Alligator Creek Condition Report for 2022

CAUTION

Chl-a N P DO

1 out of 4 indicators were rated as **PASS**.

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

Size: 6,789 acres
Location: South Sarasota County
Discharges into: Lemon Bay

For more information, please see: **Alligator Creek Sediment Management Plan (2006)**

View county-wide water quality trends »

Alligator Creek



Water Chemistry Ratings | Freshwater Portion of the Creek

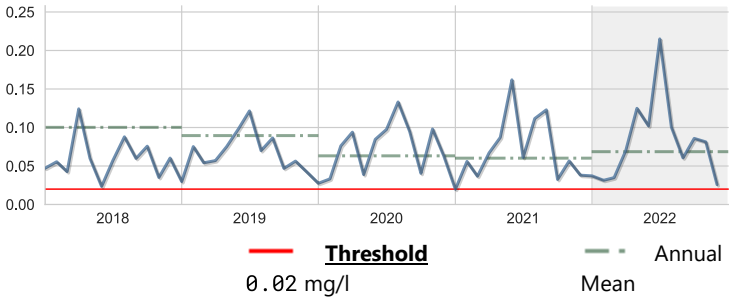
Creek Conditions Ratings are based on comparing nitrogen, phosphorus, chlorophyll and dissolved oxygen to water quality guidelines or regulations. Florida law defines a maximum allowable concentration of nitrogen, phosphorus, and chlorophyll *a*, and a minimum allowable concentration of dissolved oxygen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

Chlorophyll a

Score: Caution

Units: mg/l	Year 2022	Historical period of record
High	0.611	2.651
Mean	0.0686	0.0479
Low	0.0009	0.0003
No. of Samples	64	1,061

Five-year Rolling Average

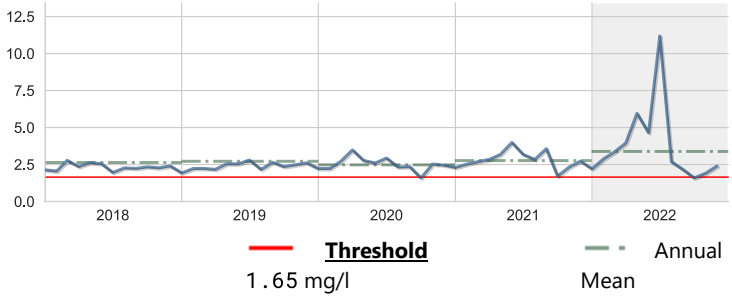


Nitrogen, Total

Score: Caution

Units: mg/l	Year 2022	Historical period of record
High	54.606	54.606
Mean	3.3852	2.3869
Low	0.792	0.41
No. of Samples	64	846

Five-year Rolling Average

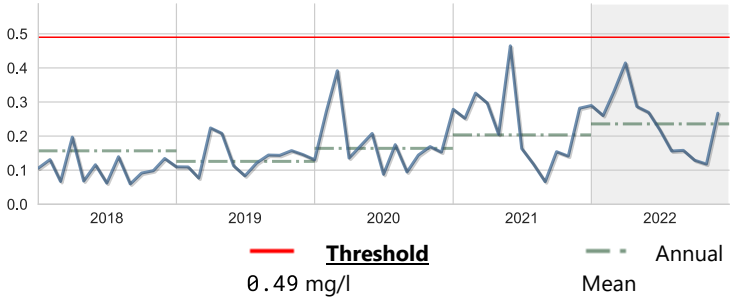


P Phosphorus, Total

Score: Pass

Units: mg/l	Year 2022	Historical period of record
High	0.604	0.87
Mean	0.2357	0.1807
Low	0.066	0.012
No. of Samples	64	954

