

UC Santa Barbara

Newsletters

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UC SANTA BARBARA North Campus Open Space Restoration Project

NCOS NEWS

March 2022



The Mesa grassland is flourishing! Aerial image taken by Bill Dewey taken on February 10th, 2022.

UPDATES

Outdoor Classroom and Parking Lot are finished

Construction on the outdoor classroom adjacent to the ROOST has just wrapped up and volunteers are already planting natives! Your Children's Trees hosted a volunteer day on February 26th and began the restoration planting with Coast Live Oak and Western Sycamore on the mounds delineating the outdoor classroom space. Many more school volunteer groups are scheduled to help out in restoring this area with California natives over the coming months. Thanks for all your hard work YCT!



This new outdoor classroom space will facilitate the educational outreach that is an essential element of the NCOS project.



Wood benches provide a comfortable space for outdoor presentations.



This open space will be planted with rhizomatous native saltgrass (*Distichlis spicata*), which will spread and form a lawn.



Your Children's Trees volunteers working hard to restore this space with native oaks and sycamore.



Thanks everyone!



Newly planted Coast Live Oak (*Quercus agrifolia*) will eventually provide shade for the outdoor classroom.

Swallow Structure Additions

A metal wrap has been added to the base of the swallow structure in order to protect nesting swallows from climbing rodents.



NCOS Manager Darwin Richardson installing the metal wrap.



Anti-roosting strips may eventually be installed on the top of the structure to prevent predation by crows.

Santa Barbara County Breeding Bird Study

We want your observations of nest construction, food carries by adults, begging fledglings, and dependent young birds! The SB County Breeding Bird Study is a collaboration between the Santa Barbara Audubon Society and CCBER. The study utilizes citizen science and consists of an online portal where anyone can upload their observations of breeding birds. [Click here](#) for more info and to access the online portal.



FEATURE STORY

Restoring Increasingly Rare Wildflowers to Campus Lands



Unlike perennial shrubs which can persist through a range of conditions, annual wildflower species are vulnerable to seed predation, competition from annual grasses and drought conditions exacerbated by climate change. Many restoration projects achieve required native percent cover targets by planting a few relatively common species and ignore these more fragile and unpredictable species. One of CCBER's goals has been to seek out wild populations and then nurture small populations in order to build up seed to then expand the populations under more ideal conditions. Another goal has been to try to understand what the primary threats are to specific species and how we might facilitate their success.

[This feature story is continued on page 16.](#)

VOLUNTEER OPPORTUNITIES & SITE TOURS

"Second Saturdays"



This month: March 12th, 9-12

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.



CCBER Greenhouse Associates

Every Thursday

Come help transplant seedlings of native plants with the CCBER team from 9:00 - 12:00. To join, please send an email to ncos@ccber.ucsb.edu.



Nature Guide Tour

This month: March 19th, 9:30 -11

Come take a walk around NCOS and learn about native plants and animals with a trained Nature Guide.

COMMUNITY FORUM & 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!



This great blue heron has breeding plumage consisting of shaggy, long feathers on its neck and back as well as brighter colors overall. Photo by Jeremiah Bender.

