

ON BLOG

Studying Sea Turtles Further Up the Chain
Joe Spring, Cooperating Scientist working with the Marine Turtle Research Program
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For the last week, I've been walking the islands of the Papahānaumokuākea National Monument looking for signs that turtles are nesting. Mostly, that means I'm taking notes about turned over earth.

A nesting green sea turtle leaves a trail on the beach like a backhoe. As the mother crawls out of the ocean and up a berm to nest, she leaves deep ruts in the sand that look like industrial-tire size tracks. When she finds a suitable spot, she clears out a round pit by throwing sand with her long front flippers. Then she starts excavating a smaller bowl with her hind flippers. Then she lays her eggs. After she's dropped the last one, she covers the nest by scooping the sand she just dug up back on top of the eggs. Then she goes back to throwing massive amounts of sand with her front flippers, all to disguise the location of the nest for predators. After finishing, she crawls back to the water.

Sometimes the turtles will stop in the middle of their digging. More often than not, they dig one pit and then move on to dig another one. Sometimes, they'll come up night after night and dig pit after pit. It's not unusual for one turtle to dig eight pits in one night and still not lay her eggs. Each turtle is looking to find the perfect location. They want soil that holds its shape, that's not too dark so that it gets too hot, and that's not too light so that it doesn't get hot enough. A turtle will test different spots by touching the earth gently with her flippers in between scoops of sand. If she doesn't like what she's touching, she moves on. A mother turtle on the beach acts something like a six year old in a Baskin Robbins, sampling and sampling until she finds something that satisfies her enough to make a commitment.

So, I've seen a lot of digging. Most of it has occurred on East Island, a small sandy islet in French Frigate Shoals where over half of all Hawaiian green sea turtles nest. In any given year, more than 800 turtles may come up and turn over that island, which is the size of a couple of soccer fields. This year, they've dug more than 400 pits. It's about halfway through the nesting season. Pretty soon, the island will look something like an Olympic mogul run. I've also seen nests on Laysan Island, Lisianski Island, Southeast Island at Pearl and Hermes Atoll, and on Eastern Island at Midway Atoll. Those islands are all bigger than East Island, but they have a lot less digging. It's hard to say exactly why, but they return to the same beach they were born on to dig their nests, and a lot of turtles were born on East Island.

Tomorrow, I'll be at Kure Atoll. Then I'll visit every island again on the way back down. It's important to look at all of these islands to get a sense of how many turtles are nesting. All that nesting evidence can be used to get a sense of how turtles are doing in the main Hawaiian Islands. Even though the turtles nest in these small remote places, many of them then swim back down the chain and spend time around people.

Though most of my notes are about turtles, I occasionally jot down other observations in my notebook: Japanese glass fishing balls the size of cue balls floating in the surf, tiger sharks leaping out of the water to eat fledging albatross, red-footed boobies returning to the beach after hundreds of miles of flying to regurgitate fish to their chicks, and the occasional frigate bird swooping over my head in attempt to steal my hat. All of that stuff probably happens a lot more often than I note. I just miss it because I'm spending so much time looking directly down at the ground.

