Florida toxic algae a long-term health concern, according to scientists, researchers

Amy Bennett Williams, Fort Myers News-Press  Published 6:00 a.m. ET Aug. 22, 2018 | Updated 2:48 p.m. ET Aug. 23, 2018

Its mission is "to protect, promote and improve the health of all people in Florida through integrated state, county, and community efforts," but Florida's Department of Health has remained quiet as the blue-green algae/red tide crisis has escalated into an unprecedented toxic calamity.

Over the last month, the department hasn't made mention of either algae or red tide on its widely followed Twitter and Facebook accounts, yet has posted eight times about growing and cooking sweet corn. Nor are toxic algae or red tide included in the "Trending Topics" of the department's website.
James Metcalf, an internationally acclaimed expert on the brain damage caused by toxic algae headed out to sample the Caloosahatchee’s bloom. They took a look at the public health implications of the ongoing water crisis. (Photo: Andrea Melendez/The News-Press/USA Today)

That's not to say the department has ignored toxic algae entirely; its 29-second water safety video, "Swim it, Shore it, or Dodge it!" advises "Stay clear of algae blooms" in the 23rd second, and on Aug. 3, it sent out a press release advising caution around red tide.

But it hasn't addressed or acknowledged the potentially grave risks of long-term exposure to the blooms, and some of the information it has released is dangerously wrong, scientists say.

Blue-green algae (cyanobacteria) and red tide occur naturally in the environment: red tide in saltwater; cyanobacteria in freshwater. They both sometimes proliferate in huge "blooms," but this summer's simultaneous flourishing has devastated wildlife populations, while keeping humans off the Caloosahatchee and Gulf beaches for more than 100 miles, from north of Sarasota to Marco Island.

**Previous coverage:** [As red tide, algae blooms drag on, health agencies stay mum on what constitutes a crisis](https://www.news-press.com/story/news/2018/08/22/toxic-algae-florida-scientists-question-health-departments-stand/973593002/)

**Editorial:** [Health department ignorant to water crisis](https://www.news-press.com/story/opinion/2018/08/27/health-department-oblivious-to-water-crisis/973708002/)

Starting July 27, the Lee County Health Department didn't return increasingly urgent telephone calls from The News-Press with questions about its response and role, namely: At what point does a novel crisis like this merit intense surveillance and study?

On Aug. 1, the department emailed that a reporter’s questions had been referred to the state office in Tallahassee. Following another series of emails and calls, state officials responded to a reporter Aug. 10 by email, but they provided inaccurate information, according to scientists and neurologists.
“There is no evidence that acute exposures to these toxins have long-term health impacts,” wrote Brad Dalton, the health department spokesman. “Chronic exposures are not a concern with these blooms due to limited exposure potential.”

That’s not true, according to peer-reviewed research conducted over more than two decades that offers a much more sobering conclusion. “Cyanotoxins are capable of causing human mortality, so I don’t know how they can say this,” Calusa Waterkeeper John Cassani wrote in an email.

In addition to ignoring the evidence that acute exposure to the toxins can have long-term effects, including death, Dalton also stated that the toxins in blue-green algae are not airborne.

“The toxin for blue-green algae does not have an aerosol component. There is a smell associated with the algae which comes from the decomposing bloom, but that is not toxic,” he wrote, responding to a later email.
That's wrong, says Larry Brand, a University of Miami professor who specializes in harmful algae and recently appeared on a Fort Myers panel after a screening of "Toxic Puzzle." The documentary film explores the link between harmful algal blooms and ALS, also called Lou Gehrig's disease.

There is also a strong link between toxins in the river and nonalcoholic cirrhosis of the liver, says Dr. Walter Bradley, a neurologist and chairman emeritus of the University of Miami School of Medicine's Department of Neurology.

The airborne toxins have been identified a mile from the water source of the blue-green algae, he said.

The U.S. Environmental Protection Agency also warns that inhalation is a mode of exposure. The information comes in a 2014 fact sheet published by the EPA.
A spokeswoman for Rubio, Olivia Perez-Cubas, said the funding could be used for: Documenting and tracking illnesses and hospital stays related to algae exposure; public health education campaigns; any expenses that would help CDC officials and scientists on the ground to respond to particularly bad episodes of illnesses; building CDC programs for reporting blooms.

