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FY21 COLLIER COUNTY SURFACE WATER REPORT

Prepared by Collier County Pollution Control

April 2022

1. INTRODUCTION

Collier County Pollution Control (CCPC) monitors a network of fixed surface water sampling sites throughout Collier County for the purpose of assessing long-term trends and determining if surface waters are meeting water quality standards. This report provides a summary of the surface water quality monitoring efforts and a brief assessment of results for fiscal year 2021 (FY21)—October 2020 through September 2021.

2. METHODS

2.1. Sampling

During FY21, three water quality monitoring programs that include sixty-six (66) surface water stations (Appendix A) were sampled monthly for the laboratory analytes listed in Appendix B. Figure 1 shows the location of the sites monitored during FY21 as well as the waterbody identification (WBID) used to define the watershed boundaries (FDEP, 2020). For an interactive map, please visit https://www.arcgis.com/home/webmap/viewer.html?webmap=62538b4691d64ff594e56f63791b98fd&extent=-81.9537,26.0644,-81.5794,26.3481.

All sample collection and in-situ meter readings were conducted in accordance with CCPC's Field Sampling Quality Manual and the Florida Department of Environmental Protection's (FDEP's) Standard Operating Procedures (SOPs). CCPC's field sampling program is accredited through The NELAC (National Environmental Laboratory Accreditation Conference) Institute's (TNI's) National Environmental Field Activities Program (Certification #4262.01).

In-situ physical measurements of pH, dissolved oxygen (DO), salinity, specific conductance, and temperature were obtained at the surface (0.3 meters below the water surface) using a Yellow Springs Instrument (YSI) ProDSS multi-probe. When total water depth exceeded 1.5 meters, these field measurements were also collected on the bottom (0.3 meters above bottom). Turbidity was measured in the field at the surface using an HF Scientific MicroTPW turbidimeter. Secchi depth and total water depth were also recorded at each station. All samples were collected in appropriate containers with proper preservation and immediately placed in wet ice for transport to the laboratory.

Tidally influenced sites were sampled on an outgoing tide.

2.2 Laboratory Analysis

All chemical parameters, with the exception of sucralose, were analyzed by the Collier County Pollution Control Laboratory (CCPCL) or PACE, Inc. Laboratories. Both laboratories are accredited by TNI under Chapter 64E-1, Florida Administrative Code (FAC).

During January, February, March, and April, analysis of ammonia, chloride, color, nitrate-nitrite, nitrite, total kjeldahl nitrogen, orthophosphate, total phosphorus, and sulfate were sent to our contract laboratory due to internal laboratory equipment failure.

Sucralose was analyzed by Florida International University (FIU) Environmental Analysis Research Laboratory (EARL), which did not hold any TNI certifications for sucralose at the time of these analyses.

FIU EARL's methodology analyzes sucralose by online solid phase extraction high performance liquid chromatography high resolution mass spectrometry. Samples were collected and frozen to less than -20°C until shipped in ice to EARL. Once thawed, samples were analyzed within 30 days.

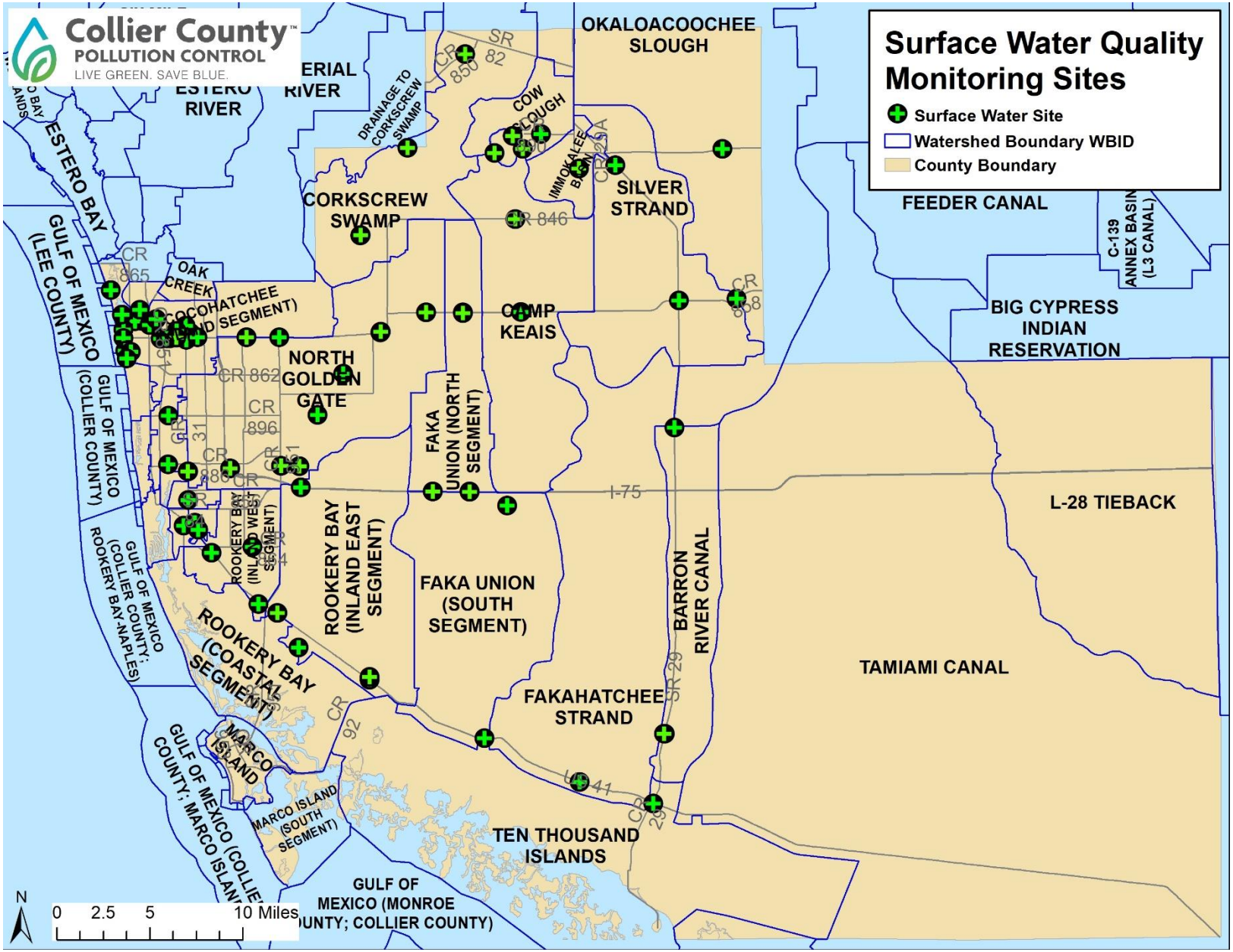

Figure 1. FY21 Surface Water Sampling Site Locations

3. DATA QUALITY AND REDUCTION

3.1. Validity

The data used in this report have been checked for accuracy and completeness and CCPC attests to the validity of these results. All data qualifiers follow Florida Administrative Code (FAC) 62-160, Table 1. Quality control and quality assurance (QA/QC) reports are available upon request.

3.2. Quality Control Issues

Nine percent of copper results were "G" qualified due to field quality control blank contamination. Further investigation revealed that aging plumbing fixtures used to convey the deionized water were releasing copper into the deionized water systems used to decontaminate the equipment and create field quality control blanks. Levels of contamination were relatively low and all affected data have been removed from this assessment. Replacement of the plumbing lines and fixtures was delayed until September 2021 due to COVID and/or supply chain issues.

3.3. Data Reduction

Before data were assessed, the dataset was examined for outliers and for data that may not be of acceptable quality for the purposes of this report. Specifically, any samples that were analyzed outside of the acceptable holding times; samples that were questionable due to collection or laboratory errors; or samples that may have possible contamination as indicated by the results of quality control samples were removed from the dataset. Therefore, samples that have been qualified with G, Q, V, Y, ?, or L were excluded from the assessment.

Results for some parameters are routinely below the level of detection or method detection limit (MDL), used by the laboratory. There are many ways to assess results that are reported below the MDL. For this report, results reported below the laboratory MDL were assessed using one-half of the reported MDL. For example, a result reported as 0.10 milligrams per Liter (mg/L) with a "U" qualifier indicating the value reported was below the MDL, was converted to 0.05 mg/L for use in summary statistics. This simple substitution method follows FDEP's current methodology for assessing surface waters in FAC 62-303.

4. DATA ASSESSMENT

4.1. Summary Statistics

Basic summary statistics (minimum, maximum, average, and standard deviation) are provided in Appendix C. These statistics are shown by WBID which represent the watershed boundaries used by the FDEP in their assessments of water quality under the Impaired Waters Assessment Rule (FAC 62-303). Each WBID has a varying number of water quality stations. Where statistically significant seasonal or temporal differences were examined, a one-way analysis of variance was used.

4.2 Basin Information & Status

Figures 9 through 30 provide a "snapshot" of each WBID showing its location, the location of sampling sites, land area, land use per South Florida Water Management District 2014-2016 Land Use Land Cover, drainage, impairments, short and long-term water quality trends, and percent number of exceedances of water quality standards or thresholds in FY 2021. Acronyms for parameters are provided in Appendix B.

Long-term trends were taken from the draft report from Janicki (in press)—Surface Water Quality Annual Assessment and Trend Report for Collier County. Short-term trends are defined by years 2015-2020 and long-term trends are years 1999-2020. Trend data is included in this report to give historical perspective as to the water quality conditions in each WBID.

4.3 Exceedances of Water Quality Standards

Results were compared to the state standards found in FAC 62-302.530 to determine if they are meeting water quality criteria. Some criteria are determined using other parameters measured at the time of sample collection, and as a result certain criterion do not have static values. For example, ammonia criteria are determined using an equation that incorporates temperature and pH of the water at the time of sample collection, resulting in varying freshwater ammonia criterion for each result.

Lake Trafford is the only freshwater body in Collier County that has numeric nutrient criteria established in FAC 62-302. The Gordon River Extension WBID (Class III Freshwater) has numeric nutrient criteria for total nitrogen and total phosphorus that were established as part of the Total Maximum Daily Load (TMDL) adopted in 2008. The Cocohatchee River WBID, a Class II Marine waterbody, has numeric nutrient criteria for chlorophyll-a, total nitrogen, and total phosphorus. Therefore, only values in these three WBIDs that exceed established standards are true exceedances of nutrient water quality standards.

The remaining freshwater canals in Collier County do not have numeric nutrient water quality standards. The current nutrient standard for most canals in Collier County is narrative and states

"*in no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.*" In an effort to provide assessment and comparison of the nutrient levels in our freshwater canals in Collier County, this report uses the nearest numeric total nitrogen (TN) and total phosphorus (TP) standard for freshwater streams and canals. Numeric nutrient criteria from the Peninsular Nutrient Watershed Region (FAC 62-302.531), which includes most of Lee County (Figure 2), were used here to assess nutrients. The Peninsular standard for TN is 1.54 mg/L and TP is 0.12 mg/L. Both values are based on the annual geometric means of the entire WBID (all stations in the WBID are averaged together). An exceedance would occur if the annual geometric mean in the WBID exceeded these values more than once in three years. Since this report is only looking at one year of data, annual geometric means were not used for assessment. Instead, each station was assessed on its own by month using the appropriate criteria. This provides more insight into which stations may have a greater frequency of exceedances.

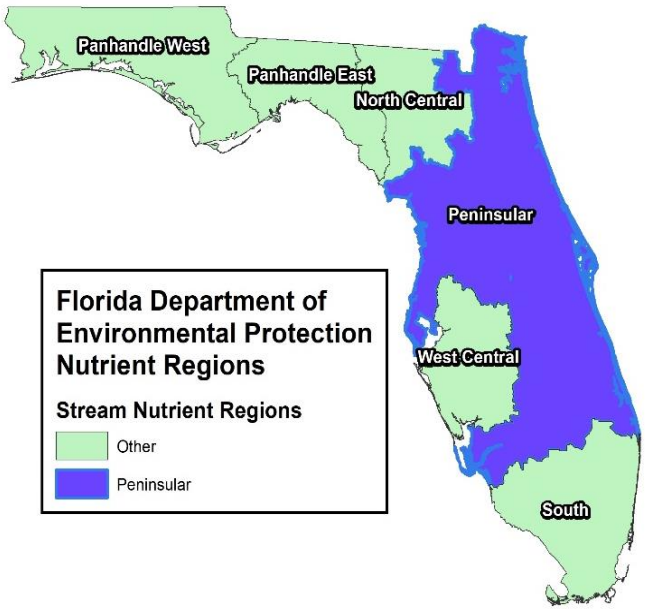

Figure 2. FDEP Nutrient Regions

In addition to TN and TP, the FDEP uses chlorophyll-a (an indicator of algae growth) as a nutrient response variable, or an "imbalance" of flora. The FDEP considers chlorophyll-a values above 20 micrograms per Liter (μg/L), to be representative of an algae bloom in freshwater. For this report, results above 20 μg/L in freshwater were included as exceedances.

FAC 62-302 uses different bacteriological standards for marine versus freshwaters. In marine waters, enterococcus is used to evaluate bacteria levels. Freshwater criteria are based on levels of Escherichia coli (E. coli). Relevant to the State Water Quality Standards, enterococci are only analyzed in marine waters and E. coli is only analyzed in predominately fresh waters.

Table 1 provides a program-wide summary of water quality parameters in FY21 that exceeded state standards or screening thresholds. DO was again the most exceeded state standard. When examined for seasonality, DO, iron, TN, TP, and pH showed significant differences between wet (June-Sept) and dry (Oct-May) seasons. Based on this, nutrient exceedances, including DO, are occurring more often in the wet season.

Table 2 provides the percent of samples which exceeded a standard or screening threshold by WBID. These exceedances were compared to FY20 and highlighted in red to show increases; green to show decreases; or blue to show no increase in the percent number of exceedances. This provides a visual comparison of parameters that in FY21 improved, degraded, or did not change since the previous year. Overall, there were no significant differences in the percent exceedances in FY21 compared to FY20.

Table 1. Surface Water Quality Exceedances in FY21

Parameter	% of Samples that Exceeded		
	Dry	Wet	Total FY21
Ammonia	0.0%	0.4%	0.1%
Chlorophyll a	12.9%	23.9%	16.5%
Copper	1.2%	2.7%	1.7%
Dissolved Oxygen Saturation	27.2%	36.4%	29.9%
Enterococci (MPN)	29.0%	24.5%	27.5%
Escherichia coli (MPN)	13.5%	16.8%	14.6%
Iron	7.8%	8.8%	8.1%
Total Nitrogen	21.8%	32.3%	25.2%
pH	3.2%	6.1%	4.1%
Phosphorus- Total	20.6%	27.5%	22.9%

These exceedances are further broken down by WBID and by station in Appendix D. It should be re-emphasized that any listed chlorophyll-a, TN, or TP exceedances outside of the Gordon River Extension, Lake Trafford, or Cocohatchee River WBIDs are not true exceedances.

Figure 3 graphically represents the percent exceedances in each WBID broken down by each pollutant category; nutrients (chlorophyll-a, TN, and TP), metals (copper, iron), bacteria (E. coli, enterococcus), DO, pH, and turbidity. Lake Trafford had the highest number of exceedances in FY21, a majority of which were nutrients. This WBID currently has a TMDL for nutrients, DO, and unionized ammonia.

4.4 Top Ten Station Ranking

For comparative purposes, Table 3 ranks the top ten station averages for each of the parameters that were found to have exceedances in FY21.

Table 2. Percent Exceedances by WBID in FY21

WBID	Total % of Sample Exceedances	Percent of Samples that Exceeded a Standard or Screening Threshold										
		Ammonia	Chlorophyll	Copper	Dissolved Oxygen Saturation	Enterococci	Escherichia coli	Iron	pH	Total Phosphorus	Total Nitrogen	Turbidity
Barron River Canal	5.9%	0.0%	12.5%	0.0%	97.8%	--	0.0%	8.3%	0.0%	20.8%	8.3%	0.0%
Camp Keais	5.9%	10.0%	0.0%	0.0%	100.0%	--	10.0%	0.0%	0.0%	60.0%	20.0%	0.0%
Cocohatchee (Inland Segment)	2.4%	0.0%	10.8%	0.9%	25.0%	--	23.7%	2.3%	0.0%	13.8%	3.1%	0.0%
Cocohatchee River	5.3%	0.0%	26.6%	4.5%	4.1%	14.5%	--	15.9%	0.0%	19.4%	65.9%	0.0%
Corkscrew Swamp	3.3%	0.0%	3.2%	0.0%	69.4%	--	9.7%	3.2%	5.6%	3.6%	12.5%	0.0%
Cow Slough	7.1%	0.0%	0.0%	0.0%	36.4%	--	60.0%	30.0%	0.0%	80.0%	40.0%	0.0%
Faka Union (North Segment)	1.0%	0.0%	0.0%	0.0%	12.0%	--	5.3%	16.7%	0.0%	0.0%	0.0%	0.0%
Faka Union (South Segment)	0.5%	0.0%	0.0%	0.0%	14.8%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fakahatchee Strand	5.1%	0.0%	33.3%	0.0%	71.4%	--	41.7%	0.0%	0.0%	0.0%	25.0%	0.0%
Gordon River Extension	6.0%	0.0%	0.0%	0.0%	44.4%	--	20.0%	8.3%	0.0%	60.9%	75.0%	0.0%
Haldeman Creek (Lower)	6.3%	0.0%	58.3%	30.0%	35.7%	91.7%	--	0.0%	0.0%	8.3%	0.0%	0.0%
Haldeman Creek (Upper)	4.3%	0.0%	17.9%	0.0%	21.4%	--	28.6%	0.0%	0.0%	60.7%	21.4%	0.0%
Immokalee Basin	4.9%	0.0%	0.0%	0.0%	100.0%	--	0.0%	0.0%	0.0%	71.4%	0.0%	0.0%
Lake Trafford	13.5%	0.0%	87.2%	0.0%	5.6%	--	--	0.0%	48.6%	91.7%	97.9%	0.0%
North Golden Gate	1.1%	0.0%	2.0%	0.0%	17.1%	--	3.0%	5.1%	2.1%	0.0%	3.1%	0.0%
Okaloacoochee Slough	3.4%	0.0%	7.7%	0.0%	81.3%	--	0.0%	0.0%		8.3%	7.7%	0.0%
Rock Creek	6.1%	0.0%	16.7%	10.0%	84.6%	91.7%	--	0.0%	0.0%	8.3%	0.0%	0.0%
Rookery Bay (Inland East Segment)	1.8%	0.0%	6.7%	2.4%	19.6%	--	8.7%	2.2%	0.0%	15.9%	6.7%	0.0%
Rookery Bay (Inland West Segment)	2.6%	0.0%	15.6%	3.7%	34.2%	--	18.2%	0.0%	0.0%	3.3%	12.5%	0.0%
Silver Strand	8.4%	0.0%	22.2%	0.0%	60.0%	--	25.0%	66.7%	3.3%	70.4%	41.4%	0.0%
Ten Thousand Islands	4.3%	0.0%	0.0%	0.0%	78.9%	33.3%	--	0.0%	0.0%	0.0%	7.7%	0.0%
Wiggins Bay Outlet	3.6%	0.0%	0.0%	9.1%	58.3%	--	16.7%	36.4%	0.0%	0.0%	0.0%	0.0%

-- No Samples | No Change from FY20 | Increase from FY20 | Decrease from FY20

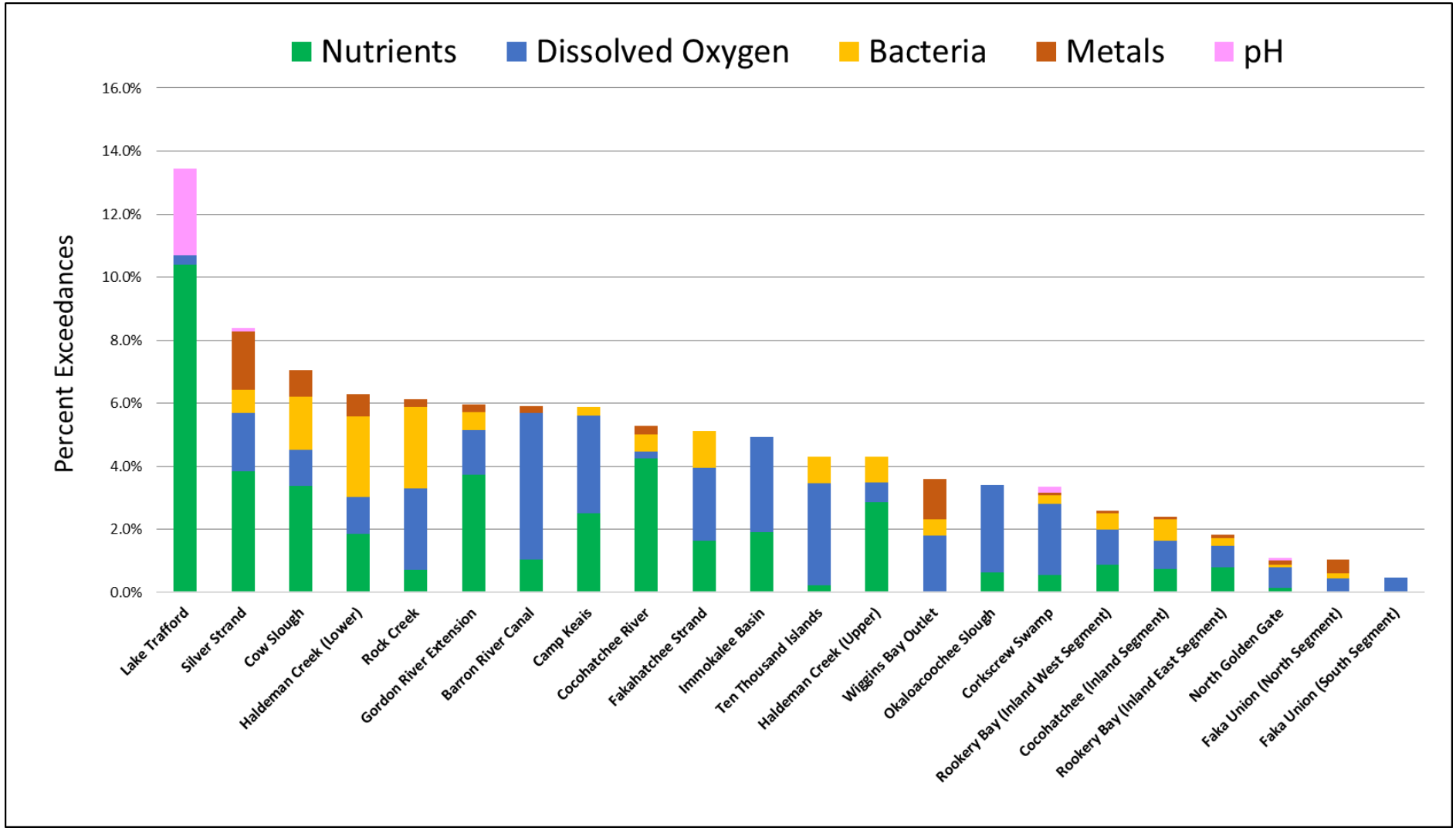

Figure 3. Percent Exceedances by WBID and Parameter

Table 3. Station Rankings Based on Average Concentrations of Parameters with Exceedances

Rank	Ammonia (mg/L)		Chlorophyll a (mg/m3)		Copper (μg/L)		Dissolved Oxygen Saturation (%)		Enterococci (MPN/100ml)	
1	KEAISS	0.59	LKTRAF4	77.2	TAMTOM	15.6	KEAISN	11.0	ROCKCRK	1734
2	IMKBRN	0.41	LKTRAF1	75.3	NNAPLES	12.4	CORKS	12.1	BC5	744
3	GORDONRIV	0.27	LKTRAF8	70.8	WIGGINSBY	6.4	IMKSLGH	12.8	COCORVW	641
4	ROCKCRK	0.26	ECOCORIV	39.4	EAGLECRK	5.4	KEAISS	14.5	COCOR2	334
5	TAMTOM	0.23	IMKBRN	22.9	HALDUP	4.5	CORKN	15.2	COCAT41	203
6	WIGGINSBY	0.20	WINPARK	19.7	IMKBRN	4.3	OKALA858	15.6	TURKBAY	144
7	RATTLESN	0.19	BC24	19.6	WINPARK	4.2	BC24	17.4	BARRIVN	137
8	BC26	0.17	COCPALM	19.3	BC5	3.5	ROCKCRK	19.0	BLUE	95
9	NNAPLES	0.17	EAGLECRK	17.5	LELY	2.9	RATTLESN	19.8	COCOR1	69
10	ECOCORIV	0.17	BC19	15.7	ECOCORIV	2.6	BARRON	22.1	VBILTCAN	46
Rank	**E. coli (MPN/100ml)**		**Iron (mg/L)**		**Total Phosphorus (mg/L)**		**Total Nitrogen (mg/L)**		**pH (SU)**	
1	BC19	2139	IMKBRN	1.263	WINPARK	0.592	IMKBRN	2.38	KEAISN	6.74
2	TAMTOM	1279	IMKFSHCK	1.122	IMKBRN	0.388	LKTRAF1	2.15	CORKS	6.80
3	IMKFSHCK	1159	BRN	1.063	IMKFSHCK	0.294	LKTRAF4	2.09	IMKBRN	6.94
4	ECOCORIV	985	GGC@858	0.905	KEAISS	0.258	KEAISS	1.74	OKALA846	7.01
5	WCOCORIV	953	WIGGINSBY	0.897	TAMTOM	0.255	LKTRAF8	1.60	KEAISS	7.05
6	COC@IBIS	822	COC@IBIS	0.867	WCOCORIV	0.225	IMKFSHCK	1.57	OKALA858	7.08
7	EAGLECRK	757	FAKA858	0.828	IMKSLGH	0.212	WINPARK	1.56	IMKSLGH	7.08
8	RATTLESN	645	CORKSCRD	0.749	LKTRAF8	0.179	OKALA858	1.50	LKTRAF8	7.91
9	COCPALM	541	TAMTOM	0.716	LKTRAF4	0.173	TAMTOM	1.43	LKTRAF4	8.51
10	WINPARK	453	GRE896	0.649	ECOCORIV	0.134	BC24	1.43	LKTRAF1	8.52

5. SOURCE TRACKING

Source tracking refers to a set of tools used to identify potential sources of known pollutants in a watershed. These investigative tools include review of aerial maps, infrastructure inspection and testing, land use review, permit review, and walking the watershed to look for probable sources. In addition, sampling for specific pollutants is expanded throughout the watershed, targeting specific areas, tributaries, canals, and drainage infrastructure. These expanded sampling efforts are designed with the goal of identifying and quantifying all potential inputs to a system. Source tracking of pollutants in FY21 were prioritized for Fecal Indicator Bacteria (FIB) and nutrients.

5.1 Bacteria

During FY21, the highest number of bacteria exceedances occurred in the Haldeman Creek (Lower) and Rock Creek WBIDs, both Class III Marine waters. These WBIDs were previously verified as impaired for bacteria during the 2019 Impaired Waters Rules (IWR) assessment and in the most recent draft IWR assessment in 2021.

5.1.1 Rock Creek

The Rock Creek WBID is primarily a tidal creek with some channelized, water level-controlled tributaries. The creek drains an area serviced by septic tanks and County sewer service. The ROCKCRK station is the only station monitored by CCPC within this WBID and exceeded the bacteria standard in 91.7% of the samples collected during FY21. This is an increase from FY20, where 85% of the bacteria samples exceeded the state standard. This site also has the highest annual average of Enterococci in the County.

As part of an ongoing source tracking investigation, staff have walked this WBID. Potential bacteria sources were identified and included wastewater collections infrastructure (private and public), septic tanks, poultry operations, homeless camps, a recreational vehicle (RV) park, and wildlife. More intensive water quality sampling was conducted including tributary sampling on multiple dates to narrow the location of potential point sources. Based on those results, samples were collected at three locations and analyzed for human DNA on June 28, 2021 and again on August 30, 2021. Human DNA was found at two locations which further narrows the location of potential sources (Figure 4).

With human DNA being identified, the following actions occurred in FY21:

- Lift stations nearest the stormwater conveyance system were inspected. No evidence of sanitary sewer overflows was found.
- A homeless encampment was found along Donna Street, reported to Code Enforcement, and subsequently removed.
- Staff inspected the Rock Creek RV Resort on September 23, 2021 for malfunctioning lift stations or failing RV hookups, none were found.
- Public Utilities staff inspected the County's sewage force main along Donna St. on October 5, 2021. No leaks were found, but some aging air release valves were

consequently scheduled for replacement and/or upgrade to aboveground placement for easier observation.

Remaining activities include:

- requesting FDEP/FDOH inspect the septic tanks in the area;
- public education on pet (including poultry) waste cleanup;
- ensuring proper siting and code for poultry operations;
- additional sampling to help further define the sources;
- periodically re-walk the WBID looking for new potential sources;
- continue to inspect surrounding wastewater infrastructure; and
- increase frequency of sample collection as staffing and budget constraints allow.

