

UC Santa Barbara

Newsletters

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UC SANTA BARBARA North Campus Open Space Restoration Project

NCOS NEWS

November 2020



A Burrowing Owl keeps watch at the entrance to one of the new specially designed burrows installed on the NCOS Mesa.

UPDATES

Grant and Donors Help Fund New Parking Lot & Outdoor Classroom

We are pleased to announce that the Wildlife Conservation Board has awarded CCBER a Public Access Grant that will complement donor funds to enhance public access and support education for all ages at NCOS! Specifically, these combined resources will be awarded in March 2021 and will fund:

- A restored Public Parking Lot with 30 parking spaces and a gate that will be closed at night.
- A walking trail and delineated bike path from the sidewalk on Whittier Drive to the main trail.
- Post and cable fencing along Whittier Drive and two overlooks into restoration area.

We are also pleased to announce that the outdoor classroom will be funded by Linda Duttonhaver! This will create a delineated, aesthetic learning area for K-12 and university classes with several outdoor learning circles with benches.

These two projects build on the State Parks and private donor funded Visitor Plaza and Discovery Trail, where recent plantings are establishing well and interpretive signage is in production. We hope to celebrate the completion of these projects in late spring or early summer 2021.



Drone image delineated with the approximate areas of the NCOS parking lot to be restored (blue outline), proposed bike lane (yellow), walking path (orange), and outdoor classroom areas (green outline).

Students Workers on the Value of NCOS during COVID-19 and Beyond

The creation of educational and experiential opportunities in ecology, restoration and open space management is a primary goal at NCOS. Students and community volunteers have played an essential role in the project from the very beginning, and are a significant factor in the project's success to date. The onset of the COVID-19 pandemic initially curbed the ability for students to continue working at NCOS. Fortunately, by summer, as knowledge about the coronavirus improved and the maintenance of NCOS was deemed essential, UCSB was able to approve the return of students to outdoor work.

We asked a few current student workers to reflect on what the importance, value and/or function of NCOS is for them and students in general during this unprecedented time, and overall. A common theme expressed by the students is that working at NCOS provides a welcome opportunity to be outside, safely working and socializing with a few peers while applying what they've learned from classes and gaining hands-on experience.

For example, Alistair (at left) commented that "Working at NCOS is a safe, educational, and fun option for students both during the pandemic and beyond it. It's wonderful to go to work every day and get to interact with a community of people which I've been deprived of in all other aspects of my life. I look forward to working and learning at NCOS every day where I get to play a small part in a massive community effort to create healthier coastal ecosystems."



Emily (at right) considers NCOS to be a "rare opportunity" and "it is a unique job where you are outside, distancing is easy, and with weekly covid testing available it is a fairly safe and

steady workplace."

Hagar (below, left) and Jackson (below, right) both expressed the value of being able to work directly on a project related to their studies and that contributes to understanding and improving the local environment.



FEATURE STORY

[Monitoring Food Web Development at NCOS: Rodents & Reptiles](#)



A Gopher Snake (left image) and Deer Mouse (right image) observed at NCOS.

A long-term goal of the North Campus Open Space (NCOS) restoration project is to develop a diverse, multi-level food web, which is often a good indicator of a healthy, well-functioning ecosystem. [Read our latest feature story \(continued on page 9\)](#) about two components of the food web we have recently begun monitoring: small mammals such as mice and voles, and reptiles.

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!

Birds Making Use of New Riparian Habitat

CCBER's Lisa Stratton captured photos of a Cooper's Hawk and Tropical Kingbird perched in cottonwood and sycamore trees planted as part of the riparian habitats being restored at NCOS.



Highlighting Everyday Birds

Common birds that are seen almost everyday are often not highlighted as much as lesser seen birds. Here are a couple of nice photos of the California Towhee and White-crowned Sparrow by CCBER's Jeremiah Bender. These two birds play important roles in seed dispersal and control of some herbivorous insects.



Interesting Nest

The coverboard surveys that began at NCOS last month have uncovered some interesting finds, such as this mouse nest that appears to be made of fur and has some kind of pollen or seeds in the center. Read more about the coverboard survey in this month's feature story.



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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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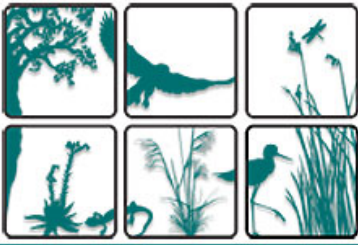
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MONITORING FOOD WEB DEVELOPMENT AT NCOS: RODENTS & REPTILES

One of the long-term goals of the North Campus Open Space (NCOS) restoration project is to develop a diverse, multi-level food web, which is often a good indicator of a healthy, well-functioning ecosystem. In collaboration with UCSB faculty and students, and experts from the Santa Barbara Audubon Society along with support from the Coastal Fund and other organizations, CCBER is monitoring several components of the developing food web at NCOS. In addition to monthly bird surveys, we have also been conducting surveys of bees and ants as well as aquatic invertebrates. These surveys have shown increases in diversity in each of these food web groups as the restoration project has progressed.

Two other components of the food web we have recently begun monitoring include small mammals such as mice and voles, and reptiles. Both of these groups are sensitive to habitat changes and disturbance, and are also important food sources for larger animals such as birds of prey, and mesocarnivores like coyote, fox, and bobcat.

