



OCEAN WATCH

Susan Scott

6/20/08 HASB Injured turtle lays eggs, heads home

PUKALANI laid her eggs. Pukalani is the satellite-tagged turtle who lost a front flipper to a shark recently. I wrote about her last week, and countless people have been wishing the best for this turtle.

And the best happened. As turtle biologist George Balazs predicted, Pukalani fulfilled her duty to her species.

Now she has to get back to Oahu.

Given her disability, it seems life would be easier for this turtle if she just stayed at French Frigate Shoals. But the turtle's drive to get home will likely prevail for one good reason: This is where the food grows.

Food, in the case of green turtles, is seaweed, common in the main islands and sparse in the Northwest Chain. Surprisingly though, the seaweed our turtles eat the most is an alien species.

In a study published in the April issue of *Pacific Science*, turtle researchers Karen Arthur and Balazs reported that green turtles' dominant diet in the main islands is the introduced red seaweed, *Acanthophora spicifera*.

I couldn't find a common name for this alga, but we swimmers and beach walkers know it well: It's the brownish-reddish prickly stuff that sometimes swishes back and forth in small shoreline waves. I sometimes see it at Kailua Beach swirling around in the water. Eventually it washes in and piles up on the sand in scratchy clumps.

The round stems of this seaweed are about one-tenth of an inch wide, and they grow about 10 inches long. Spinelike growths cover the branches that sprout from the stems. These spikes aren't stiff enough to puncture skin, but they feel itchy and are unpleasant to swim through.

Acanthophora spicifera came first to Oahu in the 1950s, probably by accident, and since then has spread to all the main islands. This alien alga takes up space on rocky bottoms, shallow reef flats and tide pools where native species would otherwise grow. The brittle branches of this seaweed break off easily, and each piece gives rise to a new plant.

The abundance of this sea plant makes it an easy meal for our turtles, providing a good source of energy. Our greens eat other seaweeds, too, but not many. Of the 400 species present in Hawaii, turtles here eat only nine, mostly red.

In the study, the researchers also found some animal material, such as sponges, in some turtles, and in a Kailua turtle, a piece of green plastic. Mostly, though, the turtles eat plants.

To get this information, biologists caught 181 turtles and tagged, weighed and measured them. Then the researchers used established veterinary methods to rinse the turtles' crops, the food-storage pouch below a turtle's throat.

The turtles were not harmed by this flushing, and the knowledge it imparted is crucial to turtle conservation. What these animals eat, and where, determines their growth rate and their reproductive success.

The good news is that, diet-wise, green turtles are adaptable. They eat what's there.

Or here. Most of the turtles nesting at French Frigate Shoals will return to the main islands to graze.

We're all still rooting for Pukalani, but whether she makes it back to Oahu or not, she's still a turtle superstar. In spite of a debilitating injury, this animal managed to leave the world her most precious gift: nests of fertile eggs.

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