

LOCAL

## Sarasota Bay's water quality improving but climate issues and manmade threats persist

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Sarasota Bay's water quality has begun improving, though threats remain from warming sea temperatures, stormwater runoff, and the potential wide-ranging environmental impact of more than 200 million gallons of polluted waste released from the Piney Point phosphate plant in 2021, experts say.

One of the first signs of good news for the system that extends from Tampa Bay to Venice was recent word from state regulators that four southern sections – Little Sarasota Bay, Roberts Bay, Blackburn Bay and a portion of Sarasota Bay – were proposed for removal from a list of impaired waterways.

Environmental experts and county leaders, though, aren't taking the initial encouraging developments as a sign their work is done.

In Sarasota, progress continues on the \$210 million Bee Ridge Water Treatment Facility, designed to drastically reduce releases of compounds harmful to Sarasota Bay's health. The facility is expected to open by the end of 2025.

In Manatee, officials say they are constantly working to upgrade and rehab decades-old infrastructure that can be vulnerable to breaks and spills. About \$40 million is budgeted for the next five years.

“Our base water quality level is getting better – sufficient enough that the state of Florida has [removed Sarasota Bay] from the verified impaired list, which is great news. We're seeing pretty substantial seagrass increases [from this year's survey and in future growth predictions],” said Dave Tomasko, director of the Sarasota Bay Estuary Program. “[But] we're never going to be pristine. There's nothing pristine about Florida ... what we can do is do a better job.”

According to the Florida Department of Environmental Protection's Pollution Notices, there have been 1,511 reported wastewater spills in Sarasota and Manatee counties since July 2017.

## **Wider fallout from Piney Point**

Tomasko and other experts recently released a report on the effects of the Piney Point crisis in March 2021, when a leak in one of the facility's holding ponds threatened a collapse and the wholesale release of untreated, acidic wastewater. More than 200 million gallons were pumped into Tampa Bay from the reservoir to relieve pressure, triggering widespread concerns about long-term environmental effects, including upper Sarasota Bay.

One of the concerns was the combination of long-term discharge of nutrient dense waters and warming coastal sea temperatures, which can contribute to the abundance of cyanobacteria.

Cyanobacteria appear as a suspended "tumbleweed algae" until it settles to the bottom or washes up on shore. Cyanobacteria can sometimes escape detection in traditional water tests because it doesn't fit into a normal water sample test tube.

Effects of cyanobacteria can be significant. The decomposition of the algae that washes ashore smells like rotting meat. Contact with the organism in the water can lead to itchy, burning dermatitis.

Cyanobacteria require nutrient-rich waters and warm temperatures to flourish. In 2022, the average water temperature for Sarasota Bay was 78 degrees, with a high of 90 degrees, according to the Water Atlas of Sarasota County, and this year the Florida Keys recorded a record-breaking surface temperature of 101 degrees.

For environmental experts such as Tomasko, this combination of warmer temperatures and increased nutrient loads is a recipe for disaster, as cyanobacteria require water temperatures of 68 degrees or higher to thrive.

"What if we never got below 68 degrees? If that's the case, then rather than a nine-month growing season, which has now become a 10-month growing season, maybe it becomes a 10-year growing season," said Tomasko. "The warmer temperatures mean we have to do more to offset the nutrient output problem because we are more susceptible now to nutrients because the growing season is extending due to the water staying warm longer."

Hurricanes pose an increased threat as they occur during the warmest seasons of the month and produce heavy rains that can overload local utility infrastructures, causing overflows and bursts in the system. Since 2017, spills as small as 50 gallons and as large more than 14 million – in the case of a Longboat Key sewage line break in 2020 – have been reported in Manatee and Sarasota counties. In some cases, most of the sewage can be recovered, but when the break is near the shore, it can find its way into Sarasota Bay.

## **Bee Ridge Water Treatment Facility**

From a treatment perspective, the Bee Ridge Water Treatment Facility is expanding into an Advanced Wastewater Treatment (AWT), which will provide a substantial step in decreasing the environmental effects of increasing populations amid warming water temperatures.

“The Bee Ridge Water Reclamation Facility is the single largest capital project that the county has undertaken for water quality purposes,” Mike Mylett, director of Sarasota County Utilities, said of the \$210 million project. “The goal of the project is to improve the treatment at the Bee Ridge Facility to what we call Advanced Wastewater Treatment, which means we remove the nutrients from the effluent as well as all of the waste effluent.”

The facility upgrade was financed through a combination of a federal loan from the Environmental Protection Agency that covers roughly half of the project, and a county utility increase to cover the rest.

AWT will specifically remove phosphorus and nitrogen, which will drastically reduce the amount of nutrients that flow into local waterways.

“We’re really proud of the recovery [(in Sarasota Bay),” said Tomasko, “But the reason this is happening is because our community’s spending hundreds of millions of dollars.”

Manatee County, home to the Piney Point facility, has taken its own steps to decrease pollution events, particularly amid a fast growing population.

“We have plans in place [for new developments] that have engineering guidelines and specifications that review best materials and make sure that they are reliable,” said Interim Utilities Director and Chief Utilities Engineer Jim Renneberg. “But what we really focus on in our capital improvement project is to make sure we are looking at our older, aging infrastructure, [such as] on the west side of Manatee County, we have infrastructure that was built in the 60s, 70s and 80s.”

## Prevention in Manatee County

As a part of their capital improvement project, Manatee County will invest over \$40 million in the next five years in preventative measures and replacement and repair of aging infrastructure, as well as increasing capacity at local water treatment facilities.

“We have to try to take the money that we have and spread it around the best we are able,” said Kevin Morris, deputy director of wastewater. “We have [752] lift stations, we are able to rehabilitate roughly 10 a year, which we would like to get to 20 a year, but that is a cost concern.”

Annually, the Manatee County utility department rehabilitates 10 lift stations, 120 manholes and relines roughly 2 miles of pipe per year. Three crews inspect over 120,000 feet of line per year to assess for hazardous conditions or identify a block, and one crew that does nothing but maintain air relief valves.

Contractor mistakes, such as breaking a line, are the No. 1 cause for sewer pollution events and are still the most prevalent cause of sewer overflows. But it is closely followed by failures at lift stations or other county infrastructure, which account for 30% of all sanitary sewer overflows.

“Those are the ones that we can do a better job on, and try to keep them from repeating themselves,” said Morris.

A quarter of all sanitary overflows in Manatee County come from clogs in the system, which are primarily due to individual irresponsibility, such as utilizing flushable wipes or grease and oil buildups from improper food disposal.

Sarasota County requires commercial establishments to upgrade and maintain grease traps, which has “produced huge improvements in the collection system,” Mylett said.

For individuals, even small steps such as deciding to keep a jar of grease that you throw away rather than pour down a pipe, not using flushable wipes, and maintaining and updating their own plumbing can make a big difference in the prevention of overflows and environmental damages.

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