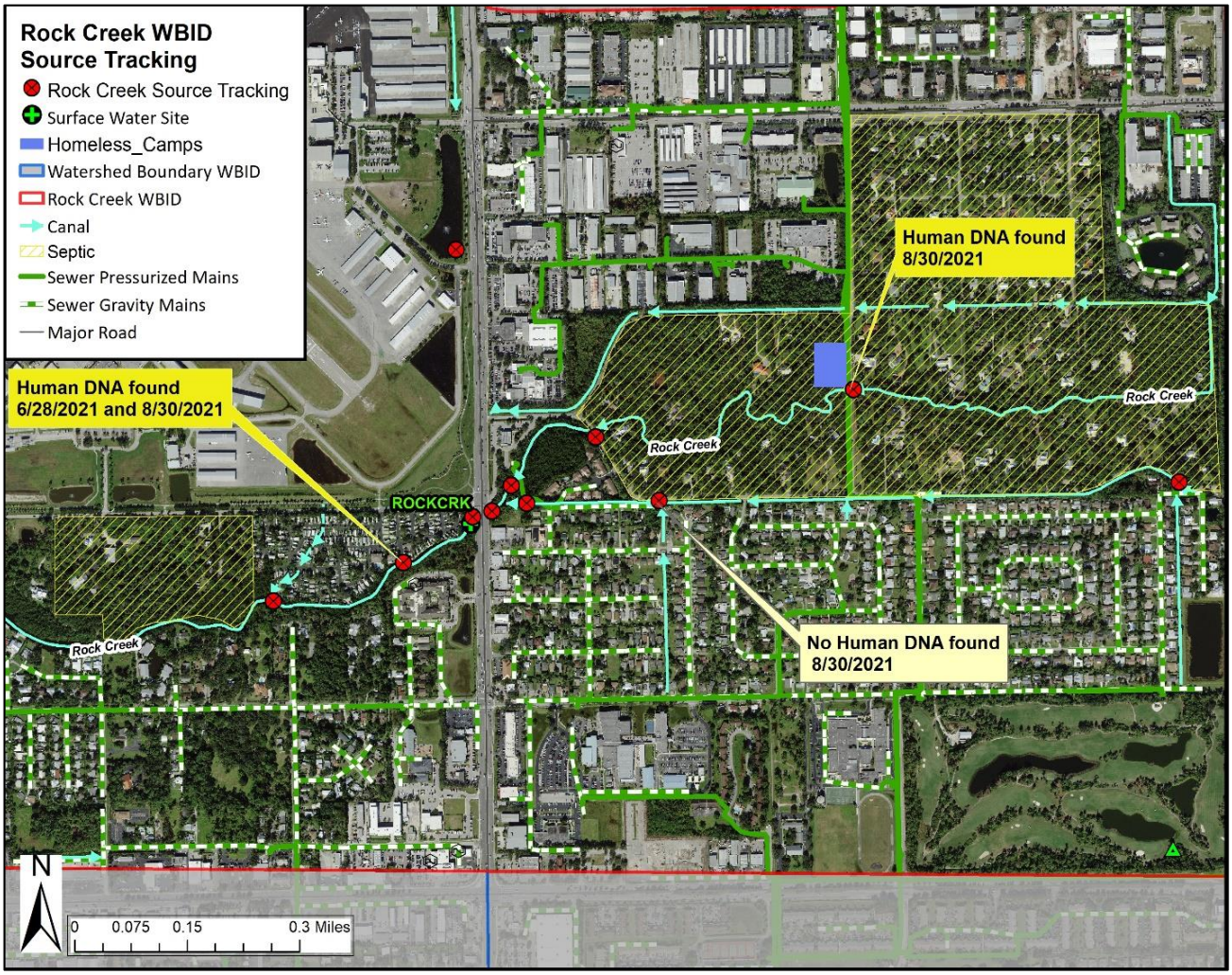

Figure 4. Rock Creek Source Tracking

5.1.2 Haldeman Creek (Lower)

Station BC5, the only station monitored by CCPC in this WBID, had a 91.7 % bacteria exceedance rate. This was an increase from the FY20 exceedance rate of 75% at this site. Several homeless camps (Figure 5), likely contributors to bacteria and nutrients, have been documented within this WBID and upstream of this site in the Haldeman Creek (Upper) WBID. Collier County Code Enforcement has assisted in removal of these camps; however, the camps are transient in nature and find other nearby locations or eventually return to the same location.

Figure 5. Homeless camp located in the Haldeman Creek (Upper) WBID

Although this WBID is impaired for bacteria, nutrients are also of concern. The additional source tracking involving nutrient sources is discussed below.

5.1.3 Gordon River (Marine Segment)

CCPC does not currently monitor the Gordon River (Marine Segment) WBID, which is impaired for bacteria, because this tidal waterbody does not fall under CCPC's jurisdiction. As a result, no data are presented in this report and its inclusion in this section is based on our FIB source tracking efforts.

CCPC received a complaint from the City of Naples in 2020 (PC2020-164) regarding sewage-like odors emanating from discharge being pumped from Naples Zoo into the Gordon River. CCPC collected bacteria samples from the discharge and found elevated bacteria that would not meet the standards in the receiving waterbody, Gordon River (Marine Segment). This information was provided to the FDEP for enforcement action. FDEP performed an onsite inspection on August 19, 2021 and found the Naples Zoo to be in violation of discharging to waters of the State without a permit. On October 8, 2021, the FDEP issued a warning letter and is currently working with Naples Zoo to bring the facility into compliance. The discharges are ongoing until retrofit or other options for discharge are established.

5.1.4 Cow Slough

Station IMKFSHCK was impaired for bacteria in 2012 but was removed from the verified impaired list in 2019. However, average bacteria levels in FY21 were higher than the current state standard and this WBID was placed back on the 2021 Draft Impaired List for E. coli. In 2021, the CCPC collected samples for FDEP at this site. The FDEP tested for several bacterial DNA markers including human, dog, bird, and cattle (ruminant). Only cattle and bird DNA were detected.

5.1.5 Cocohatchee River Watershed

In the Cocohatchee River and Cocohatchee (Inland Segment) WBIDs, there are sites that routinely exceed the corresponding bacteria criterion, although the overall number of exceedances is low. Figure 6 shows the percent of exceedances in FY21 in the Cocohatchee River watershed. Most of the estuary (yellow) is meeting the criterion for bacteria. More bacteria exceedances occurred in the tidal river (eastern portion) of the estuary. Tracking bacteria sources in tidally influenced waters becomes more complicated due to the water movement during tidal exchange. To help eliminate some tidal influence, samples in the estuary are always collected on outgoing tides with sampling starting from downstream and working upstream. With this sampling protocol, it becomes more evident that sources are likely originating from upstream as seen in Figure 6. Several tributaries within the freshwater portion are potential sources based on the number of exceedances.

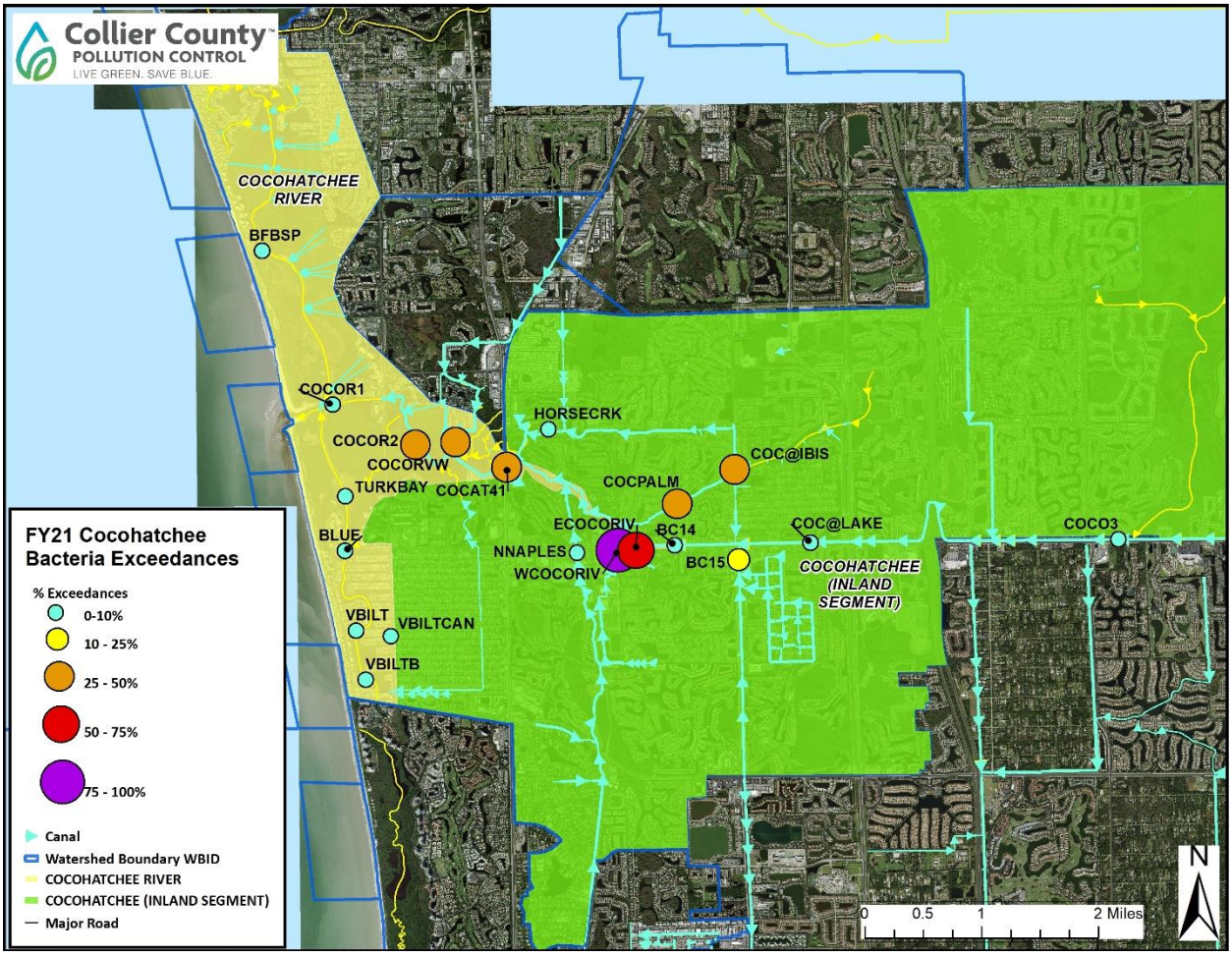

Figure 6. Percent Bacteria Exceedances in Cocohatchee River Watershed

Station WCOCORIV monitors the West Branch of the Cocohatchee River and had the highest percent of exceedances in FY21 at 76.9%, up from 58.3% in FY20. This site collects stormwater runoff that includes the North Collier Water Reclamation Facility. In FY20, DNA bacteria were sampled at this site and a marker indicating human DNA was found. Force main integrity testing was performed by the Collier County Water-Sewer District and no leaks were found (CCPC, 2021). Bacteria levels at this site indicated improvement in FY20, but then began to increase again in FY21. Follow-up DNA testing will be performed in FY22.

Bacteria levels at ECOCORIV, which had the second highest number of exceedances at 60%, seems to be correlated with tidal influence. This site is separated from the saltwater interface by an amil gate weir. This weir seems to be more vulnerable to high tides in the last two years causing increases in salinity on the upstream side of the weir at site ECOCORIV. Increases in chloride (salinity) also correspond to increases in bacteria (Figure 7). Some source tracking and remediation was conducted on the tidal side of the weir in FY20 (CCPC, 2021) and will continue in FY22.

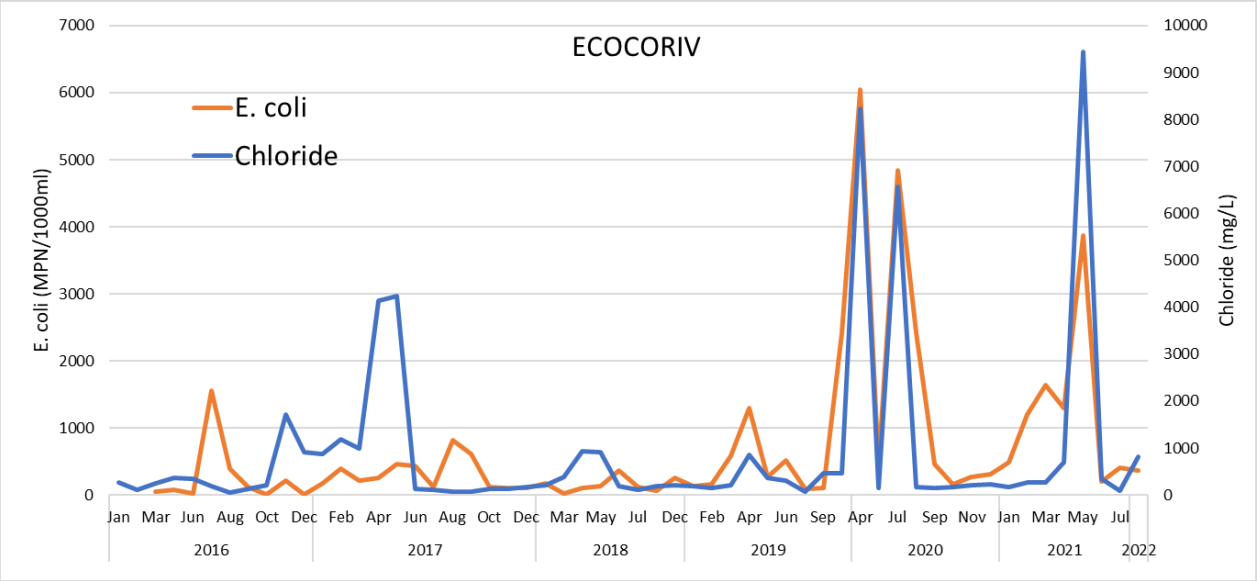

Figure 7. Chloride and E. coli Levels at Site ECOCORIV

5.2 Nutrients

5.2.1 Sucralose

Sucralose, also known as Splenda®, is an artificial sweetener that is commonly found in reduced calorie foods and drinks. Sucralose has been found in wastewater effluent after conventional wastewater treatment (including treatment from septic systems) has occurred. Sucralose is also stable in the environment with a half-life of up to several years (Lubick, 2008). Because of this, sucralose has been found to be an ideal marker to trace impacts of wastewater in surface water (Oppenheimer, 2011). However, because sucralose is not treated out by conventional wastewater treatment processes, it is also found in reuse irrigation water.

Reuse irrigation water (Reuse) contains nutrients. Table 4 shows the reported levels of TN and TP in finished reuse water during FY21. Sucralose can be used to provide a crude estimate of nutrient load to surface water from wastewater sources (Oppenheimer, 2012). However, there is no direct calculation to estimate nutrient concentration or load based on the amount of sucralose present in the water. Where reuse is present and sucralose is found in the surrounding waterbodies, some nutrient loading would be expected to be from reuse, although the amount is not quantifiable. In this case, we are using sucralose as a tracer for nutrient sources related to wastewater.

Table 4. Average Nutrient Contents of Finished Reuse Water FY21 (Collier County Public Utilities)

Service Area	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)
North Service Area	8.8	1.7
South Service Area	9.0	1.1

Sucralose monitoring was first conducted in FY20 at all CCWQ surface water sites to establish background levels of the tracer. This quarterly monitoring was repeated in FY21. Unfortunately, due to COVID and staffing issues at FIU, the September 2021 samples were not analyzed.

Stations sampled for sucralose during FY21 were broken down into categories indicating the sources of wastewater that could impact the sample site. These categories were based on the occurrence of reuse irrigation (and sewer), septic systems only, sewer only, septic systems and sewer, or a mix of all three—reuse, sewer, and septic. Some sites in the natural areas of the county were deemed as control sites as they have no sewer, no reuse, and no septic tanks. Table 5 shows the average sucralose levels by wastewater source influence and by season. Based on the average sucralose values found during FY21, the stations monitoring areas with reuse irrigation had the highest sucralose levels.

Table. 5 Average Sucralose Levels by Source Influence in FY21

Wastewater and Reuse Influence	Average Sucralose (µg/L)		
	Dry Season	Wet Season	Oppenheimer 2012
Reuse Irrigation	5.3863	1.8077	4.400
Mix (Reuse/Septic)	0.6407	0.6913	not included
Septic only	0.1225	0.1519	0.160
Sewer and Septic	0.0894	0.0888	not included
Sewer Only	0.0957	0.0490	not included
Control	<0.0121*	<0.0121*	<0.100

**Detection limit is 0.0121 µg/L*

The most obvious seasonal difference in sucralose levels was in the areas influenced by reuse. This is likely due to reuse being used most often during the dry season and concentration of sucralose by seasonal draw down in the canal.

On average, the control sites had no detectable level of sucralose indicating that sucralose is not present in areas without wastewater influence. Areas influenced only by sewer or sewer and septic had very low or slightly above detectable levels of sucralose. Canals where septic tanks were the only source of wastewater, showed higher levels of sucralose than the control or sewered areas. This may indicate that leachate from septic systems is reaching the canals which follows similar results found by Oppenheimer, 2012. Figure 8 shows the average

sucralose levels found at each site during FY21, along with reuse service areas, sewer mains, and known septic tank areas.

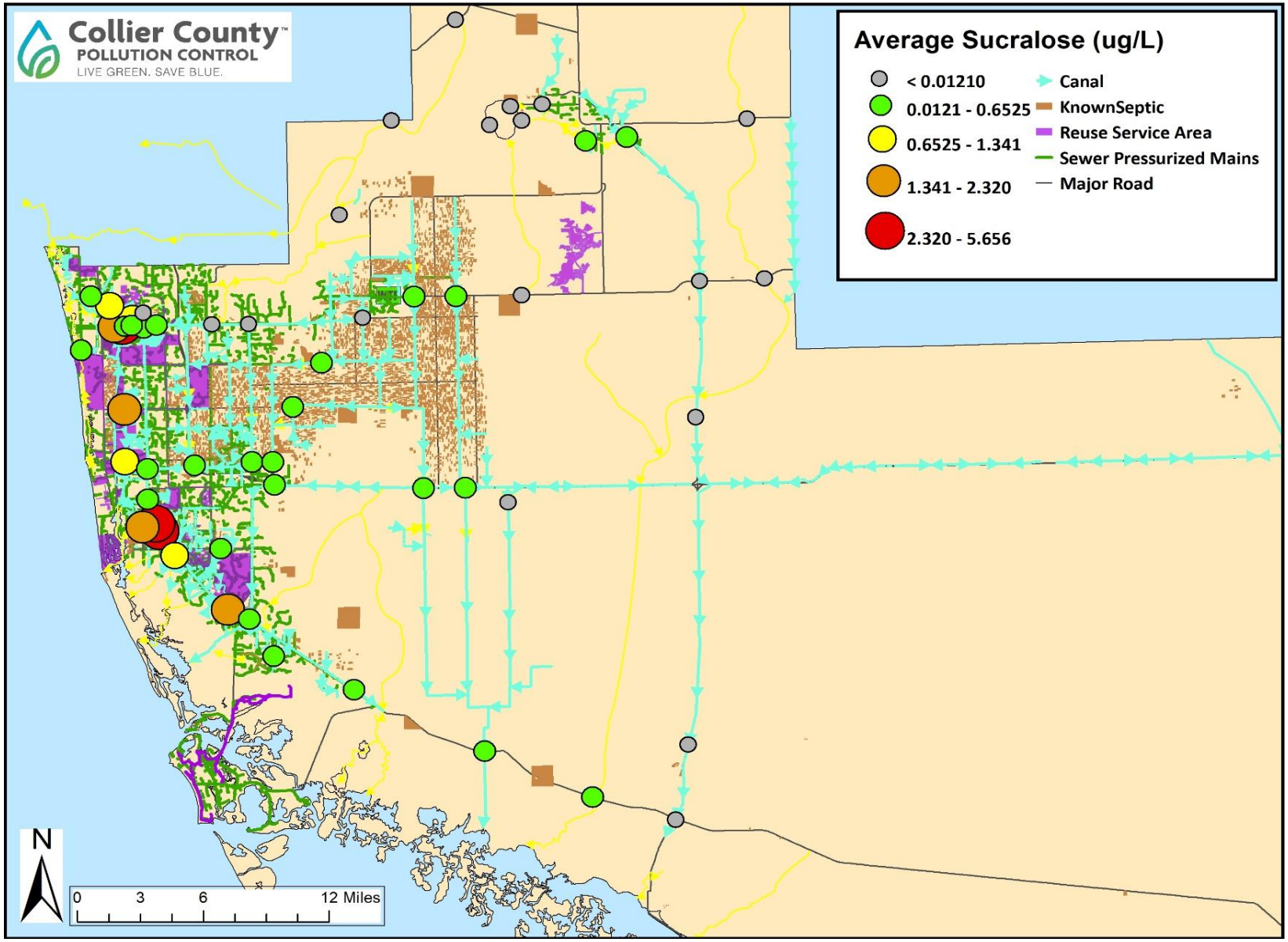

Figure 8. Average Sucralose Levels

When FY21 average TN, TP, and sucralose are also grouped by wastewater influence (Table 6), the results indicate that average TP is highest in areas with reuse irrigation. Average TN is highest in areas influenced by natural conditions, but the difference in TN levels by wastewater influence is not as evident.

Table 6. Average TN, TP, and Sucralose by Wastewater Influence

Wastewater Influence	TN (mg/L)	TP (mg/L)	Sucralose (µg/L)
Control	**1.12**	**0.038**	<0.0121
Mix	**1.05**	**0.068**	0.6628
Reuse	**1.03**	**0.126**	3.8526
Septic	**0.812**	**0.053**	0.1352
Sewer	**0.926**	**0.018**	0.0756
Sewer, Septic	**0.995**	**0.095**	0.0892

Table 7 ranks the top ten average sucralose levels for FY21. Similar to FY20, the top two sites located in Haldeman Creek (Upper) WBID had the highest average sucralose levels. However, compared to FY20, the overall average at these two sites has been reduced by an order of magnitude. This reduction can be attributed to the education and outreach provided by CCPC to the reuse customers in this WBID to reduce the amount of reuse overspray and runoff to the canals. For comparison, the FY20 station averages are also provided although not ranked.

Table 7. Station Ranking for Average Sucralose in FY21 and FY20

Rank	Station	FY21 Sucralose (µg/L)	FY20 Sucralose (µg/L)
1	HALDUP	5.6586	18.876
2	WINPARK	5.1200	25.636
3	WCOCORIV	4.3644	4.1881
4	EAGLECRK	2.3203	2.2888
5	GRE896	1.8688	2.0378
6	NNAPLES	1.8415	2.1044
7	BC5	1.5482	1.3622
8	GORDONRIV	1.3413	1.6398
9	COCPALM	1.0692	1.4223
10	HORSECRK	0.9763	0.6571

Even with the reduced levels of sucralose in FY21, the WINPARK site still ranked highest in average TP and 7th in TN (Table 3) with an actual increase from FY20 to FY21 in both TP (0.436 to 0.592 mg/L) and TN (1.44 to 1.56 mg/L), respectively. This may indicate reuse is not the only contributor of nutrients at this site. This site is also influenced by golf course land use and homeless camps.

A nutrient source study (Thomas, 2017) was conducted for Lake Trafford where the highest inputs of nitrogen were found to come from groundwater inflows and the highest phosphorus loads came from surface water flows from the Immokalee Slough on the eastern side of the lake. This slough receives discharge from the Immokalee Water Sewer District (IWSD) effluent spray fields. The consistent presence of sucralose would have given more evidence that impacts from wastewater were reaching the lake. However, in two years of sampling sucralose in the lake, only 3 of 32 samples had reportable levels of sucralose above the method detection limit and those were all at station LKTRAF1 near the fishing pier. The FDEP collected samples directly from the discharge from the IWSD effluent spray field on August 31, 2021 and found sucralose to be 1.5 ug/L, similar to levels found in surfaces waters influenced by reuse noted above. This demonstrates that wastewater markers are entering the Immokalee Slough; however, the sucralose levels in the lake may be diluted from mixing with lake water. Other nutrient source tracking methods are being used in FY22 to further define nutrient sources.

5.2.2 Walking the Watershed

Walking the watershed is a simple and effective tool to locate potential point sources. Using geographic information system maps and boots on the ground, potential inputs to the watershed are identified and investigated. Additional samples are then collected to further delineate nutrient or bacteria levels in tributaries within the watershed to narrow the focus of potential sources. Sometimes this indicates an obvious source, like the discharge from a fertilizer storage facility (CCPC, 2021) and other times it leads to broader issues like large neighborhoods on septic systems.

In FY21, this type of investigation occurred within the Haldeman Creek (Upper), Cocohatchee River, Cocohatchee (Inland Segment), and Silver Strand WBIDs for nutrients and/or bacteria. Sampling and laboratory analysis for these investigations are conducted as staffing availability and budget allow. Many sampling events are targeted for specific seasons or weather events. Further investigation continues in these WBIDs and others as sources are located and remediated.

6. COPPER

Copper exceedances increased in several WBIDs during FY21 (Table 2). The highest increase in exceedances occurred in Haldeman Creek (Lower). However, there was a decrease in average copper levels immediately upstream in Haldeman Creek (Upper). The marine copper criterion used to evaluate Haldeman Creek (Lower) is 3.7 ug/L. This is a much lower standard than the upstream freshwater criteria. The freshwater copper criteria are determined using an equation based on hardness levels taken at the same time copper was measured. As such, waters meeting standards in the freshwater upstream WBID could cause an exceedance in the downstream marine WBID. For the freshwater Haldeman Creek (Upper) WBID, average copper criterion for FY21 is 15.9 ug/L. In this case, although the average copper levels went down upstream, exceedances downstream went up.

Site TAMTOM continues to have the highest average copper values in FY21 (Table 3), although the annual average decreased from 17.1 ug/L (FY20) to 15.6 ug/L (FY21). Sources of copper at this site include existing copper bound in canal sediment (Gardinali, 2014) and/or direct discharges from existing agricultural operations. The Florida Department of Transportation maintains this canal and mechanically clears exotic aquatic vegetation regularly to allow CCPC access to the site to sample. FDOT has not used any aquatic herbicides at this site since 2016. Furthermore, this continual overgrowth of aquatic plants is indicative of excessive nutrient inputs. This imbalance of aquatic flora could also be considered a violation of the narrative nutrient criteria in FAC 62-302.530 (48)(b) that states "*In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.*"

NNAPLES site had the second highest station average for copper. A copper value of 92.7 ug/L was reported in January 2021. Investigation did not reveal any obvious inputs of copper from the surrounding area. There was no discharge immediately upstream in the golf course at the

time the sample was collected. Subsequent months of sampling did not reveal similar elevated copper levels. This increase in copper appears to be an anomaly.

7. CONCLUSIONS

7.1. Percent exceedances in each WBID did not vary significantly compared to FY20.

7.2. Dissolved Oxygen (DO) levels were the most common exceedance of state standards in FY21. All WBIDs sampled exceeded the DO standard at least once. In FY21, DO was more likely to exceed the standard during the wet season. During wet season, water temperatures are higher, water is darker and less likely to hold DO in solution, lowering the overall oxygen levels. Many of our canals and sloughs are naturally low in oxygen because they are dark in color, slow moving, warm, and fed by groundwater.

7.3. Enterococci was the second most frequently exceeded parameter. Most of these occurred in the Haldeman Creek (Lower) and Rock Creek WBIDs. Elevated bacteria (E. coli) levels were also found upstream of Haldeman Creek (Lower) in Haldeman Creek (Upper) at site WINPARK. Since homeless camps have been identified directly upstream of site WINPARK and adjacent to site BC5, human DNA samples have not been collected as human DNA would be expected to be present. Working with Code Enforcement to remove the homeless camps in these WBIDs will be necessary before further bacterial source tracking can occur.

Human DNA has been found in the Rock Creek WBID. One homeless camp has been removed, but the bacteria levels remain elevated. Other potential sources in the WBID that still need to be addressed include animal waste, wastewater spills, and septic systems.

7.4. Nutrients—nitrogen, phosphorus, and chlorophyll were the third most exceeded parameters in FY21. However, in the absence of true numeric nutrient standards for the freshwater canals, many of these are not true exceedances of water quality standards. The numeric nutrient standards used to assess exceedances for freshwater canals in this report were the best available criteria. There was a significant difference in wet season vs. dry season TN and TP levels. More nutrient exceedances occurred in the wet season indicating that these may be driven by rainy season runoff.

7.5. Sucralose and total phosphorus are highest in areas where reuse irrigation is used. Reducing reuse overspray and reuse runoff, should reduce sucralose and nutrients in the surrounding waterways.

7.6. Sucralose was elevated compared to background in some areas where septic tanks are the only wastewater source. This may indicate that there are impacts from septic tanks to surface water.

7.7. Lake Trafford had the highest percentage of exceedances during FY21. This lake is currently impaired for nutrients and experiences consistent algal blooms as evidenced by elevated chlorophyll levels. Consistent algal blooms also keep the DO levels elevated which accounts for the reduced number of DO exceedances in Lake Trafford. Two years of sucralose testing did not produce any definitive wastewater related nutrient sources; however, there is evidence that this wastewater tracer is entering the Immokalee Slough.

7.8. Silver Strand WBID had the second highest percentage of samples that exceeded water quality standards or screening thresholds. There is a known source of nutrients impacting the waterbody from a fertilizer storage facility. The FDEP is currently working on remediating historic discharges from this facility.

7.9. Some stations had consistent bacteria exceedances in FY21. Several sites in Cocohatchee River, Cocohatchee (Inland Segment), Haldeman Creek Upper and Lower, and Rock Creek WBIDs are currently undergoing source tracking efforts to identify bacteria inputs.

7.10. While BC19 has the highest E. coli average in FY21, these are likely to be the result of natural conditions given its location within the Fakahatchee Strand State Park and lack of wastewater sources.

7.11. Bacteria sources at IMKFSHCK have been found to include bird and cattle DNA. Since no human DNA was found at this site by the FDEP, no further bacteria source tracking will be conducted at IMKFSHCK in FY22.

7.12. Copper averages increased in half of the WBIDs in FY21. The overall number of copper exceedances also increased.

7.13. Site TAMTOM continues to have the highest copper levels of all sites monitored in FY21. Sources of copper include legacy sediment in the canals or from continued agricultural discharges as they are the largest contributor of direct discharge to the canal. This site also had the second highest E. coli average. No sucralose was found at this site, indicating that sources are not likely wastewater related.

8. RECOMMENDATIONS

8.1 Sites WCOCORIV, ECOCORIV, BC5, WINPARK, and ROCKCRK consistently exceed bacteria standards. Source tracking at these sites is ongoing and should continue to be a priority for CCPC in FY22.

8.2 Education and outreach regarding reducing/ceasing the use of copper-based herbicides was effective at reducing copper levels in surface and groundwater after its initial implementation in 2014. As homeowner association members and community priorities

change, ongoing outreach to stakeholders in WBIDs with increasing copper levels or exceedances is recommended.

8.3 Further nutrient source tracking using stable isotopes in Lake Trafford is recommended to determine the sources of nutrients and if those nutrients are entering the lake from groundwater or surface water.

8.4 Education and outreach should focus on reuse irrigation to ensure overspray and runoff are eliminated to reduce nutrient impacts to surface waters. This outreach should emphasize the requirement for reuse customers to include the nutrient content of reuse irrigation in their calculations for fertilizer application rates, per Collier County's Fertilizer Ordinance (2019-18).

8.5 Due to the elevated bacteria, nutrient, and copper levels at TAMTOM, source reduction should be a priority with respect to current efforts to restore flows from the Picayune Strand Restoration Project (PSRP) into Rookery Bay National Estuarine Research Reserve and Collier Seminole State Park. As part of the PSRP, flows from TAMTOM will be included in restored flows into these two Outstanding Florida Waters. Discharges should meet the numeric nutrient criteria in these sensitive receiving waters. Quality and quantity of discharges should be regulated by the permitting agencies through existing discharge permits into this canal.

8.6 All of Collier County's estuaries are currently impaired for nutrients. In the absence of criteria for nitrogen and phosphorus in the upstream watersheds, meeting the downstream numeric criteria in the estuaries will be impossible through existing regulatory mechanisms. The FDEP has been unsuccessful at developing numeric nutrient criteria for canals in South Florida and currently has no further plan for development. Therefore, Collier County should seek development of numeric nutrient criteria for canals within Collier County.