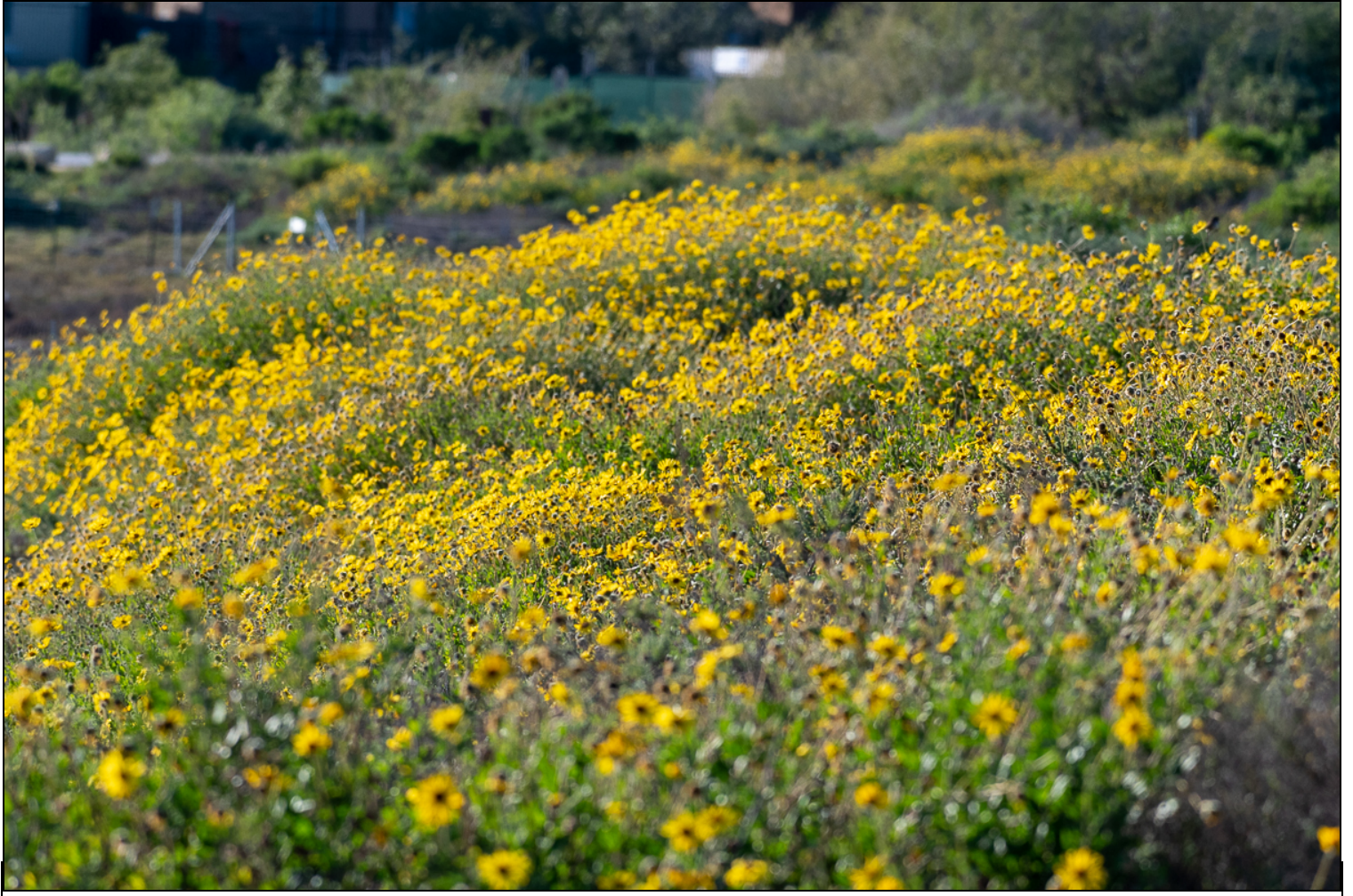


American coot's long toes have broad lobes of skin that help it kick through the water. These broad lobes fold back each time the bird lifts its foot so it doesn't impede walking on dry land, though it supports the bird's weight on mucky ground.

Photo by Jeremiah Bender.



Western fence lizard's blood contains a protein that can kill the bacterium that causes Lyme disease, the most common tick-carried disease in the northern hemisphere. Photo by Jeremiah Bender.



Bush Sunflower (*Encelia californica*) blooming along the Marsh Trail. 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**

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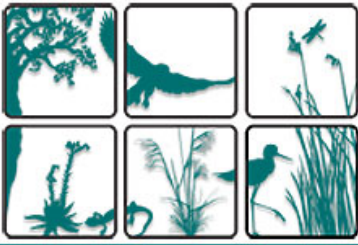
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RESTORING INCREASINGLY RARE WILDFLOWERS TO CAMPUS LANDS

Unlike perennial shrubs which can persist through a range of conditions, annual wildflower species are vulnerable to seed predation, competition from annual grasses and drought conditions exacerbated by climate change. Many restoration projects achieve required native percent cover targets by planting a few relatively common species and ignore these more fragile and unpredictable species. One of CCBER's goals has been to seek out wild populations and then nurture small populations in order to build up seed to then expand the populations under more ideal conditions. Another goal has been to try to understand what the primary threats are to specific species and how we might facilitate their success.

