



Hudson 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**.

Size: 2,406 acres

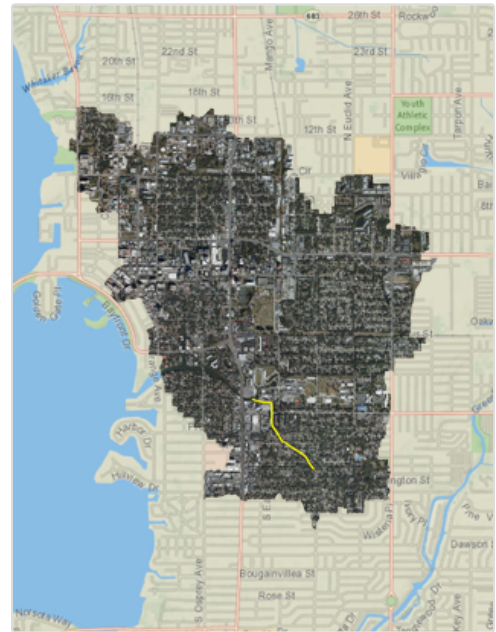
Location: North Sarasota County

Discharges into: Sarasota Bay

For more information, please see: **Sarasota Bay Water Quality Management Plan (2012)**.

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

Hudson Bayou



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.

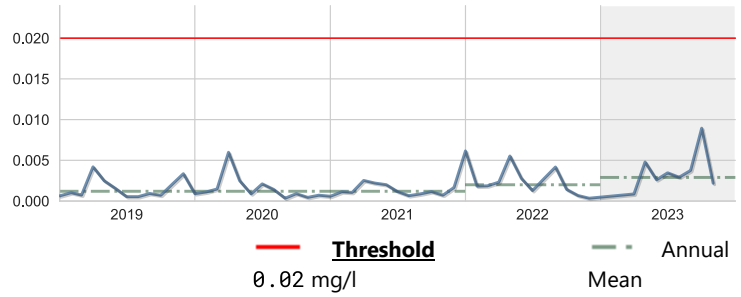


Chlorophyll a

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	0.0157	0.1568
Mean	0.0029	0.0013
Low	0.0008	0.0002
No. of Samples	14	587

Five-year Rolling Average

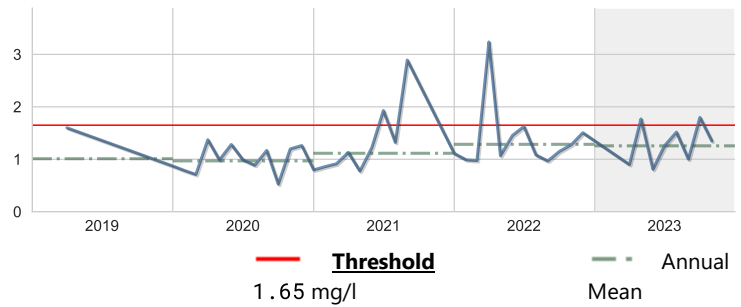


Nitrogen, Total

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	2.174	17.52
Mean	1.2559	0.9254
Low	0.774	0.0018
No. of Samples	14	452

Five-year Rolling Average



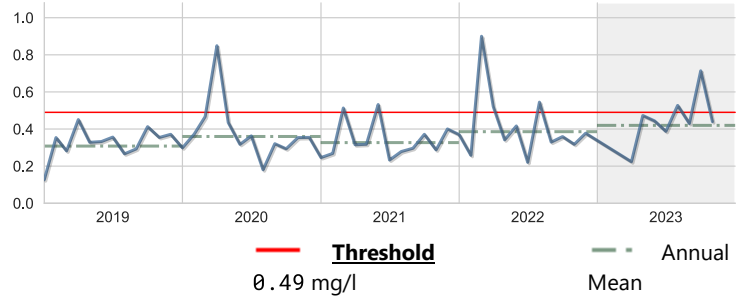


Phosphorus, Total

Score: Pass

Units: mg/l	Year 2023	Historical period of record
High	0.99	4.05
Mean	0.4198	0.4136
Low	0.16	0.047
No. of Samples	14	491