Five-year Rolling Average



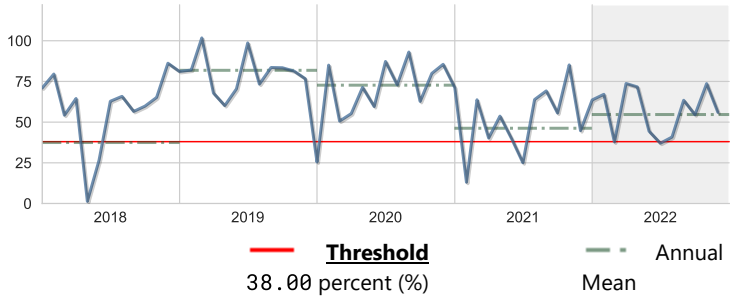
DO Dissolved Oxygen Saturation

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

Score: Pass

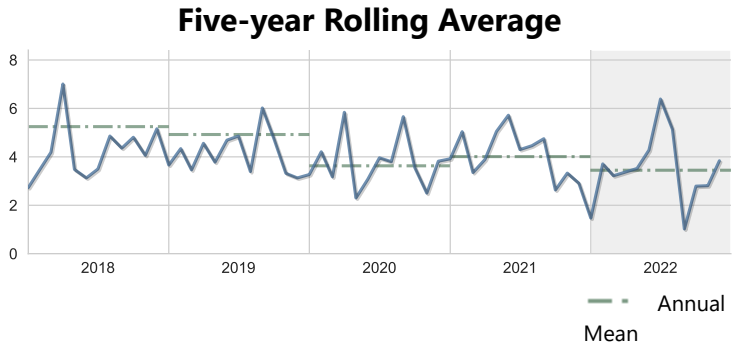
Units: percent (%)	Year 2022	Historical period of record
High	167.50	197.40
Mean	54.67	54.05
Low	5.6688	0.05
No. of Samples	67	771

Five-year Rolling Average



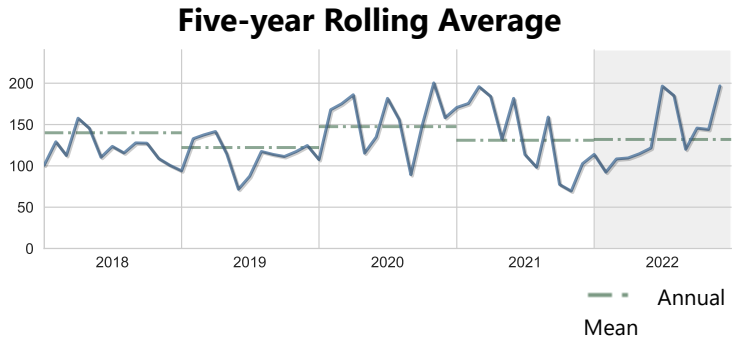
BOD, Biochemical oxygen demand

Units: mg/l	Year 2022	Historical period of record
High	9.46	17.30
Mean	3.45	3.38
Low	1.00	0.50
No. of Samples	55	903



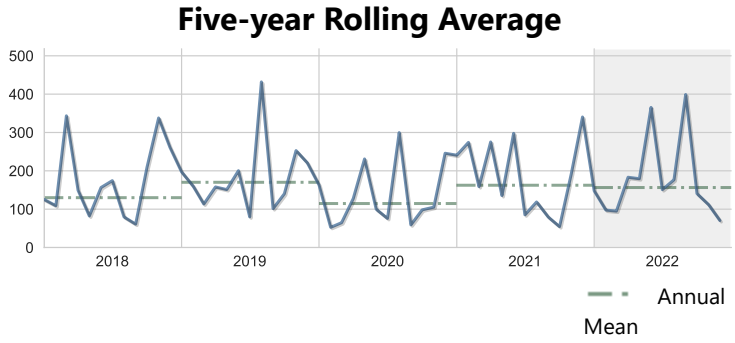
Color

Units: PCU	Year 2022	Historical period of record
High	300.00	500.00
Mean	131.97	115.75
Low	50.00	20.00
No. of Samples	61	1,068



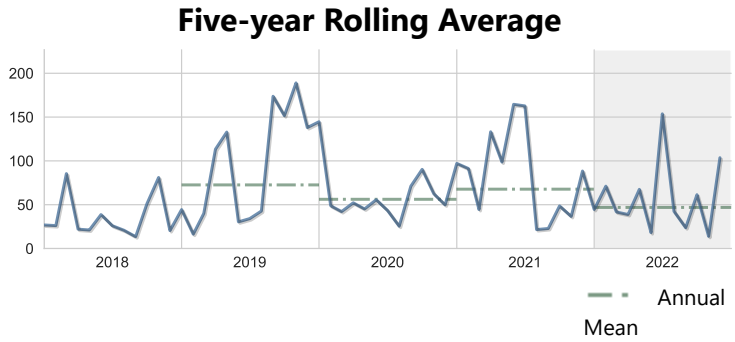
Escherichia coli

Units: cfu/100ml	Year 2022	Historical period of record
High	1850.00	19863.00
Mean	156.41	150.82
Low	10.00	9.70
No. of Samples	64	458



