



News and Highlights from COPR

by Dr. Cristina Sandoval

I am sure you will all agree that 2016 was an intense year. But for COPR, it was a "good intense" year. We finalized the drawings and chose a contractor to renovate the Nature Center, we had a great Snowy Plover season, started to write a Strategic Plan, and are finalizing a new website.

We haven't been able to raise the \$85,000 for the kitchen and gender neutral bathroom at the Nature Center. I think these 2 functions are very important and hope something will come up in the next couple of months. I am so excited about this Nature Center. Imagine a place where we can hold our events and lectures, do all those citizen science programs we've dreamed of, and attract people and organizations who share similar interests in how to save the world and learn about nature. The Reserve has already been this place, but a Nature Center will be an inviting hub that will bring the Reserve activities to a new higher level.

Our dear restoration biologist, Tara Longwell, left the Reserve to be with her fiancé in LA. Tara built a legacy of restoration at the Reserve that made a tremendous impact in the ecological value of the Reserve. Every year, she planted thousands of plants and worked diligently to remove invasive weeds. Her fun and gentle spirit attracted many volunteers and interns to work on restoration. We will miss Tara's daily presence but hope that she will visit knowing that she holds the key to the Reserve.

Exciting research continues to happen at the Reserve. Paul Alessio and Prof. Ed Keller are studying the changes in the coastline as a result of

El Niño and sea level rise. This is important to us because so much of our precious resources, like the beach ecosystem and Snowy Plovers, are vulnerable to sea level changes. Michael Love finished producing 3 new movies, a short and a longer version about the Western Snowy Plovers, and a short about the Devereux Slough. We plan on investing more on visualization of the Reserve's ecology and research. Most casual visitors miss the opportunity to see and learn about the interesting natural history and science happening here. In the meantime, check our facebook page. We post weekly about interesting news at the Reserve. You don't need to have a facebook account to check it out.



2016 Snowy Plover Breeding Season

by Jessica Nielsen

2016 was yet another great year for Western Snowy Plover breeding at Coal Oil Point Reserve! One way we measure the success of the breeding season is by the total number of fledged chicks. Plover chicks are considered fledged after one month when they begin to fly on their own. This year, 49 plover chicks fledged at Sands Beach - 18 more than average!

The most influential nest predators this year, as in most recent years, were skunks. Over the course of three days, we lost six nests to skunks. Thanks to skunk fence repairs made by Pat Walker and Dave Hyon and the use of skunk traps, no more nests were predated by skunks for the rest of the season. Most of the parent plovers that lost nests that week quickly re-nested within several days. Overall, 67% of all plover nests hatched this season. Of those that hatched, 86% had at least one fledged chick!

Every breeding season, we collect any eggs that have been abandoned and incubate them to see if they hatch. The ones that do are hand-reared until they are ready for release. We had two chicks hatch in captivity this year, one of which was the only egg of its clutch to survive a skunk attack!

For the first time, we partnered with Santa Barbara Zoo (SBZ) to raise captive chicks. The staff of SBZ had recently trained with experts at Monterey Bay Aquarium to learn how to care for Snowy Plover chicks and they did a fantastic job of raising two healthy and happy plovers. The chicks bonded with each other so we released them together at Sands Beach once they both were able to fly. The chicks successfully took off flying around the dunes. Each chick had its unique colored band combination on their legs, so that we could track their whereabouts.



They were soon observed with groups of other fledges on Sands Beach and occasionally on the delta of the slough. A few months past, and I still see one of the released chicks on the beach with the rest of the wintering population at Sands.

We are so grateful to our Snowy Plover Docents for all of their efforts to make this program a success! This year our docents averaged over 40 hours a week educating the public about the Western Snowy Plover. Thank you!!

Subtidal Monitoring

By Jessica Nielsen



This summer, recent UCSB graduate Allyson Bailey and I conducted subtidal monitoring surveys of the Marine Protected Area (MPA) right offshore of Coal Oil Point Reserve. On day one of SCUBA diving, we were completely spoiled with clear water and about 60 feet of visibility. We were surrounded by a majestic kelp forest, schools of fish, and colorful invertebrates. Our first survey of the day was to identify, count, and size all of the fish observed along a 50 meter transect line. We were shocked when within the first half of the transect, a meter-long Giant Sea Bass swam across the study area. It is not often that divers get to experience seeing a Giant Sea Bass, especially on mainland



reefs, and this was a first sighting for both Allyson and I. It is reassuring to see that our MPA's are protecting species like this from being fished in certain areas.