Five-year Rolling Average



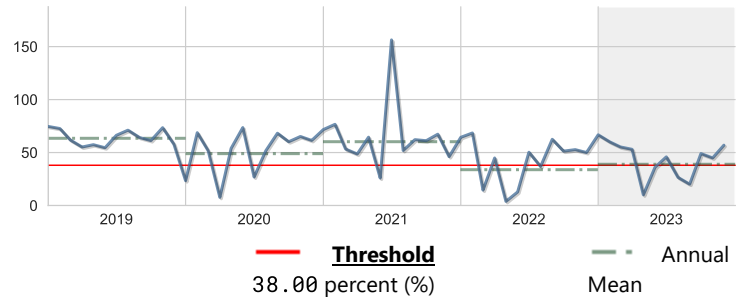
Dissolved Oxygen Saturation

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

Score: Pass

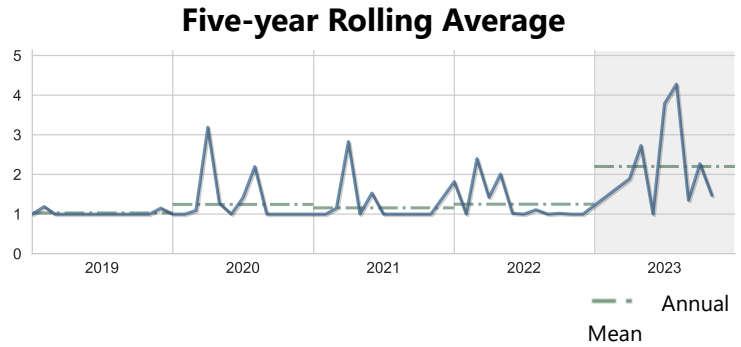
Units: percent (%)	Year 2023	Historical period of record
High	85.05	489.00
Mean	38.94	51.1
Low	2.6788	0.3008
No. of Samples	22	505

Five-year Rolling Average



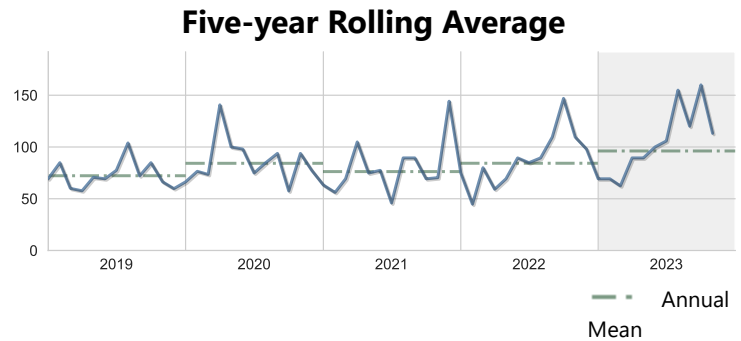
BOD, Biochemical oxygen demand

Units: mg/l	Year 2023	Historical period of record
High	7.48	13.10
Mean	2.2	1.06
Low	1.00	0.50
No. of Samples	14	459



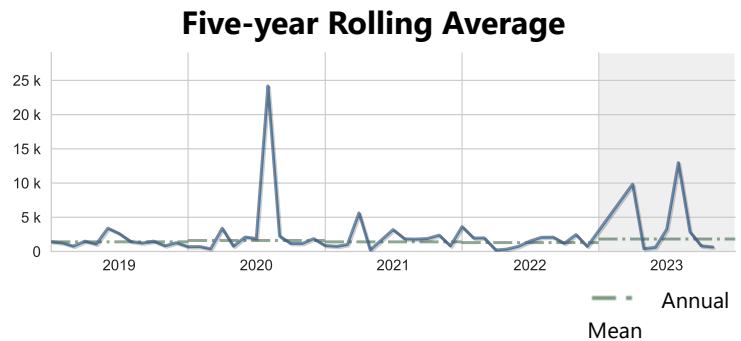
Color

Units: PCU	Year 2023	Historical period of record
High	200.00	400.00
Mean	96.15	74.7
Low	40.00	20.00
No. of Samples	20	570