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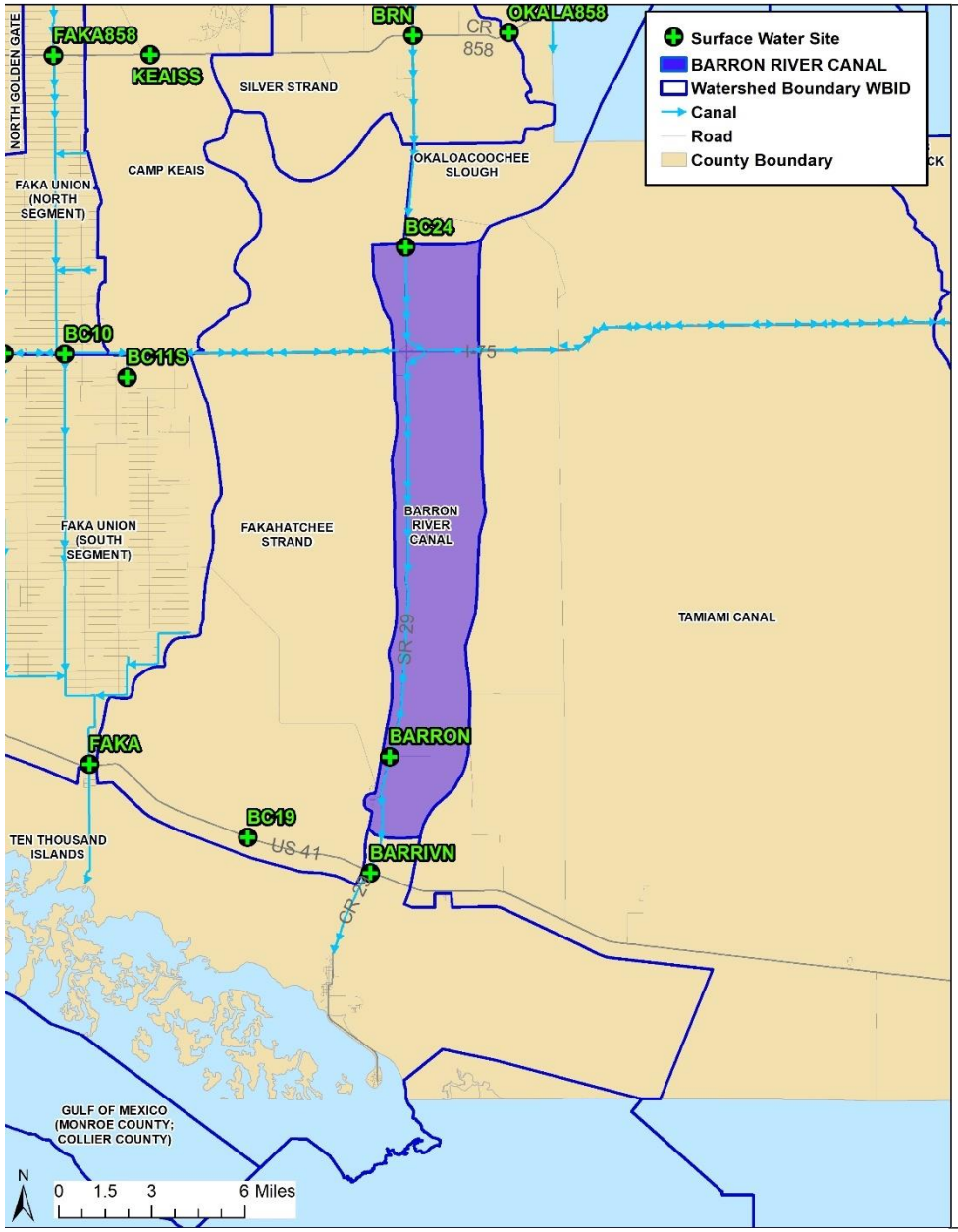


Figure 9. Barron River Snapshot

BARRON RIVER CANAL

- Size: 33,368 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Okaloacoochee Slough, Fakahatchee Strand, Silver Strand
  - Drains to: Ten Thousand Islands
- Major Land Use(s):
  - Wetlands 95%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: NOx, TKN, TN, TP, CHLA, Cu, Color, Temp
  - Short-term Degrading: DO, E.Coli
  - Long-term Improving: NOx, TKN, TN, TP, CHLA, Cu, Color, Temp
  - Long-term Degrading: DO
- % Samples in Exceedance: 5.9%
- Summary Statistics: Appendix C

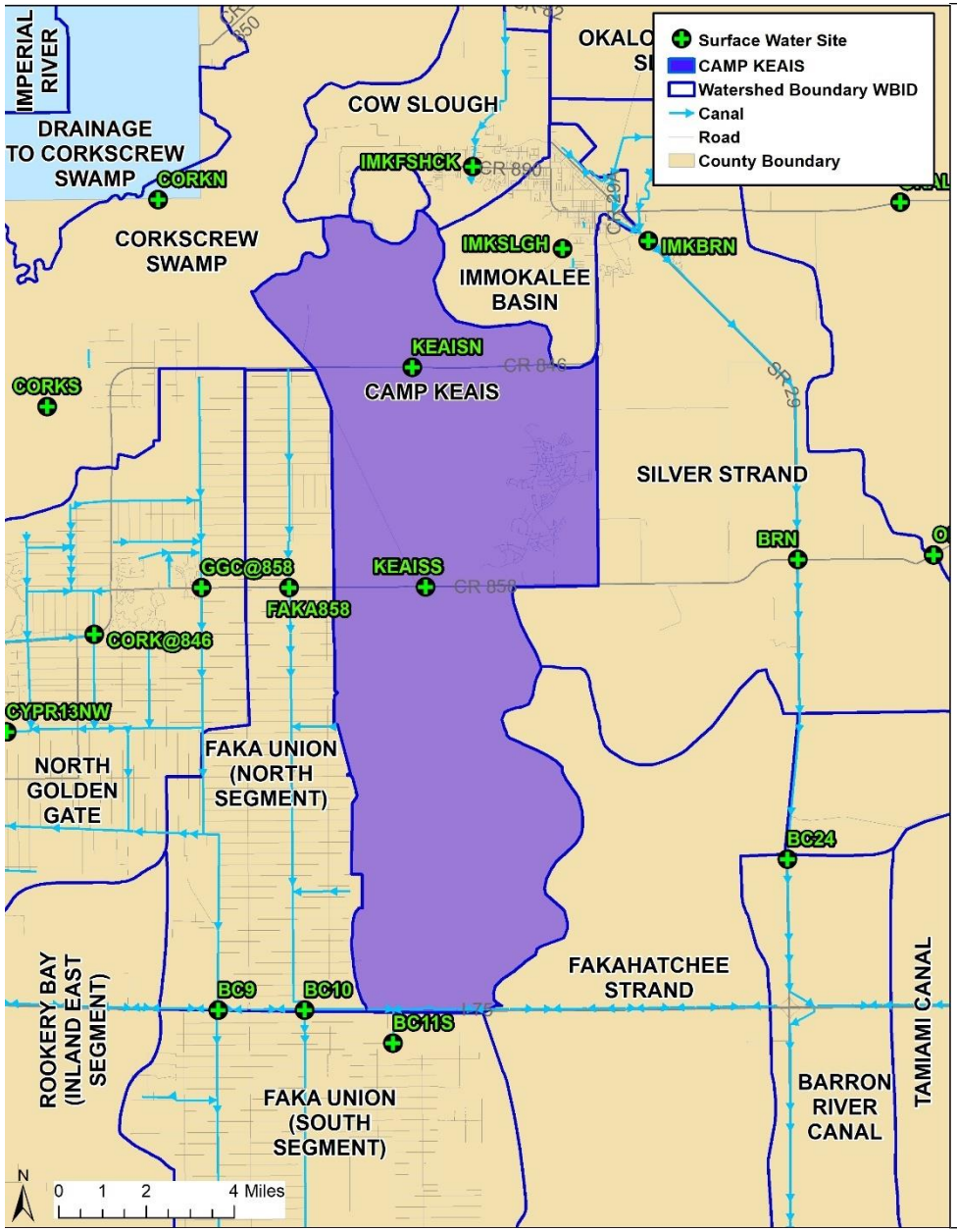


Figure 10. Camp Keais Snapshot

CAMP KEAIS

- Size: 55,646 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Immokalee Basin, Lake Trafford, Cow Slough, Corkscrew Swamp
  - Drains to: Faka Union (North Segment), Faka Union (South Segment), Fakahatchee Strand
- Major Land Use(s):
  - Wetlands 47%
  - Agriculture 36%
  - Upland Forests 9%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: Chla, As, Cu
  - Short-term Degrading: DO, TKN, NH3, TN, Ortho-P, TP, E. coli, Turb
  - Long-term Improving: Chla, As, Cu
  - Long-term Degrading: DO, TKN, NH3, TN, Ortho-P, TP, Turb
- % Samples in Exceedance: 5.9%
- Summary Statistics: Appendix C

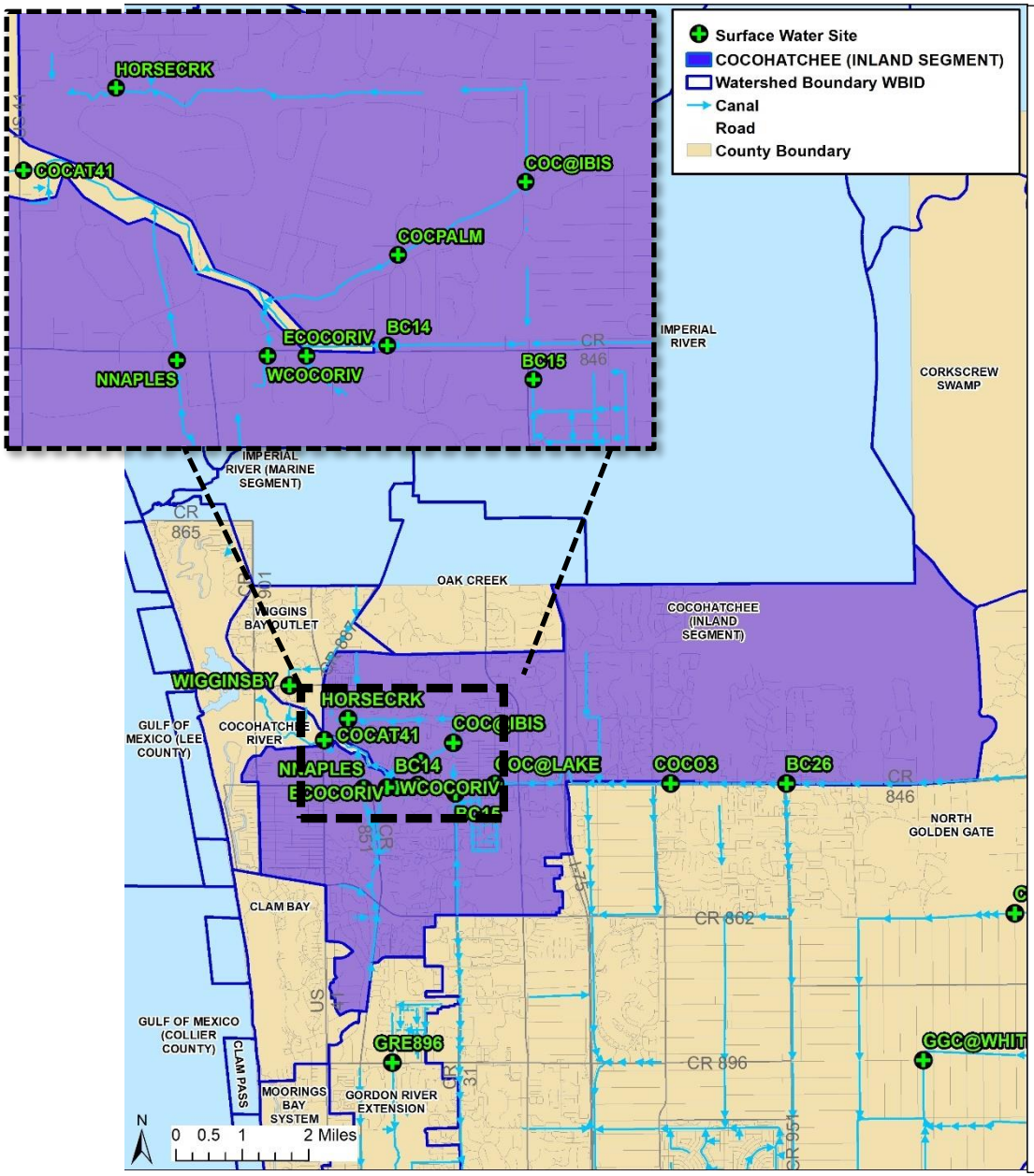
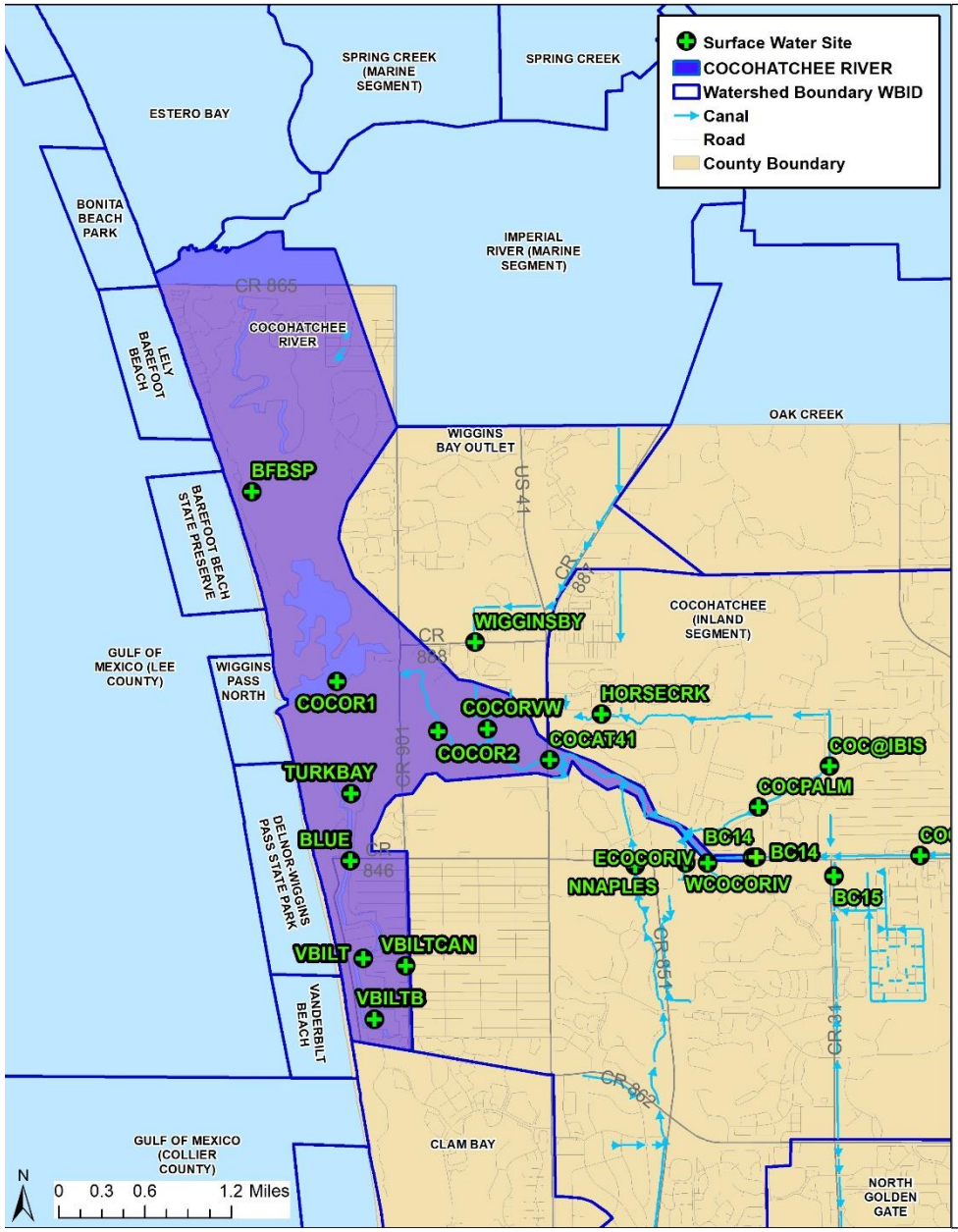


Figure 11. Cocohatchee (Inland Segment) Snapshot

COCOHATCHEE (INLAND SEGMENT)

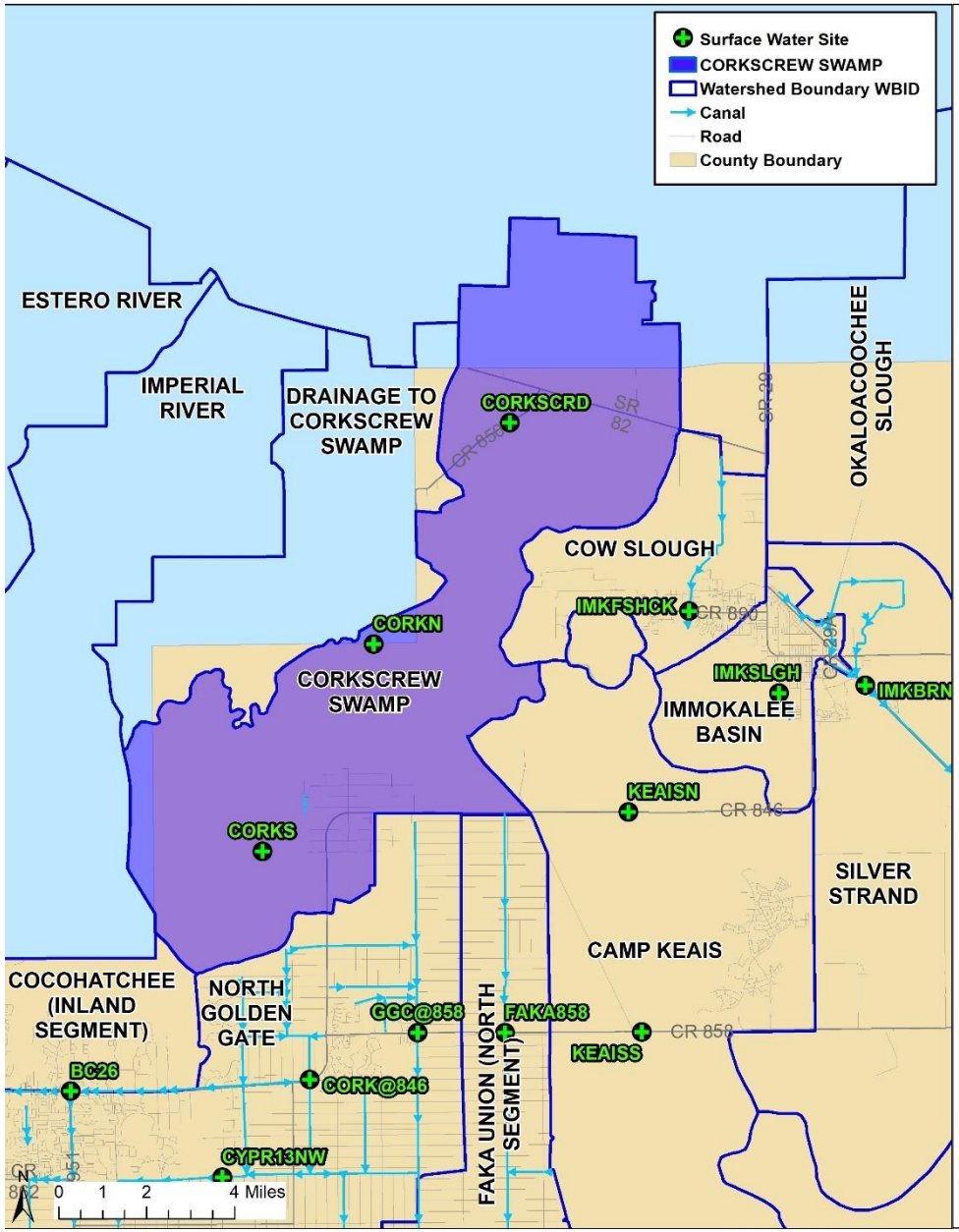
- Size: 23,505 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Corkscrew Swamp, Wiggins Bay Outlet, North Golden Gate, Oak Creek
  - Drains to: Cocohatchee River, North Golden Gate
- Major Land Use(s):
  - Urban and Built Up 56%
  - Wetlands 29%
  - Water 10%
- FDEP Impairments Draft 2021: E. coli
- Water Quality Trends:
  - Short-term Improving: SpCond, Sal, As, Cu, Color
  - Short-term Degrading: Temp, NOx, TKN, NH3, TN, Chla, E. coli, TSS, Turb
  - Long-term Improving: SpCond, Sal, As, Cu, Color
  - Long-term Degrading: Temp, NOx, TKN, NH3, TN, Chla, TSS, Turb
- % Samples in Exceedance: 2.4%
- Summary Statistics: Appendix C



COCOHATCHEE RIVER

- Size: 3539 acres
- Classification: Class II Marine
- Drainage:
  - Receives from: Wiggins Bay Outlet, Cocohatchee (Inland Segment)
  - Drains to: Gulf of Mexico
- Major Land Use(s):
  - Wetlands 36%
  - Urban and Built Up 31%
  - Water 28%
- TMDL 2008: Fecal Coliform
- FDEP Impairments Draft 2021: Enterococci, Chlorophyll-a, Total Nitrogen
- Water Quality Trends:
  - Short-term Improving: NOx, Color, Spcond
  - Short-term Degrading: pH, Enterococci, TSS, Turb
  - Long-term Improving: NOx, Fe, Color, SpCond
  - Long-term Degrading: pH, TSS, Turb
- % Samples in Exceedance: 5.4%
- Summary Statistics: Appendix C

Figure 12. Cocohatchee River Snapshot



CORKSCREW SWAMP

- Size: 52,474 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Drainage to Corkscrew Swamp, Cow Slough, Camp Keais
  - Drains to: North Golden Gate, Cocohatchee (Inland Segment), Camp Keais
- Major Land Use(s):
  - Wetlands 60%
  - Agriculture 30%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: Chla
  - Short-term Degrading: Temp, SpCond, Sal, NOx, NH3, As, Fe, TSS, Turb
  - Long-term Improving: Chla
  - Long-term Degrading: Temp, SpCond, Sal, NOx, NH3, As, Fe, Fecal Coliform, TSS, Turb
- % Samples in Exceedance: 3.3%
- Summary Statistics: Appendix C

Figure 13. Corkscrew Swamp Snapshot

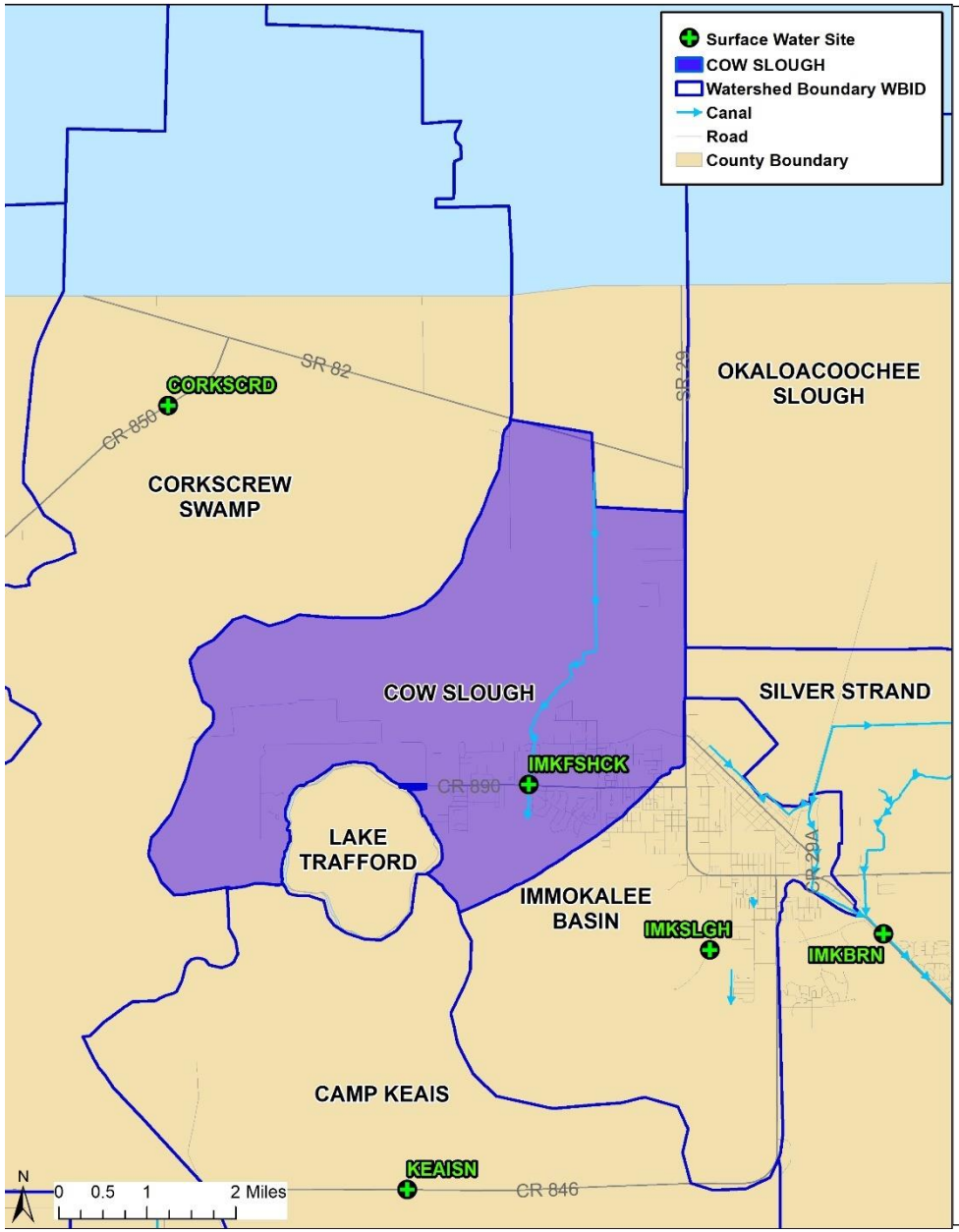


Figure 14. Cow Slough Snapshot

COW SLOUGH

- Size: 11,694 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Corkscrew Swamp, Immokalee Basin, Camp Keais, Townsend Canal
  - Drains to: Camp Keais, Corkscrew Swamp, Lake Trafford
- Major Land Use(s):
  - Agriculture 48%
  - Wetlands 25%
  - Urban and Built Up 13%
- FDEP Impairments Draft 2021: E. coli, Iron
- Water Quality Trends:
  - Short-term Improving: SpCond, Sal
  - Short-term Degrading: DO, TKN, NH3, TN, Turb
  - Long-term Improving: SpCond, Sal, As
  - Long-term Degrading: DO, TKN, NH3, TN, Fe, Turb, Color
- % Samples in Exceedance: 7.1%
- Summary Statistics: Appendix C

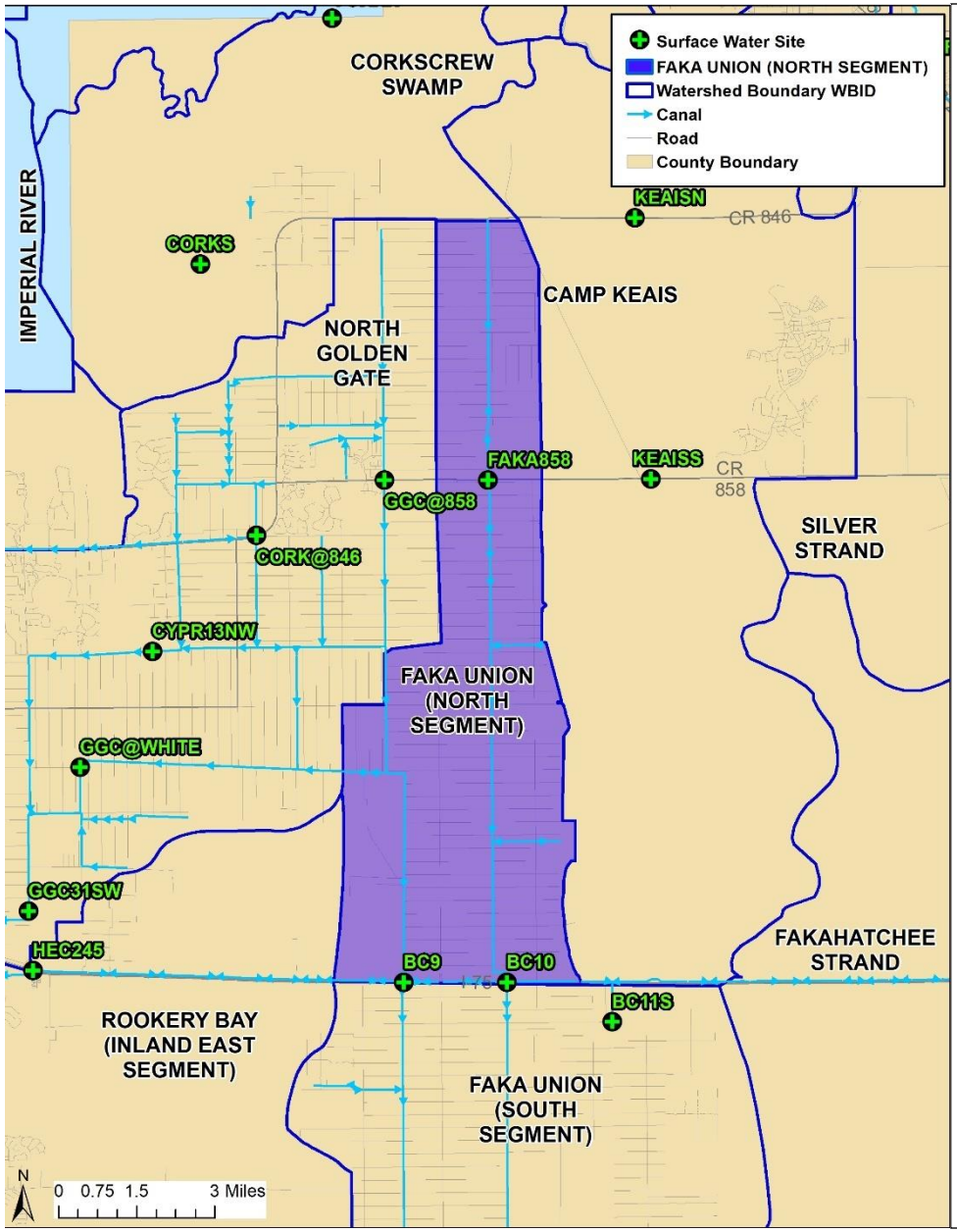


Figure 15. Faka Union (North Segment) Snapshot

FAKA UNION (NORTH SEGMENT)

- Size: 27,450 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: North Golden Gate, Camp Keais, Immokalee Basin, Lake Trafford, Cow Slough
  - Drains to: Faka Union (South Segment), Rookery Bay (Inland East Segment)
- Major Land Use(s):
  - Wetlands 37%
  - Urban and Built Up 36%
    - Rural Residential, Low Density 97%
  - Upland Non-Forested 12%
  - Upland Forests 11%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: As, Cu, Color
  - Short-term Degrading: TKN, Chla, TSS, Turb
  - Long-term Improving: As, Cu, Color
  - Long-term Degrading: TKN, Chla, TSS, Turb
- % Samples in Exceedance: 1.0%
- Summary Statistics: Appendix C

