

UC Santa Barbara

Newsletters

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Coal Oil Point Reserve Annual Newsletter 2023

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COAL OIL POINT RESERVE

2023 Year in Review

Featuring
COPR Staff
Updates...

Plus
Student and Docent
Experiences...

The Latest
Research...

Coal Oil Point Reserve (P'ok'oy) in 2023

by Dr. Cristina Sandoval

The reserve flourished in supporting its mission of research, education, and public outreach. Refer to the table to the right for COPR in numbers in 2023.

This was a year of changes. We lost our beloved Land Steward, Kipp Callahan, who moved closer to his family on the East Coast. We found Armando Aispuro, an avid birder and researcher who is quickly learning about the reserve and teaching all of us about birds and other things he has learned on his many research experiences around the world. Jessica Gray, with her toddler Caio, continues to run the docent program, the tours, and coordinate many other outreach activities.

The first five students of the CORE (Conservation and Restoration program) completed one year of internships, experiencing a variety of field projects. We are now mentoring five new CORE students for the '23/'24 academic year. These students see what is like to do research and work in environmental sciences. We thank our donors for making this dream program a reality. We also thank the Coastal Fund for supporting many more interns to participate in our various programs. For many of these students, this internship is a bridge from what they learned in the classroom to their first job.

We received a grant to clean up the Pond Trail and improve fire safety. This project will start in early 2024. The Nature Center has been used by groups visiting the reserve and seeking a place to gather and have ideas. We love showing off the reserve. If you want to learn more about the reserve and the Snowy Plover program history, check out this new [video from the 2023 UCSB NRS seminar series](#) (seminar #5).

COPR 2023 Summary Table

Active research projects	37
Number of class field trips	20
Total number of visits for research, education, and public outreach	9,453
Number of student interns (most were paid a stipend)	102
New grant funds secured	\$86,279
New donations	\$26,781



Top: Cris Sandoval instructs CORE interns on insect collection techniques. Middle: COPR staff members Jessica Gray and Armando Aispuro conduct nest monitoring during Western Snowy Plover breeding season. Bottom: COPR volunteers and interns install symbolic fencing to protect sensitive plover nesting habitat. Photo credits: Ryan Bayliss

Snowy Plover Update

by Jessica Gray



A banded Snowy Plover looks up towards the sky. Photo credit: Armando Aispuro

The Western Snowy Plover population at Coal Oil Point Reserve had an exceptional nesting season this year with above average hatching rates (72%) and fledging rates (61%).

The first plover nest of the season was laid on April 10th, one month later than is typical for this site. It seemed that the plovers were waiting out the big storms that occurred through the end of March, but they more than made up for their late start in the months that followed. By July, there were so many plover chicks on the beach that you could not visit the slough mouth area without seeing several broods! The Snowy Plover Docents took great care to ensure that the nests and chicks were safe from predators and human disturbance.

A total of 59 chicks fledged at Sands Beach this year, which is about 20 more than the average for this site. Neighboring Ellwood Beach fledged two successful chicks for the first time in recent record. The fledged chicks are those that have beaten the odds to survive the vulnerable first 28 days of life when they are the size of a cotton ball

and cannot yet regulate their own body temperature or fly away from potential threats. The number of fledged chicks is an important metric in the plover world because once a plover chick fledges, they become independent from their parent and ideally will join the breeding population the following year.

Plover nests and chicks experienced notably low levels of predation in 2023, compared to previous years in which crow and skunk activity has had a significant impact on nesting success. In fact, the primary cause of nest failure this year was high tides. Fortunately, many of the eggs that washed out of their nests were recovered and transferred to our partners at Santa Barbara Zoo to be raised in captivity and returned to Sands Beach for release back into their natural habitat. In total, 11 additional fledged plover chicks that would have otherwise not survived the elements were released this year from the zoo's rehabilitation program.

Thank you to Cris Sandoval and Armando Aispuro for their dedicated plover monitoring this season and to the many docents that ensured the protection of the plovers and their habitat through public outreach at the beach and beyond!



COPR docents hosted an outreach booth at the Santa Barbara Zoo's Saving Species Day. Photo credit: Daira Torres

Vagrant Creatures from the Sky and Sea

by Armando Aispuro

Doing surveys for snowy plovers allows us to find nests, re-sight color banded birds and estimate population sizes. However, it also gives us the opportunity to monitor Sands Beach for other interesting arrivals from the sky and the sea.



