



# Matheny Creek Condition Report for 2018

✓

## 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**.

## Matheny Creek



**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

Creek Conditions Ratings are based on comparing nitrogen, phosphorus, chlorophyll and dissolved oxygen to water quality guidelines or regulations. Florida law defines a maximum allowable concentration of nitrogen, phosphorus, and chlorophyll *a*, and a minimum allowable concentration of dissolved oxygen in these streams.

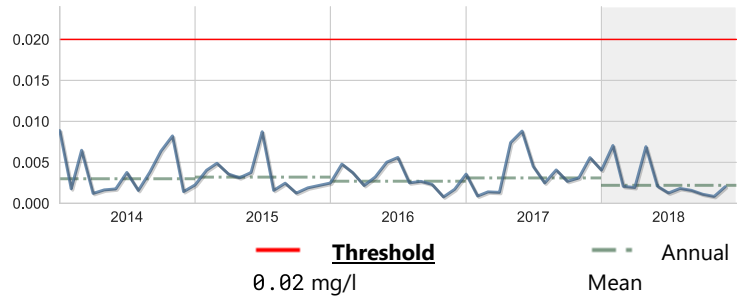


## Chlorophyll a

Score: Pass

Units: mg/l	Year 2018	Historical period of record
<b>High</b>	0.0262	0.10
<b>Mean</b>	0.0022	0.003
<b>Low</b>	0.0005	0.0005
<b>No. of Samples</b>	24	641

### Five-year Rolling Average

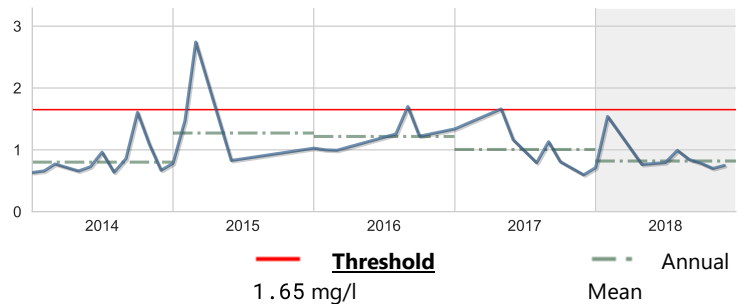


## Nitrogen, Total

Score: Pass

Units: mg/l	Year 2018	Historical period of record
<b>High</b>	1.541	3.001
<b>Mean</b>	0.8192	0.7795
<b>Low</b>	0.644	0.211
<b>No. of Samples</b>	17	295

### Five-year Rolling Average



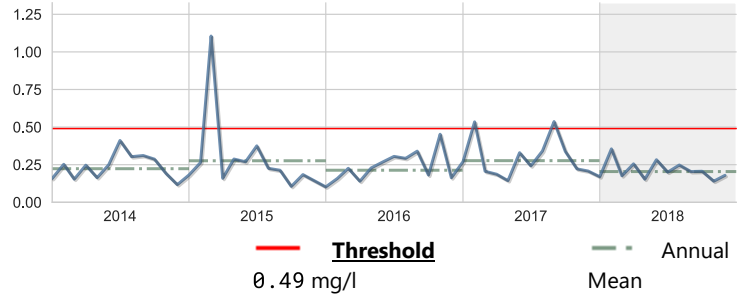


## Phosphorus, Total

Score: Pass

Units: mg/l	Year 2018	Historical period of record
<b>High</b>	0.454	1.78
<b>Mean</b>	0.2042	0.2162
<b>Low</b>	0.094	0.041
<b>No. of Samples</b>	23	619

