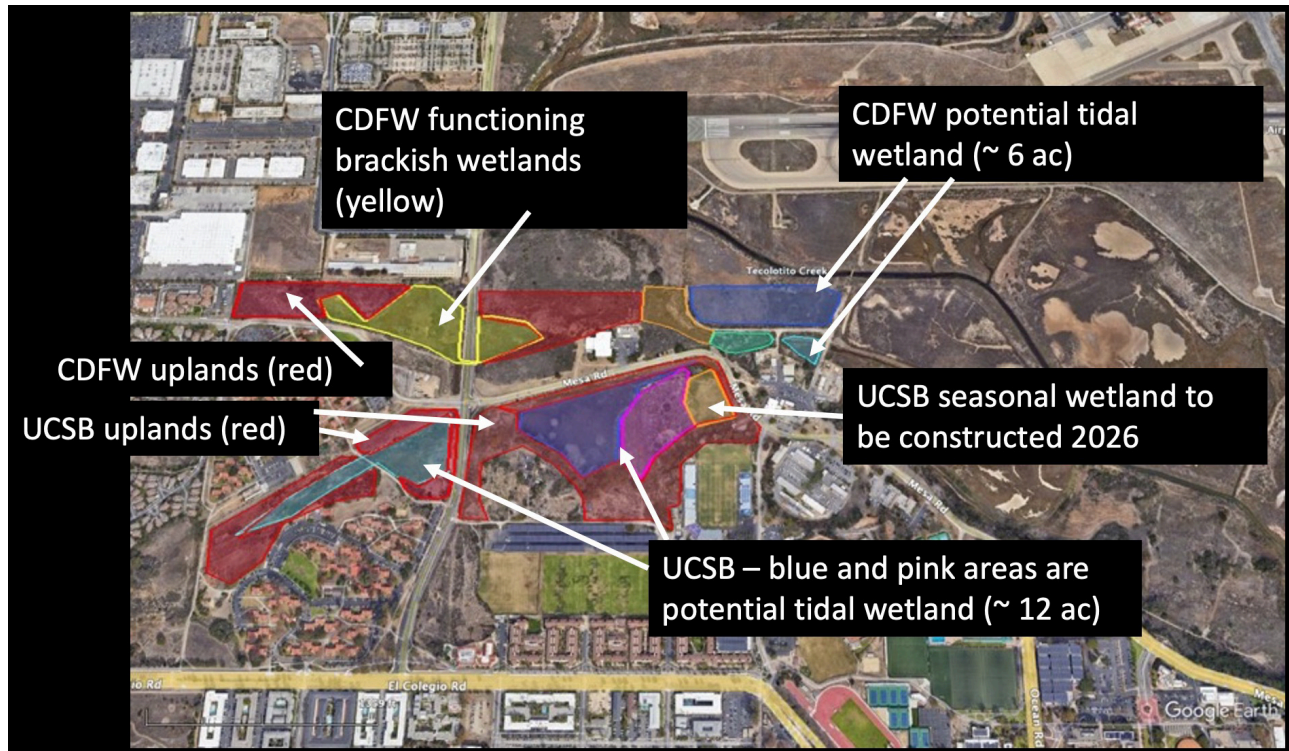


**Historical aerial image of site from 1929, already impacted by berm on east side.**

That was the beginning of the end for what were once more than 60 acres of salt marsh in the 1920s. Since then, the ecological function declined and roads and housing were constructed; think Los Carneros Road and what is now Henry T. Yang Drive and Storke Family housing. In addition, the



watershed all around the western slough has become increasingly impermeable and all that water has been channelized into storm drains that pour directly into wetlands. In some cases, those wetlands have become fairly high-functioning, and in other cases the drainage ditches continue to reduce the functionality of the wetlands.



Historical aerial image of site from 1929, already impacted by berm on east side.

UCSB's Cheadle Center was recently awarded a grant from the Wildlife Conservation Board (WCB) to study the system hydrology and ecological function and develop a restoration plan to potentially increase tidal connectivity for 6 to 18 acres of salt marsh and to improve and enhance another 45 acres of wetland and upland habitats. The project goal is to develop a project on UCSB and California Department of Fish and Wildlife (CDFW) land that provides and possibly enhances flood protection for the community while restoring diverse habitats that are resilient in the face of climate change.



