UC SANTA BARBARA

THE Current

August 15, 2019
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Saving the Season

Conservation requires a certain type of heroics: research to identify and develop solutions, and the resources to put them into place. And sometimes it's a matter of being quick on one's feet — quite literally.

Case in point: Cristina Sandoval, longtime director of UC Santa Barbara's Coal Oil Point Reserve.

In her devoted and valiant efforts to recover the snowy plover, a diminutive shorebird once threatened on the Pacific Coast that nests each year on the reserve, Sandoval has employed every strategy there is — and created some new ones. Such as racing more than a dozen plover eggs to safety, in the dark of night, while cradling them in her own two hands.

The waves at the reserve were massive in July, unusual for the time of year. When huge breakers were crashing on the beach during high tide late one evening, the water reached — and rushed into — the plover nests nearby. From her home on the reserve, Sandoval saw it unfolding before her eyes; she dropped her dinner plate and ran.

"In 23 years here that was the first time ever that I've seen that in July — the ocean flooded the nesting area and water was gushing over the nests," Sandoval said. "I rushed to the beach and started grabbing eggs and putting them in my shirt. A few were gone to the ocean but we got about 14. I carried them home in my hands, rinsed them, kept them in an incubator overnight and the next day they were taken

to the zoo.”

That’s the Santa Barbara Zoo, where those same 14 eggs, in recent days, have all hatched. The zoo’s plover areas are not open to the public, but it can be confirmed that several adorable plovers are currently scurrying to and fro in a protected flight pen. They will remain there until they are strong and big enough for release back to the beach.

The zoo for years has operated a robust and successful plover conservation program, with Sandoval and Coal Oil Point Reserve playing a key role.

Though not all the plovers reared at the zoo are Coal Oil Point rescues (some have come from Ormond Beach in Oxnard and from Oso Flaco and Oceano Dunes in northern Santa Barbara County), all have been released at the reserve. “Coal Oil Point is an extremely good release location because it’s well-monitored, it has much less foot traffic than some other beaches and it’s close to the zoo," Rachel Ritchason, director of collections for the Santa Barbara Zoo, said during a recent tour of the zoo’s plover facility for Sandoval, her staff and volunteer docents. And they are such great partners.”

Protecting the plovers and their nests during breeding season at Coal Oil Point is a constant and evolving challenge, for birds and biologist alike. Sandoval and her colleagues often have to change strategies as quickly as plovers scamper across the sand.

One year, when the skunks were relentless, known to eat every nest in a single evening, Sandoval took to catching skunks by hand. It was risky (and stinky) business, and not sustainable. So, another new technique then: Wooden eggs, painted to match true plover eggs, were placed in the nests — “plover parents are not very discriminant about the egg shape,” Sandoval said — while the real ones went into an incubator. When they were ready to hatch, the eggs were returned to their parents, who were never the wiser.

“This method also was not sustainable because I had to wake up at night to check if the eggs were pipping,” Sandoval said. “One night in 2008, the power went off because of the Gap Fire and we had two incubators full of plover eggs. I didn’t have a generator so I moved all the eggs to my kitchen oven and added candles to keep it warm, moving candles in and out all night to keep the temperature at 99.8 F. All the eggs hatched but that was too stressful, so I stopped using the egg swap method.”

The current breeding season began with the potential to be the best ever, with a record 68 adult plovers at the start, according to Sandoval. Nesting started early, she said, and “at one point there were so many nests that it was hard to track them.”

That didn’t last long.

The beach flooding this year was a rarity; crafty predators are expected. But this season has been tougher than most. Crows gobbled up 32 nests, about 100 eggs altogether, almost as soon as they discovered them. And the usual methods of determent — harassing crows by chasing them away, scaring them by waving and pretending to eat a fake crow as a predator would — weren’t working. So the conservationists at COPR had to get crafty themselves.

“We realized we would have no nesting success at all this year unless we protected the nests,” Sandoval said. “Other plover sites have successfully used a metal cage called a predator exclosure that surrounds each nest. It has a small mesh side where the plover parents can come in and out, but is too small for a crow to get in. It can attract owls and hawks, which catch the plover parent when it is trying to leave the exclosure, so we modified the traditional exclosure to also prevent an owl from eating the adults.”

Using mesh and zip ties, and plywood for the roofs to block the view of owls, Sandoval’s team built exclosures for the surviving nests at Coal Oil Point and at the nearby North Campus Open Space. They gave them each two walls — a single wall is traditional — to give the birds more time and options for escape, should a predator land outside.

“Any intervention to a plover’s natural life requires permission from the U.S. Fish and Wildlife Service, but they quickly reviewed the modifications and approved them,” Sandoval said. “Before the exclosures we lost about 100 eggs from crows. After the exclosures were placed we didn’t lose a single egg from crows, and many chicks have hatched since we started using the modified exclosures.”

Skunks are still an issue, as baby skunks can get through the mesh, and owls are wont to eat the hatched chicks once they leave the exclosure and begin to explore. Deploying fake eggs wrapped in electrified wire — a booby trap of sorts — could eventually teach skunks, via a small shock, to avoid plover eggs. But protecting chicks from owl predation once they’re out and about?

“This is a bigger challenge to solve,” Sandoval said. “These challenges sometimes seem endless but the efforts are paying off. At one point in the 90’s there were just over 500 Western snowy plovers left on the Pacific Coast. There are over 4000 plovers now. The increase is mostly a result of managing beach recreation in a way that is compatible with plovers nesting in peace. Our local community adopted the new way to use Sands Beach and the number of plover nests went from zero in 2000 to about 60 per year now.

“It’s really amazing to see something so vulnerable be so resilient,” she continued. “Despite all these things they have survived for thousands and thousands of years — it’s just incredible. Ours was the first historically abandoned nesting site that was brought back. So we’ve learned it can be done, and they are making a comeback. There’s a lot of hope.”

About UC Santa Barbara

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