

# Tampa Bay SWIM Plan Teams Meeting Information



Please adhere to the following:

- Turn video off
- Keep your line muted
- Please use the teams chat to submit any comments or questions
- If using your phone for audio, please mute your computer microphone and speaker

# Tampa Bay Surface Water Improvement & Management (SWIM) Plan 2023 Update

Public Workshop  
June 21, 2023

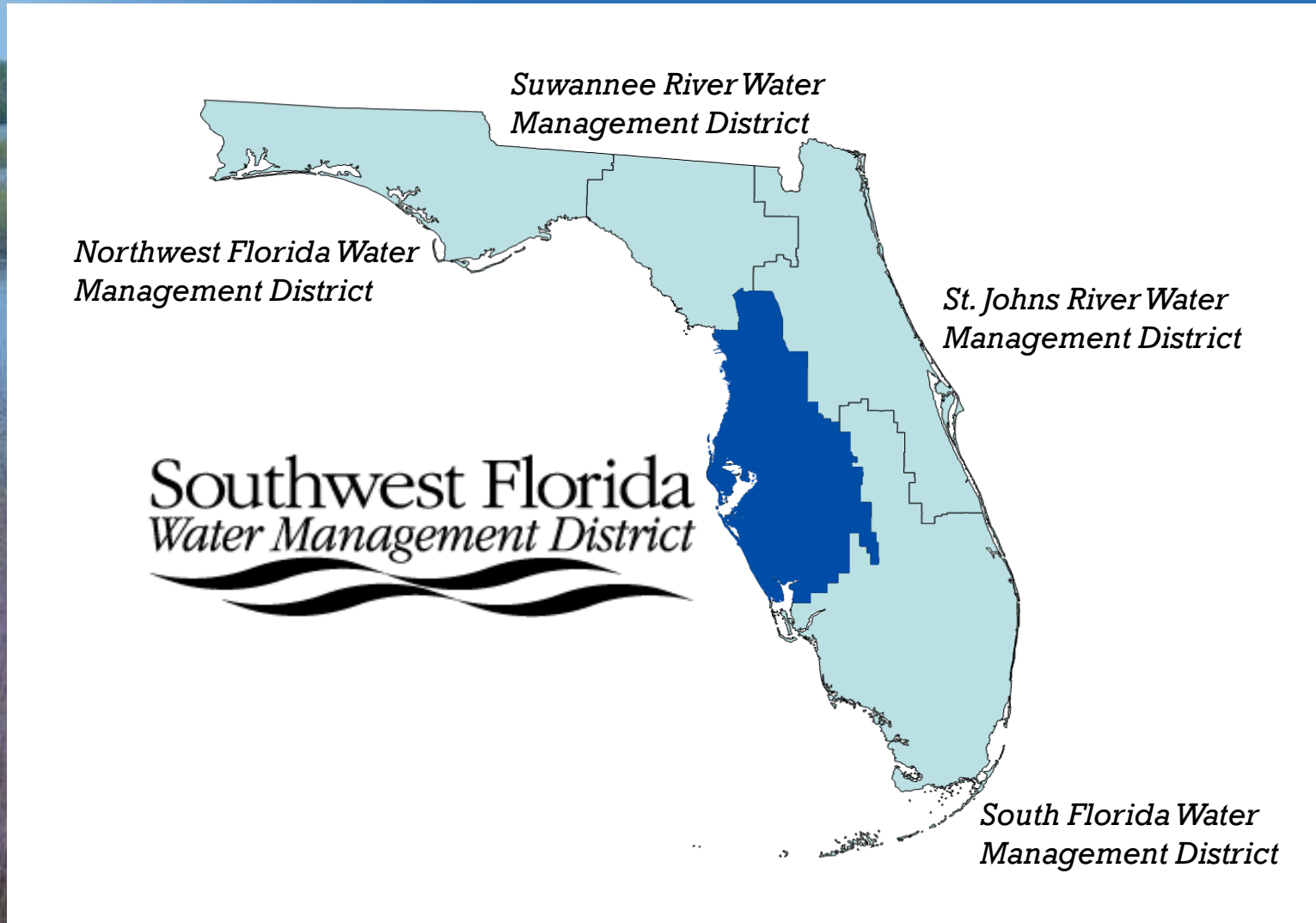
<sup>1</sup>Lizanne Garcia, <sup>1</sup>Chris Anastasiou, Ph.D. & <sup>2</sup>Doug Robison, PWS

