

Whitaker Bayou Condition Report for 2023

✓

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**.

Whitaker Bayou



Size: 4,967 acres
Location: North Sarasota County, south Manatee County
Discharges into: Sarasota Bay

For more information, please see: [**Sarasota Bay Water Quality Management Plan \(2012\)**](#)

[**View county-wide water quality trends »**](#)

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.

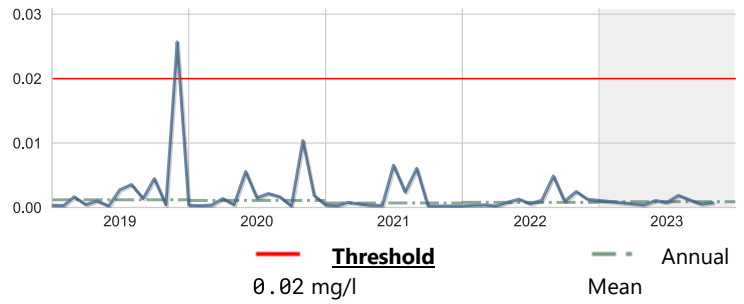


Chlorophyll a

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	0.0019	0.0595
Mean	0.0009	0.0013
Low	0.0004	0.00
No. of Samples	7	500

Five-year Rolling Average

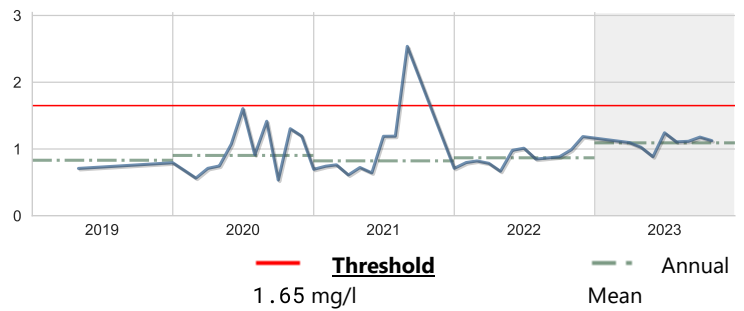


Nitrogen, Total

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	1.243	15.76
Mean	1.0919	0.8836
Low	0.884	0.0019
No. of Samples	8	444

Five-year Rolling Average



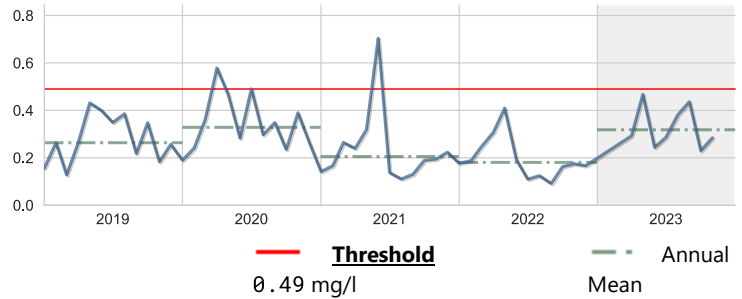


Phosphorus, Total

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	0.468	2.38
Mean	0.3181	0.2822
Low	0.23	0.082
No. of Samples	8	457

