

## Dona/Roberts Bay Condition Report for 2010

**CAUTION**



1 out of 3 indicators were rated as PASS.

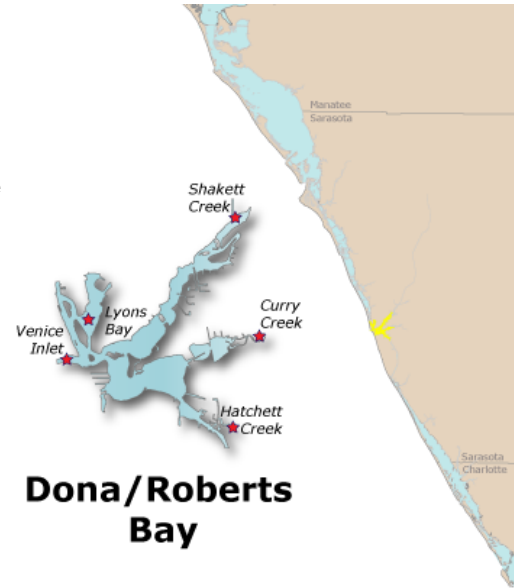
[Learn more about how this report is created](#)

### Summary:

The overall health of Dona/Roberts Bay has remained in fair condition. Two water quality indicators, chlorophyll a and nitrogen, were scored as alert (levels above threshold). However, the biotic indicator, seagrass, has increased in coverage and is now above the target acreage.

**Water quality:** Only one water quality indicator, phosphorus, was rated as pass (below the threshold) and remained in excellent condition. Phosphorus levels have decreased with the average greatly below the target level of 170.0 ug/l. Nitrogen levels and chlorophyll a levels were both scored as alert due to levels exceeding the threshold. Both chlorophyll a and nitrogen levels have remained constant but highly above the threshold value of 4.9 ug/l and 420.0 ug/l, respectively.

**Biotic Indicator:** The biotic indicator, seagrass, is in good condition with a continued increase in acreage since 1988. In 2010 the total acreage of seagrass was 138, a 194% increase since 1988.



## Dona/Roberts Bay

### Water Chemistry Ratings

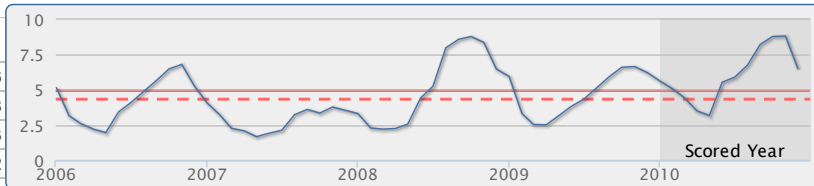
Total nitrogen, total phosphorus, and chlorophyll a levels are monitored carefully by water resource managers and used by regulatory authorities to determine whether a bay meets the water quality standards mandated by the Clean Water Act. The trend graphs for these indicators are shown below, along with 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: Caution

Five Year Trend Graph

Units: ug/l	Year 2010	Historical period of record
High	27.4	42.6
Mean	6.4	4.8
Low	1.1	0.3
Samples	264	1,772



Data Sources: [Sarasota County](#)

--- Target  
4.3 ug/l

— Threshold  
4.9 ug/l

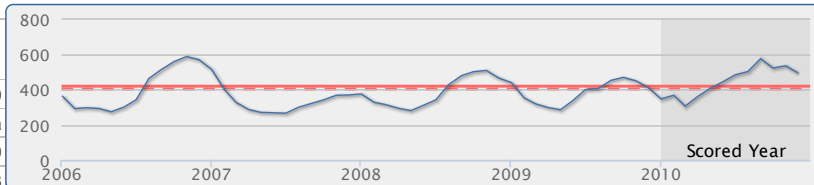
... Method Detection Limit  
0.5 ug/l

### Nitrogen, Total

Score: Caution

Five Year Trend Graph

Units: ug/l	Year 2010	Historical period of record
High	1,134.0	1,543.0
Mean	420.0	n/a
Low	186.0	55.0
Samples	48	368



Data Sources: [Sarasota County](#)

--- Target  
400.0 ug/l

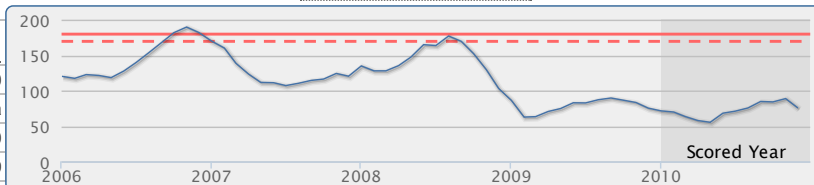
— Threshold  
420.0 ug/l

### Phosphorus, Total

Score: Excellent

Five Year Trend Graph

Units: ug/l	Year 2010	Historical period of record
High	260.0	470.0
Mean	68.1	n/a
Low	50.0	50.0
Samples	256	1,759