In addition to fish surveys, we measured kelp density, percent cover of the substrate, and abundance of invertebrates. This will be the first year of annual MPA monitoring at our site and we are excited to observe the changes from year to year.

Sandy Beach Ecosystem

By Greg Chism

I am a Zoology major at UCSB and am applying to graduate school. In addition to participating in the Snowy Plover docent program, I have been studying competition and parasitism among the many insects and crustaceans that live on the beach at Sands Beach, at Coal Oil Point Reserve. I learned to identify the many species that live on the beach, hiding under piles of kelp wrack. I am now helping the Reserve to publish web-based field guide so others can identify what they find at the beach. With the help of several experts, I am expanding this outreach effort to an ecological guide to sandy beaches in Santa Barbara for both public education and research at COPR, UCSB and other research institutions. COPR has been a constant source of support and has provided great enthusiasm, both to the progress of my research, and to the progress of my career path. I only hope I can give back as much as COPR has given me.



One of two species of Jumping Spider found at COPR
(*Habronattus amicus*)

Blue Horizons

by Kristi Birney

Stepping out of the van we are hit with the smell of salt, the sound of birds, and bathed in a fresh ocean breeze. I can tell the students are excited to explore their own backyard. Only a short walk from the hustle and bustle of IV, Coal Oil Point Reserve offers a wild and open space where wildlife and plants outnumber humans. I have the lucky job of taking 18 students enrolled in the UCSB's Carsey-Wolf Center [Blue Horizons Program](#) on a field trip to learn about the coastal and marine resources that are protected by the reserve. Our class seeks to better understand the Marine Protected Areas (MPAs), Snowy Plovers, and native plants found along the urban boundary of our UCSB community.

We are not to be disappointed. Just steps off the bluff and on to the beach, we are guided by reserve specialists Jessica Nielsen and Bonnie Murdock to the snowy plover nesting area. These small puff balls enchant the students as they scamper around on small toothpick legs. We watch in wonder as these seemingly fragile endangered species continue to persist on the exposed sandy beach. The plover's resilience has piqued the students' interest and



questions start to flow. Where do they nest? What are the predators? We learn they lay pale eggs in a small “scrape” in the sand. Our guides teach us how to tell the difference between a “nest scrape” and the footprints that dot the sandy shore.

The magic of what Coal Oil Point has to offer sets in and the students are hooked. We continue along to learn about the Campus Point MPA, the second largest MPA in our region, which extends up to the Coal Oil Point Reserve. Adventuring deeper into the reserve, students become even more engaged, asking questions about native plant restoration, research project sites, and other wildlife they see.



As a teacher, it’s these moments you hope for: introducing students to transcendent experiences that inspire them to become stewards of the special places in our very own backyard. Coal Oil Point provides the perfect launching point, an outdoor classroom. The students will spend the remaining hours of the day in the editing room. The motivation found while at Coal Oil Point keeps them going late into the night. The outcome of their hard work culminates in compelling environmental documentaries that bring awareness to challenging

environmental issues and treasured places, like the reserve. If your interest is piqued and you want to join the 2017 [Blue Horizons Program](#) check out the website [here](#).

Sharing Our Shores

by Jessica Nielsen



This breeding season you may have noticed new creative signage at the plover habitat. These beautiful pieces of artwork were designed by 5th graders from Isla Vista Elementary, one of the schools that participated in the Sharing Our Shores Program at Coal Oil Point Reserve. The original Sharing Our Shores Program is an education program that was created by Morro Coast Audubon in 2006 to teach the community about sharing the beach with shorebirds. Since then, variations of the program have been implemented at Snowy Plover sites along the Pacific Coast.

I visited 1st, 2nd, and 5th grade elementary classes at different elementary schools to give interactive presentations about Snowy Plovers and how we can share the beach with all creatures that live at the



beach. The kids had wonderful ideas for how they could still enjoy the activities they love at the beach while making a difference.

In pairs, they tried their own hand at being "plover parents" and created well-camouflaged nests that would be difficult for predators to see. At the end of class, they drew their own signs to educate beachgoers about the threatened Snowy Plover and how to share the shore. Some of the classes were lucky enough to take a field trip to Coal Oil Point Reserve to view Snowy Plovers first-hand. Thank you to IV Elementary for enhancing our beach with your artwork!

My Experience at Coal Oil Point Reserve

by Allyson Bailey



COPR is a beautiful place for research, internships, volunteer opportunities, or to simply unwind, all of which I had the privilege of enjoying as a student at UCSB. I interned as a Snowy Plover Docent, and worked as a Kids in Nature Environmental Educator, in addition to exploring COPR's underwater kelp forest community.