Five-year Rolling Average



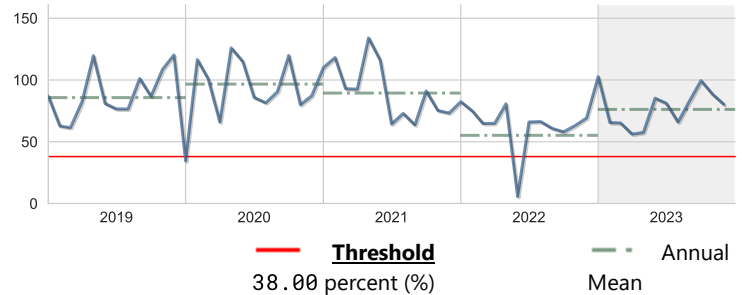
Dissolved Oxygen Saturation

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

Score: Pass

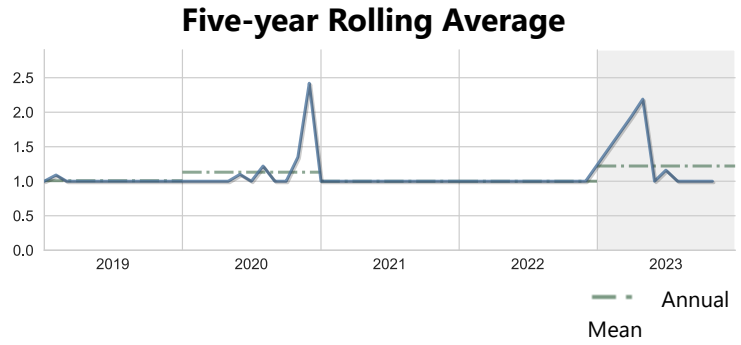
Units: percent (%)	Year 2023	Historical period of record
High	102.73	262.30
Mean	76.17	69.4
Low	56.1551	2.20
No. of Samples	12	506

Five-year Rolling Average



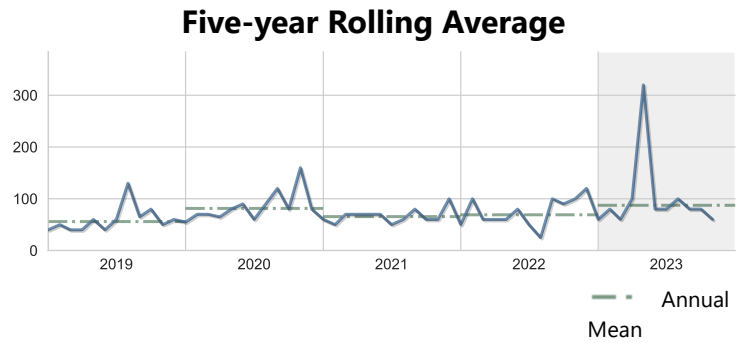
BOD, Biochemical oxygen demand

Units: mg/l	Year 2023	Historical period of record
High	2.19	175.00
Mean	1.22	0.97
Low	1.00	0.50
No. of Samples	8	389



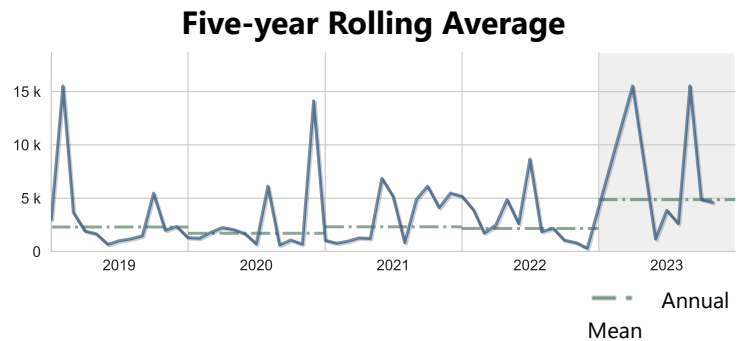
Color

Units: PCU	Year 2023	Historical period of record
High	320.00	330.00
Mean	87.37	68.07
Low	60.00	20.00
No. of Samples	11	574



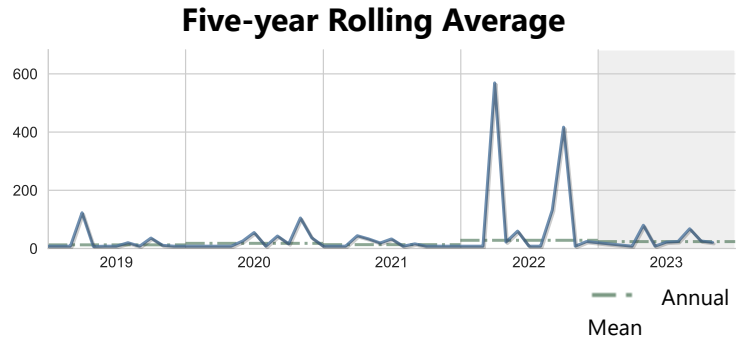
Escherichia coli

Units: cfu/100ml	Year 2023	Historical period of record
High	15531.00	15531.00
Mean	4862.43	2778.68
Low	1169.00	97.00
No. of Samples	7	146



