

UC Santa Barbara

Newsletters

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Coal Oil Point Reserve Annual Newsletter 2017

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COAL OIL POINT RESERVE

2017 Year in Review

Featuring
COPR Staff
Updates...

Plus
Student Stories
at COPR...

The Latest
Citizen Science
with SB Audubon...

News and Highlights from COPR

by Dr. Cristina Sandoval

COPR's New Nature Center

Opening a beautiful new building for the nature center was the perfect way to end the year. We loved our old home, but it was time for an upgrade. The new Nature Center has a lab, classroom, meeting rooms, offices, and spaces filled with educational exhibits. More than ten exhibits are dedicated to the reserve's habitats, endangered species, natural history, and discoveries from our researchers. We look forward to providing better facilities and educational experiences to researchers, classes, and visitors. Stop by to visit on the first Saturday of each month from 9:00 am - 1:00 pm, or by appointment.



New Nature Center Building at Coal Oil Point Reserve



Photo of the inauguration of the Nature Center. (From left: Jessica Nielsen, Kipp Callahan, Chancellor Henry Yang, Dr. Cristina Sandoval, Dr. Marion Wittmann, and Dr. Patricia Holden)

Devereux Slough Restoration

The North Campus Open Space Restoration Project is now at its final contour and we are finally starting to see rain fill the Devereux Slough to its former glory. The project isn't complete but the different ecosystems are starting to take shape and the

area is beautiful.

Please come to visit the reserve for a hike or to see the documentaries and exhibits at the Nature Center.

Staff Updates

We are proud to announce Kipp Callahan as the reserve's newest steward and botanist. Kipp is learning the California plants, taking care of the reserve, developing new technological tools, and fostering collaborations with his friendly personality.

Jessica Nielsen continues to stay busy, taking care of the plovers and docents in our award-winning program. She also conducts monthly bird surveys of the reserve with Mark Holmgren, manages the tour program, and assists Steve Senesac with the water quality monitoring of the Devereux Slough.

Habitat Restoration

by Kipp Callahan

Before I arrived in March 2017, Cris Sandoval worked with a group of ten Coastal Fund interns to conduct several large outplanting and weed removal efforts in the northern part of the reserve. Channel Islands Restoration helped us remove a wide variety of weeds, and the dead eucalyptus around the pond trail were pruned to improve safety near the trail.

Over 550 coastal shrubs were planted to restore a complex ecosystem composed of oak woodland, coastal scrub and native perennial grasses. This mosaic of different vegetation types is what we see along the coast of Santa Barbara County, although little is left in an undisturbed state.

I'm currently working on mapping the reserve's plant communities, updating the plant species list, and collecting voucher specimens with the help of Matt Williams from the Santa Barbara Botanical Garden. Together, we have added over 35 new species to the COPR list. I'm also inventorying and mapping the non-native invasive species on the reserve using GIS tools to help us plan future weed control. ESRI Collector, a new tool available for smartphones, will allow any visitor to easily report new observations of weeds using an app on their phone or tablet.

To Become Involved in This Project, Contact Kipp Callahan

copr.steward@nrs.ucsb.edu

Ventura Marsh Milkvetch

by Kipp Callahan

We are very excited to report nine new sprouts of the endangered Ventura marsh milkvetch (*Astragalus pycnostachyus* var. *lanosissimus*). The species was known from sporadic collections along the coast from Los Angeles and Ventura counties in the early 1900's and 1960's, but it was considered extinct by the 1980's. It was rediscovered in 1997 in an old oil dump in Oxnard, CA.

Following the rediscovery of Ventura marsh milkvetch, the US Fish and Wildlife Service partnered with several organizations, including COPR, to establish new populations and save the species from true extinction. Since 2003, we have experimented with plantings in different locations at the reserve, but Ventura marsh milkvetch has struggled at COPR as in many other places. Drought, invasive species, and a lack of knowledge regarding the plant's needs have made it difficult for the milkvetch to survive. Having nine seedlings sprout on their own at the reserve is really exciting because it shows that when the conditions are right, COPR may be able to support a population of Ventura marsh milkvetch.



