2026 Tampa Bay Water Quality Assessments

A Tampa Bay Estuary Program Initiative to Maintain and Restore the Bay's Seagrass Resources

Historic results:

	OTB	HB	MTB	LTB
1975	R	R	R	G
1976	R	R	R	Y
1977	R	R	R	R
1978	R	R	R	Y
1979	R	R	R	R
1980	R	R	R	R
1981	R	R	R	R
1982	R	R	R	R
1983	R	Y	R	R
1984	R	G	R	Y
1985	R	R	R	Y
1986	R	Y	R	G
1987	R	Y	R	G
1988	Y	G	Y	G
1989	R	Y	R	Y
1990	R	G	R	Y
1991	G	Y	Y	Y
1992	Y	G	Y	Y
1993	Y	G	Y	Y
1994	Y	Y	R	R
1995	R	Y	R	Y
1996	Y	G	Y	G
1997	Y	G	R	Y
1998	R	R	R	R
1999	Y	G	Y	Y
2000	G	G	Y	Y
2001	Y	G	Y	Y
2002	Y	G	G	G
2003	R	Y	G	Y
2004	R	G	G	Y
2005	G	G	Y	Y
2006	G	G	G	G
2007	G	G	G	G
2008	Y	G	G	Y
2009	Y	Y	G	G
2010	G	G	G	G
2011	R	G	Y	G
2012	G	G	G	G
2013	G	G	G	G
2014	G	G	G	G
2015	Y	G	Y	G
2016	Y	G	G	G
2017	Y	G	G	G
2018	Y	G	G	G
2019	Y	G	G	G
2020	Y	G	G	G
2021	Y	G	G	G
2022	G	G	G	G
2023	G	G	G	G
2024	G	G	G	Y
2025	G	G	G	G
2026	G	G	G	G

*Incomplete data for 2026 estimated by five year average

Figure 1: Decision matrix results for 1975 to 2026.

Background

Light availability to seagrass is the guiding paradigm for TBEP's Nitrogen Management Strategy. Because excessive nitrogen loads to the bay generally lead to increased algae blooms (higher chlorophyll-a levels) (Figure 2) and reduced light penetration to seagrass, an evaluation method was developed to assess whether load reduction strategies are achieving desired water quality results (i.e. reduced chlorophyll-a concentrations and increased water clarity).

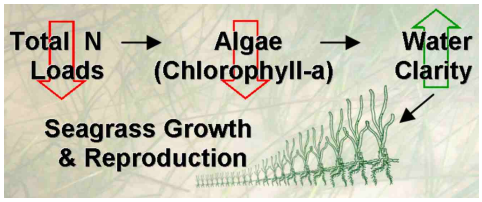

Figure 2: Seagrass restoration with N management.

Decision Support Approach

Year to year algae abundance (measured as chlorophyll-a concentrations) and visible light penetration through the water column (secchi disk depth visibility) have been identified as critical water quality indicators in Tampa Bay. Tracking the attainment of bay segment specific targets for these indicators provides the framework for developing and initiating bay management actions. TBEP management actions adopted in response to the annually-assessed decision support results are shown to the right.

G	"Stay the Course" Continue planned projects. Report data via annual progress reports and Baywide Environmental Monitoring Report.
Y	"Caution" Review monitoring data and nitrogen loading estimates. Begin/continue TAC and Management Board development of specific management recommendations.
R	"On Alert" Finalize development and implement appropriate management actions to get back on track.

2026 Decision Matrix Results

Water quality remained supportive of seagrass in all bay segments throughout 2026 due, in part, to relatively dry conditions (Table 1, Figure 3). Annual averages of chlorophyll-a and light penetration were below management targets in all bay segments, although light attenuation increased slightly in Old Tampa Bay (OTB). Water quality conditions in OTB remain under investigation based on continued declines in seagrass coverage between 2016 and 2024.

Table 1: Water quality outcomes for 2026.

