

The Bay Conditions pages serve as a kind of annual report card on coastal water quality. Selected water quality measures are summarized, graphed, and compared to benchmarks in order to show current status and historical trends, with nutrient pollution the primary focus. You can find the Bay Conditions pages at www.sarasota.wateratlas.usf.edu/bay-conditions/

Learn About Bay Geography

- Explore 7 bay systems, 3 extending beyond Sarasota County: Northern Sarasota Bay and Palma Sola Bay are in Manatee County, while southern Lemon Bay is in Charlotte County.
- A map on each bay's page like the one below shows the location of the bay in relation to nearby inlets and creeks.

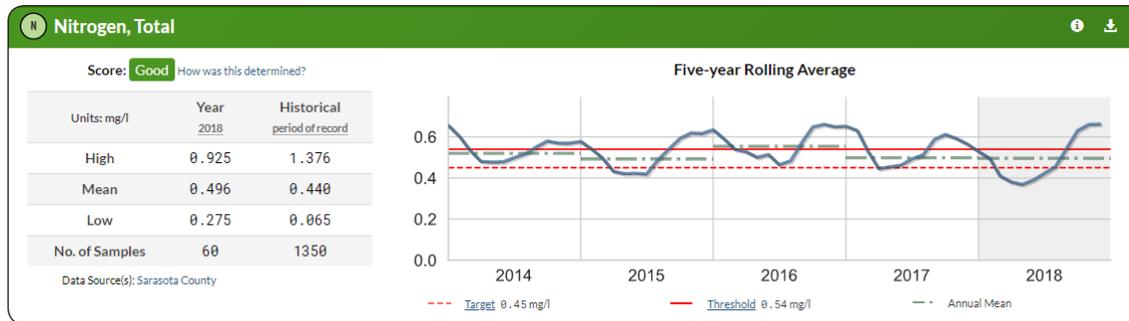


- Palma Sola Bay
- Sarasota Bay
- Roberts Bay
- Little Sarasota Bay
- Blackburn Bay
- Dona/Roberts Bay
- Lemon Bay

- Chl-a Chlorophyll a
- N Nitrogen, Total
- P Phosphorus, Total

View Water Quality Ratings

- A bay's water quality is rated "Pass" or "Caution", depending on levels of the nutrients nitrogen and phosphorus, and of chlorophyll *a*, an indicator of algae abundance. The annual average concentration of all three of these water quality measures must be below specified "threshold levels" in order for the bay to earn a "Pass" rating.
- Each of the three measures is also compared to a "target level" established for it. Concentrations below these targets are predicted to produce good water clarity necessary for healthy seagrass habitat.
- Each water quality measure gets a rating of "Excellent", "Good", or "Caution", depending on whether its average annual concentration is below the target level, between the target and threshold levels, or above the threshold level, respectively.

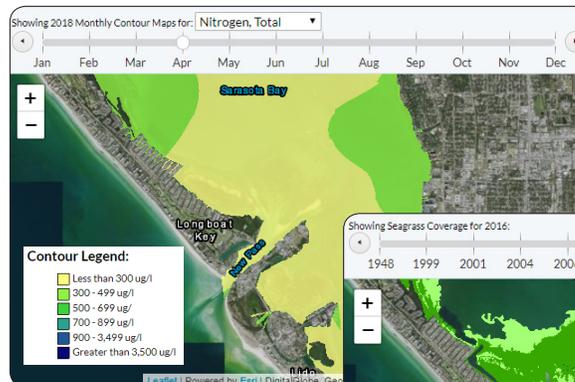


Explore Water Quality Changes

- View graphs to how water quality differs month-to-month and year-to-year.
- Compare recent values to historic highs, lows, and means.
- Download annual reports, individual graphs, or raw data.

Visualize Water Quality Data

- Use the interactive **Bay Contour Maps** on each page to see how water quality varied in space and time throughout the year.
- Seagrass is a primary biological indicator of water quality in our bays. The interactive **Seagrass Viewer** lets you see how the size and location of seagrass beds have changed through the years.



← Bay Contour Map

↓ Seagrass Viewer

What We Do on Land Affects Water Quality

- In urban communities, more paved areas mean more stormwater runoff. The **Impervious Features** section shows the degree to which a bay's watershed is covered with roads, buildings, sidewalks, parking lots, etc.
- The **Land Use/Land Cover** section shows the ways the land in a bay's watershed is being used, and how those uses have changed over time.

