

Impacts of Tropical Storm Debby on Sarasota Bay



Sampling video after Tropical Storm Debby, Southwest Florida Water Management District

First and foremost, our thoughts go out to anyone who suffered damage from this past storm event. Here are links to post-storm resources for **Sarasota** and **Manatee** residents. As these types of storms are becoming more intense and less predictable, we've found that the best role

for SBEP and its partners is to work with our local stakeholders to document water quality impacts, thus allowing local governments to focus their resources on the physical impacts on our neighborhoods.

With this in mind, SBEP coordinated a sampling effort with staff from the Southwest Florida Water Management District, after an official request was made from Sarasota County. On June 8th, the team visited nine stations in the area between the Venice Inlet and Ringling Causeway. These stations will continue to be sampled one week after the storm and again two weeks after the storm to track changes in salinity, dissolved oxygen, the amount of algae in the water column, and bacteria. The results we have so far are below.

Salinity

Salinity (psu)	Roberts Bay			Little Sarasota Bay			Blackburn Bay		
	North	Central	South	North	Central	South	North	Central	South
Surface	4.66	0.32	7.10	9.43	1.30	9.29	5.83	9.93	2.94
Bottom	25.30	2.21	14.80	14.76	9.21	13.41	10.23	26.51	18.82
Stratification (bottom - top)	**20.64**	**1.89**	**7.70**	**5.33**	**7.91**	**4.12**	**4.40**	**16.58**	**15.88**

Freshwater has a salinity value of about 0 practical salinity units (psu) while the Gulf of Mexico has salinity values of about 35 psu. The surface waters in our lower bay segments were not pure freshwater (although the location of Roberts Bay Central – located by Philippi Creek – was close to freshwater. But in contrast, the bottom of the bay had much higher salinities – except for the station by the mouth of Philippi Creek. The bottom row in this table quantifies what we call "salinity stratification" or the difference in salinity values between the top and bottom. Values higher than about 10 psu or so represent conditions where there is a substantial enough difference in salinity that the bottom waters are functionally separate from surface layers. These conditions were strongest in northern Roberts Bay and central and southern Blackburn Bay. When the bottom waters of the bay are "isolated" from the surface waters, a couple of things happen at the same time.

- First off, those bottom waters don't interact with the atmosphere, which reduces the amount of oxygen in the water.
- Second, the bottom waters are under a layer of fresher and darker water – which means sunlight doesn't penetrate that well, which means we don't get as much photosynthesis - which reduces the rate of oxygen production by phytoplankton.
- Third, if oxygen levels get low enough to kill small fish and crabs and worms and starfish (things that can't "swim away" very effectively) then the decomposition of those organisms that die on the bottom of the bay will further reduce oxygen levels as bacteria decompose all those newly dead animals on the bottom of the bay.

Dissolved Oxygen (DO)

DO (mg/L)	Roberts Bay			Little Sarasota Bay			Blackburn Bay		
	North	Central	South	North	Central	South	North	Central	South
Surface	5.54	3.34	5.24	8.73	4.82	8.55	4.70	5.68	4.38
Bottom	3.46	4.59	2.11	2.46	5.91	3.65	3.49	1.32	3.28

Levels of DO below about 2 mg/L are considered "hypoxic" which means that most organisms cannot long withstand such values. The results shown here do not indicate a problem with DO levels in the surface waters of any of the locations that were sampled. However, problematic or nearly problematic DO levels were found in the bottom layer of water from southern Roberts Bay down into northern Little Sarasota Bay, and also in central Blackburn Bay. Some of the areas with the greatest salinity stratification (e.g., northern Roberts Bay) did not have that low of DO values. However, it's early still. It could be that water quality continues to decline over the next few days to weeks. Why? Well, it may take a while for bacteria to respond to the big flush of stormwater runoff, dead fish, and sewage overflows that just came into the bay. Which could mean that the next sampling effort could give us worse results than what we had the week of the storm.

Bacteria (*Enterococci* CFU/100mL)

Roberts Bay			Little Sarasota Bay			Blackburn Bay		
North	Central	South	North	Central	South	North	Central	South
1455	2382	2224	624	199	185	323	836	857

We compared the bacteria results against the Class III Marine waters' standard for the fecal indicator bacteria "Enterococci" standard of 130 CFU / 100 ml, and each site exceeded those values. Roberts Bay had the highest values, by far. These values are from the middle of the bay, not the shoreline, which means they are likely lower than values closer to the shore, as well as values in our numerous creeks. So, the guidance we provided earlier (before we had data) was correct – "Don't go into the water" at least until we have evidence of improving water quality. After Ian, it took between two and four weeks for water quality to recover, which is probably in line with what we're going to go through after Debby.

