ORLANDO EASTERLY WETLANDS

ANNUAL REPORT 2023

Compliance and Performance Review

CITY OF ORLANDO
WATER RECLAMATION

MESSAGE FROM THE MAYOR

As a municipal government, the City of Orlando is committed to providing residents with first-class services and amenities and the Orlando Easterly Wetlands help us provide both at the same time.

One of the world's first large-scale, manmade wetlands designed for the advanced treatment of reclaimed water, the Orlando Easterly Wetlands also are a home for countless wildlife species and a location for recreation activities for residents. The facility is 1,650 acres in size and visitors can participate in hiking, wildlife viewing, biking, horseback riding and guided tours. In 2023, more than 100,000 people visited the wetlands.

I am proud that the Orlando Easterly Wetlands has won numerous environmental and engineering awards over the years. As a city, we are also proud that the wetlands represent a cost-effective and sustainable solution for wastewater treatment.

I hope you find this annual Orlando Easterly Wetlands report informative.

Sincerely,

Buddy Dyer
Mayor

Orlando Easterly Wetlands Compliance and Performance Review for the City of Orlando's Easterly Wetlands Treatment System

2023 Annual Report

June 2024

Prepared for
Florida Department of Environmental Protection
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Prepared by
Matthew Mosquera
Orlando Easterly Wetlands
Public Works Department – Water Reclamation Division
25155 Wheeler Road
Christmas, Florida 32709

Cover Photo Taken by
Randy Snyder

Table of Contents

Tables

Figures

Section **Title** **Page**

Figures

Appendices

A 2023 USGS St. Johns River Gage Height and Discharge Data

B 2023 St. Johns River and Little Econlockhatchee River Monthly Water Quality Data

C 2023 OEW Monthly Water Quality and Performance Data

D 2023 OEW Semiannual Metals, Organochlorine Pesticides, PCB’s and Volatile Organic Compound Data

Introduction

The City of Orlando's Orlando Easterly Wetlands (OEW) Annual Report summarizes the operational data of the calendar year 2023 and fulfills the requirements of Chapter 62-611.700 (1) detailed in the Florida Department of Environmental Protection (FDEP) Domestic Wastewater Facility Permit No. FL0037966. The report includes a review of historical data and trends as they relate to the operation of the OEW.

The purposes of the City of Orlando Easterly Wetlands (OEW) Annual Report include:

- Summarize the operational and monitoring data for Calendar Year 2022.
- Comply with the requirements set forth in Chapter 62-611.700(1), F.A.C. and (FDEP) Domestic Wastewater Facility Permit (No. FL 0037966) for the Iron Bridge Regional Water Reclamation Facility (WRF).
- Review historical data and performance trends related to the operation and maintenance of the OEW during Calendar Year 2022.
- Provide a compliance and performance review of the operations of the Orlando Easterly Wetlands treatment system.

1 Background

1.1 Iron Bridge Regional Water Reclamation Facility

The Iron Bridge Regional Water Reclamation Facility (Iron Bridge) was built in 1982 in Oviedo, Florida (Figure 1-1). It is owned and managed by the City of Orlando and provides service to approximately 400,000 people in the Cities of Orlando, Winter Park, Maitland, Casselberry as well as parts of unincorporated Orange and Seminole Counties. Iron Bridge is permitted to receive 40 million gallons per day (MGD) of wastewater. Once treated, the effluent is distributed to public access reuse, the Little Econlockhatchee River as well as the man-made Orlando Easterly Wetlands (OEW).

Nutrients are removed and reduced as the reclaimed water passes through the wetland system by biological and chemical processes, including plant uptake, assimilation into the plant matter and roots, adsorption into the soil, and nitrification/ denitrification. Careful operation and regulation of flows, water levels, and hydrological cycle are essential to avoid the potential release of sequestered nutrients within plant matter and soils back into the water column and flow stream.

1.2 Orlando Easterly Wetlands

Iron Bridge is permitted to send up to 35 MGD of treated, reclaimed water through 17 miles of pipe to the OEW located in Christmas, Florida (Figure 1-2). OEW's primary purpose is to provide additional nutrient removal. Prior to being created, the land was historically used for agriculture.

OEW was originally intended to have three vegetative communities: a 410 acre of deep marsh primarily comprised of cattail (*Typha* spp) and bulrush (*Schoenoplectus* spp) designed to

accomplish nutrient removal; a 380-acre mixed marsh comprised of over 60 submerged and emergent herbaceous species designed to provide wildlife habitat and additional nutrient removal; and a 400-acre area originally planted as a hardwood swamp with an herbaceous understory. The trees in the hardwood swamp did not establish as planned and the area is now managed as a mixed marsh habitat. An approximately 90-acre lake (Lake Searcy) is located within the final treatment areas (Cells 16 and Cell 17). The lake was constructed to provide fill material for the 18 miles of earthen levees and to enhance wildlife habitat. Because of the environmental enhancement provided by the varied wildlife habitats and the recreation of lost wetland habitats, the OEW is considered a beneficial reuse system under FDEP rules.

OEW was originally designed to receive 20 MGD; however, FDEP limited flows to 13 MGD because it was one of the first systems of its kind implemented in Florida. Flows were gradually increased to the full 20 MGD. After more than eight years of proven performance, testing began in 1997 through early 1998, to simulate higher flows through the OEW system. Three simulations were performed that involved loadings at approximately 10, 14 and 15 MGD through one-third of the wetlands to simulate flows of 30, 40 and 45 MGD, respectively. The testing results were included in the 1997 OEW Monitoring Report. Based on the results, the FDEP permit was modified on September 4, 2001, to increase the OEW capacity to 35 MGD.

The OEW was originally designed with 17 treatments cells and one outfall (D002). In 2003, following approval of FDEP, Cell 18 and a second outfall (D003) were added to accommodate the higher capacity and provide greater flexibility in managing the system. An additional berm was created between Lake Searcy and Cell 17 in 2007. Two control structures (WLLS1 and WLLS2) were constructed along the new berm, allowing greater hydraulic control. A map of the individual treatment cells is presented in Figure 1-3. In 2009, several small berms were created within Cell 1, 11 and 12. The berms were added to promote sheet flow. Small openings in the berms allow water to discharge while increasing the water level upstream of the berms.

In 2015, the City of Orlando upgraded Iron Bridge's Wetland Pump Station that supplies water to the OEW. Thirty-one (31) air release valves (ARVs) were replaced along with the Wetland's pipeline. The Wetland Pump Station was renovated and equipped with new pumps and electrical gear. D002's outfall pipe began leaking and causing erosion behind the recently (2017) installed articulating concrete block channel. In May 2018, D002 outfall's pipe was lined to prevent erosion and leaking.

Figure 1-1 Map of Iron Bridge Regional Water Reclamation Facility

Figure 1-2 Map of Orlando Easterly Wetlands

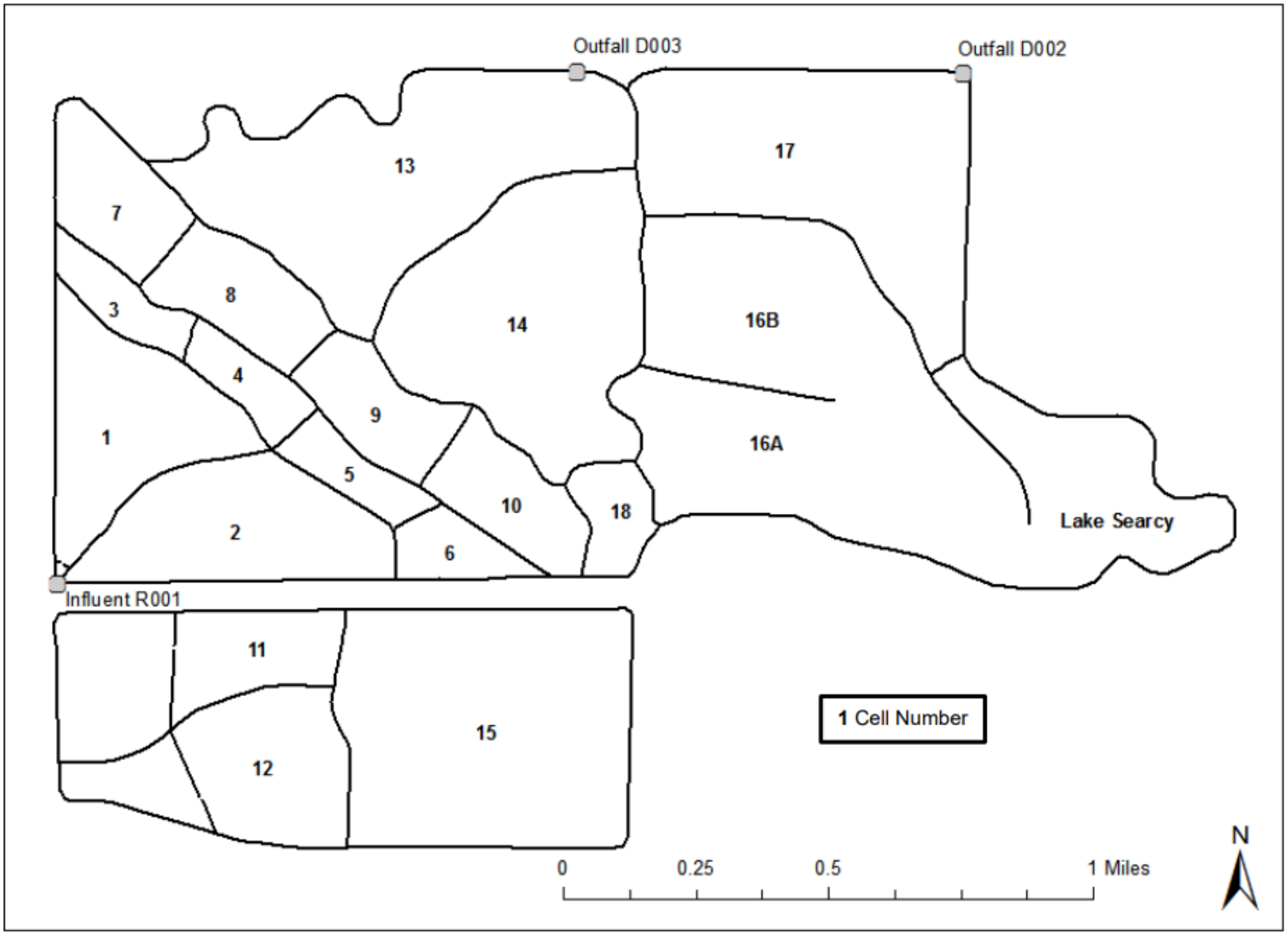

Figure 1-3 Orlando Easterly Wetlands Site Map

2 Iron Bridge Regional Water Reclamation Facility and the Little Econlockhatchee River

2.1 General Overview

The City of Orlando monitors the Little Econlockhatchee River at an upstream (Econ Up), downstream (Econ Down), and far field location (Econ A) from Iron Bridge. A map of the sampling sites and Iron Bridge are depicted in Figure 2-1. In 2023, there were no adequate USGS discharge monitoring sites for the Little Econlockhatchee River near the Econ Up sampling station. The river, however, is monitored downstream of Iron Bridge near Econ A at USGS Station 02233475. The station is in Seminole County, Florida on the downstream side of State Highway 434 Bridge, 3.5 miles south of Oviedo and 3.8 miles from Little Econlockhatchee River's mouth. Discharge and gage heights are collected daily at the USGS station. Monthly water quality samples are collected by the City of Orlando at Econ Up, Econ Down (Appendix A and Appendix B, respectively).

Iron Bridge's discharge site (D001) is monitored daily by the City of Orlando. In 2023, D001 annual average flow was 2.50 MGD with a total nitrogen (TN) concentration of 1.98 mg/L and a total phosphorus (TP) of 0.392 mg/L. Water quality data for Econ Up, Econ Down and Econ A monitoring stations are included in Appendix B and summarized in Table 2-1. A bar chart comparison of the parameters, both upstream and downstream of Iron Bridge discharge is depicted in Figure 2-2. Figure 2-3 depicts monthly flow rates (in MGD) at D001 and its downstream location on the Little Econlockhatchee River. Figure 2-4 indicates the percent flow comparison of Iron Bridge and the Little Econlockhatchee River. In 2023, Iron Bridge discharge comprised 4.8% of the Little Econlockhatchee River flow. The highest proportions occurred in March and April, with 9.0% and 13.4% flow, respectively.

Table 2-1 Summary of 2023 Little Econlockhatchee River Water Quality Data Upstream and Downstream of the Iron Bridge Regional WRF Discharge

Parameter	Upstream of Iron Bridge WRF	Downstream of Iron Bridge WRF: Econ Down (Near Field)	Downstream of Iron Bridge WRF: Econ A (Far Field)
Total Ammonia (mg/L)	0.05	0.06	0.05
Total Kjeldahl Nitrogen (mg/L)	0.59	0.67	0.65
Nitrate/Nitrite (mg/L)	0.17	0.19	0.18
Total Nitrogen (mg/L)	0.76	0.86	0.83
Total Phosphorus (mg/L)	0.07	0.09	0.09
Carbonaceous Biochemical Oxygen Demand (mg/L)	< 2.00	< 2.00	< 2.00
Dissolved Oxygen (mg/L)	5.58	5.87	5.68
Chlorophyll-a (mg/m^3)	1.29	1.60	1.26

Figure 2-1 Little Econlockhatchee River – Water Quality Sampling Points

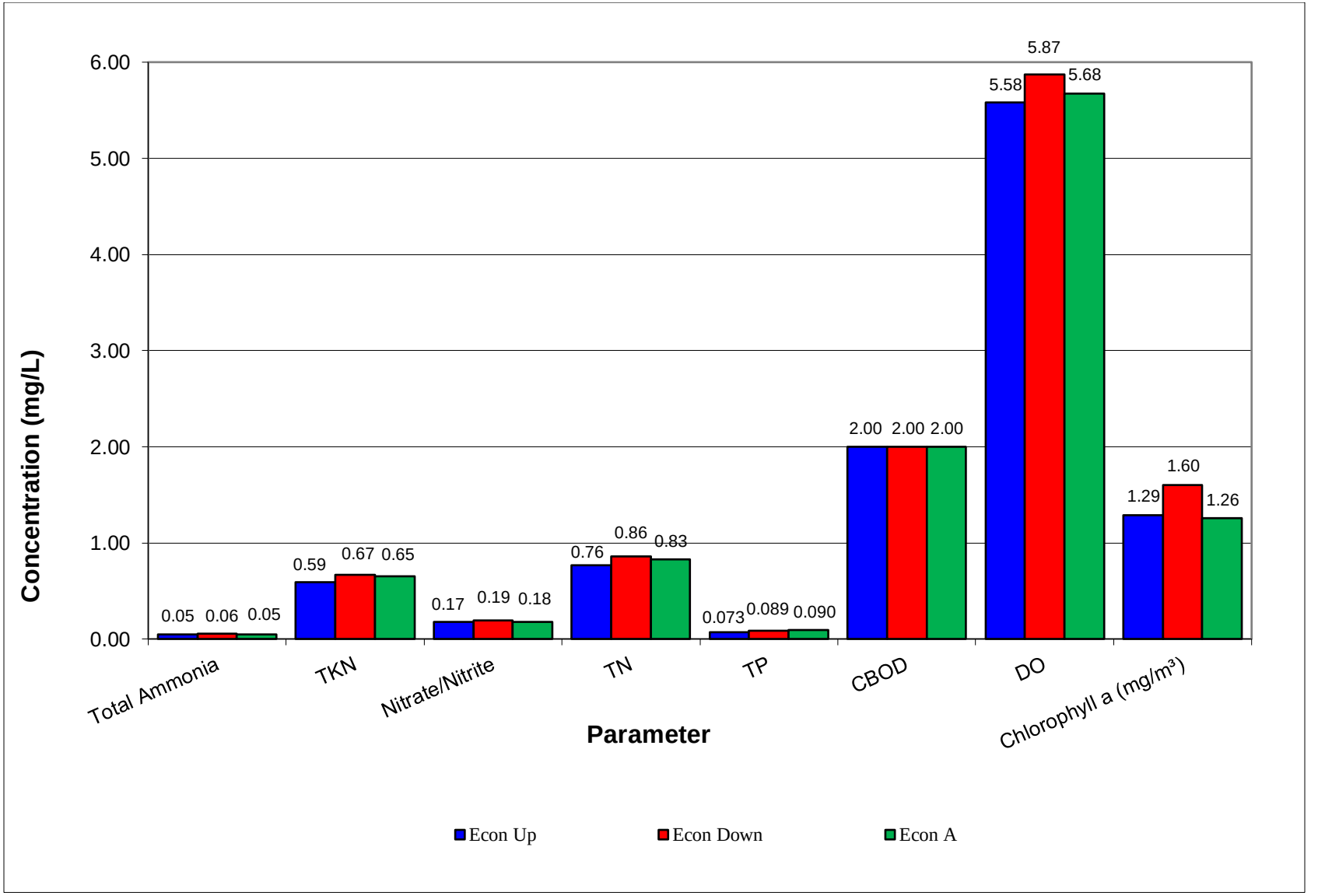

Figure 2-2 Comparison of Monthly Average Water Quality Parameters: Monitoring Stations along the Little Econlockhatchee River for 2023