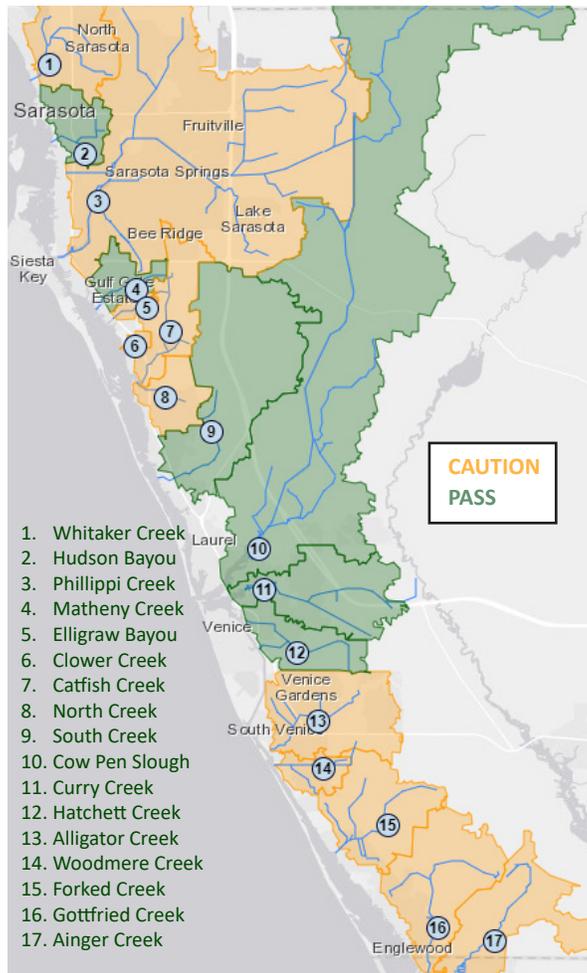


Sarasota's coastal creeks flow through neighborhoods and down to its bays. They act as conduits for surface water, carrying rainfall downstream and depositing it in estuaries, along with nutrients, pollutants and organic matter.

You can find the Creek Conditions pages at www.sarasota.wateratlas.usf.edu/creek-conditions/

Creek Locations & Water Quality Summary

- Seventeen coastal creeks have annual water quality profiles in the Creek Conditions section of the Atlas.
- The Creek Conditions home page summarizes water quality for each creek and has a map which shows its watershed and location:



Other Water Quality Measures:

- Water Temperature – Varies with season
- Salinity – Varies with rainfall, location (upstream/downstream) and tide stage
- Light Attenuation – Indicator of water clarity
- Turbidity – Measures suspended particles in water
- *E. coli* – Bacteria often associated with the presence of human or animal waste
- Ammonia – A form of nitrogen toxic to marine life
- pH – Measures water's acidity/alkalinity
- Conductivity – Measures ion concentration/salinity
- Biochemical Oxygen Demand – Indicates the amount of organic matter present

CAUTION

3 out of 4 indicators were rated as **PASS**.

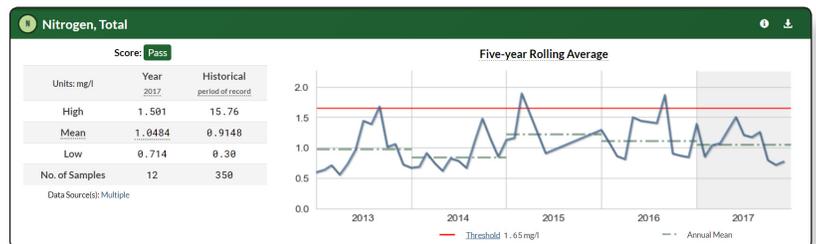
All four indicators must pass for the creek to be rated as **PASS**.

Chl-a **N** **P** **DO**

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

How Water Quality Ratings Are Assigned

- Four water quality measures are used to rate each creek, each on a pass/fail basis: Chlorophyll *a* (Chl *a*), total nitrogen (TN), total phosphorus (TP), and dissolved oxygen (DO)
- All four measures in both freshwater and tidal segments must earn "Pass" ratings in order for the creek as a whole to receive that rating.
- Different criteria are used for freshwater and tidal segments.
- Freshwater: To pass, levels of all four scored water quality measures must not exceed established thresholds.
- Tidal: To pass, Chl *a* and DO levels must not exceed thresholds, and a trend analysis of TN and TP concentrations must not show an increasing trend for either.



How is Water Quality Changing Over Time?

- Each creek has an annual water quality summary that is divided into freshwater (upstream) and tidal (marine/downstream) segments with summaries of water quality for each segment.
- The trend graphs for all water quality measures except rainfall plot the geometric mean of all samples collected during each month, a mean which is less sensitive to "outlier" values.
- Bar graphs are used for rainfall. They show monthly cumulative rainfall which is an average of the data from all rainfall sensors in the major watershed of the creek.

OYSTERS: WATER QUALITY SENTINELS

Examining the chemical composition of water is one way to judge whether it is polluted. Another is to examine the health and abundance of the aquatic life that lives in it. Eastern Oysters prefer shallow, brackish (slightly salty) water with good clarity and water quality. Sarasota County has established a monitoring program to track their populations as a biological indicator. The number of oysters present and the percentage of live oysters is reported on the Creek Conditions pages along with water chemistry.

