

Where Are All the Nesting Green Sea Turtles in the Main Hawaiian Islands Coming From?

In the past half century, nesting around Hawaii's populated islands has gone from nearly nonexistent to surging



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A Hawaiian green sea turtle throws sand to cover her nest. Joe Spring / NOAA

This month I published a feature story in Sierra magazine on the resurgence of Hawaiian green sea turtles. The species was nearly wiped out a half century ago in the state. Here is a dispatch on nesting put together from my reporting of that piece. Abbreviated parts of the scenes here appear in the fuller Sierra magazine story, which you can read [here](#).

On a June morning, I hike with U.S. Fish and Wildlife biologist Sheldon Plentovich over ATV tracks on a beach on the northeast shore of Oahu. Honu, as the species is known in Hawaiian, were mostly wiped out in the state by the 1970s. At that time, nesting in the Main Hawaiian Islands was nonexistent or nearly so. Most of the nesting—roughly 90 percent—occurred on [the small islands of a distant atoll](#) called Lalo, and there was little of it there too. In 1973, just 67 females were counted nesting on East Island, the prime rookery. But state and national protections led the species rebound, and nesting numbers on East reached more than 800 in a season by 2014.

Plentovich studies nesting in the Main Hawaiian Islands for the U.S. Fish and Wildlife Service. In recent years, egg laying has taken off here. As we hike, she marks dig sites with sticks, tape, and signs—partially so ATVs don't drive over potential nests. Not far from one possible nest stands a four- or five-foot high structure built out of driftwood, likely constructed by someone for shade. A nesting turtle could easily crawl into it and get trapped, Plentovich says. Over 15 minutes, we pull it apart and spread the driftwood across a large section of beach.



Sheldon Plentovich builds a barrier around a honu nest. Joe Spring

Plentovich spends a lot of her time responding to hazards for the turtles. She finds large pits dug in the sand that the creatures could get stuck in, and fills them in. The lights of beach front houses can attract hatchlings, which would otherwise crawl to the reflection of moonlight and starlight off the ocean. On the North Shore, worker once put clothe up behind a nest to shade it from lights further inland. The hatchli tracks showed they crawled toward the ocean initially, but once out of the shade of clothe, turned back and motored further inland. One hatchling was found a day and half later across the Kamehameha Highway, in a skate park. It was alive, but Plentovich says the little guys have a limited amount of energy, and such a detour would lessen the youngster's chances at survival. To get people to care about the

turtles, Plentovich sometimes invites residents to see the excavation of a nest, and the release of the baby turtles left in it.

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After almost no documented nesting from the 1970s to the early 2000s in the Main Hawaiian Islands, Plentovich notes nesting has gone up in recent decades. Since the turn of the century, sporadic nesting has given way to more concentrated nesting here. Plentovich says the number of confirmed nests on Oahu went from between 0 to 2 from 2013 to 2018, to 9 in 2019, to 58 in 2020, to 83 in 2024. Though she has limited nesting data on neighbor islands, Plentovich is working to get more. Previous studies have shown some nesting on those other islands. And Plentovich can easily say nests have been documented on Kauai, Maui, Molokai and more. One report issued late this summer documented 124 nesting events on North Aliomanu Beach on Kauai.

Such a rise leads to an important question: Sea turtles are famously known to return to the beach they were born on to nest, so where are these mother turtles coming from?

Plentovich suspects the turtles coming ashore to nest on the Main Hawaiian Islands may be from a remnant population. Prior to their decline in the mid 20th century, turtles were known to nest more frequently in the Main Hawaiian Islands. In [a 2013 study in *Ecography*](#), scientists analyzing middens and historical records from newspapers and other sources, showed that nesting occurred on the main Hawaiian Islands into the late 19th and early 20th century. That documented nesting, the authors write, indicates Polynesians were able to sustainably exist with the mothers for several centuries. After Europeans arrived and tourism took off, the sale of sea turtle eggs, meat served in soups and as steaks, took a toll.

So maybe not all of them died out? Maybe some nested here without detection?

But other possibilities remain. That remote prime nesting beach on East Island was nearly wiped out by a hurricane in 2018. Though it has come back somewhat, could some mother turtles have fled there and come ashore on Maui, Kauai, and other islands? Could some nesting turtles be hatchlings or youngsters released decades ago from a captive breeding program at an Oahu wildlife amusement outfit called Sea Life Park?

On an early morning in late May, I stand with Michelle Benedict at the Hawaiian green sea turtle pool at Sea Life Park. Benedict watches over the honu as the assistant curator of reef life. Seven adult turtles—five females and two males—with a pink or blue letter on their shells leisurely swim around or rest on a ramp that leads up to a sand enclosure. The sand was added to their display in the 1970s to encourage captive breeding. This spring, Benedict explains, the turtles have climbed up the ramp to nest in the sand twice.

She will let the eggs incubate naturally, and before the nest is due to hatch after roughly a couple months, build a trough in the sand so the emerging hatchlings don't crawl into the pool at night. In the morning, she will collect, weigh, and measure the hatchlings and hold them until night, when they are released on a nearby beach. More than 17,000 such hatchlings have been released that way since the 1970s.



Hawaiian green sea turtles swim in their pool at Sea Life Park.

The park keeps and raises a small selection of hatchlings, some of which may later be viewed at the park. When some reach six months of age, they are loaned to partner organizations around Hawaii, where they can also be viewed. Once the juvenile turtles in those places reach an appropriate size, they are released to the ocean. “Everybody’s so impacted by that,” says Benedict. “It really is something I wish more people could see.”

Some tagged captive-born hatchlings and young turtles have been found years later living around the Main Hawaiian Islands. Retired National Oceanic and Atmospheric Administration biologist George Balazs sent me evidence of the finds. A Sea Life Park hatchling tagged in 1989 [was found](#) three years later swimming off the Big Island. Another hatchling [was found four years after release](#). And [18 turtles raised and released by the Mauna Lani resort](#) on the Big Island were seen later in the wild, with one witnessed [more than seven years after being released](#). Maybe even more notable

one hatchling turtle flown from Lalo to Sea Life Park in the 1980s was raised by caretakers for roughly a year, then released, [and found nesting on Maui 19 years later](#)



A turtle lays her eggs. Joe Spring / NOAA

So captive-bred turtles can survive in the wild, and at least one animal partially raised at Sea Life Park nested in the Main Hawaiian Islands. But that animal was born at Lalo, leaving an answer to the question of where the recent nesters are coming from still a little cloudy. But dedicated scientists are working hard to answer it. [To expand on past studies](#) and learn more about the origin and relatedness of Oahu's nesting females, NOAA scientists and collaborators are collecting genetic samples this year. What they find may offer more clues as to where exactly the resurgent honu are coming from.

In other words, stay tuned.

To read more about Hawaiian green sea turtles, check out [my story](#) in Sierra magazine.

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