Read the Director's Note - salinity and dissolved oxygen results

Read the Director's Note - bacteria results

Best Wishes to Jay Leverone



After 16 years as Staff Scientist for SBEP, we would like to give Jay our warmest thank you for all the incredible work he has accomplished over the past decade and a half. In addition to bettering our understanding of tidal creeks and various water quality aspects, he has contributed to many significant restoration projects in SBEP's portfolio including: FISH Preserve, GT Bray Park, North Lido Beach, several oyster reefs and artificial reefs, Bayfront Park living shoreline, Big Lake at Oscar Scherer State Park, and many more. We wish Jay the best in his next chapter and hope to see him out enjoying Sarasota Bay!



Please join us in welcoming Dr. Ryan Gandy as the new Science and Restoration Manager for the Sarasota Bay Estuary Program! Dr. Gandy received his Ph.D. and Master of Science in Mariculture from Texas A&M University and his Bachelor of Science in Marine Biology from the University of Charleston.

His fifteen years as a Research Scientist and Research Administrator with the Florida Fish and Wildlife Conservation Commission (FWC) afforded him the opportunity to be involved with the development and management of scientific programs focused on research, monitoring, stakeholder engagement, citizen science, providing fisheries management advice, and restoration of shellfish resources across the state. This experience has afforded him a broad and forward-looking perspective on how to effectively utilize resources to develop innovative projects that aid in the adaptation of natural resources to the changing landscape of Florida.

As a 20-year resident of Sarasota County and fifth generation Floridian, he has experienced the challenges and changes to the Florida landscape firsthand. He looks forward to supporting the natural resources of the Sarasota Bay estuary so future generations have an opportunity to engage with the Florida landscape in a meaningful way.

As the Science and Restoration Manager, Dr. Gandy will coordinate SBEP's restoration and research initiatives, ensure our work is informed by current science, and communicate Bay-related information to the program's stakeholders and scientific partners.

New Partnership Helps Install Vertical Oyster Gardens

Around Sarasota Bay



This past June, the first batch of vertical oyster gardens, sponsored by **Casa Costera**, a sun-inspired apparel brand on Siesta Key, were installed at the Conservation Foundation of the Gulf Coast. This partnership allows a portion of proceeds from sales to go towards funding VOGs at different locations. A special thank you to Oyster Boys Conservation for providing installation services and the Conservation Foundation of the Gulf Coast for adding them to their bayfront campus!

Bowlees Creek Cleanup Removes over 1500 lbs of Trash

Spring cleaning was underway as SBEP partnered with Suncoast AquaVentures and Keep Manatee Beautiful to help with a cleanup of Bowlees Creek and the island at the mouth of the creek. Boaters and kayakers headed out from Bahia Mar Marina to scour the waterways and came in just in time to (mostly) miss afternoon storms! Thank you to our partners for hosting such a great event!



Florida Estuaries Alliance Renews State-wide Collaboration for Healthy Bays



In June, staff from all four National Estuary Programs in Florida: **Tampa Bay Estuary Program**, **Sarasota Bay Estuary Program**, **Indian River Lagoon National Estuary Program**, and **Coastal and Heartland National Estuary Partnership**, met to share best practices and collaborate around common goals and long-term strategies for priority programs across Florida. The mission of the Alliance is to, “help advance the State of Florida as a national leader in coastal and estuarine restoration, research, stewardship and education.” It offers a forum for collaboration, allows partners to leverage resources, and provides a consistent framework for the management of estuarine resources across the state. The full day workshop comprised of group discussion around shared priorities, as well as differences in approach based on local needs. The afternoon break-out groups honed in on topics like research and restoration, outreach, and operations. The group agreed to renew their formal commitment to the Alliance and plan to meet on an annual basis.

Murals Installed at Dr. Martin Luther King Jr. Memorial Park



The first part of a larger restoration effort kicked off last month with the installation of four murals on the kitchen/bathroom building at Dr. Martin Luther King Jr. Memorial Park in downtown Sarasota. The community-led restoration project in the park, which sits along Whitaker Bayou, will also add shoreline features to enhance public access and water quality. These include: a fishing pier, sitting areas to view the water, a kayak launch, native landscaping for water filtration, and accessible pathways. Funding for this project comes in part from the Bipartisan Infrastructure Law as well as Clean Water Act settlement funds. The murals, painted by artist Nevtar Navi, a lifetime resident of Newtown and former Ringling College student, share the spirit and values of the surrounding community and serve to welcome visitors as they enter the park. A special thank you goes to all the members of the North Sarasota Environmental Collaborative, the Art Committee members, the City of Sarasota, and all the residents who shared their vision for the park. Thank you to everyone who came out to make the dedication event a success!









Save the Date for National Estuaries Week





Sept. 19: GT Bray Park Ribbon Cutting

9:30 AM - 11:00 AM
GT Bray Park, 2900 51st St W, Bradenton

Join us to celebrate the creation of wetlands at a large stormwater convergence site at GT Bray Park in the City of Bradenton. No registration required.



