

RESTORATION IS A SUCCESS

Windswept island now home to burgeoning number of ‘fancy’ seabirds

AÑO NUEVO

By Cypress Hansen

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AÑO NUEVO ISLAND >> It’s not easy to erase every ecological mistake humans made during their 70-year occupation of this rocky, windswept island off the San Mateo County coast. But after 10 long years of restoration and creative burrow-building, Año Nuevo Island is once again healthy enough to host growing flocks of unique seabirds.

“No one knew what to expect when all this restoration work was done, but we’re seeing that it’s been incredibly successful,” said Rozy Bathrick, an ecologist with Oikonos, a nonprofit coastal research group.

In 2010, Oikonos researchers and students at the California College of the Arts in Oakland teamed up to create ceramic dens for the rhinoceros auklet, a burrowing seabird closely related to puffins. Before the intervention, the auklet population on Año Nuevo Island was struggling. Unable to successfully fledge their chicks because of soil erosion, predation and trampling by sea lions, the colony hadn’t grown significantly since the mid-1990s.

But last year, some 600 rhino auklets nested on the island, a 129% increase since the project began.

“We’re really excited,” said ecologist Jessie Beck, project manager at Oikonos. Six hundred may not sound like much “in the big picture of things,” Beck said, but the island’s small size and role as the southernmost point of the auklet’s range make that number much more significant.

Unprotected from wind and waves, Año Nuevo Island is a treeless, 9-acre spit of land just a half mile offshore from Año Nuevo State Park, famous for its rowdy colony of northern elephant seals.

Established as a site for a U.S. Coast Guard lighthouse station in 1872, the island’s ecosystem suffered after lighthouse keepers introduced rabbits, trampled the native plants

and shot the gulls, cormorants and other birds that flocked there to breed.

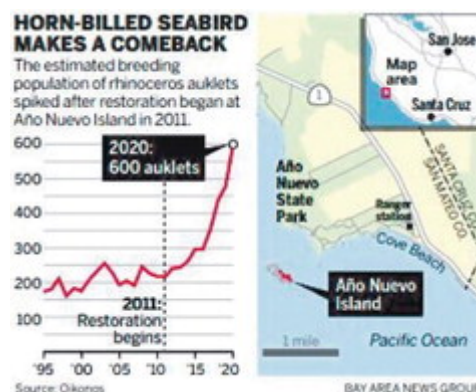
In 1955, the island became a state reserve, but its native greenery didn’t bounce back. Instead, the rabbits, seagulls and sea lions took over, preventing the plants from taking root. Luckily, the elephant seals stick to the beaches, keeping competition with the birds to a minimum.

When Oikonos, which has offices in Santa Cruz, Hawaii



Ecologist Rozy Bathrick checks on prototypes of ceramic nests on Año Nuevo Island. Behind the nesting site fence sits an abandoned lighthouse keeper’s mansion, a reminder of the island’s history.

COURTESY OF OIKONOS



and Chile, stepped in more than a half-century later, the team's mission wasn't to restore the island to its original state.

"We don't actually have a great picture of what that looks like," Beck said. Instead, "we're trying to make it so that the maximum amount of species can safely reproduce."

Birds arrive in '82

Having moved to the island in 1982 for the first time in recorded history, the rhinoceros auklets were of primary interest to the researchers. Described as "fancy" by birders, these long-lived diving birds are football-sized, with a long white mustache, white eyebrows and an orange bill. Named for the rhino-like horn on their bill that grows during the breeding season, auklets breed almost exclusively on islands, raising one chick per year underground.

Because many of those eggs and chicks were crushed by sea lions or collapsed burrows, the researchers decided to provide an alternative housing solution. Oikonos joined forces with ceramics professor Nathan Lynch and his design ecology class at the California College of the Arts to create the perfect birdhouse.

The auklets' new homes had to be durable enough to survive harsh weather and roaming sea lions, but also biodegradable — a feat most easily accomplished with clay.