Meanwhile this year, the Florida Poison Control Center has received 277 calls about red tide, compared with 88 last year. For blue-green algae, the calls total 37, compared with last year’s eight.

Particularly worrisome in light of these increases is the department’s denial of potential harm.

“Their response about health impacts continues to deny that there are any long-term dangers from cyanobacteria exposure,” said Bradley. “This is certainly not true with regard to liver cancer and nonalcoholic cirrhosis.” In addition, “Our research shows that cyanobacteria are aerosolized and get into people’s lungs even in the winter when there are no blooms.”

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James Metcalf, an internationally acclaimed expert on the brain damage caused by toxic algae headed out to sample the Caloosahatchee's bloom. They took a look at the public health implications of the ongoing water crisis. (Photo: Andrea Melendez/The News-Press/USA Today)

James Metcalf, a senior researcher with Wyoming-based Brain Chemistry Labs who sampled the river's water last week and studied the east coast's 2016 bloom extensively, also disagrees with the health department. "In the case of microcystins (potent toxins produced by the predominant kind of algae currently blooming in the Caloosahatchee), we do know that long-term exposure can lead to primary liver cancer, as evidenced by studies in China and Eastern Europe," Metcalf said. "Based upon the microcystin concentrations we have found in our 2016 Florida collections, this material could certainly be toxic."

Earlier this month, Metcalf and colleagues released a scientific paper in the British journal, "Water Policy," that concludes 2016's east coast bloom exposed residents to microcystin, and that it's reasonable to predict that some of those affected may now have an increased lifetime risk of liver cancer of liver dysfunction "requiring hospitalization or transplantation," Metcalf and his colleagues wrote.
David Patten lives at Paradise Marina. He said his breathing gets less labored when he leaves his boat and goes into town. People who live on the water, in boats at local marinas, say they have had no warning about what the green algae can do to them health wise. Nor have they been asked to leave the area. Many who live at the Rosen Park Marina in Cape Coral, FL, are concerned about the algae bloom and are coming down with breathing and skin issues. (Photo: Andrea Melendez/The News-Press/USA Today)

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Ongoing studies have also shown that living near lakes with blooms substantially increases the risk of ALS. And last year, Ohio State University released a 12-year study that found people living in areas with significant blue-green algae blooms, such as Florida's Treasure Coast, are more likely to die from nonalcoholic liver disease than those who don't. They discovered a striking disease cluster in Martin, St. Lucie, Indian River and Okeechobee counties, which also have had a number of severe blue-green algae blooms.

Part-time Useppa Island resident Gretchen Coyle is dismayed about potential health impacts and the lack of warnings.

"For the first time in 40 years, we are going to wait until Thanksgiving to make a decision as to whether to head south this winter," she wrote in an email. "We are literally surrounded by water within a few hundred yards. We worry about our health (and) we have friends who live year-round on Useppa who are too sick with respiratory infections to even leave."

One thing people who've been exposed and fallen ill can do to raise official awareness is call the Florida Poison Control Center, which gathers numbers of algae-related calls and relays them to the health departments, said Wendy Stephan, a Miami-based epidemiologist and educator with the Florida Poison Information Center at University of Miami Miller School of Medicine/Jackson Memorial Hospital.
“We’ve been in very close contact with our colleagues at Department of Health on this issue,” said Stephan. “I know there have been communications as the bloom got going.”

She said getting word to the public can be challenging, especially in a situation like this, with many unknowns, “but I can’t speak to the larger response of the Florida Department of Health,” she said. “As you know, this is a very fraught issue.”

Metcalf remains hopeful the health department may address the problems. “As the cyanobacterial blooms are considered a relatively new concern, there is much that we do not understand in terms of the risks posed and the interactions of the blooms and their effects with people and the ecosystem,” he said.

“Ultimately, it will take a lot more time, effort and money to solve the problems of the blooms.”

*Treasure Coast Newspapers contributed to this report.*