

# UC Santa Barbara

## Newsletters

### **Title**

NCOS News - April 2021

### **Permalink**

<https://escholarship.org/uc/item/66b7g697>

### **Authors**

Clark, Ryan  
Stratton, Lisa

### **Publication Date**

2021-04-01

[We recommend viewing this email in your web browser](#)

## UC SANTA BARBARA North Campus Open Space Restoration Project

**NCOS NEWS**

*April 2021*



Photo of the upper Devereux Slough at NCOS, taken from the Venoco Road bridge by Emily Kreisberg in March.

### **UPDATES**

#### ***NCOS Nature Guides Program Off to Great Start - You Can Still Join!***

The new NCOS Nature Guides volunteer program is off and running with an excited and enthusiastic group of more than 20 participants! The group is beginning to review training material and attend zoom meetings approximately every two weeks to review and discuss learning progress and objectives. If you missed our earlier calls for participants and would like to join in the fun, please send an email to [ncos-guides@ccber.ucsb.edu](mailto:ncos-guides@ccber.ucsb.edu) and/or [ncos@ccber.ucsb.edu](mailto:ncos@ccber.ucsb.edu). We hope NCOS Guides can be on site this summer, helping us lead tours and providing an additional source of information and education for all trail users.

#### ***T-Shirt Art Contest - Winner to be Announced in May***

We received a nice variety of entries for the NCOS t-shirt artwork contest and are close to choosing a winner! For

anyone who had something in the works that hasn't been submitted, we are willing to consider late entries as long as we receive them no later than the end of April (send email to [ncos@ccber.ucsb.edu](mailto:ncos@ccber.ucsb.edu)). We plan to share all entries and announce the winner next month.

---

### ***Visitor Plaza Mosaics & Display Case Complete!***

If you've passed by the Visitor Plaza recently, you likely noticed a vibrant new addition - mosaics by Santa Barbara artist [Patti Jacquemain](#) now adorn the large display case. The Visitor Plaza and adjacent Discovery Trail were made possible in part thanks to the gracious support of Suzanne Carlton Mellichamp and her Duncan family relatives. Please join us in thanking them for their generous and valuable contribution that enhances the community engagement and education objectives of NCOS!



**Duncan Mellichamp (left) and Suzanne Carlton Mellichamp (right), whose family and relatives donated funds that helped support the development of the Visitor Plaza.**



A broader view of the large mosaic by Patti Jacquemain at the Visitor Plaza. Photo by Jeremiah Bender.



These three smaller mosaics by Patti Jacquemain adorn the lower half of the stand, below the glass display case at the Visitor Plaza. Photo by Susan Cook.

### ***Share Your Photos of UCSB's Open Spaces***

Over the years, we've received many stunning photos of NCOS, several of which have been shared in our monthly newsletters. In support of the Cheadle Center for Biodiversity and Ecological Restoration and UC Santa Barbara's efforts in restoring and maintaining cherished open spaces such as NCOS, the Campus Lagoon, Campus Point, the Manzanita Village Vernal Pools, and others, we invite you to celebrate the beauty and brilliance of UCSB and its nature by participating in #UCSBDefined. To join, please share a favorite photo that you've taken at one of CCBER's restoration sites through [this form](#).

Photo submissions will be accepted through May 4th and will be highlighted on UCSB's and CCBER's social media channels in celebration of #UCSBDefined on May 10th. Be sure to follow CCBER's [Instagram](#) and [Facebook](#), where we'll be posting selected photos!



**An example of a photo of a CCBER restoration site with UCSB campus buildings for context. In this photo, native wildflowers are being restored at a burn plot on the Campus Lagoon Island, with Storke Tower in the background.**

**Photo by Lisa Stratton.**

---

### ***Fencing of Mesa Trail in Preparation for Opening***

In preparation for our plans to open the Mesa Trail this summer, a contractor began installing a short fence along the trail last week. The fence is designed to have a minimal impact on views and maintain the feeling of being in open space while protecting the newly established purple needle grassland, vernal pools, and coastal sage scrub habitats, as well as sensitive wildlife, from disturbance.



A view of the new fence being installed along the Mesa trail.

---

**FEATURE STORY**

**[Student Led Wildlife Study Finds New and Interesting Critters at NCOS](#)**



Infrared photo of a Gray Fox visiting a hibernacula at NCOS, taken at night by a motion detection camera.