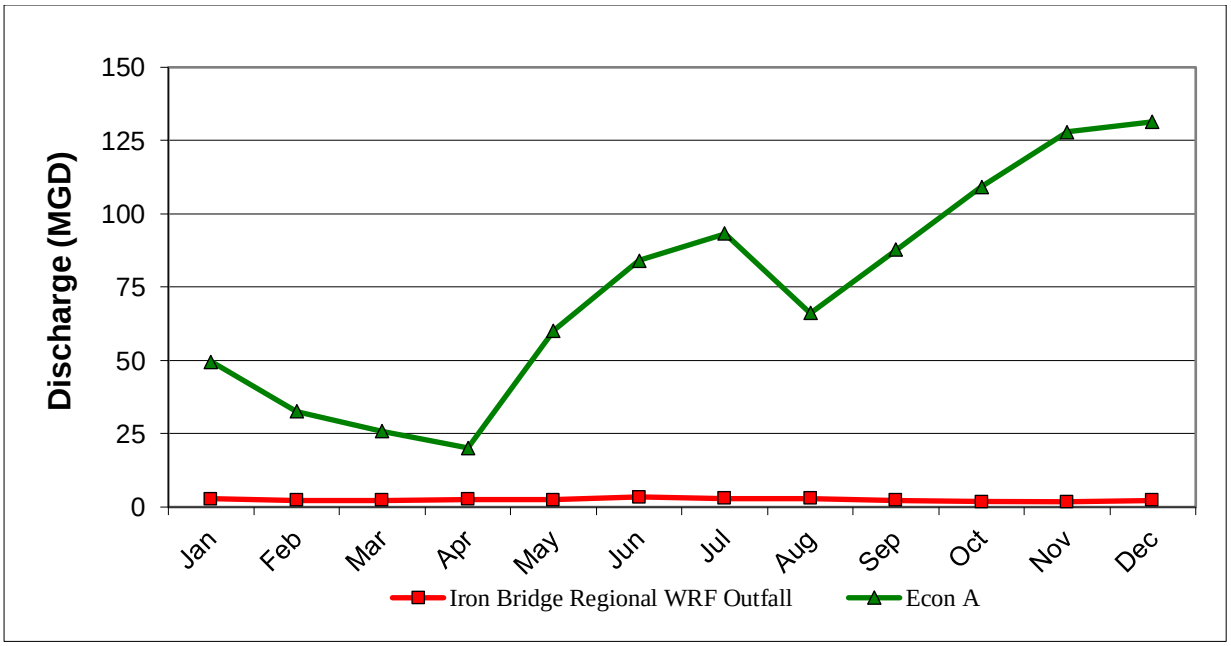

Figure 2- 3 2023 Monthly Discharge Averages of the Little Econlockhatchee River

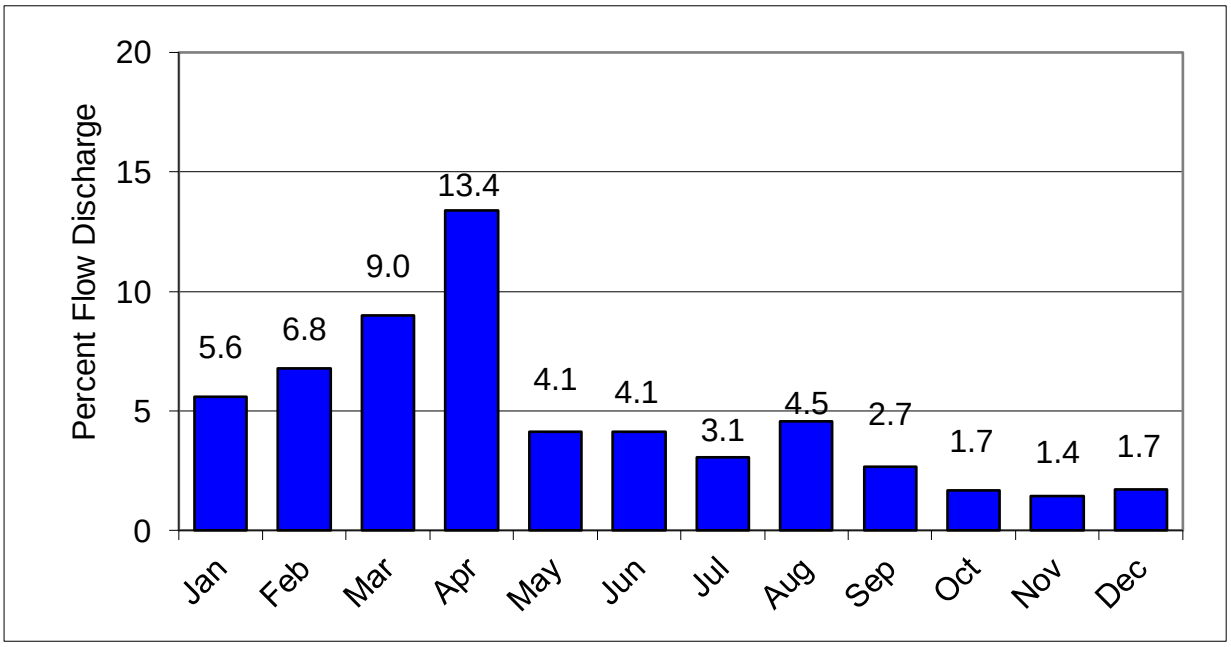

Figure 2- 4 2023 Percent Flow from Iron Bridge Regional WRF Discharge to the Little Econlockhatchee River

3 Orlando Easterly Wetlands and the St. Johns River

3.1 General Overview

The City of Orlando monitors the St. Johns River upstream and downstream of the OEW monthly. The river is monitored upstream of OEW at State Road 50 near Christmas, Florida at USGS station 02232500 (City Identifier SJR1) and is approximately 3.9 miles south of where OEW discharge canal reaches the St. Johns River. USGS 02234000 (City Identifier SJR5) is located on State Road 46 upstream of Lake Harney and is approximately 9.2 miles north from where the OEW discharge canal reaches the St. Johns River. A map of the sampling sites and OEW are depicted in Figure 3-1. River discharge and gage heights are collected daily at the USGS stations and monthly water quality data is collected by the City of Orlando (Appendix A and B, respectively). The St. Johns River gage heights and flow at SJR1 are summarized in Table 3-1. The 2023 OEW average annual discharge was 16.18 MGD while SJR1 had an annual average of 687 MGD. Figure 3-2 depicts 2023 monthly flow rates (in MGD) of OEW and SJR5. SJR5's peak discharge occurred in October 2023 (2360 MGD). Figure 3-3 illustrates the St. Johns River average annual discharge and Orlando Easterly Wetlands discharge. Historically, Orlando Easterly Wetlands has very little impact regarding the discharge of flow to the St. Johns River, accounting for 1.43% of the total annual average flow. In April 2023, the OEW accounted for 4.84% of the river's total flow. Table 3-2 indicates the monthly discharge rates of OEW and SJR5.

The Orlando Easterly Wetlands effluent had an annual average concentration of 0.66 mg/L total nitrogen (TN) and total phosphorus (TP) 0.08 mg/L. Annual average nutrient loadings from the OEW effluent to the St. Johns River amounted to 88.93 lbs/day total nitrogen and 10.75 lbs/day total phosphorous. TN and TP concentrations at SJR1, SJR5 and OEW are listed in Table 3-3 Total Nitrogen and Total Phosphorous Concentrations of the OEW and St. Johns River and depicted graphically in Figure 3-5 and Figure 3-6. Additionally, Table 3-4 shows a comparison between the TP loadings from OEW, SJR1 and SJR5.

3.2 Iron Bridge Regional WRF and Orlando Easterly Wetlands Combined Nutrient Loadings

The combined annual TN and TP concentrations of the outfall at Iron Bridge Regional WRF to the Little Econ and the OEW outfall to the St. Johns River were well below the FDEP permit limits. In 2023, Iron Bridge discharge (D001) was 2.50 MGD with an annual average TN concentration of 1.98 mg/L and TP concentration of 0.392 mg/L. OEW discharged 16.18 MGD with an annual average TN concentration of 0.66 mg/L and TP concentration of 0.080 mg/L. The FDEP permit allows 780 lbs/day of TN and 220 lbs/day of TP combined discharge to the St. Johns River system. The 2023 combined outfall loadings for TN and TP were, 130.35 lbs/day and 18.94 lbs/day, respectively. Iron Bridge Regional WRF and the OEW were well within FDEP permit for combined nutrient loadings, with TN loadings reaching 16.71%, and TP loadings reaching 8.61%, of the FDEP maximum allowable loadings to the St. Johns River system. The combined flow (18.69 MGD) from Iron Bridge and the OEW was 29.7% of the 63 MGD permitted total discharge capacity. This data illustrates that the combined discharge is well below the allowable nutrient loading (Table 3-5 and Figure 3-7).

Table 3-1 Comparison of St. Johns River Gage Heights and Discharge Rates with OEW Discharge Flows

Year	Station SJR1		OEW Discharge (MGD)
	Gage Height (ft)	Discharge Rate (MGD)	
2001	4.07	829	16.76
2002	4.78	1073	16.59
2003	5.11	956	22.51
2004	4.81	1098	24.87
2005	6.35	1488	25.25
2006	3.39	354	17.59
2007	3.37	329	14.62
2008	4.46	1049	15.06
2009	3.93	625	15.39
2010	3.66	468	18.96
2011	3.80	796	17.18
2012	4.65	1073	18.11
2013	4.45	1044	19.18
2014	4.96	1083	18.55
2015	4.54	598	16.57
2016	5.62	991	16.16
2017	4.73	1323	23.94
2018	4.53	916	26.02
2019	3.79	824	21.84
2020	4.81	780	21.40
2021	4.60	588	19.91
2022	5.11	928	22.39
2023	4.74	687	16.18
Average	**4.53**	**865**	**19.35**

(a) Gage height and discharge rates at the SJR1 sample station (USGS Station 02232500) are based on data provided by the United States Geological Survey (USGS) (Appendix A).

Table 3-2 2023 Monthly comparison of discharging rate at SJR5 and OEW

Month	SJR5 Discharge (MGD)	OEW Discharge (MGD)
January	1151	15.11
February	422	11.48
March	237	9.72
April	199	9.65
May	521	13.55
June	512	13.85
July	936	18.10
August	1554	18.97
September	1549	23.53
October	2360	21.85
November	1919	18.16
December	2153	19.76

Table 3-3 Total Nitrogen and Total Phosphorous Concentrations of the OEW and St. Johns River

Year	TN (mg/L)			TP (mg/L)		
	D002/D003	SJR1	SJR5	D002/D003	SJR1	SJR5
2001[a]	0.88	2.23	1.91	0.07	0.07	0.11
2002	0.77	2.16	1.77	0.075	0.083	0.116
2003	0.78	1.98	1.51	0.070	0.071	0.078
2004	0.92	1.98	1.49	0.060	0.099	0.092
2005	0.84	1.78	1.37	0.088	0.077	0.080
2006	0.94	2.19	1.76	0.129	0.087	0.104
2007	0.98	2.28	1.73	0.066	0.116	0.100
2008	1.20	2.68	2.35	0.062	0.113	0.106
2009	1.16	2.87	2.14	0.041	0.106	0.093
2010	1.01	2.84	1.92	0.041	0.120	0.088
2011	1.00	2.58	2.10	0.036	0.093	0.088
2012	0.96	2.31	1.99	0.036	0.085	0.084
2013	0.89	2.07	1.86	0.037	0.072	0.073
2014	0.88	1.65	1.42	0.079	0.086	0.088
2015	0.95	1.83	1.19	0.075	0.080	0.046
2016	0.80	1.55	1.28	0.051	0.082	0.075
2017	0.87	1.66	1.42	0.068	0.109	0.106
2018	0.78	1.96	1.29	0.049	0.097	0.059
2019	0.61	1.7	1.28	0.053	0.083	0.061
2020	0.65	1.57	1.18	0.050	0.077	0.068
2021	0.62	1.7	1.32	0.037	0.086	0.070[b]
2022	0.60	1.52	1.09	0.046	0.139	0.105
2023	0.66	1.57	1.32	0.08	0.086	0.079
Average	**0.86**	**2.03**	**1.60**	**0.061**	**0.092**	**0.086**

[a] HS10 – OEW discharge (daily composite sample) TN and TP concentrations are annual averages based on data presented in the monthly DMRs. In 2006, TN and TP Concentrations vegan being measured as weighted averages between D002 and D003.

[b] Average does not include October 2021 grab sample, due to site closed for construction.

Table 3-4 2023 Average Monthly Total Phosphorus Loadings of the OEW Effluent and St. Johns River

Month	OEW Wetlands Effluent			SJR1			SJR5		
	TP (mg/L)	Flow (MGD)	TP (Lbs)	TP (mg/L)	Flow (MGD)	TP (Lbs)	TP (mg/L)	Flow (MGD)	TP (Lbs)
January	0.139	15.11	17.55	0.108	724	652	0.050	1151	480
February	0.164	11.48	15.73	0.094	269	211	0.088	422	310
March	0.085	9.72	6.89	0.091	196	149	0.126	237	249
April	0.038	9.65	3.08	0.103	186	160	0.128	199	213
May	0.026	13.55	2.94	0.079	308	203	0.075	521	326
June	0.008	13.85	0.95	0.089	269	200	0.072	512	308
July	0.042	18.10	6.29	0.094	450	353	0.082	936	640
August	0.081	18.97	12.78	0.077	969	622	0.112	1554	1451
September	0.080	23.53	15.78	0.145	831	1005	0.075	1549	969
October	0.069	21.85	12.56	0.058	1418	686	0.057	2360	1122
November	0.106	18.16	16.09	0.059	1243	612	0.043	1919	688
December	0.146	19.76	24.06	0.040	1356	452	0.036	2153	647

Table 3-5 2023 Nutrient Loading from the Iron Bridge Regional WRF and OEW

	Average Daily Discharge Rate (MGD)	Average Daily Total Nitrogen (mg/L)	Average Daily Total Nitrogen (lbs)	Average Daily Total Phosphorus (mg/L)	Average Daily Total Phosphorus (lbs)
From Iron Bridge Regional WRF to Little Econ	2.50	1.98	41.41	0.392	8.19
From OEW to St. Johns River[(a)]	16.18	0.66	88.93	0.080	10.75
Weighted Total Discharge			130.35		18.94
Total	18.69				
FDEP Permit	63		780		220

(a) Flow discharged from the OEW system (D002 and D003).

