# **Progress Towards Meeting Regulatory Goals**

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







## FDEP Criteria Met:

FDEP Criteria Met:				
	OTB	HB	MTB	LTB
1975	red	red	red	green
1976	red	red	red	green
1977	red	red	red	red
1978	red	red	red	green
1979	red	red	red	red
1980	red	red	red	red
1981	red	red	red	red
1982	red	red	red	red
1983	red	red	red	red
1984	green	green	red	green
1985	red	red	red	green
1986	red	red	green	green
1987	red	green	red	green
1988-	green	green	green	green
1989	red	green	green	green
1990-	red	green	green	green
1991-	green	green	green	green
1992	green	green	green	green
1993	green	green	green	green
1994	red	red	red	red
1995	red	red	red	green
1996	green	green	green	green
1997	green	green	green	green
1998	red	red	red	red
1998 1999	red green	red green	red green	red green
1998 1999 2000	red green green	red green green	red green green	red green green
1998 1999 2000 2001	red green green green	red green green green	red green green green	red green green green
1998 1999 2000 2001 2002	red green green green green	red green green green green	red green green green green	red green green green green
1998 1999 2000 2001 2002 2003	red green green green green red	red green green green green green	red green green green green green	red green green green green green
1998 1999 2000 2001 2002 2003 2004	red green green green green green red red	red green green green green green green green	red green green green green green green green	red green green green green green green green
1998 1999 2000 2001 2002 2003 2004 2005	red green green green green red green green	red green green green green green green green green	red green green green green green green green green	red green green green green green green green green
1998 1999 2000 2001 2002 2003 2004 2005 2006	red green green green green red red green green	red green	red green	red green green green green green green green green green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	red green green green green red red green green green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008	red green green green green red green green green green green green green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009	red green green green red green green green red green green green green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010	red green green green green red green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011	red green green green green red red green green green green green green green green green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012	red green green green green red green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013	red green green green green red green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2013 2014	red green green green green green red green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2013 2014 2015	red green green green green red green red green green red	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2013 2014 2015 2016	red green green green green green red green green green green green green green green green red green green red green red green green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2013 2014 2015 2016 2017	red green green green green green red red green green green green green green green green red green red green red green red green green	red green	red green	red green
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2013 2014 2015 2016	red green green green green green red green green green green green green green green green red green green red green red green green	red green	red green	red green

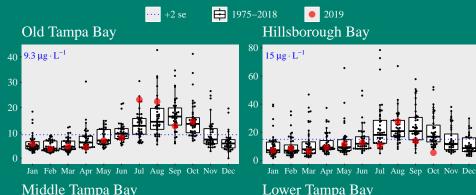
# Figure 5: Attainment of bay segments for chlorophyll criteria from 1975 to 2019.

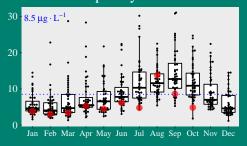
### Maintaining Reasonable Assurance & TMDL compliance

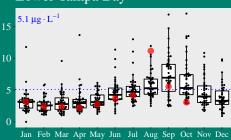
In November 2017, the Florida Department of Environmental Protection (FDEP) accepted the 2017 Reasonable Assurance Update (2017 RA Update) as submitted by TBEP in partnership with the Tampa Bay Nitrogen Management Consortium. FDEP concluded that the RA Update demonstrated both attainment of seagrass targets and total nitrogen numeric criteria for 2012-2016. During 2019, all bay segments, excluding Old Tampa Bay, were in compliance with the FDEP regulatory criteria for chlorophyll-a concentrations (Figure 5). The second compliance report for the 2017-2021 period was submitted March 2019.

#### 2019 Chl-a Monthly Variation Compared to 1974-2018

Chlorophyll-a concentrations were evaluated within the bay on a monthly basis during 'r maxyr' and compared to prior years' levels (Figure 6). Elevated concentrations in Old Tampa Bay and Lower Tampa Bay were primarily due to *Pyrodinium bahamense* and *Karenia brevis* blooms, respectively. Hillsborough Bay also showed elevated concentrations during two months in 2018 - the fall event coincided with blooms of the nonharmful alga, *Tripos hircus*.







Chlorophyll-a monthly averages from 1975-2018 for the four bay segments. The monthly averages for 2019 are shown in red.Historic chlorophyll-a annual averages for the four bay segments.

#### **Tampa Bay Seagrass Recovery**

Tampa Bay's total seagrass coverage remains above the recovery goal, though a slight decrease was observed from 2016 to 2018. The 20118 baywide coverage was estimated at 40,618 acres (Figure 7). As in 2016, coverage remains above both the target (38,000 acres) and the estimated historic coverage of the 1950s (40,420 acres). The next SWFWMD coverage estimates will be developed from aerial photographs acquired over the winter 2019-20 period, following the extensive red tide event observed throughout 2018 (note: the 2018 coverage estimate was developed prior this event). More information can be found in TBEP Technical Publication #0816.

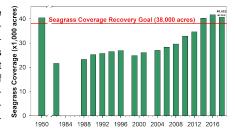


Figure 7: Historic seagrass acreage estimates for Tampa Bay from 1950-2018 (Source: TBEP & SWFMD)

Additional info: 2019 nutrient management compliance assessment available from Sherwood, E., Burke, M. 2019. TBEP Technical Report #1119.