Jessica and I put on our wetsuits and struggled to pass the waves to get to the ocean floor. To avoid scaring any nearby fish we gradually swam forward, juggled orienting ourselves parallel to shore by compass, and unwrapped the transect tape. Many camouflaged kelp bass, golden senoritas, and schooling blacksmith passed by. Swish. Through the fish transect count a giant sea bass glided quietly. I was certainly not expecting to observe this gentle giant during my first dive in the kelp forests of Coal Oil Point Reserve (COPR), since it is listed as an internationally, critically endangered species. COPR had many pleasant surprises in store.

The opportunity to serve as Assistant Diver at COPR expanded my knowledge of the Santa Barbara Channel Kelp Forests. We observed fish I have never seen underwater before such as the ocean white fish, various species of surferperch, and the giant sea bass. Within the quadrats we uncovered numerous brittle stars, measured sea cucumbers, identified diverse anemone species, learned to distinguish gorgonian species, and even discovered a hiding octopus.

The opportunity to interact with wildlife that I studied in the classroom is an incredible and beneficial educational experience. As an Environmental Educator at COPR, I loved when students would mimic me as I crouched down to better observe the salty, slimy algae. I enjoyed the opportunity to instill a sense of wonder, contribute to their understanding, and encourage the students' appreciation of their local coastal environment. The students lived within a few miles of the beach, and some had never visited before.



Overall, COPR instilled an appreciation for the opportunity to assist and encourage preservation of the natural environment. COPR positively contributed to my education at UCSB. This experience has influenced my career as a Science Instructor at The Ocean Institute, and inspired me to volunteer as a SCUBA Diver for The Aquarium of the Pacific.

For the Birds: Santa Barbara Audubon at Coal Oil Point Reserve

By Aaron Kreisberg



Santa Barbara Audubon Society (SBAS) and Coal Oil Point Reserve are strong partners in restoration, education, conservation, and citizen science programs. The role the Reserve plays for Audubon is tremendous, particularly as a place for birding and protection of avifauna. In 2016, a pair of American Avocets successfully nested in the Devereux Slough, the first breeding record for this species in Santa Barbara County since the 1970s! Birders were, of course, very excited and kept track of the chicks until they learned to fly.

SBAS has a long history of habitat restoration efforts in collaboration with the Reserve. Currently, we are restoring the area around the Dune Swale Pond. This area was burned by the Tank wildfire in the Summer of 2014. The project, funded by the Southern California Wetlands Recovery Project and UCSB's Coastal Fund, consists of the removal of invasive flora, planting native species, and monitoring vegetation changes. The project involves paid student interns, student groups, and volunteers from the community. Over 50 volunteers donated their time to assist SBAS in improving habitat at the Reserve in 2016.

SBAS is also active in conservation projects at the Reserve. Tree Swallows, for example, have lost habitat due to the removal of large trees in the last century, and consequently the Tree Swallows lost natural cavities to nest in. SBAS members installed nest boxes (artificial cavities) at the Reserve and involved a number of students and volunteers in monitoring their breeding success each year. While the Tree Swallows are using the artificial nest boxes, we are also making partial holes on dead trees to investigate if the holes can attract woodpeckers, who would further create a larger cavity that can be used by the Tree Swallows.

SBAS members are very excited about the Coal Oil Point Reserve Nature Center. We are looking forward to using the Nature Center to host Audubon field trips, support our citizen science programs at the Reserve, and to provide a base for educational programs for school groups.

If you like birds and their habitat, get involved with the SBAS! Visit SantaBarbaraAudubon.org or contact Aaron Kreisberg at Programs@SantaBarbaraAudubon.org



Support Coal Oil Point Reserve!

Most of the Reserve's programs are supported by the generosity of individuals and grants. Your contribution, of any size, goes directly to support these programs. Our most urgent need is to raise \$85,000 by February 2017 to add a kitchen and gender neutral bathroom to the Nature Center.

Please contact the Reserve director if you are interested in naming opportunities or to make a planned giving.



How to Donate

Donations are tax deductible. Checks should be made to **UC Regents**. Mail your gift to:

Attn: Deby Puro
Coal Oil Point Reserve
Natural Reserve System
Marine Science Institute
Santa Barbara, 93106

Happy Holidays and exciting
2017!

Upcoming Events

- *Tours of Coal Oil Point Reserve:* First Saturday of each month from 10am-12pm.
RSVP to: copr.conservation@lifesci.ucsb.edu
- *Snowy Plover Docent Training:* Tuesday, January 10th at 5:30 pm.
RSVP to: copr.conservation@lifesci.ucsb.edu