Ventura marsh milkvetch
(*Astragalus pycnostachyus* var. *lanosissimus*)

Snowy Plover Breeding Season

by Jessica Nielsen



Coal Oil Point Reserve experienced yet another better-than-average plover breeding year in 2017. Our breeding population remained stable at about 20 pairs of plovers, but the hatching and fledging rates were both higher than average. A total of 53 chicks reached fledging age, 22 more than our site's average.

While skunks remained the primary predator of plover nests, weather damaged more nests than predation this year. Fifteen percent of the nests were washed out by tides and six percent were buried by wind. Fortunately, we recovered some of the affected eggs and hatched them in captivity with help from our partners at Santa Barbara Zoo.

Five hand-reared chicks from the reserve and two chicks from nearby sites were released at Coal Oil Point Reserve. Each hand-reared chick was banded with a unique combination of colors to help us track them. All chicks successfully flew around Sands Beach upon release and were accounted for by reserve staff in the next few days.

Thanks to the expertise of the public affairs staff from Fish and Wildlife Service, over 10,000 viewers tuned into our "Facebook Live" event during one of the plover release days in July. The event was a great outreach tool for all groups involved, and featured interviews with plover conservation experts from US Fish and Wildlife Service, Santa Barbara Zoo, and Coal Oil Point Reserve.

We would like to thank our Snowy Plover docents and tour guides who dedicate their time to educate the public about Coal Oil Point Reserve and make local conservation such a success. In 2017, we averaged over 45 hours of docent coverage per week and hosted over 30 group tours of the plover habitat.

**To Become Involved in This Project,
Contact Jessica Nielsen**
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A Snapshot of Wildlife

by Savannah Perez

I conducted an honor's thesis that focused on wildlife movement patterns at COPR using camera traps. The first few photos from the cameras revealed that wildlife like coyotes, bobcats, raccoons, and opossums constantly move around the reserve. After four months of photo captures and data analysis, I was surprised to discover that wildlife use trails open to the public just as frequently as closed trails and game trails. Animals seem to use public trails at night, possibly to avoid human contact during the day.

As a camera trapping intern at COPR, I had the opportunity to create protocols and work with volunteers to determine the best methods for implementing a long-term monitoring program with



Photo of various wildlife photographed by camera traps at COPR
(from top left: bobcat, coyote, bobcat, Great Blue Heron)

camera traps. A citizen-science program to monitor mammals at COPR would allow for the public to become involved in collecting data critical to guiding future management decisions at the reserve. During my research, I learned the difficulties of collecting truly standardized and unbiased data while accepting the reality of trial and error and limitations of field research. At the reserve, I have learned technical skills and research experiences that will make me a stronger applicant for graduate school and a future career in research.

Restoration Taking Root

by Olivia Catanio

My experience as a restoration intern at Coal Oil Point Reserve was immensely valuable for my professional development and for hands-on experience in restoration. Working alongside restoration professionals helped me understand the intricacies of the reserve and allowed me to think critically about solutions and projects.



Interns hard at work planting native species

Continued from previous page

Whether we were seed collecting, planting, weeding, or pressing plants, there was always something new to learn about the coastal ecosystem.

Planting days were one of the most interesting and fun parts of the internship as they allowed me to familiarize myself with the local flora and ask questions about the role each plant played in the coastal ecosystem. Over the course of the internship, I was able to see these plants quite literally take root on the reserve and watch the restoration take place right before my eyes.

These experiences are what bring color and excitement to the average classroom topics. Each day on the reserve was an opportunity to learn more about ecological systems, put my knowledge to use, engage with other interested peers and professionals, and grow as a leader and a professional individual.

I am incredibly grateful for my experience as a restoration intern at Coal Oil Point Reserve as I took with me the invaluable worth of furthering my knowledge and discovering new skills and passions that will carry into my professional life for years to come.