<sup>1</sup>Surface Water Improvement & Management (SWIM) Program  
Southwest Florida Water Management District

<sup>2</sup>Environmental Science Associates, Inc.



# Water Management Districts of Florida



# Mission Statement and Areas of Responsibility

*Our mission is to protect water resources, minimize flood risks, and ensure the public's water needs are met*



Water Supply



Water Quality



Natural Systems



Flood Protection



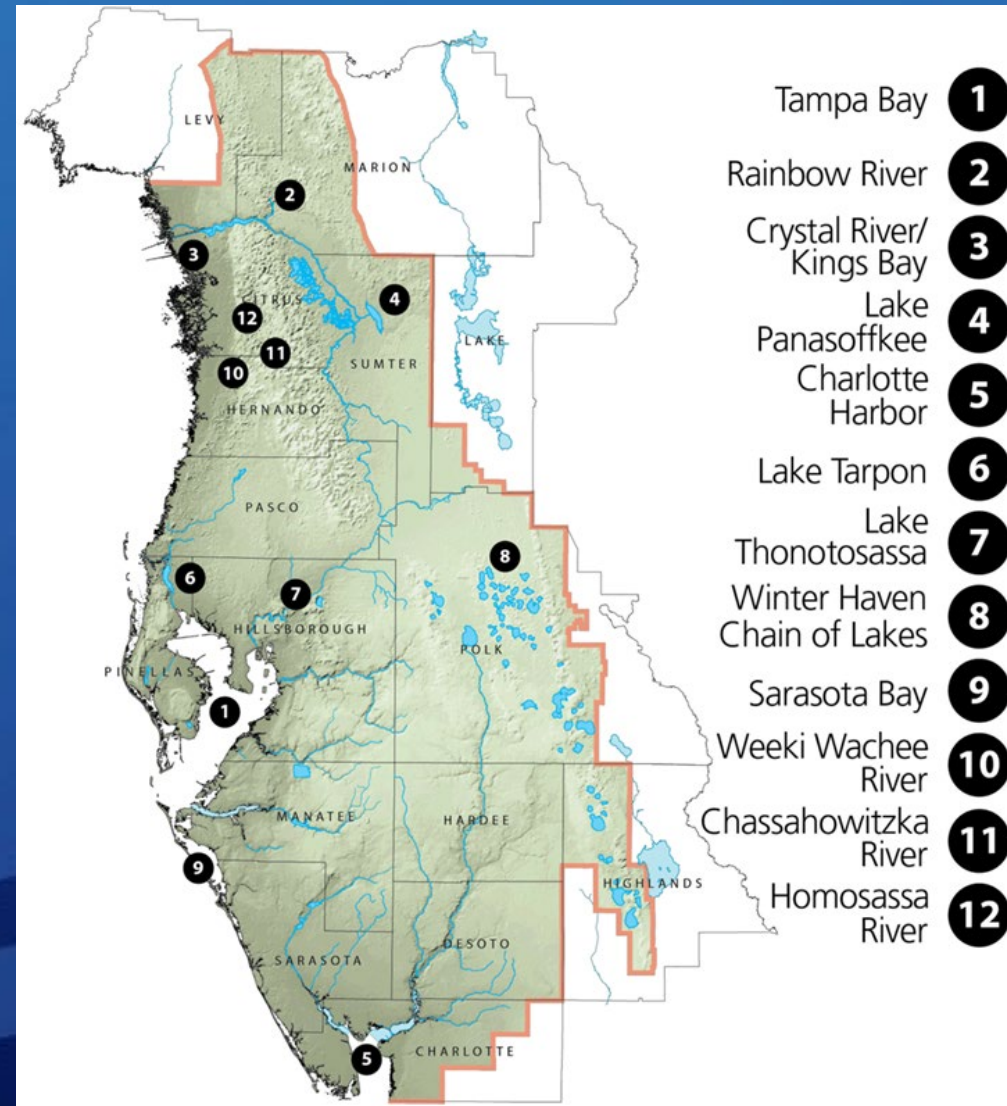
# The SWIM Act 373.453, F.S.