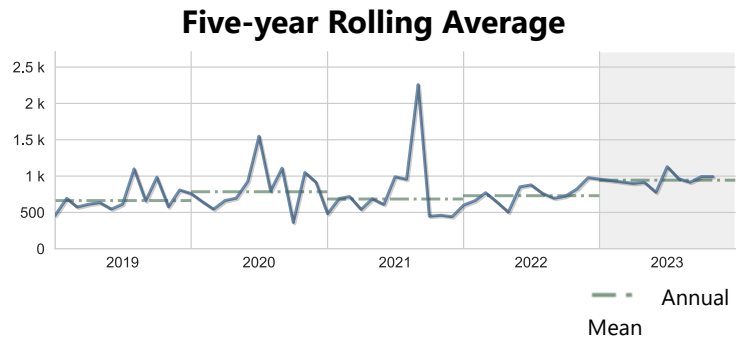
Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2023	Historical period of record
High	80.00	30060.00
Mean	23.72	15.67
Low	8.00	0.008
No. of Samples	8	534



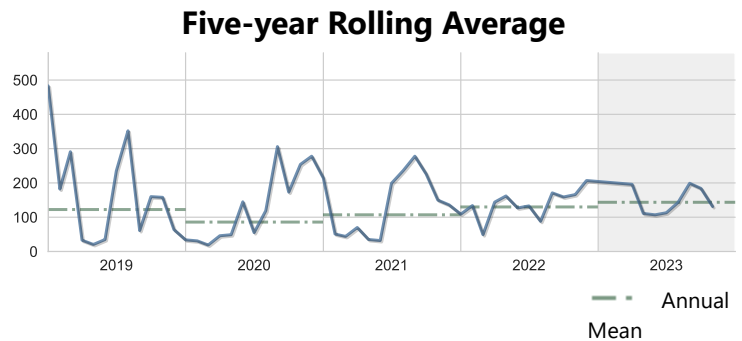
Nitrogen, Kjeldahl

Units: ug/l	Year 2023	Historical period of record
High	1130.00	15360.00
Mean	944.04	776.28
Low	777.00	200.00
No. of Samples	8	500



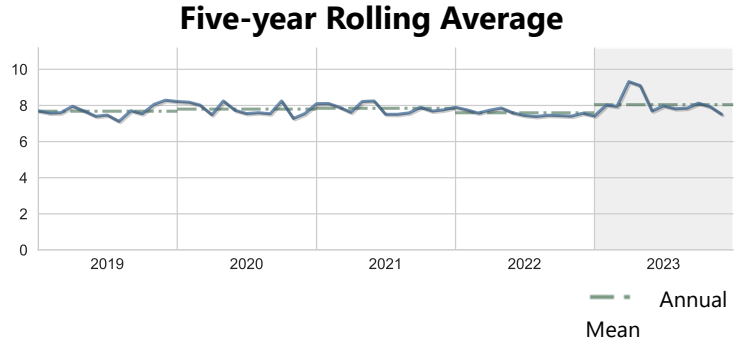
Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2023	Historical period of record
High	199.00	1020.00
Mean	143.56	82.9
Low	107.00	0.00
No. of Samples	8	472



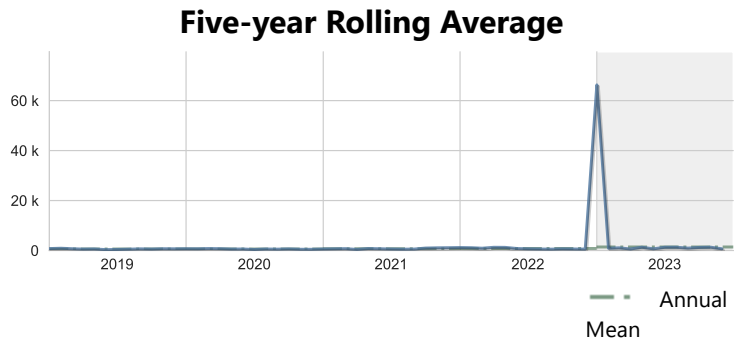
pH

Units: None	Year 2023	Historical period of record
High	9.32	11.77
Mean	8.04	7.64
Low	7.4171	6.10
No. of Samples	12	821