Data Sources: [Sarasota County](#)

--- Target  
170.0 ug/l

— Threshold  
180.0 ug/l

... Method Detection Limit  
0.1 ug/l

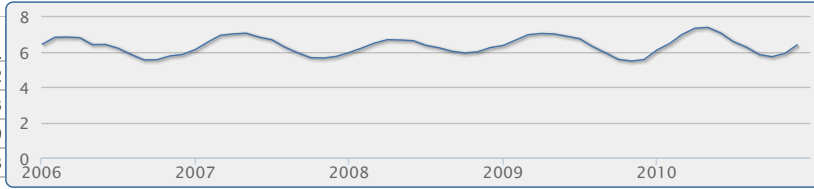
## Other Measures of Bay Health

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 2010	Historical period of record
High	9.2	9.2
Mean	6.7	6.3
Low	4.6	2.9
Samples	48	368



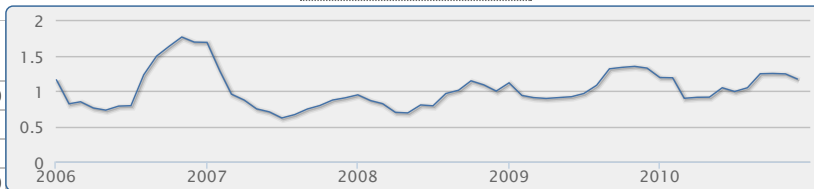
Data Sources: [Sarasota County](#)

Method Detection Limit  
0.2 mg/l

### Light Attenuation

Five Year Trend Graph

Units: K(1/m)	Year 2010	Historical period of record
High	2.7	9.0
Mean	1.1	1.1
Low	0.2	0.1
Samples	48	360



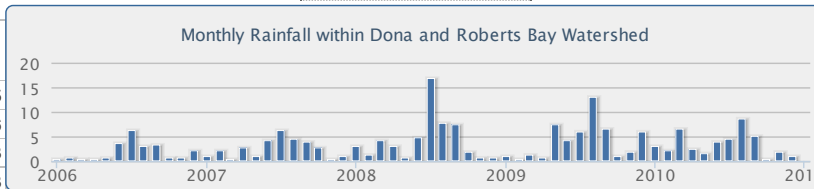
Data Sources: [Sarasota County](#)

Method Detection Limit  
0.1 K(1/m)

### Rainfall

Five Year Trend Graph

Units: inches	Year 2010	Historical period of record
High	41.2	52.5
Mean		33.6
Low		1.3
Samples	365	3,173

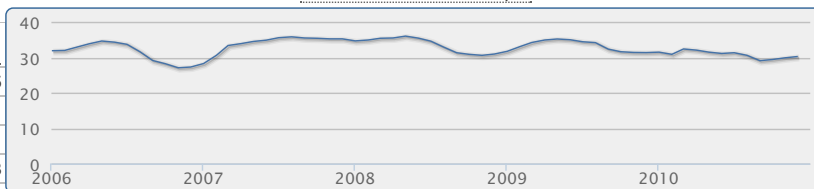


Data Sources: [Sarasota County](#)

### Salinity

Five Year Trend Graph

Units: PSS	Year 2010	Historical period of record
High	35.3	38.5
Mean	30.6	31.1
Low	9.3	0.1
Samples	48	368



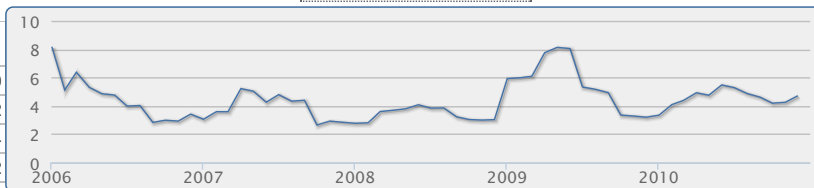
Data Sources: [Sarasota County](#)

Method Detection Limit  
0.1 PSS

### Turbidity

Five Year Trend Graph

Units: NTU	Year 2010	Historical period of record
High	12.0	23.0
Mean	4.9	4.2
Low	1.4	0.4
Samples	264	1,772