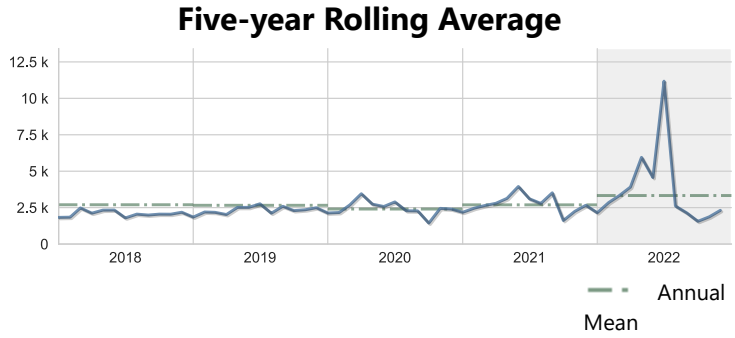
Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2022	Historical period of record
High	1830.00	2430.00
Mean	46.9	45.97
Low	8.00	0.008
No. of Samples	64	1,008



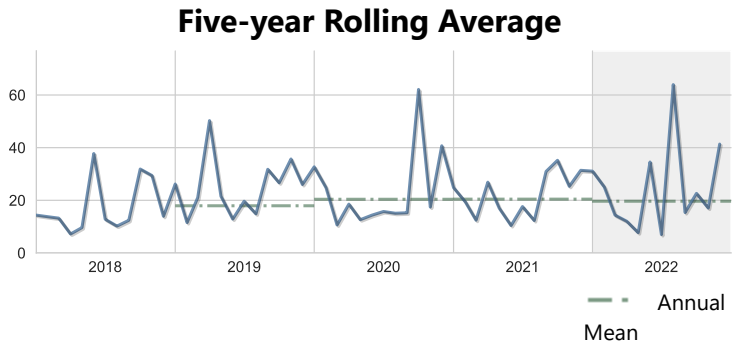
Nitrogen, Kjeldahl

Units: ug/l	Year 2022	Historical period of record
High	54600.00	54600.00
Mean	3329.46	2284.0
Low	753.00	140.00
No. of Samples	64	961



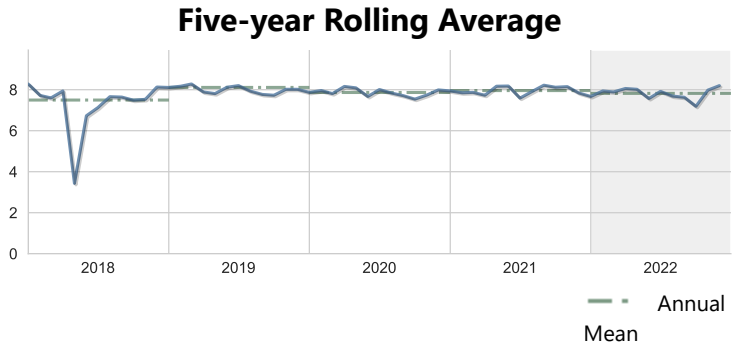
Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2022	Historical period of record
High	273.00	895.00
Mean	19.66	20.31
Low	6.00	0.00
No. of Samples	64	936



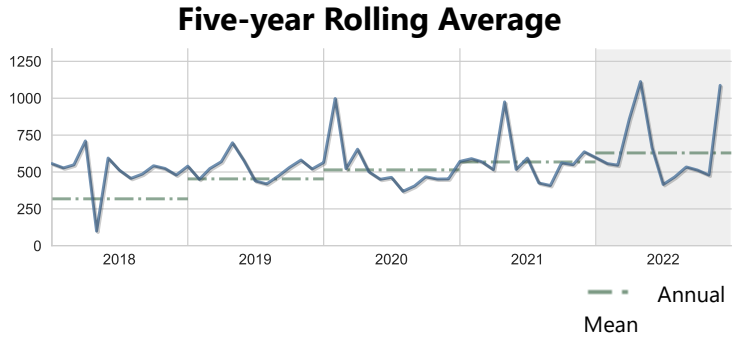
pH

Units: None	Year 2022	Historical period of record
High	9.56	9.94
Mean	7.82	7.33
Low	6.8041	0.20
No. of Samples	67	2,507



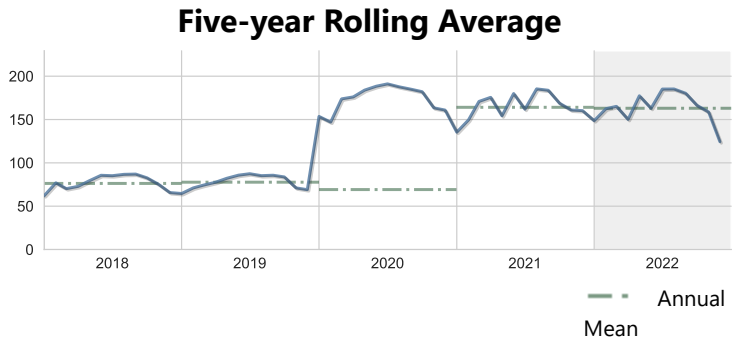
Specific conductance

Units: umho	Year 2022	Historical period of record
High	27015.20	40542.80
Mean	629.2	631.49
Low	315.026	0.859
No. of Samples	67	2,365