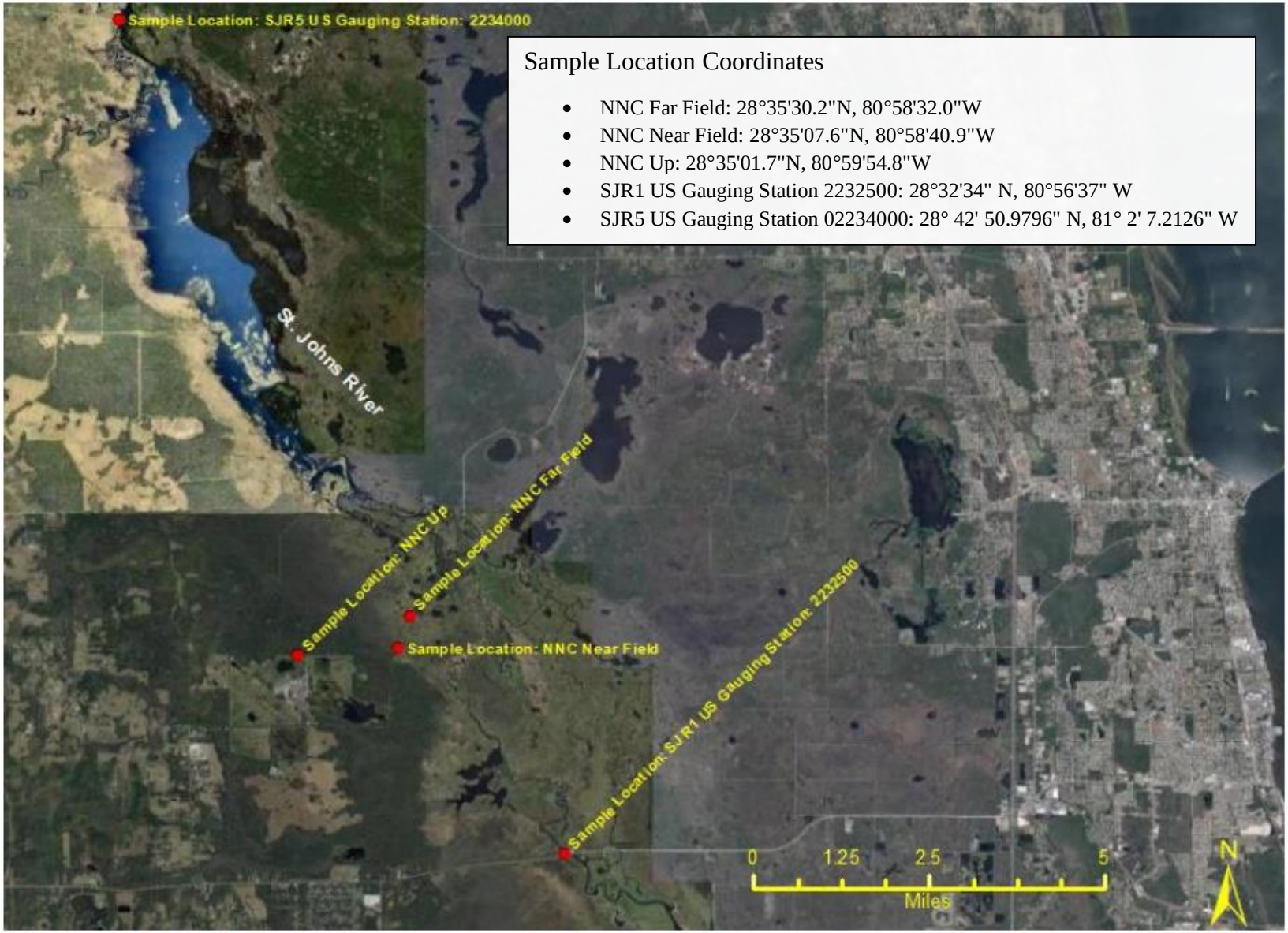

Figure 3-1 St. Johns River – Water Quality Sampling Points

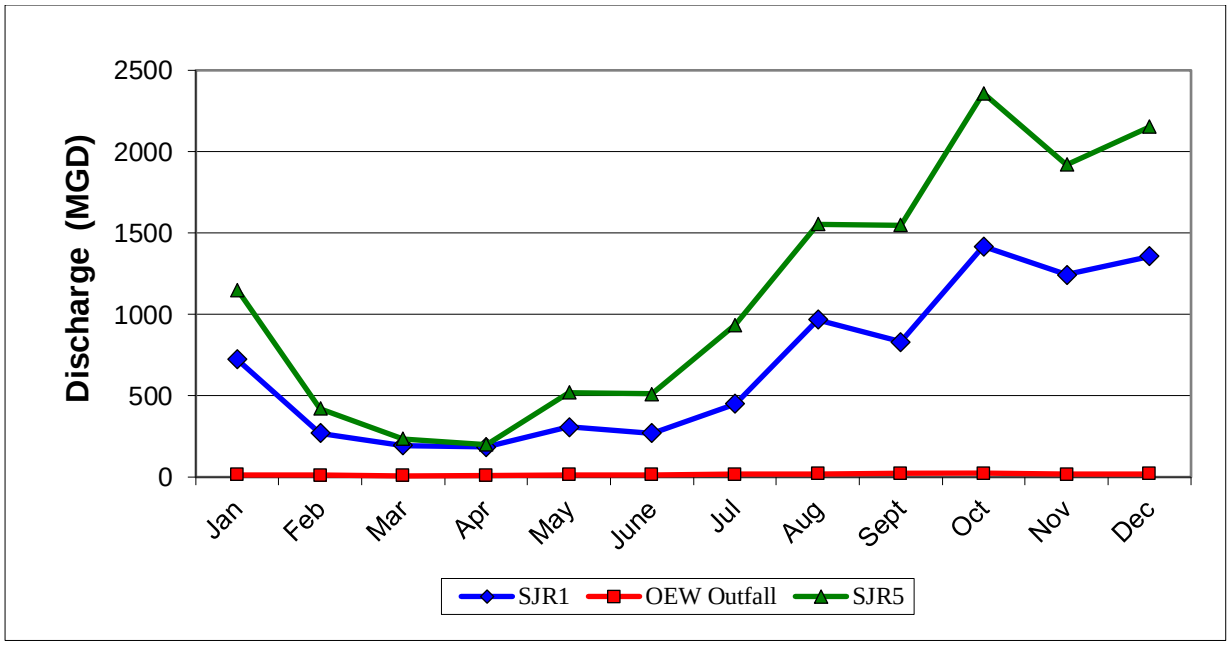

Figure 3-2 2023 Monthly Discharge Averages of the St. Johns River

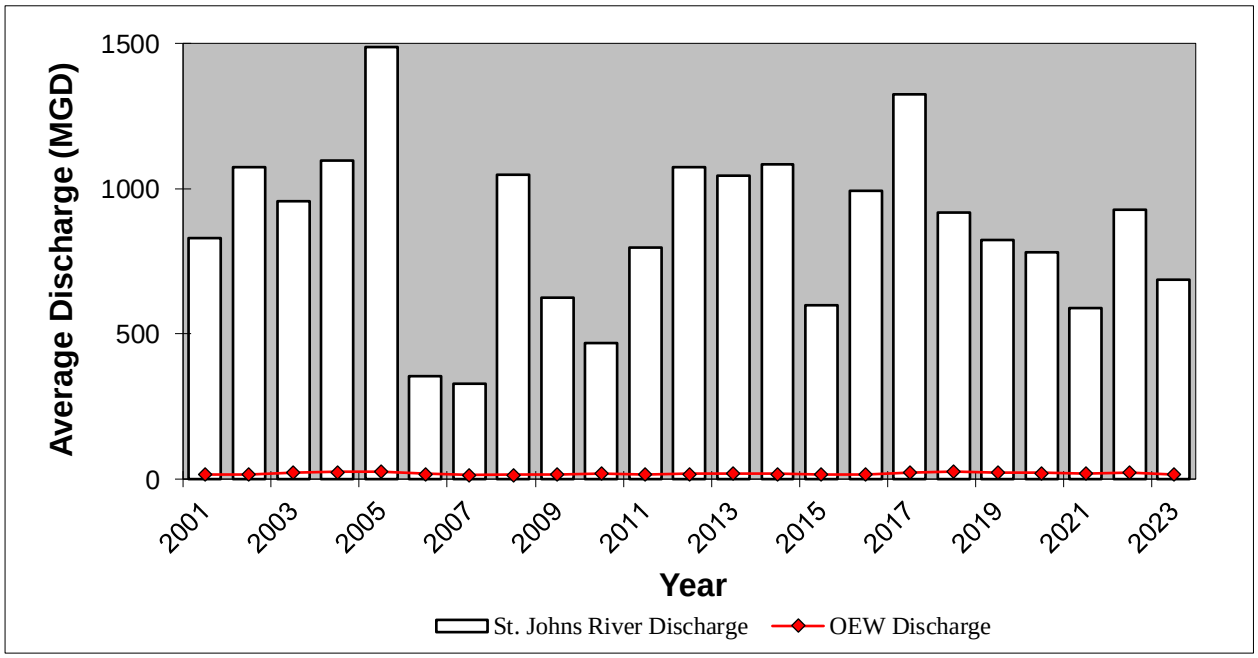

Figure 3-3 Annual Average Discharge of the St. Johns River and OEW

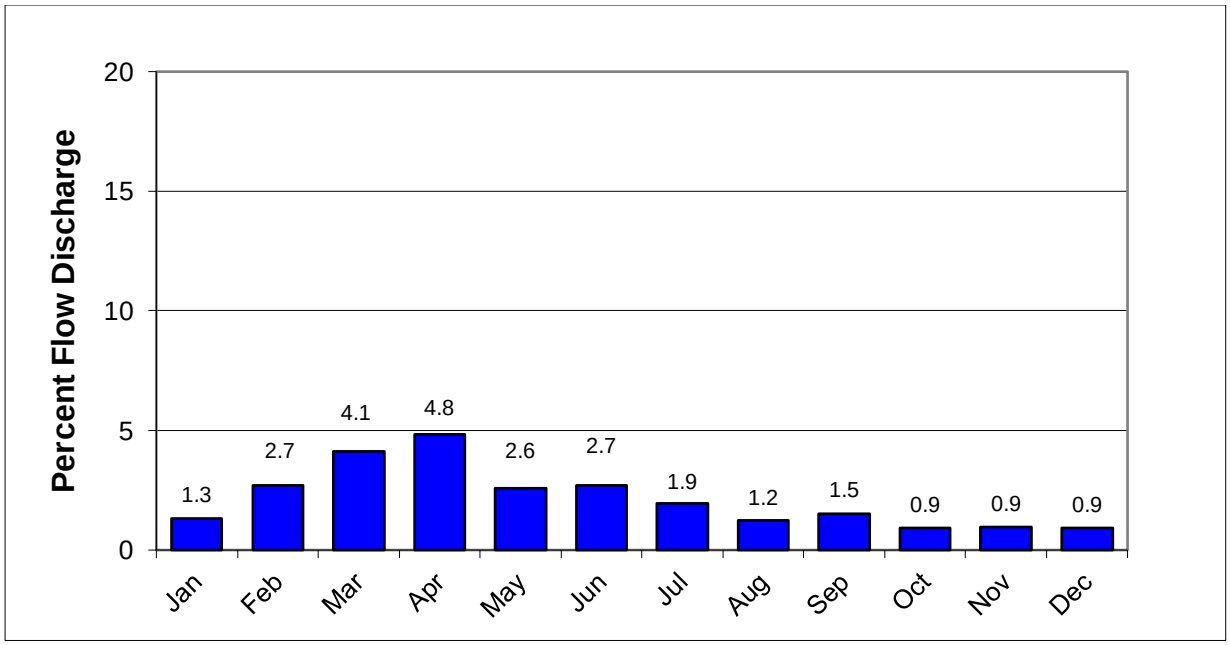

Figure 3-4 2023 Percent Flow Discharge from the Orlando Easterly Wetlands to the St. Johns River