Segment	Chl-a (ug/L)		Light Penetration (m^{-1})	
	2026	target	2026	target
OTB	7.5	8.5	0.75	0.83
HB	9.1	13.2	0.91	1.58
MTB	5.4	7.4	0.57	0.83
LTB	3.4	4.6	0.62	0.63

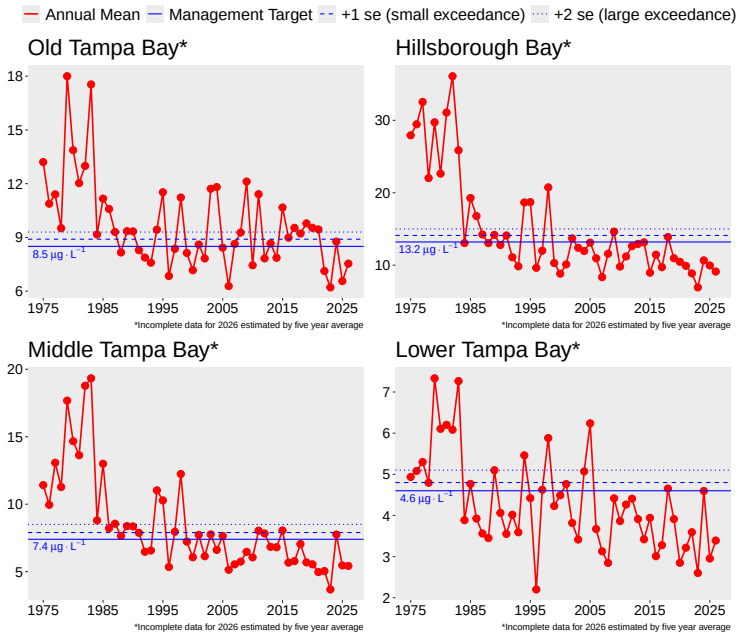

Figure 3: Historic chlorophyll-a annual averages for the four bay segments.

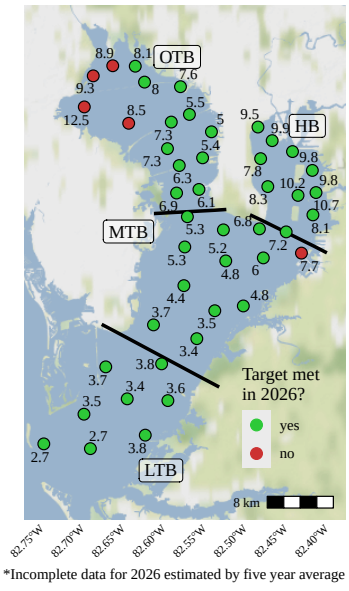

Figure 4: Chlorophyll-a attainment outcomes by site for 2026.

***Note**: Continuing water quality monitoring support provided by the Environmental Protection Commission of Hillsborough County. Full methods in Janicki et al. 2000. TBEP Technical Report #04-00. Points in map above show site-specific attainment of a bay segment target and are for reference only.*

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	G	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	G	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
2023	G	G	G	G
2024	G	G	G	G
2025	G	G	G	G
2026	G	G	G	G

*Incomplete data for 2026 estimated by five year average

Figure 5: Bay segment attainment of chlorophyll-a criteria from 1975 to 2026.

Maintaining Reasonable Assurance & TMDL Compliance

On behalf of the Tampa Bay Nitrogen Management Consortium, TBEP submitted the Reasonable Assurance (RA) Update for the 2017-2021 period to FDEP in December 2022. FDEP concluded that the RA Update satisifies efforts to maintain water quality during the next five year period. During 2026, all bay segments met FDEP numeric nutrient criteria. Tampa Bay Nitrogen Management Consortium participants continue to implement actions that ensure water quality criteria are met for the current RA period from 2022-2026. The fourth RA annual assessment report for the 2022-2026 period will be submitted in April 2026.

2026 Chl-a Monthly Variation Compared to 1974-2025

Chlorophyll-a concentrations were evaluated on a monthly basis during 2026 and compared to prior years' levels (Figure 6). Dry conditions in the late summer and early fall contributed to lower concentrations in all bay segments. In Old Tampa Bay, observations of *Pyrodinium bahamense* have decreased significantly since 2023 and the chlorophyll-a criteria was met for the fourth consecutive year of the RA period.