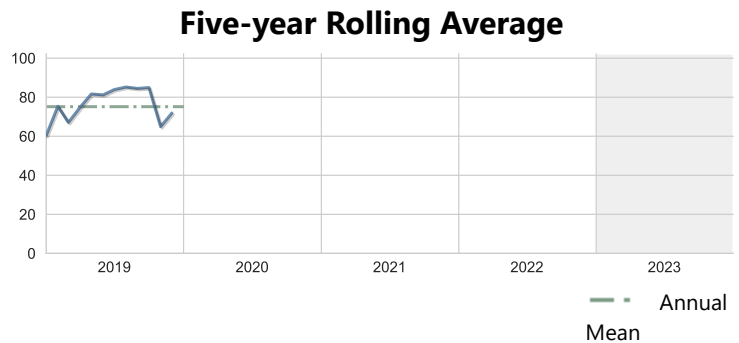
Specific conductance

Units: umho	Year 2023	Historical period of record
High	66296.20	66296.20
Mean	1408.91	736.71
Low	608.125	0.524
No. of Samples	12	834



Temperature, water

Units: deg F	Year 2023	Historical period of record
High	185.5672	192.1758
Mean	167.72	73.32
Low	147.92	46.40
No. of Samples	12	804



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.

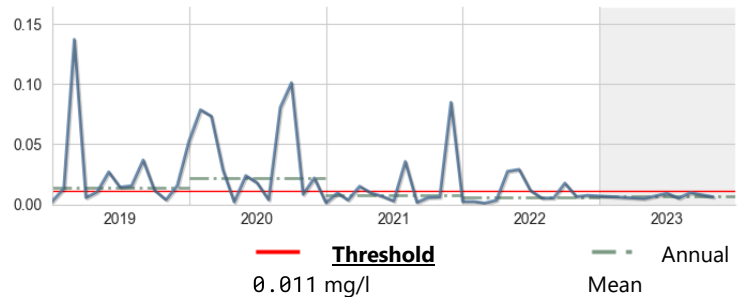


Chlorophyll a

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	0.0	0.2
Mean	0.0067	0.0108
Low	0.0048	0.0004
No. of Samples	5	261

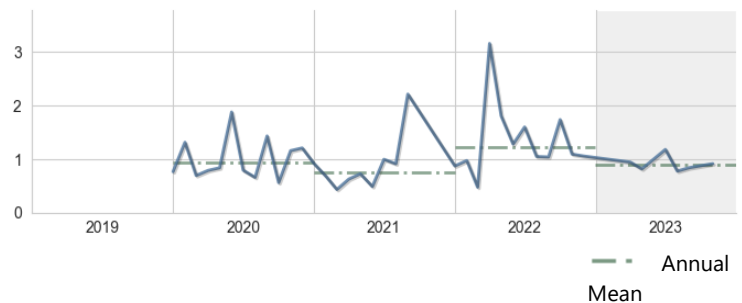
Five-year Rolling Average



Nitrogen, Total

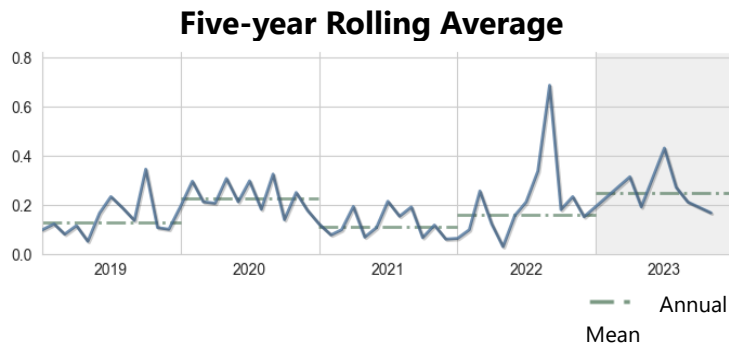
Units: mg/l	Year 2023	Historical period of record
High	1.2	7.0
Mean	0.9004	0.9485
Low	0.773	0.0018
No. of Samples	6	242