- Created by the Legislature in 1987
- Implemented by the Water Management Districts through partnerships with other agencies
- Directed to develop and maintain lists of priority surface waters
- Develop plans to protect & restore priority surface waters



# District SWIM Program

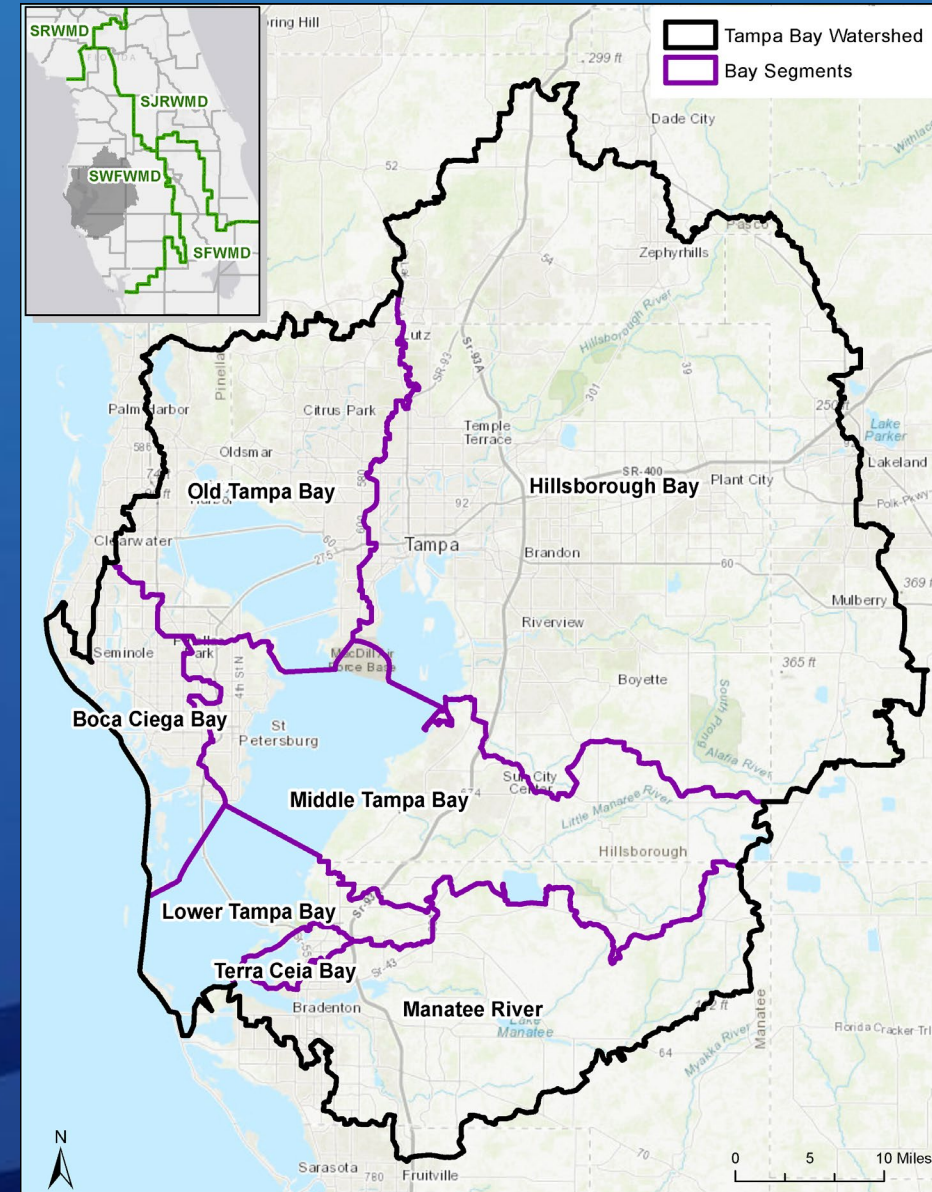
- Maintain and update priority waterbody list
- SWIM Plans
- Collect data, conduct research and implement projects to protect and improve water bodies and natural systems