A Swallow-tailed Gull stands on the slough mouth at Coal Oil Point Reserve. Photo credit: Adrian O'Loughlen

One Wednesday in mid July, I received a notification that a Swallow-tailed Gull had been seen at Goleta Beach before it took flight and disappeared. This is an extremely rare bird that is near-endemic to the Galapagos Islands - a striking seabird with the unique characteristic of being the only fully nocturnal gull. Immediately, all available local birders were desperately scanning every beach, body of water and other possible locations including COPR. As I attended a meeting, I kept track of the online commotion for several hours in anticipation of the gull's movements. Then suddenly, I was notified that it was finally found... and at Sands Beach! I ran down with my binoculars as my hat whipped off my head, and could already see the small army of local birders lining up. The goal was to see the gull, but also - and more pertinent to my job - was to make sure birders were not inadvertently bothering the many young plover chicks running

around the beach - as it was peak breeding season. When 'mega' rarities arrive, so do large groups of travelling birders eager to catch a glimpse and add a new species to their 'life lists'. Thankfully, the Snowy Plover docents on-shift were excellent and instrumental in guiding the birders to see the gull while respecting the nesting plovers. The Swallow-tailed Gull flew off that night, as mysteriously as it arrived.

A few weeks later, a hulking and bizarre fish washed ashore Sands Beach. It was a sunfish but it looked a bit different from our local *Mola mola*. We contacted experts who identified it as a recently discovered species native to south Pacific waters from New Zealand to Chile - the Hoodwinker Sunfish (*Mola tecta*). But this was the second time one had been detected at Sands Beach at COPR! Such a rare sighting demanded sample collection. However, as an ornithologist by training, I had almost no experience in extracting organs from fish, but I went to try with the assistance of long-time volunteer Rick



A Hoodwinker Sunfish washed up on the beach with meter tape laid out to measure the fin-to-fin length of the specimen. Photo credit: Armando Aispuro

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Long-time reserve volunteer, Rick Fellows, digs up a Hoodwinker Sunfish that has been buried in the sand by tidal action. Photo credit: Armando Aispuro

Fellows. Hurricane Hilary had just reached us, so it was rather wet and stormy on the beach. Surprisingly, we could not even locate the massive fish! We thought it might have been swept away by the angry sea. But then we noticed a gull foraging on something in the distance. On closer inspection, it was poking at the eye ball of the Sunfish which had been buried under the sand by the intense wave action! So, we used some shovels to dig it out. In the end we successfully extracted the ovary and collected tissue samples, while another group from UCSB collected gut content. These samples are very rare in the north Pacific, so we were happy to collect them and send them to experts.

Other notable oddities included a Black-backed Wagtail - a small songbird native to Japan, China and Korea which I found foraging on the beach during a snowy plover survey. Also, a young Northern Fur Seal came ashore. This species only breeds on San Nicolas Island and has a pelagic lifestyle, so it was surprising to see it on the reserve. It's hard to predict what else will use the beach and the reserve, but we hope to document it all!



A Black-backed Wagtail observed at the reserve. Photo credit: Armando Aispuro



A Northern Fur Seal pup walks along the wet sand at Sands Beach. Photo credit: Armando Aispuro

Nature's Safe Space

by *Alexandra (Sasha) Holland*



The beauty of Coal Oil Point drew me in ever since I first visited Santa Barbara. The bluffs and soft, sandy beach serve as the perfect sunset viewing spots as waves crash onto the shore and the sky changes to warm colors before fading to black. Not only is Coal Oil Point beautiful, but it's a natural reserve for many native animal and plant species. The Western Snowy Plover and the California Brittlebush are two of my personal favorites. As a busy Biological Sciences student at UCSB, Coal Oil Point has become my safe space.

In the summer after freshman year, I interned as a Snowy Plover Docent at the reserve. My duties included walking up and down the beach away from where the Snowy Plover habitat resides and communicating with beachgoers about the importance of maintaining and protecting the habitat. These conversations allowed me to share knowledge about my favorite birds and see the excitement in their eyes when they noticed one scurry across the sand. When I found myself alone on the beach, I appreciated the opportunity to work in a place where I could see the mountains, ocean, and breathe fresh, salty ocean air. I am grateful for the time I spent connecting with people through nature and walking the reserve as it always felt refreshing to be outdoors.

After a year and a half of being a docent, I interned for the land stewardship program. I planted native species, weeded out invasive ones, and performed other tasks like seed collection or fence maintenance. My knowledge and respect for the reserve expanded as I traversed the different parts. The tall grasses, oak trees, and chaparral habitat were breathtaking. As I dug into the grass-covered ground, I saw the blue tails of Skilton's skinks peak beneath the dirt. I loved getting to meet the inhabitants of the reserve and connecting with the land through planting.