Five-year Rolling Average



Phosphorus, Total

Units: mg/l	Year 2023	Historical period of record
High	0.4	2.0
Mean	0.2494	0.2125
Low	0.166	0.008
No. of Samples	6	268

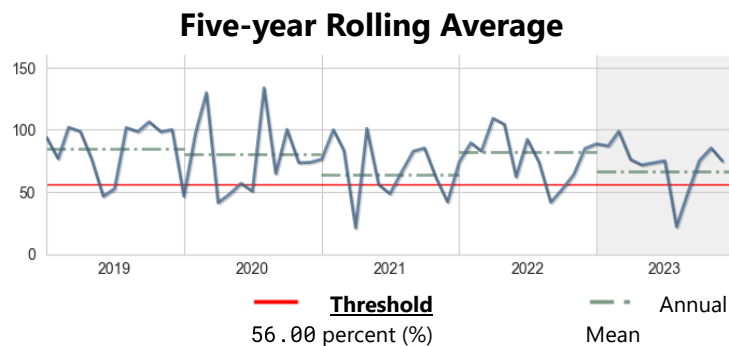


Dissolved Oxygen Saturation

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

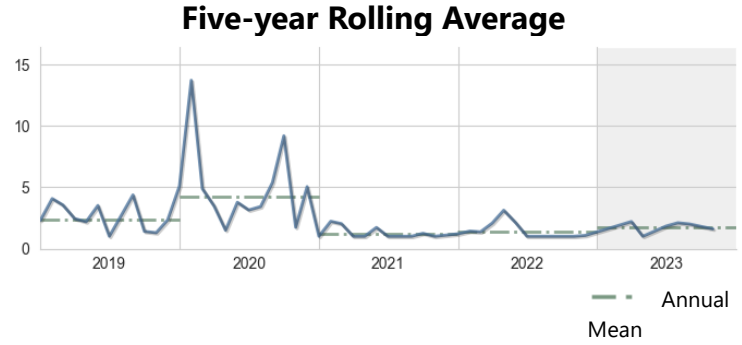
Score: Pass

Units: percent (%)	Year 2023	Historical period of record
High	116.8	827.0
Mean	66.53	65.05
Low	12.80	0.00
No. of Samples	17	650



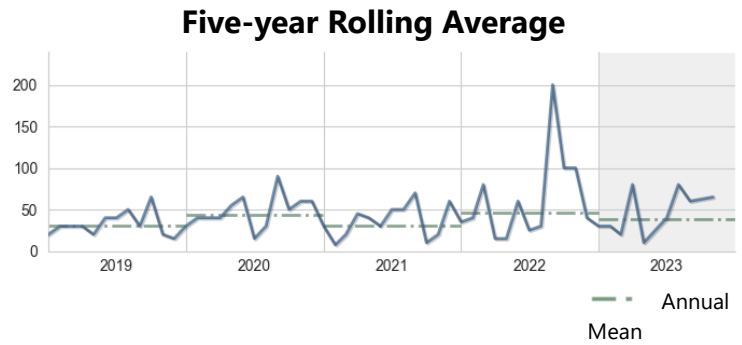
BOD, Biochemical oxygen demand

Units: mg/l	Year 2023	Historical period of record
High	2.2	13.7
Mean	1.73	2.33
Low	1.00	0.543
No. of Samples	6	202