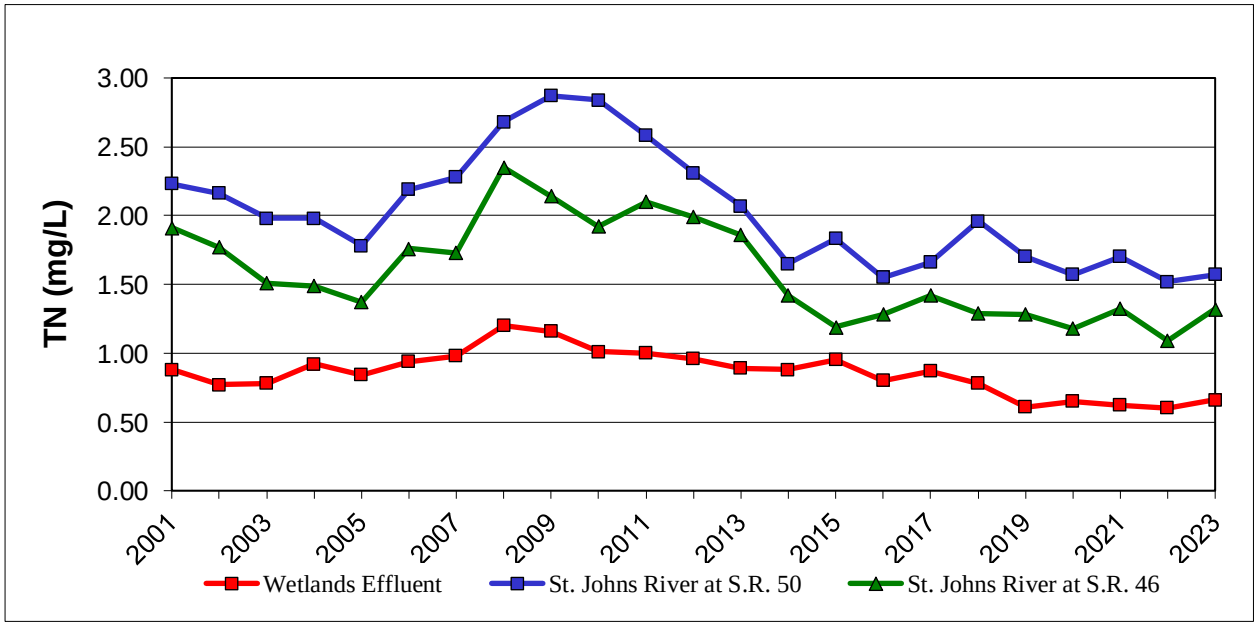

Figure 3-5 Total Nitrogen Concentrations within the St. Johns River

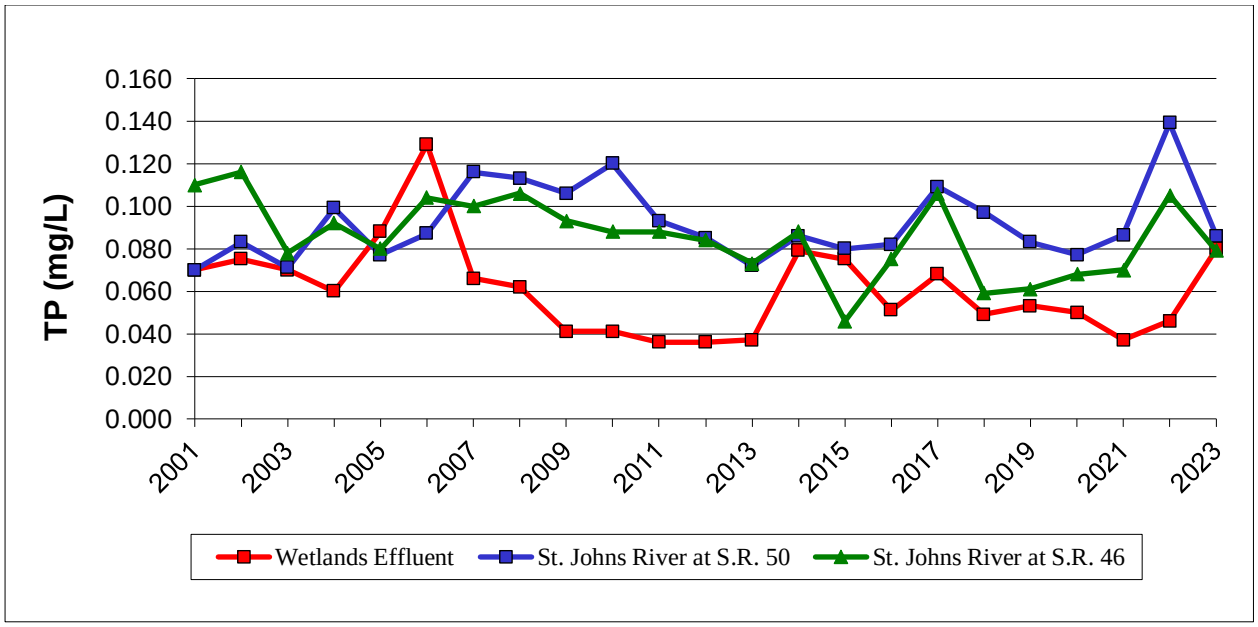

Figure 3-6 Total Phosphorus Concentrations within the St. Johns River

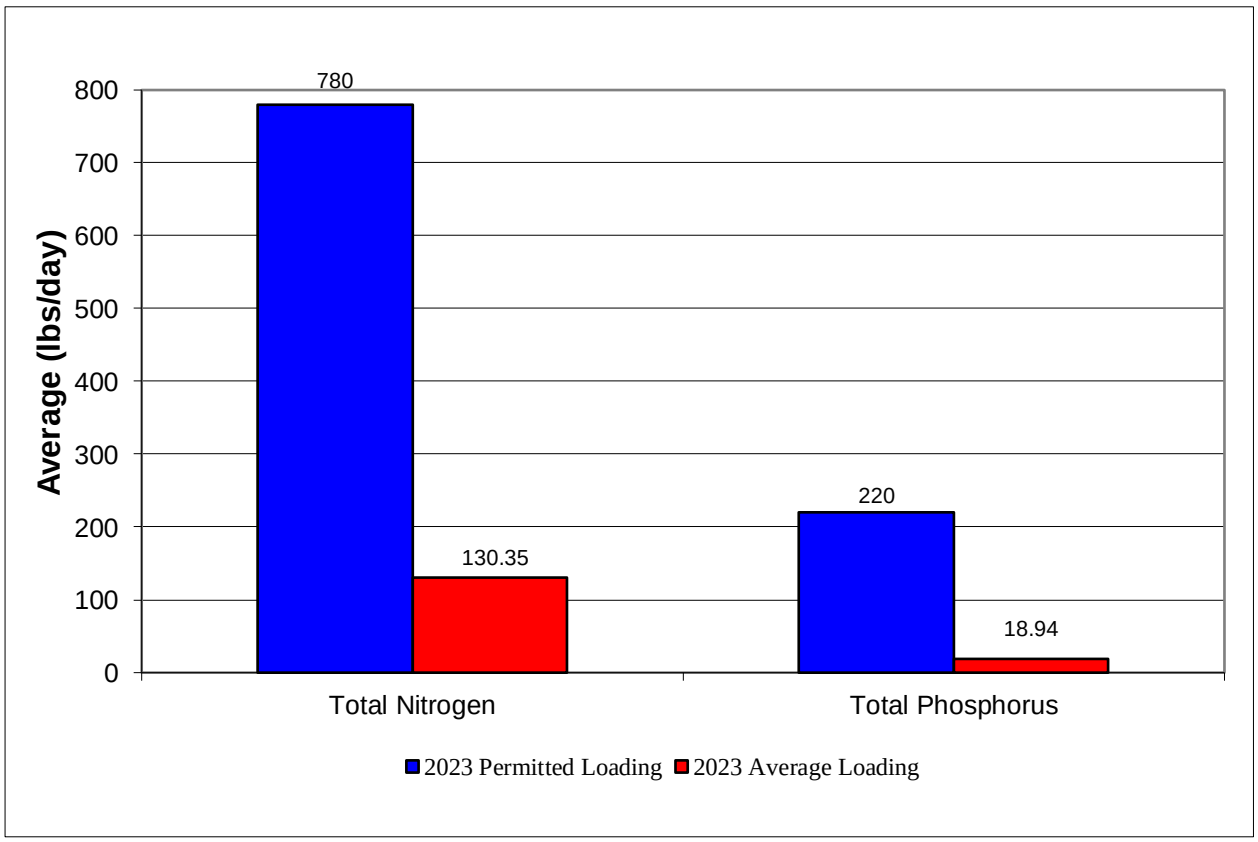

Figure 3-7 2023 Combined Nutrient Loadings from Iron Bridge Regional WRF and OEW

4 Orlando Easterly Wetlands

4.1 OEW Management

The OEW has 67 control structures, including bidirectional flow control structures, which allow water to be diverted across the OEW (Figure 4-1). Several of these control structures and groundwater sampling wells are listed in the FDEP operation permit as compliance sampling locations. The FDEP required compliance sampling stations associated with each of the 5 strata are as follows:

- Station WP1 (referred to as stations R001 in the FDEP permit) represents the OEW influent.
- Stratum 1 includes Cells 1, 2, 11 and 12. The FDEP operating permit is sampled at WP2 (WL11X) and WP3 (WL1Y).
- Stratum 2 includes Cell 3, 4, 5 and 6. The FDEP operating permit is sampled at WP4 (WL4X) and WP5 (WL3A)
- Stratum 3 includes Cell 7, 8, 9, 10 and 15. The FDEP operating permit is sampled at WP6 (WL8X) and MM7 (WL15X)
- Stratum 4 includes Cell 13, 14 and 18. The FDEP operating permit is sampled and is sampled at MM8 (WL13X)
- Stratum 5 includes Cells 16A, 16B, 17 and Lake Searcy. The FDEP operating permit is sampled at WLHS9 (Lake Searcy).
- Station WLHS10 (referred to as station D002 in the FDEP permit) represents the OEW outfall.

OEW is divided into 3 distinct flow paths: northern, central, and southern flow train (Figure 4-2). All the flow entering the OEW can be diverted through any of the three flow paths. Typically, all three flow paths are open and receive 1/3 of the flow entering the OEW. Figure 4-3 depicts when each cell was demucked. During dumucking renovations a cell is drained, the accumulated organic material is removed, the cell is then reflooded and beneficial plants are reintroduced. In 2023, the process to begin demucking of Cell 1 began in early August and continued into 2024.

Several times a year, the weir control structures at OEW are cleared of vegetation and debris. Certain cells, which have numerous dead trees, are often cleared of limbs, branches, and logs to ensure proper flow of water through the OEW. Herbicide spraying was used across the wetlands to manage overgrowth of vegetation and invasive species. In 2023, 175 hours were spent in aquatic herbicide application. Herbicide spraying focused on berms, cells, control structures, and the outfall ditch. Additional aquatic vegetation control methods are utilized at the OEW including prescribed burning. In August 2023, approximately 40% of Cell 1 was successfully burned, resulting in the reduction of biomass across 30 acres of the cell. The goal was to reduce biomass in preparation for demucking of Cell 1. Vegetation control not only promotes diverse habitat but ensures a healthy system for water quality standards.

4.2 Analytes and Nutrients

The OEW performance data for January 2023 through December 2023, are presented in Appendix C. Appendix D includes semiannual metals, volatile organic compounds (VOC), polychlorinated biphenyls (PCB) and organochlorine pesticide monitoring data. The FDEP operating permit designates these samples to be collected at locations: WP1, WL11X, WL15X, HS9 and HS10.

Results from semiannual metals sampling events show the presence of boron, barium, calcium, magnesium, and nickel throughout the year in at least 80% of the sampling events. Manganese was present during both sampling events at WL11X (8.80 ug/L, 5.40 ug/L), WL15X (2.10 ug/L, 1.60 ug/L), HS10 (2.50 ug/L, 2.30 ug/L), however, only present in the first sampling event at WP1 (14.00 ug/L), and not present in either sampling event at HS9. Iron was present during both sampling events at WP1 (72.7 ug/L, 45.5 ug/L), and found present for the first sampling event at WL11X (15.3 ug/L). WP1 was found to have Copper (1.46 ug/L) present in the first sampling event, and Zinc (30.1 ug/L, 14.9 ug/L) during both sampling events of 2023.

Using the EPA Method 608.3, there was no presence of indicated of presence of organochlorine pesticides and PCBs at the Orlando Easterly Wetlands, except for of 4,4'-DDE (0.025 ug/L) and Dieldrin (0.0058 ug/L) on the first sampling event at WP1.

VOCs sampling using the EPA Method 624.1, indicated a presence of bromodichloromethane (5.0 ug/L, 6.2 ug/L), chloroform (20.0 ug/L, 24 ug/L), and Dibromochloromethane (0.77 ug/L, 0.76 ug/L) at WP1 during both sampling events. No other volatile organic compounds were found to be present in either sampling date across sampling locations WL11X, WL15X, HS9, and HS10.

4.2.1 Nitrogen

Historical TN loadings and reduction performance are presented in Table 4-2. TN data are summarized in Tables 4-3, 4-4 and 4-5 for the northern, southern, and central flow trains, respectively.

In 2023, almost all water samples collected at the Wetlands influent (R001) were below the TN allowable permitted concentration limit of 6 mg/L. The two exceptions occurred on July 3rd and July 4th, when TN concentrations at the influent were recorded at 6.83 mg/L and 6.66 mg/L, respectively. The historical TN average and 2023 TN average concentration profiles through the OEW flow trains are illustrated in Figure 4-3, 4-4 and 4-5. The northern and southern flow trains historical averages are collected from 2001 through 2022. The central flow train's historical average is calculated from 2002 through 2022; the years that the central flow train has been monitored.

In 2023, the OEW had its greatest percent reduction in TN loadings, from the influent to the effluent, since 2001. Water entering the Wetlands influent entered at an annual average TN concentration of 1.87 mg/L with TN loading of 254.06 lbs/day. Discharge from OEW had a TN annual average of 0.659 mg/L with a TN loading of 88.93 lbs/day. The TN annual average concentration of 0.659 mg/L average is well below the FDEP concentration limit of 2.31 mg/L. In 2023, OEW TN percent loading reduction from influent to effluent was 65.0% (Table 4-2), the largest percent reductions in TN loadings in OEW history. The 2023 annual average TN concentration from the OEW was well below the FDEP permit limit for discharge to the St. Johns River system, and the data continues to support the consistency of the OEW performance over time.

4.2.2 Phosphorus

In 2023, R001 received unusually high TP concentrations throughout the year, totaling 46 days with TP concentrations above the annual permittable average of 0.75mg/L. The month of July experienced the highest monthly average concentration of TP at 0.979 mg/L, with 19 days of the month experiencing TP concentrations above the monthly permittable average of 0.75 mg/L. There was a total of 4 days in 2023 when the daily concentration of TP at R001 were above the daily limit of 1.50mg/L. Historical TP loadings and reduction performances are presented in Table 4-6. Water quality data related to TP for the northern, southern, and central flow train are summarized in Tables 4-7, 4-8 and 4-9, respectively. The TP concentration profiles for northern, southern, and central flow trains are measured at specific distances throughout the OEW for all three flow paths are depicted in Figures 4-7, 4-8 and 4-9. The yearly average concentration of TP entering and exiting the OEW is depicted in Figure 4-6.

In 2023, the OEW had its third highest annual average TP loadings at the Wetlands influent, and third best percent reduction in TP loadings from influent to effluent, since 2001. Water entering the R001 entered at an annual average TP concentration of 0.390 mg/L with TP loading of 53.00 lbs/day. Discharge from OEW had a TP annual average of 0.080 mg/L with a TP loading of 10.75 lbs/day. This average is well below the FDEP concentration limit of 0.200 mg/L. In 2023, OEW TP percent loading reduction from influent to effluent was 79.7% (Table 4-6), the third largest percent reduction in TP loadings in OEW history. The 2023, annual average TP

concentration from the OEW was well below the FDEP permit limit for discharge to the St. Johns River system.

4.2.3 Dissolved Oxygen

The average monthly dissolved oxygen (DO) concentrations for the OEW are shown in Table 4-10. The measurements were collected daily at D002. In 2023, there was no discharge released from D003. As a result, there was no data collected, regarding DO, at D003. The daily measurements that were used to calculate the monthly DO originate from Discharge Monitoring Reports that were submitted to FDEP throughout the year. In 2023, the annual average DO concentration was 5.0 mg/L.

Figure 4-11 further depicts D002's daily DO concentration in comparison to the FDEP target concentration. Since October 22, 2020, FDEP permit renewal date of issuance, the DO minimum annual average concentration is 3.8 mg/L. In 2023, DO at the OEW went below the minimum concentration threshold on 9 different occurrences. All 9 occurrences took place between the months of May and September, with four of the occurrences taking place on the 17th, 18th, 21st and 23rd of July, and could possibly be associated with cloudy/rainy conditions.

4.3 Water Budget

The 2023 water budget for the OEW was estimated using the following water balance equation.

OEW Discharge = OEW Influent + Rainfall – Evapotranspiration-Percolation

Rainfall data for 2023 is presented in Table 4-11. In 2017, rainfall data began being collected using the St. Johns River Water Management District's WSR-88 NexRad Radar data for the Orlando Easterly Wetlands perimeter. OEW's 2023 total rainfall was 64.57 inches falling over the 1,190-acre wetland property, which equates to an average of approximately 5.72 MGD. Approximately 18% (11.93 in) of OEW's 2023 annual rainfall occurred in July (Table 4-11). Losses from the OEW occur through evapotranspiration and percolation. Soils at the OEW have low permeability, therefore the primary mechanism for water loss are evaporation and transpiration. Using the water balance equation, there was a net decrease of 5.83 MGD in 2023(Table 4-12).

