

# Blackburn 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](#)



**Blackburn Bay**

**Summary:**

The overall health of Blackburn Bay has remained in good condition with all water quality parameters below their associated target levels. However, the biotic indicator, seagrass, has continued to decrease.

**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). The mean chlorophyll a level (5.1ug/l) in Blackburn Bay has decreased and was scored as excellent (scored as good in 2010), below the target (6.0ug/l) and threshold (8.2ug/l) levels. The mean nitrogen level (351.3ug/l) has slightly decreased and was scored as excellent, below the target (360.0ug/l) and threshold (430.0ug/l) levels. The mean phosphorus level (55.6ug/l) has remained constant and was also scored as excellent, below the target (170.0 ug/l) and threshold (210.0ug/l) levels.

**Biotic Indicator:** The total acreage of seagrass has remained relatively constant since 1988 but in 2010 the mean level of seagrass (323 acres) was still below the target of 447 acres.

**Water Chemistry Ratings**

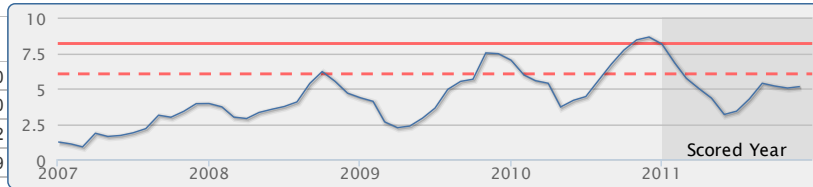
Total nitrogen, total phosphorus, and chlorophyll a levels are monitored carefully by water resource managers and used by regulatory authorities to determine whether a bay meets the water quality standards mandated by the Clean Water Act. The trend graphs for these indicators are shown below, along with 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	12.0	43.0
Mean	5.1	5.0
Low	1.5	0.2
Samples	485	6,039



Data Sources: [Sarasota County](#)

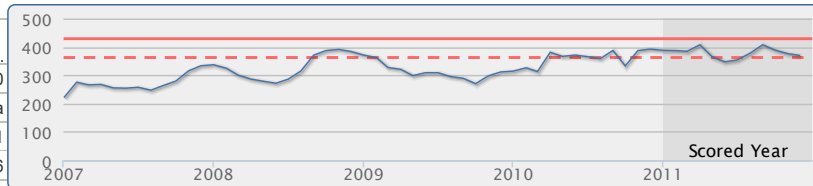
--- Target 6.0 ug/l      — Threshold 8.2 ug/l      Method Detection Limit 0.5 ug/l

**Nitrogen, Total**

Score: Excellent

Five Year Trend Graph

Units: ug/l	Year 2011	Historical period of record
High	670.0	1,189.0
Mean	351.3	n/a
Low	210.0	0.1
Samples	46	656



Data Sources: [Sarasota County](#)

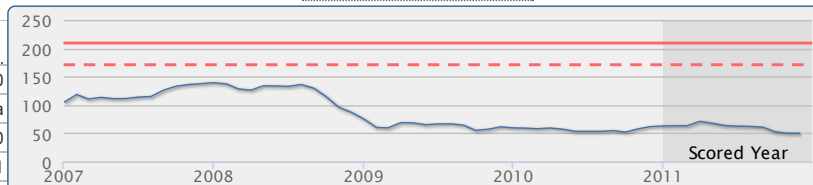
--- Target 360.0 ug/l      — Threshold 430.0 ug/l

**Phosphorus, Total**

Score: Excellent

Five Year Trend Graph

Units: ug/l	Year 2011	Historical period of record
High	140.0	530.0
Mean	55.6	n/a
Low	50.0	50.0
Samples	461	5,981



Data Sources: [Sarasota County](#)

--- Target 170.0 ug/l      — Threshold 210.0 ug/l      Method Detection Limit 0.1 ug/l