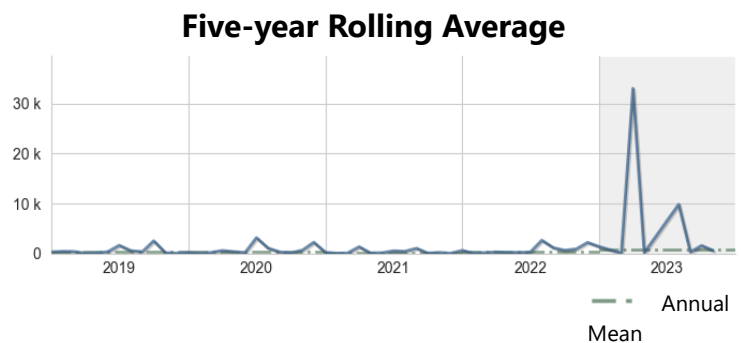
Color

Units: PCU	Year 2023	Historical period of record
High	80.0	200.0
Mean	38.36	39.63
Low	10.00	5.00
No. of Samples	9	358



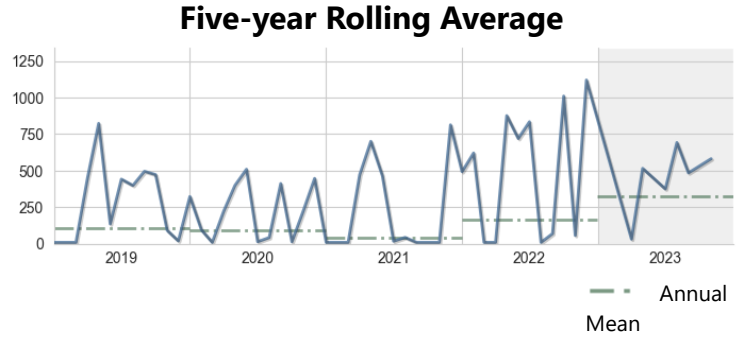
Enterococcus Group Bacteria

Units: cfu/100ml	Year 2023	Historical period of record
High	33,000.0	33,000.0
Mean	726.02	320.03
Low	10.00	10.00
No. of Samples	10	151



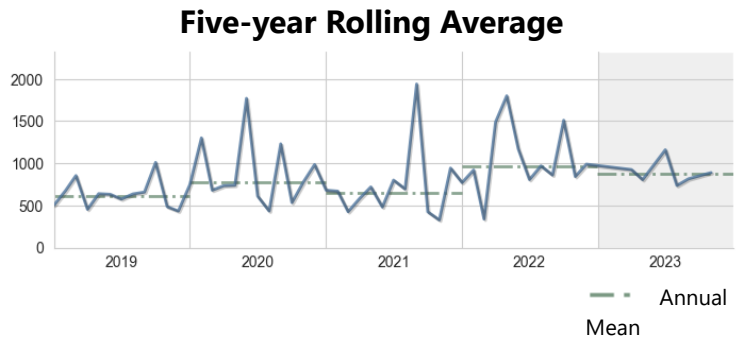
Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2023	Historical period of record
High	692.0	1,930.0
Mean	322.47	21.06
Low	30.00	0.00
No. of Samples	6	326



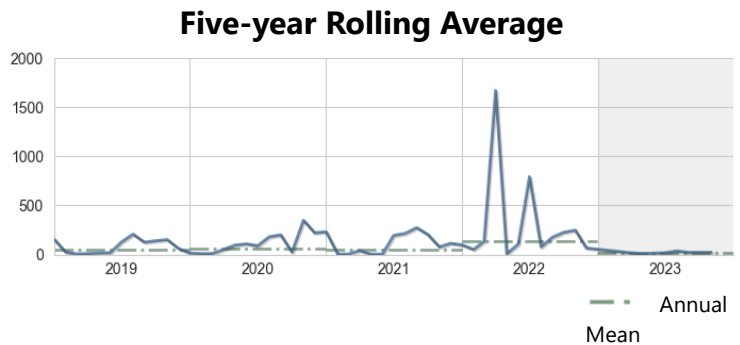
Nitrogen, Kjeldahl

Units: ug/l	Year 2023	Historical period of record
High	1,160.0	6,291.0
Mean	878.8	891.44
Low	736.00	50.00
No. of Samples	6	311