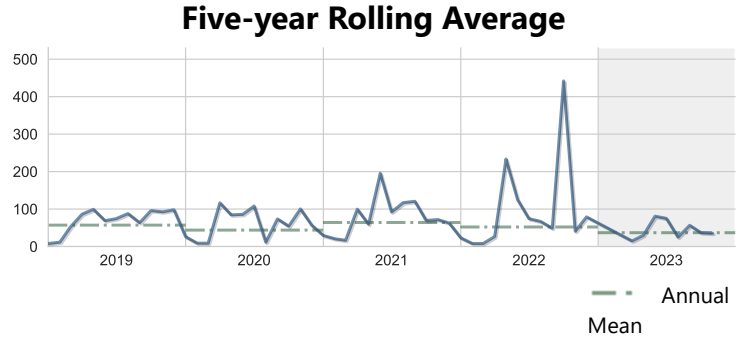
Escherichia coli

Units: cfu/100ml	Year 2023	Historical period of record
High	14136.00	24196.00
Mean	1822.52	1325.09
Low	90.00	41.00
No. of Samples	12	271



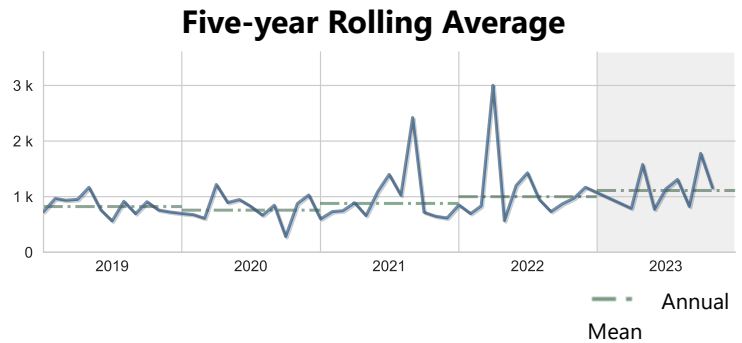
Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2023	Historical period of record
High	114.00	1330.00
Mean	36.86	45.94
Low	8.00	0.008
No. of Samples	14	515



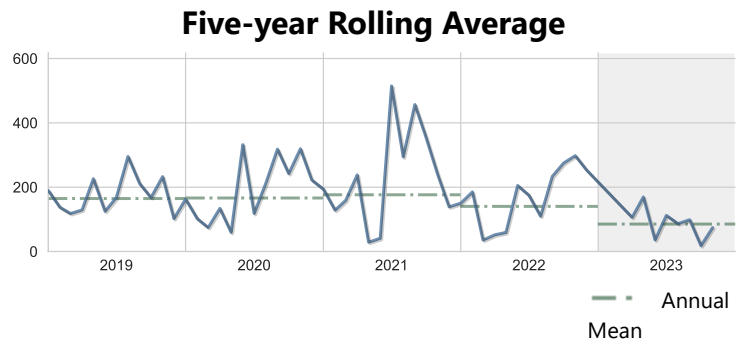
Nitrogen, Kjeldahl

Units: ug/l	Year 2023	Historical period of record
High	1850.00	13800.00
Mean	1110.85	804.14
Low	749.00	0.00
No. of Samples	14	490



