

Sarasota Bay Condition Report for 2011

PASS Chl-a N P

3 out of 3 indicators were rated as PASS.

[Learn more about how this report is created](#)

Summary:

The overall health in Sarasota Bay has remained high. Water quality metrics remained relatively constant with a slight decrease in mean value of chlorophyll a, nitrogen, and phosphorus. Acreage of seagrass has increased.

Water Quality: All three water quality indicators (chlorophyll a, nitrogen, and phosphorus) were rated as pass (below the threshold). The mean for chlorophyll a was calculated as an arithmetic mean and the means for nitrogen and phosphorus were calculated as geometric means (Numeric Nutrient Criteria Recommendations). Both nitrogen and phosphorus indicators remained in excellent condition (nitrogen mean = 367.9ug/l, phosphorus mean = 52.6ug/l) and were below the target levels of 490.0 ug/l and 150.0 ug/l, respectively. Chlorophyll a levels decreased and improved from a rating of good in 2010 to a rating of excellent in 2011, the mean (4.0ug/l) was below the desired target level of 5.2ug/l.

Biotic Indicator: Although there was a slight decrease in acreage of seagrass in 2010 as compared to 2008, mean acreage (9,960 acres) was above the desired threshold (7,269 acres). Additionally, there was a 49% increase in acreage of seagrass from 2004 (6,686 acres) to 2010 (9,960).



Water Chemistry Ratings

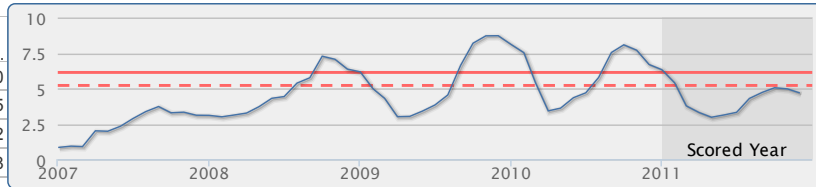
Total nitrogen, total phosphorus, and chlorophyll a levels are monitored carefully by water resource managers and used by regulatory authorities to determine whether a bay meets the water quality standards mandated by the Clean Water Act. The trend graphs for these indicators are shown below, along with their target and threshold values. A target value is a desirable goal to be attained, while a threshold is an undesirable level which is to be avoided. [Learn More about these ratings and how they are calculated »](#)

Chlorophyll a

Score: Excellent

Five Year Trend Graph

Units: ug/l	Year 2011	Historical period of record
High	19.4	49.0
Mean	4.0	4.5
Low	0.8	0.2
Samples	3,364	40,588



Data Sources: [Sarasota County](#)

--- Target
5.2 ug/l

— Threshold
6.1 ug/l

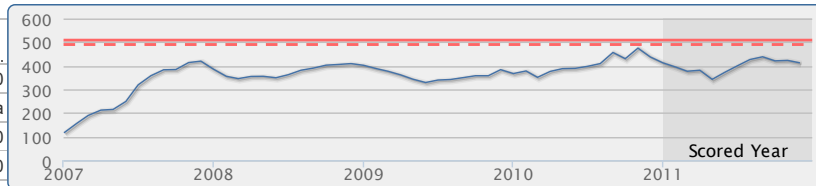
..... Method Detection Limit
0.5 ug/l

Nitrogen, Total

Score: Excellent

Five Year Trend Graph

Units: ug/l	Year 2011	Historical period of record
High	930.0	1,870.0
Mean	367.9	n/a
Low	100.0	30.0
Samples	225	2,880



Data Sources: [Sarasota County](#)

--- Target
490.0 ug/l

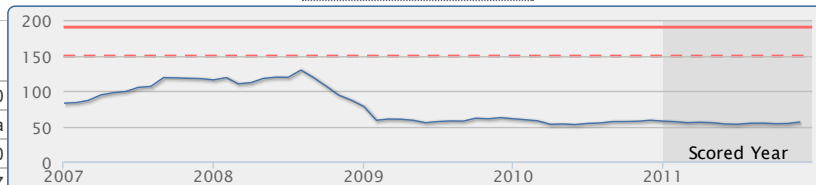
— Threshold
510.0 ug/l

Phosphorus, Total

Score: Excellent

Five Year Trend Graph

Units: ug/l	Year 2011	Historical period of record
High	1,140.0	4,400.0
Mean	52.6	n/a
Low	50.0	2.0
Samples	3,206	40,117



Data Sources: [Sarasota County](#)

