

An Analysis of World-Wide Red Tide

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Associate Editor

The blue and turquoise waters of the Gulf of Mexico are seductive. The residents of the barrier islands move close to the water because of their love affair with the sun, the sand, the Gulf breezes — and the water.

As years go by, the threat of red tide blooms seem to hang over the summers into the fall, and play havoc with this love affair.

The odor and dead fish floating in the bay and along the canals seem to be receding, but with that being said newspapers are carrying red tide articles and scientists continue to come to Sarasota to talk about the threat of red tide.

In fact, this year will probably go down in history as the year there were more red tide symposiums happening locally than at any other time in history.

In July, the National Oceanic and Atmospheric Administration, Florida Fish and Wildlife, and Mote Marine co-sponsored a week-long event which invited scientists from all over the world.

From another angle, the Florida Department of Health provided a surprisingly in-depth program about how different algae and bacteria can influence health several weeks ago.

Yesterday, there was a red tide symposium at the Community Foundation in Sarasota.

Even the most obtuse resident locally cannot avoid the subject of red tide forever because it is becoming not only a local event, but a world event.

As residents of Longboat, do we need to be concerned about red tide blooms?

Juan Florensa, Longboat Key public works director, says that red tide is always present. It is only when it is in full bloom that we can smell the toxins and see the floating dead fish. Florensa says the way it works is that when you smell the toxins from *Karenia brevis* at full bloom, the fish start dying and do not make their presence until later.

"Red tide is always present," Florensa says. "It would always be safe to go into the water. You're not going to be bothered by the red tide toxin."

Last year, Florensa said there was a higher concentration of dead fish, but the public works were less pro-active last year than they were this year, which might account for that.

Last week Florensa said he was happy to report the beaches and waters of the Gulf of Mexico looked beautiful. There is some problem with dead fish in the bay and canals yet, but they are working to clear those problems, he admitted.

Terry Sullivan, financial director for the Town, says in years past red tide expenses could be handled as a Town operating expense. Not anymore.

"It cost \$275,000 for the 2006 fiscal year," Sullivan says. "And, we have another

\$100,000 in our coffer if we need it (for this year)."

However, Florensa says he has heard nothing so far indicating red tide blooms will continue through the winter.

Florida Biological Problems Defined

In the Gulf of Mexico, the proper name for the so-called red tide is *Karenia brevis*, a species of algae. It produces toxins that can cause respiratory problems in some humans and kill marine life. It is only when it blooms that it is toxic.

Possible toxicity does not stop at *Karenia brevis*. Florida has also seen increased activity in blue-green algae and a toxic type of cyanobacteria — *Lyngbya*, according to the latest symposium.

That's the short list, and has Florida legislators beginning to worry about future problems with the red tide blooms. This year, they raised the financial bar from \$2 million to \$5 million for research.

Health concerns are not the only troubling issue. The economic impact these algae and bacterial critters could bring to the barrier islands, including Longboat Key, could make a huge impact if red tide blooms continue year after year.

Scientists Study Problem

A press release posted on the National Oceanic and Atmospheric Administration's site discusses a pilot study which evaluated the coastal water in nine coastal bays and harbors in the Gulf of Maine.

"Eutrophication, which occurs when an excess of nutrients, primarily nitrogen and phosphorus enter a water body, is increasingly causing problems in the environment and for society. It can lead to increases in dense blooms of phytoplankton, including 'red tides' or harmful algal blooms, increases in zooplankton, increases in other types of algae, decreased water clarity, changes in sea grass beds and other submerged aquatic vegetation, changes in coral reefs, depletion of dissolved oxygen in the water, reductions in fish and shellfish harvests, fish kills, problems with water odor, and other adverse ecological and human use impacts," the NOAA press release says.

Under the NOAA umbrella, the Center for Coastal Fisheries and Habitat Research agency is trying to ascertain how extreme natural events such as hurricanes, floods and harmful algae blooms stress coastal ecosystems.

CCFHR is developing models to predict how nutrients and other natural phenomena trigger and sustain these harmful algae blooms.

"Hurricanes also affect the ecological infrastructure upon which a significant proportion of the economy of these regions depends," CCFHR scientists said in a recent press release. They documented how the ecosystem of the Albemarle-Pamlico Sound had responded to a recent flurry of hurricanes striking

North Carolina.

"Remobilization of nutrients has triggered algal blooms with possible environmental degradation," scientists from CCFHR said at that time.

Red tide blooms have been here since Moses led the Israelites across the Red Sea. It doesn't seem to be going away. It seems to be intensifying world-wide.

World-wide Problem

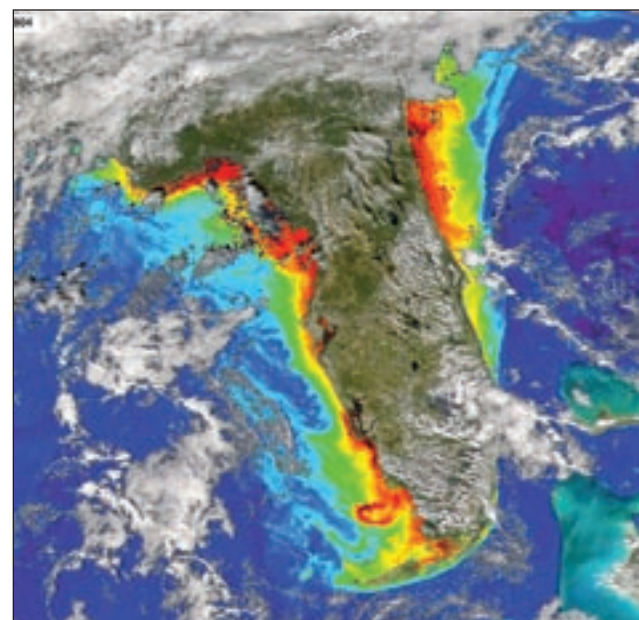
- **CORPUS CHRISTI:** Isolated patches of red tide killed thousands of baitfish between the Cedar Bayou area north of Rockport and the La Quinta Channel at Ingleside. Similar algae blooms have occurred in the Coastal Bend several times in the past decade.