Table 4-1 2023 OEW Control Structure Weir Board and Gate Manipulations

Date	Weir Board (WL)/Gate	Reason
8/1/2023	Northern Flow Train Gate at Influent	Raised gate approximately 5.5" to stop all flow of water into Cell 1 in preparation for demucking.
8/1/2023	Central Flow Train Gate at Influent	Lowered gate approximately 5" to divert more flow of water into Central Flow Train in preparation for demucking of Cell 1.
8/1/2023	1B, 1C, 1X, 1Y	Removed 1 board from each respective weir to begin draining Cell 1 in preparation for demucking.
8/1/2023	2A	Removed 2 boards to maintain flow of water in Northern Flow Train.
8/2/2023	Northern Flow Train Gate at Influent	Raised gate approximately 5.5" to stop all flow of water into Cell 1 in preparation for demucking.
8/2/2023	Central Flow Train Gate at Influent	Lowered Gate approximately 2" to divert more flow of water into Central Flow Train and keep channeling water slow into the Northern Flow Train during demucking of Cell 1.
8/2/2023	1B, 1C, 1X, 1Y	Removed 1 board from each respective weir to continue draining Cell 1 for demucking.
8/4/2023	2A	Removed 1 board to increase flow to Northern Flow Train.
8/4/2023	1C, 1X, 1Y	Removed 1 board to continue draining Cell 1 for demucking.
8/8/2023	1X, 1Y	Removed 1 board from each respective weir to continue draining Cell 1 for demucking.
8/9/2023	3X	Removed 1 board to raise water level of Cell 7.
8/10/2023	3B	Removed 2 board to raise water level of Cell 7.
8/16/2023	1C, 1X, 1Y	Removed 1 board from each respective weir to continue draining Cell 1 for demucking.
8/17/2023	5C	Removed 1 board to diver excess flow in Cell 5 to Cell 4.
8/17/2023	Northern Flow Train Gate at Influent	Raised gate approximately 2.5" to prevent R001 overflow into the Northern Flow Train.
8/29/2023	8C	Removed 1 board to raise water level of Cell 7.
8/29/2023	4A	Installed 1 board to raise water level of Cell 3.
8/31/2023	3A, 3C	Installed 1 board in each respective weir to raise water level of Cell 3.

Table 4-2 Total Nitrogen Loadings and Reductions Within the OEW

Year	Influent Flow (MGD)	Influent Conc. (mg/L)	Loading In (lbs/day)	Effluent Flow (MGD)	Effluent Conc. (mg/L)	Loading Out (lbs/day)	Percent Reduction from Influent to Effluent
2001	17.86	2.14	318.76	16.76	0.88	123.00	61.4%
2002	16.59	1.42	196.47	22.51	0.77	144.55	26.4%
2003	17.36	1.23	178.08	24.87	0.78	161.78	9.2%
2004	17.20	1.44	206.57	21.48	0.92	164.81	20.2%
2005	18.27	1.67	254.46	25.25	0.84	176.89	30.5%
2006[a]	12.68	1.61	170.26	17.63	0.94	138.21	18.8%
2007	12.33	2.38	244.74	14.62	0.98	119.49	51.2%
2008	12.17	2.25	228.37	15.06	1.20	150.72	34.0%
2009	14.14	1.90	224.06	15.39	1.16	148.89	33.6%
2010	15.29	1.94	247.39	18.96	1.01	159.71	35.4%
2011	15.17	2.07	261.89	17.18	1.00	143.28	45.3%
2012	14.33	1.77	211.54	18.11	0.96	145.00	31.5%
2013	14.16	1.70	200.76	19.18	0.89	142.37	29.1%
2014	14.32	1.40	167.20	18.55	0.88	136.14	18.6%
2015	11.80[b]	1.35	132.86	16.57	0.95	131.28	1.2%
2016	12.95	1.66	179.28	16.16	0.80	107.82	39.9%
2017	15.30	2.07	264.14	23.94	0.87	173.70	34.2%
2018	15.75	2.00	262.71	26.02	0.78	169.27	35.6%
2019	16.40	1.88	257.14	21.84	0.61	111.11	56.8%
2020	15.65	1.94	253.21	21.40	0.65	116.01	54.2%
2021	16.42	1.51	206.78	19.91	0.620	102.95	50.2%
2022	19.69	1.75	287.41	22.02	0.600	110.19	61.7%
2023	16.29	1.87	254.06	16.18	0.659	88.93	65.0%
Average	**15.31**	**1.78**	**226.44**	**19.55**	**0.86**	**137.66**	**36.7%**

[a] In 2006, effluent flow and effluent concentrations began being measured as the weighted averages of D002 and D003.

[b] On 3/11/2015, R001 flow was collected, however, there was no sample collected thus flow was not added to this MGD average.

Table 4-3 Summary of Total Nitrogen Concentration Profile Through the Northern Flow Train (mg/L)

Year	Station					
	Influent	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Final Outfall
	WP1	WP3	WP4/5[a]	WP6	MM8	HS10
2001	2.14	1.15	1.02	1.30	1.04	0.88
2002[b]	1.42	0.80	0.73	0.80	0.97	0.77
2003	1.23	0.72	0.77	0.95	1.12	0.78
2004	1.44	1.20	1.09	0.92	1.04	0.92
2005	1.67	1.13	1.19	1.17	0.96	0.84
2006[c]	1.61	1.03	0.95	1.02	1.08	0.94
2007	2.38	0.80	0.86	0.96	0.97	0.98
2008[d]	2.25	1.03	1.08	1.10	ND[i]	1.20
2009[d][e]	1.90	1.10	1.07	1.17	ND[i]	1.16
2010	1.94	0.95	0.99	1.24	1.68	1.01
2011	2.07	0.92	0.97	1.04	1.19	1.00
2012	1.77	0.87	0.85	0.91	1.26	0.96
2013[f]	1.70	0.87	0.87	0.91	1.05	0.89
2014[g]	1.40	0.69	0.70	0.75	0.88	0.88
2015	1.35	0.69	0.76	0.78	1.06	0.95
2016	1.66	0.67	0.69	0.70	0.90	0.80
2017	2.07	0.60	0.63	0.76	0.86	0.87
2018	2.00	0.76	0.72	0.89	0.86	0.78
2019[h]	1.88	0.65	0.65	0.00	0.00	0.61
2020	1.94	0.56	0.55	0.61	0.73	0.65
2021	1.51	0.53	0.53	0.63	0.83	0.62
2022	1.75	0.69	0.55	0.56	0.76	0.60
2023	1.87	0.54	0.67	0.70	0.83	0.66
Average	**1.78**	**0.82**	**0.82**	**0.90**	**1.00**	**0.86**

(a) WP4/5 represents the average of stations WP4 and WP5, assuming equal flow through each control structure.

(b) The northern flow train was offline during much of 2002.

(c) In 2006, TN concentrations began being measured as the weighted averages between D002 and D003.

(d) Stratum 4 was offline, D003 was flowing.

(e) TN results do not include data collected for the drawdown experiment.

(f) TN results do not include data collected for the pulsing study from May through December 2013.

(g) Beginning in 2014, TN results for strata are compiled by averaging monthly concentrations from all its tested control structures.

(h) Stratums 3 and 4 were offline from April through December 2019 due to Cell 13 renovation project.

(i) ND – No Discharge

Table 4-4 Summary of Total Nitrogen Concentration Profile Through the Southern Flow Train (mg/L)

Year	Station				
	Influent	Stratum 1	Stratum 3	Lake	Final Outfall
	WP1	WP2	MM7	HS9	HS10
2001	2.14	0.86	0.77	0.92	0.88
2002	1.42	1.01	0.71	0.90	0.77
2003	1.23	1.15	0.79	0.93	0.78
2004	1.44	0.96	0.74	0.84	0.92
2005	1.67	1.09	0.69	0.93	0.84
2006[a]	1.61	0.88	0.89	1.06	0.94
2007	2.38	0.90	0.78	1.40	0.98
2008	2.25	1.26	1.12	2.83	1.20
2009	1.90	1.17[b]	1.18	1.18	1.16
2010	1.94	0.89	0.95	1.01	1.01
2011	2.07	1.06	0.99	0.98	1.00
2012	1.77	1.01	1.03	0.80	0.96
2013[c]	1.70	1.10	0.86	1.12	0.89
2014[d]	1.40	1.13	1.96	1.30	0.88
2015	1.35	0.94	0.84	1.22	0.95
2016[e]	1.66	0.00	0.00	1.05	0.80
2017	2.07	0.67	0.68	0.95	0.87
2018	2.00	0.83	0.79	1.07	0.78
2019	1.88	0.77	0.70	0.81	0.61
2020[f]	1.94	0.57	1.15	0.71	0.65
2021	1.51	0.66	0.76	0.76	0.62
2022	1.75	0.69	0.85	0.77	0.60
2023	1.87	0.59	0.68	0.79	0.66
Average	**1.78**	**0.92**	**0.91**	**1.06**	**0.86**

[a] In 2006, TN concentrations began being measures at HS10 as the weighted averages between D002 and D003.

[b] WP2 was offline from January 2009 through June 2009, due to the renovation project.

[c] TN results do not include data collected for the pulsing study from May through December 2013.

[d] Beginning in 2014, TN results for strata are compiled by averaging monthly concentrations from all its tested control structures.

[e] Southern Flow Train was offline from November 2015 through November 2016, due to demucking Cell 15.

[f] Cell 11 was offline in 2020, due to a biogeochemistry study. Mean TN was from WL12X and WL12Y.

Table 4-5 Summary of Total Nitrogen Concentration Profile Through the Central Flow Train (mg/L)

Year	Station						
	Influent	Stratum	Stratum	Stratum	Stratum	Stratum	Final Outfall
	WP1	1	2	3	4	5	HS10
2002	1.42	0.80	0.73	0.80	0.97	0.90	0.77
2003	1.23	0.72	0.64	0.67	0.88	0.93	0.78
2004	1.44	0.69	0.67	0.69	1.09	0.84	0.92
2005	1.67	0.76	0.72	0.65	0.93	0.93	0.84
2006[a]	1.61	0.71	0.68	0.64	0.97	1.06	0.94
2007	2.38	0.83	0.77	0.68	0.94	1.40	0.98
2008	2.25	1.08	1.19	1.06	1.28	2.83	1.20
2009[b]	1.90	1.11	1.00	0.91	1.08	1.18	1.16
2010	1.94	1.20	1.01	1.01	1.24	1.01	1.01
2011	2.07	1.14	1.07	0.94	1.14	0.98	1.00
2012	1.77	0.99	0.92	0.88	0.96	0.80	0.96
2013[c]	1.70	0.97	0.92	0.88	1.06	1.12	0.89
2014[d]	1.40	0.78	0.80	0.80	0.96	1.30	0.88
2015	1.35	0.68	0.70	0.71	0.92	1.22	0.95
2016	1.66	0.76	0.68	0.66	0.81	1.05	0.80
2017	2.07	0.64	0.60	0.60	0.79	0.95	0.87
2018[e]	2.00	0.82	0.81	0.79	ND[f]	1.07	0.78
2019	1.88	0.58	0.61	0.66	0.82	0.81	0.61
2020	1.94	0.54	0.53	0.50	0.84	0.71	0.65
2021	1.51	0.57	0.58	0.59	0.82	0.76	0.62
2022	1.75	0.69	0.55	0.56	0.76	0.77	0.60
2023	1.87	0.69	0.58	0.55	0.74	0.79	0.66
Average	**1.76**	**0.81**	**0.76**	**0.74**	**0.95**	**1.06**	**0.86**

[a] In 2006, TN concentrations began being measured at HS10 as the weighted averages between D002 and D003.

[b] TN results do not include data collected for the drawdown experiment.

[c] TN results do not include data collected for the pulsing study from May through December 2013.

[d] Beginning in 2014, TN results for strata are compiled by averaging monthly concentrations from all its tested control structures.

[e] Stratum 4 (Cell 14) was offline from April 2018 through January 2019 due to the demucking project.

[f] ND – No Discharge

Table 4-6 Total Phosphorus Loadings and Reductions Within the OEW

Year	Influent Flow (mgd)	Influent Conc. (mg/L)	Loading In (lbs/day)	Effluent Flow (mgd)	Effluent Conc. (mg/L)	Loading Out (lbs/day)	Percent Reduction from Influent to Effluent
2001	17.86	0.240	35.75	16.76	0.070	9.78	72.6%
2002	16.59	0.235	32.51	22.51	0.075	14.08	56.7%
2003	17.36	0.207	29.97	24.87	0.070	14.52	51.6%
2004	17.20	0.240	34.48	21.48	0.060	10.75	68.8%
2005	18.27	0.401	61.10	25.25	0.088	18.53	69.7%
2006[a]	12.68	0.333	35.22	17.63	0.129	18.97	46.1%
2007	12.33	0.276	28.38	14.62	0.066	8.05	71.6%
2008	12.17	0.210	21.31	15.06	0.062	7.79	63.5%
2009	14.14	0.153	18.04	15.39	0.041	5.26	70.8%
2010	15.29	0.134	17.09	18.96	0.041	6.48	62.1%
2011	15.17	0.159	20.12	17.18	0.036	5.16	74.4%
2012	14.33	0.194	23.19	18.11	0.036	5.44	76.5%
2013	14.16	0.285	33.66	19.18	0.037	5.92	82.4%
2014	14.32	0.464	55.41	18.55	0.079	12.22	77.9%
2015	11.80[b]	0.247	24.31	16.57	0.075	10.36	57.4%
2016	12.95	0.295	31.86	16.16	0.051	6.87	78.4%
2017	15.30	0.146	18.63	23.94	0.068	13.58	27.1%
2018	15.75	0.154	20.23	26.02	0.049	10.63	47.4%
2019	16.40	0.311	42.54	21.84	0.053	9.65	77.3%
2020	15.65	0.208	27.15	21.40	0.050	8.92	67.1%
2021	16.42	0.237	32.46	19.91	0.037	6.14	81.1%
2022	19.69	0.238	39.09	22.02	0.052	9.55	75.6%
2023	16.29	0.390	53.00	16.18	0.080	10.75	79.7%
AVERAGE	**15.31**	**0.250**	**31.98**	**19.55**	**0.061**	**9.97**	**66.8%**

[a] In 2006, effluent flow and effluent concentrations began being measured as the weighted averages of D002 and D003.

[b] On 3/11/2015, R001 flow was collected, however, there was no sample collected. The flow was not added to this MGD average.

Table 4-7 Summary of Total Phosphorus Concentration Profile Through the Northern Flow Train (mg/L)

Year	Station					
	Influent	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Final Outfall
	WP1	WP3	WP4/5[a]	WP6	MM8	HS10
2001	0.24	0.21	0.19	0.31	0.07	0.07
2002[b]	0.235	0.200	0.170	0.170	0.130	0.075
2003	0.207	0.030	0.030	0.030	0.055	0.070
2004	0.240	0.165	0.106	0.040	0.050	0.060
2005	0.401	0.275	0.315	0.210	0.100	0.088
2006[c]	0.333	0.236	0.194	0.133	0.190	0.129
2007	0.276	0.139	0.146	0.089	0.101	0.066
2008[d]	0.210	0.140	0.123	0.081	ND[i]	0.062
2009[d][e]	0.153	0.103	0.087	0.080	ND[i]	0.041
2010	0.134	0.069	0.049	0.072	0.117	0.041
2011	0.159	0.013	0.062	0.043	0.080	0.036
2012	0.194	0.177	0.128	0.054	0.053	0.036
2013[f]	0.284	0.338	0.351	0.230	0.042	0.037
2014[g]	0.464	0.426	0.328	0.280	0.201	0.079
2015	0.247	0.310	0.282	0.229	0.309	0.075
2016	0.295	0.261	0.246	0.182	0.144	0.051
2017	0.146	0.171	0.152	0.142	0.137	0.068
2018	0.154	0.126	0.117	0.104	0.100	0.049
2019[h]	0.311	0.258	0.228	ND[i]	ND[i]	0.053
2020	0.208	0.145	0.124	0.140	0.073	0.050
2021	0.237	0.259	0.227	0.208	0.038	0.037
2022	0.238	0.242	0.214	0.184	0.068	0.046
2023	0.390	0.373	0.465	0.357	0.226	0.080
Average	**0.250**	**0.203**	**0.188**	**0.153**	**0.114**	**0.061**

[a] WP4/5 represents the average of stations WP4 and WP5, assuming equal flow through each control structure.