Temperature, water

Units: deg F	Year 2022	Historical period of record
High	189.4098	200.56
Mean	162.99	76.59
Low	72.86	53.528
No. of Samples	67	2,345



Water Chemistry Ratings | Tidal Portion of the Creek

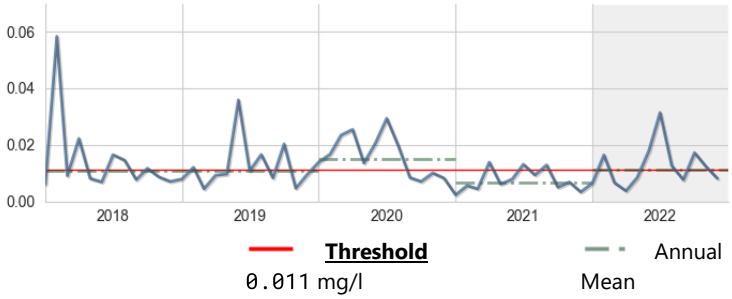
Creek Conditions Ratings are based on comparing nitrogen, phosphorus, chlorophyll and dissolved oxygen to water quality guidelines or regulations. Florida law defines a maximum allowable concentration of chlorophyll *a* and a minimum allowable concentration of dissolved oxygen in these streams. Florida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

Chlorophyll a

Score: Caution

Units: mg/l	Year 2022	Historical period of record
High	0.8	4.3
Mean	0.0113	0.0092
Low	0.0011	0.0004
No. of Samples	58	1,670

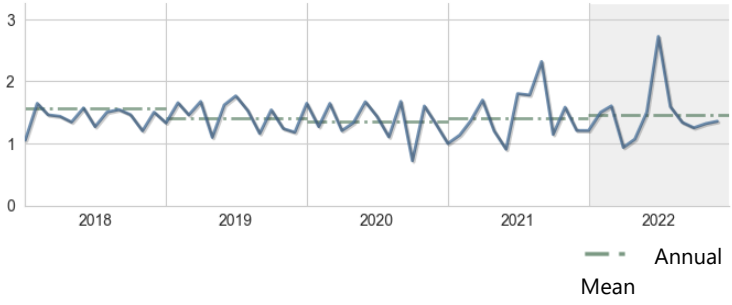
Five-year Rolling Average



Nitrogen, Total

Units: mg/l	Year 2022	Historical period of record
High	20.5	23.8
Mean	1.4616	1.2401
Low	0.65	0.00
No. of Samples	58	1,222

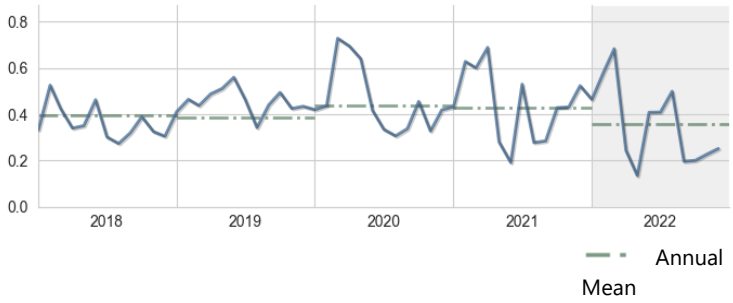
Five-year Rolling Average



Phosphorus, Total

Units: mg/l	Year 2022	Historical period of record
High	4.0	4.8
Mean	0.3571	0.2943
Low	0.045	0.004
No. of Samples	58	1,571