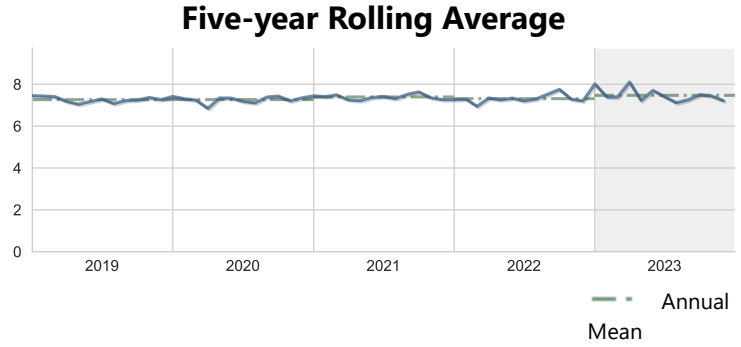
Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2023	Historical period of record
High	391.00	3720.00
Mean	85.33	121.07
Low	18.00	4.00
No. of Samples	14	490



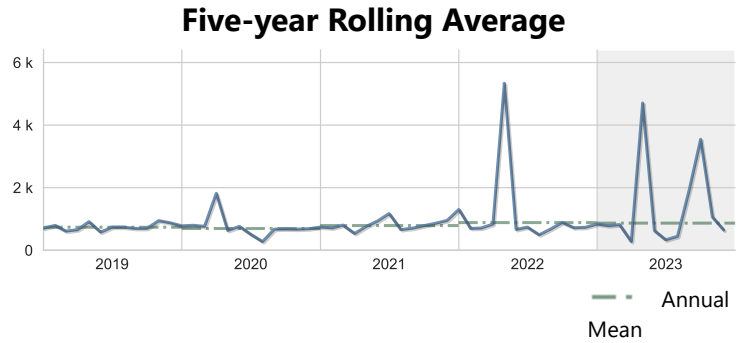
pH

Units: None	Year 2023	Historical period of record
High	8.18	758.00
Mean	7.47	7.45
Low	6.50	6.20
No. of Samples	22	586



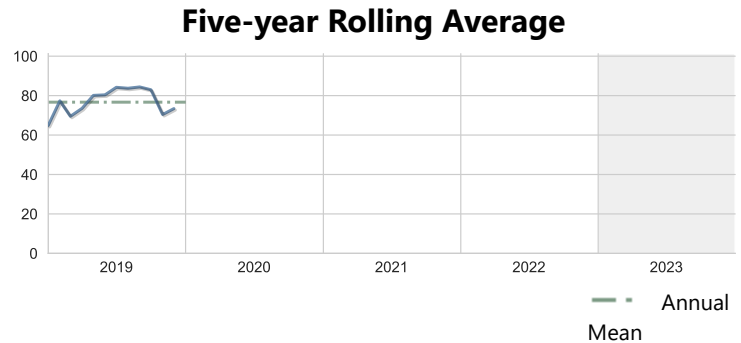
Specific conductance

Units: umho	Year 2023	Historical period of record
High	25715.90	54000.00
Mean	866.71	886.39
Low	225.617	0.445
No. of Samples	22	501



Temperature, water

Units: deg F	Year 2023	Historical period of record
High	189.1675	189.1675
Mean	168.23	86.65
Low	149.3132	53.87
No. of Samples	22	502

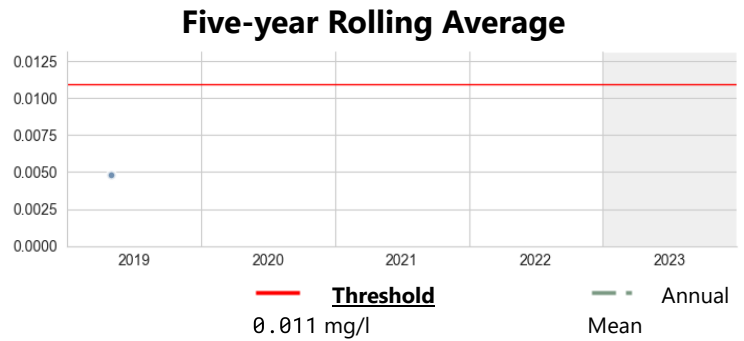


Water Chemistry Ratings | Tidal Portion of the Creek

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.