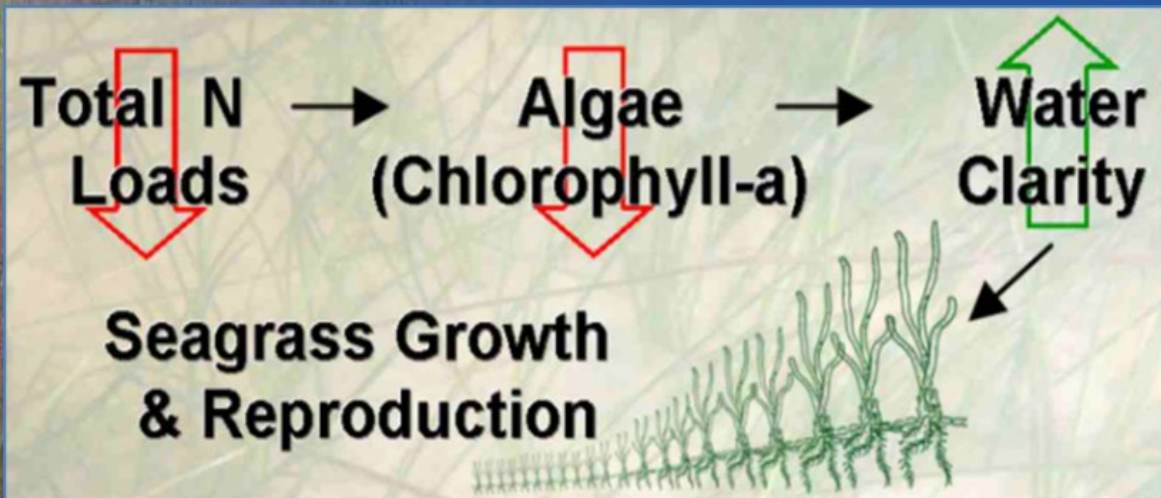
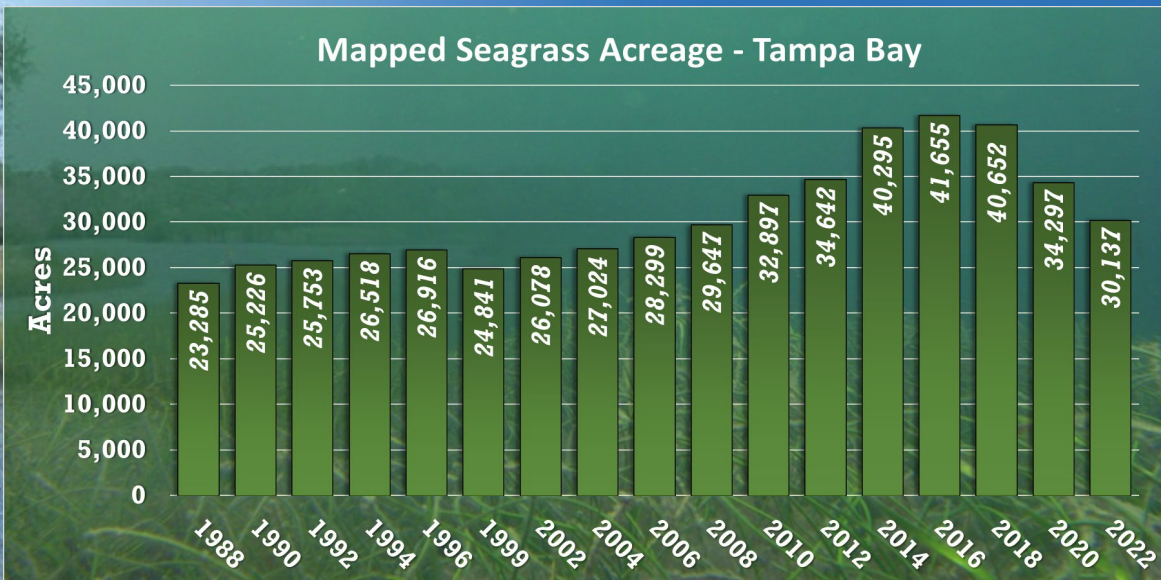
# Tampa Bay Watershed and bay segmentation scheme