In collaboration with Associate Professor Hilary Young of the UCSB Ecology, Evolution and Marine Biology (EEMB) department, CCBER began seasonal capture-mark-recapture surveys for small rodents at NCOS last fall. These surveys are being conducted in the salt marsh and perennial grassland habitats in the spring and fall, and are run in conjunction with an EEMB lab class. The objective is to provide an educational experience in ecology for students while monitoring changes in the abundance and diversity of small rodents as the restoration progresses.



Left image: Deer Mouse (© Jerry Cannon); Center image: Harvest Mouse (© J. N. Stuart); Right image: a Shrew species seen at NCOS.

The surveys are conducted by setting out three grids of 20 Sherman Live traps for four nights in a row in each habitat. The traps are baited and cotton balls are added to offer additional shelter and protection for captured animals through the night. All traps are checked early in the morning to avoid heat stress, and any animals captured are quickly identified, measured (length and weight) and marked with an ear tag or sharpee marker on the foot, and then released. This project is conducted under Institutional Animal Care and Use Committee (IACUC) approved protocol 908.1.

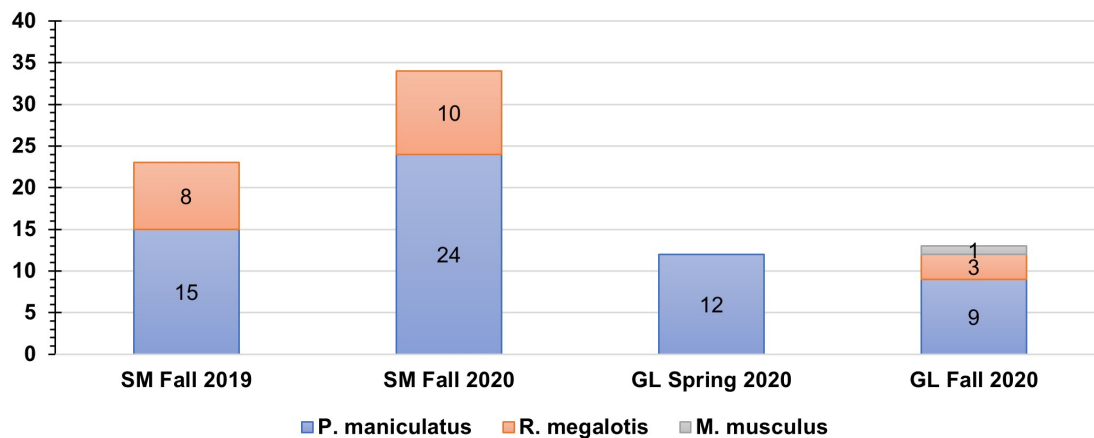


Left image: A Sherman Live trap in the NCOS salt marsh. Right image: a small rodent survey grid at NCOS.

The first survey in the salt marsh habitat occurred in November 2019, while the first grassland habitat survey took place in March 2020. We completed the second full survey in both habitats last month, and this round of monitoring saw an increase in captured animals in both habitat types, particularly in the salt marsh (see chart below). In the grassland we also saw an increase in diversity, from just one species in March of this year to three last month. The species captured most often are Deer Mice (*Peromyscus maniculatus*), with 33 individuals in last month's survey, followed by Harvest Mice (*Reithrodontomys megalotis*) with 13 individuals. A single House Mouse (*Mus musculus*) was the third species caught in the grassland this fall. The increase in individuals captured in the latest survey suggests that habitat restoration efforts at NCOS are progressing towards the goal of increased diversity and food web functionality.

Other potential animals that have been seen on site but not yet in the surveys include Voles (*Microtus californicus*), Wood Rat (*Neotoma fuscipes*), and Shrews (*Sorex sp.* - see image on the right above). These other animals may not be as easily monitored with Sherman traps as mice are, and if this is the case, we may have to develop other methods to properly quantify them. We will continue the surveys as long as possible to obtain more data to help in assessing long-term trends. Additionally, conducting multiple surveys in the same year could shed light on how some of these small mammal populations fluctuate seasonally at NCOS.

Animals Captured 2019-2020



Bar chart of small rodent species captured in two surveys conducted in Salt Marsh (SM) and Perennial Grassland (GL) habitats at NCOS.

Monitoring for reptiles began just last month with the placement of several coverboards across areas of the restored salt marsh and grassland habitats, as well as un-restored areas to the west of NCOS. These coverboards are being checked once per week and all animals observed underneath are recorded along with the temperature. While this is a common method for surveying for reptiles such as snakes and lizards, other animals that can be found include mice and other small mammals, and ground-dwelling invertebrates such as ants, spiders, crickets and many others. Preliminary data from the five times that the coverboards have been checked this season so far show that Western Fence Lizards are very common across the site as they have been observed under many of the coverboards each time in all habitat types. A single gopher snake is the only other reptile observed to date. Argentine ants are the most frequently observed invertebrate, followed by

crickets, spiders, and beetles. Deer mice have been observed five times under four different boards (twice under the same board, one time with two individuals), and a Harvest Mouse has been observed twice. It can take several weeks or months for some species to become comfortable with the coverboards as a part of the habitat. Therefore, we will be checking the coverboards for many months, if not years to come.



Left image: Gopher Snake; Right image: Deer Mouse in nest - both seen under coverboards at NCOS.

Date:
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