[b] The northern flow train was offline during much of 2002.

[c] In 2006, TP concentrations began being measured as the weighted averages between D002 and D003.

[d] Stratum 4 was offline, D003 was flowing.

[e] TP results do not include data collected for the drawdown experiment.

[f] TP results do not include data collected for the pulsing study from May through December 2013.

[g] Beginning in 2014, TP results for strata are compiled by averaging monthly concentrations from all its tested control structures.

[h] Stratums 3 and 4 were offline due to Cell 13 renovation project from April through December 2019.

[i] ND – No Discharge

Table 4-8 Summary of Total Phosphorus Concentration Profile Through the Southern Flow Train (mg/L)

Year	Station				
	Influent	Stratum 1	Stratum 3	Lake	Final Outfall
	WP1	WP2	MM7	HS9	HS10
2001	0.24	0.19	0.11	0.10	0.07
2002	0.235	0.134	0.117	0.078	0.075
2003	0.207	0.141	0.103	0.076	0.070
2004	0.240	0.150	0.130	0.040	0.060
2005	0.401	0.350	0.180	0.060	0.088
2006[a]	0.333	0.335	0.264	0.219	0.129
2007	0.276	0.314	0.124	0.172	0.066
2008	0.210	0.246	0.119	0.275	0.062
2009	0.153	0.045[b]	0.112	0.056	0.041
2010	0.134	0.032	0.039	0.037	0.041
2011	0.159	0.042	0.037	0.033	0.036
2012	0.194	0.046	0.038	0.035	0.036
2013[c]	0.284	0.126	0.084	0.056	0.037
2014[d]	0.464	0.244	0.416	0.104	0.079
2015	0.284	0.263	0.278	0.070	0.075
2016[e]	0.295	ND[g]	ND[g]	0.048	0.051
2017	0.146	0.089	0.043	0.065	0.068
2018	0.154	0.083	0.030	0.043	0.049
2019	0.311	0.245	0.058	0.038	0.053
2020	0.208	0.157[f]	0.144	0.035	0.050
2021	0.237	0.153	0.076	0.050	0.037
2022	0.238	0.237	0.214	0.056	0.046
2023	0.390	0.375	0.177	0.037	0.080
Average	**0.252**	**0.182**	**0.132**	**0.078**	**0.062**

[a] In 2006, TP began being measured at HS10 as the weighted averages of D002 and D003.

[b] WP2 was offline during renovation project from January 2009 through June 2009.

[c] TP results do not include data collected for the pulsing study from May through December 2013.

[d] Beginning in 2014, TP results for strata are compiled by averaging monthly concentrations from all its tested control structures.

[e] Southern Flow Train was offline for renovation project from November 2015 through November 2016.

[f] Cell 11 was offline in 2020, due to a biogeochemistry study. Mean TN was from WL12X and WL12Y.

[g] ND – No Discharge

Table 4-9 Summary of Total Phosphorus Concentration Profile Through the Central Flow Train (mg/L)

Year	Station						
	Influent WP1	Stratum 1	Stratum 2	Stratum 3	Stratum 4	Stratum 5	Final Outfall HS10
2002	0.235	0.198	0.172	0.169	0.129	0.078	0.075
2003	0.207	0.150	0.135	0.100	0.080	0.076	0.070
2004	0.240	0.184	0.170	0.140	0.130	0.040	0.060
2005	0.401	0.327	0.295	0.258	0.208	0.064	0.088
2006[a]	0.333	0.346	0.284	0.214	0.226	0.219	0.129
2007	0.276	0.254	0.215	0.205	0.163	0.172	0.066
2008	0.210	0.045	0.179	0.109	0.120	0.275	0.062
2009[b]	0.153	0.048	0.043	0.045	0.056	0.056	0.041
2010	0.134	0.073	0.055	0.056	0.050	0.037	0.041
2011	0.159	0.081	0.081	0.067	0.058	0.033	0.036
2012	0.194	0.114	0.097	0.112	0.056	0.035	0.036
2013[c]	0.284	0.201	0.152	0.196	0.167	0.056	0.037
2014[d]	0.464	0.395	0.377	0.340	0.265	0.102	0.079
2015	0.247	0.291	0.317	0.213	0.230	0.070	0.075
2016	0.295	0.265	0.267	0.220	0.199	0.048	0.051
2017	0.146	0.155	0.189	0.168	0.124	0.065	0.068
2018[e]	0.154	0.110	0.098	0.086	ND[f]	0.043	0.049
2019	0.311	0.282	0.253	0.208	0.076	0.038	0.053
2020	0.208	0.148	0.132	0.119	0.138	0.035	0.050
2021	0.237	0.246	0.224	0.213	0.169	0.050	0.037
2022	0.238	0.237	0.235	0.193	0.099	0.056	0.046
2023	0.390	0.348	0.360	0.337	0.141	0.037	0.080
Average	**0.251**	**0.204**	**0.197**	**0.171**	**0.137**	**0.077**	**0.060**

[a] In 2006, total phosphorus concentrations began being measured at HS10 as the weighted averages between D002 and D003.

[b] TP results do not include data collected for the drawdown experiment.

[c] TP results do not include data collected for the pulsing study from May through December 2013.

[d] Beginning in 2014, TP results for strata are compiled by averaging monthly concentrations from all its tested control structures.

[e] Cell 14 was offline for renovation project from April 2018 through January 2019.

[f] ND – No Discharge

Table 4-10 Comparison of 2023 Average Monthly Dissolved Oxygen (DO) Concentrations in OEW Effluents and FDEP Minimum Annual Average Permit Limit (mg/L)

Month	D002	D003	FDEP Annual Average Permit Limit
January	5.7	ND[a]	3.8
February	5.2	ND[a]	3.8
March	5.2	ND[a]	3.8
April	4.8	ND[a]	3.8
May	4.5	ND[a]	3.8
June	4.7	ND[a]	3.8
July	4.2	ND[a]	3.8
August	4.3	ND[a]	3.8
September	5.7	ND[a]	3.8
October	4.6	ND[a]	3.8
November	5.2	ND[a]	3.8
December	5.7	ND[a]	3.8
Average	**5.0**		

[a] ND – No discharge

Table 4-11 2023 Monthly Rainfall at OEW[a]

Month	Rainfall (inches)
January	0.74
February	0.46
March	2.44
April	7.15
May	3.52
June	5.60
July	11.93
August	9.45
September	9.40
October	4.76
November	4.73
December	4.37
Total Annual	**64.57**

[a] Data compiled by St. Johns River Management District's WSR-88D NexRad Radar. Average using IDs 114624, 114625, and 114150.

Table 4-12 OEW Historical Flow and Rainfall Data

Year	Influent (MGD)	Discharge (MGD)	Rainfall (in/yr)	Rainfall[(a)] (MGD)	Evapotranspiration/ Percolation[(b)] (MGD)
2001	17.86	16.76	54.75	4.85	5.95
2002	16.59	22.51	59.57	5.27	-0.65
2003	17.36	24.87	41.10	3.64	-3.87
2004	17.20	26.80	60.58	5.36	-4.24
2005	18.27	25.25	59.90	5.30	-1.68
2006	12.68	17.63	38.05	3.37	-1.58
2007	12.33	14.62	34.90	3.09	0.80
2008	12.17	15.06	48.68	4.31	1.42
2009	14.14	15.39	43.49	3.62	2.37
2010[(c)]	15.29	18.96	44.49	3.94	0.27
2011	15.17	17.18	57.00	5.05	3.04
2012	14.33	18.11	48.54	4.30	0.52
2013	14.16	19.18	41.99	3.72	-1.30
2014	14.32	18.55	62.97	5.57	1.34
2015	11.80	16.57	49.00	4.34	-0.43
2016	12.95	16.16	52.21	4.62	1.41
2017[(d)]	15.30	23.94	51.24	4.54	-4.10
2018	15.75	26.02	63.56	5.63	-4.64
2019	16.40	21.84	60.24	5.33	-0.11
2020	15.65	21.40	55.48	4.91	-0.84
2021	16.42	19.91	54.70	4.84	1.35
2022	19.69	22.39	59.17	5.24	2.54
2023	16.29	16.18	64.57	5.72	5.83
Average	**15.31**	**19.79**	**52.44**	**4.63**	**0.15**

(a) Rainfall data conversion is based on even distribution over OEW's 1,190-acres.

(b) Evaporation/Percolation estimated based upon influent minus effluent flow plus rainfall.

(c) Locations with closer proximity to OEW began being used for average rainfall information.

(d) Data compiled by St. Johns River Water Management District's WSR-88D NexRad Radar rainfall data (in/year).