- Hillsborough Bay
- Boca Ciega Bay
- Old Tampa Bay
- Middle Tampa Bay
- Lower Tampa Bay
- Terra Ceia Bay
- Manatee River
- Boca Ciega Bay
- Terra Ceia Bay
- Manatee River





# SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT



## Progress Towards Meeting Regulatory Goals

An Initiative of the Tampa Bay Nitrogen Management Consortium to Maintain and Restore the Bay's Resources

### FDEP Criteria:

	OTB	HB	MTB	LTB
1975	R	R	R	G
1976	R	R	R	G
1977	R	R	R	R
1978	R	R	R	G
1979	R	R	R	R
1980	R	R	R	R
1981	R	R	R	R
1982	R	R	R	R
1983	R	R	R	R
1984	G	G	R	G
1985	R	R	R	G
1986	R	R	R	G
1987	R	G	R	G
1988	G	G	G	G
1989	R	G	G	G
1990	R	G	G	G
1991	G	G	G	G
1992	G	G	G	G
1993	G	G	G	G
1994	R	R	R	R
1995	R	R	R	G
1996	G	G	G	G
1997	G	G	G	G
1998	R	R	R	R
1999	G	G	G	G
2000	G	G	G	G
2001	G	G	G	G
2002	G	G	G	G
2003	R	G	G	G
2004	R	G	G	G
2005	G	G	G	R
2006	G	G	G	G
2007	G	G	G	G
2008	G	G	G	G
2009	R	G	G	G
2010	G	G	G	G
2011	R	G	G	G
2012	G	G	G	G
2013	G	G	G	G
2014	G	G	G	G
2015	R	G	G	G
2016	R	G	G	G
2017	R	G	G	G
2018	G	G	G	G
2019	R	G	G	G
2020	R	G	G	G
2021	R	G	G	G
2022	G	G	G	G

### Maintaining Reasonable Assurance & TMDL Compliance

On behalf of the Tampa Bay Nitrogen Management Consortium, TBEP submitted the 2022 Reasonable Assurance (RA) Update for the 2017-2021 period to FDEP in December 2022. FDEP concluded that the RA Update satisfied requirements for approval during the next five year period. During 2022, all bay segments met FDEP criteria for chlorophyll. Tampa Bay Nitrogen Management Consortium participants continue to pursue actions that ensure water quality criteria are met for the next RA period from 2022-2026. The first RA annual assessment report for the 2022-2026 period will be submitted in April 2023.

