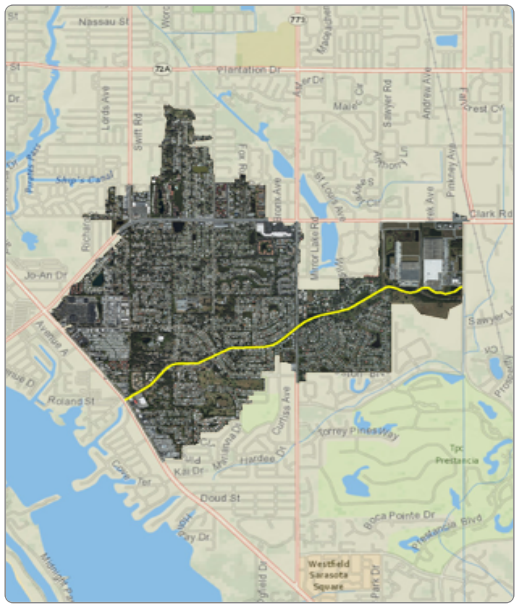
Matheny Creek Condition Report for 2014

PASS

Chl-a N P DO

4 out of 4 indicators were rated as PASS.

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



Size: 1,724 acres
Location: Central Sarasota County
Discharges into: Little Sarasota Bay

Drainage from the Matheny Creek Basin is provided by two major man-made canals referenced herein as the Matheny Creek Main, which extends easterly from U.S. 41 to the headwaters of the basin and the Denham Acres Lateral which extends north from U.S. Highway 41 to Clark Road. Two water level control structures (MC-1 and MC-2) are located in the Matheny Creek Main and one water level control structure (DL-1) is located in the Denham Acres Lateral. A network of other laterals, branches and feeder ditches in the basin conduct stormwater into these two primary drainage systems. These other man-made ditches are the Breakwater Lateral, the Coral Lakes Branch, the Gulf Gate Branch, the Williamsburg Branch and the Shadow Lakes Feeder. *For basin details see:* ***Matheny Creek Basin Master Plan (1994)***

Water Chemistry Ratings - Freshwater Portion of the Creek

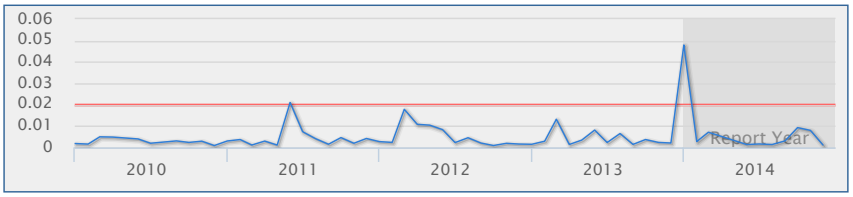
Total nitrogen, total phosphorus, chlorophyll *a*, and dissolved oxygen levels are monitored carefully by water resource managers and used by regulatory authorities to determine whether a creek meets the water quality standards mandated by the Clean Water Act. Shown below are water quality data for each 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

Score: Pass

Units: mg/l	Year 2014	Historical period of record
High	0.0479	0.10
Mean	0.0038	n/a
Low	0.0011	0.0008
No. of Samples	10	157

Five-year Trend Graph



Threshold 0.02 mg/l

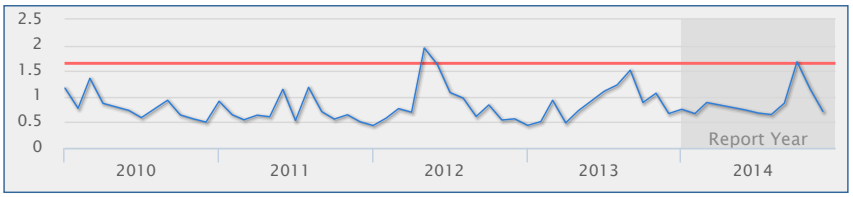
Method Detection Limit 0.0005 mg/l

Nitrogen, Total

Score: Pass

Units: mg/l	Year 2014	Historical period of record
High	1.678	2.99
Mean	0.8387	n/a
Low	0.649	0.237
No. of Samples	10	136

Five-year Trend Graph



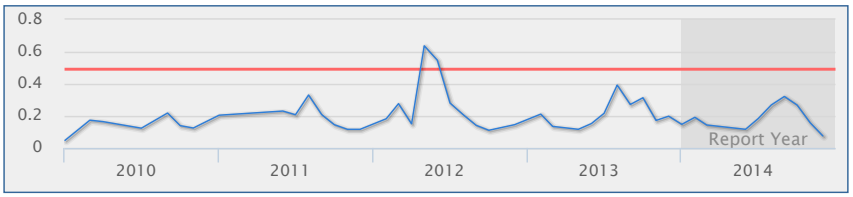
Threshold 1.65 mg/l

Phosphorus, Total

Score: Pass

Units: mg/l	Year 2014	Historical period of record
High	0.321	1.60
Mean	0.1724	n/a
Low	0.075	0.047
No. of Samples	10	119

Five-year Trend Graph



Threshold
0.49 mg/l

Method Detection Limit
0.0001 mg/l

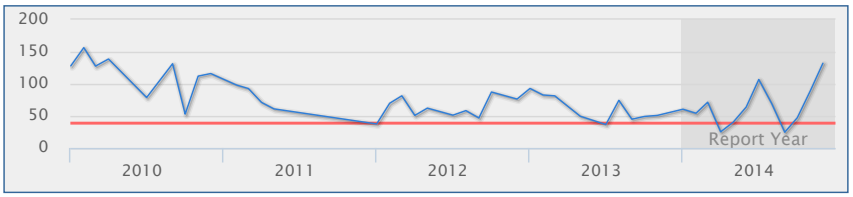
Dissolved Oxygen Saturation

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

Score: Pass

Units: percent (%)	Year 2014	Historical period of record
High	132.10	213.70
Mean	58.17	n/a
Low	24.50	6.60
No. of Samples	12	135

Five-year Trend Graph



Threshold
38.00 percent (%)

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).

Water quality data are not available for the tidal portion of this creek.

Impervious Features

Rain that falls on land that is in a natural state is absorbed and filtered by soils and vegetation as it makes it 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.

35% of the land area within the **Matheny 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 Matheny Creek Basin