

## North Creek Condition Report for 2014

### CAUTION



2 out of 4 indicators were rated as PASS.

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

**Size:** 2,327 acres

**Location:** Central Sarasota County

**Discharges into:** Little Sarasota Bay

The surface water system in the North Creek Basin has undergone significant alteration over the past century. The 1847 General Land Office Survey shows North Creek extending from Little Sarasota Bay, east across the approximately 2½-mile-wide basin to what appears to be a pond. The 1959 USDA NRCS Soil Survey shows two north-south ditches leading to North Creek. The ditch to the south leads to an area in the west that appears to be a development. With the exception of the western boundary, U.S. 41, and some ditches, the basin was still fairly undeveloped by the 1970s. By 2000, roughly half of the basin was developed and about 1,930 people resided in the developed areas (U.S. Census Bureau, 2000). Today, about 75% of the basin is developed and laden with ditches and stormwater infrastructure, with half of the development residential. *For basin details see: [Little Sarasota Bay Water Quality Management Plan \(2012\)](#)*



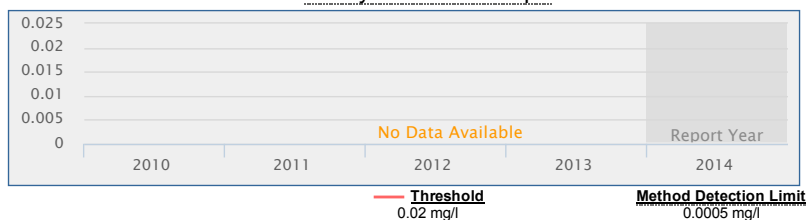
### Water Chemistry Ratings - Freshwater Portion of the Creek

Total nitrogen, total phosphorus, chlorophyll a, and dissolved oxygen levels are monitored carefully by water resource managers and used by regulatory authorities to determine whether a creek meets the water quality standards mandated by the Clean Water Act. Shown below are water quality data for each freshwater stream segment. Florida law defines a threshold for the maximum allowable concentration of nitrogen, phosphorus, and chlorophyll a, and the minimum required concentration of dissolved oxygen in these streams.

#### Chlorophyll a

Units: mg/l	Year 2014	Historical period of record
High		
Mean		n/a
Low		
No. of Samples		

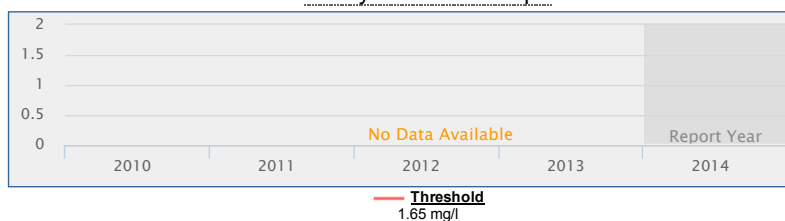
#### Five-year Trend Graph



#### Nitrogen, Total

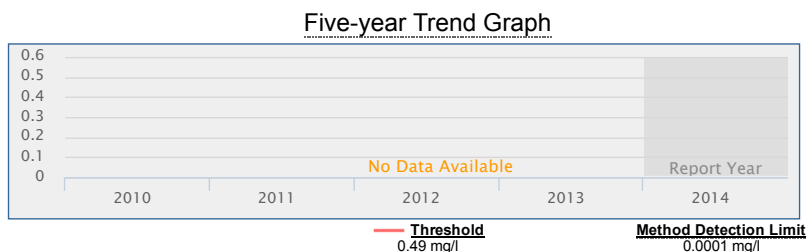
Units: mg/l	Year 2014	Historical period of record
High		
Mean		n/a
Low		
No. of Samples		

#### Five-year Trend Graph



## Phosphorus, Total

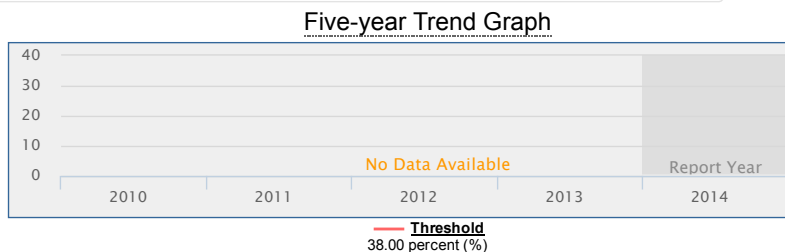
Units: mg/l	Year 2014	Historical period of record
High		
Mean		n/a
Low		
No. of Samples		



## Dissolved Oxygen Saturation

Note: Low DO saturation also may be naturally influenced by inflows from nearby wetlands or groundwater sources.

