

Tampa Bay lost 12% of its seagrass in 2 years; some areas at historic low, study shows

It's the first time Tampa Bay has experienced seagrass losses in three consecutive map studies, according to state water managers.



A cormorant swims over a thick mat of algae covering a bed of seagrass offshore from Tierra Verde near the Shell Key Preserve on June 29 in Pinellas County. Tampa Bay has lost 12% of its seagrass in recent years, a survey released Monday shows, leaving the northern bay with an all-time low amount of the plant crucial to life in Florida's largest open-water estuary. [DOUGLAS R. CLIFFORD | Times]

By

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Tampa Bay lost 12% of its seagrass in recent years, a survey shows, leaving the upper bay with an all-time low amount of the plant crucial to life in Florida's largest open-water estuary.

Seagrass in Tampa Bay declined by more than 4,100 acres between 2020 and 2022, according to mapping results unveiled Monday by the Southwest Florida Water Management District. Now harboring 30,100 acres of seagrass, Tampa Bay is at its largest deficit since 2010 after nearly a decade of restoration progress peaked at 41,600 acres in 2016.

The bay has lost nearly 30% of its seagrass since then.

This is the first time scientists have logged a decline in Tampa Bay's seagrass in three consecutive studies since biennial tracking began in 1988, according to the district's data.

"Seagrasses are a foundational habitat of a healthy Tampa Bay — and this is a bellwether of things to come if we don't maintain those persistent seagrass coverages in Tampa Bay," said Ed Sherwood, executive director of the Tampa Bay Estuary Program.

"The bay has a rich history of us working together to restore seagrasses. It's going to take us rolling up our sleeves once again and getting to work," Sherwood said in an interview Monday.

Gary E. Raulerson, an ecologist with the Tampa Bay Estuary Program, left, collects a bag containing samples of algae from Sheila Scolaro, public outreach specialist with the Tampa Bay Estuary Program, while analyzing algae and seagrass in the shallows off Piney Point in April 2021. The team was working to establish a baseline for the existing species in the water in order to create a long-term record of the effects, if any, to exposure to nutrients from the discharge of millions of gallons of wastewater from the old Piney Point phosphate plant. [DOUGLAS R. CLIFFORD | Times]

Surveyors documented most of the declines in the upper part of the bay, which they're linking to freshwater flow from often-polluted rainfall runoff and also freshwater inputs from the Hillsborough River and other sources.

Old Tampa Bay, an upper part of the estuary off Largo, lost more than 2,500 acres. That's 38% of its total seagrass, the survey showed.

In that area, a type of algae known as Pyrodinium has bloomed and it's also hard for water to flush out quickly. The seagrass coverage in Old Tampa Bay, which has been plagued by summer algal blooms and poorer water clarity in recent years, is now at a historic low, according to the district.

Hillsborough Bay to the east lost 428 acres of seagrass between 2020 and 2022, according to the data. That's a decline of more than half of its total seagrass in just two years.

"In the context of the entire bay, where we have over 30,000 acres, 400 acres seems small," said Chris Anastasiou, the chief scientist of water quality at the Southwest Florida Water Management District. "But for a system as small as Hillsborough Bay, that's a huge change."

Sherwood compared the losses in the upper bay to what's being experienced in Florida's Indian River Lagoon on the Atlantic Coast. Decades of nutrient pollution have sparked algal blooms there, which has deprived seagrass of the sunlight it needs to thrive. As a

result, a record 1,100 manatees died in 2021, [and hundreds more last year](#), as a seagrass famine strains the population.



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“Particularly in the upper bay segments, we’re reaching dangerous territory,” Sherwood said. “It’s very troubling we’ve lost that amount of seagrass in upper Tampa Bay.”

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The recent estimates are based on images taken during the winter months between 2021 and 2022, after the emergency release of contaminants from the Piney Point fertilizer site. Millions of gallons of tainted water were sent into the bay as a precaution due to fears that a leak in a reservoir could trigger a massive flood, endangering homes and businesses. But the proactive release of contaminants proved catastrophic and may have fueled a powerful red tide.

The water management district's survey was done after the red tide bloom in Tampa Bay that followed the Piney Point emergency, but before Hurricane Ian's landfall in September.