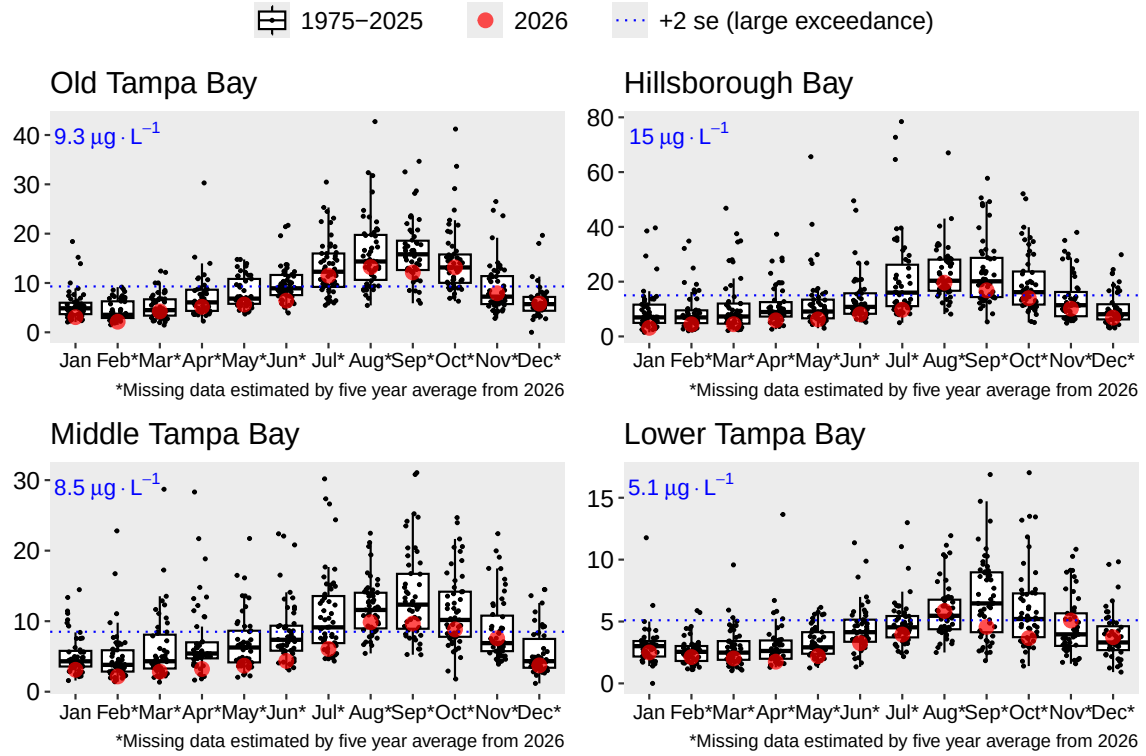

Figure 6: Chlorophyll-a monthly averages from 1975-2025 for the four bay segments. The monthly averages for 2026 are shown in red.

Tampa Bay Seagrass Recovery

Baywide seagrass coverage is estimated to be 31,563 acres (Figure 7), below the 40,000 acre recovery goal defined in the Habitat Master Plan. Gains were observed in all bay segments between 2022 and 2024, except Old Tampa Bay, where continued losses were observed. In 2025, annual seagrass transect surveys for Old Tampa Bay show a slight increase in frequency of occurrence, although definitive changes in coverage cannot be assessed until the next update from the SWFWMD using aerial images obtained during the winter 2025-26 period. More information on the bay's seagrass trends can be found at https://shiny.tbep.org/seagrasstransect-dash/ and https://shiny.tbep.org/seagrass-analysis/.

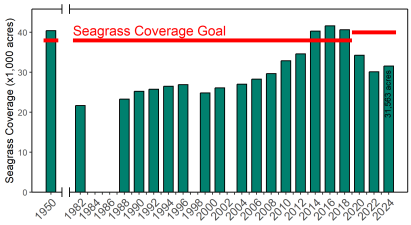

Figure 7: Seagrass estimates from 1950-2024 (Source: TBEP & SWFWMD)

***Note**: 2026 nutrient management compliance assessment available from Beck, M.W., Burke, M., Sherwood, E. 2027. TBEP Technical Report #xx-27. Please cite this document as Beck, M.W., Burke, M., Sherwood, E. 2027. 2026 Tampa Bay Water Quality Assessment. TBEP Technical Report #xx-xx, St. Petersburg, FL.*