Units: percent (%)	Year 2014	Historical period of record
High		
Mean		n/a
Low		
No. of Samples		



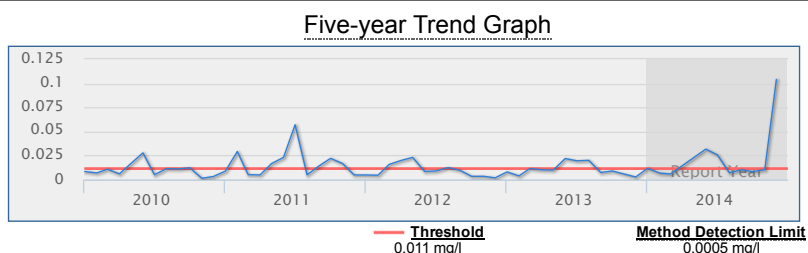
## Water Chemistry Ratings - Tidal Portion of the Creek

As is the case for predominantly freshwater streams, total nitrogen, total phosphorus, and chlorophyll *a* levels are monitored carefully by water resource managers and used by regulatory authorities to determine whether a tidally-influenced stream meets the water quality standards mandated by the Clean Water Act. Shown below are water quality data for each saltwater water body within this basin. Florida law defines a threshold for the maximum allowable concentration of chlorophyll *a* and the minimum required concentration of dissolved oxygen in these streams. No thresholds have been established for the allowable concentration of nitrogen or phosphorus; trend information is provided for these nutrients, to determine whether a statistically significant trend exists and if so, whether levels are rising (bad) or falling (good).

## Chlorophyll *a*

Score: **Caution**

Units: mg/l	Year 2014	Historical period of record
High	0.1	0.1
Mean	0.0137	n/a
Low	0.0057	0.0009
No. of Samples	10	131



## Nitrogen, Total

Score: **Pass**

Units: mg/l	Year 2014	Historical period of record
High	2.2	2.3
Mean	1.5505	n/a
Low	1.111	0.16
No. of Samples	10	162

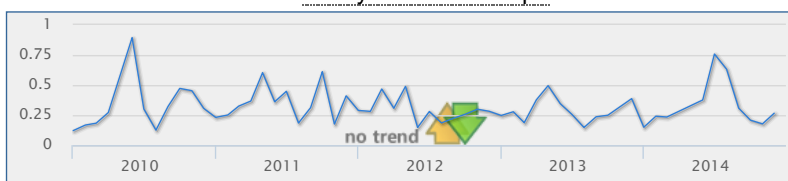


## Phosphorus, Total

Score: **Pass**

Units: mg/l	Year 2014	Historical period of record
<b>High</b>	0.8	0.9
<b>Mean</b>	0.2924	n/a
<b>Low</b>	0.149	0.08
<b>No. of Samples</b>	10	175

### Five-year Trend Graph



Method Detection Limit  
0.0001 mg/l

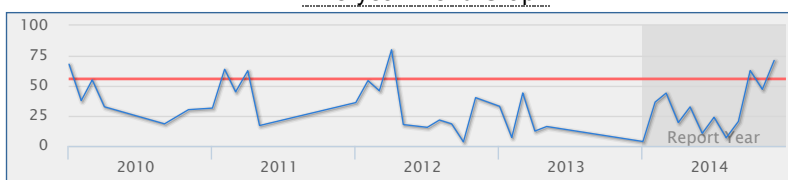
## Dissolved Oxygen Saturation

Note: Low DO saturation also may be naturally influenced by inflows from nearby wetlands or groundwater sources

Score: **Caution**

Units: percent (%)	Year 2014	Historical period of record
<b>High</b>	71.0	157.4
<b>Mean</b>	23.29	n/a
<b>Low</b>	3.60	1.50
<b>No. of Samples</b>	12	239

### Five-year Trend Graph



Threshold  
56.00 percent (%)

## Impervious Features

Rain that falls on land that is in a natural state is absorbed and filtered by soils and vegetation as it makes its way into underground aquifers. However, in developed areas, "impervious surfaces" impede this process and contribute to polluted urban runoff entering surface waters. These surfaces include human infrastructure like roads, sidewalks, driveways and parking lots that are covered by impenetrable materials such as asphalt, concrete, brick and stone, as well as buildings and other permanent structures. Soils that have been disturbed and compacted by urban development are often impervious as well.



14% of the land area within the **North Creek Basin** is covered by impervious surfaces.

## Land Use / Land Cover

Land use within a creek'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 (e.g. upland or wetland), 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.

### 2011 Land Use / Land Cover within North Creek Basin