Five-year Rolling Average



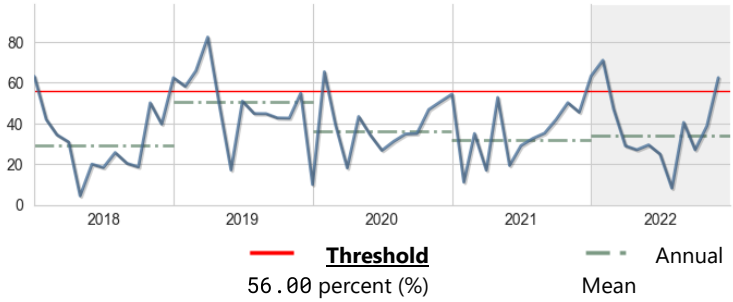
DO Dissolved Oxygen Saturation

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

Score: Caution

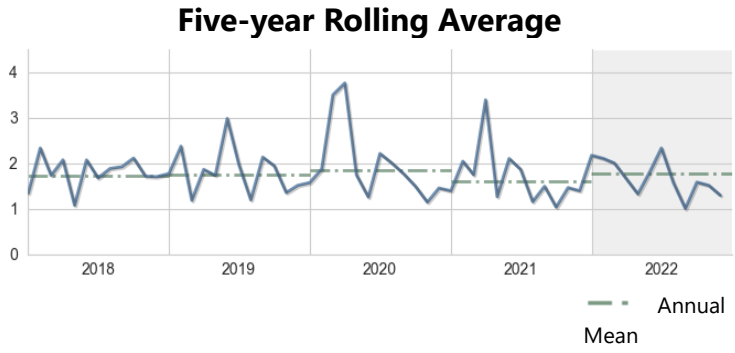
Units: percent (%)	Year 2022	Historical period of record
High	163.4	233.2
Mean	34.23	37.79
Low	0.0684	0.0684
No. of Samples	58	910

Five-year Rolling Average



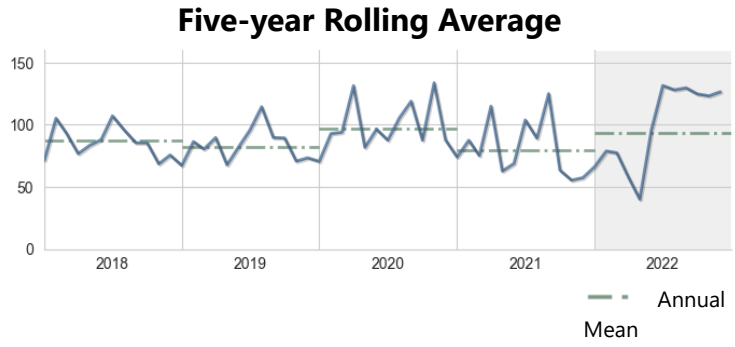
BOD, Biochemical oxygen demand

Units: mg/l	Year 2022	Historical period of record
High	8.6	20.0
Mean	1.76	1.78
Low	1.00	0.50
No. of Samples	53	949



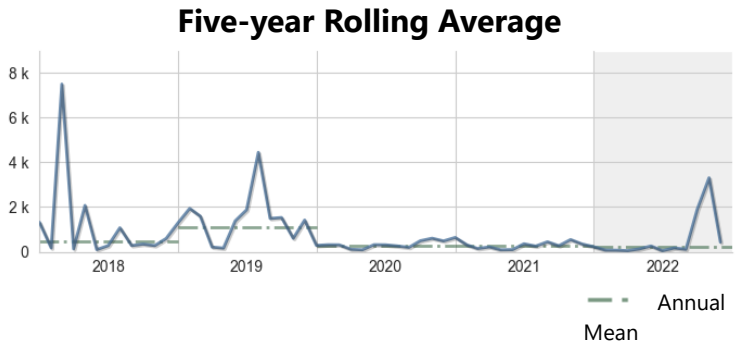
Color

Units: PCU	Year 2022	Historical period of record
High	200.0	1,000.0
Mean	93.48	63.59
Low	20.00	4.90
No. of Samples	56	1,762



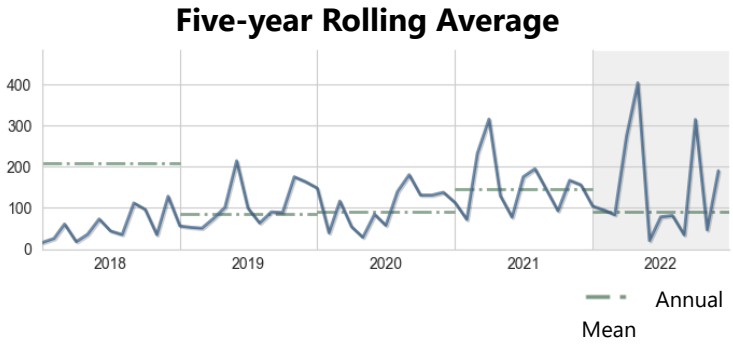
Enterococcus Group Bacteria

Units: cfu/100ml	Year 2022	Historical period of record
High	12,997.0	18,000.0
Mean	197.18	368.95
Low	20.00	10.00
No. of Samples	24	270



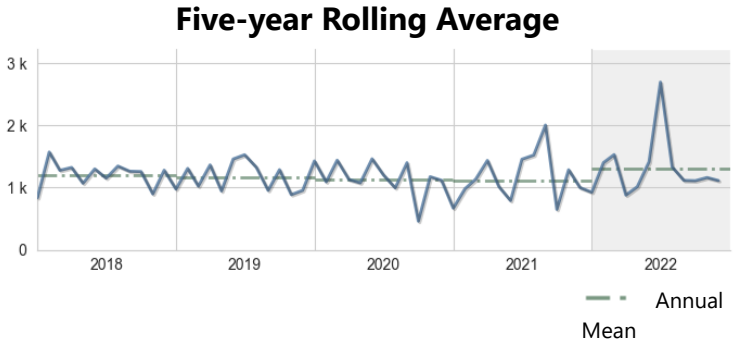
Nitrogen, Ammonia + Ammonium as N

Units: ug/l	Year 2022	Historical period of record
High	1,310.0	2,170.0
Mean	89.77	42.53
Low	8.00	0.008
No. of Samples	58	1,144