### Five-year Rolling Average



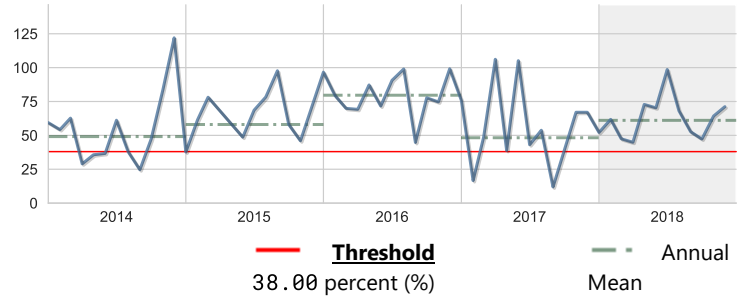
## Dissolved Oxygen Saturation

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

Score: Pass

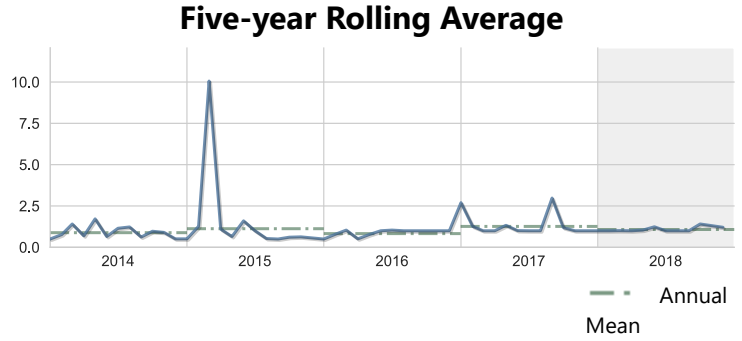
Units: percent (%)	Year 2018	Historical period of record
<b>High</b>	148.30	213.70
<b>Mean</b>	61.09	64.63
<b>Low</b>	30.80	2.70
<b>No. of Samples</b>	24	635

### Five-year Rolling Average



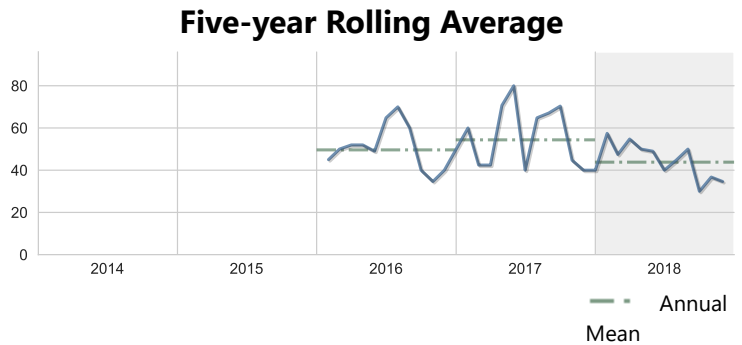
## BOD, Biochemical oxygen demand

Units: mg/l	Year 2018	Historical period of record
<b>High</b>	1.99	10.30
<b>Mean</b>	1.08	0.92
<b>Low</b>	1.00	0.50
<b>No. of Samples</b>	22	581



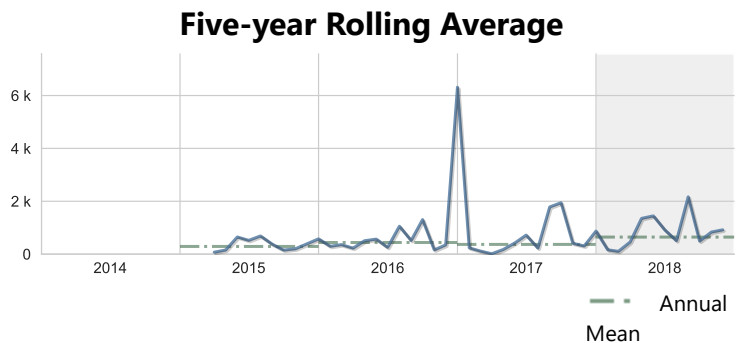
## Color

Units: PCU	Year 2018	Historical period of record
<b>High</b>	60.00	100.00
<b>Mean</b>	43.81	49.06
<b>Low</b>	30.00	30.00
<b>No. of Samples</b>	24	70