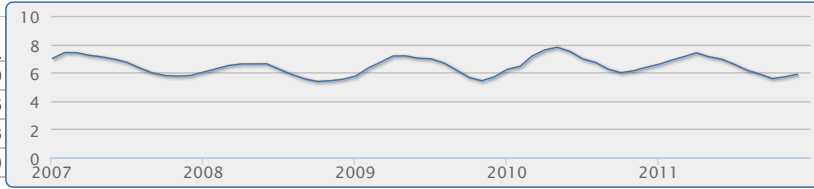
## Other Measures of Bay Health

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	8.9	11.9
Mean	6.4	6.5
Low	4.5	1.6
Samples	48	810



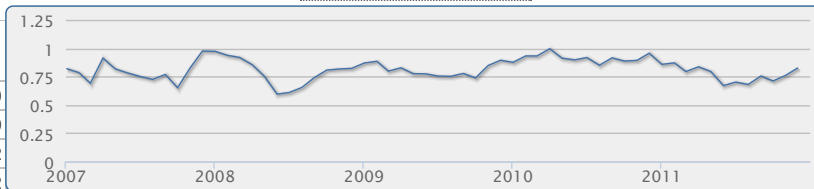
Data Sources: [Sarasota County](#)

Method Detection Limit  
0.2 mg/l

### Light Attenuation

Five Year Trend Graph

Units: K(1/m)	Year 2011	Historical period of record
High	1.6	5.0
Mean	0.7	0.9
Low	0.2	0.2
Samples	48	652



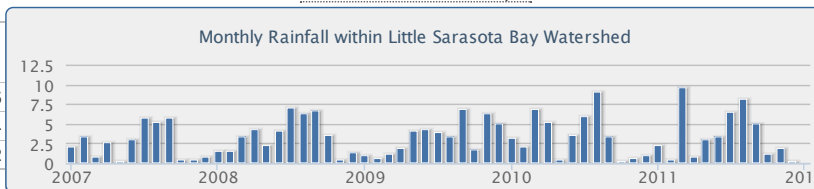
Data Sources: [Sarasota County](#)

Method Detection Limit  
0.1 K(1/m)

### Rainfall

Five Year Trend Graph

Units: inches	Year 2011	Historical period of record
High	42.8	51.5
Mean		28.4
Low		1.2
Samples	363	3,151

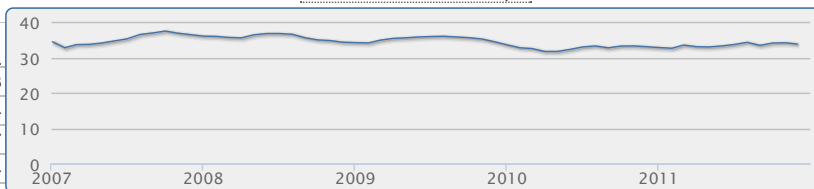


Data Sources: [Sarasota County](#)

### Salinity

Five Year Trend Graph

Units: PSS	Year 2011	Historical period of record
High	36.4	39.3
Mean	33.4	33.4
Low	26.0	5.7
Samples	48	804



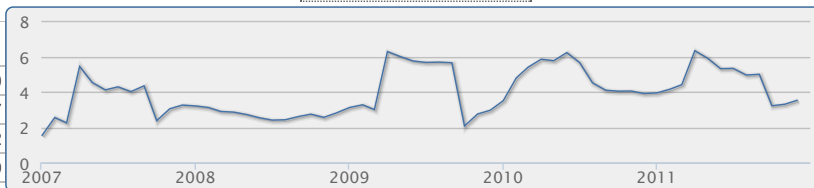
Data Sources: [Sarasota County](#)

Method Detection Limit  
0.1 PSS

### Turbidity

Five Year Trend Graph

Units: NTU	Year 2011	Historical period of record
High	19.0	39.0
Mean	4.3	3.7
Low	1.4	0.2
Samples	485	6,039