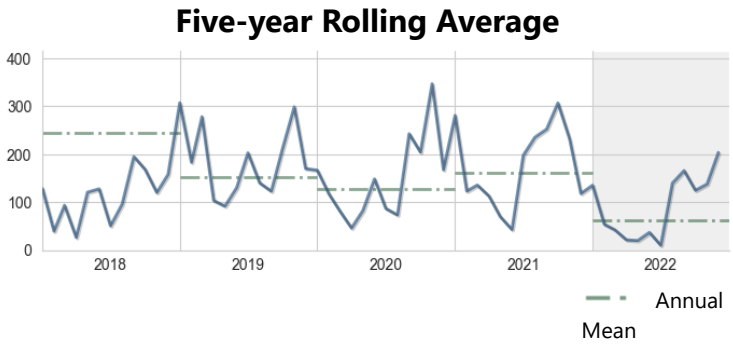
Nitrogen, Kjeldahl

Units: ug/l	Year 2022	Historical period of record
High	20,500.0	23,800.0
Mean	1301.35	1093.46
Low	616.00	80.00
No. of Samples	58	1,621



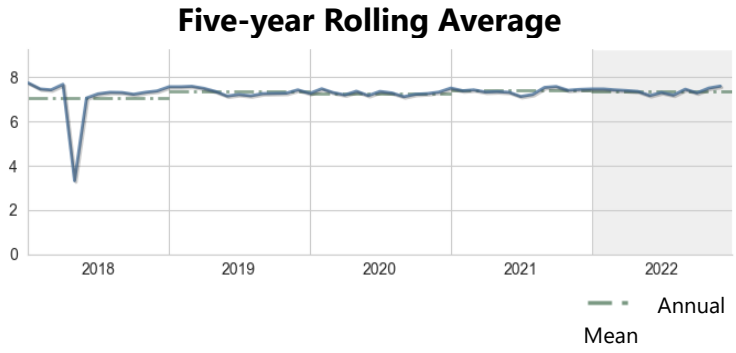
Nitrogen, Nitrite + Nitrate as N

Units: ug/l	Year 2022	Historical period of record
High	923.0	4,590.0
Mean	62.32	63.36
Low	6.00	0.00
No. of Samples	58	1,517



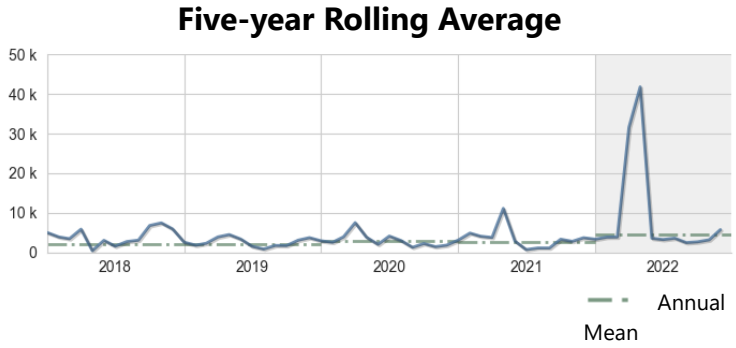
pH

Units: None	Year 2022	Historical period of record
High	8.1	9.3
Mean	7.37	7.39
Low	6.74	0.10
No. of Samples	58	6,410



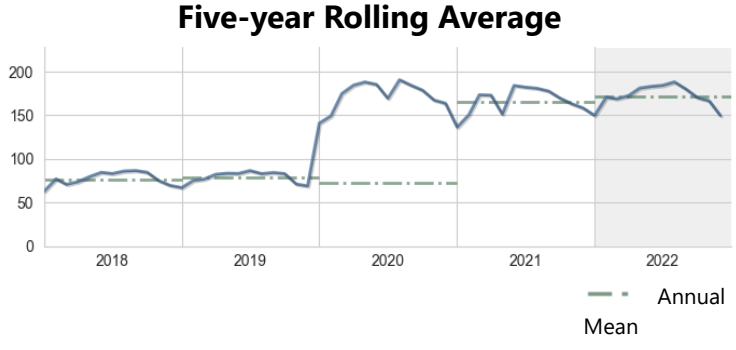
Specific conductance

Units: umho	Year 2022	Historical period of record
High	53,581.4	63,430.0
Mean	4399.47	3650.41
Low	401.951	0.823
No. of Samples	58	5,733