Figure 4-1 Orlando Easterly Wetlands – Sampling Stations

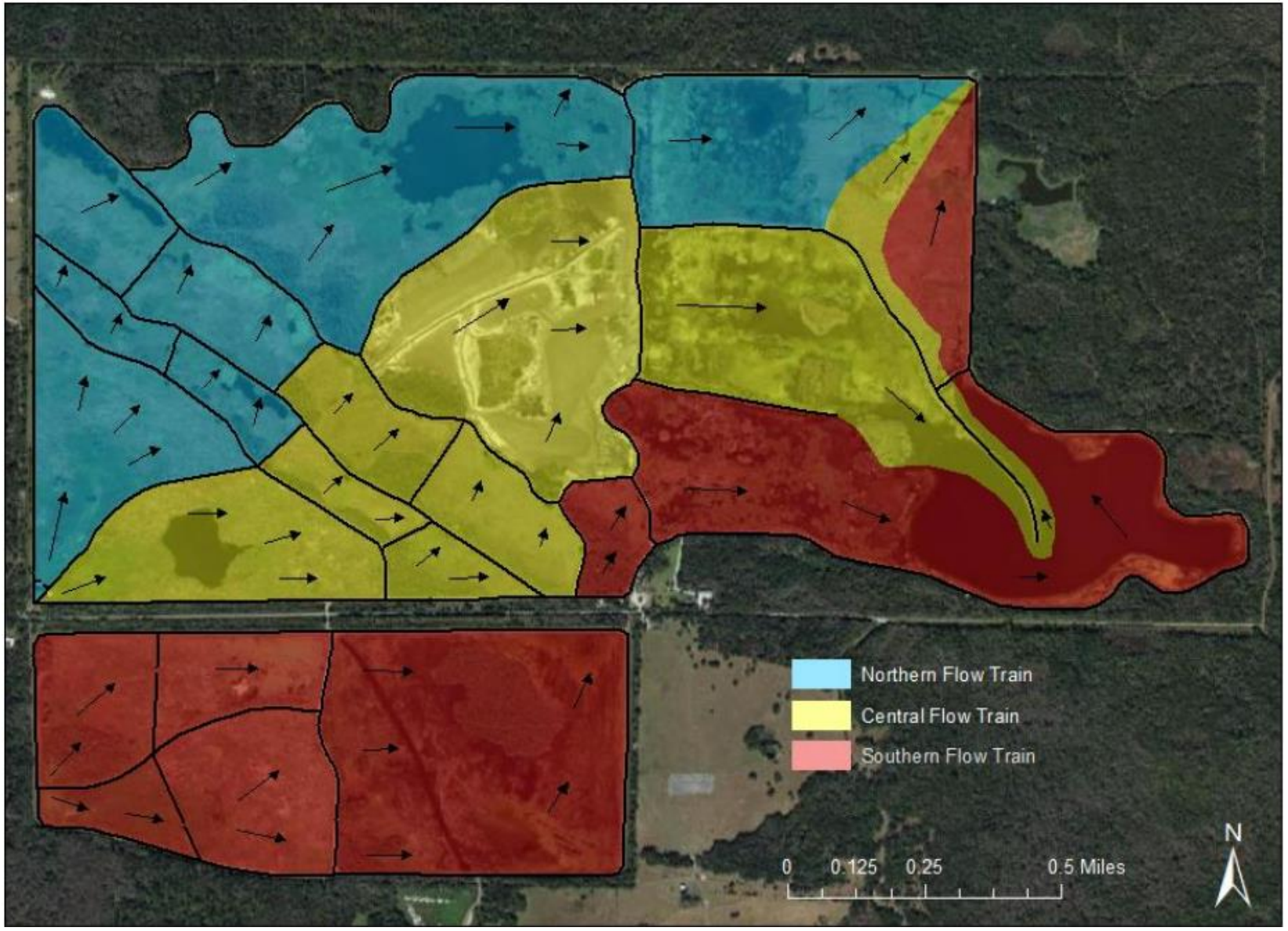

Figure 4-2 Orlando Easterly Wetlands – Flow Train Schematic

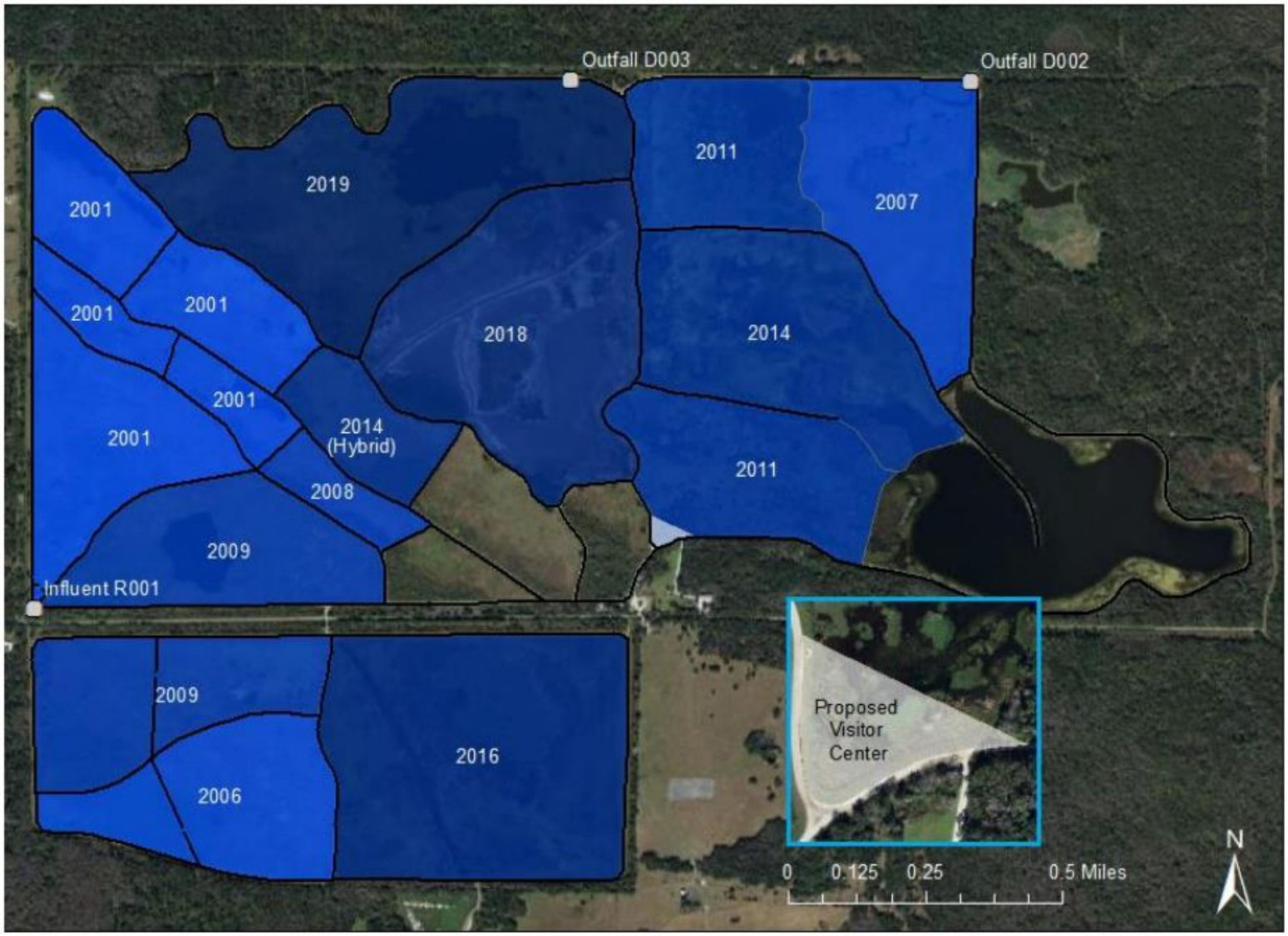

Figure 4-3 Orlando Easterly Wetlands – Demucked Areas and Visitor Center

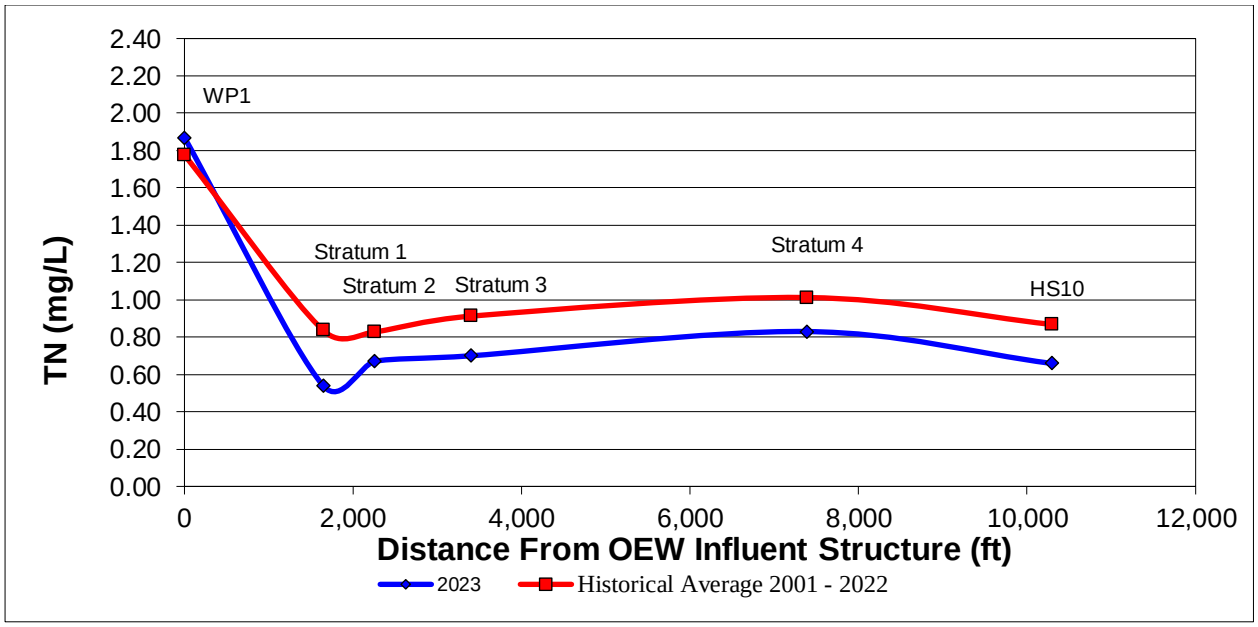

Figure 4-4 Total Nitrogen Profile Through the Northern Flow Train

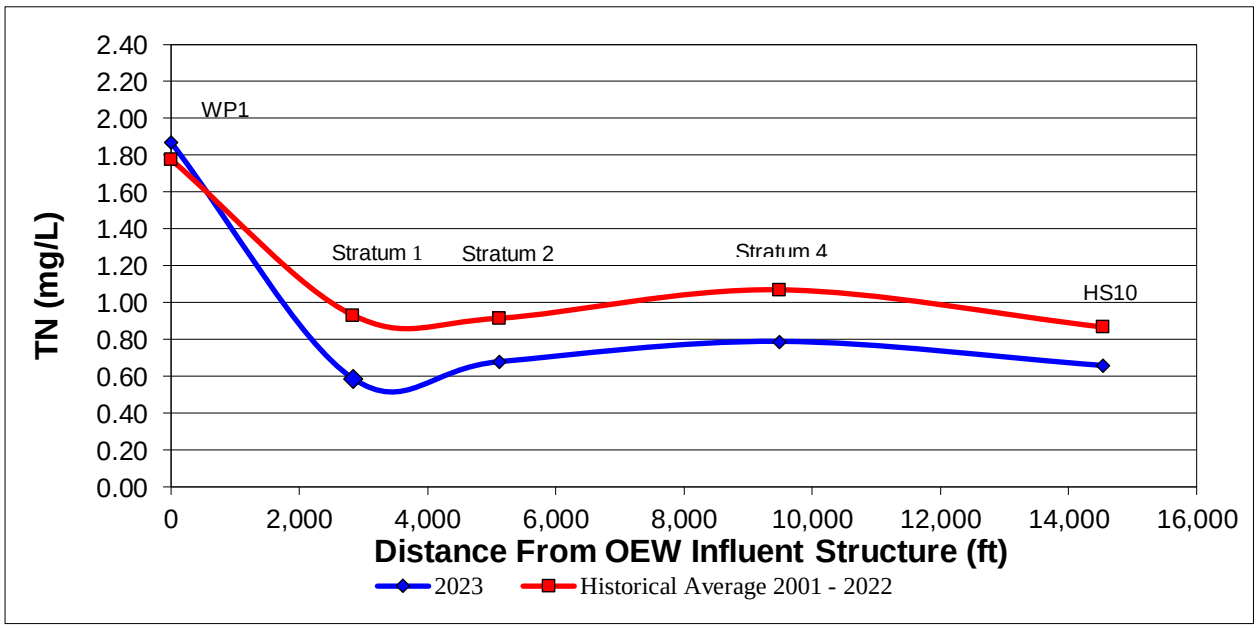

Figure 4-5 Total Nitrogen Profile Through the Southern Flow Train[(a)]

(a) Stratum 3 not historically depicted.

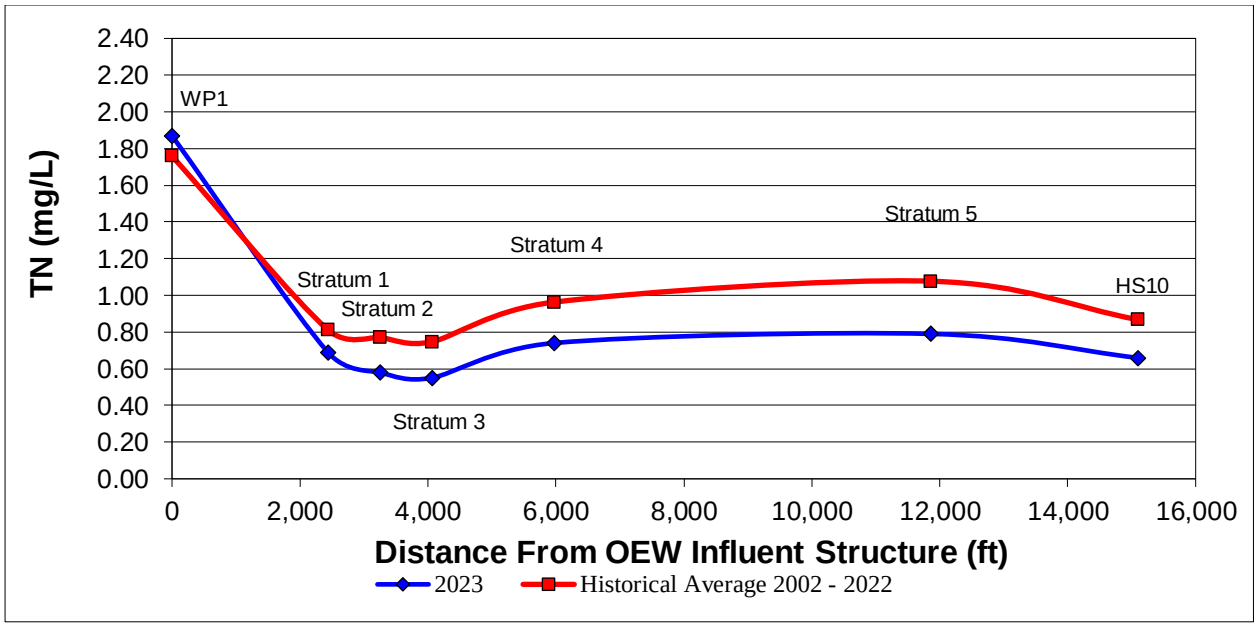

Figure 4-6 Total Nitrogen Profile Through the Central Flow Train

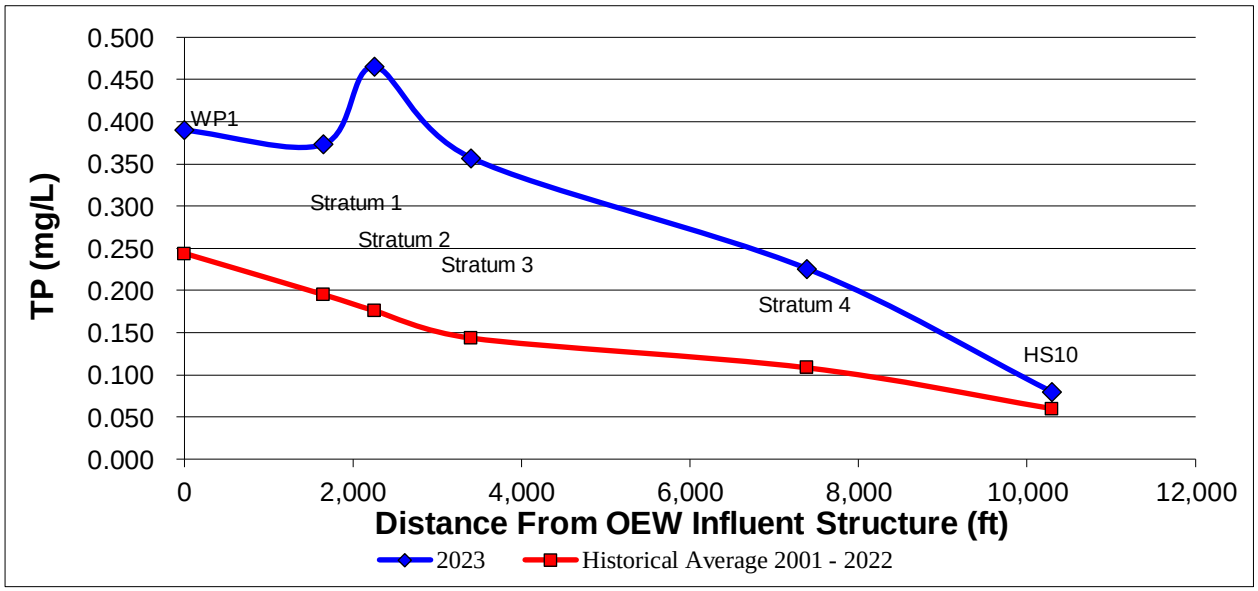

Figure 4-7 Total Phosphorus Profile Through the Northern Flow Train

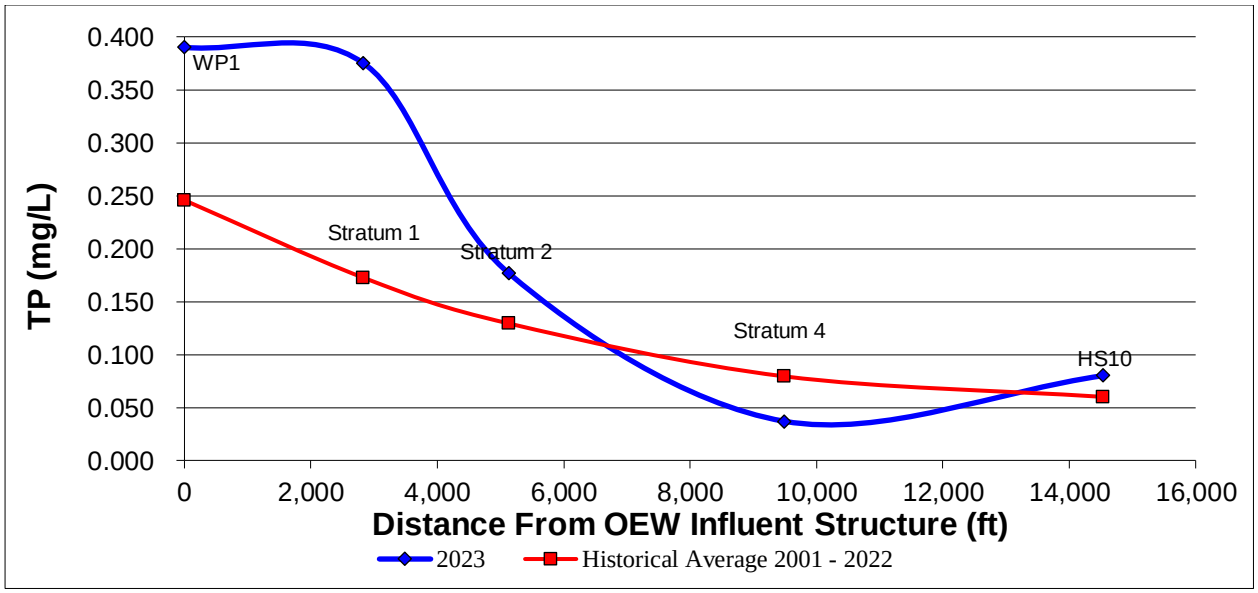

Figure 4-8 Total Phosphorus Profile Through the Southern Flow Train[(a)]

(a) Stratum 3 not historically depicted.