--- Target
150.0 ug/l

— Threshold
190.0 ug/l

..... Method Detection Limit
0.1 ug/l

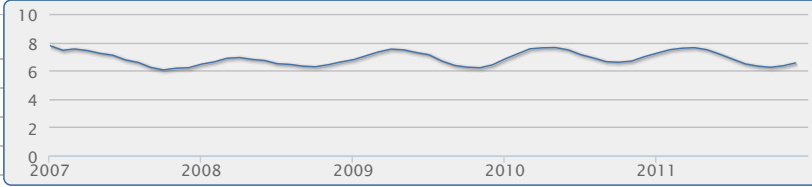
Other Measures of Bay Health

In addition to nutrient levels and chlorophyll concentration, dissolved oxygen levels, and water clarity are also objective indicators of bay health. These have complex interactive cycles which are affected by rainfall, temperature, and tidal action, as well as other factors. High nutrient levels (nitrogen and phosphorus) can stimulate excessive growth of marine algae (indicated by chlorophyll a level), resulting in reduced water clarity (and increased light attenuation) and depleted oxygen levels. Both plants and animals in a bay need oxygen to survive, and the seagrasses which provide food and cover for bay creatures need light for photosynthesis.

Dissolved Oxygen

Five Year Trend Graph

Units: mg/l	Year 2011	Historical period of record
High	10.2	12.7
Mean	6.9	6.8
Low	4.2	3.3
Samples	231	3,488



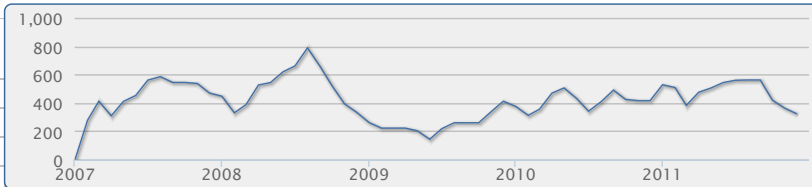
Data Sources: [Sarasota County](#)

Method Detection Limit
0.2 mg/l

Light Attenuation

Five Year Trend Graph

Units: K(1/m)	Year 2011	Historical period of record
High	1,606.0	4,350.0
Mean	578.0	492.6
Low	0.1	0.1
Samples	446	6,822



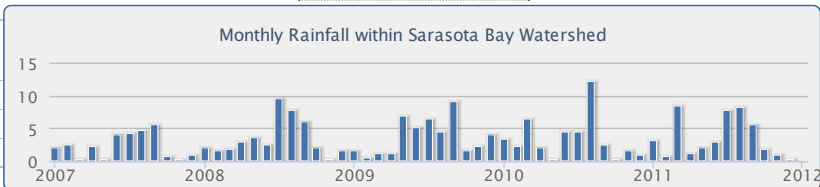
Data Sources: [Sarasota County](#)

Method Detection Limit
0.1 K(1/m)

Rainfall

Five Year Trend Graph

Units: inches	Year 2011	Historical period of record
High	43.2	45.3
Mean		28.3
Low		0.9
Samples	363	3,110

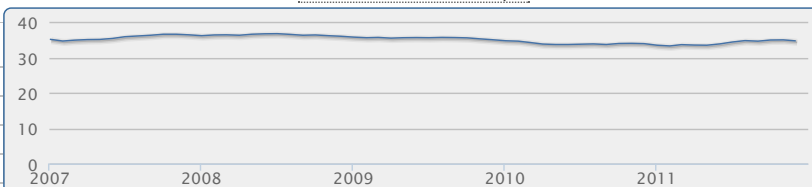


Data Sources: [Sarasota County](#)

Salinity

Five Year Trend Graph

Units: PSS	Year 2011	Historical period of record
High	36.6	42.3
Mean	34.1	34.2
Low	12.2	12.2
Samples	229	3,460



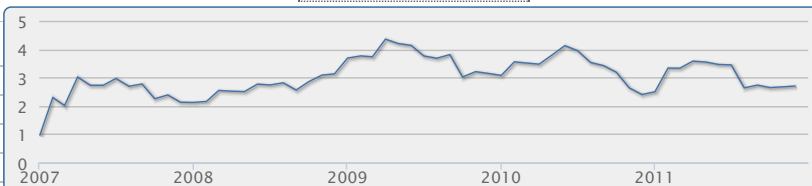
Data Sources: [Sarasota County](#)

Method Detection Limit
0.1 PSS

Turbidity

Five Year Trend Graph

Units: NTU	Year 2011	Historical period of record
High	24.0	33.0
Mean	3.0	3.2
Low	0.7	0.1
Samples	3,364	40,591

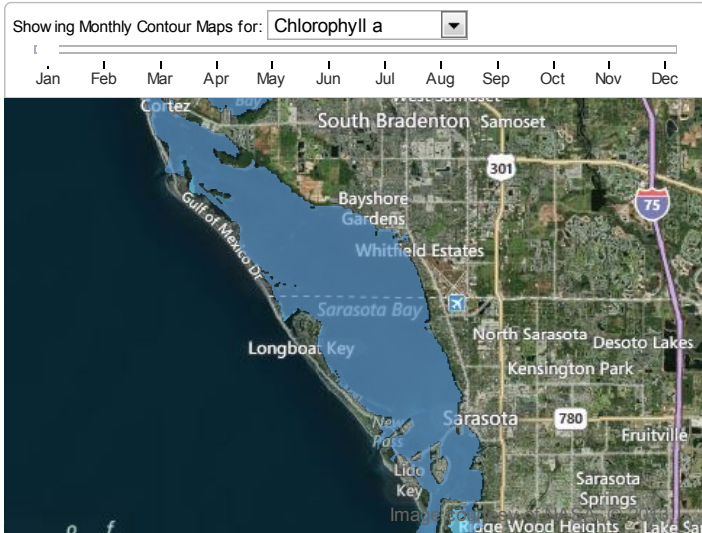


Data Sources: [Sarasota County](#)

