Coral threat emerges

Photos by Brett Coomer/Staff photographer

David Sanchez, senior biologist, flips on a light to look at coral species in a quarantine tank at Moody Gardens in Galveston.

Scientists spring into action amid signs of disease near Texas shores

By Emily Foxhall *STAFF WRITER*

Scientist Michelle Johnston braced for years for a moment she hoped would never come. A month ago, she got the first hint it might have happened: Divers in the Gulf of Mexico national marine sanctuary she works to protect noticed lesions on some of the coral.

The dead spots on the vulnerable coral raised alarms because they could indicate the area off the Texas coast has been infected with stony coral tissue loss disease. Researchers first identified it in 2014; the disease then swiftly killed coral across the 360-mile Florida Coral Reef.

The disease appeared in places such as Belize and Puerto Rico, and experts prepared for the chance it could arrive at the beloved Flower Garden Banks National Marine Sanctuary, too. The enchanting place, with its

unique and federally protected coral systems, is relatively deep and far offshore. It's home to some of the healthiest coral in the world.

Johnston, who is the sanctuary's research coordinator, put together a plan for how to respond to the illness in case it did arrive. Now it appears the disease may have hit — and Johnston's response plan has kicked into action.

Signs of coral disease have shown up at the Flower Garden Banks marine sanctuary in the Gulf of Mexico.

Within days of the lesions being spotted, Johnston was on a boat with experts from Florida to evaluate the situation, taking photographs and collecting samples. Primarily brain coral are sick, coral are highly susceptible to stony coral tissue loss disease.

But the progression of disease they saw was patchy and it was not clear if it was moving with the characteristic speed seen with the disease in Florida. This could be because the colonies are in fairly good shape. Or the problem could be another disease altogether, such as white plague, which would be expected to clear up without major harm.

Divers treat a brain coral colony at East Flower Garden Bank. Brain coral are susceptible to stony coral tissue loss disease.

"We don't really know what we're dealing with because we've only just started to observe this," Johnston said. "Really, time is going to tell."

Because they weren't sure, scientists started treating coral anyway. They pressed antibiotic putty onto the coral. They also removed small colonies of healthy coral and brought them to Moody Gardens in Galveston so they can be kept alive and safe in captivity. These coral will serve as the start to a gene bank in case the sanctuary needs to be restored in the future.

The Moody Gardens employees were ready to take the coral in. They've cared for coral rescued from Florida for several years as part of a nationwide effort to send those coral to zoos and aquariums before they got sick. Moody Gardens received two colonies each from five different species from the Flower Garden Banks.

"We immediately just kind of fell right into what the response plan called for," said general curator Greg Whittaker. The coral now sit in shallow trays of water in an animal holding facility that was most recently home to a stingray giving birth. Calm water flow and low lighting mimic life on the banks far below the water's surface.

Scientists aren't sure what causes the disease or how it spreads. But Johnston and others planned to head offshore Monday to see how the banks are doing. Many in the scientific community were waiting anxiously to hear what they found.

The sanctuary is nationally significant, said Shannon Colbert, vice president for external affairs for the National Marine Sanctuary Foundation, which is supporting the emergency response effort. A diverse group of species calls the sanctuary home and travels through it, including whale sharks, sea turtles and manta rays. It's also a valuable place for researchers who want to study coral that are healthy and resilient.

"In a place like the Gulf that has high biodiversity and economic benefits, it is important to protect these areas and mobilize communities when emergencies like this arise," Colbert said.

What happens next is not just of concern for fans and supporters of the Flower Garden Banks. The science has implications elsewhere: Will these prepared scientists be able to protect the coral if it is an infestation of stony coral tissue loss disease? If a remote reef like the Flower Gardens can be harmed, is anywhere safe? In the coming months, they may know if they have a crisis on their hands or if it was just a test run for a crisis that may still come. **emily.foxhall@chron.com**