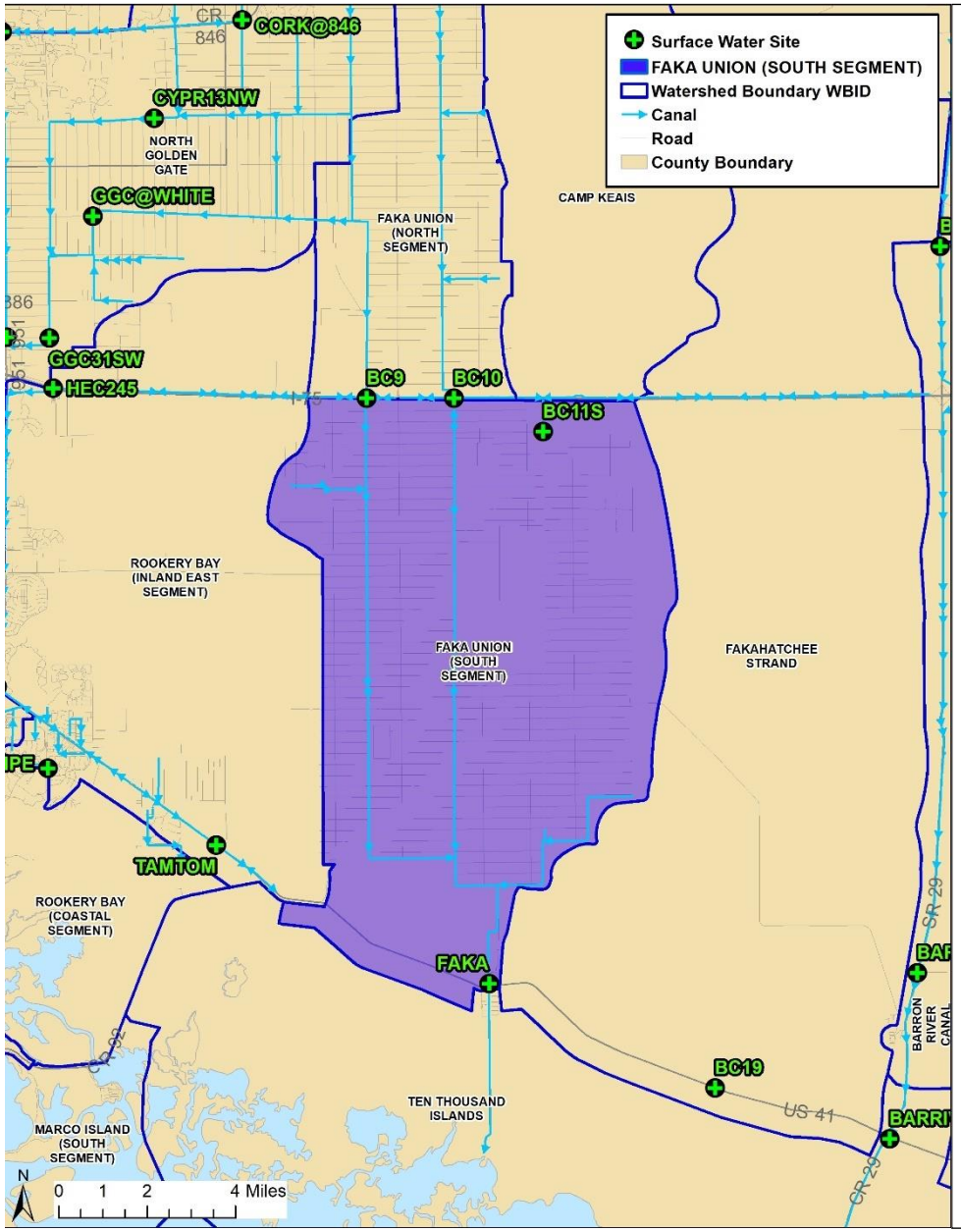


Figure 16. Faka Union (South Segment) Snapshot

FAKA UNION (SOUTH SEGMENT)

- Size: 59,452 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Faka Union (North Segment), Camp Keais, Fakahatchee Strand
  - Drains to: Ten Thousand Islands
- Major Land Use(s):
  - Wetlands 95%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: Chla, As, Cu
  - Short-term Degrading: DO, Turb
  - Long-term Improving: Chla, As, Cu, Fecal Coliform
  - Long-term Degrading: DO, Turb
- % Samples in Exceedance: 0.5%
- Summary Statistics: Appendix C

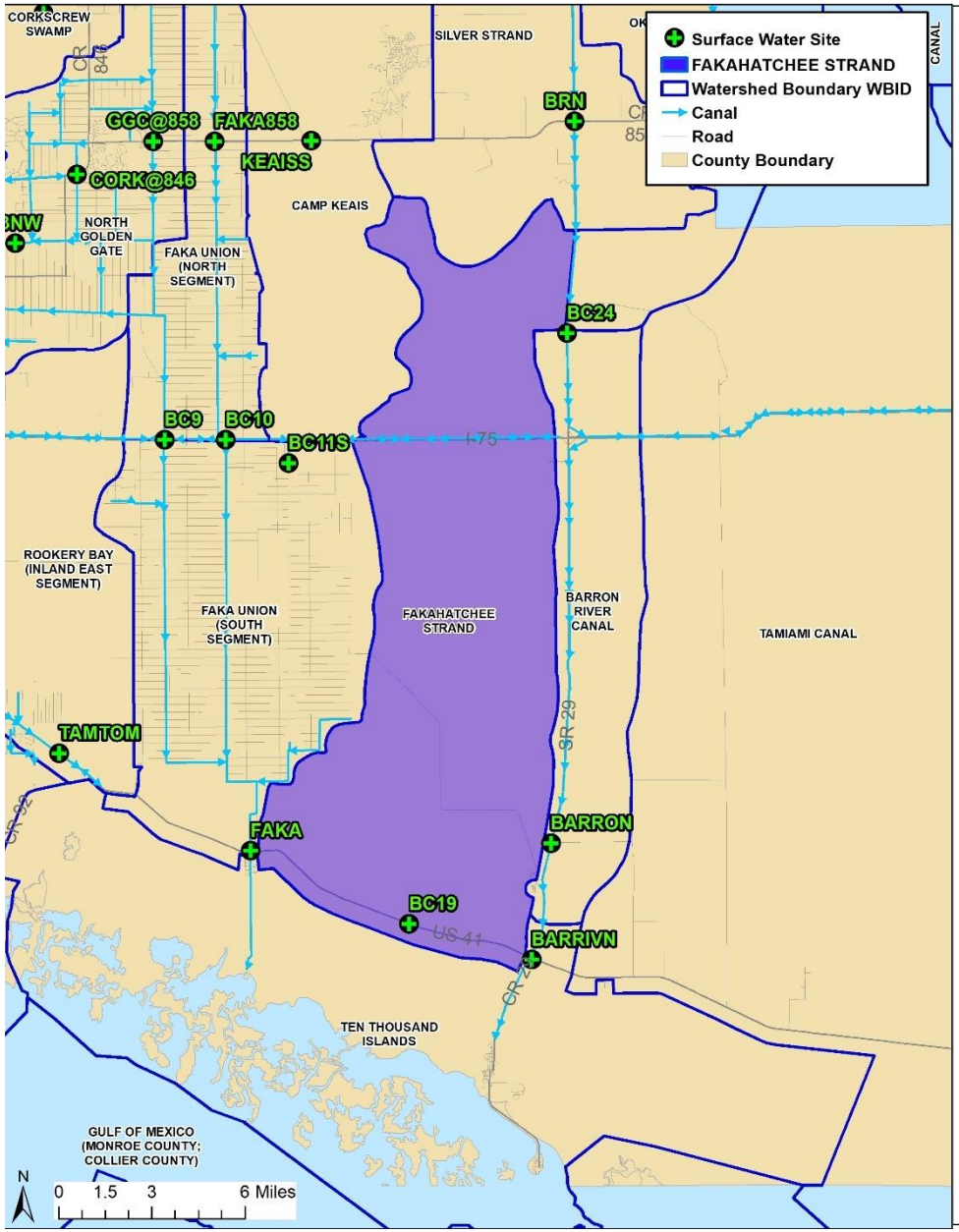
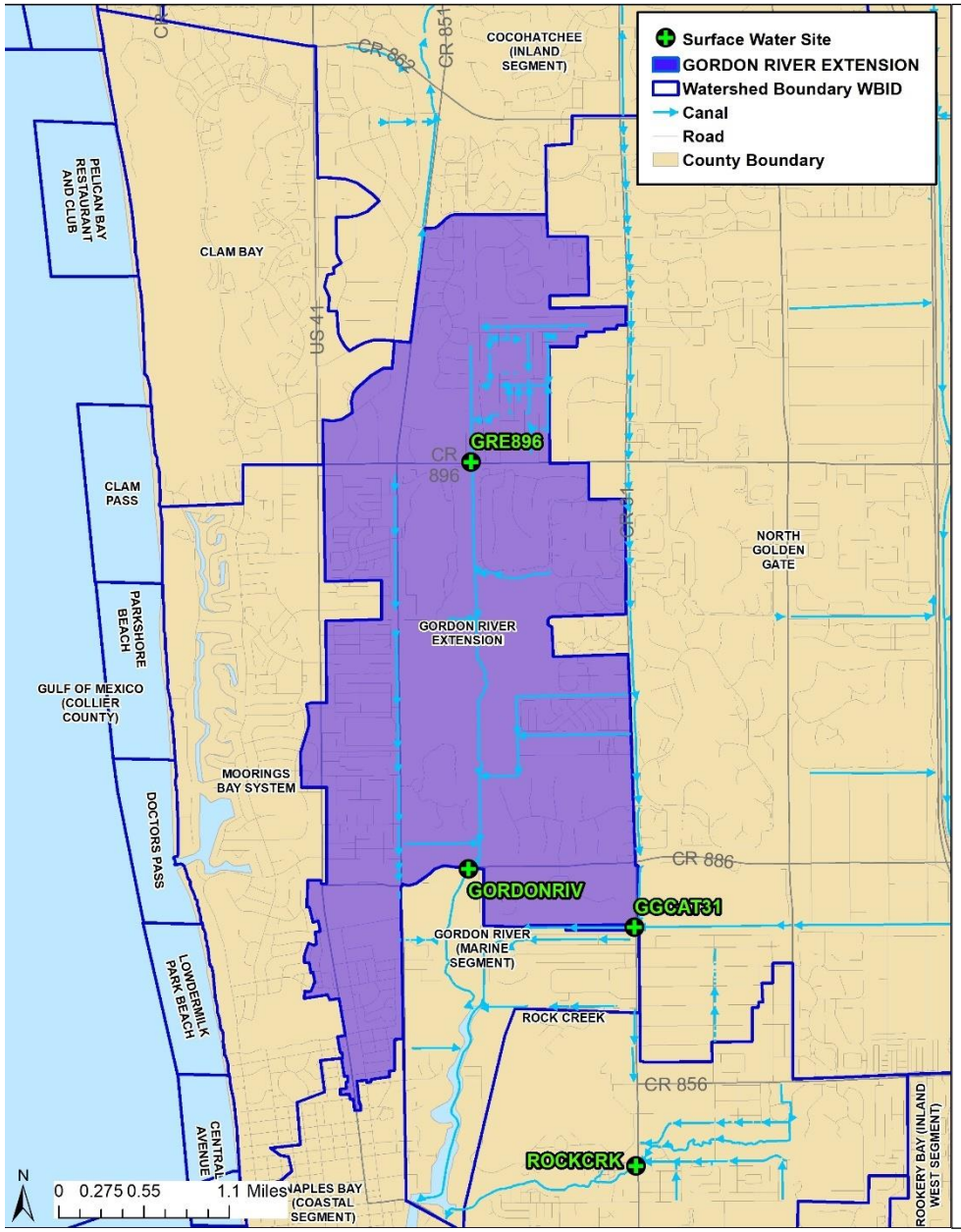


Figure 17. Fakahatchee Strand Snapshot

FAKAHATCHEE STRAND

- Size: 94,502 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Silver Strand, Okaloacoochee Slough, Camp Keais
  - Drains to: Ten Thousand Islands
- Major Land Use(s):
  - Wetlands 98%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: As, Cu
  - Short-term Degrading: DO, TKN, NH3, TN, TP, Turb, Color
  - Long-term Improving: As, Cu, Fecal Coliform
  - Long-term Degrading: DO, TKN, NH3, TN, TP, Turb, Color
- % Samples in Exceedance: 5.1%
- Summary Statistics: Appendix C



GORDON RIVER EXTENSION

- Size: 5,041 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: None
  - Drains to: Naples Bay (Coastal Segment), Moorings Bay System
- Major Land Use(s):
  - Urban and Built Up 84%
    - Residential, Medium Density 33%
    - Recreational 24%
    - Commercial and Services 18%
    - Residential, High Density 12%
    - Residential, Low Density 8%
    - Institutional 4%
    - Industrial 1%
    - Open Land 0.5%
- TMDL 2008: Dissolved Oxygen
- FDEP Impairments Draft 2021: E. coli
- Water Quality Trends:
  - Short-term Improving: SpCond, Sal, DO, NOx, TKN, TN, Ortho-P, TP, As, Cu
  - Short-term Degrading: Temp, Fe, Turb
  - Long-term Improving: SpCond, Sal, DO, NOx, TKN, TN, Ortho-P, TP, As, Cu
  - Long-term Degrading: Temp, Fe, Turb
- % Samples in Exceedance: 6.0%
- Summary Statistics: Appendix C

Figure 18. Gordon River Extension Snapshot

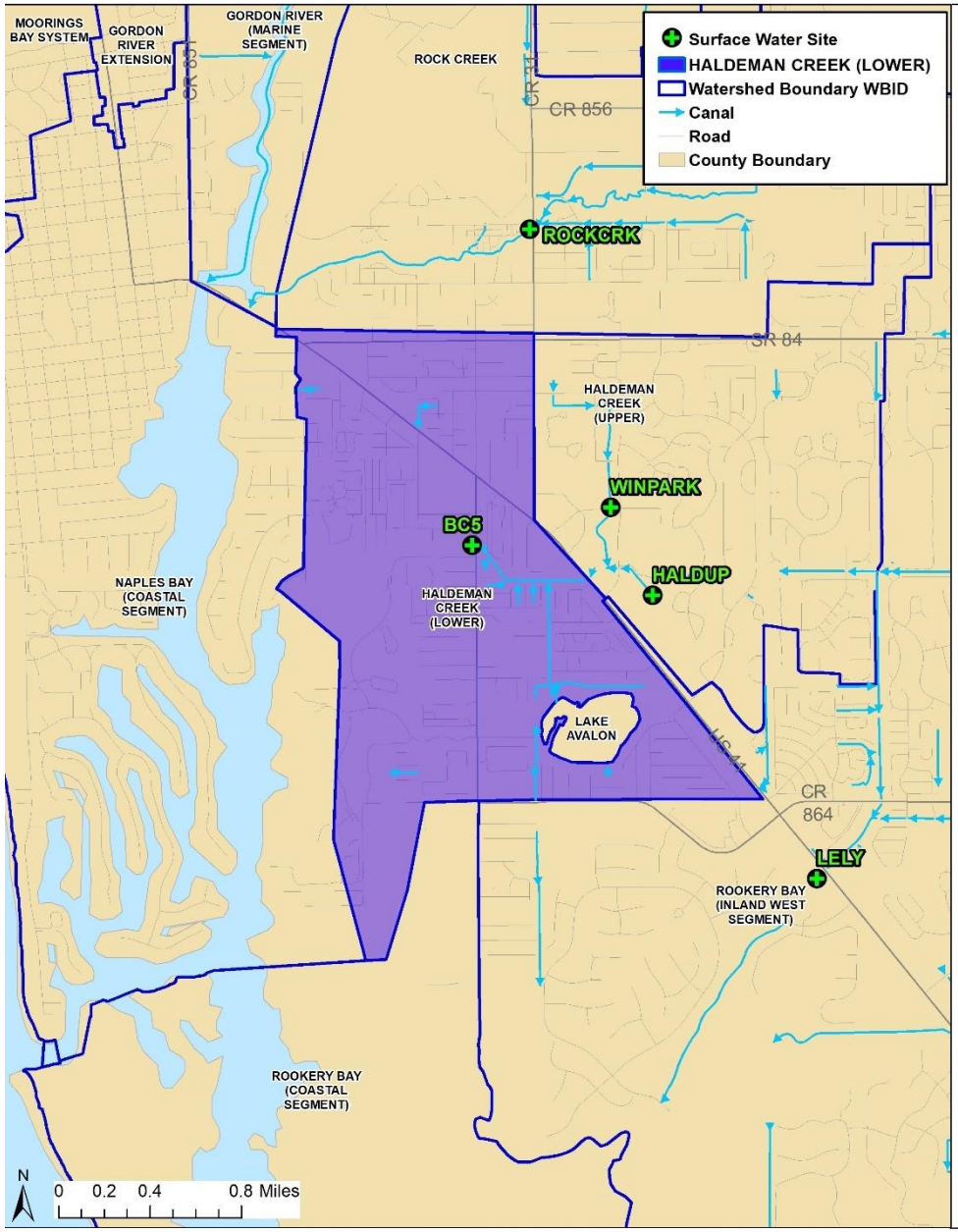


Figure 19. Haldeman Creek (Lower) Snapshot

HALDEMAN CREEK (LOWER)

- Size: 1,729 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Haldeman Creek (Upper), Rookery Bay (Inland West Segment)
  - Drains to: Naples Bay Coastal, Rookery Bay (Coastal Segment)
- Major Land Use(s):
  - Urban and Built Up 79%
    - Residential, Medium Density 41%
    - Residential, High Density 26%
    - Commercial and Services 19%
    - Recreational 10%
    - Open Land 2%
    - Institutional 2%
  - Wetlands 7%
  - Water 7%
- FDEP Impairments Draft 2021: Copper, Enterococci
- Water Quality Trends:
  - Short-term Improving: As, Cu, Fe, Color
  - Short-term Degrading: TP, Chla, Turb
  - Long-term Improving: As, Cu, Fe, Color
  - Long-term Degrading: TP, Chla, Turb
- % Samples in Exceedance: 6.3%
- Summary Statistics: Appendix C

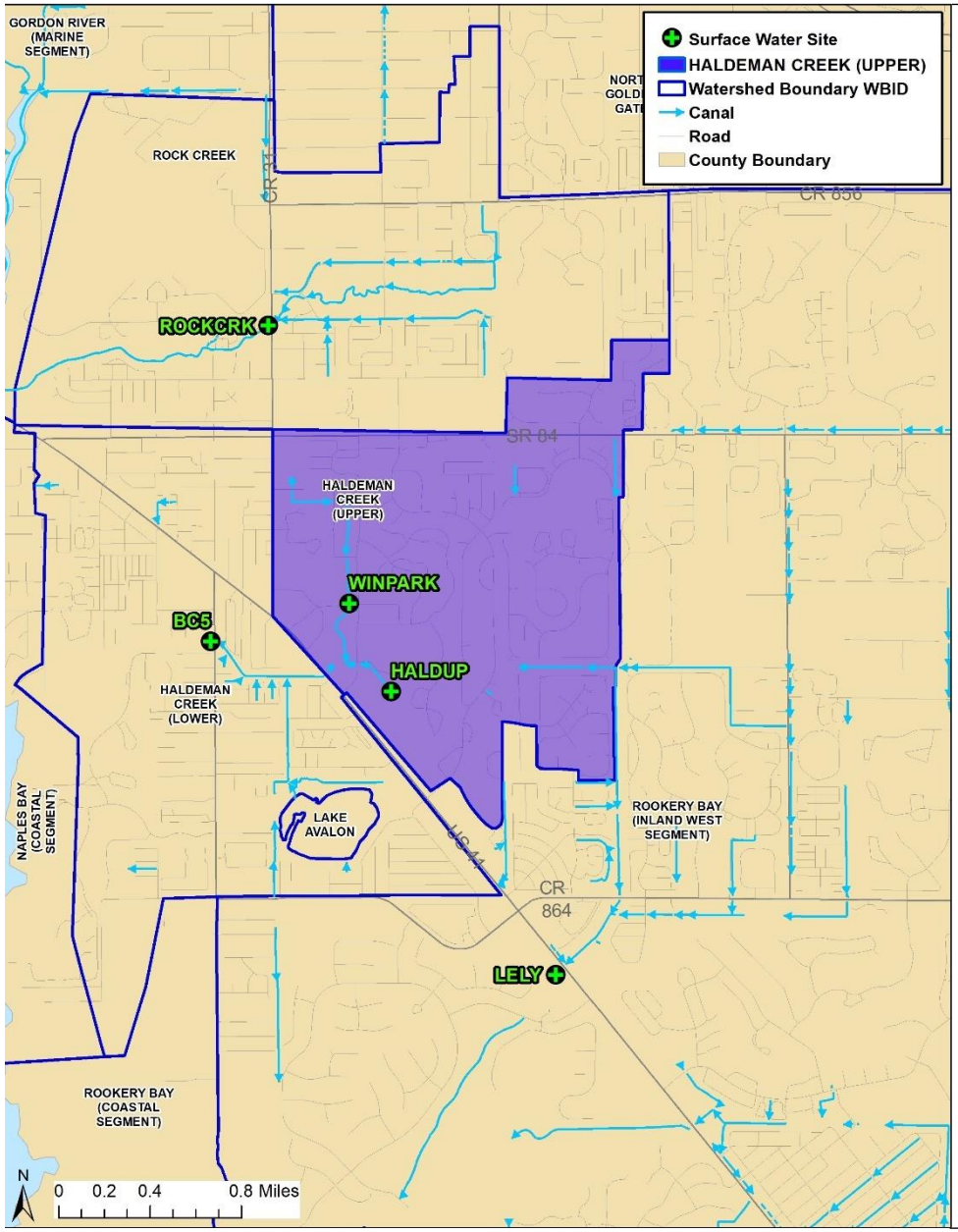
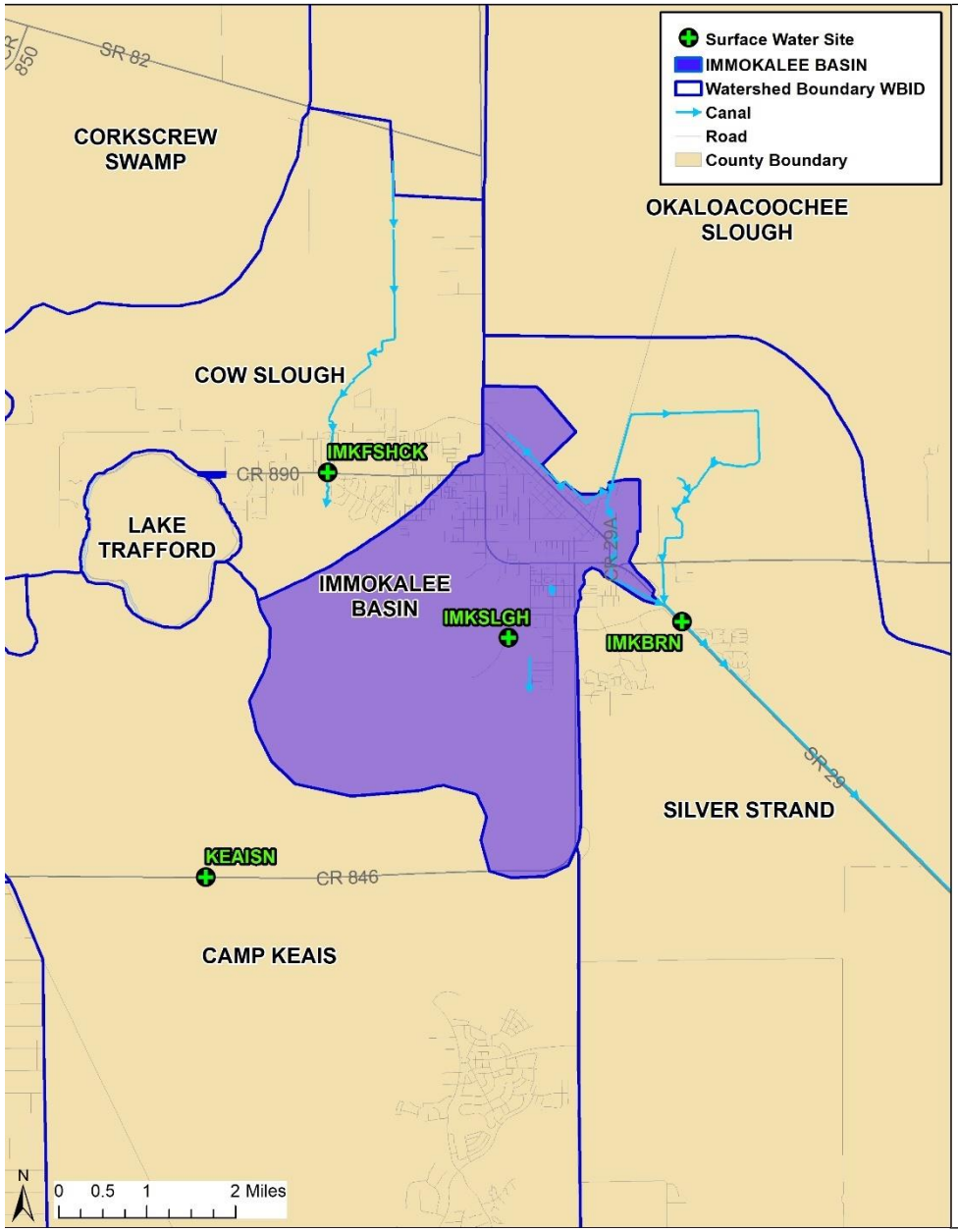


Figure 20. Haldeman Creek (Upper) Snapshot

HALDEMAN CREEK (UPPER)

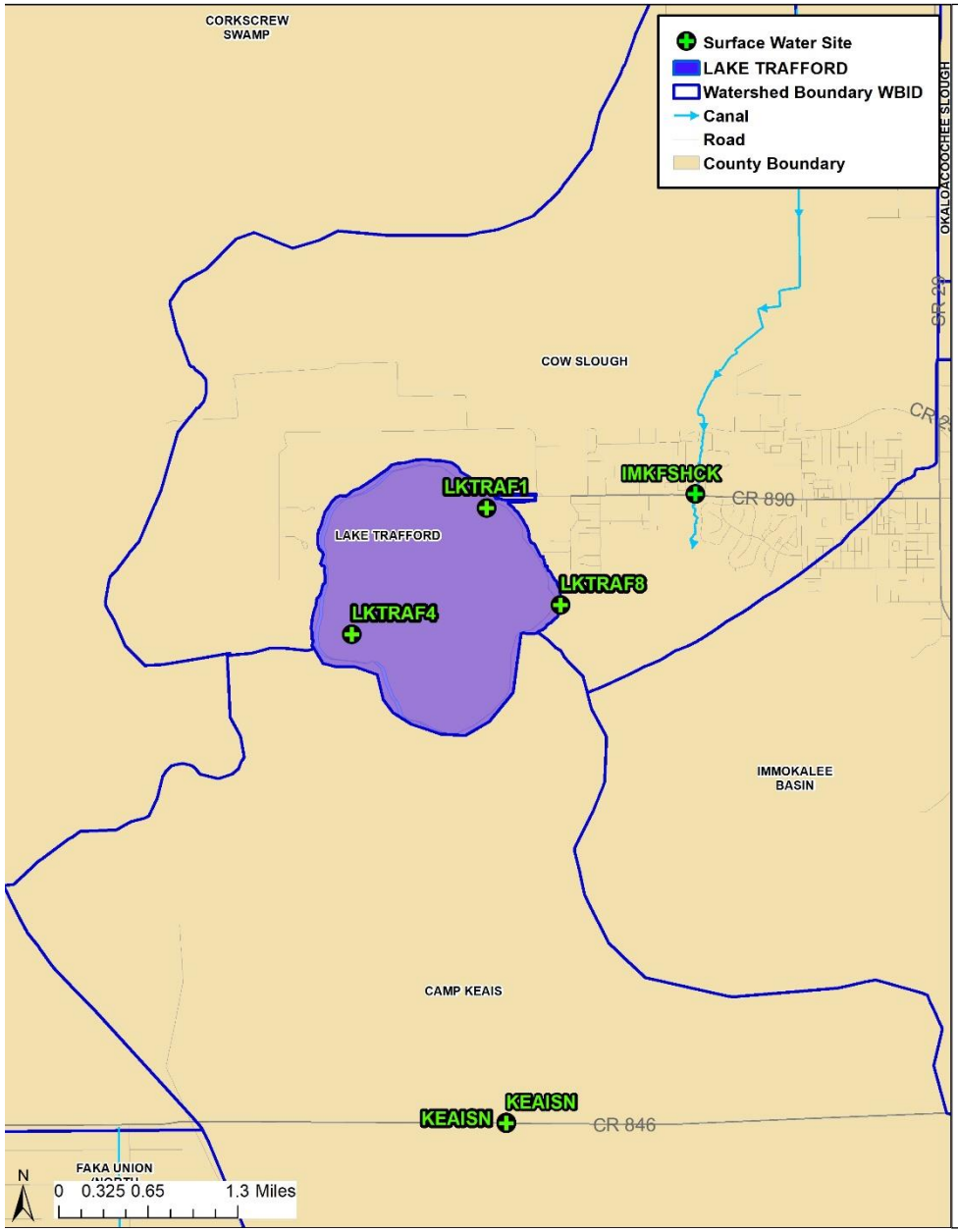
- Size: 1,435 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Rookery Bay (Inland West Segment),
  - Drains to: Rookery Bay (Inland West Segment), Haldeman Creek (Lower)
- Major Land Use(s):
  - Urban and Built Up 88%
    - Residential High Density 38%
    - Residential, Medium Density 36%
    - Commercial and Services 13%
    - Recreational 13%
    - Institutional 0.3%
    - Open Land 0.3%
  - Water 7.6%
- FDEP Impairments Draft 2021: E. coli
- Water Quality Trends:
  - Short-term Improving: Cu, Fe
  - Short-term Degrading: SpCond, Sal, DO, TKN, NH3, TN, Ortho-P, TP, Chla, TSS, Turb
  - Long-term Improving: Cu, Fe
  - Long-term Degrading: SpCond, Sal, DO, TKN, NH3, TN, Ortho-P, TP, Chla, TSS, Turb
- % Samples in Exceedance: 4.3%
- Summary Statistics: Appendix C



IMMOKALEE BASIN

- Size: 8,745 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Silver Strand, Okaloacoochee Slough, Cow Slough, Camp Keais
  - Drains to: Camp Keais, Cow Slough
- Major Land Use(s):
  - Agriculture 49%
  - Urban and Built Up 21%
    - Residential, Medium Density 28%
    - Residential High Density 22%
    - Institutional 14%
    - Industrial 12%
    - Residential, Low Density 9%
    - Open Land 0.4%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: Insufficient Data
  - Short-term Degrading: Insufficient Data
  - Long-term Improving: NOx, NH3, TN, As, Cu
  - Long-term Degrading: SpCond, Sal, DO, Turb, Color
- % Samples in Exceedance: 4.9%
- Summary Statistics: Appendix C