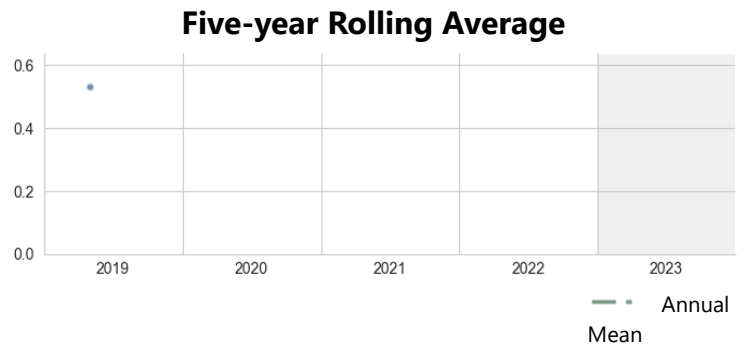
Chlorophyll a

Units: mg/l	Year 2023	Historical period of record
High		0.1
Mean		0.0035
Low		0.0003
No. of Samples	0	108



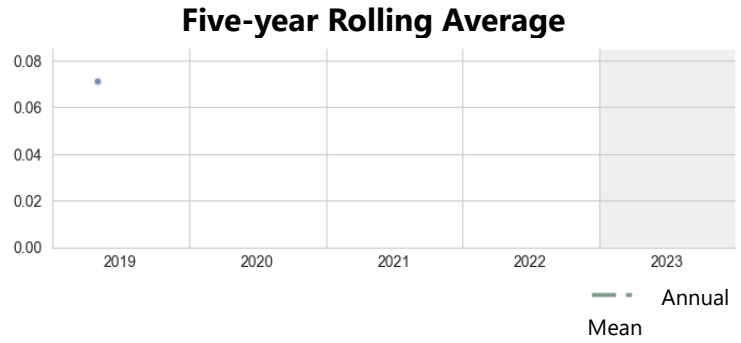
Nitrogen, Total

Units: mg/l	Year 2023	Historical period of record
High		1.9
Mean		0.8554
Low		0.34
No. of Samples	0	129



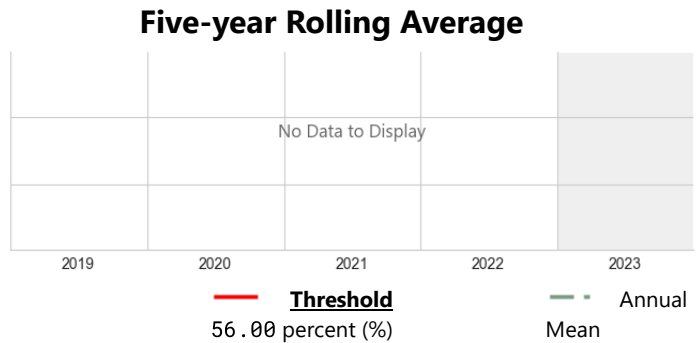
Phosphorus, Total

Units: mg/l	Year 2023	Historical period of record
High		1.3
Mean		0.2872
Low		0.05
No. of Samples	0	141



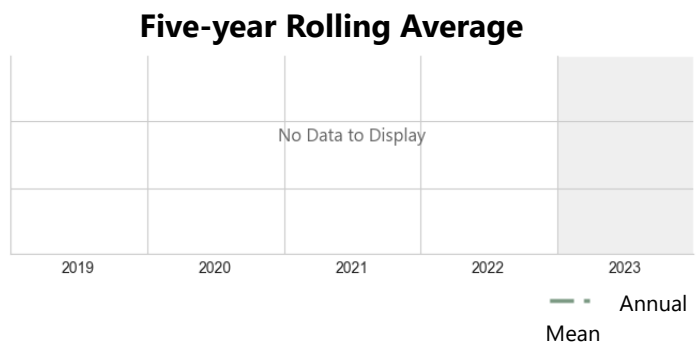
Dissolved Oxygen Saturation

Units: percent (%)	Year 2023	Historical period of record
High		128.7
Mean		44.97
Low		0.70
No. of Samples	0	204