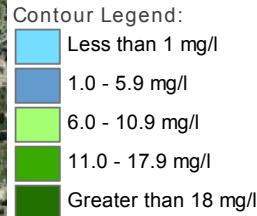
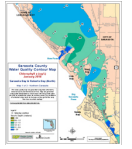
Method Detection Limit
0.2 NTU

Bay Contour Maps

Contour mapping is one of the best ways to visualize spatial differences in coastal water quality. The interactive map shown below presents monthly data for one selected water quality indicator atop an aerial view of the bay. Choose a different water quality parameter from the list at the top to change the map. [Learn More about Water Quality Contour Mapping »](#)

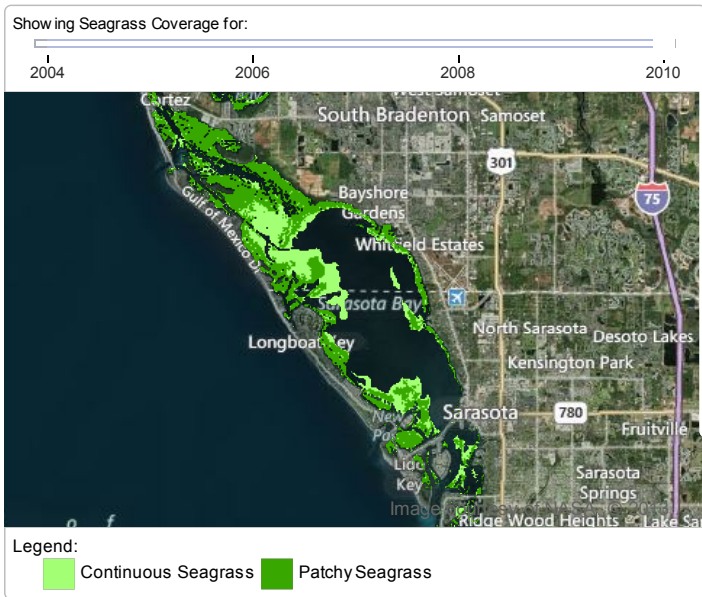


Visit the [Water Quality Contour Mapping Tool](#) to view and compare monthly water quality contour maps for ten different water quality indicators. In addition, you can generate your own custom maps.

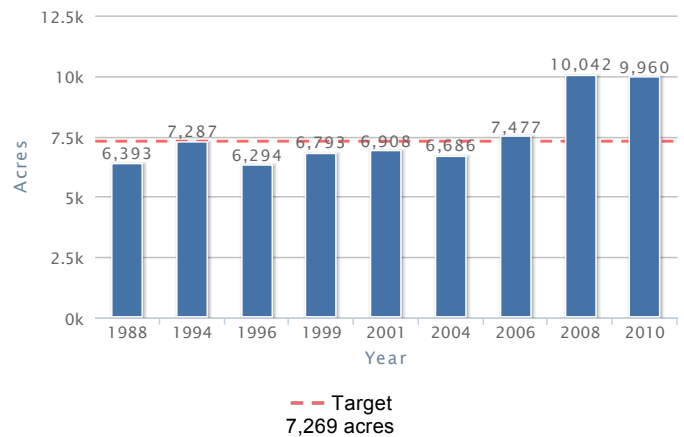


Seagrasses

Among the most important habitats in Florida's estuarine environments, seagrass beds are indispensable for the role they play in cycling nutrients, supplying food for wildlife, stabilizing sediments, and providing habitat for juvenile and adult finfish and shellfish. Use the interactive map below to observe the size, density and location of seagrass beds from year to year. The graph shows how the total amount of seagrass in the bay has changed over time. [Learn More about Seagrasses »](#)



Seagrass Acreage Variation within Sarasota Bay



Land Use / Land Cover

Sarasota Bay is located within the Sarasota Bay Watershed. [View details about the Sarasota Bay Watershed »](#)

Land use within a bay's watershed has a major effect on its water quality. In general, less development means better water quality. Land Cover/Land Use classifications categorize land in terms of its observed physical surface characteristics (upland or wetland, e.g.), and also reflect the types of activity that are taking place on it (agriculture, urban/built-up, utilities, etc.). Florida uses as its standard a set of statewide classifications which were developed by the Florida Department of Transportation. [Learn More about Land Use and Land Cover »](#)