During the recent winter quarter, undergraduate student researcher Alistair Dobson led a grant-funded study of the wildlife that may be living in or visiting the hibernacula on the NCOS Mesa and upper salt marsh. He deployed a combination of motion-detection cameras and tracking tunnels at several hibernacula, and with a lot of help reviewing tens of thousands of images, he has compiled some preliminary data with a few interesting and surprising results. [This feature story is continued on page 13.](#)

---

### **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](mailto:ncos@ccber.ucsb.edu). Thank you!

#### ***Springtime is Breeding time***

Breeding season is well underway and we have received several fantastic and fortuitous photos that indicate lots of reproductive activity happening at NCOS, at least in the bird world. Below are a selection of photographs provided by Susan Cook and Rick Mexico. This is also a good reminder to submit your observations of breeding bird behavior in Santa Barbara County to the [Santa Barbara Audubon Breeding Bird Study!](#)



© Susan T Cook





**Top image: A Snowy Egret fluffs up its breeding plumage.**

**Bottom image: A pair of American Widgeon copulating.**

**Photos by Susan Cook.**

---





**Top image: A pair of Red-shouldered Hawks copulating.**

**Middle Image: A pair of White-tailed Kites copulating.**

**Bottom image: An Anna's Hummingbird in its nest in an Oak tree.**

**Photos by Rick Mexico.**

---



---

**Susan Cook has shared many amazing photos with us recently. This unique shot of a Black-necked Stilt with crossed legs is one of our favorites. Thank you Susan!**

---

Received this email from a friend? [Click here](#) to subscribe to our mailing list.



**For more information on the North Campus Open Space Restoration Project, [Click here](#), or email [ncos@ccber.ucsb.edu](mailto:ncos@ccber.ucsb.edu)**



Want to change how you receive these emails?  
You can [update your preferences](#) or [unsubscribe from this list](#)

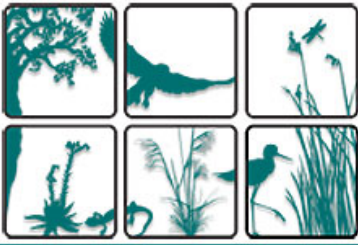
---

This email was sent to <<Email Address>>

[why did I get this?](#) [unsubscribe from this list](#) [update subscription preferences](#)

Cheadle Center for Biodiversity and Ecological Restoration (CCBER) · Bldg 578 Harder South · UCSB, MC 9615 · Santa Barbara, CA 93106 · USA





[Home](#) | [News](#) | [About](#) | [UCSB Natural History Collections](#) | [Ecological Restoration](#) | [Data & Research](#) | [Education](#)

[Home](#) » [Blogs](#) » [Ryan Clark's blog](#)

## STUDENT LED WILDLIFE STUDY FINDS NEW AND INTERESTING CRITTERS AT NCOS

When you gaze out on the mesa at the North Campus Open Space (NCOS), you might notice that the grassland is occasionally dotted by small mounds of mostly concrete rubble. Why are these structures there and what role do they play in the restoration process? These structures are artificial refugia, also known as hibernacula, and their purpose is to provide places of refuge for small terrestrial vertebrates, which was particularly important at the early stage of restoration when the site consisted largely of bare ground with very few places that offered shelter. In [this post from June 2017](#), we described the construction of a hibernaculum and their purpose, along with other features for supporting wildlife habitat at an early stage of the restoration

If you watch a hibernaculum on the NCOS mesa for a while, you might notice ground squirrels darting in and out of it, or even a burrowing owl hiding in one of the crevices. These anecdotal observations inspired UCSB undergraduate student, Alistair Dobson, to develop a research project to systematically assess the diversity and behavior of wildlife associated with these hibernacula, mainly through the use of motion-detecting cameras.



Camera 4 60°F 15°C

03-07-2021 11:44:49

In the photo above, a Burrowing Owl can be seen on the left side, next to an entrance into a hibernaculum that two California Ground Squirrels also appear to be using!

With an Undergraduate Research and Creative Activities Grant (URCA), a donation of 14 Bushnell cameras from the Douglas McCauley lab, support from the UCSB Associated Students [Coastal Fund](#), and the assistance of Seth Frazer, Mark Asch, and CCBER staff and equipment, Alistair deployed cameras at 36 hibernacula throughout February and March of 2021. As employed student workers with CCBER, Alistair and his team followed campus COVID safety protocols during the study. With more than 80,000 images recorded, the results from this period are still being processed, but we do have some initial findings to share, including some exciting firsts for NCOS!



UCSB undergraduate students and CCBER employees, Alistair Dobson (left), and Seth Frazer (right), take measurements while setting up motion-detection cameras at a hibernaculum at NCOS.