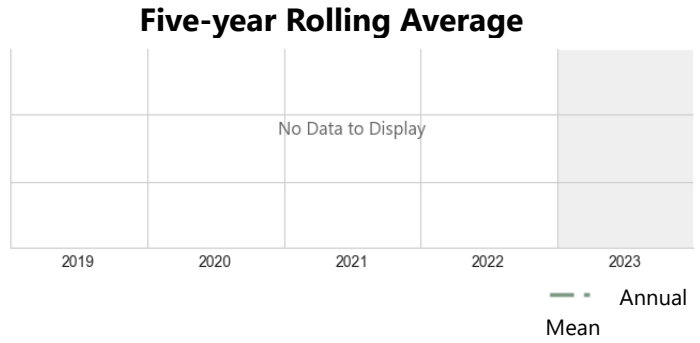
BOD, Biochemical oxygen demand

Units: mg/l	Year 2023	Historical period of record
High		5.4
Mean		1.87
Low		0.50
No. of Samples	0	83



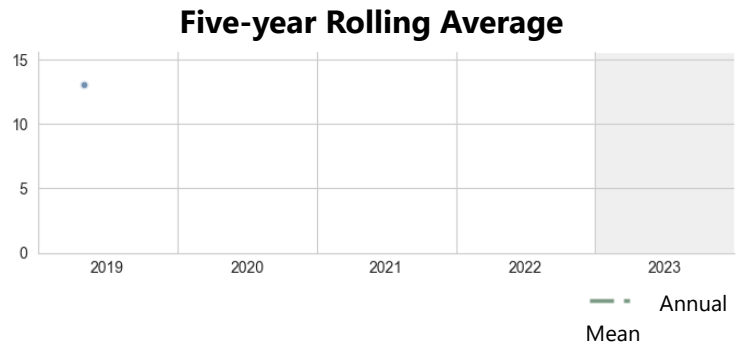
Color

Units: PCU	Year 2023	Historical period of record
High		125.0
Mean		29.54
Low		5.00
No. of Samples	0	202



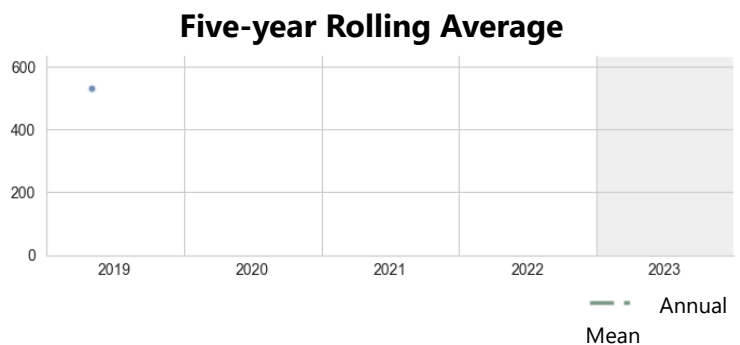
Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2023	Historical period of record
High		912.0
Mean		16.02
Low		0.00
No. of Samples	0	191



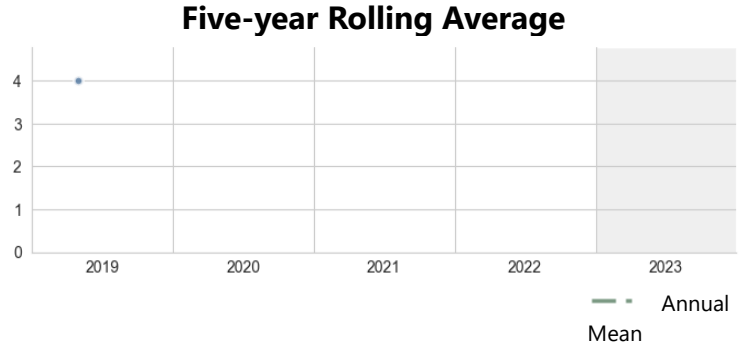
Nitrogen, Kjeldahl

Units: ug/l	Year 2023	Historical period of record
High		1,946.0
Mean		728.22
Low		160.00
No. of Samples	0	187