- **COLLIER COUNTY:** Red tide has increased in intensity along the entire Collier County coastline. The county has received numerous reports of dead fish and respiratory irritation near Caxambas Pass. A few dead fish have also been spotted on Vanderbilt Beach and Barefoot Beach. Testing at several Collier beaches showed red tide was at medium levels at Clam Pass, South Marco Beach, Big Marco Pass and Caxambas Pass. Red tide was at low levels at Barefoot Beach, very low levels at the Naples Pier and wasn't present at Goodland.

- **CANADA:** Paralytic shellfish poisoning or red tide struck on Saturday. Fisheries and Oceans Canada closed the Area 29, which includes Georgia Strait from Sechart to Mayne Island to any harvesting of all bivalve mollusks, including clams, oysters, mussels, scallops, geoducks and cockles. In June the entire Strait of Georgia was closed to shellfish harvesting due to PSP. The closure lasted until July 18. It is not uncommon to have Red Tides in the fall. They can occur at any time of year.

- **AUSTRALIA:** *Noticiluca* spotted off Sydney's Northern Beaches this week, is a red algae bloom that threatens to shut down some of the most popular surfing spots. The red tide extends from Newport to Palm Beach several hundred meters broad at its widest point was spotted by an aerial patrol on Monday. Experts believe it is a by-product of above average ocean temperatures over winter.

- **FRANKLIN, VERMONT:** The state is warning people to keep dogs and children away from Lake Carmi where toxic blue-green algae is growing. Last week the Vermont Department of Health put up signs at the Franklin General Store, the post office, and the town clerk's office. Public access areas were posted last month after a man spotted the algae.



Courtesy of NASA

The red shows the most intense blooms of red tide along Florida's coastline.

A water sample taken from Lake Carmi more than a week ago was found to contain blue-green algae, said state toxicologist Bill Bress. The algae contains the toxin microcystin, Bress said.

"There is a potential for pets to jump into the water, get the algae over their coat, lick it off, and in some instances dogs have died doing that," Bress said. During the summer of 1999 and 2000 two dogs died after drinking large amounts of water from a toxic blue-green algae bloom in Lake Champlain.

Will the Solution Stay Apolitical?

If scientists and government officials say there is a problem — there is a problem. Lately, they are both agreeing man civilizing the planet may have contributed to the spread of red tide blooms, or the spread of algae or bacteria in our waterways, streams, lakes, bays and seas.

But, will scientists be able to actively study the causes and removal of red tide bloom without political red tape surrounding their research?

Mote Marine Laboratory scientist Richard H. Pierce said during a roundtable in Englewood in September, and reported on by the Englewood Sun:

"Red tide is very interesting and challenging," Pierce said. "We know now that as scientists we can't just study red tide. It is a very politically and economically motivated issue."

The next Protocol for Assessing Community Excellence in Environmental Health (PACE EH) forum will be held from 7 to 9 p.m. on Wednesday, Oct. 25 at the Waldemere Fire Station Conference Room at 2070 Waldemere Street in Sarasota. The guest speaker will be Capt. Wayne Genthner. (See page 6B for details.)

If you are interested in learning more about *Karenia brevis* or joining a current local chapter of START — Solutions to Avoid Red Tide — visit the Web site: www.START1.com.

Commission Slashes Town SUV Fleet

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Longboat Key Commissioner Randy Clair has been busy since the first meeting of September thinking of ways to cut the Town budget — in particular weeding out the plethora of SUVs being driven by Town staff.

Last month he questioned Town Manager Bruce St. Denis as to the Town's real need of the vehicles. He wondered if the SUVs to certain employees might be a perk, instead of a necessity.

St. Denis defended his choices saying if there was a disaster, such as a strong hurricane, staff would need the vehicles

to get around after the storm.

Commissioners felt a Ford F-150 four-wheel drive would fit the bill, and save the Town some money. Clair asked St. Denis to try and halve his list of 16 SUVs to eight, and find other cheaper vehicles which could be used by staff instead.

The compromises were made to everyone's satisfaction, as Vice-Mayor Lee Rothenberg made an uncomfortable



St. Denis

observation to the other commissioners as they wrangled over making St. Denis' choices for him.

"There is a fine line between making policy and micro-managing," Rothenberg said in warning. "I think we're near that line."

That line may be crossed again. The budget for 2007-08 will be made next year with more vehicles needing to be purchased.

"This is how we are going to get through 2007," St. Denis reminded the Commission, as he makes the temporary adjustments.

St. Denis will get a new vehicle —

which would be a smaller SUV purchased within the more reasonable price range, of course — and get rid of his leased SUV.

"You're our CEO," Mayor Joan Webster said to St. Denis magnanimously at the end of the discussion and at the end of the meeting. "Get the car you deserve as CEO, but don't get too crazy."

The staff of eight who would be allowed to keep their SUVs would be the police and fire chiefs, police deputy chief and fire administrative deputy chief, public works director, public works project manager and two unassigned SUVs for the planning, zoning and building.