Activities in and around the hibernacula tend to vary between day and night. In the daytime we most commonly observe California Ground Squirrels and Western Fence lizards using the hibernacula. Ground Squirrels can be loosely termed as “ecosystem engineers” for our restoration site due to their ability to make habitat for other species by digging networks of tunnels. We’ve seen a number of species entering and exiting these tunnels including garter snakes, burrowing owls, brush rabbits, and deer mice. The hibernacula serve as lookout points for these squirrels, which stand on top of them before sounding a chirping alarm and running back into the tunnels within the hibernacula for safety. We believe the squirrels use these hibernacula extensively as focal entrances to their underground network of tunnels.



Left image: a ground squirrel standing alert on a hibernaculum. Right image: this squirrel seems to be sunbathing on this hibernaculum.



Two Western Fence Lizards can be seen in this photo: in the lower-right corner, and one to the lower-left, above the label "Camera 7".

At night, we observe many more species at the hibernacula. Deer mice and brush rabbits are seen entering and exiting the hibernacula throughout the evening and are likely occupying these structures throughout the day. Additionally, many [mesocarnivores](#) show interest in these hibernacula at night. They are seen sniffing around the entrances, likely smelling potential prey that hides inside. Thus far, we've recorded Virginia opossums, striped skunks, and common raccoons, as well as two rarely sighted species that have not been previously seen at NCOS: spotted skunk, and gray fox. These individuals likely do not occupy the hibernacula, but we believe their associations are important.



Here are two images of a Gray Fox investigating a hibernaculum at night.





Left image: a slightly fuzzy photo of a Spotted Skunk. Right image: for comparison - this photo is of a more familiar Striped Skunk.

So far, the cameras have recorded 17-18 vertebrate species (8-9 mammals with Harvest mouse yet to be confirmed, 7 birds, and 2 reptiles) on, in, or near the hibernacula (see list of species in table below). This represents most of the primary and secondary categories of vertebrate species in our local terrestrial food web, implying that the hibernacula play an important role in the creation of habitat at NCOS. Small vertebrates are a key food source for many of the beloved avian predators at NCOS, and providing refuge spaces that support a greater abundance and diversity of these species has likely played a key role in developing the food web and supporting raptors at NCOS. This ecological complexity is usually naturally present in an undisturbed environment with features such as boulder piles, snags, fallen logs, and brushy habitat. In restoration projects that start with a barren landscape, this complexity must be creatively incorporated through low cost structures like the hibernacula at NCOS.

After we complete the processing of images from our first study period, we will discuss opportunities for additional research to further understand the role of artificial refugia and how they could be incorporated into other restoration projects.

Table of vertebrate species recorded by motion-detection cameras at hibernacula on North Campus Open Space, February - March 2021.

CLASS	COMMON NAME	LATIN NAME	BEHAVIOR/NOTES
Reptiles	Red-sided garter snake	Thamnophis sirtalis infernalis	sighted on camera and in VES entering tunnels (hand caught and confirmed by hand)
Reptiles	Western Fence Lizard	Sceloporus occidentalis	frequently basking on slabs
Birds	American Crow	Corvus brachyrhynchos	perched on top
Birds	Burrowing owl	Athene cunicularia	Within crevices or on top
Birds	Cooper's Hawk	Accipiter cooperii	perched adjacent, and one predatory event caught on camera
Birds	Song sparrow	Melospiza melodia	perched on top
Birds	Wrens or thrushes		perched on top, and within crevices on one instance
Birds	Western meadowlark	Sturnella neglecta	perched on top, seed searching?
Birds	Yellow-rumped warbler	Setophaga coronata	perched on top
Mammal	Brush Rabbit	Sylvilagus bachmani	in and out of most hibernacula at night
Mammal	California Ground Squirrel	Otospermophilus beecheyi	in and out of most hibernacula during day
Mammal	Common Raccoon	Procyon lotor	
Mammal	Deer Mouse	Peromyscus sp.	confirmed with track tunnels, frequently visits during day
Mammal	Gray Fox	Urocyon cinereoargenteus	one occurrence, two foxes sniffing entrances
Mammal	Harvest Mouse	Reithrodontomys sp.	not yet confirmed by track tunnels
Mammal	Spotted Skunk	Spilogale gracilis	investigates at night, less common
Mammal	Striped Skunk	Mephitis mephitis	investigates at night, less common
Mammal	Virginia Opossum	Didelphis virginiana	investigates at night, fairly common

This article was written by Alistair Dobson and edited and formatted for the web by Ryan Clark.

Date:

Tuesday, April 13, 2021 - 10:15

Contact Us

Cheadle Center for Biodiversity and Ecological Restoration • [Earth Research Institute](#)

Copyright © 2007-11 The Regents of the University of California, All Rights Reserved.

UC Santa Barbara, Santa Barbara CA 93106 • [Terms of Use](#)

UCSB website