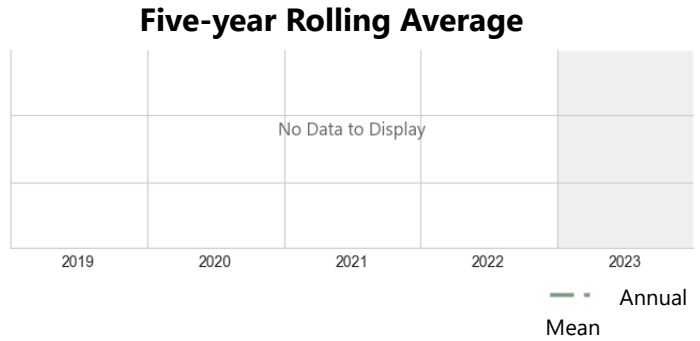
Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2023	Historical period of record
High		656.0
Mean		59.9
Low		0.00
No. of Samples	0	149



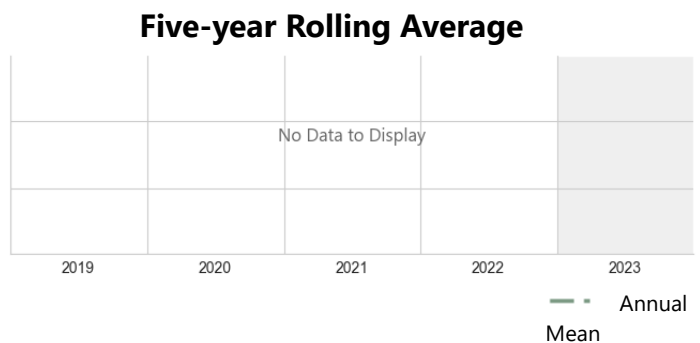
pH

Units: None	Year 2023	Historical period of record
High		8.4
Mean		7.69
Low		6.38
No. of Samples	0	205



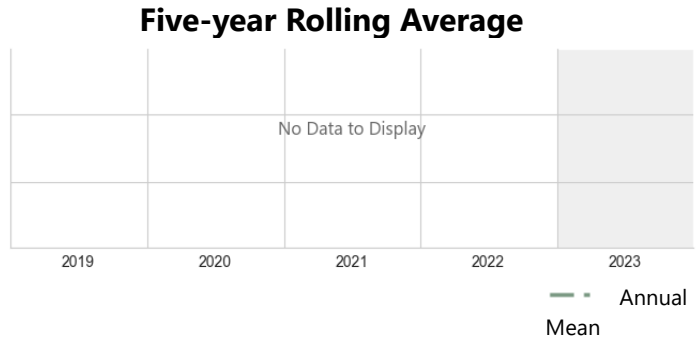
Specific conductance

Units: umho	Year 2023	Historical period of record
High		53,000.0
Mean		35542.15
Low		46.582
No. of Samples	0	287



Temperature, water

Units: deg F	Year 2023	Historical period of record
High		94 . 2
Mean		75 . 55
Low		51 . 80
No. of Samples	0	212



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.