Figure 21. Immokalee Basin Snapshot



LAKE TRAFFORD

- Size: 1,500
- Classification: Class III Fresh
- Drainage:
  - Receives from: Cow Slough, Immokalee Basin, Camp Keais, Corkscrew Swamp
  - Drains to: Cow Slough, Immokalee Basin, Camp Keais, Corkscrew Swamp
- Major Land Use(s):
  - Water 95%
  - Wetlands 5%
- TMDL 2008: Unionized Ammonia, Dissolved Oxygen, Nutrients
- FDEP Impairments Draft 2021: Chlorophyll-a, Total Nitrogen, Total Phosphorus
- Water Quality Trends:
  - Short-term Improving: NOx, Ortho-P,
  - Short-term Degrading: Chla, TSS, Turb
  - Long-term Improving: NOx, Ortho-P,
  - Long-term Degrading: Chla, TSS, Turb
- % Samples in Exceedance: 13.5%
- Summary Statistics: Appendix C

Figure 22. Lake Trafford Snapshot

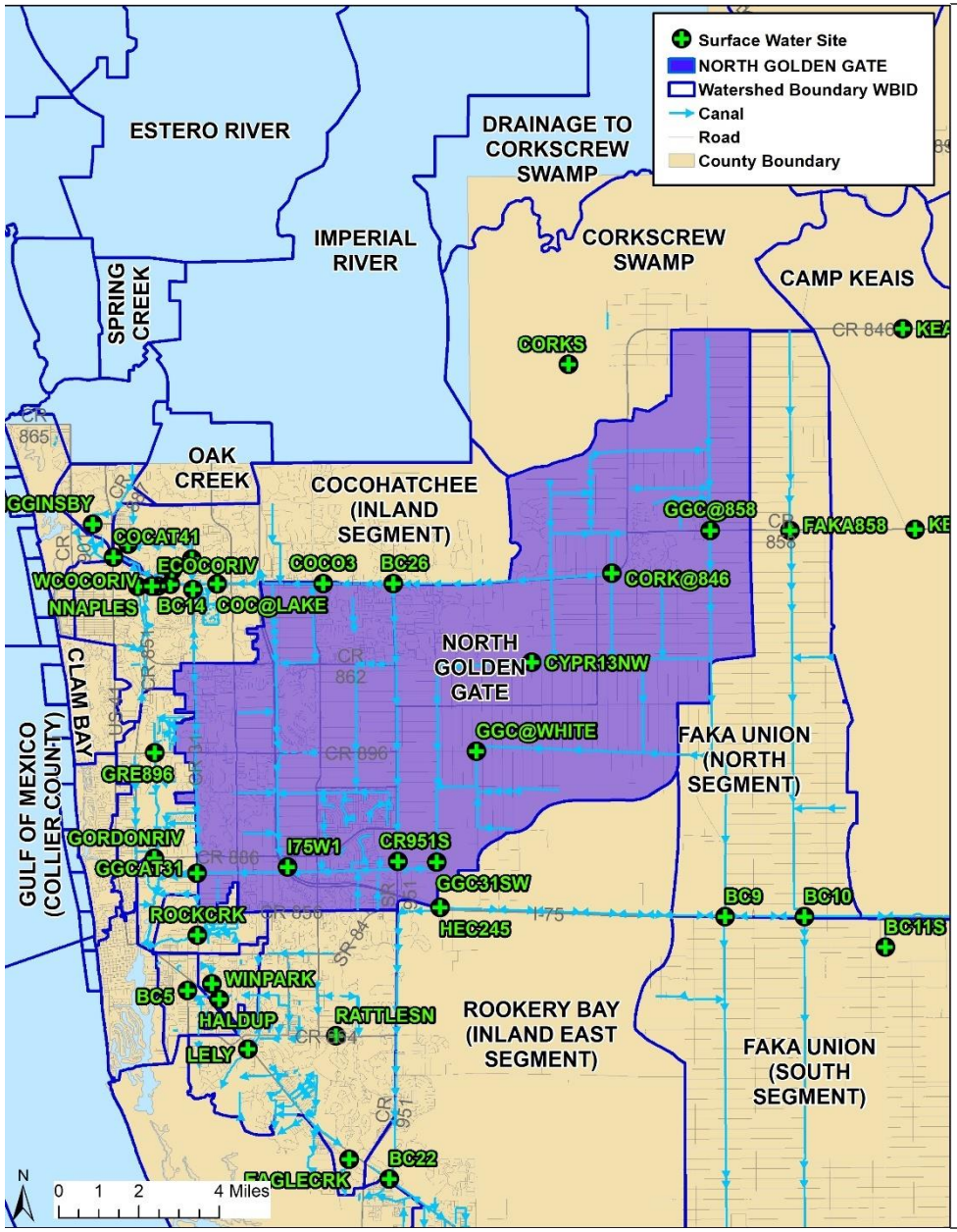


Figure 23. North Golden Gate Snapshot

NORTH GOLDEN GATE

- Size: 72,785 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Corkscrew Swamp, Cocohatchee (Inland Segment), Faka Union (North Segment)
  - Drains to: Cocohatchee (Inland Segment), Naples Bay (Coastal Segment), Faka Union (North Segment), Rookery Bay (Inland East Segment)
- Major Land Use(s):
  - Urban and Built Up 60%
    - Residential Low Density 60%
    - Residential Medium Density 15%
    - Residential High Density 7%
    - Recreational 7%
    - Institutional 3%
    - Commercial and Services 3%
    - Extractive 2.5
    - Open Land 2%
    - Industrial 0.7%
  - Wetlands 21%
- FDEP Impairments Draft 2021: Dissolved Oxygen
- Water Quality Trends:
  - Short-term Improving: As, Cu, Fe, Color
  - Short-term Degrading: Temp, Fecal Coliform
  - Long-term Improving: As, Cu, Fe, Color
  - Long-term Degrading: Temp, Fecal Coliform
- % Samples in Exceedance: 1.1%
- Summary Statistics: Appendix C

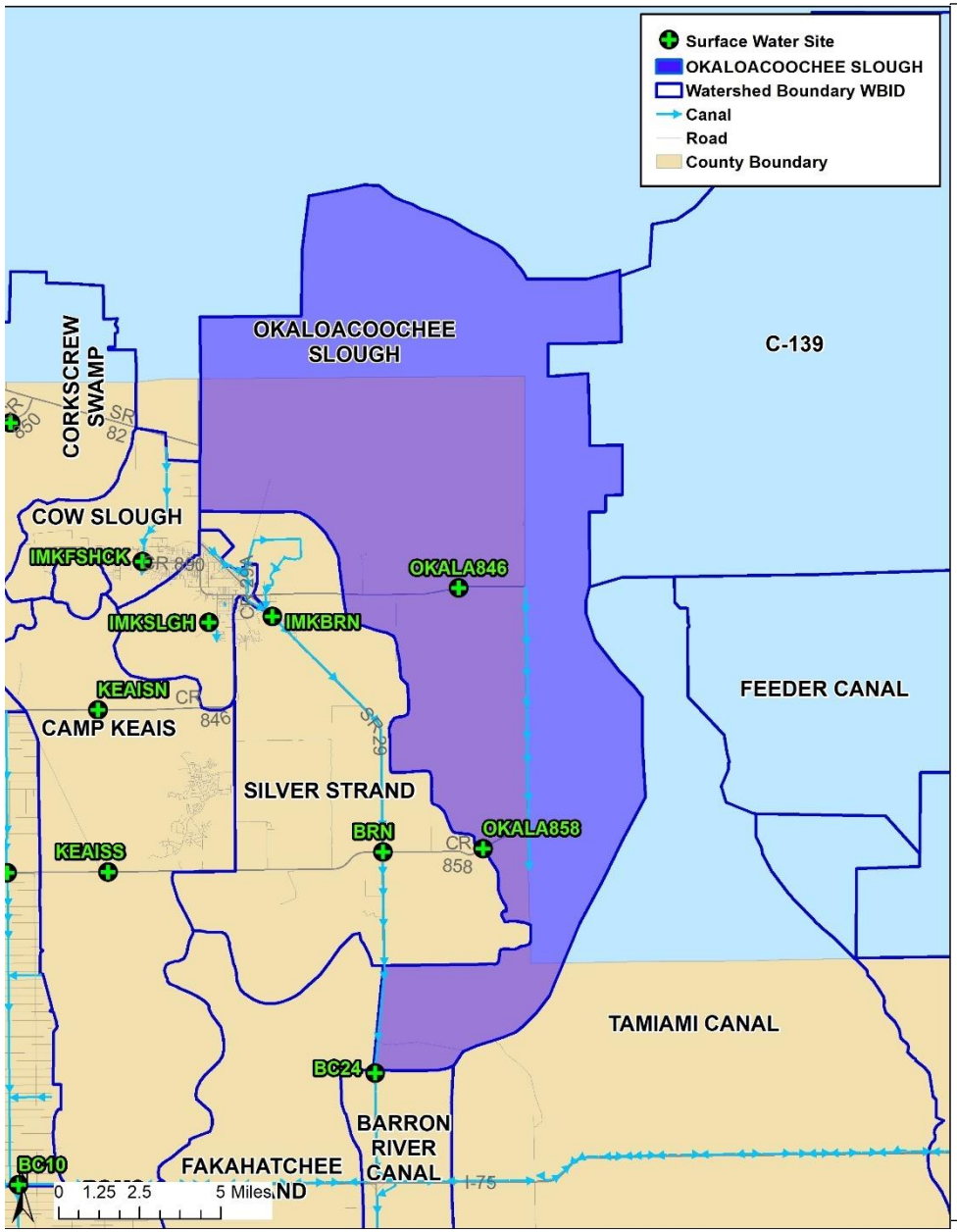


Figure 24. Okaloacoochee Slough Snapshot

OKALOACOOCHEE SLOUGH

- Size: 125,992 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: C-139
  - Drains to: Barron River Canal, Fakahatchee Strand, Silver Strand, Tamiami Canal
- Major Land Use(s):
  - Wetlands 45%
  - Agriculture 41%
  - Upland Forests 9%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: SpCond, Sal, Chla, As, Cu
  - Short-term Degrading: E. coli
  - Long-term Improving: SpCond, Sal, Chla, As, Cu
  - Long-term Degrading: Fecal Coliform
- % Samples in Exceedance: 3.4%
- Summary Statistics: Appendix C

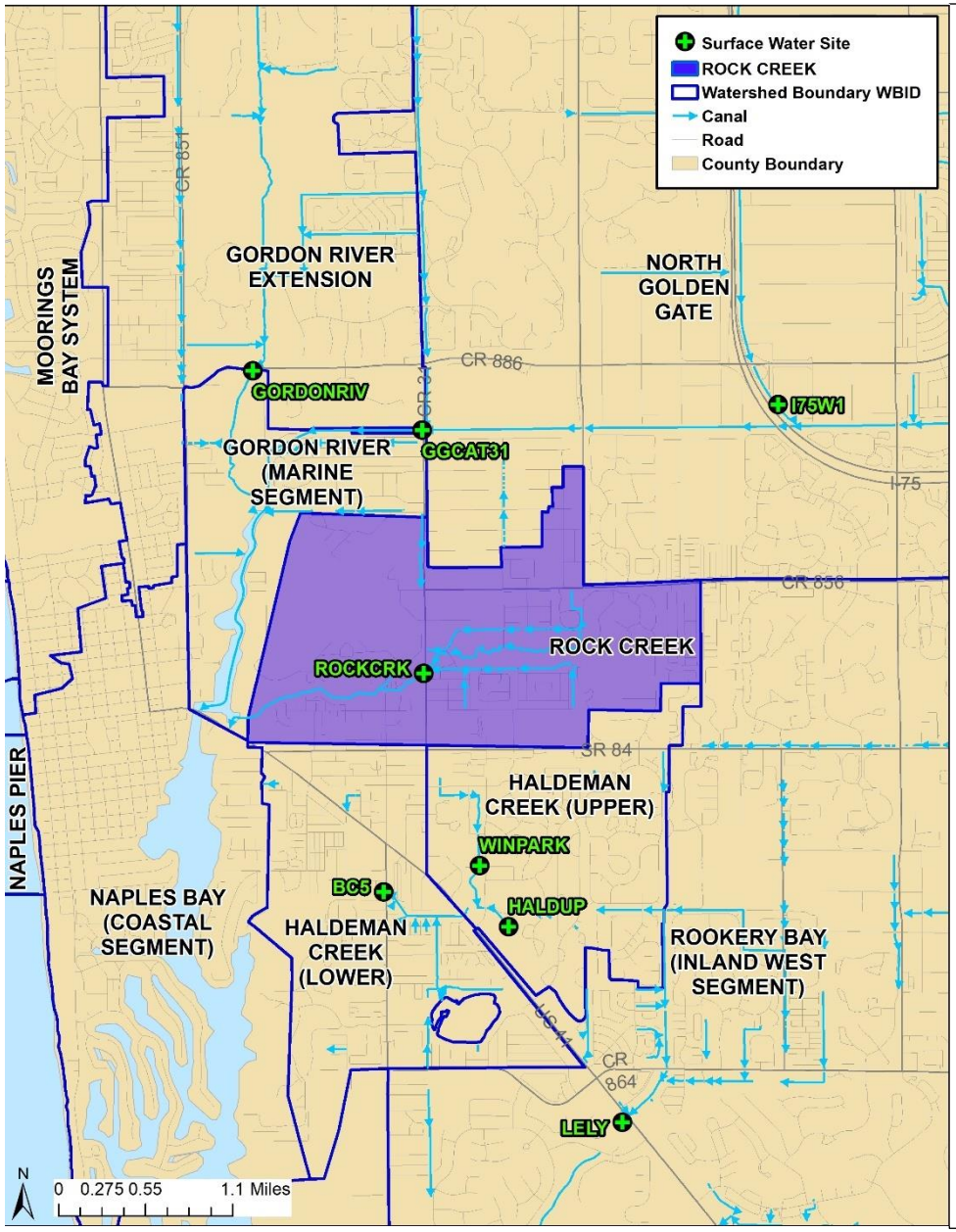


Figure 25. Rock Creek Snapshot

ROCK CREEK

- Size: 2,119 acres
- Classification: Class III Marine
- Drainage:
  - Receives from: North Golden Gate
  - Drains to: Naples Bay (Coastal Segment)
- Major Land Use (s):
  - Urban and Built Up 62%
    - Residential, Medium Density 26%
    - Commercial and Services 22%
    - Residential, High Density 15%
    - Residential, Low Density 14%
    - Recreational 12%
    - Industrial 6%
    - Institutional 4%
  - Transportation, Communication & Utilities 28%
- FDEP Impairments Draft 2021: Copper, Enterococci, Iron
- Water Quality Trends:
  - Short-term Improving: None
  - Short-term Degrading: Iron, Enterococci
  - Long-term Improving: Insufficient Data
  - Long-term Degrading: Insufficient Data
- % Samples in Exceedance: 6.1%
- Summary Statistics: Appendix C

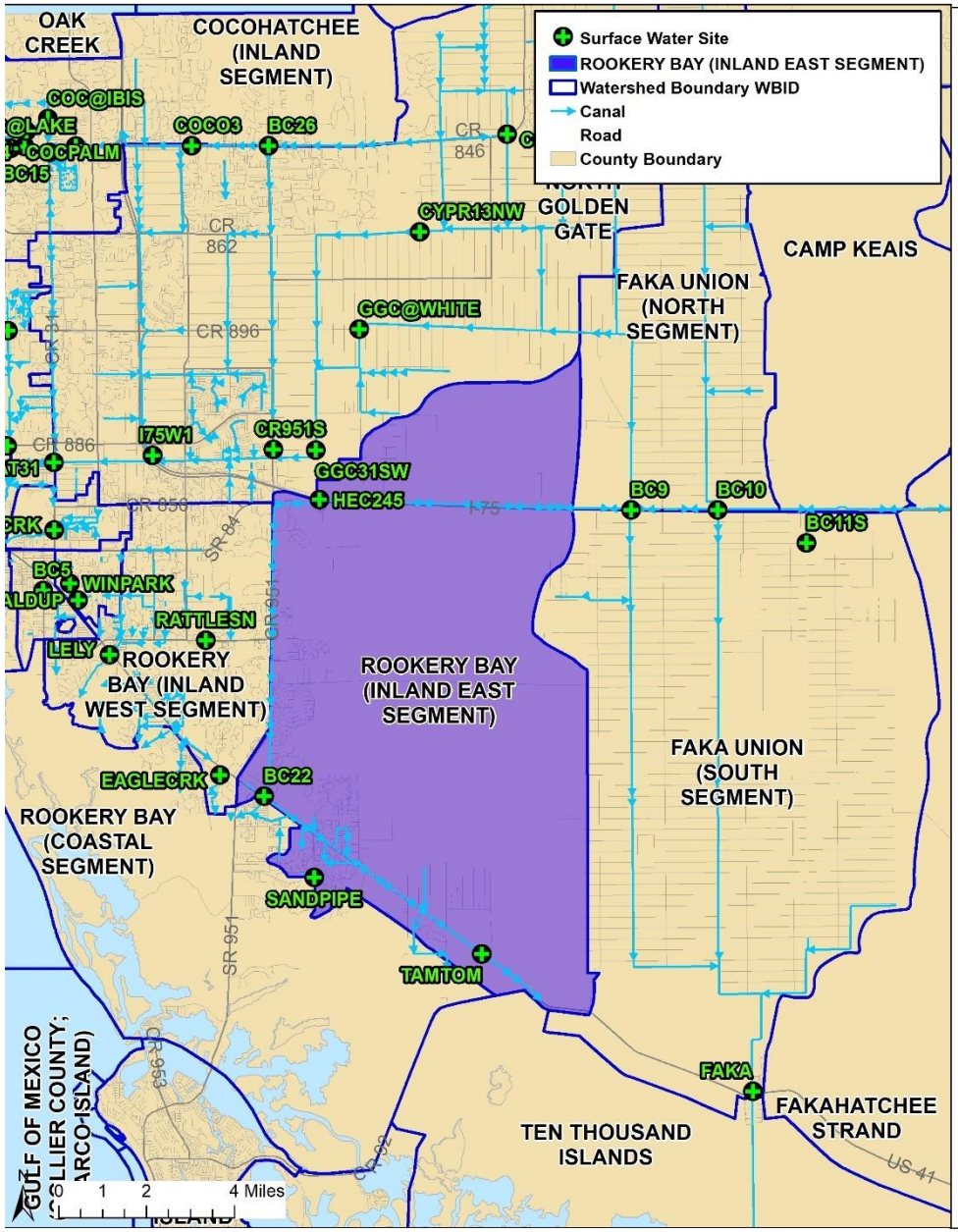
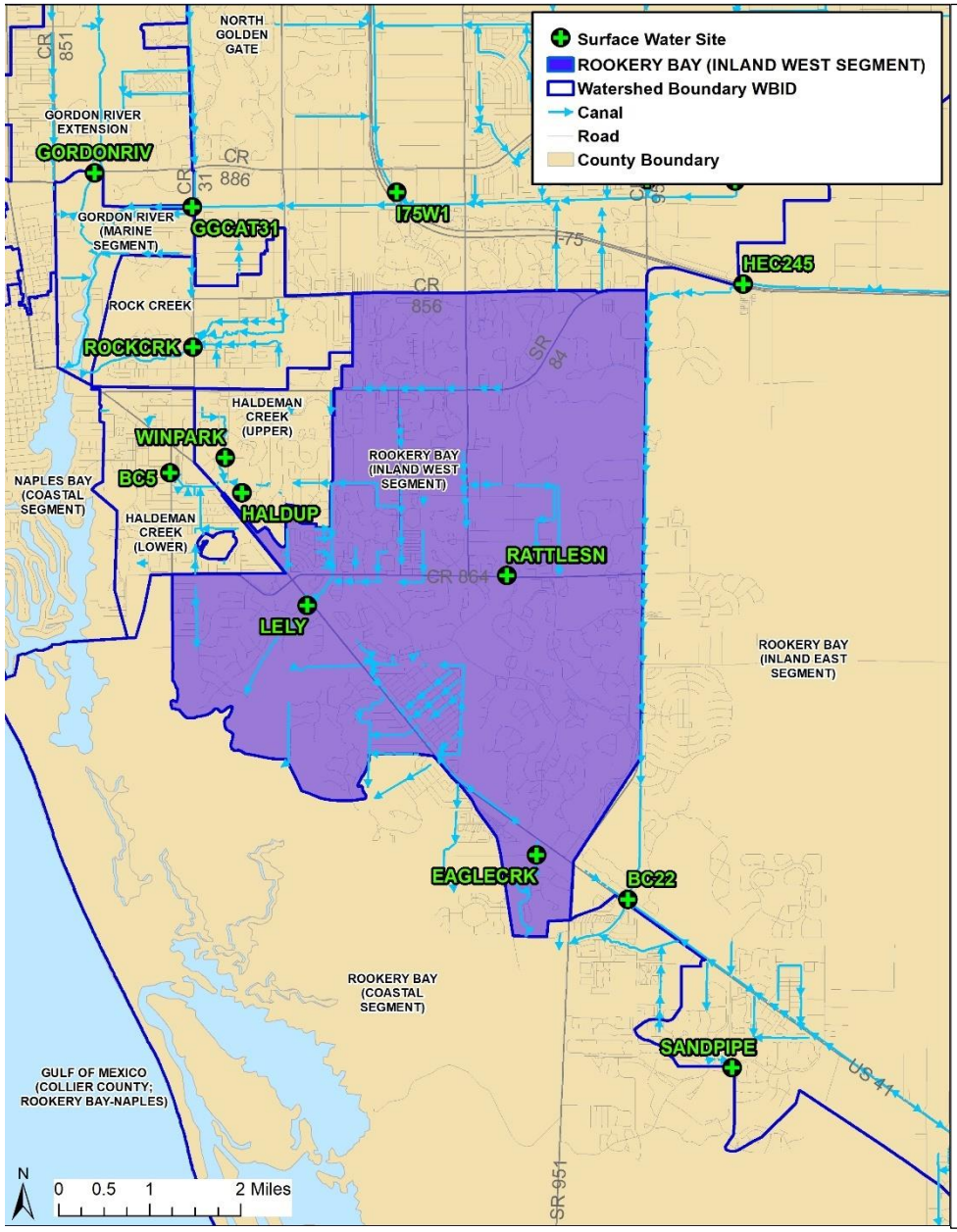


Figure 26. Rookery Bay (Inland East Segment) Snapshot

ROOKERY BAY (INLAND EAST SEGMENT)

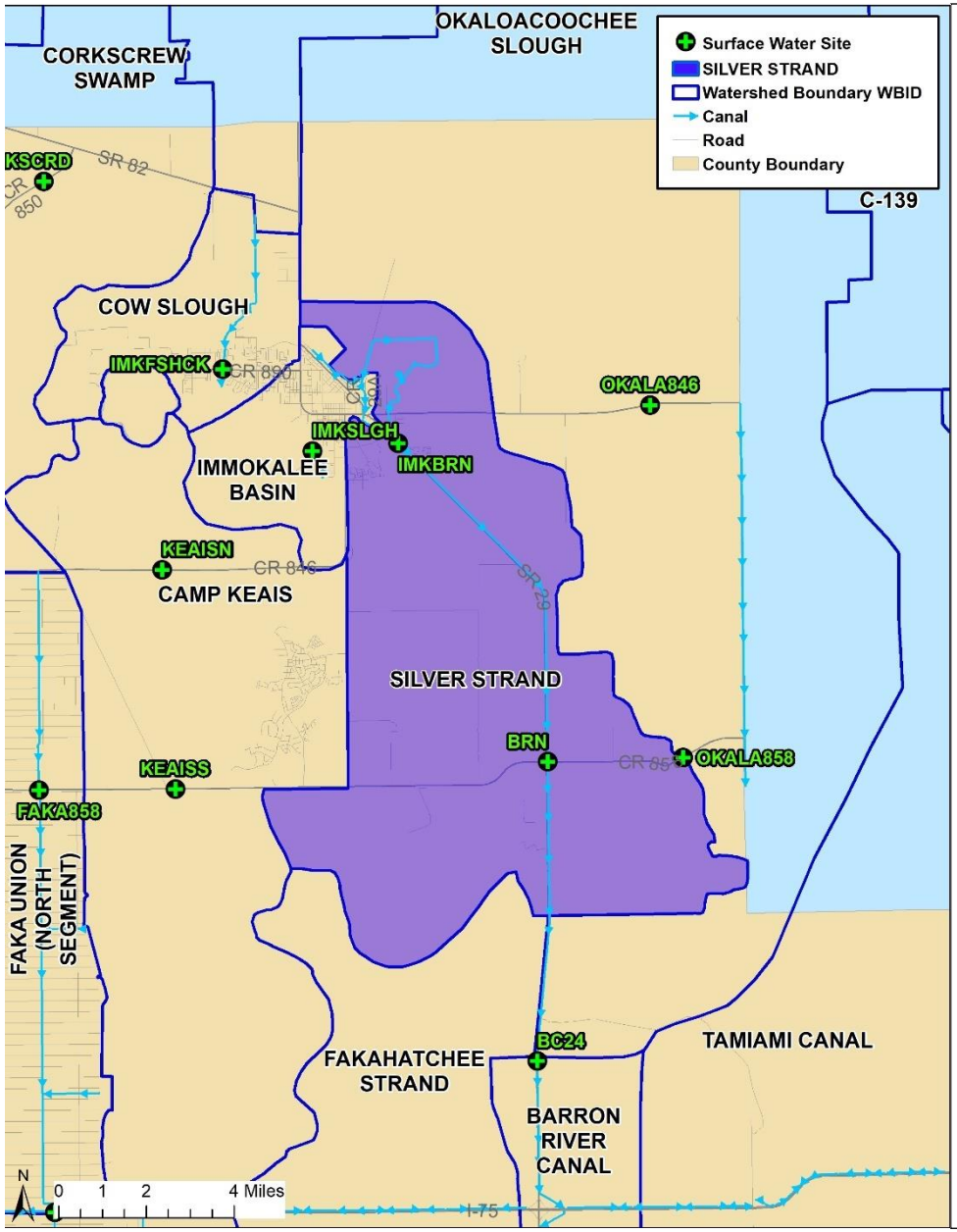
- Size: 53,992 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Faka Union (North Segment)
  - Drains to: Rookery Bay (Coastal Segment)
- Major Land Use(s):
  - Wetlands 55%
  - Agriculture 14%
  - Upland Forests 14%
  - Urban and Built Up 9%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: pH
  - Short-term Degrading: DO, NOx, TKN, NH3, TN, TP, Chla, TSS, Turb
  - Long-term Improving: pH
  - Long-term Degrading: DO, NOx, TKN, NH3, TN, TP, Chla, TSS, Turb
- % Samples in Exceedance: 1.8%
- Summary Statistics: Appendix C



ROOKERY BAY (INLAND WEST SEGMENT)

- Size: 15,054 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Haldeman Creek (Upper)
  - Drains to: Haldeman Creek (Upper), Rookery Bay (Coastal Segment)
- Major Land Use(s):
  - Urban and Built up 60%
    - Residential, Medium Density 35%
    - Residential, High Density 25%
    - Recreational 22%
    - Residential, Low Density 8%
    - Commercial and Services 5%
    - Institutional 4%
    - Open Land 0.5%
  - Wetlands 15%
  - Upland Forests 11%
  - Water 9%
- FDEP Impairments Draft 2021: None
- Water Quality Trends:
  - Short-term Improving: None
  - Short-term Degrading: SpCond, Sal, TN, Chla, Cu, TSS, Turb
  - Long-term Improving: Fecal Coliform
  - Long-term Degrading: SpCond, Sal, TN, Chla, Cu, TSS, Turb
- % Samples in Exceedance: 2.6%
- Summary Statistics: Appendix C

Figure 27. Rookery Bay (Inland West Segment) Snapshot



SILVER STRAND

- Size: 53,835 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Immokalee Basin, Okaloacoochee Slough
  - Drains to: Okaloacoochee Slough, Fakahatchee Strand
- Major Land Use(s):
  - Agriculture 65%
  - Wetlands 24%
  - Upland Forests 4%
- FDEP Impairments Draft 2021: Iron
- Water Quality Trends:
  - Short-term Improving: Ortho-P, TP, Cu, Turb
  - Short-term Degrading: SpCond, Sal, DO, TSS
  - Long-term Improving: Ortho-P, TP, Cu, Turb
  - Long-term Degrading: SpCond, Sal, DO, Fecal Coliform, TSS
- % Samples in Exceedance: 8.4%
- Summary Statistics: Appendix C

Figure 28. Silver Strand Snapshot

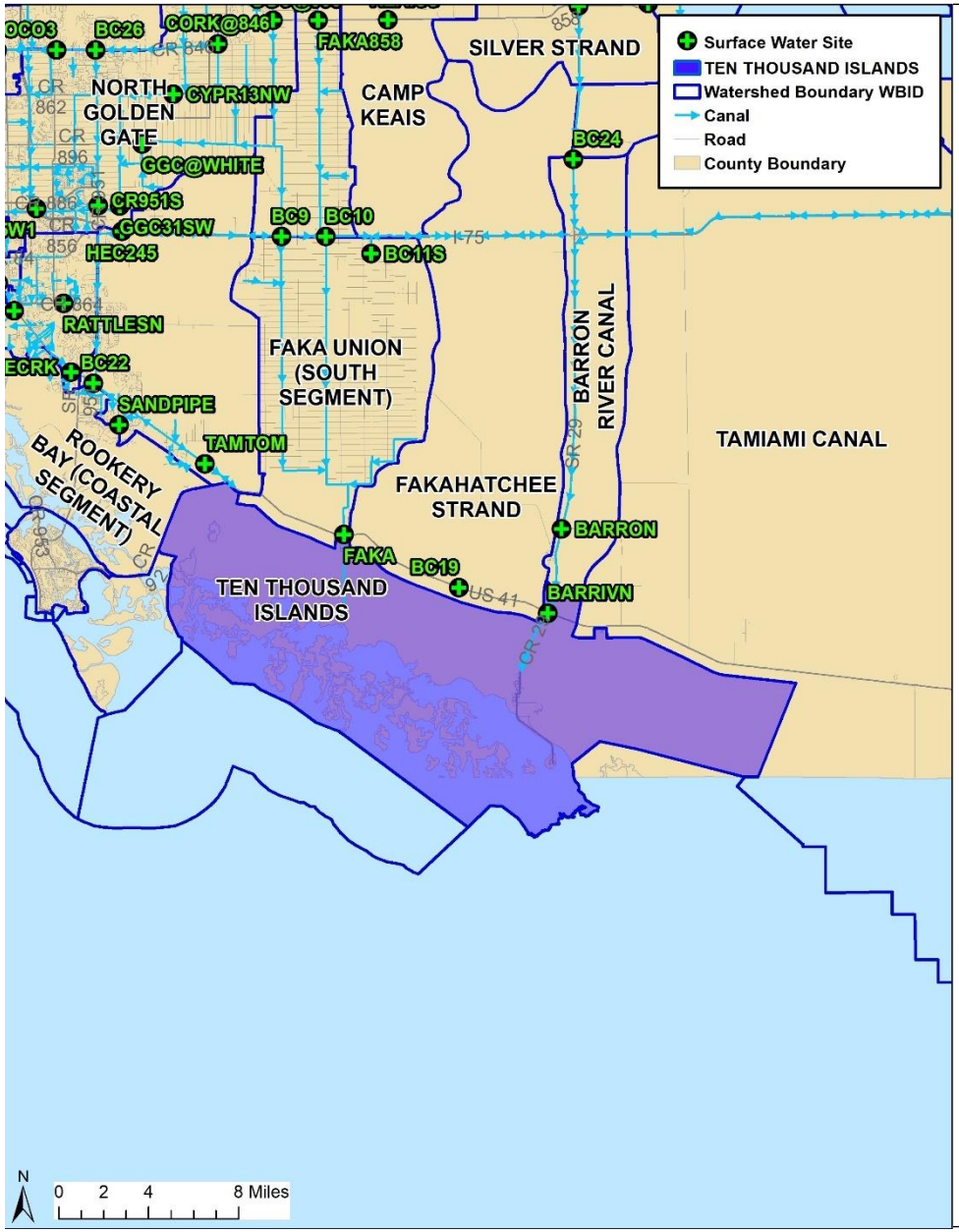


Figure 29. Ten Thousand Islands Snapshot

TEN THOUSAND ISLANDS

- Size: 127,836 acres
- Classification: Class II
- Drainage:
  - Receives from: Faka Union (South Segment), Fakahatchee Strand, Barron River Canal, Tamiami Canal
  - Drains to: Gulf of Mexico
- Major Land Use(s):
  - Wetlands 69%
  - Water 30%
- FDEP Impairments Draft 2021: Fecal Coliform (SEAS Classification), Dissolved Oxygen, Total Nitrogen, Total Phosphorus
- Water Quality Trends:
  - Short-term Improving: Chla, As, Cu, Fe
  - Short-term Degrading: DO, TKN, NH3, TN, Enterococci
  - Long-term Improving: Chla, As, Cu, Fe
  - Long-term Degrading: DO, TKN, NH3, TN, Fecal Coliform
- % Samples in Exceedance: 4.3%
- Summary Statistics: Appendix C