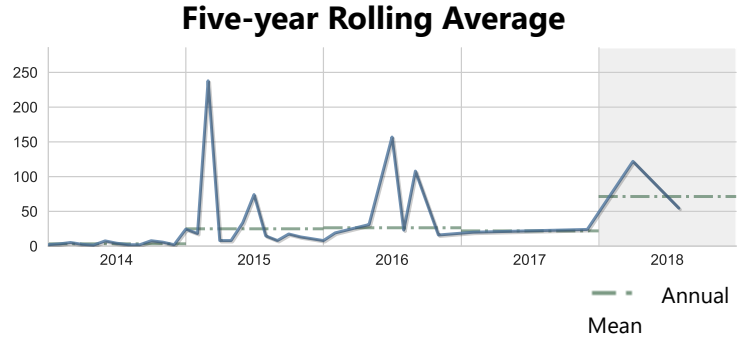
## Escherichia coli

Units: cfu/100ml	Year 2018	Historical period of record
<b>High</b>	2909.00	8164.00
<b>Mean</b>	645.0	412.65
<b>Low</b>	63.00	10.00
<b>No. of Samples</b>	24	101



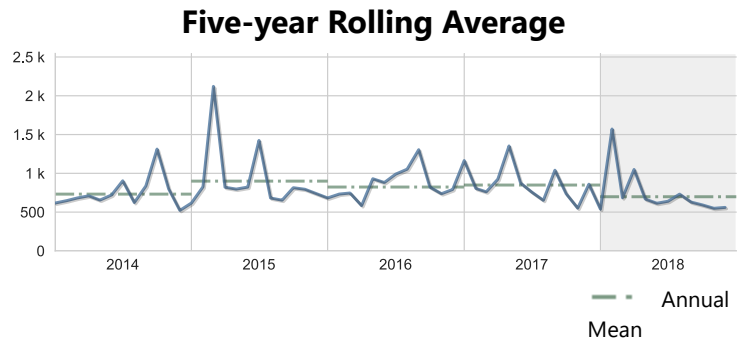
## Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2018	Historical period of record
<b>High</b>	149.00	988.00
<b>Mean</b>	71.37	18.63
<b>Low</b>	20.00	0.008
<b>No. of Samples</b>	3	586



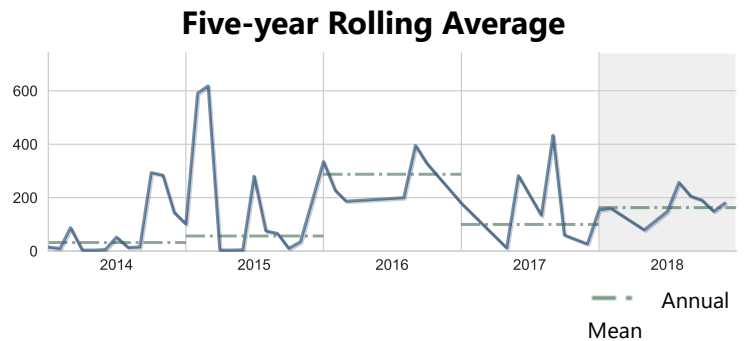
## Nitrogen, Kjeldahl

Units: ug/l	Year 2018	Historical period of record
<b>High</b>	1790.00	2700.00
<b>Mean</b>	698.13	688.95
<b>Low</b>	431.00	207.00
<b>No. of Samples</b>	24	622



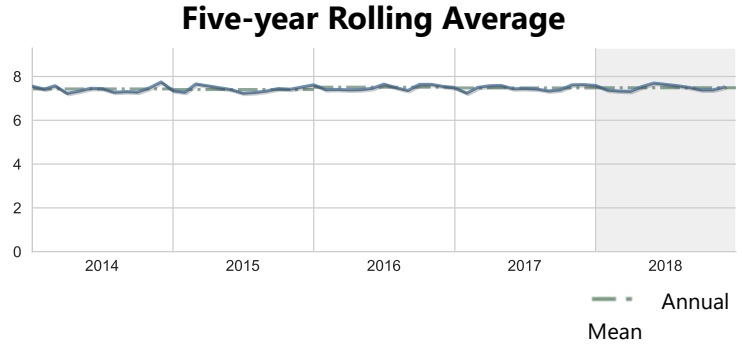
## Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2018	Historical period of record
<b>High</b>	270.00	947.00
<b>Mean</b>	162.85	41.23
<b>Low</b>	39.00	4.00
<b>No. of Samples</b>	17	577