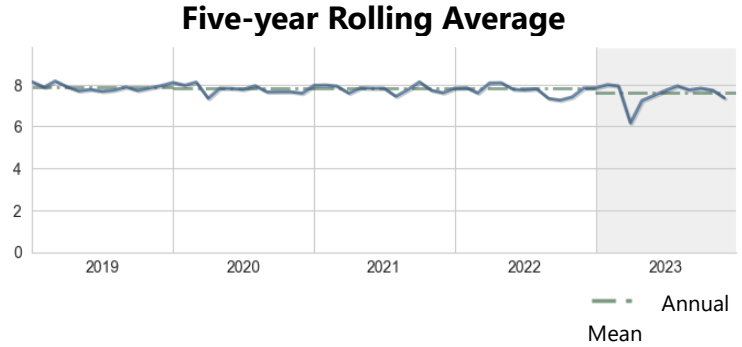
Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2023	Historical period of record
High	37.0	3,275.0
Mean	19.29	61.03
Low	9.00	4.00
No. of Samples	6	274



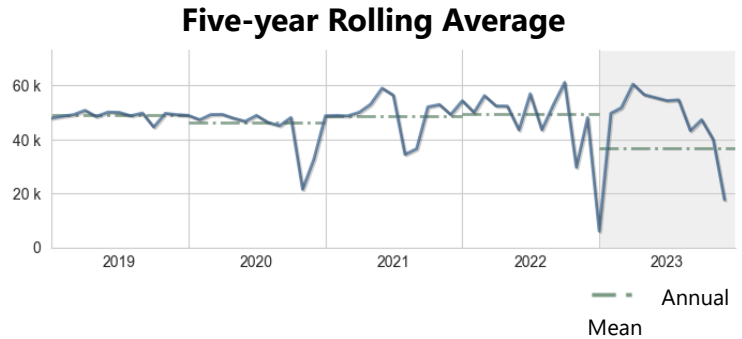
pH

Units: None	Year 2023	Historical period of record
High	8.1	9.6
Mean	7.63	7.62
Low	6.16	4.90
No. of Samples	17	2,945



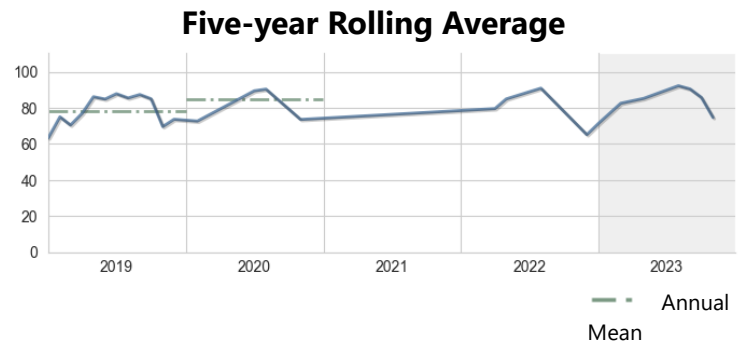
Specific conductance

Units: umho	Year 2023	Historical period of record
High	60,513.4	61,139.3
Mean	36572.37	7573.05
Low	941.931	320.00
No. of Samples	17	2,762



Temperature, water

Units: deg F	Year 2023	Historical period of record
High	199.3	199.3
Mean	127.62	75.55
Low	71.42	49.10
No. of Samples	17	3,094



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.