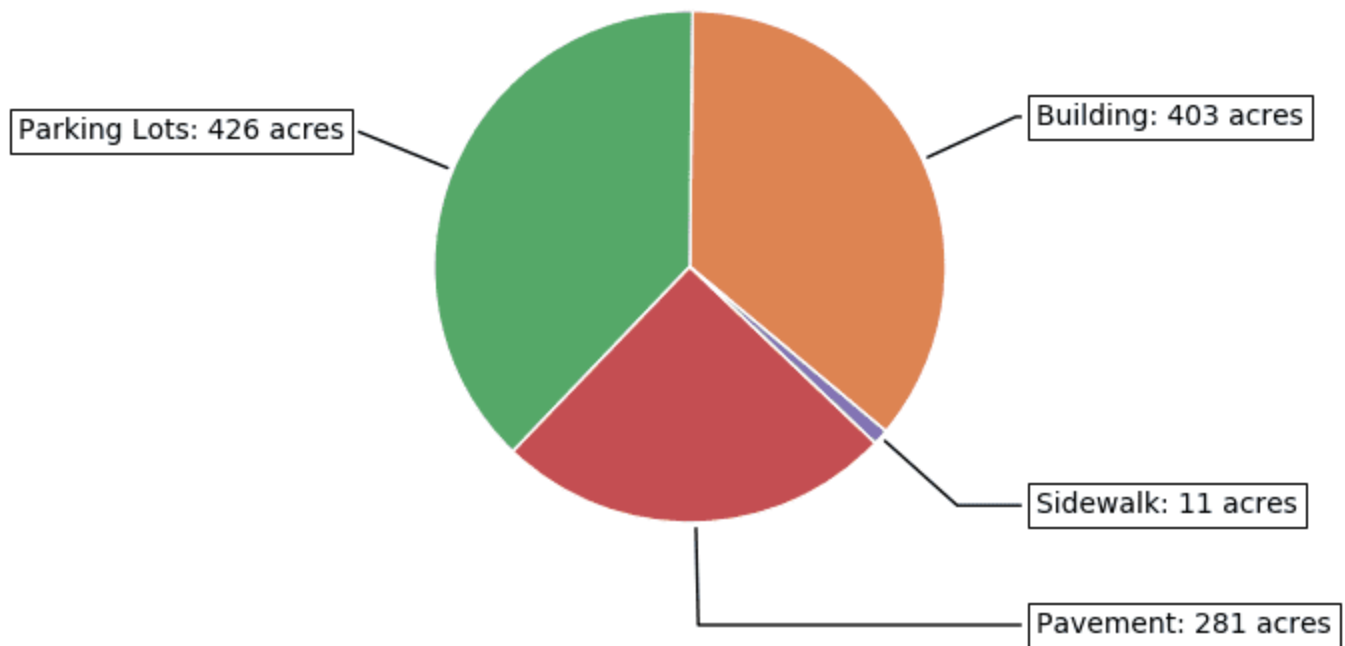


47% of the land area within the **Hudson Bayou Basin** is covered by impervious

surfaces

2014 Impervious Surface Coverage by Type

in acres, within the Hudson 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.

Acreage and Percentage within each Land Use / Land Cover Category for Hudson Bayou Basin

2023 Creek Conditions Report for Hudson Bayou

Land Use Classification	1990	1995	1999	2005	2011	2014	2017	2020	Trend
Urban & Built-up	2,224 92.4%	2,244 93.3%	2,243 93.2%	2,260 93.9%	2,260 93.9%	2,249 93.5%	2,260 93.9%	2,259 93.9%	
Upland Forests	16 0.7%	9 0.4%	9 0.4%	0 0%	0 0%	0 0%	0 0%	0 0%	
Water	24 1%	25 1%	26 1.1%	26 1.1%	27 1.1%	27 1.1%	27 1.1%	27 1.1%	
Wetlands	16 0.7%	13 0.5%	13 0.5%	10 0.4%	10 0.4%	10 0.4%	10 0.4%	10 0.4%	
Transportation and Utilities	126 5.2%	115 4.8%	115 4.8%	109 4.6%	109 4.6%	120 5%	109 4.5%	110 4.6%	

2020 Land Use / Land Cover for Hudson Bayou Basin
as a percentage of land area for this basin