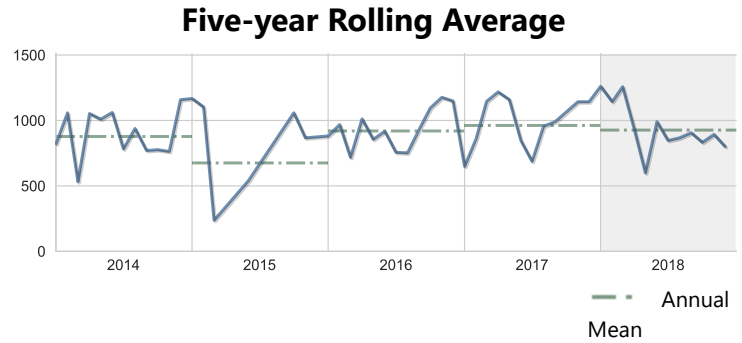
## pH

Units: None	Year 2018	Historical period of record
<b>High</b>	7.90	8.82
<b>Mean</b>	7.49	7.5
<b>Low</b>	7.00	6.46
<b>No. of Samples</b>	46	587



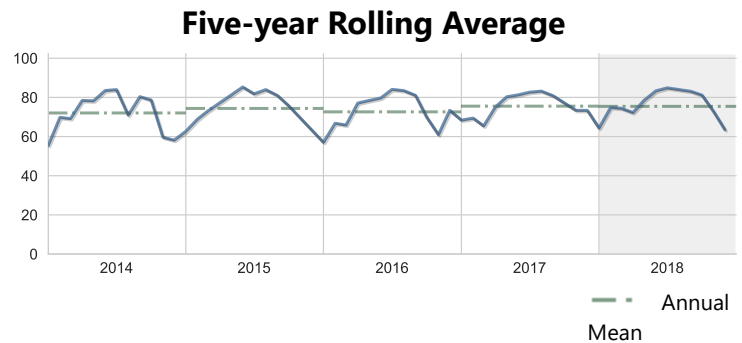
## Specific conductance

Units: umho	Year 2018	Historical period of record
<b>High</b>	1396.80	19300.00
<b>Mean</b>	926.58	790.81
<b>Low</b>	541.30	0.667
<b>No. of Samples</b>	24	529



## Temperature, water

Units: deg F	Year 2018	Historical period of record
<b>High</b>	85.19	86.936
<b>Mean</b>	75.42	72.94
<b>Low</b>	63.032	36.05
<b>No. of Samples</b>	22	432



## Water Chemistry Ratings | Tidal Portion of the Creek

Creek Conditions Ratings are based on comparing nitrogen, phosphorus, chlorophyll and dissolved oxygen to water quality guidelines or regulations. Florida law defines a maximum allowable concentration of chlorophyll *a* and a minimum allowable concentration of dissolved oxygen in these streams. Florida has no regulatory thresholds for nitrogen or phosphorus in tidal creeks so trends are used to rate the creeks.

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 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.