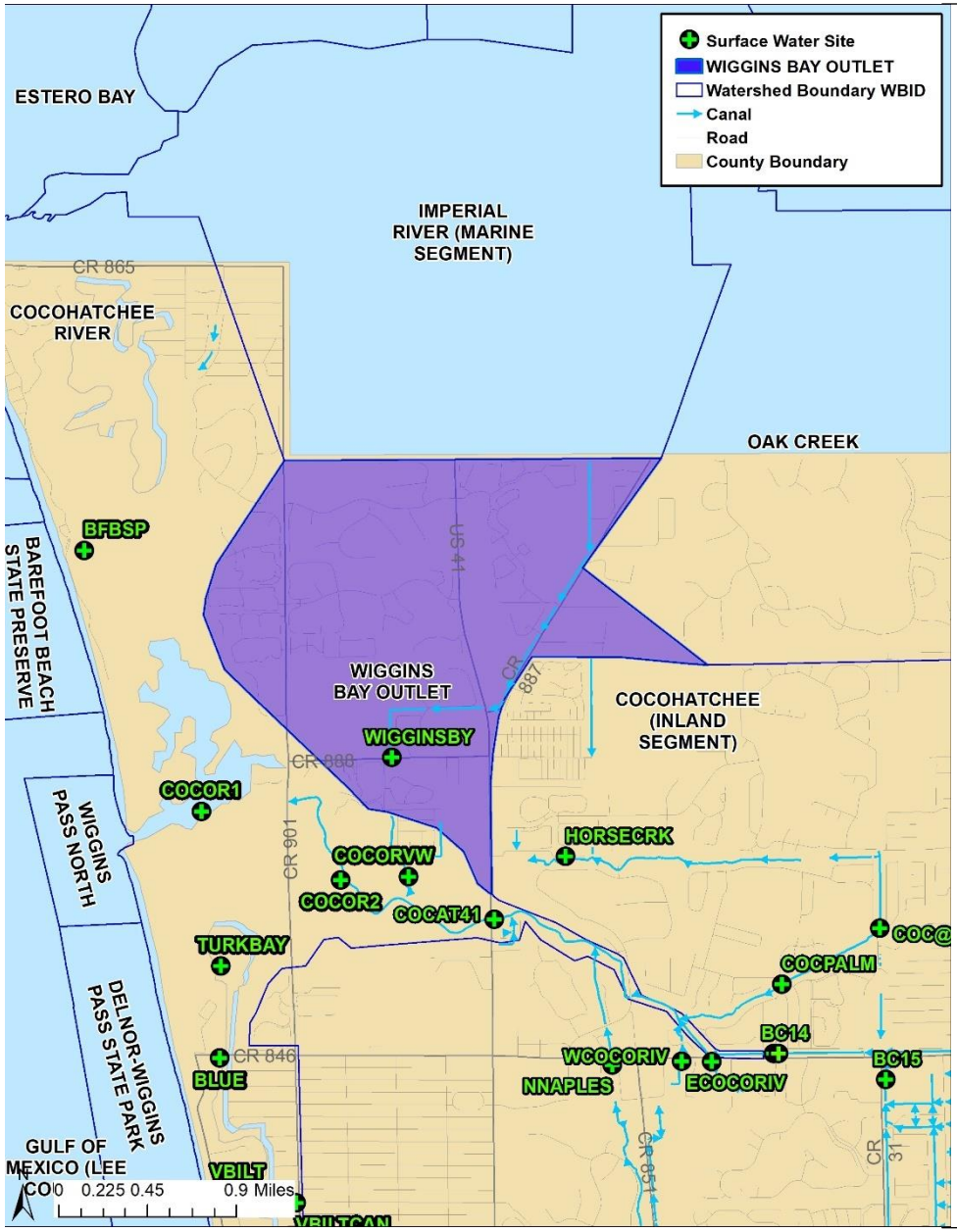


Figure 30. Wiggins Bay Outlet Snapshot

WIGGINS BAY OUTLET

- Size: 1,877 acres
- Classification: Class III Fresh
- Drainage:
  - Receives from: Oak Creek, Cocohatchee (Inland Segment)
  - Drains to: Cocohatchee River
- Major Land Use(s):
  - Urban and Built Up 57%
    - Residential, High Density 41%
    - Residential, Medium Density 22%
    - Commercial and Services 17%
    - Recreational 13%
    - Residential, Low Density 3%
    - Institutional 3%
    - Industrial 2%
  - Wetlands 27%
  - Water 6%
- FDEP Impairments Draft 2021: Iron
- Water Quality Trends:
  - Short-term Improving: None
  - Short-term Degrading: DO, NH3, TN
  - Long-term Improving: None
  - Long-term Degrading: DO, NH3, TN, Fecal Coliform
- % Samples in Exceedance: 3.6%
- Summary Statistics: Appendix C

APPENDIX A

Station List

Site	Latitude	Longitude	Location Description	Project
BARRIVN	25.90977	-81.36348	Bridge at intersection of US41 E and Barron River Canal	CCWQ
BARRON	25.96445	-81.35361	Bridge at intersection of CR837 and Barron River near SR 29	CCWQ
BC10	26.15330	-81.52323	Faka Union Canal at intersection of I-75	CCWQ
BC11S	26.14243	-81.49066	Merritt Canal just above pump station at end of 52nd Ave SE	CCWQ
BC14	26.27269	-81.77871	Immokalee Rd. Canal at intersection of Palm River Blvd.	CCWQ
BC15	26.27083	-81.76955	Airport Rd. Canal at entrance to Sam's Club	CCWQ
BC19	25.92638	-81.42709	Bridge #69 on US 41E	CCWQ
BC22	26.05760	-81.68938	Gauging Station North of intersection of US41 and Henderson Creek	CCWQ
BC24	26.20398	-81.34598	Bridge #30211 on SR 29, approx. 3.1 miles north of I-75	CCWQ
BC26	26.27340	-81.68899	Intersection of 951 Canal and Immokalee Rd. Canal ("COCAT951")	CCWQ
BC5	26.12543	-81.77085	Bridge at intersection of Haldeman Creek and Bayshore Dr.	CCWQ
BC9	26.15320	-81.55505	Miller Canal at intersection of I-75	CCWQ
BFBSP	26.30944	-81.83528	Near red PATON #10	COCORIVESTWQ
BLUE	26.27210	-81.82393	50' South of Bluebill Ave Bridge	COCORIVESTWQ
BRN	26.30338	-81.34246	Bridge at intersection of CR858 & SR29 N near Sunniland	CCWQ
COC@IBIS	26.28197	-81.77011	Bridge at intersection of Palm River and Ibis Way	CCWQ
COC@LAKE	26.27297	-81.75989	Bridge at intersection of Lakeland Ave. and Cocohatchee River Canal	CCWQ
COCAT41	26.28245	-81.80158	Cocohatchee River at US 41	COCORIVESTWQ
COCO3	26.27332	-81.71719	Upstream of Cocohatchee Weir #3 on Immokalee Rd.	CCWQ
COCOR1	26.29028	-81.82556	South of Pelican Isle Yacht Club between Marker 13 and old pole to the north.	COCORIVESTWQ
COCOR2	26.28528	-81.81417	Cocohatchee River in channel between Vanderbilt Dr and US41	COCORIVESTWQ
COCORVW	26.28556	-81.80861	Cocohatchee River in channel leading from Venetian Way	COCORIVESTWQ

Site	Latitude	Longitude	Location Description	Project
COCPALM	26.27780	-81.77807	Bridge at intersection of Palm River Drive and Coconut Palm River	CCWQ
CORK@846	26.27766	-81.60124	Bridge at intersection of Corkscrew Canal and CR846	CCWQ
CORKN	26.42202	-81.57849	Bridge just south of County line and USGS gauging station on tram road to Little Corkscrew Island in Corkscrew Swamp Sanctuary	CCWQ
CORKS	26.35321	-81.61899	Southern most bridge on tram road in Corkscrew Swamp Sanctuary	CCWQ
CORKSCRD	26.49548	-81.52877	Bridge at intersection of Corkscrew Rd. and canal northeast of Corkscrew Marsh Trailhead	CCWQ
CR951S	26.17269	-81.68664	CR951 Canal upstream of weir #1 just north of 31st Ave. SW	CCWQ
CYPR13NW	26.24514	-81.63320	East side of bridge at end of 13 St NW and Cypress Canal	CCWQ
EAGLECRK	26.06465	-81.70555	Upstream of bridge at intersection of Eagle Creek Canal and Price St.	CCWQ
ECOCORIV	26.27207	-81.78376	Upstream side of second amil gate on south side of Immokalee Rd east of Goodlette Rd.	CCWQ
FAKA	25.96050	-81.50951	Gauging station north of weir at the intersection of US41 and Faka Union Canal	CCWQ
FAKA858	26.29341	-81.52964	South side of bridge at Faka Union Canal and CR858	CCWQ
GGC@858	26.29331	-81.56175	Bridge at intersection of Golden Gate Canal and CR858	CCWQ
GGC@WHITE	26.21279	-81.65533	Bridge at intersection of Golden Gate Canal and White Blvd.	CCWQ
GGC31SW	26.17257	-81.67106	Main Golden Gate Canal at the east end of 31st Ave. SW	CCWQ
GGCAT31	26.16797	-81.76720	Bridge at intersection of Airport Rd and Golden Gate Canal	CCWQ
GORDONRIV	26.17334	-81.78451	Upstream of weir at intersection of Golden Gate Pkwy and Gordon River Extension.	CCWQ
GRE896	26.21156	-81.78450	Gordon River Extension at Pine Ridge Rd.	CCWQ
HALDUP	26.12230	-81.75810	1000' upstream from Palm Dr. on Haldeman Creek	CCWQ
HEC245	26.15609	-81.66956	Henderson Creek Canal as it passes under I-75 near White Lake Blvd.	CCWQ
HORSECRK	26.28713	-81.79581	Horse Creek along Encore Way	CCWQ

Site	Latitude	Longitude	Location Description	Project
I75W1	26.17050	-81.73096	I-75 Canal upstream of weir #1	CCWQ
IMKBRN	26.40900	-81.39777	First bridge over canal on US29 south of the convergence of northwest drainage canal and north drainage canal on southeast end of Immokalee	CCWQ
IMKFSHCK	26.43337	-81.46260	On Lake Trafford Rd. just west of elementary school at sidewalk bridge	CCWQ
IMKSLGH	26.40624	-81.42945	On Sanitation Rd. leading to Eustis Landfill on east side of road approximately half way between entrance gate at Immokalee Water & Sewer District Office and Eustis Landfill gate.	CCWQ/LKTRAFF
KEAISN	26.36667	-81.48457	Bridge on CR846, 3.5 miles east of Everglades Blvd.	CCWQ/LKTRAFF
KEAISS	26.29391	-81.47935	Bridge on CR858, 3.5 miles east of Everglades Blvd.	CCWQ
LELY	26.10434	-81.74639	Bridge at intersection of US41 and Lely Main Canal	CCWQ
LKTRAF1	26.43180	-81.48719	Northeast corner of Lake Trafford near fishing pier	LKTRAFF
LKTRAF4	26.41836	-81.50297	Southwest corner of Lake Trafford	LKTRAFF
LKTRAF8	26.42156	-81.47843	Mouth of slough on the east side of Lake Trafford	LKTRAFF
NNAPLES	26.27178	-81.79189	South side of amil gate at junction of North Naples Canal and Immokalee Rd.	CCWQ
OKALA846	26.42193	-81.30501	South side of amil gate at junction of North Naples Canal and Immokalee Rd.	CCWQ
OKALA858	26.30495	-81.29252	Okaloacoochee Slough crossing on CR858	CCWQ
RATTLESN	26.10932	-81.71111	Slough passing under Rattlesnake Hammock Rd at culvert approximately 0.4 miles East of Santa Barbara Blvd	CCWQ
ROCKCRK	26.14557	-81.76691	Rock Creek west of Airport Rd.	CCWQ
SANDPIPE	26.03073	-81.67079	Canal S1S-00 as it passes under Sandpiper Dr. in Fiddler's Creek	CCWQ
TAMTOM	26.00571	-81.60919	Gauging station near intersection of US41E and Tomato Rd.	CCWQ
TURKBAY	26.27889	-81.82389	Water Turkey Bay Marker 11	COCORIVESTWQ
VBILT	26.26218	-81.82242	Mid-channel, opposite Tradewinds Avenue	COCORIVESTWQ
VBILTB	26.25603	-81.82112	300' due West of Palm Ct	COCORIVESTWQ

Site	Latitude	Longitude	Location Description	Project
VBILTCAN	26.26147	-81.81763	End of canal between Tradewinds and Lagoon Avenues	COCORIVESTWQ
WCOCORIV	26.27207	-81.78622	Upstream side of first amil gate on south side of Immokalee Rd east of Goodlette Rd	CCWQ
WIGGINSBY	26.29436	-81.81004	In canal WBB-00-C0015 (Tarpon Bay Canal) on north side of Wiggins Pass Rd.	CCWQ
WINPARK	26.12790	-81.76110	Winter Park outfall at Harrison Rd.	CCWQ

APPENDIX B
PARAMETER LIST

Parameter	Abbreviation	PROJECT		
		CCWQ	LKTRAFF	COCORIVESTWQ
Alkalinity	Alka		X	
Ammonia (N)	NH3	X	X	X
Arsenic	As	X		analyzed quarterly
Biochemical Oxygen Demand	BOD	X	X	X
Cadmium	Cd	X		analyzed quarterly
Calcium	Ca	X		
Carbon- Organic	TOC	X	X	X
Chloride	Cl	X		
Chlorophyll a- corrected	Chla	X	X	X
Chromium	Cr	X		analyzed quarterly
Color- True	Color	X	X	X
Copper	Cu	X		analyzed quarterly
Escherichia E. coli Or Enterococci	E. coli or Entero	X		X
Hardness- Calculated	Hardness	X		
Iron	Fe	X		analyzed quarterly
Lead	Pb	X		analyzed quarterly
Magnesium	Mg	X		
Nitrate (N)	NO3	X	X	X
Nitrate-Nitrite (N)	NOx	X	X	X
Nitrite (N)	NO2	X	X	X
Total Nitrogen	TN	X	X	X
Total Nitrogen Kjeldahl	TKN	X	X	X
Orthophosphate (P)	Ortho-P	X	X	X
Pheophytin a	Pheo	X	X	X
Total Phosphorus	TP	X	X	X
Total Suspended Solids	TSS	X	X	X
Silica	Si		X	
Sulfate	SO4	X	X	X
Turbidity	Turb	X	X	X
Zinc	Zn	X		analyzed quarterly
Dissolved Oxygen	DO	X	X	X

DO Saturation	DO%	X	X	X
pH	pH	X	X	X
Salinity	Sal	X	X	X
Specific Conductance	SpCond	X	X	X
Secchi Disk Depth	Secchi	X	X	X
Temperature, Water	Temp	X	X	X

APPENDIX C

Summary Statistics

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
Barron River Canal	Ammonia (N)	mg/L	23	0.022	0.46	0.089	0.098
	Arsenic	ug/L	24	0.853	1.75	1.22	0.27
	BOD	mg/L	18	2	6.7	2.8	1.7
	Cadmium	ug/L	24	0.02	0.01	0.01	0.00
	Calcium	mg/L	24	45.4	115	87.0	20.1
	Carbon- Organic	mg/L	24	7.8	28.2	16.9	5.9
	Chloride	mg/L	23	13.6	36.8	27.8	5.6
	Chlorophyll a-corrected	ug/L	24	1	118	11.0	24.9
	Chromium	ug/L	23	0.162	1.59	0.562	0.390
	Color- True	PCU	24	30	240	91.6	53.1
	Copper	ug/L	23	0.15	1.73	0.47	0.48
	Depth, Secchi Disk Depth	m	26	0.5	2.1	1.2	0.4
	Dissolved Oxygen	mg/L	46	0.11	3.79	1.68	0.72
	Dissolved Oxygen Saturation	%	46	1.4	48.1	19.8	8.9
	Escherichia coli (MPN)	MPN/100 mL	24	9	326	68	73
	Hardness-Calculated (CaCO3)	mg/L	24	135	312	241	51
	Iron	mg/L	24	0.137	1.19	0.441	0.298
	Lead	ug/L	23	0.02	1.02	0.159	0.229
	Magnesium	mg/L	24	3.45	7.89	5.8	1.1
	Nitrate (N)	mg/L	23	0.002	0.096	0.019	0.020
	Nitrate-Nitrite (N)	mg/L	24	0.011	0.1	0.021	0.020
	Nitrite (N)	mg/L	24	0.002	0.0125	0.004	0.005
	Nitrogen- Total	mg/L	24	0.555	2.38	1.063	0.442
	Nitrogen- Total Kjeldahl	mg/L	24	0.539	2.38	1.048	0.443
	Orthophosphate (P)	mg/L	24	0.003	0.125	0.026	0.034
	pH	SU	46	6.7	7.59	7.14	0.19
	Pheophytin a	ug/L	24	1	39.1	3.7	8.4
	Phosphorus- Total	mg/L	24	0.013	0.2	0.066	0.063

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Residues-Nonfilterable (TSS)	mg/L	24	2	27.8	4.0	6.0
	Salinity	PSU	44	0.15	0.32	0.25	0.04
	Specific Conductance	umho/cm	46	316	655	510	88
	Sucralose	ug/L	6	0.0121	0.00605	0.0061	0.0000
	Sulfate	mg/L	23	0.2	24.7	5.42	6.59
	Temperature, Water	deg C	45	16.9	28.1	23.7	2.8
	Turbidity	NTU	27	0.4	22.4	3.7	4.8
	Zinc	ug/L	23	2.00	3.58	1.34	0.62
Camp Keais	Alkalinity (CaCO3)	mg/L	1	106	106	106	
	Ammonia (N)	mg/L	10	0.022	4.851	0.535	1.517
	Arsenic	ug/L	10	0.38	2.4	1.17	0.66
	BOD	mg/L	8	2	6.8	2.5	1.9
	Cadmium	ug/L	10	0.02	0.01	0.01	0.00
	Calcium	mg/L	10	35.4	81.1	55.7	11.6
	Carbon- Organic	mg/L	10	16.8	47.3	23.4	8.8
	Chloride	mg/L	10	13.6	36.8	24.5	6.6
	Chlorophyll a-corrected	ug/L	10	1	10.7	3.1	3.5
	Chromium	ug/L	10	0.188	0.5	0.294	0.111
	Color- True	PCU	10	70	420	155.0	100.2
	Copper	ug/L	9	0.22	0.984	0.44	0.25
	Depth, Secchi Disk Depth	m	11	0.5	1.25	0.9	0.3
	Dissolved Oxygen	mg/L	11	0.55	2.74	1.30	0.78
	Dissolved Oxygen Saturation	%	11	6.7	27.1	14.2	7.2
	Escherichia coli (MPN)	MPN/100 mL	10	13	411	105	127
	Hardness-Calculated (CaCO3)	mg/L	10	107	235	166	32
	Iron	mg/L	10	0.105	0.728	0.289	0.184
	Lead	ug/L	10	0.02	0.081	0.021	0.021
	Magnesium	mg/L	10	4.5	7.92	6.5	0.9
	Nitrate (N)	mg/L	9	0.011	0.05	0.017	0.016
	Nitrate-Nitrite (N)	mg/L	10	0.011	0.075	0.020	0.022
	Nitrite (N)	mg/L	10	0.002	0.025	0.007	0.008

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Nitrogen- Total	mg/L	10	0.75	6.52	1.656	1.761
	Nitrogen- Total Kjeldahl	mg/L	10	0.75	6.44	1.642	1.739
	Orthophosphate (P)	mg/L	10	0.047	0.805	0.207	0.227
	pH	SU	11	6.74	7.27	7.02	0.20
	Pheophytin a	ug/L	10	1	3.2	0.8	0.9
	Phosphorus- Total	mg/L	10	0.055	0.95	0.241	0.268
	Residues- Nonfilterable (TSS)	mg/L	10	2	11.2	2.4	3.2
	Salinity	PSU	11	0.13	0.28	0.19	0.04
	Silica (SiO2)	mg/L	1	7.36	7.36	7.36	
	Specific Conductance	umho/cm	11	265	589	394	78
	Sucralose	ug/L	2	0.0121	0.00605	0.0061	0.0000
	Sulfate	mg/L	10	2.02	24.2	6.10	7.47
	Temperature, Water	deg C	11	15.3	26.7	22.1	4.5
	Turbidity	NTU	10	0.22	8.65	1.6	2.5
	Zinc	ug/L	10	2.00	1.45	1.14	0.22
Cocohatchee (Inland Segment)	Ammonia (N)	mg/L	130	0.022	0.583	0.130	0.109
	Arsenic	ug/L	130	0.976	12.2	2.36	1.62
	BOD	mg/L	91	2	7.1	2.7	1.4
	Cadmium	ug/L	130	0.02	0.077	0.01	0.01
	Calcium	mg/L	130	47.4	262	92.5	27.5
	Carbon- Organic	mg/L	129	8.24	26	13.6	2.3
	Chloride	mg/L	136	18.5	9450	192	806
	Chlorophyll a- corrected	ug/L	130	1	299	9.7	26.6
	Chromium	ug/L	130	0.217	0.899	0.479	0.152
	Color- True	PCU	129	25	130	58.6	20.1
	Copper	ug/L	117	0.201	92.7	2.56	8.53
	Depth, Secchi Disk Depth	m	147	0.15	2.1	0.9	0.4
	Dissolved Oxygen	mg/L	172	0.9	11.23	4.74	2.21
	Dissolved Oxygen Saturation	%	172	11.3	124.3	56.8	26.1
	Escherichia coli (MPN)	MPN/100 mL	135	1	3973	366	687

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Hardness-Calculated (CaCO3)	mg/L	130	136	3290	297	277
	Iron	mg/L	129	0.0209	2.02	0.282	0.279
	Lead	ug/L	122	0.02	0.109	0.034	0.022
	Magnesium	mg/L	130	3.6	640	16.0	55.7
	Nitrate (N)	mg/L	120	0.008	0.337	0.092	0.082
	Nitrate-Nitrite (N)	mg/L	129	0.011	0.37	0.103	0.088
	Nitrite (N)	mg/L	136	0.002	0.043	0.010	0.009
	Nitrogen- Total	mg/L	131	0.2	2.57	1.034	0.296
	Nitrogen- Total Kjeldahl	mg/L	130	0.2	2.57	0.948	0.270
	Orthophosphate (P)	mg/L	130	0.003	0.311	0.030	0.057
	pH	SU	171	6.71	8.33	7.47	0.32
	Pheophytin a	ug/L	130	1	17.7	2.5	2.7
	Phosphorus- Total	mg/L	130	0.007	0.36	0.063	0.070
	Residues-Nonfilterable (TSS)	mg/L	130	2	15.8	2.3	2.2
	Salinity	PSU	170	0.15	20.09	0.54	1.52
	Specific Conductance	umho/cm	171	328	32243	1043	2436
	Sucralose	ug/L	33	0.0121	7.1306	0.8781	1.4309
	Sulfate	mg/L	136	2.7	1480	53.60	128.84
	Temperature, Water	deg C	171	12.1	32.4	25.0	4.2
	Turbidity	NTU	143	0.69	11	2.7	2.0
	Zinc	ug/L	128	2.00	11.10	1.69	1.47
Cocohatchee River	Ammonia (N)	mg/L	133	0.022	0.649	0.108	0.104
	Arsenic	ug/L	53	1.3	4.51	2.68	0.81
	BOD	mg/L	111	2	6.2	2.4	1.1
	Cadmium	ug/L	53	0.02	0.08	0.06	0.02
	Calcium	mg/L	9	79.1	367	237.1	101.6
	Carbon- Organic	mg/L	122	2.47	16.9	6.6	3.8
	Chloride	mg/L	40	2.5	23300	14662	6418
	Chlorophyll a-corrected	ug/L	133	1	24.8	5.0	3.8
	Chromium	ug/L	53	0.411	1.94	0.539	0.350
	Color- True	PCU	126	2	140	27.3	32.4

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Copper	ug/L	52	0.374	10.6	1.48	1.59
	Depth, Secchi Disk Depth	m	131	0.05	1.8	1.0	0.3
	Dissolved Oxygen	mg/L	180	1.56	8.58	5.03	1.40
	Dissolved Oxygen Saturation	%	180	24.5	121.8	71.0	18.2
	Enterococci (MPN)	MPN/100 mL	133	8	7270	157	687
	Hardness-Calculated (CaCO3)	mg/L	9	795	7050	3615	2173
	Iron	mg/L	53	0.0747	1.53	0.269	0.283
	Lead	ug/L	53	0.048	0.664	0.102	0.093
	Magnesium	mg/L	9	145	1490	734.1	467.8
	Nitrate (N)	mg/L	8	0.011	0.277	0.100	0.095
	Nitrate-Nitrite (N)	mg/L	133	0.011	0.311	0.036	0.048
	Nitrite (N)	mg/L	39	0.002	0.034	0.014	0.008
	Nitrogen- Total	mg/L	132	0.228	1.55	0.627	0.243
	Nitrogen- Total Kjeldahl	mg/L	133	0.17	1.24	0.592	0.211
	Orthophosphate (P)	mg/L	133	0.003	0.064	0.017	0.014
	pH	SU	179	7	8.02	7.72	0.20
	Pheophytin a	ug/L	133	1	7.1	1.3	1.1
	Phosphorus- Total	mg/L	133	0.014	0.105	0.048	0.019
	Residues-Nonfilterable (TSS)	mg/L	133	2	35.8	6.8	4.9
	Salinity	PSU	180	0.3	36.56	26.98	10.03
	Specific Conductance	umho/cm	180	663	55321	41632	14931
	Sucralose	ug/L	3	0.0634	0.2179	0.1236	0.0827
	Sulfate	mg/L	40	2.5	2710	1914.78	778.09
	Temperature, Water	deg C	179	15.6	31.8	25.7	4.4
	Turbidity	NTU	133	1.2	27	5.1	4.0
	Zinc	ug/L	53	2.00	17.10	6.71	3.25
Corkscrew Swamp	Ammonia (N)	mg/L	31	0.022	0.858	0.077	0.149
	Arsenic	ug/L	31	0.344	1.88	0.73	0.36
	BOD	mg/L	20	2	10	2.6	2.1
	Cadmium	ug/L	31	0.02	0.034	0.01	0.00

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Calcium	mg/L	31	27.6	114	69.7	28.3
	Carbon- Organic	mg/L	31	8.52	34.1	18.1	7.9
	Chloride	mg/L	31	9.11	41.8	23.8	6.8
	Chlorophyll a- corrected	ug/L	31	1	100	4.8	17.7
	Chromium	ug/L	29	0.08	1.18	0.377	0.290
	Color- True	PCU	31	25	320	106.0	72.3
	Copper	ug/L	28	0.15	2.2	0.30	0.43
	Depth, Secchi Disk Depth	m	32	0.2	1.2	0.8	0.3
	Dissolved Oxygen	mg/L	36	0.32	5.71	2.25	1.61
	Dissolved Oxygen Saturation	%	36	3.9	58.2	25.6	17.9
	Escherichia coli (MPN)	MPN/100 mL	31	11	821	117	178
	Hardness- Calculated (CaCO3)	mg/L	31	83.8	300	194	70
	Iron	mg/L	31	0.0497	1.43	0.404	0.347
	Lead	ug/L	30	0.02	0.265	0.052	0.052
	Magnesium	mg/L	31	3.55	8.54	4.9	1.3
	Nitrate (N)	mg/L	29	0.011	0.442	0.079	0.124
	Nitrate-Nitrite (N)	mg/L	31	0.011	0.446	0.088	0.130
	Nitrite (N)	mg/L	31	0.002	0.028	0.007	0.007
	Nitrogen- Total	mg/L	32	0.2	3.25	1.068	0.521
	Nitrogen- Total Kjeldahl	mg/L	31	0.409	3.19	1.017	0.542
	Orthophosphate (P)	mg/L	30	0.003	0.03	0.007	0.007
	pH	SU	36	6.33	7.71	7.08	0.30
	Pheophytin a	ug/L	31	1	35.5	1.7	6.3
	Phosphorus- Total	mg/L	28	0.007	0.253	0.032	0.046
	Residues- Nonfilterable (TSS)	mg/L	31	2	28.3	3.3	5.2
	Salinity	PSU	36	0.1	0.3	0.21	0.06
	Specific Conductance	umho/cm	36	209	592	429	120
	Sucralose	ug/L	8	0.0121	0.00605	0.0061	0.0000
	Sulfate	mg/L	31	0.2	29	8.92	9.74
	Temperature, Water	deg C	36	16.6	28.8	22.7	3.6

