

Pollution suspected in tumor disease that kills turtles

By **Conrad deFiebre**
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The ugly tumors sprout around sea turtles' eyes and mouths, sometimes as big as a grapefruit or a football.

Half of the green turtles assessed in the Indian River Lagoon over decades have the disease, which can kill them if it impedes their ability to see and eat.

It's called fibropapillomatosis, FP for short, and although it's been studied by scientists for nearly 80 years, a full under-



OUR INDIAN RIVER LAGOON

standing of its cause has eluded them.

A major suspect, however, is polluted lagoon environments where marine turtles spend part of their lives. That's because the disease hardly ever has been observed in turtles at sea, even in near-coastal waters. But it is endemic in degraded tropical and subtropical estuaries and lagoons

worldwide, including much of the Florida Peninsula.

DEGRADED WATER

Most affected are green turtles, the only one of seven major marine turtle species that feeds on algae and sea grasses; the others eat invertebrates.

But 8 percent of loggerheads in the lagoon also have been afflicted with the disease, said Melbourne Beach field ecologist Llewellyn Ehrhart.

Ehrhart has been researching the disease in lagoon turtles for 33 years.

Scientists are fairly certain a mysterious herpes virus is one cause of the disease, he said. But not all turtles infected with the virus develop the disease, which has focused research on "environmental co-factors," Ehrhart said.

"FP is much more prevalent in populations where the environment has been degraded," he said. "It's almost nonexistent in areas where the environment remains pretty pristine."

See **DISEASE, 15A**



CONTRIBUTED PHOTO BY THE TURTLE HOSPITAL

Fibropapillomatosis, as seen on this sea turtle at The Turtle Hospital in Marathon, creates tumors that can kill turtles if it impedes their ability to see and eat. A major suspect is polluted lagoon environments where turtles spend most of their lives.

TURTLES

from **1A**

3 SUSPECTS

Cofactors could range from food and temperature changes to stress from toxic substances, said Charles Manire, director of research and rehabilitation at the Loggerhead Marinelife Center in Juno Beach. Pinpointing the problem is "made even more difficult by the fact that the turtles are endangered or threatened, which affects our ability to do research on them," he said.

Tumors on some turtles may recede naturally. Others have had tumors surgically removed at five Florida facilities, according to the state Fish and Wildlife Conservation Commission. The Turtle Hospital in Marathon has pioneered FP surgery with a 90 percent success rate, but no such work is being done on the Treasure Coast, Ehrhart said. It's labor-intensive and expensive, he added.

"We may ultimately come to find that prevention and cure lie in proper treatment of wastewater and agricultural and storm runoff," Hawaiian researchers Thierry Work and George Balazs wrote in a 2013 article in the journal *The Wildlife Professional*. "Discovering the cause of FP in sea turtles and addressing that cause may therefore lead to more responsible development and cleaner oceans for all marine life."

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