"By mimicking and paying attention to the birds, we came up with something beautiful that would also solve the scientific criteria," Lynch said.

The result: a bulbous, Jshaped burrow with a removable window at the crook so that researchers can peek in and check on the birds without stressing them out too much.

After settling on the design, Lynch hired a handful of his students to build 90 clay modules by hand. He said his students appreciated the project's realworld applications and the fact that their class work was client-based and not so theoretical.

"That's when I felt like I was doing something special for them," he said. "We're taking this boat to an island for an interdisciplinary ceramics course and we are in the Pacific Ocean. That's when it's real for them."

crushing their pups. If you scare a gull chick from its nest, other gull parents will kill it. Take a wrong step and you'll crush a burrow.

The researchers and art students also had to get used to the gulls, which launch all-out assaults on their heads — screeching, poop sniping and dive bombing the moment people step off the boat.

And immediately after restoring thousands of native plants, five years of drought coincided with an influx of brown pelicans, which killed most of the new vegetation. "Pelicans love to sit on soft plants," Bathrick said.

Condos built

After pioneering the ceramic nest modules on Año Nuevo Island, Oikonos, Lynch and other designers have since tailored the condos for several other species, including wedgetailed shearwaters, pelagic cormorants and ashy storm petrels.

"There are applications for this idea all over the world," Lynch said. The modules are "working on the Farallones, they're working on the Channel Islands and they're working in Hawaii."

Another seabird, the Cassin's auklet, also received a neighborhood of customized ceramic modules on Año Nuevo Island in 2015, but the species has not fared as well as its horned relatives.

Bathrick says the Cassin's auklets had a "horrible year" in 2019 — mostly because of the lack of food in local waters — completely failing to raise chicks. "It's very sad," she said.

But there's optimism that things will turn around: In 2020, they started breeding almost a month earlier with great results.

Both auklet species can offer an early indication of problems in the Monterey Bay's food web. "If we see a total collapse of the anchovy population, which is something we're really worried about, we may be the first ones to see that," Calleri said.

Although both birds are not threatened species, their progress on this small island provides hope for the future of coastal ecology and those who study it.

In addition to the custom clay “condos,” the birds on Año Nuevo Island have benefited from the reintroduction of native shrubs and grasses that stabilize the soil, as well as fences that reduce competition for space with the sea lions, who can crush the burrows the birds dig themselves.

Using donated wood from invasive eucalyptus trees, the fences are designed without metal nails or plastic ties so, like the burrows, they won’t add any trash to the island as they break down.

Surviving climate change

George Divoky, an arctic ornithologist who has monitored seabirds in northern Alaska for 47 years, says it’s unlikely rhinoceros auklet populations will persist this far south as the planet warms. Still, he sees value in maintaining and monitoring the birds’ southernmost colony to see how they cope with climate change.

“Having a study there to see how the productivity and the numbers change over the next two decades is important,” he said. “I would be all over that. I’d join the board if they asked me.”

While the project has largely been a success, restoring an island ruled by animals is no easy task.

“I liken it to trying to juggle six balls at a time,” said David Calleri, a retired firefighter from Santa Cruz and a longtime Oikonos volunteer.

If you get too close to the cliffs, Calleri said, the sea lions below will get spooked and stampede,

“You see young chicks that seem so vulnerable and tiny and could be instantly killed by the conditions, but then they grow up and fledge,” Bathrick said. “It’s just an inspiring place.”



Dotted with thousands of sea lions and shrieking seabirds, Año Nuevo Island is a popular breeding ground because of its proximity to the Monterey Bay, home to one of the world’s most diverse and plentiful assemblages of marine animals.

PHOTOS COURTESY OF OIKONOS



Students in the design ecology class at the California College of the Arts in Oakland created prototypes of ceramic burrows as part of a project aimed at providing stable homes for Año Nuevo Island’s breeding seabirds.

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