These annual species provide beauty and color for humans, and nectar, pollen, and seeds for a diversity of insects and birds.

There are two primary situations where we are working on this goal. The first is on the sandy loam soils of main campus and Lagoon Island where we have established thriving populations after intense prescribed burns have been used to control invasive grasses. From careful collections we have established more than 15 different wildflower species (Table 1) which are now self sustaining and dominate the seed bank. On main campus and, recently, Henley Gate area, we have been working to conserve a unique sub-species of the miniature lupine found on campus and complementing that population with other compatible annual species. These are blooming now and we highly recommend a walk around Lagoon Island on Campus Point and down to Henley Gate to catch the color!



California poppies (*Eschscholzia californica*) and Coastal bush lupine (*Lupinus arboreus*) on Lagoon Island. Photo by Susan Cook.



Red Maids (*Calandrinia menziesii*) on Lagoon Island. Photo by Susan Cook.



Miniature lupine (*Lupinus bicolor*) at Henley Gate. Photo by Susan Cook.

Latin Name	Common Name
Lupinus bicolor	Miniature lupine
Lupinus nanus	Sky lupine
Eschscholzia californica	California poppy (maritime variety)
Cryptantha clevelandii	Popcorn flower
Phacelia distans	Annual phacelia
Nuttallanthus texana	Toadflax
Antirrhinum nuttallianum	Nuttall's snapdragon
Calandrinia menziesii	Redmaids
Camisoniopsis micrantha	Spencer primrose or suncup
Cirsium occidentale	Cobweb Thistle
Acmispon strigosus	Strigose lotus
Acmispon americanus	Spanis lotus
Navarretia squarrosa	Skunkweed
Lepidium nitidum	Peppergrass
Chenopodium californicum	
Pholistima auritum	Fiesta Flower
Pseudognaphalium californicum	Live forever

Table 1. Lagoon Island, Henley Gate and Mesa Road near RecCen wildflowers.

The second focus has been the North Campus Open Space Restoration Project, which is dominated primarily by low nutrient, clay soils and thus supports a different suite of species and a few isolated sandy patches with their own associated species. The vision is to integrate clay soil-associated wildflowers within the restored perennial bunch grassland and some of the sand-associated species in the sandy spots along the western edge of NCOS. Two experimental trials were established in 2019 and several larger plots were established in 2020. Interestingly, the planted, more robust, almost perennial flowering herbs, have been the most successful so far, but a few populations of sand-associated species such as lotus and owl's clover are persisting in the sandy experimental plot areas. This appears to be due to a mix of drought conditions, weedy competition, possible seed predation, and insect and rabbit or squirrel herbivory of germinating seedlings.



Blue-eyed grass (*Sisyrinchium bellum*) and California buttercup (*Ranunculus californicus*) on the NCOS Mesa.

One experimental trial compared the success of planted seedlings of 7 species to spreading seeds in caged and uncaged situations to examine these possible factors. Results from that trial demonstrated that blue eyed grass (*Sisyrinchium bellum*) was the most successful planted seedling and that poppies, snake root, and bee plant were the least suitable for the clay soils. Buttercup (*Ranunculus californicus*), Cobweb thistle (*Cirsium occidentale*) and prairie mallow (*Sidalcea malviflora*) planted seedlings persisted and were only somewhat vulnerable to herbivory. Building on these results in 2020 we grew and planted 100s of buttercup, prairie mallow (checkerbloom), poppy and blue-eyed grass and established them in irrigated plots around the grassland with the hope that these islands of wildflowers would thrive and drop seed and gradually increase in cover over the years.