Sept. 24: Brews and the Bay

6:00 PM - 8:00 PM
Motorworks Brewing, 1014 9th St W, Bradenton

Join us and the Tampa Bay Estuary Program for an evening of networking, conversation, and games at Motorworks in Bradenton. No registration required.



Sept. 27 & 28: Earth's Tapestry: Interweaving Nature, Community & Climate

Sept. 27: 10:00 AM - 3:00 PM at Resilient Retreat
Sept. 28: 9:00 AM - 12:30 PM at Fogartyville

Explore themes of resilience and restoration within the lens of individuals, communities, and the environment. Discover insights from Indigenous Science and local environmental experts.
Learn More & Register

We are looking for volunteers to help with the Earth's Tapestry event! Contact christine@sarasotabay.org if you are interested.

Join SBEP's Citizens Advisory Committee

Community input is integral to our mission. The SBEP Citizens Advisory Committee (CAC) is a group of local individuals who gather six times per year to provide SBEP with input and to help us share information with the public. Our CAC members have a wide array of professional and personal attributes, but they are all tied by their dedication to the health of Sarasota Bay. Interested in joining? Click the button below to learn more or email megan@sarasotabay.org for a prospective member application.

Learn more about the Citizens Advisory Committee

Join SBEP's Technical Advisory Committee

Technical input is integral to our mission. The Technical Advisory Committee (TAC) provides technical peer review and input to SBEP for various projects and programs. Members include local and regional environmental managers and researchers who are familiar with the Sarasota Bay estuarine system. The TAC initiates technical studies, assists SBEP with restoration and management plans, and reviews projects recommended by the Citizens Advisory Committee and other groups. Interested in joining? Click the button below to learn more.

Learn more about the Technical Advisory Committee

Lights, Camera, Action!

SBEP in the News

Communication is vital to the protection and restoration of the bay. Check out the latest clips and articles featuring SBEP efforts.



Fort Myers teens help with Sarasota Bay mangrove replenishment efforts
WTSP

"Nearly two years later, the impacts of Hurricane Ian are still very visible in some of Florida's west coast communities hardest hit. It's also spurring some teens to embark on a mission to help replenish mangrove vegetation along the coast. The concerns of the rising seniors have taken them from Fort Myers to the Tampa Bay area."



Experts warn Sarasota Bay water quality suffers after Debby
Your Observer

"A week after Hurricane Debby dumped large amounts of rain on the Sarasota Bay area, local experts are cautioning the public about potential negative side effects to the safety of the bay. This includes the reported millions of gallons of sewage discharged from municipalities that entered local waterways."

Read More SBEP in the News

Jobs & Funding Opportunities

- **Suncoast Waterkeeper: Water Quality & Pollution Specialist - Sarasota**
- **Conservation Foundation of the Gulf Coast: Director of Philanthropy - Sarasota**
- **Manatee County: Environmental Program Manager - Mitigation - Bradenton**
- **Florida Fish and Wildlife Conservation Commission: Associate Research Scientist - St Petersburg**
- **Mote Marine Laboratory & Aquarium: multiple positions - Sarasota**
- **Florida Aquarium: multiple positions - Tampa**
- **Audubon Florida: Senior Sanctuary Manager - Tampa**

Bite Sized Bay News



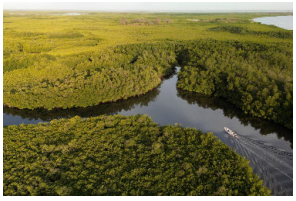
Join the 2024 Florida Waters Stewardship Program - starts Sept 18

"To make a difference for



Florida's balloon ban will protect sea turtles, birds and other marine life

"Sea turtles, marine birds and



How Good are Re-Planted Mangroves at Storing Carbon? A New Study Puts a Number on It

water in our community, we must understand the various ways in which we interact with water. This program will use expert presentations, experiential learning, field experience in watershed science, and communication skills training to foster a greater understanding of these interactions and provide the tools necessary to become stewards of our water resources." (UF/IFAS Extension Sarasota County)

children under 7 will be protected under a new Florida law that bans the intentional release of balloons. The law, signed by Republican Gov. Ron DeSantis on Monday [June 24], replaces an existing ban of releasing ten or more balloons within 24 hours. The Legislature approved the bill with bipartisan support in March and the law is praised by environmentalists." (Associated Press)

"Now, decades of data reveal that, in 20 years of growth, successfully planted mangroves can reach up to 73 percent of the carbon stock levels found in naturally occurring mangrove stands. In a new study published in *Science Advances*, a group of international researchers looked at 684 planted mangrove stands to come to this conclusion." (Inside Climate News)

Community & Partner Events

Check out upcoming green events from over 100 local organizations on the **Green Living Toolkit Community Events Calendar!**



Follow us

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