Temperature, water

Units: deg F	Year 2022	Historical period of record
High	193.2	200.9
Mean	171.72	77.42
Low	141.9419	46.40
No. of Samples	58	6,034

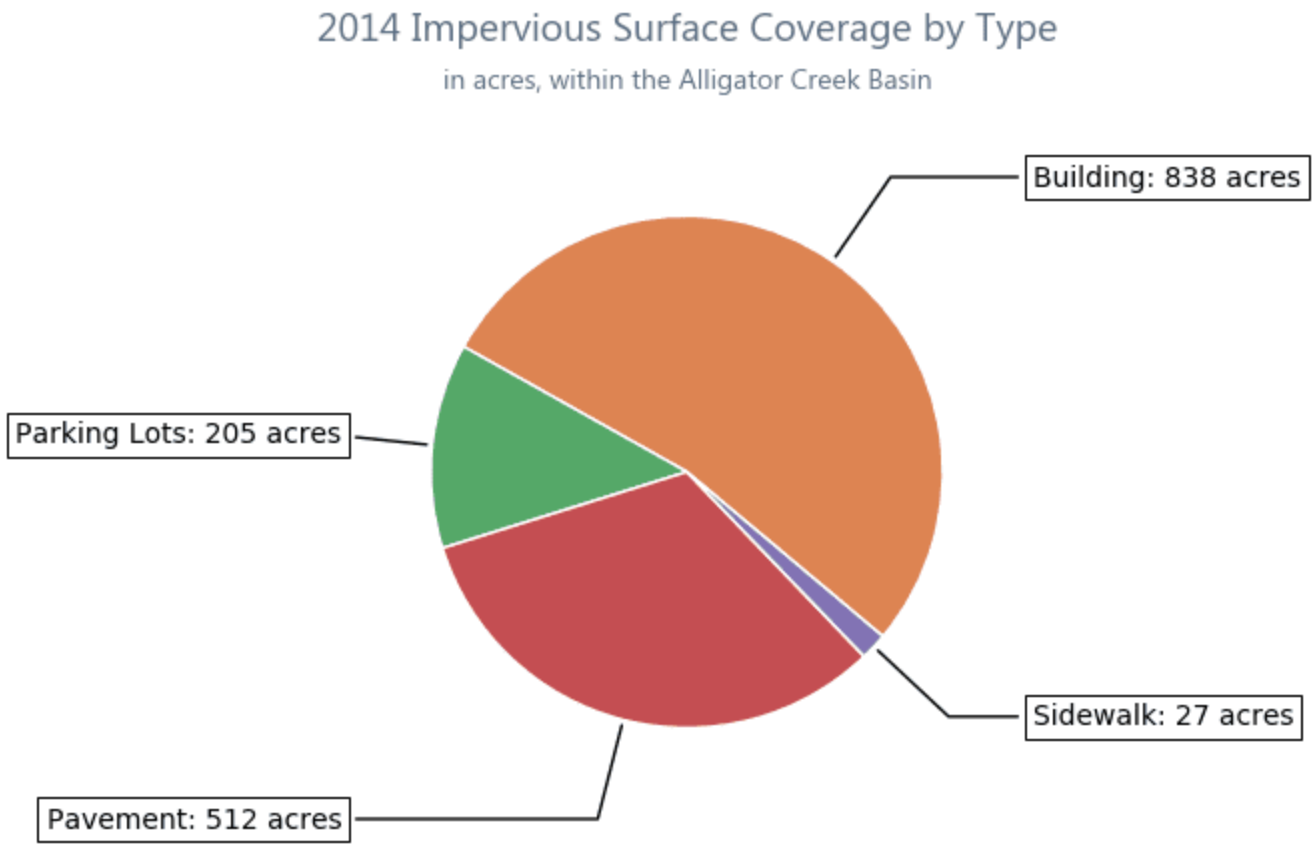


Impervious Features

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.