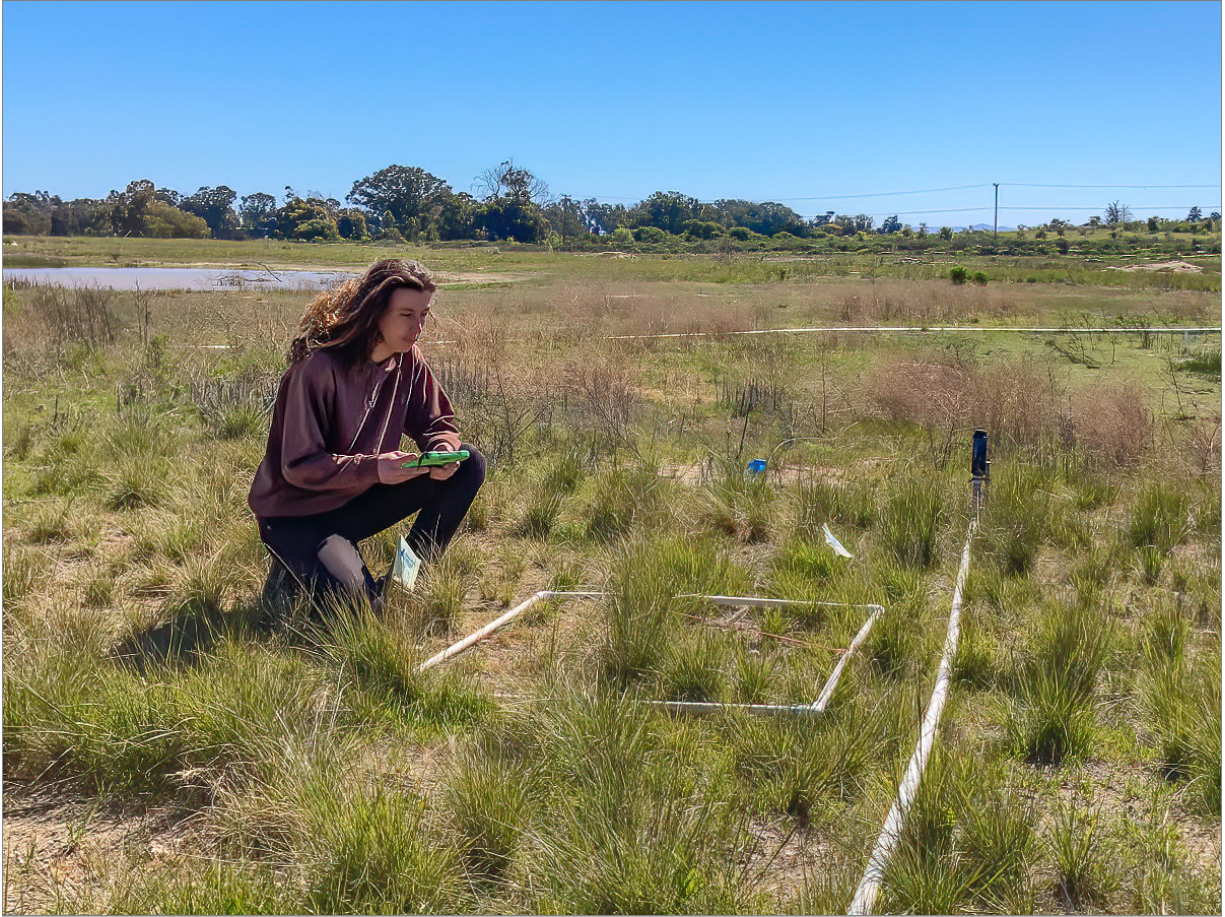


Prairie Mallow (*Sidalcea malviflora*) on the NCOS Mesa.



California buttercup (*Ranunculus californicus*) growing amongst Purple needle grass (*Stipa pulchra*) on the NCOS Mesa.