As a First Year

by Xarah Golden

I had never imagined that in my first year in college I would spend 100-plus hours on the beach. The summer before coming to UCSB, my friends and family badgered me about how much time I would spend on the beach, away from my studies and unable to focus. None of them expected that my time on the beach would actually be spent working.

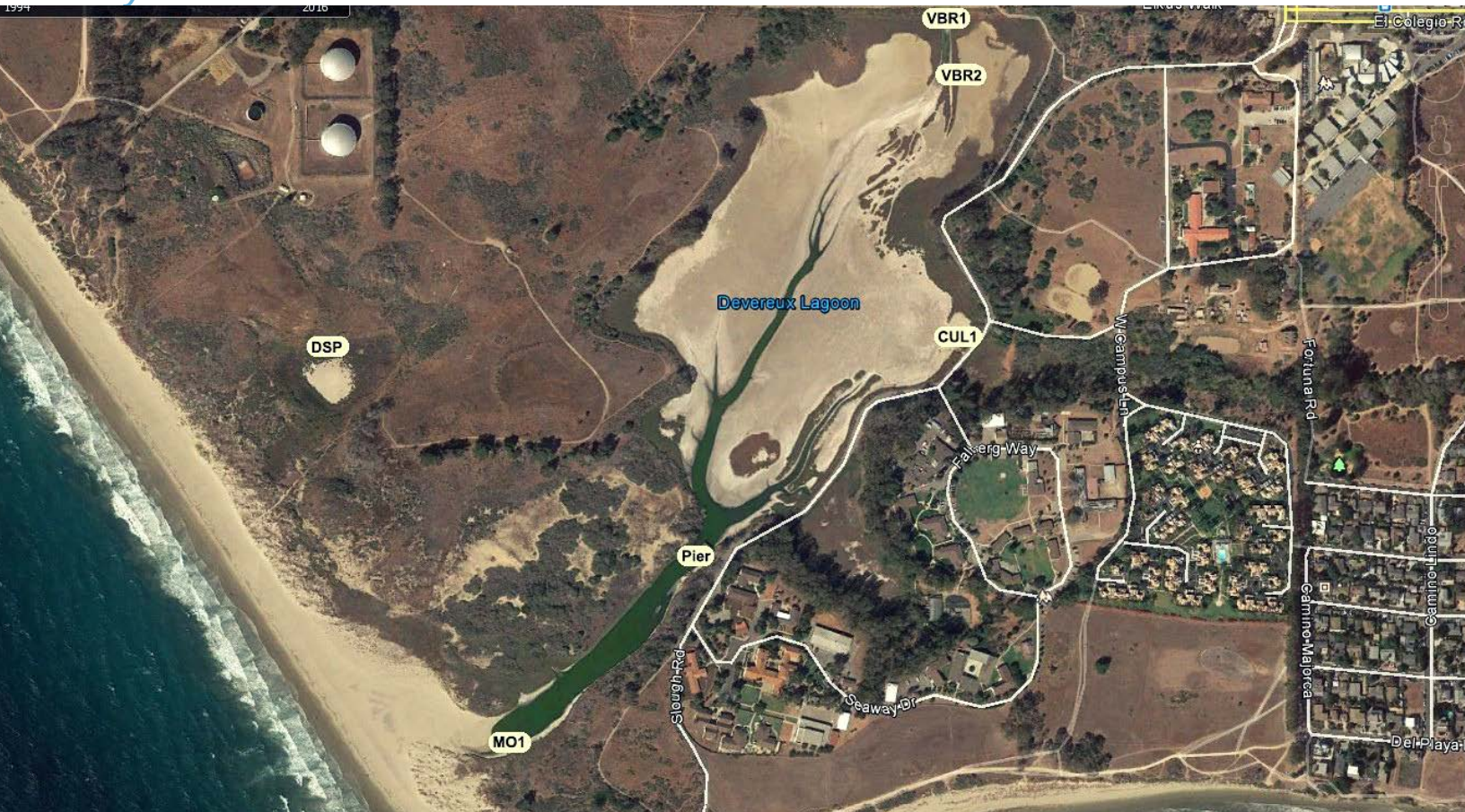
When I first became involved in the Snowy Plover Docent Program as a zoology major, I was over the moon about actually working in conservation efforts. I was amazed by every little thing I saw, from the plovers themselves, to the sea cucumbers, and Turkey Vultures. I changed my major from zoology to sociology and soon my experiences on the beach became more about my interactions with the people who visited Sands. My new focus was to teach people about why Sands Beach is so special and important to protect.