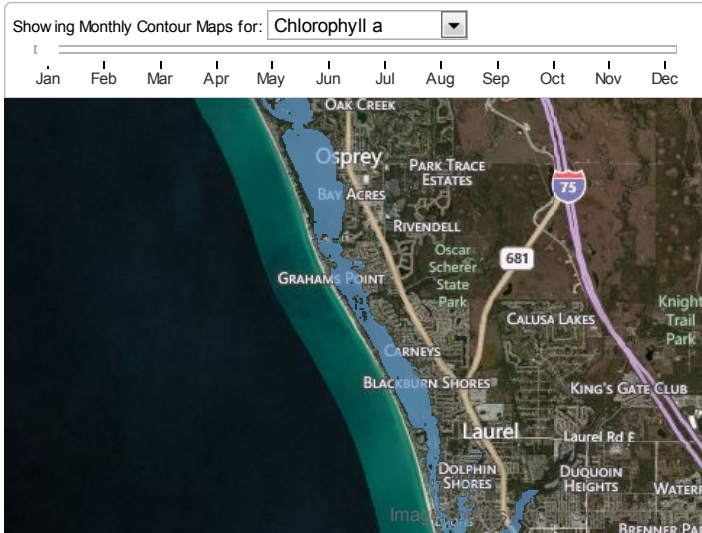


Data Sources: [Sarasota County](#)

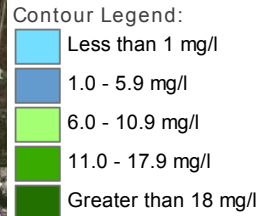
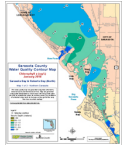
Method Detection Limit  
0.2 NTU

## 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 »](#)

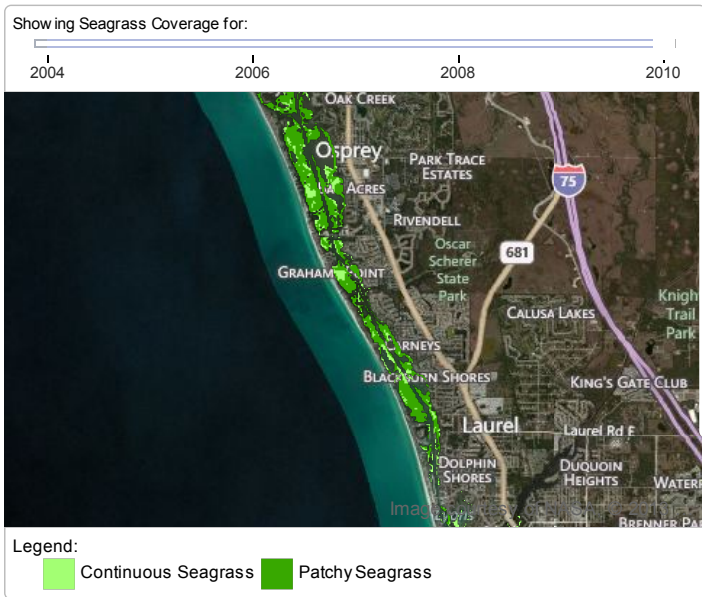


Visit the [Water Quality Contour Mapping Tool](#) to view and compare monthly water quality contour maps for ten different water quality indicators. In addition, you can generate your own custom maps.

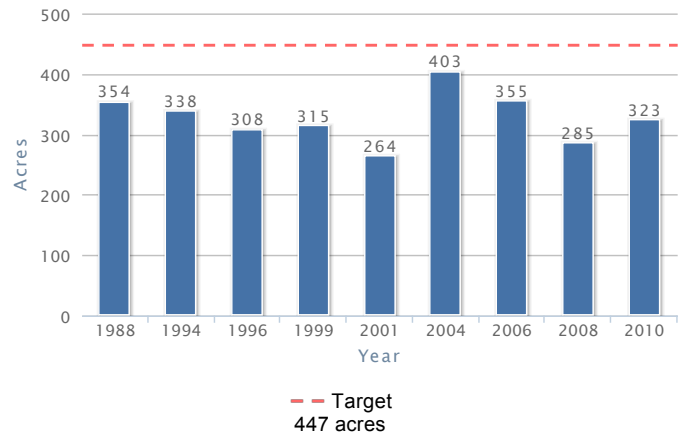


## Seagrasses

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 Blackburn Bay



## Land Use / Land Cover

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