### 2022 Chl-a Monthly Variation Compared to 1974-2021

Chlorophyll-a concentrations were evaluated within the bay on a monthly basis during 2022 and compared to prior years' levels (Figure 6). Summer concentrations in Old Tampa Bay were lower in 2022 compared to years prior, which allowed the chlorophyll criteria to be met for the first time in three years. Understanding and mitigating summer blooms of *Pyrodinium bahamense* in OTB continue to be the focus of research and management efforts for improving water quality in OTB.

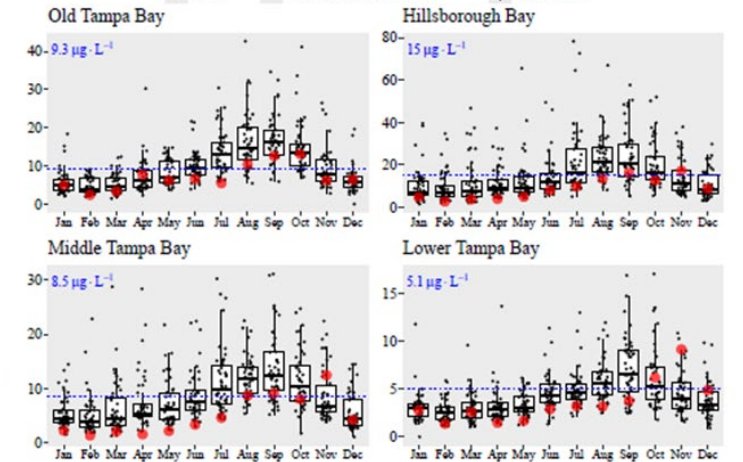


Figure 6: Chlorophyll-a monthly averages from 1975-2021 for the four bay segments. The monthly averages for 2022 are shown in red.

### Tampa Bay Seagrass Recovery

2022 results showed that Tampa Bay's seagrass coverage remained below the 40,000 acre recovery goal defined in the Habitat Master Plan Update. The 2022 baywide estimate was 30,137 acres, representing a decrease of 4,518 acres from 2020 or 11,518 acres lost since peak conditions in 2016 (Figure 7). This marks the first time that seagrass losses have been observed for the consecutive assessment periods since the District's aerial mapping program began in 1988. Large coverage decreases were observed in Old Tampa Bay and Hillsborough Bay. Increases in the attached algae *Caulerpa peltata* have also been noted in this region and elsewhere. Research and management plans are currently being developed to address these losses. More information on the bay's seagrass trends using transect monitoring data can be found at <https://shiny.tbep.org/seagrass/transect-dash/> and using the coverage estimates can be found at <https://shiny.tbep.org/seagrass-analysis/>.

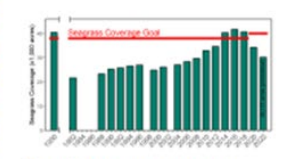


Figure 7: Seagrass estimates from 1960-2022 (Source: TBEP & SWFWMD)

Figure 6: Bay segment attainment of chlorophyll criteria from 1975 to 2022 (April, May data missing for 2020).

Note: 2022 nutrient management compliance available from Beck, M.W., Barka, M., Sherwood, E. 2023. TBEP Technical Report #05-23. Please cite this document as Beck, M.W., Barka, M., Sherwood, E. 2023. 2022 Tampa Bay Water Quality Assessment. TBEP Technical Report #05-23, St. Petersburg, FL.

# TB SWIM Plan Outline

Define Issues & Drivers

Develop Goals

Identify Management  
Actions

Priority Projects &  
Initiatives

Water Quality

Natural Systems

Monitoring/Research  
Protection/Restoration  
Education/Outreach

Monitoring/Research  
Conservation/Protection  
Restoration



# Water Quality Goals

- Update nutrient reduction goals for each bay segment using a revised seagrass-nutrient management model
- Propose new bay-segment specific seagrass light targets
- Reduce nutrient loads through the implementation of cost-effective SWIM projects in cooperation with District partners