Interning at the reserve was a safe space for me away from the active student life of UCSB. It was nice knowing that nature was a ten minute bike ride away from the hustle of campus. Watching cormorants fly across the top of waves or smelling the bright orange flowers of the California poppy was enough to make my day. I hope that Coal Oil Point can be a safe space for others as it still is for me.



A native plant propagated from the reserve nursery is outplanted in the field. Photo credit: Sasha Holland

Coal Oil Point Marine Monitor (M2) Shore-based Radar System

by *Anastasia Kunz*

Since 2017, Coal Oil Point Reserve has hosted a Marine Monitor (M2) shore-based radar system to track nearshore vessel activity surrounding the Coal Oil Point No-Take Marine Conservation Area. Through a collaboration between ProtectedSeas, Resource Legacy Fund, Channel Islands National Marine Sanctuary (CINMS), and California Marine Sanctuary Foundation (CMSF), this pilot site has been a valuable asset for local enforcement partners as well as CMSF and CINMS researchers to better understand patterns of human activity around this marine protected area (MPA).



Figure 1: Marine Monitor radar station at Coal Oil Point. Photo credit Anastasia Kunz

MPAs are a critical component of marine conservation, bolstering biodiversity and abundance of marine organisms within their boundaries. They can benefit fishery yield when they protect older, larger fish allowing them to flourish as the broodstocks of highly productive spawners that help repopulate fished areas. Not only do MPAs increase the numerical density and biomass of target species, they also improve

species richness which can restore larger ecosystem functioning, and in turn revive ecosystem services including carbon sequestration and water purification.

Despite their importance in preserving biodiversity and ecosystem services, MPAs have long faced criticism as “paper-parks”, where the good intention of protection is not backed by enforcement. Poaching often occurs at night or in the early morning which presents unique challenges for the limited enforcement officers who already struggle to patrol the dispersed MPAs during daylight hours. Consequently, small fishing vessels can easily slip across reserve boundaries with little threat of consequence. As competition heightens between fishers along coastal zones, incentives to cross into MPA boundaries are increasingly enticing.

This is where Coal Oil Point’s M2 system comes in. Because small fishing vessels are not required to transmit Automatic Identification Systems (AIS), a tracking system required for larger commercial vessels, there is a gap in enforcement of small vessels. M2 fills this data gap through its around-the-clock radar monitoring with a high definition camera to track vessel movement. Boats moving below a certain speed within the MPA boundaries trigger the system and alert data managers to suspicious activity. This allows California Department of Fish and Wildlife enforcement officers to gauge compliance and even begin to understand patterns that haven’t been addressed before, like night fishing and optimize their time to promote compliance.

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Comprehensive maps and reports allow enforcement officers to focus their effort on regions vulnerable to poaching and understand how to better manage MPAs. The M2 system shows that many MPAs have high levels of compliance, where high concentrations of track lines along the edge of the MPA illustrate that fishers not only understand boundary lines, but also suggest another benefit of MPAs – “spillover”, where healthy fish populations within MPAs overflow and bolster populations outside its bounds.

Efforts to improve our understanding of how MPAs benefit the resilience of marine ecosystems will enable better design of these critical zones. It is important that our marine protected areas stay protected – and projects like M2 can make that a reality by enabling reliable monitoring to improve compliance. Even more significant is the opportunity to communicate the overarching value of California’s advanced MPA system; conservation can work in tandem with human use for economic and ecological gain.

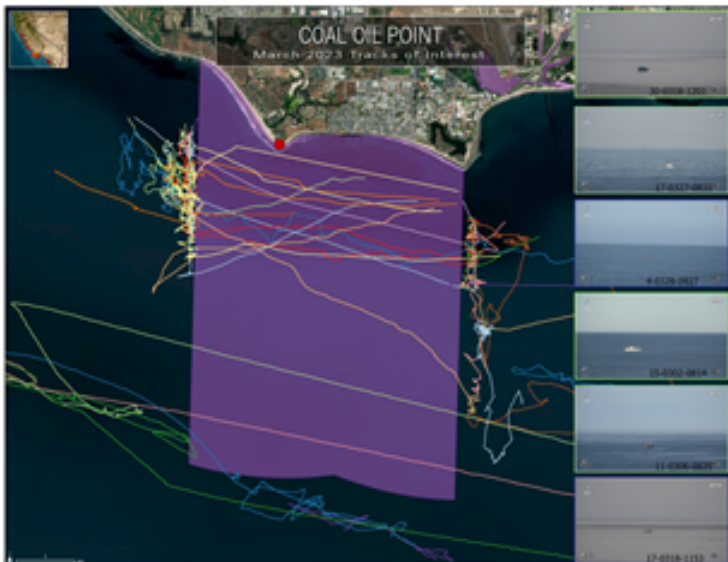


Figure 2: Map of vessels exhibiting potential fishing activity at Coal Oil Point Marine Conservation Area March 2023. Map credit: Anastasia Kunz

To learn more, please see the [M2 website](#) and recent [publications](#).



