

Record rains drive slight decline in bay water quality in 2015

Two major segments of Tampa Bay showed slight declines in water quality in 2015, following record-setting summer rains that saw large volumes of untreated stormwater and wastewater discharged to the bay, as well as a recurring algae bloom.

Old Tampa Bay and Middle Tampa Bay - which together comprise 50% of the open waters of Tampa Bay -- failed to meet their average annual targets for chlorophyll *a*, an indicator of microscopic algae in the water. They have been designated as yellow, or "caution" areas in the annual "stoplight" report card used by bay managers to help assess the bay's health.

Old Tampa Bay exceeded chlorophyll targets for the months of August and September. Middle Tampa Bay exceeded chlorophyll targets in September.

The "caution" rating means that corrective actions may be needed if water quality problems persist or worsen for two years or more.

All seven bay segments had sufficient sunlight penetrating to the bay bottom to foster the growth of underwater seagrasses, a positive sign indicating that the exceedances in Old and Middle Tampa Bay may be a short-lived, temporary response to the record-setting rains of last summer.

Good water quality is critical to recovering underwater seagrasses that are the foundation of a healthy bay. Seagrass surveys announced last Spring showed that Tampa Bay had 40,295 acres of seagrass, more than at any time in the last 60 years.

To help track seagrass recovery, TBEP annually compares water quality to established targets in the bay and summarizes the results in a simple report card with a red, green and yellow color system. The rating system considers two factors: The amount of chlorophyll in the water, and the amount of visible sunlight penetrating the water column.

"Green" means a bay segment is meeting both measures of water quality, while "red" means it

| Year | Old Tampa Bay | Hillsborough Bay | Middle Tampa Bay | Lower Tampa Bay |
|------|---------------|------------------|------------------|-----------------|
| 1975 | Red | Red | Red | Green |
| 1976 | Red | Red | Red | Yellow |
| 1977 | Red | Red | Red | Red |
| 1978 | Red | Red | Red | Yellow |
| 1979 | Red | Red | Red | Red |
| 1980 | Red | Red | Red | Red |
| 1981 | Red | Red | Red | Red |
| 1982 | Red | Red | Red | Red |
| 1983 | Red | Yellow | Red | Red |
| 1984 | Red | Green | Red | Yellow |
| 1985 | Red | Red | Red | Yellow |
| 1986 | Red | Yellow | Red | Green |
| 1987 | Red | Yellow | Red | Green |
| 1988 | Yellow | Green | Yellow | Green |
| 1989 | Red | Yellow | Red | Yellow |
| 1990 | Red | Green | Red | Yellow |
| 1991 | Green | Yellow | Yellow | Yellow |
| 1992 | Yellow | Green | Yellow | Yellow |
| 1993 | Yellow | Green | Yellow | Yellow |
| 1994 | Yellow | Yellow | Red | Red |
| 1995 | Red | Yellow | Red | Yellow |
| 1996 | Yellow | Green | Yellow | Green |
| 1997 | Yellow | Green | Red | Yellow |
| 1998 | Red | Red | Red | Red |
| 1999 | Yellow | Green | Yellow | Yellow |
| 2000 | Green | Green | Yellow | Yellow |
| 2001 | Yellow | Green | Yellow | Yellow |
| 2002 | Yellow | Green | Green | Green |
| 2003 | Red | Yellow | Green | Yellow |
| 2004 | Red | Green | Green | Yellow |
| 2005 | Green | Green | Yellow | Yellow |
| 2006 | Green | Green | Green | Green |
| 2007 | Green | Green | Green | Green |
| 2008 | Yellow | Green | Green | Yellow |
| 2009 | Yellow | Yellow | Green | Green |
| 2010 | Green | Green | Green | Green |
| 2011 | Red | Green | Yellow | Green |
| 2012 | Green | Green | Green | Green |
| 2013 | Green | Green | Green | Green |
| 2014 | Green | Green | Green | Green |
| 2015 | Yellow | Green | Yellow | Green |

is not meeting either of them/ "Yellow" indicates that an area failed to meet either chlorophyll or water clarity targets for a month or more.

Prior to 2015, all bay segments met water quality goals for three years in a row.

The toxic algae *Pyrodinium bahamense* was reported in Old and Middle Tampa Bay during summer 2015, and those blooms likely factored into the high chlorophyll levels in the segments. Widespread flooding and emergency discharges of treated and untreated wastewater fueled algae blooms and created murky water for weeks in late summer and early fall 2015.

The data used for the report card is collected monthly by the Environmental Protection Commission of Hillsborough County, from 45 sampling stations all over the bay.

The next surveys of seagrass in Tampa Bay are due in Spring 2017 from the Southwest Florida Water Management District. Aerial photography is underway this winter, since visibility and water clarity are best in winter months.

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