# WQ Management Actions

## Monitoring and Research

- Reevaluate seagrass-nutrient management paradigm especially for Old Tampa Bay and Hillsborough Bay
- Reevaluate seagrass light requirements and propose revised bay-segment specific targets for each bay segment
- Better understand linkages between nitrogen loads, macroalgae abundance, and seagrass loss
- Research to forecast ecological shifts in Tampa Bay considering climate change and sea-level rise and identify ways to increase coastal resiliency
- Evaluate WQ monitoring data gaps; identify and minimize redundancies
- Better understand nutrient sources and sinks



# WQ Management Actions (cont'd)

## Water Quality Protection and Restoration

- Support development of stormwater master plans
- Implement stormwater BMPs in urban areas in partnership with local, regional, and state agencies
- Promote green infrastructure designs and practices for stormwater treatment and management

## Education and Outreach

- Continue to support Florida-Friendly landscaping principles
- Continue the District's FARMS program to assist agricultural stakeholders in conserving water and protecting water quality through outreach and implementation of BMPs



# Natural Systems Goals

- Support the District Seagrass Mapping Program and complete Tampa Bay biennial seagrass maps
- Support the establishment of a drift macroalgae monitoring network
- Support the 2030 habitat protection and restoration targets outlined in the TBEP 2020 Habitat Master Plan



# NS Management Actions

## Monitoring and Research

- Continue Seagrass Mapping Program and evaluate improvements to map quality by incorporating new/emerging technology while maintaining data continuity
- Continue to partner with TBEP to collect and analyze seagrass transect data at fixed locations in Tampa Bay.
- Improve understanding of the ecology and habitat utilization of seagrass beds and macroalgae in Tampa Bay.
- Monitor filamentous macroalgae accumulation and distribution in areas of concern in Tampa Bay.



# NS Management Actions (cont'd)

## Monitoring and Research (cont'd)

- Support evaluation of potential linkages between red tide events and occurrence of filamentous macroalgae blooms.
- Support the assessment and ranking of priority tidal tributaries for restoration projects.
- Improve understanding of how rainfall patterns, climate drivers, and sea level rise affect estuarine habitats.





# NS Management Actions (cont'd)

## Natural Systems Conservation and Protection

- Continue to support land acquisition for conservation of priority natural systems in the Tampa Bay watershed
- Continue to support water conservation strategies related to natural system protection through implementation of the District's Water Use Caution Area
- Support the adoption and reevaluation of minimum flows and levels (MFLs) for priority waterbodies in the Tampa Bay watershed



# NS Management Actions (cont'd)

## Natural Systems Restoration

- Support the assessment of restoration opportunities on open and disturbed lands
- Support programs and projects in Tampa Bay 2020 Habitat Master Plan Update
- Explore opportunities for urban stream restoration and/or enhancement including drainage ditches to multi-stage channels.



# June 2023 Draft Tampa Bay SWIM Plan

**Tampa Bay**

**Surface Water Improvement and  
Management (SWIM) Plan Update**

**June 2023 DRAFT**

[WaterMatters.org/swim/tampa-bay](https://WaterMatters.org/swim/tampa-bay)



Southwest Florida  
Water Management District  
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# Tampa Bay SWIM Plan Timeline

- ✓ Presentations to Technical Stakeholders
  - May 2021, Nov 2021, May 2022
- ✓ Presentation to TBEP TAC
  - June 2021; January 2023
- ✓ Incorporation of 2022 Seagrass Results
  - Presentation at Public Workshop
    - June 2023
  - Presentation to District EAC
    - July 2023
  - Presentation to Governing Board
    - July 2023
  - Send for State & Local Government Review
    - 45-day period
  - Governing Board Final Plan
    - Fall 2023



# Questions and Comments?

Tonight, in Teams Chat Window

Via email

[SWIMPlanUpdate@watermatters.org](mailto:SWIMPlanUpdate@watermatters.org)

Written Comments By June 28, 2023 by 5:00PM