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Turbidity	NTU	34	0.13	29.84	4.5	6.4
	Zinc	ug/L	31	2.00	3.25	1.39	0.60
Cow Slough	Ammonia (N)	mg/L	10	0.035	0.484	0.159	0.140
	Arsenic	ug/L	10	0.768	6.94	1.60	1.89
	BOD	mg/L	7	2	4.4	2.4	1.5
	Cadmium	ug/L	10	0.02	0.01	0.01	0.00
	Calcium	mg/L	10	19.1	76	38.4	21.0
	Carbon- Organic	mg/L	10	7.85	40.8	26.4	9.6
	Chloride	mg/L	10	10.8	16.1	13.9	1.7
	Chlorophyll a-corrected	ug/L	10	1	4.7	2.1	1.2
	Chromium	ug/L	10	0.474	1.76	1.178	0.397
	Color- True	PCU	10	34	500	267.9	148.5
	Copper	ug/L	9	0.36	1.83	1.17	0.54
	Depth, Secchi Disk Depth	m	10	0.25	0.6	0.4	0.1
	Dissolved Oxygen	mg/L	11	1.4	6.53	3.82	1.39
	Dissolved Oxygen Saturation	%	11	17.1	65.1	42.9	13.6
	Escherichia coli (MPN)	MPN/100 mL	10	81	4839	1159	1475
	Hardness-Calculated (CaCO3)	mg/L	10	63.5	214	115	54
	Iron	mg/L	10	0.445	2.85	1.122	0.742
	Lead	ug/L	10	0.055	0.293	0.161	0.074
	Magnesium	mg/L	10	2.7	6.01	4.6	0.9
	Nitrate (N)	mg/L	9	0.011	0.232	0.063	0.073
	Nitrate-Nitrite (N)	mg/L	10	0.011	0.263	0.071	0.077
	Nitrite (N)	mg/L	10	0.002	0.037	0.012	0.012
	Nitrogen- Total	mg/L	10	1.1	2.33	1.566	0.362
	Nitrogen- Total Kjeldahl	mg/L	10	1.06	2.33	1.497	0.393
	Orthophosphate (P)	mg/L	10	0.054	0.653	0.181	0.175
	pH	SU	11	6.79	7.56	7.09	0.27
	Pheophytin a	ug/L	10	1	3.2	1.2	1.0
	Phosphorus- Total	mg/L	10	0.081	1.09	0.294	0.297
	Residues-Nonfilterable (TSS)	mg/L	10	2	4.8	2.4	1.4

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Salinity	PSU	11	0.07	0.21	0.12	0.04
	Specific Conductance	umho/cm	11	149	440	254	98
	Sucralose	ug/L	2	0.0121	0.00605	0.0061	0.0000
	Sulfate	mg/L	10	3.79	31.7	9.39	8.01
	Temperature, Water	deg C	11	15.6	28	22.1	4.5
	Turbidity	NTU	11	1.2	6	3.4	1.6
	Zinc	ug/L	10	2.00	8.02	3.94	2.13
Faka Union (North Segment)	Ammonia (N)	mg/L	35	0.022	0.216	0.059	0.063
	Arsenic	ug/L	36	0.663	2.13	1.42	0.38
	BOD	mg/L	28	2	3.4	2.2	0.9
	Cadmium	ug/L	36	0.02	0.01	0.01	0.00
	Calcium	mg/L	36	62.8	123	92.7	20.4
	Carbon- Organic	mg/L	36	7.48	20.8	13.0	3.9
	Chloride	mg/L	36	18	33.5	23.9	3.5
	Chlorophyll a-corrected	ug/L	36	1.5	18.8	6.4	4.1
	Chromium	ug/L	34	0.225	1.42	0.775	0.378
	Color- True	PCU	36	17	190	77.3	52.5
	Copper	ug/L	35	0.15	1.1	0.34	0.26
	Depth, Secchi Disk Depth	m	40	0.4	1.7	0.9	0.3
	Dissolved Oxygen	mg/L	50	2.34	8.17	5.42	1.67
	Dissolved Oxygen Saturation	%	50	29.3	98.4	65.6	20.3
	Escherichia coli (MPN)	MPN/100 mL	38	1	921	78	189
	Hardness-Calculated (CaCO3)	mg/L	36	181	328	254	46
	Iron	mg/L	36	0.0944	1.52	0.554	0.438
	Lead	ug/L	35	0.02	0.096	0.034	0.020
	Magnesium	mg/L	36	3.16	9.7	5.5	1.8
	Nitrate (N)	mg/L	33	0.011	0.081	0.021	0.021
	Nitrate-Nitrite (N)	mg/L	36	0.011	0.083	0.023	0.021
	Nitrite (N)	mg/L	35	0.002	0.0125	0.004	0.005
	Nitrogen- Total	mg/L	36	0.36	1.04	0.711	0.204
	Nitrogen- Total Kjeldahl	mg/L	36	0.36	1.02	0.694	0.195

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Orthophosphate (P)	mg/L	36	0.003	0.008	0.002	0.002
	pH	SU	50	6.77	8.16	7.45	0.42
	Pheophytin a	ug/L	36	1	4.2	1.5	1.2
	Phosphorus- Total	mg/L	34	0.007	0.044	0.020	0.011
	Residues-Nonfilterable (TSS)	mg/L	36	2	8.9	2.5	1.9
	Salinity	PSU	50	0.1	0.31	0.26	0.05
	Specific Conductance	umho/cm	50	300	641	541	85
	Sucralose	ug/L	9	0.0428	0.4829	0.2683	0.1728
	Sulfate	mg/L	36	0.889	14.3	7.67	4.92
	Temperature, Water	deg C	50	18.6	29.6	25.3	2.9
	Turbidity	NTU	41	1.46	11.39	3.4	1.7
	Zinc	ug/L	33	2.00	1.45	1.12	0.20
Faka Union (South Segment)	Ammonia (N)	mg/L	24	0.022	0.099	0.035	0.026
	Arsenic	ug/L	24	0.857	2.28	1.28	0.33
	BOD	mg/L	17	2	4.1	2.1	1.0
	Cadmium	ug/L	24	0.02	0.03	0.01	0.01
	Calcium	mg/L	24	58.4	182	104.0	29.3
	Carbon- Organic	mg/L	24	8.16	22.1	12.2	4.1
	Chloride	mg/L	23	18.2	5020	543	1429
	Chlorophyll a-corrected	ug/L	24	1.1	8.3	3.4	1.9
	Chromium	ug/L	24	0.237	0.657	0.434	0.146
	Color- True	PCU	24	20	185	61.0	48.1
	Copper	ug/L	23	0.15	1	0.24	0.23
	Depth, Secchi Disk Depth	m	25	0.5	1.55	1.0	0.3
	Dissolved Oxygen	mg/L	27	1.29	7.95	5.46	1.95
	Dissolved Oxygen Saturation	%	27	15.9	99.1	66.9	25.0
	Escherichia coli (MPN)	MPN/100 mL	24	4	272	47	69
	Hardness-Calculated (CaCO3)	mg/L	24	163	1890	425	462
	Iron	mg/L	23	0.0562	0.493	0.214	0.150

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Lead	ug/L	24	0.02	0.084	0.038	0.018
	Magnesium	mg/L	24	3.77	349	40.1	97.4
	Nitrate (N)	mg/L	23	0.002	0.094	0.025	0.027
	Nitrate-Nitrite (N)	mg/L	24	0.011	0.094	0.026	0.026
	Nitrite (N)	mg/L	24	0.002	0.0125	0.003	0.005
	Nitrogen- Total	mg/L	24	0.343	1.13	0.648	0.175
	Nitrogen- Total Kjeldahl	mg/L	24	0.343	1.11	0.627	0.171
	Orthophosphate (P)	mg/L	24	0.003	0.095	0.013	0.026
	pH	SU	27	6.8	8.27	7.57	0.44
	Pheophytin a	ug/L	24	1	2.8	0.9	0.6
	Phosphorus- Total	mg/L	23	0.007	0.116	0.026	0.030
	Residues- Nonfilterable (TSS)	mg/L	24	2	5.3	1.7	1.3
	Salinity	PSU	27	0.17	8.9	1.12	2.32
	Specific Conductance	umho/cm	27	356	15366	2055	3988
	Sucralose	ug/L	6	0.0121	0.1337	0.0373	0.0529
	Sulfate	mg/L	23	2.39	708	83.76	202.22
	Temperature, Water	deg C	27	18.6	29.5	25.3	3.2
	Turbidity	NTU	26	0.5	7.03	2.5	1.9
	Zinc	ug/L	24	2.00	3.72	1.48	0.87
Fakahatchee Strand	Ammonia (N)	mg/L	12	0.022	0.21	0.063	0.055
	Arsenic	ug/L	12	0.421	2.49	1.09	0.65
	BOD	mg/L	9	2	6.2	3.4	2.1
	Cadmium	ug/L	12	0.02	0.06	0.02	0.02
	Calcium	mg/L	12	66	370	154.4	99.1
	Carbon- Organic	mg/L	12	14.4	31.8	22.9	5.3
	Chloride	mg/L	11	46.3	15300	3096	4829
	Chlorophyll a- corrected	ug/L	12	1.3	46.9	15.7	18.0
	Chromium	ug/L	12	0.0851	0.524	0.293	0.147
	Color- True	PCU	12	60	210	124.2	47.6
	Copper	ug/L	11	0.15	0.895	0.23	0.25
	Depth, Secchi Disk Depth	m	13	0.6	1.1	0.8	0.2
	Dissolved Oxygen	mg/L	14	0.5	4.91	2.50	1.35

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Dissolved Oxygen Saturation	%	14	6.3	62.9	31.0	16.8
	Escherichia coli (MPN)	MPN/100 mL	12	10	12098	2139	4181
	Hardness-Calculated (CaCO3)	mg/L	12	190	5700	1268	1657
	Iron	mg/L	12	0.0323	0.203	0.136	0.045
	Lead	ug/L	11	0.03	0.261	0.090	0.076
	Magnesium	mg/L	12	6.09	1160	214.4	346.2
	Nitrate (N)	mg/L	12	0.002	0.0165	0.006	0.004
	Nitrate-Nitrite (N)	mg/L	12	0.011	0.035	0.009	0.009
	Nitrite (N)	mg/L	12	0.002	0.0125	0.003	0.004
	Nitrogen- Total	mg/L	12	0.794	1.62	1.152	0.299
	Nitrogen- Total Kjeldahl	mg/L	12	0.794	1.62	1.149	0.298
	Orthophosphate (P)	mg/L	12	0.003	0.038	0.010	0.012
	pH	SU	14	6.8	7.59	7.30	0.25
	Pheophytin a	ug/L	12	1	10.1	2.8	3.3
	Phosphorus- Total	mg/L	12	0.009	0.102	0.046	0.035
	Residues-Nonfilterable (TSS)	mg/L	12	2	9.2	3.4	3.3
	Salinity	PSU	14	0.27	26.39	5.66	7.52
	Specific Conductance	umho/cm	14	558	41359	9521	11927
	Sucralose	ug/L	3	0.0121	0.029	0.0137	0.0133
	Sulfate	mg/L	11	2.18	2140	435.67	682.30
	Temperature, Water	deg C	14	17.5	29.6	25.1	3.8
	Turbidity	NTU	13	0.4	8.47	3.8	2.7
	Zinc	ug/L	12	2.00	6.00	1.98	1.58
Gordon River Extension	Ammonia (N)	mg/L	24	0.024	0.567	0.211	0.128
	Arsenic	ug/L	24	0.537	3.86	1.93	0.92
	BOD	mg/L	16	2	4.5	3.3	1.2
	Cadmium	ug/L	24	0.02	0.01	0.01	0.00
	Calcium	mg/L	24	21	123	89.7	23.6
	Carbon- Organic	mg/L	23	3.58	17.1	11.3	3.4
	Chloride	mg/L	24	2.88	754	166.9	215.7

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Chlorophyll a-corrected	ug/L	24	1	16.6	7.3	4.1
	Chromium	ug/L	24	0.288	0.737	0.486	0.152
	Color- True	PCU	24	10	90	51.5	18.6
	Copper	ug/L	22	0.238	6.17	1.24	1.37
	Depth, Secchi Disk Depth	m	25	0.3	1.4	0.9	0.2
	Dissolved Oxygen	mg/L	27	1.41	7.13	3.60	1.66
	Dissolved Oxygen Saturation	%	27	17.7	86.7	42.7	19.2
	Escherichia coli (MPN)	MPN/100 mL	25	15	2420	361	577
	Hardness-Calculated (CaCO3)	mg/L	24	55.2	521	273	107
	Iron	mg/L	24	0.0605	1.2	0.393	0.341
	Lead	ug/L	24	0.03	0.899	0.155	0.194
	Magnesium	mg/L	24	0.68	51.9	12.0	15.2
	Nitrate (N)	mg/L	22	0.008	0.32	0.099	0.093
	Nitrate-Nitrite (N)	mg/L	24	0.011	0.334	0.118	0.098
	Nitrite (N)	mg/L	24	0.002	0.044	0.018	0.013
	Nitrogen- Total	mg/L	24	0.26	1.65	1.018	0.362
	Nitrogen- Total Kjeldahl	mg/L	24	0.237	1.59	0.901	0.324
	Orthophosphate (P)	mg/L	24	0.003	0.062	0.017	0.017
	pH	SU	27	6.80	7.90	7.35	0.23
	Pheophytin a	ug/L	24	1	5.9	2.2	1.8
	Phosphorus- Total	mg/L	23	0.022	0.117	0.052	0.026
	Residues-Nonfilterable (TSS)	mg/L	24	2	9.2	2.4	1.9
	Salinity	PSU	27	0.05	1.6	0.49	0.39
	Specific Conductance	umho/cm	27	103	3083	988	734
	Sucralose	ug/L	6	1.1892	2.3455	1.6051	0.4403
	Sulfate	mg/L	24	2.11	142	39.13	36.46
	Temperature, Water	deg C	27	18.4	29.4	24.5	3.5
	Turbidity	NTU	27	1.2	10	2.8	1.8
	Zinc	ug/L	24	2.00	27.10	3.42	5.33

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
Haldeman Creek (Lower)	Ammonia (N)	mg/L	12	0.03	0.184	0.094	0.053
	Arsenic	ug/L	12	2.23	3.84	2.77	0.45
	BOD	mg/L	7	2	6	4.1	1.7
	Cadmium	ug/L	12	0.02	0.08	0.05	0.03
	Calcium	mg/L	12	72.4	414	226.7	112.5
	Carbon- Organic	mg/L	11	4.87	10.3	8.0	1.7
	Chloride	mg/L	12	438	23000	9288	6885
	Chlorophyll a-corrected	ug/L	12	2.6	35.4	13.2	9.4
	Chromium	ug/L	12	0.445	0.899	0.498	0.209
	Color- True	PCU	12	3	60	35.4	16.9
	Copper	ug/L	10	2.35	6.36	3.46	1.21
	Depth, Secchi Disk Depth	m	13	0.5	1.35	1.0	0.3
	Dissolved Oxygen	mg/L	14	1.63	6.51	3.65	1.26
	Dissolved Oxygen Saturation	%	14	21.8	73.4	50.2	15.1
	Enterococci (MPN)	MPN/100 mL	12	74	2909	744	751
	Hardness-Calculated (CaCO3)	mg/L	12	298	7050	3205	2216
	Iron	mg/L	12	0.0876	0.193	0.141	0.032
	Lead	ug/L	12	0.06	0.312	0.114	0.071
	Magnesium	mg/L	12	28.5	1460	640.7	470.3
	Nitrate (N)	mg/L	11	0.011	0.12	0.037	0.040
	Nitrate-Nitrite (N)	mg/L	12	0.011	0.123	0.037	0.040
	Nitrite (N)	mg/L	12	0.002	0.0125	0.005	0.005
	Nitrogen- Total	mg/L	12	0.5	0.977	0.754	0.164
	Nitrogen- Total Kjeldahl	mg/L	12	0.5	0.921	0.723	0.147
	Orthophosphate (P)	mg/L	12	0.006	0.066	0.031	0.021
	pH	SU	14	6.7	7.62	7.30	0.22
	Pheophytin a	ug/L	12	1	4.3	2.7	1.1
	Phosphorus- Total	mg/L	12	0.014	0.123	0.071	0.029
	Residues-Nonfilterable (TSS)	mg/L	12	2	14.2	4.7	3.5
	Salinity	PSU	14	0.9	34.44	20.59	12.08

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Specific Conductance	umho/cm	14	1680	52347	32226	18355
	Sucralose	ug/L	3	1.076	1.7947	1.5482	0.4090
	Sulfate	mg/L	12	65.6	3470	1291.53	996.64
	Temperature, Water	deg C	14	19	31.1	26.3	3.1
	Turbidity	NTU	14	1.2	11	4.1	2.5
	Zinc	ug/L	12	2.90	8.00	5.91	1.40
Haldeman Creek (Upper)	Ammonia (N)	mg/L	28	0.022	0.452	0.115	0.131
	Arsenic	ug/L	28	2.46	20.1	7.72	4.53
	BOD	mg/L	22	2	9.5	3.8	2.1
	Cadmium	ug/L	28	0.02	0.01	0.01	0.00
	Calcium	mg/L	28	32.9	86.7	62.5	14.2
	Carbon- Organic	mg/L	26	7.71	17	11.7	2.4
	Chloride	mg/L	28	42.8	469	122	76.9
	Chlorophyll a-corrected	ug/L	28	1.6	100	14.6	20.9
	Chromium	ug/L	28	0.296	1.11	0.583	0.229
	Color- True	PCU	28	35	110	64.3	26.6
	Copper	ug/L	24	2.65	6.66	4.31	1.06
	Depth, Secchi Disk Depth	m	28	0.2	1.4	0.7	0.4
	Dissolved Oxygen	mg/L	28	1.61	8.82	4.79	2.06
	Dissolved Oxygen Saturation	%	28	20.6	106.8	57.6	24.3
	Escherichia coli (MPN)	MPN/100 mL	28	21	921	331	317
	Hardness-Calculated (CaCO3)	mg/L	28	93.9	336	187	47
	Iron	mg/L	28	0.0175	0.2	0.085	0.054
	Lead	ug/L	28	0.02	0.143	0.058	0.040
	Magnesium	mg/L	28	2.86	28.9	7.5	4.6
	Nitrate (N)	mg/L	26	0.011	1.655	0.166	0.317
	Nitrate-Nitrite (N)	mg/L	28	0.011	1.73	0.165	0.321
	Nitrite (N)	mg/L	28	0.002	0.077	0.012	0.015
	Nitrogen- Total	mg/L	28	0.58	3.75	1.269	0.652
	Nitrogen- Total Kjeldahl	mg/L	28	0.58	2.54	1.107	0.458

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Orthophosphate (P)	mg/L	28	0.005	1.322	0.321	0.343
	pH	SU	28	7.02	8.15	7.51	0.31
	Pheophytin a	ug/L	28	1	197	10.7	37.0
	Phosphorus- Total	mg/L	28	0.007	1.39	0.369	0.361
	Residues-Nonfilterable (TSS)	mg/L	28	2	10.1	1.9	2.3
	Salinity	PSU	28	0.2	1	0.37	0.14
	Specific Conductance	umho/cm	28	339	1981	760	281
	Sucralose	ug/L	6	2.8111	7.835	5.3893	2.0497
	Sulfate	mg/L	28	13.6	87.4	29.14	15.46
	Temperature, Water	deg C	28	18.2	31.6	25.2	4.2
	Turbidity	NTU	32	0.67	5.8	1.7	1.1
	Zinc	ug/L	28	2.00	39.10	4.81	7.20
Immokalee Basin	Alkalinity (CaCO3)	mg/L	7	145	242	177	32
	Ammonia (N)	mg/L	7	0.022	0.064	0.032	0.022
	Arsenic	ug/L	7	0.574	1.39	0.89	0.30
	BOD	mg/L	5	2	2.9	2.2	0.7
	Cadmium	ug/L	7	0.02	0.01	0.01	0.00
	Calcium	mg/L	7	53.4	101	70.0	15.8
	Carbon- Organic	mg/L	7	12.8	21.2	16.9	3.4
	Chloride	mg/L	7	17.7	28.5	22.7	3.6
	Chlorophyll a-corrected	ug/L	7	1.2	6.1	3.2	1.7
	Chromium	ug/L	7	0.104	0.264	0.191	0.063
	Color- True	PCU	7	60	170	115.0	45.6
	Copper	ug/L	6	0.15	0.521	0.23	0.17
	Depth, Secchi Disk Depth	m	7	0.1	0.4	0.3	0.1
	Dissolved Oxygen	mg/L	8	0.51	2.03	1.17	0.58
	Dissolved Oxygen Saturation	%	8	6.1	20.7	12.8	5.5
	Escherichia coli (MPN)	MPN/100 mL	7	21	228	86	65
	Hardness-Calculated (CaCO3)	mg/L	7	154	278	196	41
	Iron	mg/L	7	0.0803	0.398	0.228	0.098

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Lead	ug/L	7	0.03	0.062	0.038	0.021
	Magnesium	mg/L	7	4.38	6.3	5.2	0.6
	Nitrate (N)	mg/L	7	0.011	0.0165	0.007	0.004
	Nitrate-Nitrite (N)	mg/L	7	0.011	0.0165	0.009	0.005
	Nitrite (N)	mg/L	7	0.002	0.0125	0.004	0.006
	Nitrogen- Total	mg/L	8	0.2	1.06	0.730	0.324
	Nitrogen- Total Kjeldahl	mg/L	7	0.51	1.06	0.820	0.217
	Orthophosphate (P)	mg/L	6	0.027	0.4	0.208	0.127
	pH	SU	8	6.68	7.43	7.08	0.27
	Pheophytin a	ug/L	7	1	1.3	0.6	0.3
	Phosphorus- Total	mg/L	7	0.042	0.423	0.212	0.137
	Residues- Nonfilterable (TSS)	mg/L	7	2	1	1.0	0.0
	Salinity	PSU	8	0.18	0.26	0.20	0.03
	Silica (SiO2)	mg/L	7	2.59	12.9	9.92	3.63
	Specific Conductance	umho/cm	8	380	530	420	48
	Sucralose	ug/L	1	0.1424	0.1424	0.1424	
	Sulfate	mg/L	7	1.82	8.42	3.49	2.23
	Temperature, Water	deg C	8	14.6	25.8	21.2	4.3
	Turbidity	NTU	7	0.2	0.8	0.6	0.2
	Zinc	ug/L	7	2.00	1.45	1.13	0.22
Lake Trafford	Alkalinity (CaCO3)	mg/L	48	75	135	109	13
	Ammonia (N)	mg/L	48	0.022	0.119	0.036	0.022
	BOD	mg/L	40	2.7	7.9	4.9	1.3
	Carbon- Organic	mg/L	44	19.6	25.5	22.2	1.1
	Chlorophyll a- corrected	ug/L	47	15.1	173	72.9	33.0
	Color- True	PCU	48	47	220	78.9	37.1
	Depth, Secchi Disk Depth	m	48	0.1	0.6	0.3	0.1
	Dissolved Oxygen	mg/L	72	0.2	12.15	7.41	2.17
	Dissolved Oxygen Saturation	%	72	2.5	152.2	90.4	25.8
	Nitrate (N)	mg/L	40	0.003	0.011	0.003	0.003
	Nitrate-Nitrite (N)	mg/L	36	0.011	0.032	0.013	0.008
	Nitrite (N)	mg/L	48	0.002	0.028	0.003	0.006

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Nitrogen- Total	mg/L	48	1.16	2.58	1.929	0.357
	Nitrogen- Total Kjeldahl	mg/L	48	1.16	3.8	2.489	0.672
	Orthophosphate (P)	mg/L	48	0.003	0.183	0.014	0.040
	pH	SU	72	6.7	9.16	8.37	0.57
	Pheophytin a	ug/L	47	1	26.4	9.2	5.7
	Phosphorus- Total	mg/L	48	0.069	0.858	0.147	0.125
	Residues- Nonfilterable (TSS)	mg/L	48	3.8	68.8	31.7	17.0
	Salinity	PSU	62	0.1	0.16	0.13	0.02
	Silica (SiO2)	mg/L	48	0.528	6.1	1.96	1.39
	Specific Conductance	umho/cm	69	199	334	289	27
	Sucralose	ug/L	16	0.0121	0.0217	0.0076	0.0044
	Sulfate	mg/L	4	5.1			
	Temperature, Water	deg C	70	18.6	30.9	25.8	3.8
	Turbidity	NTU	52	4.5	46.31	23.1	11.4
North Golden Gate	Ammonia (N)	mg/L	95	0.022	0.392	0.054	0.061
	Arsenic	ug/L	98	0.04	3.11	1.46	0.60
	BOD	mg/L	75	2	4.6	2.1	1.0
	Cadmium	ug/L	98	0.02	0.01	0.01	0.00
	Calcium	mg/L	98	1.8	113	75.4	22.1
	Carbon- Organic	mg/L	97	0.5	35.5	16.3	6.7
	Chloride	mg/L	97	0.2	99.9	38.9	19.4
	Chlorophyll a- corrected	ug/L	98	1	80	5.1	8.6
	Chromium	ug/L	94	0.08	1.59	0.558	0.342
	Color- True	PCU	97	2	380	100.5	71.9
	Copper	ug/L	91	0.15	3.33	0.42	0.47
	Depth, Secchi Disk Depth	m	107	0.4	1.8	0.9	0.3
	Dissolved Oxygen	mg/L	140	0.37	14.84	5.55	2.45
	Dissolved Oxygen Saturation	%	140	4.5	193.8	67.4	30.6
	Escherichia coli (MPN)	MPN/100 mL	100	1	2420	73	255

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Hardness-Calculated (CaCO3)	mg/L	98	5	304	207	57
	Iron	mg/L	98	0.004	1.76	0.432	0.355
	Lead	ug/L	95	0.02	0.231	0.039	0.044
	Magnesium	mg/L	98	0.1	7.31	4.7	1.2
	Nitrate (N)	mg/L	89	0.011	0.24	0.052	0.060
	Nitrate-Nitrite (N)	mg/L	97	0.011	0.249	0.054	0.059
	Nitrite (N)	mg/L	94	0.002	0.0125	0.005	0.005
	Nitrogen- Total	mg/L	97	0.2	1.83	0.885	0.292
	Nitrogen- Total Kjeldahl	mg/L	97	0.2	1.8	0.834	0.284
	Orthophosphate (P)	mg/L	97	0.003	0.021	0.004	0.004
	pH	SU	140	6.44	9.12	7.43	0.43
	Pheophytin a	ug/L	98	1	10.6	1.1	1.2
	Phosphorus- Total	mg/L	90	0.007	0.067	0.019	0.013
	Residues-Nonfilterable (TSS)	mg/L	98	2	8.8	1.6	1.3
	Salinity	PSU	137	0.08	0.4	0.24	0.06
	Specific Conductance	umho/cm	140	170	749	503	114
	Sucralose	ug/L	24	0.0121	0.6742	0.2567	0.1958
	Sulfate	mg/L	97	0.2	29.3	10.00	6.68
	Temperature, Water	deg C	139	16.4	31.3	25.3	3.3
	Turbidity	NTU	110	0.1	14	2.1	2.0
	Zinc	ug/L	94	2.00	12.30	1.58	1.48
Okaloacoochee Slough	Ammonia (N)	mg/L	13	0.022	0.192	0.037	0.048
	Arsenic	ug/L	13	0.476	4.54	1.33	1.07
	BOD	mg/L	11	2	6.6	2.4	1.8
	Cadmium	ug/L	13	0.02	0.01	0.01	0.00
	Calcium	mg/L	13	17.9	97.8	38.5	20.9
	Carbon- Organic	mg/L	13	16.8	34.2	23.3	5.0
	Chloride	mg/L	13	18.6	50.9	29.1	8.5
	Chlorophyll a-corrected	ug/L	13	1	34.9	4.2	9.3
	Chromium	ug/L	13	0.08	0.43	0.135	0.107
	Color- True	PCU	13	75	280	161.9	66.0

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Copper	ug/L	11	0.15	0.343	0.17	0.12
	Depth, Secchi Disk Depth	m	15	0.5	1.4	0.8	0.3
	Dissolved Oxygen	mg/L	16	0.54	4.82	2.08	1.25
	Dissolved Oxygen Saturation	%	16	6.8	48.8	22.6	12.4
	Escherichia coli (MPN)	MPN/100 mL	13	6	368	85	94
	Hardness-Calculated (CaCO3)	mg/L	13	59.9	286	122	59
	Iron	mg/L	13	0.0741	0.341	0.164	0.076
	Lead	ug/L	13	0.027	0.042	0.020	0.010
	Magnesium	mg/L	13	3.69	10.2	6.2	1.7
	Nitrate (N)	mg/L	11	0.011	0.017	0.011	0.006
	Nitrate-Nitrite (N)	mg/L	13	0.011	0.02	0.012	0.006
	Nitrite (N)	mg/L	12	0.002	0.0125	0.007	0.006
	Nitrogen- Total	mg/L	13	0.77	2.36	1.263	0.425
	Nitrogen- Total Kjeldahl	mg/L	13	0.77	2.36	1.261	0.425
	Orthophosphate (P)	mg/L	12	0.003	0.204	0.024	0.057
	pH	SU	16	6.7	7.51	7.05	0.18
	Pheophytin a	ug/L	13	1	5.9	0.9	1.5
	Phosphorus- Total	mg/L	12	0.0065	0.324	0.051	0.091
	Residues-Nonfilterable (TSS)	mg/L	13	2	4.3	1.3	0.9
	Salinity	PSU	16	0.07	0.32	0.15	0.06
	Specific Conductance	umho/cm	16	156	658	300	120
	Sucralose	ug/L	4	0.0121	0.00605	0.0061	0.0000
	Sulfate	mg/L	13	0.2	32	3.64	8.55
	Temperature, Water	deg C	16	15.4	27.7	21.2	4.3
	Turbidity	NTU	15	0.2	3.9	0.7	0.9
	Zinc	ug/L	12	2.00	4.00	1.44	0.97
Rock Creek	Ammonia (N)	mg/L	12	0.122	0.5	0.256	0.129
	Arsenic	ug/L	12	1.19	2.56	1.77	0.47
	BOD	mg/L	9	2	4.6	2.9	1.2
	Cadmium	ug/L	12	0.02	0.07	0.03	0.02

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Calcium	mg/L	12	65.7	388	178.5	105.4
	Carbon- Organic	mg/L	11	6.42	13	10.5	2.0
	Chloride	mg/L	12	29.9	17800	5177	5763
	Chlorophyll a-corrected	ug/L	12	1.2	12.9	4.9	4.1
	Chromium	ug/L	12	0.423	1.14	0.722	0.233
	Color- True	PCU	12	20	100	66.0	22.0
	Copper	ug/L	10	0.524	3.96	1.22	1.02
	Depth, Secchi Disk Depth	m	13	0.2	0.7	0.5	0.1
	Dissolved Oxygen	mg/L	13	0.43	4.49	1.51	1.13
	Dissolved Oxygen Saturation	%	13	6	48.9	19.0	13.5
	Enterococci (MPN)	MPN/100 mL	12	10	5475	1734	1706
	Hardness-Calculated (CaCO3)	mg/L	12	5	6400	2091	2021
	Iron	mg/L	12	0.105	0.265	0.170	0.050
	Lead	ug/L	12	0.068	0.277	0.101	0.066
	Magnesium	mg/L	12	15.8	1320	405.1	421.8
	Nitrate (N)	mg/L	11	0.011	0.113	0.042	0.032
	Nitrate-Nitrite (N)	mg/L	12	0.011	0.118	0.044	0.035
	Nitrite (N)	mg/L	12	0.002	0.018	0.008	0.006
	Nitrogen- Total	mg/L	12	0.59	1.37	0.939	0.219
	Nitrogen- Total Kjeldahl	mg/L	12	0.57	1.37	0.897	0.219
	Orthophosphate (P)	mg/L	12	0.014	0.093	0.056	0.025
	pH	SU	13	6.7	7.42	7.09	0.20
	Pheophytin a	ug/L	12	1	4.2	1.3	1.3
	Phosphorus- Total	mg/L	12	0.014	0.153	0.080	0.035
	Residues-Nonfilterable (TSS)	mg/L	12	2	9.7	1.9	2.5
	Salinity	PSU	13	0.5	30.94	10.32	9.49
	Specific Conductance	umho/cm	13	1039	47560	16897	14643
	Sucralose	ug/L	3	0.1994	0.3116	0.2413	0.0613
	Sulfate	mg/L	12	6.2	2580	737.17	834.65
	Temperature, Water	deg C	13	19.7	28.2	24.9	2.6