Our Local Sanctuary

by Maureen Battey



I remember it well. In 2020, I had just moved back to Santa Barbara after being away for over 20 years, and we had just learned there was a world pandemic and we were told to stay home. I thought there must be something I can do with my time, to get involved with this community I love so much.

Years prior I had talked to a nice docent about the Western Snowy Plovers at the the reserve, so I got in contact with Jessica Gray, the COPR Conservation Specialist. She invited me to the release of Snowy Plovers who were raised in captivity. I could NOT pass up this offer.

We entered the beach from the top of the bluffs at Coal Oil Point Reserve. We walked along the ocean's edge while Jessica explained that this area is where Snowy Plovers feed. The docents ask people to move along the ocean's edge to not disturb them.

Along the way, we saw dolphins following us along the break of the ocean waves. The bright blue sky made the ocean shimmer. I said "Oh, my gosh, Jessica, this is amazing!" She shared that every day the landscape changes here, and she felt so privileged to be a part of COPR's program. She explained that 20 years ago, the Snowy Plovers were being so disturbed by beachgoers that they were no longer nesting at Sands Beach.

In 2001, Reserve Director Cristina Sandoval worked with Dr. Kevin Lafferty and Santa Barbara Audubon to implement some measures to protect Snowy Plovers. As if in the Kevin Costner's Hollywood movie, Field of Dreams "if you build it...they will come!" He was actually talking about baseball, but I thought to myself, that makes sense!

I had to admit, when I was a freshman in 1979 at UCSB, I was one of those people, who trampled through the dunes in search of the perfect sunbathing spot or beach bonfire! I thought to myself "Well I've learned over the years... when you know better, you will do better!"



A holdfast of Giant Kelp washed up on the beach. This kelp "wrack" provides habitat for beach hoppers and kelp flies which in turn provide food resources for Snowy Plovers. Photo credit: Maureen Battey

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A Snowy Plover chick runs along the shoreline to forage for food. Photo credit: Brian Smith

Now, 20 years into this program, by following just a few simple rules, and protecting the dunes from people and predators, the Snowy Plovers have returned in GREAT numbers.

I've been involved with the program for almost 4 years now. And, I refer to the UC COPR reserve as MY sanctuary, as it has given me so much joy and satisfaction walking the preserve, meeting and talking with people about the program, and helping Mom and Pop plovers multiply by helping to keep them safe.

But, more specifically, it is OUR local sanctuary. The community here has greatly supported the

program by leashing their dogs, staying close to the water edge while they walk through the corridor, moving recreation into the eastern section of the reserve's beach area, and allowing the plovers to feel free and safe.

I am overwhelmed by the support that we as docents get from the UCSB students, the people in our community, and out-of-towners when they learn what the mission of COPR is and take an active interest in the program.

This past season I had so much joy watching the adorable, cartoon-like plover chicks learn to run from their fenced habitat to the ocean's edge to feed. If you pause for a moment, and if you are lucky, a baby chick may come within a few feet of you as they learn to catch flies and beach hoppers around the fresh kelp that washed up the day before.

“This past season I had so much joy watching the adorable, cartoon-like plover chicks learn to run from their fenced habitat to the ocean's edge to feed.”



Make a gift today to support local conservation!

We invite you to support Coal Oil Point Reserve with a year-end gift. Our treasured Reserve serves a unique function in the Santa Barbara community, facilitating research and classes, protecting and restoring a rare natural ecosystem, mentoring students in the environmental sciences, and sharing information on the latest discoveries from the Reserve. Your support will help advance innovations in science, conservation, and education at the Reserve while protecting this unique and important environment.

Do you have a truck you would consider donating to Coal Oil Point Reserve? The Reserve is currently in need of a 4WD (3/4 to 1 ton) truck with a trailer hitch to help support native plant restoration projects and monitoring activities. If you have questions or are interested in donating, please contact Chelsea Wormington (chelsea.wormington@ucsb.edu).

Make a Gift by Check:

Make check out to *UC Regents* with *COPR* in the memo field

Mail to:

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If you have already made your year-end gift,
we extend our heartfelt thanks.



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