The more I explained to others all that there was to love about Sands, the more I loved it myself. The Snowy Plovers made me feel at home when I was struggling with homesickness or classes. Being with the birds brought me a beautiful sense of place. Out with them through the fall winds, the winter rains, and the warm sun of spring, I had found a place where I felt like myself again because I knew that what I was doing was important. Joining this program as a first year truly grounded me, motivating me to do my best in class so that I would have time to help the Snowy Plovers, as well as encouraging me to stay true to my love for animals which brought me to UCSB in the first place.

“*The Snowy Plovers made me feel at home when I was struggling with homesickness or classes. Being with the birds brought me a beautiful sense of place.*”

Devereux Slough Monitoring

by Steve Senesac



Map of the water quality sampling locations across the reserve.

Seasonally open estuaries like the Devereux Slough are not well-studied. The Santa Barbara Audubon Society (SBAS) is working with the COPR management team by combining water quality monitoring with invertebrate sampling in an attempt to quantitatively understand why Devereux Slough is so important to birds.

We take weekly measurements of water quality at different locations around the slough. We use a handheld meter to measure conductivity/salinity, dissolved oxygen, temperature, barometric pressure, pH, and turbidity. Additionally, data loggers measure dissolved oxygen and water level every 15 minutes in the deepest channel.

We sample invertebrates at these same locations once a month. Our goal is to understand how invertebrate abundance and diversity vary with the water quality parameters that we are measuring.

We also hope to create a citizen-science program run by students. Senior interns will use what they've learned about water quality monitoring to teach and train new students. Taking a citizen-science approach makes the program affordable and provides more opportunities for student and community involvement in understanding and protecting the slough.

To Become Involved in This Project, Contact:

copr.conservation@nrs.ucsb.edu or science@santabarbaraaudubon.org

Dune Swale Pond Fire Recovery Project

by Aaron Kreisberg

Supported by Southern California Wetland Recovery Project and UCSB Coastal Fund, Santa Barbara Audubon Society (SBAS) completed a restoration project to remove invasive species and plant native species in an area damaged by the 2014 Tank Fire.

Approximately 20 acres adjacent to Coal Oil Point Reserve's Dune Pond were burned in the fire. The Dune Pond is a small, freshwater pond that is critical to supporting the reserve's wildlife. Without active restoration efforts, fire-following invasive weeds would have spread and potentially outcompeted native species. We removed 350 cubic yards of invasive plants (including Russian thistle, cape ivy, bristly ox-tongue, and black mustard) and planted 260 cuttings of alkali-rye grass and saltgrass.



The dune swale pond after the Tank Fire in 2014

A majority of the nearly 2000 hours spent on the project were provided by UCSB student interns. Volunteer groups including UCSB sororities and student life organizations, and groups from Citrix and the Knox School also participated in workdays.

The dune swale pond is an important habitat for all wildlife on the reserve, as it is the area's primary source of fresh water. There are records of over twenty different species of birds breeding around the Dune Pond.

SBAS members look forward to continue working with COPR to benefit birds and their habitats at the reserve, while connecting reserve visitors and Audubon members with nature at this very special place. There are records of twenty different species of birds breeding around the Dune Pond.



The dune swale pond after restoration efforts and heavy rains in 2017

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