NEWS / ENVIRONMENT

Is more algae mucking up Tampa Bay? Scientists need to track it first.

Long-term macroalgae monitoring is another gap in research revealed in the year since the Piney Point release.











A cormorant swims over a thick mat of algae covering a bed of seagrass offshore from Tierra Verde in the Shell Key Preserve. Macroalgae have appeared to be more prevalent than usual around some parts of Tampa Bay this year, according to reports from captains and environmental advocates. Scientists cannot say for certain whether that's a sign of trouble for the ecosystem. [DOUGLAS R. CLIFFORD | Times]

By Zachary T. Sampson Times staff

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TIERRA VERDE — Tangled. brown mats of algae drift around Shell Kev Preserve.

Cormorants dive past dark clumps to chase bait fish. The algae swallow seagrass beds, looking like wet hair in a shower drain. Kayakers who drift too close feel the heaps tug at their paddles.

To Peter Clark, the algae mats seem worse than he's seen in about 20 years. As president of Tampa Bay Watch, a conservation nonprofit headquartered at the edge of Shell Key Preserve, he has watched the muck float ashore in smelly piles.

Macroalgae have appeared to be more prevalent than usual around some parts of Tampa Bay this year, according to reports from captains and environmental advocates. Scientists cannot say for certain whether that's a sign of trouble for the ecosystem.

But the accounts of Clark and others describing stringy, snot-like clumps come amid renewed concern for the overall health of Tampa Bay.

The estuary faced overlapping crises last year: first, the massive wastewater release from the old Piney Point fertilizer plant site and, later, a Red Tide algal bloom that killed tons of fish. Those troubles drew a spotlight to the bay, revealing a handful of research gaps that have frustrated efforts to track the complete impact of the polluted discharge from Piney Point.

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Though easy to spot (macroalgae are big and clumpy, not microscopic, like the organisms that make up Red Tide), environmental officials have never consistently tracked their occurrence in the bay. Scientists cannot confidently say what species typically appear, at what times and in what quantities.

"That's a significant gap for us," said Ed Sherwood, executive director of the Tampa Bay Estuary Program, which studies the bay and works to preserve it. "We don't have a good handle on baseline conditions."



Juvenile fish pass a bed of algae-covered seagrass off Tierra Verde. Though macroalgae are easy to spot, environmental officials have never consistently tracked their occurrence in the bay.

[DOUGLAS R. CLIFFORD | Times]

Macroalgae 101

There are many types of macroalgae, and not all are necessarily bad. At least some of what floats around Shell Key appears to be a troublesome species, Dapis, previously referred to as Lyngbya.

Floridians may know it plainly as "gumbo." Captain Rob Gorta, a veteran fishing guide in St. Petersburg, calls it "brown snot."

The present situation? "Definitely abnormal," he said.

Clean water usually flushes the mouth of the bay, he said, keeping the water relatively clear off Tierra Verde. Over the last year, Gorta said, algae appeared to smother seagrasses at Conception Key and Tarpon Key, east of Fort De Soto.

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Algae blooms can essentially choke seagrass beds, blocking sunlight the plants need to grow. Seagrasses are instrumental in helping clean the bay, and they also serve as a habitat and food source for fish and manatees.



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Seagrasses died and disappeared, Gorta said. With them went shrimp and crabs that live among the beds. Redfish that feed on those small creatures left too, he said, forcing him to fish elsewhere.

"It's definitely pollution-related," he said. Gorta blames nutrient contamination from Piney Point for feeding the algae blooms.



Algae and dead seagrass drift below a stand of mangroves in the Shell Key Preserve off Tierra Verde. [DOUGLAS R. CLIFFORD | Times]

Tampa Bay's health has improved dramatically over the last 50 years, mostly because cities and counties have treated their wastewater to higher standards before discharging it to local waterways. Before those advances, the estuary was a national shame, clogged with slimy, green algae.

Rafts of macroalgae floated up at Bayshore Boulevard during the middle of the last century in Tampa, prompting complaints from residents who loathed the rotten egg-like smell of decay, said J.O. Roger Johansson, the former head of Tampa's Bay Study Group.

Wastewater plants and fertilizer companies were dumping too much nutrient pollution into Hillsborough Bay, he said, fueling the algae. Across the bay, blooms decimated seagrass beds.

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Scientists have hypothesized a similar — though smaller-scale — spiral took hold after 215 million gallons of polluted water was dumped off Piney Point near Port Manatee in spring 2021. Initially, they said, a type of algae bloomed in the immediate area that was not particularly harmful. But after it died, the nutrients it had consumed may have been recycled through the environment for months, potentially feeding the Red Tide bloom last summer and a Dapis bloom by Anna Maria Island.

The Dapis bloom was the worst that Dave Tomasko, head of the Sarasota Bay Estuary Program, said he's seen in three decades. Like Gorta, he faults nitrogen pollution from Piney Point.

"It doesn't take a lot of nitrogen to get you a hell of a lot of macroalgae," Tomasko said.



Algae covers seagrass offshore from Tierra Verde in the Shell Key Preserve. [DOUGLAS R. CLIFFORD | Times]

Maya Burke, the Tampa Bay Estuary Program's assistant director, said as of late May she "had reports from several captains about significant red drift algae in lower Tampa Bay/Boca Ciega Bay" and about Dapis from residents on Tierra Verde.

As the region moves further away from the Piney Point release, though, it's becoming harder to connect algae to the wastewater discharge. Sherwood said he'd find it hard to link the Shell Key mats to last year's crisis.

Tampa Bay has seen a lot of rain since last April. Rain is a routine source of pollution here, specifically runoff that carries fertilizer and other contaminants off lawns and streets and into waterways.

Clark, of Tampa Bay Watch, believes a combination of Piney Point and routine pollution is to blame.

"We just haven't been able to flush all the nutrients out of the Tampa Bay system from last summer," he said. "At some point we need to break the cycle. We've got to allow the opportunity for the bay to flush it or to clean it up naturally."

RELATED: Inside the effort to close Piney Point and keep Tampa Bay safe

Filling the gap

Improving macroalgae tracking may not help scientists understand what's happening to Tampa Bay right now. But a better system could allow them to detect future problems or study the impact of a disaster like Piney Point, if one were to happen again.

Macroalgae monitoring is now front of mind for the Tampa Bay Estuary Program.

Marcus Beck, a program scientist, recently tried to find existing data sets that could help people grasp the history of macroalgae in Tampa Bay. He presented his findings to local researchers and government officials in a slideshow subtitled:

In the past, scientists focused on fish and seagrasses, so any data they collected on macroalgae was ancillary — not enough to draw serious conclusions.



A patch of algae and dead seagrass floats on the water's surface in the Shell Key Preserve. [DOUGLAS R. CLIFFORD | Times]

South of Tampa, the Sarasota Bay Estuary Program has trained resident volunteers to collect algae samples, Tomasko said. The Tampa Bay Estuary Program may consider a similar effort.

Typically, Tomasko said, researchers use water samples, gathered in bottles, to assess the health of estuaries. But around Sarasota, he said, his team has found that macroalgae are sometimes a better indicator of pollution problems than the water alone.

RELATED: Red Tide isn't just bad for fish, as a Tampa Bay man learned in the ER

Existing science — and advocacy — have helped keep the bay clean for decades, Tomasko said. But he suggested it may be time to consider expanding that

"Just because something has worked for the last 30 years doesn't mean it's going to work for the next 30 years."



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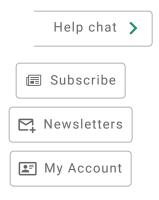
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