23% of the land area within the **Alligator Creek Basin** is covered by impervious surfaces

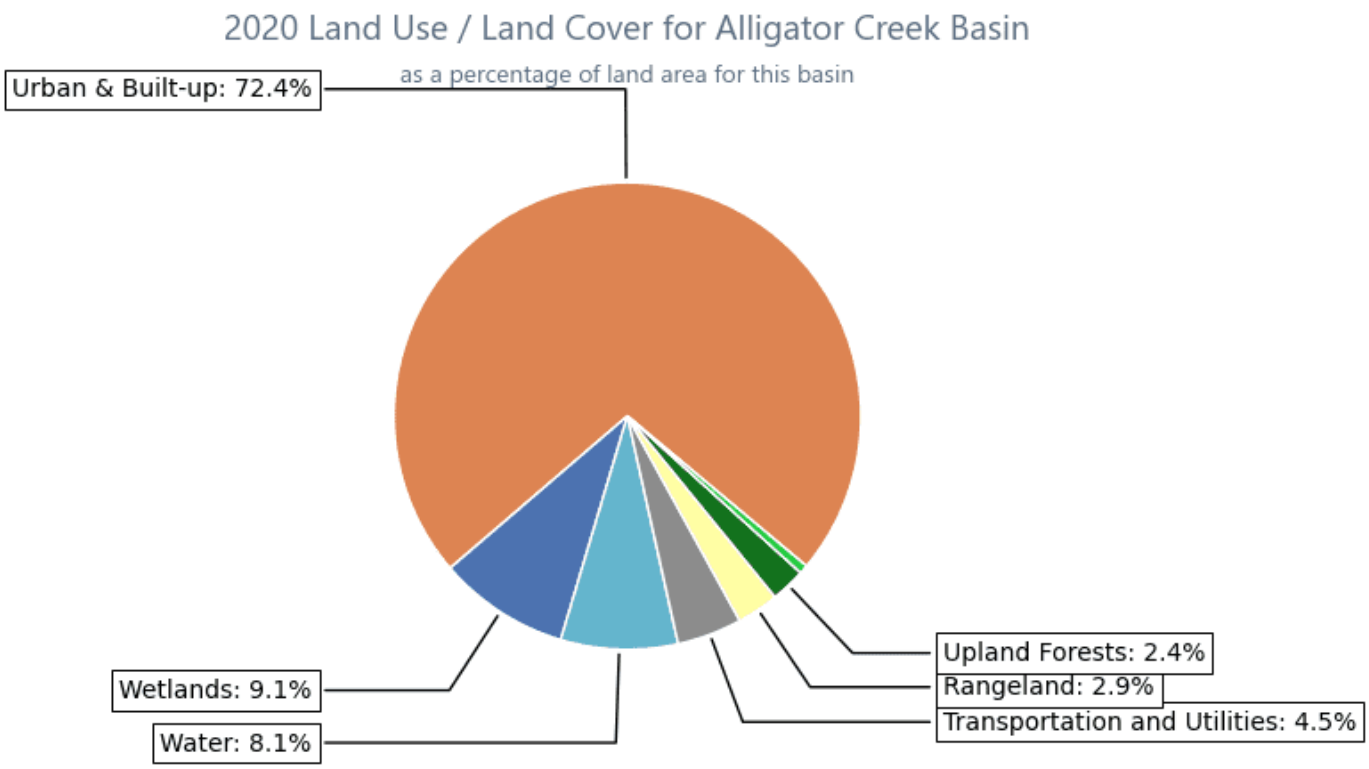


Land Use / Land Cover

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.

Acreage and Percentage within each Land Use / Land Cover Category for Alligator Creek Basin

Land Use Classification	1990	1995	1999	2005	2011	2014	2017	2020	Trend
Urban & Built-up	3,990 58.8%	4,415 65%	5,066 74.6%	4,720 69.5%	4,812 70.9%	4,812 70.9%	4,927 72.6%	4,914 72.4%	
Agriculture	73 1.1%	62 0.9%	71 1%	282 4.2%	64 0.9%	64 0.9%	42 0.6%	42 0.6%	
Rangeland	550 8.1%	740 10.9%	95 1.4%	223 3.3%	294 4.3%	294 4.3%	200 2.9%	200 2.9%	
Upland Forests	821 12.1%	230 3.4%	190 2.8%	181 2.7%	173 2.6%	173 2.6%	162 2.4%	162 2.4%	
Water	361 5.3%	610 9%	574 8.4%	484 7.1%	528 7.8%	528 7.8%	548 8.1%	551 8.1%	
Wetlands	737 10.9%	459 6.8%	518 7.6%	619 9.1%	625 9.2%	625 9.2%	618 9.1%	618 9.1%	
Barren Land	22 0.3%	0 0%	2 0%	0 0%	0 0%	0 0%	0 0%	0 0%	
Transportation and Utilities	234 3.4%	272 4%	275 4%	280 4.1%	293 4.3%	293 4.3%	293 4.3%	303 4.5%	


2020 Land Use / Land Cover for Alligator Creek Basin
as a percentage of land area for this basin
Urban & Built-up: 72.4%
Wetlands: 9.1%
Water: 8.1%
Upland Forests: 2.4%
Rangeland: 2.9%
Transportation and Utilities: 4.5%