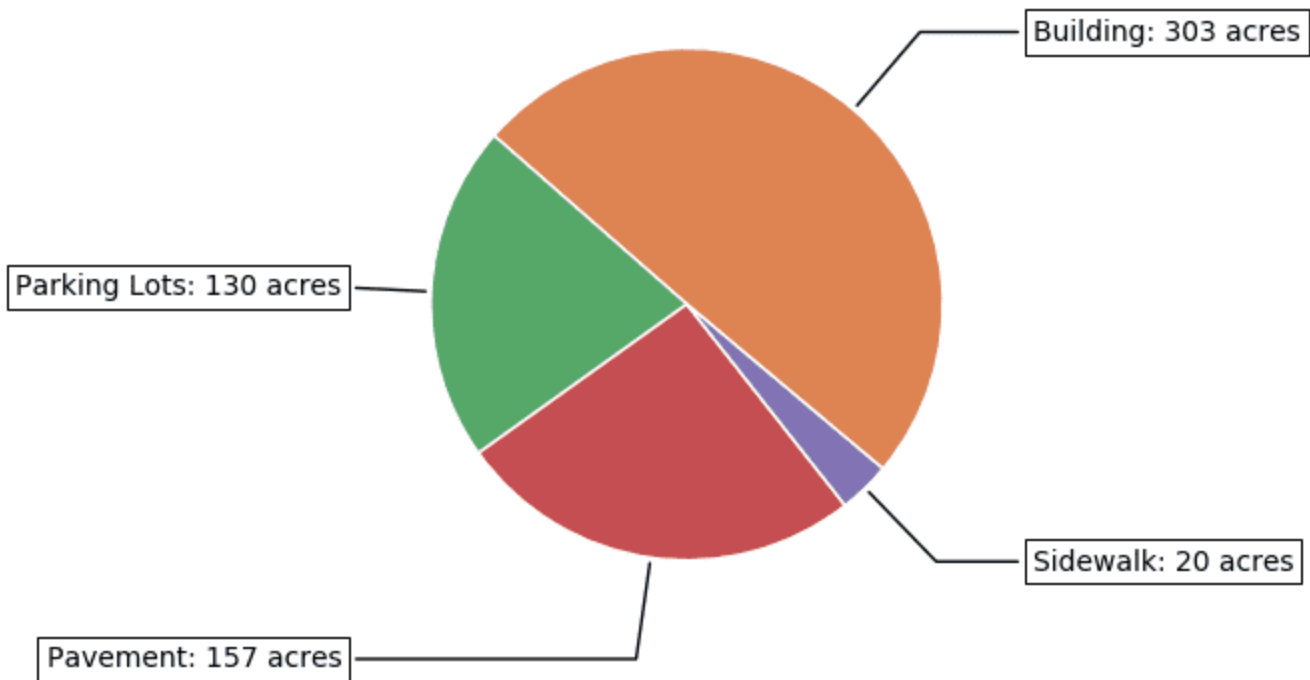


**35%** of the land area within the **Matheny Creek Basin** is covered by impervious

surfaces

## 2014 Impervious Surface Coverage by Type

in acres, within the Matheny Creek Basin



### 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.

#### **Acreage and Percentage within each Land Use / Land Cover Category for Matheny Creek Basin**



2018 Creek Conditions Report for Matheny Creek

Land Use Classification	1990	1995	1999	2005	2011	2014	2017	Trend
<b>Urban &amp; Built-up</b>	1,566 90.9%	1,569 91.1%	1,555 90.2%	1,587 92%	1,588 92.1%	1,573 91.2%	1,594 92.5%	
<b>Agriculture</b>	0 0%	0 0%	0 0%	0 0%	0 0%	19 1.1%	0 0%	
<b>Rangeland</b>	57 3.3%	34 2%	34 2%	15 0.9%	15 0.9%	11 0.6%	9 0.5%	
<b>Upland Forests</b>	15 0.9%	18 1.1%	24 1.4%	3 0.2%	3 0.2%	3 0.2%	3 0.2%	
<b>Water</b>	36 2.1%	53 3.1%	61 3.5%	56 3.3%	55 3.2%	55 3.2%	57 3.3%	
<b>Wetlands</b>	16 0.9%	13 0.8%	10 0.6%	14 0.8%	14 0.8%	14 0.8%	14 0.8%	
<b>Transportation and Utilities</b>	33 1.9%	36 2.1%	40 2.3%	49 2.9%	49 2.9%	49 2.9%	46 2.7%	

2017 Land Use / Land Cover for Matheny Creek Basin  
as a percentage of land area for this basin