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Turbidity	NTU	14	1.03	6.8	2.4	1.6
	Zinc	ug/L	12	2.90	7.00	3.97	1.65
Rookery Bay (Inland East Segment)	Ammonia (N)	mg/L	44	0.022	0.606	0.111	0.143
	Arsenic	ug/L	45	0.586	2.39	1.12	0.42
	BOD	mg/L	33	2	7.7	2.9	1.4
	Cadmium	ug/L	45	0.02	0.047	0.01	0.01
	Calcium	mg/L	45	39.2	179	100.1	28.6
	Carbon- Organic	mg/L	43	9.24	29.7	13.4	3.3
	Chloride	mg/L	42	18.2	5910	273	899
	Chlorophyll a- corrected	ug/L	45	1.8	31	9.3	6.7
	Chromium	ug/L	44	0.201	1.75	0.680	0.407
	Color- True	PCU	46	20	190	57.7	36.5
	Copper	ug/L	41	0.15	35	4.15	7.52
	Depth, Secchi Disk Depth	m	51	0.1	1.8	0.8	0.4
	Dissolved Oxygen	mg/L	56	0.52	8.81	5.31	2.35
	Dissolved Oxygen Saturation	%	56	6.9	113.1	64.8	29.0
	Escherichia coli (MPN)	MPN/100 mL	46	2	12098	378	1778
	Hardness- Calculated (CaCO3)	mg/L	45	114	1010	311	141
	Iron	mg/L	45	0.0456	1.17	0.313	0.271
	Lead	ug/L	43	0.02	0.498	0.138	0.154
	Magnesium	mg/L	45	3.97	162	14.9	23.5
	Nitrate (N)	mg/L	44	0.002	0.438	0.058	0.081
	Nitrate-Nitrite (N)	mg/L	45	0.011	0.452	0.066	0.086
	Nitrite (N)	mg/L	46	0.002	0.06	0.009	0.014
	Nitrogen- Total	mg/L	45	0.55	2.55	0.991	0.382
	Nitrogen- Total Kjeldahl	mg/L	45	0.516	2.55	0.929	0.370
	Orthophosphate (P)	mg/L	45	0.003	0.347	0.023	0.060
	pH	SU	56	6.71	8.39	7.58	0.43
	Pheophytin a	ug/L	45	1	9.7	2.4	2.5
	Phosphorus- Total	mg/L	44	0.007	0.566	0.076	0.123

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Residues-Nonfilterable (TSS)	mg/L	43	2	35.6	4.3	5.9
	Salinity	PSU	55	0.18	11.64	0.67	1.53
	Specific Conductance	umho/cm	56	371	19537	1280	2535
	Sucralose	ug/L	10	0.0121	0.1782	0.0477	0.0657
	Sulfate	mg/L	42	5.91	1100	62.43	165.58
	Temperature, Water	deg C	56	18	31.3	25.5	3.4
	Turbidity	NTU	49	0.91	29	4.3	4.6
	Zinc	ug/L	44	2.00	9.32	2.28	2.18
Rookery Bay (Inland West Segment)	Ammonia (N)	mg/L	32	0.022	0.42	0.111	0.096
	Arsenic	ug/L	32	0.815	4.6	1.74	0.73
	BOD	mg/L	23	2	9.1	3.9	1.8
	Cadmium	ug/L	32	0.02	0.04	0.01	0.01
	Calcium	mg/L	32	42.4	253	103.0	41.9
	Carbon- Organic	mg/L	30	8	22.8	13.4	5.1
	Chloride	mg/L	31	17.1	9570	837	2002
	Chlorophyll a-corrected	ug/L	32	1.6	49	12.0	10.8
	Chromium	ug/L	32	0.205	0.65	0.397	0.127
	Color- True	PCU	32	25	180	57.3	43.0
	Copper	ug/L	27	0.15	18.5	3.14	3.56
	Depth, Secchi Disk Depth	m	37	0.5	1.4	1.0	0.2
	Dissolved Oxygen	mg/L	38	0.6	9.59	4.88	2.45
	Dissolved Oxygen Saturation	%	38	7.4	135.3	59.1	32.3
	Escherichia coli (MPN)	MPN/100 mL	33	1	6867	497	1299
	Hardness-Calculated (CaCO3)	mg/L	32	133	3360	481	629
	Iron	mg/L	32	0.0475	0.875	0.285	0.202
	Lead	ug/L	32	0.02	0.144	0.055	0.041
	Magnesium	mg/L	32	2.78	662	54.4	133.1
	Nitrate (N)	mg/L	30	0.006	0.193	0.042	0.044
	Nitrate-Nitrite (N)	mg/L	32	0.011	0.23	0.050	0.049
	Nitrite (N)	mg/L	32	0.002	0.037	0.005	0.008

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Nitrogen- Total	mg/L	32	0.594	2.49	1.053	0.420
	Nitrogen- Total Kjeldahl	mg/L	33	0.52	2.49	1.030	0.444
	Orthophosphate (P)	mg/L	32	0.003	0.06	0.008	0.011
	pH	SU	38	6.9	8.16	7.47	0.29
	Pheophytin a	ug/L	32	1	20.7	2.8	4.0
	Phosphorus- Total	mg/L	30	0.014	0.172	0.046	0.032
	Residues- Nonfilterable (TSS)	mg/L	31	2	20.1	4.1	3.8
	Salinity	PSU	38	0.14	15.4	1.91	3.64
	Specific Conductance	umho/cm	38	294	25500	3404	6088
	Sucralose	ug/L	8	0.0121	2.8555	1.2757	0.9904
	Sulfate	mg/L	31	5.18	1410	131.51	285.02
	Temperature, Water	deg C	38	17.1	32.6	25.8	3.5
	Turbidity	NTU	36	0.8	8.82	3.6	2.1
	Zinc	ug/L	32	2.00	4.00	1.46	0.76
Silver Strand	Ammonia (N)	mg/L	27	0.022	0.856	0.274	0.257
	Arsenic	ug/L	27	0.654	2.23	1.09	0.31
	BOD	mg/L	21	2	7.1	3.6	1.8
	Cadmium	ug/L	27	0.02	0.057	0.02	0.01
	Calcium	mg/L	27	27.3	110	61.2	28.7
	Carbon- Organic	mg/L	27	12.1	35.2	20.3	5.6
	Chloride	mg/L	27	10.1	47.6	24.0	8.1
	Chlorophyll a- corrected	ug/L	27	1.6	72.1	14.7	21.5
	Chromium	ug/L	27	0.659	2.85	1.596	0.761
	Color- True	PCU	27	60	480	165.7	112.1
	Copper	ug/L	25	0.418	6.9	2.88	2.12
	Depth, Secchi Disk Depth	m	28	0.2	1.1	0.6	0.2
	Dissolved Oxygen	mg/L	30	0.36	6.15	2.95	1.41
	Dissolved Oxygen Saturation	%	30	4.6	74.3	34.1	16.0
	Escherichia coli (MPN)	MPN/100 mL	28	11	1203	247	298
	Hardness- Calculated (CaCO3)	mg/L	27	78.7	295	173	75

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Iron	mg/L	27	0.548	2.99	1.174	0.468
	Lead	ug/L	26	0.056	1.88	0.458	0.478
	Magnesium	mg/L	27	2.49	6.44	4.8	1.1
	Nitrate (N)	mg/L	28	0.011	1.02	0.316	0.359
	Nitrate-Nitrite (N)	mg/L	27	0.011	1.1	0.354	0.367
	Nitrite (N)	mg/L	27	0.002	0.082	0.017	0.020
	Nitrogen- Total	mg/L	29	0.2	4.13	1.755	0.904
	Nitrogen- Total Kjeldahl	mg/L	27	0.82	3.14	1.482	0.555
	Orthophosphate (P)	mg/L	27	0.013	0.747	0.147	0.154
	pH	SU	30	6.37	7.48	7.05	0.31
	Pheophytin a	ug/L	27	1	18.2	4.5	5.6
	Phosphorus- Total	mg/L	27	0.028	1.19	0.274	0.225
	Residues- Nonfilterable (TSS)	mg/L	27	2	20.8	6.5	5.9
	Salinity	PSU	29	0.09	0.29	0.18	0.07
	Specific Conductance	umho/cm	29	185	602	380	143
	Sucralose	ug/L	6	0.0121	0.0321	0.0104	0.0106
	Sulfate	mg/L	27	3.37	24.7	10.19	5.80
	Temperature, Water	deg C	29	16.2	28.6	23.8	3.6
	Turbidity	NTU	32	1.18	20.22	8.7	5.1
	Zinc	ug/L	26	2.00	25.40	8.24	7.63
Ten Thousand Islands	Ammonia (N)	mg/L	12	0.022	0.271	0.058	0.069
	Arsenic	ug/L	12	0.418	1.66	0.97	0.34
	BOD	mg/L	9	2	6.1	2.7	1.6
	Cadmium	ug/L	12	0.02	0.04	0.01	0.01
	Calcium	mg/L	12	51.2	266	114.2	61.9
	Carbon- Organic	mg/L	12	10.3	24.5	13.6	3.7
	Chloride	mg/L	11	18.1	8010	1407	2535
	Chlorophyll a- corrected	ug/L	12	1	7.2	2.1	2.3
	Chromium	ug/L	12	0.0902	0.385	0.271	0.089
	Color- True	PCU	12	47	150	74.3	28.8
	Copper	ug/L	11	0.15	1.09	0.22	0.30
	Depth, Secchi Disk Depth	m	15	0.8	1.6	1.2	0.2

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Dissolved Oxygen	mg/L	19	0.84	4.17	2.87	0.76
	Dissolved Oxygen Saturation	%	19	10.9	50.6	34.6	9.2
	Enterococci (MPN)	MPN/100 mL	12	10	426	137	157
	Hardness-Calculated (CaCO3)	mg/L	12	180	3130	711	880
	Iron	mg/L	12	0.0425	0.289	0.151	0.070
	Lead	ug/L	11	0.027	0.082	0.048	0.016
	Magnesium	mg/L	12	3.65	599	103.4	178.2
	Nitrate (N)	mg/L	13	0.002	0.044	0.016	0.014
	Nitrate-Nitrite (N)	mg/L	12	0.011	0.044	0.018	0.013
	Nitrite (N)	mg/L	12	0.002	0.0125	0.003	0.004
	Nitrogen- Total	mg/L	13	0.2	1.93	0.725	0.399
	Nitrogen- Total Kjeldahl	mg/L	12	0.532	1.93	0.762	0.372
	Orthophosphate (P)	mg/L	12	0.003	0.022	0.009	0.006
	pH	SU	19	6.7	7.54	7.23	0.21
	Pheophytin a	ug/L	12	1	1.6	0.7	0.4
	Phosphorus- Total	mg/L	12	0.007	0.039	0.021	0.009
	Residues-Nonfilterable (TSS)	mg/L	12	2	2.6	1.1	0.5
	Salinity	PSU	19	0.16	14.21	2.60	4.26
	Specific Conductance	umho/cm	19	329	23590	4531	7158
	Sucralose	ug/L	3	0.0121	0.00605	0.0061	0.0000
	Sulfate	mg/L	11	0.782	1140	206.01	371.90
	Temperature, Water	deg C	19	19.2	29.9	24.5	2.9
	Turbidity	NTU	13	0.35	2.2	1.2	0.6
	Zinc	ug/L	12	2.00	4.00	1.53	0.87
Wiggins Bay Outlet	Ammonia (N)	mg/L	11	0.052	0.39	0.201	0.112
	Arsenic	ug/L	11	0.54	2.13	0.98	0.52
	BOD	mg/L	6	2.2	4.4	3.2	0.8
	Cadmium	ug/L	11	0.02	0.01	0.01	0.00
	Calcium	mg/L	11	76.6	138	115.8	21.8
	Carbon- Organic	mg/L	11	15.8	21.6	17.4	1.7
	Chloride	mg/L	11	136	222	163	25.3

WBID	Parameter	Unit	Count	Minimum	Maximum	Average	Standard Deviation
	Chlorophyll a-corrected	ug/L	11	1	18.4	4.3	5.0
	Chromium	ug/L	11	0.751	1.44	1.187	0.213
	Color- True	PCU	11	60	160	101.8	35.7
	Copper	ug/L	11	0.634	40.2	6.37	11.92
	Depth, Secchi Disk Depth	m	11	0.25	1	0.5	0.2
	Dissolved Oxygen	mg/L	12	2.24	5.23	3.25	1.03
	Dissolved Oxygen Saturation	%	12	23.7	64.1	38.3	12.2
	Escherichia coli (MPN)	MPN/100 mL	12	46	816	223	265
	Hardness-Calculated (CaCO3)	mg/L	11	234	378	326	51
	Iron	mg/L	11	0.275	1.64	0.897	0.452
	Lead	ug/L	11	0.03	0.119	0.053	0.037
	Magnesium	mg/L	11	7.2	13.1	9.0	2.0
	Nitrate (N)	mg/L	10	0.075	0.345	0.171	0.085
	Nitrate-Nitrite (N)	mg/L	11	0.088	0.41	0.218	0.112
	Nitrite (N)	mg/L	11	0.006	0.056	0.030	0.017
	Nitrogen- Total	mg/L	11	0.93	1.34	1.166	0.130
	Nitrogen- Total Kjeldahl	mg/L	11	0.69	1.16	0.948	0.123
	Orthophosphate (P)	mg/L	11	0.003	0.015	0.007	0.004
	pH	SU	12	7.03	7.69	7.26	0.18
	Pheophytin a	ug/L	11	1	2.5	0.9	0.8
	Phosphorus- Total	mg/L	10	0.017	0.051	0.031	0.011
	Residues-Nonfilterable (TSS)	mg/L	11	2	6.2	2.3	1.8
	Salinity	PSU	12	0.48	0.65	0.53	0.05
	Specific Conductance	umho/cm	12	966	1315	1075	89
	Sucralose	ug/L	3	0.1717	0.3274	0.2727	0.0876
	Sulfate	mg/L	11	11.1	47.3	22.54	14.29
	Temperature, Water	deg C	12	17.9	27.8	23.5	3.8
	Turbidity	NTU	11	1.6	6.8	3.8	1.6
	Zinc	ug/L	11	2.00	2.50	1.36	0.52

APPENDIX D

Water Quality Exceedances by WBID and by Station

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
Barron River Canal	**57**	**966**	**5.9%**
BARRON	**23**	**482**	**4.8%**
Dissolved Oxygen Saturation	23	23	100.0%
BC24	**34**	**484**	**7.0%**
Chlorophyll a- corrected	3	12	25.0%
Dissolved Oxygen Saturation	22	23	95.7%
Iron	2	12	16.7%
Nitrogen- Total	2	12	16.7%
Phosphorus- Total	5	12	41.7%
Camp Keais	**21**	**357**	**5.9%**
KEAISN	**1**	**37**	**2.7%**
Dissolved Oxygen Saturation	1	1	100.0%
KEAISS	**20**	**320**	**6.3%**
Ammonia (N)	1	9	11.1%
Dissolved Oxygen Saturation	10	10	100.0%
Escherichia coli (MPN)	1	9	11.1%
Nitrogen- Total	2	9	22.2%
Phosphorus- Total	6	9	66.7%
Cocohatchee (Inland Segment)	**115**	**4808**	**2.4%**
BC14	**3**	**495**	**0.6%**
Dissolved Oxygen Saturation	2	25	8.0%
Escherichia coli (MPN)	1	12	8.3%
BC15	**4**	**423**	**0.9%**
Dissolved Oxygen Saturation	2	13	15.4%
Escherichia coli (MPN)	2	12	16.7%
BC26	**2**	**438**	**0.5%**
Dissolved Oxygen Saturation	1	16	6.3%
Escherichia coli (MPN)	1	13	7.7%
COC@IBIS	**14**	**443**	**3.2%**
Chlorophyll a- corrected	1	12	8.3%
Dissolved Oxygen Saturation	6	15	40.0%
Escherichia coli (MPN)	4	14	28.6%
Iron	3	12	25.0%
COC@LAKE	**1**	**478**	**0.2%**
Escherichia coli (MPN)	1	12	8.3%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
COCO3	**1**	**431**	**0.2%**
Escherichia coli (MPN)	1	12	8.3%
COCPALM	**16**	**447**	**3.6%**
Chlorophyll a- corrected	7	12	58.3%
Dissolved Oxygen Saturation	3	16	18.8%
Escherichia coli (MPN)	5	13	38.5%
Phosphorus- Total	1	12	8.3%
ECOCORIV	**25**	**368**	**6.8%**
Chlorophyll a- corrected	3	10	30.0%
Dissolved Oxygen Saturation	10	12	83.3%
Escherichia coli (MPN)	6	10	60.0%
Nitrogen- Total	1	10	10.0%
Phosphorus- Total	5	10	50.0%
HORSECRK	**11**	**418**	**2.6%**
Chlorophyll a- corrected	1	12	8.3%
Dissolved Oxygen Saturation	7	12	58.3%
Escherichia coli (MPN)	1	12	8.3%
Nitrogen- Total	1	13	7.7%
Phosphorus- Total	1	12	8.3%
NNAPLES	**5**	**431**	**1.2%**
Chlorophyll a- corrected	1	12	8.3%
Copper	1	12	8.3%
Dissolved Oxygen Saturation	1	13	7.7%
Nitrogen- Total	1	13	7.7%
Phosphorus- Total	1	12	8.3%
WCOCORIV	**33**	**436**	**7.6%**
Chlorophyll a- corrected	1	12	8.3%
Dissolved Oxygen Saturation	11	14	78.6%
Escherichia coli (MPN)	10	13	76.9%
Nitrogen- Total	1	12	8.3%
Phosphorus- Total	10	12	83.3%
Cocohatchee River	**174**	**3247**	**5.4%**
BFBSP	**4**	**335**	**1.2%**
Enterococci (MPN)	1	13	7.7%
Nitrogen- Total	3	12	25.0%
BLUE	**12**	**334**	**3.6%**
Chlorophyll a- corrected	2	12	16.7%
Enterococci (MPN)	1	12	8.3%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
Nitrogen- Total	9	12	75.0%
COCAT41	**33**	**349**	**9.5%**
Chlorophyll a- corrected	8	14	57.1%
Dissolved Oxygen Saturation	2	15	13.3%
Enterococci (MPN)	5	14	35.7%
Iron	3	6	50.0%
Nitrogen- Total	13	14	92.9%
Phosphorus- Total	2	14	14.3%
COCOR1	**11**	**291**	**3.8%**
Enterococci (MPN)	1	12	8.3%
Iron	1	4	25.0%
Nitrogen- Total	7	12	58.3%
Phosphorus- Total	2	12	16.7%
COCOR2	**22**	**285**	**7.7%**
Chlorophyll a- corrected	1	12	8.3%
Copper	1	4	25.0%
Dissolved Oxygen Saturation	2	12	16.7%
Enterococci (MPN)	5	12	41.7%
Iron	1	4	25.0%
Nitrogen- Total	10	12	83.3%
Phosphorus- Total	2	12	16.7%
COCORVW	**23**	**313**	**7.3%**
Chlorophyll a- corrected	3	13	23.1%
Copper	1	5	20.0%
Dissolved Oxygen Saturation	3	13	23.1%
Enterococci (MPN)	4	13	30.8%
Iron	1	5	20.0%
Nitrogen- Total	7	13	53.8%
Phosphorus- Total	4	13	30.8%
TURKBAY	**11**	**292**	**3.8%**
Enterococci (MPN)	1	12	8.3%
Nitrogen- Total	8	12	66.7%
Phosphorus- Total	2	12	16.7%
VBILT	**14**	**358**	**3.9%**
Chlorophyll a- corrected	4	12	33.3%
Dissolved Oxygen Saturation	1	24	4.2%
Nitrogen- Total	7	12	58.3%
Phosphorus- Total	2	12	16.7%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
VBILTB	**18**	**351**	**5.1%**
Chlorophyll a- corrected	7	12	58.3%
Nitrogen- Total	8	12	66.7%
Phosphorus- Total	3	12	25.0%
VBILTCAN	**26**	**339**	**7.7%**
Chlorophyll a- corrected	8	12	66.7%
Dissolved Oxygen Saturation	1	21	4.8%
Iron	1	4	25.0%
Nitrogen- Total	9	12	75.0%
Phosphorus- Total	7	12	58.3%
Corkscrew Swamp	**37**	**1105**	**3.3%**
CORKN	**11**	**317**	**3.5%**
Dissolved Oxygen Saturation	10	10	100.0%
Nitrogen- Total	1	9	11.1%
CORKS	**20**	**362**	**5.5%**
Chlorophyll a- corrected	1	10	10.0%
Dissolved Oxygen Saturation	11	12	91.7%
Escherichia coli (MPN)	2	10	20.0%
Nitrogen- Total	3	11	27.3%
pH	2	12	16.7%
Phosphorus- Total	1	9	11.1%
CORKSCRD	**6**	**426**	**1.4%**
Dissolved Oxygen Saturation	4	14	28.6%
Escherichia coli (MPN)	1	12	8.3%
Iron	1	12	8.3%
Cow Slough	**25**	**354**	**7.1%**
IMKFSHCK	**25**	**354**	**7.1%**
Dissolved Oxygen Saturation	4	11	36.4%
Escherichia coli (MPN)	6	10	60.0%
Iron	3	10	30.0%
Nitrogen- Total	4	10	40.0%
Phosphorus- Total	8	10	80.0%
Faka Union (North Segment)	**14**	**1342**	**1.0%**
BC10	**2**	**480**	**0.4%**
Dissolved Oxygen Saturation	2	22	9.1%
BC9	**4**	**438**	**0.9%**
Dissolved Oxygen Saturation	3	15	20.0%
Escherichia coli (MPN)	1	13	7.7%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
FAKA858	**8**	**424**	**1.9%**
Dissolved Oxygen Saturation	1	13	7.7%
Escherichia coli (MPN)	1	13	7.7%
Iron	6	12	50.0%
Faka Union (South Segment)	**4**	**854**	**0.5%**
BC11S	**4**	**417**	**1.0%**
Dissolved Oxygen Saturation	4	12	33.3%
Fakahatchee Strand	**22**	**430**	**5.1%**
BC19	**22**	**430**	**5.1%**
Chlorophyll a- corrected	4	12	33.3%
Dissolved Oxygen Saturation	10	14	71.4%
Escherichia coli (MPN)	5	12	41.7%
Nitrogen- Total	3	12	25.0%
Gordon River Extension	**51**	**855**	**6.0%**
GORDONRIV	**36**	**432**	**8.3%**
Dissolved Oxygen Saturation	10	14	71.4%
Escherichia coli (MPN)	3	12	25.0%
Nitrogen- Total	12	12	100.0%
Phosphorus- Total	11	12	91.7%
GRE896	**15**	**423**	**3.5%**
Dissolved Oxygen Saturation	2	13	15.4%
Escherichia coli (MPN)	2	13	15.4%
Iron	2	12	16.7%
Nitrogen- Total	6	12	50.0%
Phosphorus- Total	3	11	27.3%
Haldeman Creek (Lower)	**27**	**429**	**6.3%**
BC5	**27**	**429**	**6.3%**
Chlorophyll a- corrected	7	12	58.3%
Copper	3	10	30.0%
Dissolved Oxygen Saturation	5	14	35.7%
Enterococci (MPN)	11	12	91.7%
Phosphorus- Total	1	12	8.3%
Haldeman Creek (Upper)	**42**	**976**	**4.3%**
HALDUP	**5**	**418**	**1.2%**
Chlorophyll a- corrected	1	12	8.3%
Dissolved Oxygen Saturation	1	12	8.3%
Escherichia coli (MPN)	1	12	8.3%
Phosphorus- Total	2	12	16.7%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
WINPARK	**37**	**558**	**6.6%**
Chlorophyll a- corrected	4	16	25.0%
Dissolved Oxygen Saturation	5	16	31.3%
Escherichia coli (MPN)	7	16	43.8%
Nitrogen- Total	6	16	37.5%
Phosphorus- Total	15	16	93.8%
Immokalee Basin	**13**	**263**	**4.9%**
IMKSLGH	**13**	**263**	**4.9%**
Dissolved Oxygen Saturation	8	8	100.0%
Phosphorus- Total	5	7	71.4%
Lake Trafford	**171**	**1271**	**13.5%**
LKTRAF1	**75**	**541**	**13.9%**
Chlorophyll a- corrected	17	18	94.4%
Nitrogen- Total	19	19	100.0%
pH	21	35	60.0%
Phosphorus- Total	18	19	94.7%
LKTRAF4	**47**	**346**	**13.6%**
Chlorophyll a- corrected	12	13	92.3%
Nitrogen- Total	13	13	100.0%
pH	10	20	50.0%
Phosphorus- Total	12	13	92.3%
LKTRAF8	**49**	**384**	**12.8%**
Chlorophyll a- corrected	12	16	75.0%
Dissolved Oxygen Saturation	4	17	23.5%
Nitrogen- Total	15	16	93.8%
pH	4	17	23.5%
Phosphorus- Total	14	16	87.5%
North Golden Gate	**40**	**3652**	**1.1%**
CORK@846	**5**	**461**	**1.1%**
Dissolved Oxygen Saturation	3	15	20.0%
Escherichia coli (MPN)	1	13	7.7%
Nitrogen- Total	1	12	8.3%
CR951S	**3**	**439**	**0.7%**
Dissolved Oxygen Saturation	2	15	13.3%
Escherichia coli (MPN)	1	13	7.7%
CYPR13NW	**9**	**443**	**2.0%**
Dissolved Oxygen Saturation	5	17	29.4%
Escherichia coli (MPN)	1	13	7.7%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
Nitrogen- Total	2	13	15.4%
pH	1	17	5.9%
GGC@858	**12**	**506**	**2.4%**
Chlorophyll a- corrected	1	13	7.7%
Dissolved Oxygen Saturation	6	23	26.1%
Iron	5	13	38.5%
GGC@WHITE	**4**	**482**	**0.8%**
Dissolved Oxygen Saturation	4	23	17.4%
GGC31SW	**2**	**429**	**0.5%**
Chlorophyll a- corrected	1	12	8.3%
Dissolved Oxygen Saturation	1	14	7.1%
GGCAT31	**1**	**462**	**0.2%**
Dissolved Oxygen Saturation	1	19	5.3%
I75W1	**4**	**430**	**0.9%**
Dissolved Oxygen Saturation	2	14	14.3%
pH	2	14	14.3%
Okaloacoochee Slough	**16**	**471**	**3.4%**
OKALA846	**5**	**250**	**2.0%**
Dissolved Oxygen Saturation	5	8	62.5%
OKALA858	**11**	**221**	**5.0%**
Chlorophyll a- corrected	1	6	16.7%
Dissolved Oxygen Saturation	8	8	100.0%
Nitrogen- Total	1	6	16.7%
Phosphorus- Total	1	6	16.7%
Rock Creek	**26**	**425**	**6.1%**
ROCKCRK	**26**	**425**	**6.1%**
Chlorophyll a- corrected	2	12	16.7%
Copper	1	10	10.0%
Dissolved Oxygen Saturation	11	13	84.6%
Enterococci (MPN)	11	12	91.7%
Phosphorus- Total	1	12	8.3%
Rookery Bay (Inland East Segment)	**30**	**1630**	**1.8%**
BC22	**2**	**441**	**0.5%**
Escherichia coli (MPN)	2	12	16.7%
HEC245	**3**	**403**	**0.7%**
Chlorophyll a- corrected	1	11	9.1%
Dissolved Oxygen Saturation	1	14	7.1%
Escherichia coli (MPN)	1	12	8.3%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
SANDPIPE	**1**	**427**	**0.2%**
Chlorophyll a- corrected	1	12	8.3%
TAMTOM	**24**	**359**	**6.7%**
Chlorophyll a- corrected	1	10	10.0%
Copper	1	10	10.0%
Dissolved Oxygen Saturation	10	12	83.3%
Escherichia coli (MPN)	1	10	10.0%
Iron	1	10	10.0%
Nitrogen- Total	3	10	30.0%
Phosphorus- Total	7	10	70.0%
Rookery Bay (Inland West Segment)	**30**	**1152**	**2.6%**
EAGLECRK	**14**	**438**	**3.2%**
Chlorophyll a- corrected	4	12	33.3%
Copper	1	10	10.0%
Dissolved Oxygen Saturation	2	15	13.3%
Escherichia coli (MPN)	3	13	23.1%
Nitrogen- Total	3	12	25.0%
Phosphorus- Total	1	12	8.3%
LELY	**2**	**396**	**0.5%**
Chlorophyll a- corrected	1	11	9.1%
Dissolved Oxygen Saturation	1	13	7.7%
RATTLESN	**14**	**318**	**4.4%**
Dissolved Oxygen Saturation	10	10	100.0%
Escherichia coli (MPN)	3	9	33.3%
Nitrogen- Total	1	9	11.1%
Silver Strand	**81**	**966**	**8.4%**
BRN	**19**	**433**	**4.4%**
Dissolved Oxygen Saturation	8	14	57.1%
Escherichia coli (MPN)	2	13	15.4%
Iron	5	12	41.7%
Phosphorus- Total	4	12	33.3%
IMKBRN	**62**	**533**	**11.6%**
Chlorophyll a- corrected	6	15	40.0%
Dissolved Oxygen Saturation	10	16	62.5%
Escherichia coli (MPN)	5	15	33.3%
Iron	13	15	86.7%
Nitrogen- Total	12	15	80.0%
pH	1	16	6.3%

WBID STATION Parameter	# of Exceedances	# of Samples Collected	% Samples in Exceedance
Phosphorus- Total	15	15	100.0%
Ten Thousand Islands	**20**	**464**	**4.3%**
BARRIVN	**20**	**464**	**4.3%**
Dissolved Oxygen Saturation	15	19	78.9%
Enterococci (MPN)	4	12	33.3%
Nitrogen- Total	1	13	7.7%
Wiggins Bay Outlet	**14**	**388**	**3.6%**
WIGGINSBY	**14**	**388**	**3.6%**
Copper	1	11	9.1%
Dissolved Oxygen Saturation	7	12	58.3%
Escherichia coli (MPN)	2	12	16.7%
Iron	4	11	36.4%