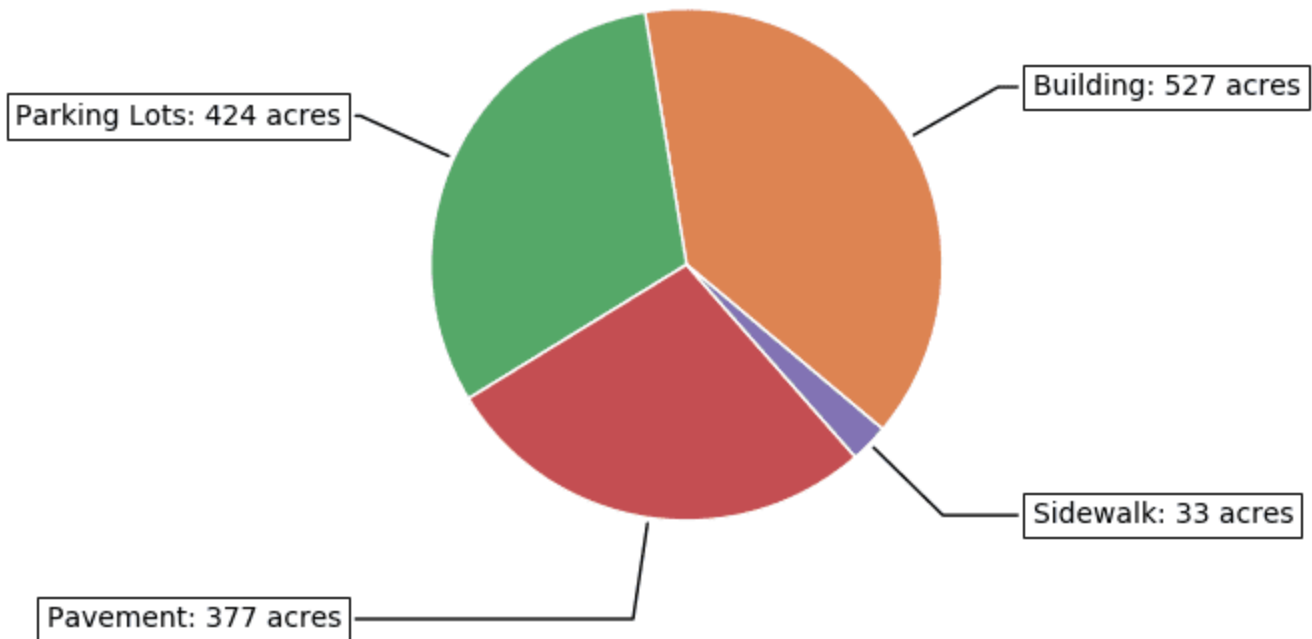


27% of the land area within the **Whitaker Bayou Basin** is covered by impervious

surfaces

2014 Impervious Surface Coverage by Type



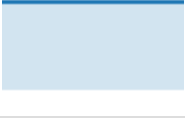




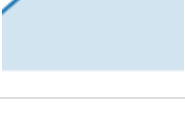
in acres, within the Whitaker Bayou Basin



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.

Acres and Percentage within each Land Use / Land Cover Category for Whitaker Bayou Basin

Land Use Classification	1990	1995	1999	2005	2011	2014	2017	2020	Trend
Urban & Built-up	3,830 77.1%	3,834 77.2%	3,831 77.1%	3,903 78.6%	3,952 79.6%	3,921 79%	3,951 79.6%	3,970 79.9%	
Agriculture	214 4.3%	182 3.7%	188 3.8%	181 3.6%	181 3.6%	181 3.6%	178 3.6%	168 3.4%	
Rangeland	4 0.1%	4 0.1%	4 0.1%	4 0.1%	4 0.1%	4 0.1%	4 0.1%	4 0.1%	
Upland Forests	235 4.7%	249 5%	249 5%	195 3.9%	164 3.3%	195 3.9%	164 3.3%	158 3.2%	
Water	130 2.6%	137 2.7%	140 2.8%	126 2.5%	88 1.8%	88 1.8%	89 1.8%	91 1.8%	
Wetlands	315 6.4%	232 4.7%	227 4.6%	229 4.6%	222 4.5%	222 4.5%	222 4.5%	221 4.4%	
Barren Land	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	3 0.1%	0 0%	
Transportation and Utilities	238 4.8%	329 6.6%	329 6.6%	328 6.6%	356 7.2%	356 7.2%	355 7.2%	356 7.2%	

2020 Land Use / Land Cover for Whitaker Bayou Basin

as a percentage of land area for this basin