Middle Tampa Bay, the part of the estuary closest to Piney Point, lost 8% of its seagrass, or nearly 700 acres, in two years, the latest results show.

Notably, losses in Middle Tampa Bay were concentrated along the bay's southeastern shore — from Bishop Harbor to Apollo Beach — where researchers have been closely watching after the crisis. Another reason Piney Point is a suspected cause: Seagrass losses were more pronounced on the eastern side of Tampa Bay, near Piney Point, compared to the western side.

Losses felt around other parts of the Gulf Coast, too

It wasn't just Tampa Bay that lost seagrass. Estuaries along Florida's Gulf Coast saw similar declines, according to the water management district.

Sarasota Bay to the south lost more than 500 acres between 2020 and 2022, the survey shows. The bay now sits at roughly 9,900 acres, compared to a peak of 13,400 in 2016.

"Sarasota Bay has lost 26% of its seagrass coverage over the past six years. This is evidence that we are not doing enough to deal with the problems of sea-level rise, population growth and aging stormwater and wastewater infrastructure," said Dave Tomasko, head of the Sarasota Bay Estuary Program.

Piney Point was an "insult" to an already-stressed part of Sarasota Bay, he said. Prior losses in the area were likely due to the discharge of 750 million gallons of nutrient-rich wastewater in the lower bay between 2012 and 2019. A particularly bad red tide that fed on those higher nutrients in 2018 didn't help the problem, according to Tomasko.

"If we don't want to end up like the Indian River Lagoon, we need to do more, more quickly," he said.

A school of juvenile fish pass a bed of algae-covered seagrass near the Shell Key Preserve off Tierra Verde in Pinellas County in June. [DOUGLAS R. CLIFFORD | Times]

Farther south, in Lemon Bay off the Englewood coast, the waterbody lost about 112 acres between 2020 and 2022. More south still, Charlotte Harbor lost about 360 more acres in the same time frame. That's a 4% drop and a 2% drop, respectively. Losses in Sarasota Bay, Lemon Bay and Charlotte Harbor were less drastic in 2022 compared to the previous survey.

Though few, there are some silver linings. Clearwater Harbor and St. Joseph Sound reached record-high seagrass coverage in the latest survey, according to Anastasiou, the

district's chief water quality scientist. All told, the harbor saw a net gain of about 1,300 acres over a two-year period, with St. Joseph Sound seeing the majority of the growth.

Its proximity to the Gulf, and the amount of water flushing in and out, plays a role in its overall health, according to Anastasiou.

“It’s akin more to the seagrass areas we see to the north off the Springs Coast. Typically, the grass there are pretty healthy, stable and in good shape,” Anastasiou said.

In Tampa Bay, restoration charges on. And you can help.

Over the years, seagrass recovery in Tampa Bay has followed when nutrient pollution is reduced and water quality improves.

In fact, long-term nutrient loads in Tampa Bay continue to decline as restoration charges on: In 2022, water quality targets were met in each bay segment, a sign that bay waters overall are clear enough to allow seagrass the opportunity to thrive, according to the estuary program.

But the latest seagrass losses are a sign that nutrient sources need to be better managed, and more needs to be done to address additional stressors impacting seagrasses, like warming water temperatures and poor water circulation in Old Tampa Bay, according to Sherwood.

Sheila Scolaro, public outreach specialist with the Tampa Bay Estuary Program, examines a sample of manatee grass while collecting data on samples of algae and seagrass in the shallows off Piney Point in April 2021. [DOUGLAS R. CLIFFORD | Times]

There are ways the public can help, according to Maya Burke, an assistant director at the estuary program.

“We get seagrasses back by improving water quality, not by planting it one sprig at a time. In Tampa Bay, that means reducing our collective nitrogen footprint,” Burke said in a statement to the Times.

As individuals, that might mean skipping the fertilizer in the rainy summer months, scooping your dog’s poop, using less water, or driving a more efficient vehicle that emits fewer nitrogen oxides, Burke said.

“Individuals can also make sure elected officials understand the value the community places on clean water, and encourage local governments to invest in large-scale water quality improvement projects, like eliminating wastewater discharges to surface water and treating stormwater runoff before it enters the bay,” Burke said.

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