

# Fish kills trigger red tide alerts, first responders

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Tony Reisinger, an AgriLife Extension agent for coastal and marine resources in Cameron County, examines a recent fish kill near Brownsville. (AgriLife Research photo by Rod Santa Ana)

Acting on a tip from a constituent, Cameron County Commissioner Sofia Benavides recently drove out to a section of the Gulf Coast within her jurisdiction, Boca Chica Beach, between the mouth of the Rio Grande and the jetties at South Padre Island.

“I was shocked to see a large fish kill stretching for almost 7 miles along the beach,” she said. “Birds were pecking at the dead fish as the tide brought them in. I expected to see lots of different types of fish but there was only one. The stench was strong and my throat was hurting by the time I left.”

Fearing a possible [red tide](#), Benavides reported the fish kill to several authorities, including Tony Reisinger, a Texas AgriLife Extension Service agent for coastal and marine resources based in San Benito.

Benavides and Reisinger set into motion a seasoned response team that investigates red tide. If cell counts in water samples warrant, the public is notified via the Cameron County Department of Health and Human Services.

“A fish kill is one of the first indicators of a red tide bloom,” said Yvette Salinas, the department’s health administrator. “It’s important to know the severity of a possible red tide event because many people are sensitive to the aerosol that red tide releases, especially people with respiratory problems such as asthma. Ingesting dead fish can also be fatal to pets, so we want to alert the public as soon as possible.”

Red tides are caused by high concentrations or blooms of microscopic algae called *Karenia brevis*, Reisinger said. The algae produce a toxin that can affect the central nervous systems of fish, birds, mammals and other animals. In high enough concentrations, it can cause water discoloration, making it appear red, green or brown.

“It’s not life-threatening for humans, but it can cause burning eyes, coughing, sneezing, skin irritation and respiratory problems,” he said. “Symptoms are temporary, but it’s best to just stay away. Even at low cell counts, red tide can become a problem in high winds or rough surf.”

Fortunately, this red tide event in mid-September was not severe. On Sept. 16, Salinas issued a red tide advisory for visitors to Boca Chica, but lifted it on Sept. 18.

“It’s not known what causes a red tide bloom and there’s nothing that can be done to avert it or alleviate it, but drought conditions and extreme

heat like we've had recently seem to be prime conditions for red tide," Reisinger said.

Others who sprang into action when Benavides reported the fish kill were the Texas Parks and Wildlife Department and a volunteer group known as the Red Tide Rangers, created by Reisinger after a more serious red tide in the early 1990s.

In addition to conducting routine fish surveys, the Texas Parks and Wildlife Department depends on reports from the public, according to their coastal ecologist in Olmito, Willy Cupit.

"We investigate any fish kills that are reported to us," he said. "We determine what caused it, who, if anybody, is responsible, the extent of the fish kill and when it started and ended. We also work closely with NOAA (National Oceanic and Atmospheric Administration) to help them coordinate satellite imagery of the event."

Because heat from cooking will not kill the toxins, Cupit warned against eating fish and shellfish that might be affected by red tide. Crabs and shrimp, however, are not affected by the toxin and are safe to eat during a red tide, he said.

More information on red tide can be found at the Texas Parks and Wildlife website at [www.tpwd.state.tx.us](http://www.tpwd.state.tx.us) . Click on Red Tide Status.

Since 1986 there have been eight major red tides that directly affected South Padre Island tourism, Reisinger said. After the red tide in the early 1990s that overwhelmed officials, he organized the Red Tide Rangers, a group of volunteers trained to take water samples and count red tide cells.

"The Rangers provide information that is very important to various state

and local agencies, tourism, fishing guides and others,” he said. “We were able to document after the 2005 red tide that it affected tourism by about 10 percent.”

Brigette Goza became one of the first Red Tide Ranger in the early 1990s. She monitors six sites in and around South Padre Island.

“We’re the first responders,” she said. “I take daily samples whenever there’s a reported fish kill and I keep sampling until the red tide goes away.”

Goza is an employee of the University of Texas-Pan American Coastal Studies Lab, Reisinger’s most important partner in tracking red tide, he said.

Another longtime Red Tide Ranger is Leslie Sweeten, who moved to South Texas in 1980 and has been a wildlife volunteer in various capacities ever since. He rides an all-terrain vehicle along the beach to collect water samples.

“Sometimes the red tide is so bad that my eyes tear up to the point that I can’t see. I have to stop, rinse my eyes and then wear motorcycle goggles,” he said.

Sweeten said that during one red tide, he encountered a coyote he will never forget.

“He was spastic, jerking violently,” he remembers. “It was frightening to see the degree of harm he’d suffered, probably from eating dead fish.”

In addition to helping with hazardous algal blooms, Red Tide Rangers are now trained as Coastal Naturalists to respond to oiled birds, stranded marine mammals and sea turtles stunned by cold weather.

They were credited with helping save over 1,000 sea turtles during a cold snap earlier this year. In 2006, they received the Gulf Guardian Award from the Gulf of Mexico Program.

Reisinger said that with funding from Texas Sea Grant, the Red Tide Ranger program has expanded along the Texas [Gulf Coast](#) to Galveston.

“The Rangers are important first responders who play a huge role in protecting the local population, tourists and pets from the dangers of red tide,” he said. “Fortunately, despite conditions being ripe for red tide, our waters are in good shape right now. In fact, fishing is great!”

Provided by Texas A&M AgriLife

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