**Area K is a birding hotspot in the Goleta Slough. Now disconnected from tidal influence, the area floods only after rain events.**

This project occurs at the nexus of many jurisdictions, so there will be many project stakeholders and partners in the project. CDFW and the City of Santa Barbara, who own the airport, are two key partners. Other partners include the utilities with lines through the slough such as the Goleta West Sanitary District, representatives from the Chumash community who have historic connection to the land, environmental groups such as the Audubon Society and multiple regulatory agencies such as the Coastal Commission and the Army Corps of Engineers.

The Cheadle Center is currently working on assessing the ecological function of tidal and non-tidal portions of the project site and adjacent Goleta Slough for birds, aquatic invertebrates, plant diversity and vigor. This work will include many student field research assistants. A request for qualifications is going out to hydrological engineering firms to assist with modeling the system and assisting with permitting and final restoration plan development.

## Volunteer Opportunities

### Second Saturday Volunteer Days

**NCOS: March 14th, 9:00 a.m. - 12:00 p.m.**

**EMT: April 11th, 9:00 a.m. - 12:00 p.m.**

Please RSVP to [ncos@ccber.ucsb.edu](mailto: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](mailto: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](mailto:ncos@ccber.ucsb.edu). Thank you!



**A Great Egret (*Ardea alba*) with its reptilian prey, a western skink (*Plestiodon skiltonianus*). Slightly smaller and more slender than a Great Blue Heron, Great Egrets hunt in classic heron fashion, standing immobile or slowly wading before striking fish and other prey with a swift jab of their yellow bill. Photo by Dana Anderson.**





An Allen's Hummingbird (*Selasphorus sasin*) at NCOS. This species is an early migrant, often arriving on its breeding grounds as early as January when winter rains produce abundant flowers. Photo by Lynn Scarlett.





**An Anna's Hummingbird (*Calypte anna*) in its nest on Lagoon Island. Females choose the nest site, usually on a horizontal branch of a tree or shrub 6 to 20 feet above the ground, often near a source of nectar. They commonly build nests in oak, sycamore, or eucalyptus trees, but may also use vines, shrubs, or even poison oak. Photo by Lynn Scarlett.**





An American Kestrel (*Falco sparverius*) seen at NCOS. The most common and widespread falcon in North America, its populations declined by about 1.5% per year between 1966 and 2019, a cumulative drop of roughly 50%. While the global breeding population is estimated at 9.2 million and the species is considered of relatively low conservation concern, American Kestrels could lose another 50 percent of their population by 2075 if current trends continue. Declines are linked to habitat loss, reduced prey from intensive farming practices, and exposure to pesticides that lower insect prey and nesting success. Photo by Lynn Scarlett.



**A Double-crested Cormorant (*Nannopterum auritum*) skims low over Devereux Slough at NCOS. These diving birds feed mainly on fish, with more than 250 species recorded in their diet, and their hooked bill helps them grip slippery prey. Photo by Jeremiah Bender.**





**A female Red-winged Blackbird (*Agelaius phoeniceus*) peers through California bulrush (*Schoenoplectus californicus*) along the shore of the western seasonal ponds at NCOS. Red-winged Blackbirds feed mainly on insects in the summer and seeds in the winter, sometimes probing at the bases of aquatic plants to pry them open and reach insects hidden inside. In fall and winter, they also eat weedy seeds such as cocklebur (*Xanthium strumarium*). Photo by Jeremiah Bender.**





A female Hooded Merganser (*Lophodytes cucullatus*) flies low over the mesa vernal pools at NCOS. Hooded Mergansers dive to locate prey by sight, with eyes specially adapted for seeing underwater. They propel themselves with their feet, and their slender, serrated bills help them grasp slippery prey. Ducklings can dive for food soon after leaving the nest, sometimes at just one day old, though their dives are short and shallow during their first week. Photo by Jeremiah Bender.



A Long-billed Curlew (*Numenius americanus*) foraging on the NCOS mesa. The largest shorebird in North America, it breeds in the grasslands of the Great Plains and Great Basin and spends the winter in wetlands, mudflats, flooded fields,



and beaches. Photo by Jeremiah Bender.

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