Quinn Geissow, a UCSB undergraduate monitoring the wildflower plots on the mesa, has some preliminary observations from his January monitoring that we can compare to 2021 observations. Results indicate that most of the planted seedlings persisted over two years, but we have not observed an explosion of seedlings from those parent plants in the second year of monitoring. Poppies and Buttercups appear to be the most vulnerable to herbivory (see Figure 2). It takes thousands of seeds to produce just a few plants in the wild with all the pressures on them and we expect with continued care to see natural regeneration of these important components to the diversity of coastal Santa Barbara. The beautiful Owl's clover below is a species we are particularly proud of getting established because it is a hemi-parasitic plant requiring a host to grow. Poppies and mallow declined by 100% and 50% respectively between 2021 and January 2022, and buttercup and blue-eyed grass declined by 20% each. No new seedlings of any of the species were observed this year. The dry conditions last winter and this winter may have contributed to this decline, but increased cover by non-native annual grasses from 25% to 45% may also be contributing to the decline.



UCSB undergraduate Quinn Geissow monitoring wildflower plots on the NCOS mesa.



Owl's Clover (*Castilleja densiflora*) and *Acmispon wrangelianus* grow well in the sandy spots along the western edge of NCOS.

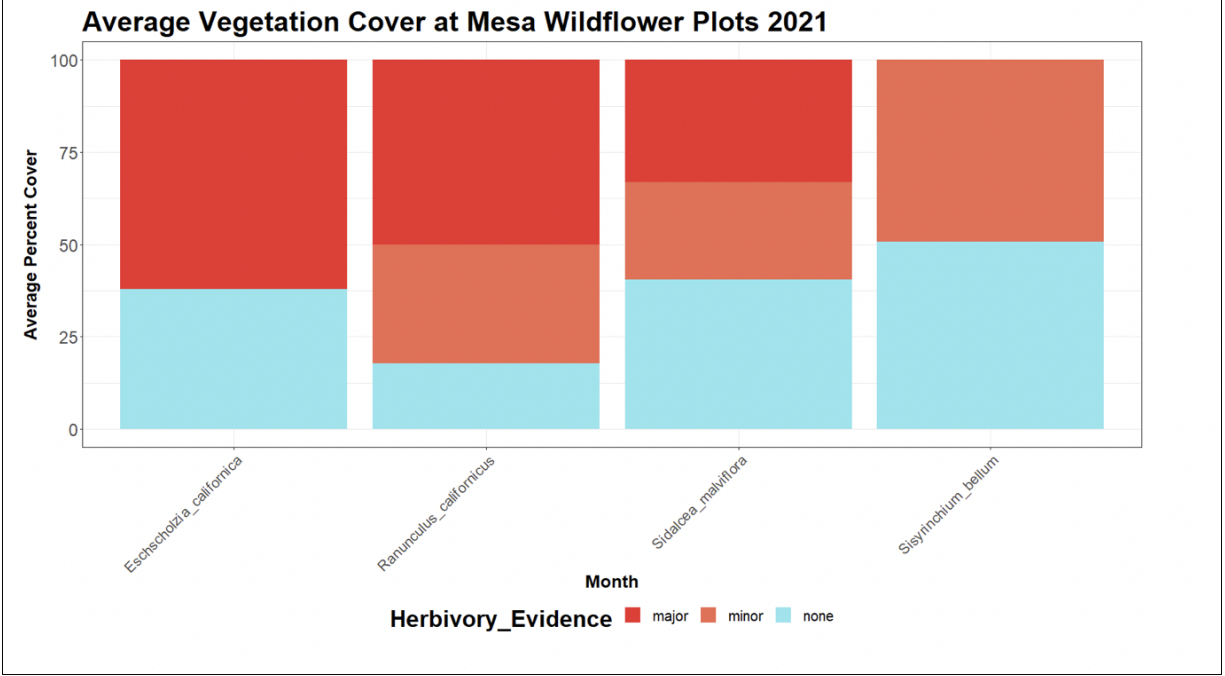


Figure 2. Wildflower herbivory evidence on the NCOS Mesa.

Date:
Thursday, March 10, 2022 - 10:00

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