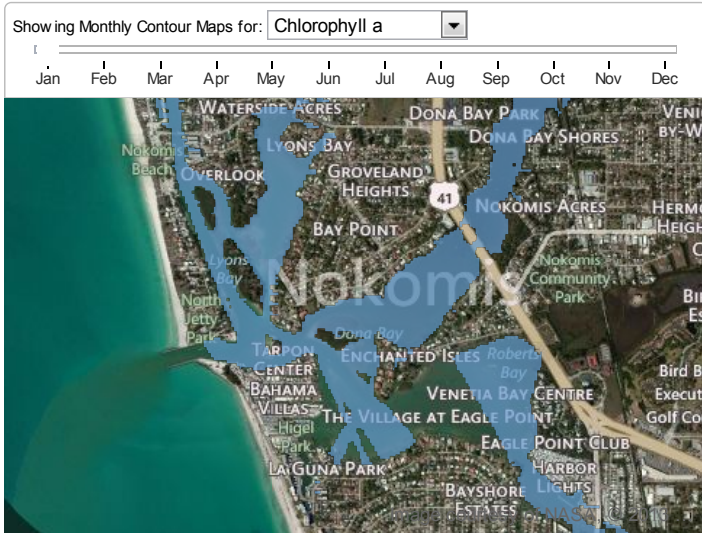


Data Sources: [Sarasota County](#)

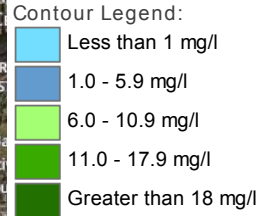
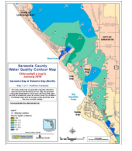
Method Detection Limit  
0.2 NTU

## 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 »](#)

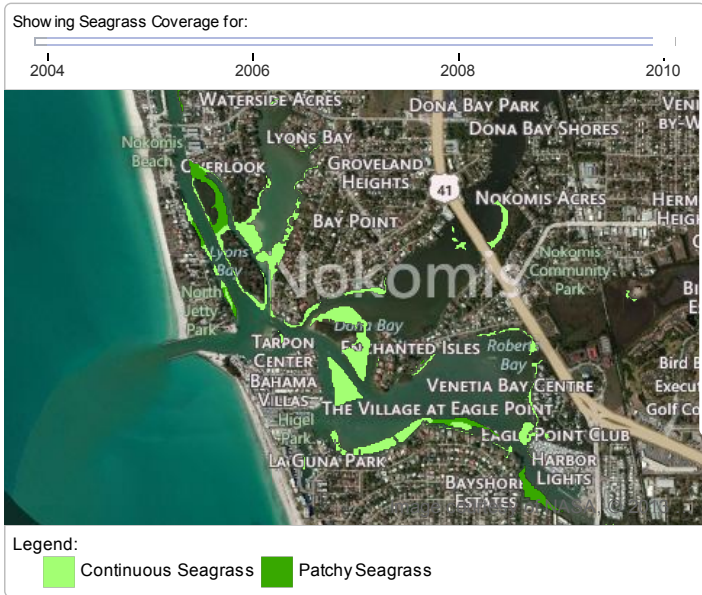


Visit the [Water Quality Contour Mapping Tool](#) to view and compare monthly water quality contour maps for ten different water quality indicators. In addition, you can generate your own custom maps.

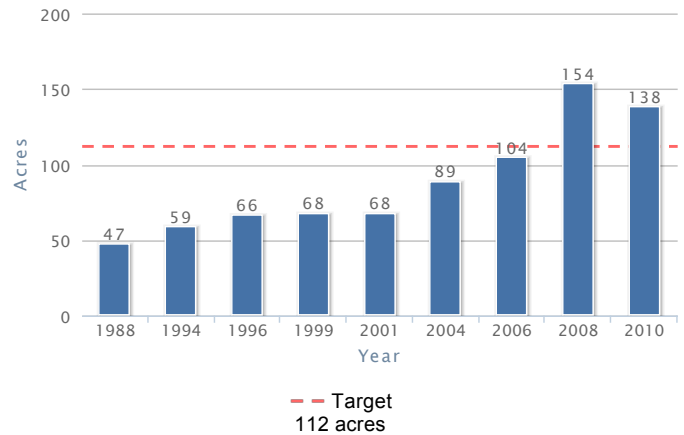


## Seagrasses

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 Dona/Roberts Bay



## Land Use / Land Cover

Dona/Roberts Bay is located within the Dona and Roberts Bay Watershed. [View details about the Dona and Roberts 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 »](#)