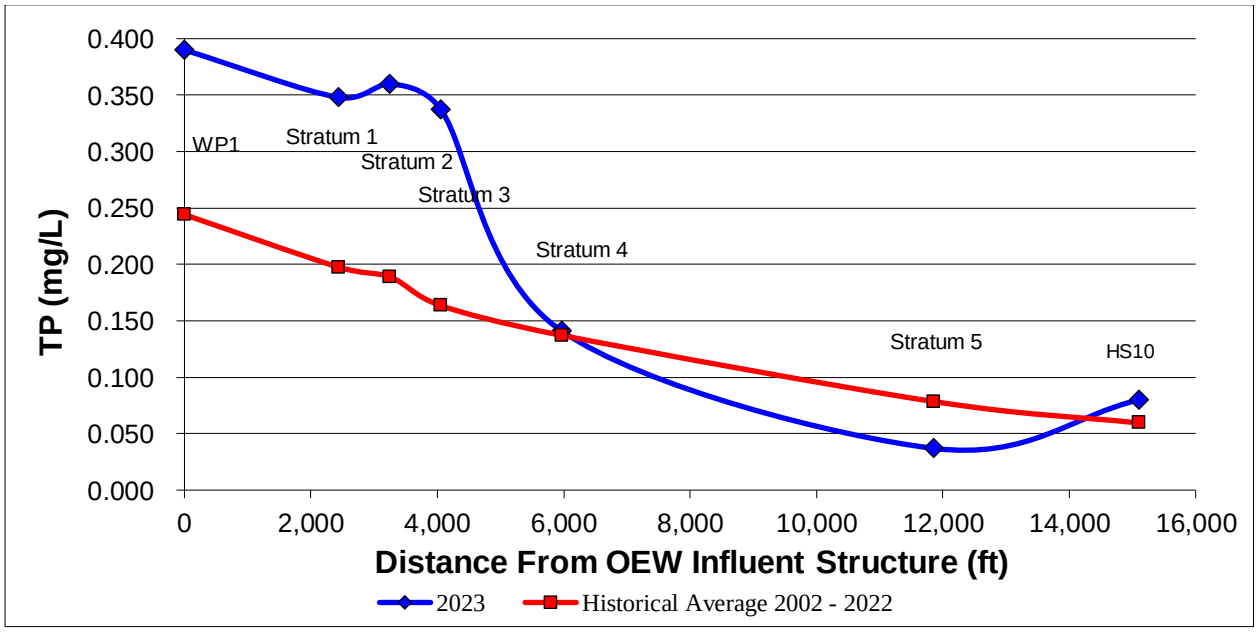

Figure 4-9 Total Phosphorus Profile Through the Central Flow Train

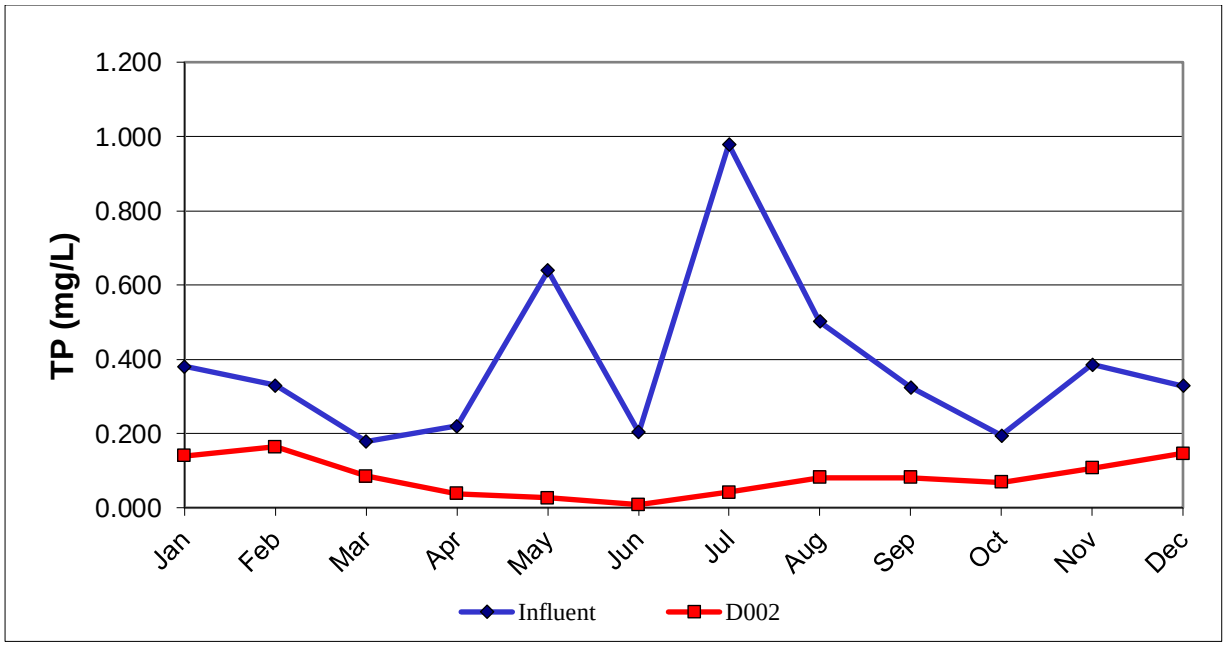

Figure 4-10 2023 Average Monthly Total Phosphorus Concentration Entering and Exiting the Orlando Easterly Wetlands

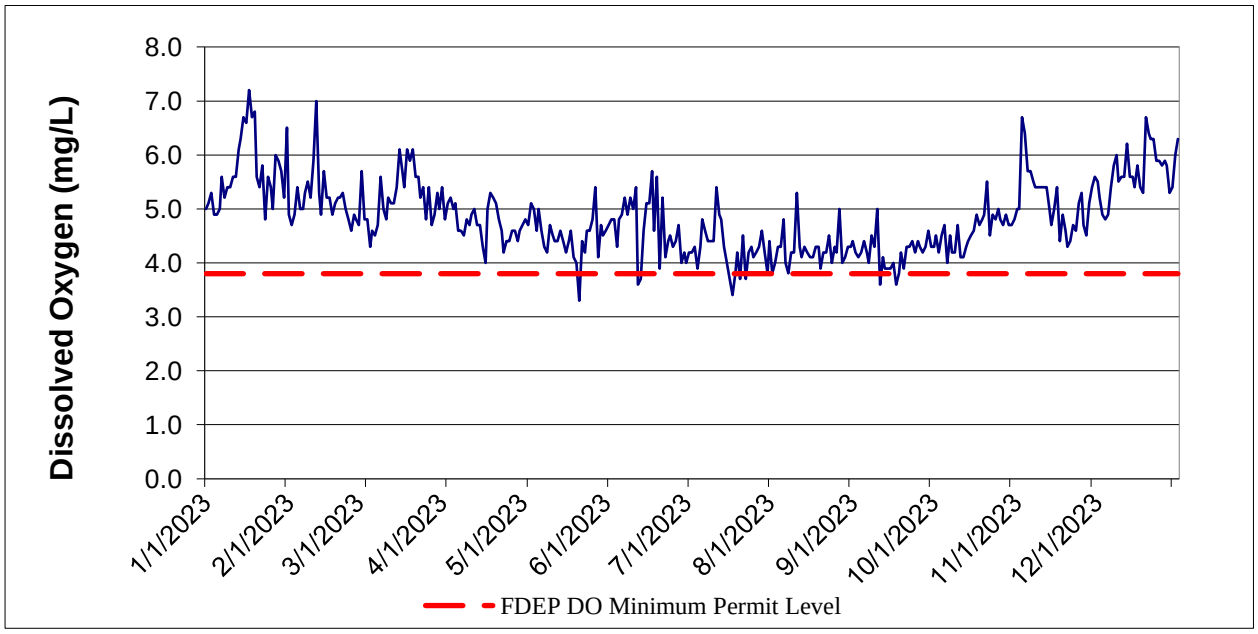

Figure 4-11 Dissolved Oxygen Profile at the OEW Final Discharge D002

5 Public Outreach

5.1 General Overview

One of the three main goals of the OEW is to serve the Public. Since the early 1990s, the OEW has been open to the public for passive recreational use. Visitors to the facility are free to partake in photography, wildlife viewing, hiking, cycling, and horseback riding.

The introduction of public access to the facility brought forth the inception of the Orlando Wetlands Public Outreach Program. The program began with a small group of dedicated volunteers and grew to incorporate City of Orlando staff. Over the years, the program has steadily grown in both size and scope. The program's mission is to provide public awareness of the Orlando Wetlands and support the facility's primary management goals to remove excess nitrogen and phosphorus from reclaimed water, create and maintain healthy wetland ecology and habitat for wildlife, and provide a public recreational space and education programming.

In October of 2023, significant changes were made that impacted public awareness and outreach. The facility underwent a name change and became the Orlando Wetlands by dropping the word "park" from its name. The name change was done to reorient public perception around the facility's primary management goals and to reduce the number of public visitors mistaking the facility for a traditional Parks & Recreation space. Additionally, the Orlando Wetlands began closing to the public on Mondays to enable staff to better carryout management activities safely, without public impediment, and to give the infrastructure and wildlife a reprieve from increased visitor traffic.

5.2 Visitor Traffic to the Orlando Easterly Wetlands

OEW has been tracking the number of visitors to the facility via visitor sign-in logs since 2007. Initially the facility was closed November through February due to the original property owners retaining hunting rights when the City of Orlando first purchased the property. However, in 2015, the hunting rights were purchased by the City of Orlando and the OEW opened year-round to visitors, beginning in 2016. Year-round public access to the OEW resulted in an influx of visitors during the cooler months and migratory bird season. See Table 5-1 for year-by-year data on estimated visitors to the OEW since 2007. In 2023, the Orlando Easterly Wetlands saw an estimated 112,578 visitors (based on actual sign-in log sheets) (Table 5-1). From 2022 to 2023, there was a 105% increase in the total number of annual visitors. Monthly visitor traffic peaked in January, accounting for 19,860 total guests (Figure 5-1). Although the winter months are generally accompanied by increased traffic, the large spike in visitor traffic during the first quarter of 2023 is believed to be associated with the recent opening of the Cypress Boardwalk in December 2022, and the media attention that ensued. Further, the Orlando Wetlands Festival took place in late February and drew large crowds, estimated at 4,000 total visitors in one day.

The OEW attracted many guests beyond the residents of the City of Orlando, during 2023. Within the state of Florida, residents of the City of Orlando account for 27% of visitors to OEW, while residents of other Florida cities accounted for 38% of total traffic to the facility. Other

states in the US accounted for 22% of total guests to the OEW (Figure 5-2). The largest concentration of visitors traveling from other US states were primarily from New York, Ohio, Michigan, and Pennsylvania (Figure 5-3). While international visitors accounted for only 5% of total guests, they represented a total of 64 different nations. 8% of visitors did not specify which location they were visiting from (Figure 5-2)(Figure 5-4).

5.3 Outreach and Volunteer Programs

The outreach program provided educational events, presentations, and tours for a variety of audiences in 2023. The continued growth of the wetlands volunteer program reflects the success of the outreach program and its ability to reach larger audiences. Public awareness and outreach programs continued an upward track in parallel with visitor numbers. Programs included reserved guided tours, public tram tours, and various onsite and offsite outreach events. Through these programs, staff and volunteers reached a total of 17,434 people.

The Friends of the Orlando Wetlands (FOWs) volunteer group continued to grow and expand. The earliest available record of volunteer hours goes back to 2009. See Table 5-2 for a year-by-year summary of the number of hours reported and number of volunteers that reported hours. By end of 2023 the FOWs had 68 members with 18 of them being new applicants within 2023. The FOWs had an unusually high active participation rate, with 69% of them volunteering at least once a week. Of the volunteers that reported hours, a total of 7,374.90 hours were logged by 57 volunteers. Considering an estimated value of $29.41 per hour in Florida (per the 2023 Value of Volunteer Time report from Independent Sector), that is a contribution of $216,3896.10 in services. However, it is estimated that volunteers have contributed over 13,000 hours equating to an estimated $382,330 in services. Volunteer activities include public tram tours on weekends, gardening work on Wednesdays, data entry, help with the Wetlands Festival and other outreach events, contributing photographs, and other various administrative and facility maintenance tasks. Staff continues to provide and improve volunteer management, training materials, organized social events, continued education, and recognition opportunities for volunteers. Public tram tours were offered by the FOWs and operated on Fridays and Saturdays (year-round), and Sundays (September through April only). The FOW tours were given on a first come, first served basis. FOWs have been recording the number of tours and people on these tours since 2011. See Table 5-3 for a year-by-year summary of tour numbers and people on FOWs tour since 2011. In 2023, volunteers led a total of 1,654 of these tours to a total of 10,575 people: a 117% increase from 2022.

The OEW has been delivering reserved tours and outreach programs since opening to the public. The Orlando Wetlands Festival began in 2001 to engage the local community and assuage concerns about the OEW as a water reclamation facility. Since then, it has been held annually until 2018, when is began to be held biennially. Estimated numbers of attendees to the Festival have steadily increased since its inception and it is estimated that 4,000 people attended the Festival in 2023. Earliest available recorded data on all OEW outreach programs began in 2015. A year-by-year summary of staff-led tours and outreach programs (excluding the Orlando Wetlands Festival) can be seen in Table 5-4. In 2023, a total of 2,390 people were reached through 59 tours and/or outreach programs (excluding the Orlando Wetlands Festival). Notable

groups that came for reserved tours include the American Public Works Association, Ocean Conservancy, International Federation of Surveyors, American Society of Horticultural Science, Florida Institute for Community Inclusion, Florida Department of Transportation, Florida Department of Environmental Protection, University of Central Florida, Rollins College, Valencia College International Students, and a tour organized by Orange Audubon delivered in Spanish.

Other outreach programs included various community festivals, school and group presentations, and other special programs; some of which included the City of Orlando's Earth Day Work Day, Valencia College Earth Day, City of Orlando Mayor's City Academy, City Neighborhood Centers, Orlando Science Center, Audubon Society, Native Plant Society, and several local school science fairs and STEM programs. New and continued interpretive projects/multi-media/publications produced in 2023 include the quarterly online newsletter, wayfinding and interpretive signage around high traffic areas and the entrance pavilion, a new "Value of Wetlands" brochure, an communications campaign for the facility name change and Monday closure, various news and media interviews, coordination of volunteers and communications for the Wetlands Festival, collaboration on GIS mapping project for public and internal use, continued work on interpretive materials for new Visitors Center including a tour script for LEED certification, and continued website updates.

Public participation in outreach programs through the Orlando Wetlands grew in 2023 and is anticipated to continue growing. Through these programs, the Orlando Wetlands mission is to inspire and create meaningful connections between people and the public works and water reclamation system, natural water resources and waterways, wetland ecosystems and the environment at large. Through this, the Orlando Wetlands aims to educate and create an informed citizenry that will engage in environmental stewardship and have a better appreciation of water reclamation process.

Table 5-1 Estimated Yearly Number of Visitors to OEW From 2007 Through 2023.

Year	Estimated No. of Visitors
2007	16,524
2008	17,901
2009	19,746
2010	19,383
2011	18,231
2012	21,837
2013	25,293
2014	21,288
2015	27,171
2016	36,399
2017	47,931
2018	48,603
2019	53,292
2020	54,747
2021	52,341
2022	54,822
2023	112,578

Table 5-2 Yearly Number of Volunteers Reporting Hours and Total Number of Volunteer Hours Reported From 2009 Through 2023.

Year	No. of Volunteers that Reported Hours	Reported Volunteer Hours
2009	3	323.25
2010	10	1403.5
2011	16	1159.83
2012	19	1404.5
2013	24	2325.25
2014	27	2965.75
2015	31	3398.75
2016	41	3542.25
2017	40	6312.00
2018	41	5399.25
2019	49	6985.5
2020	52	2609.75[a]
2021	19[a][b]	2983.45[a][b]
2022	28[b]	5746.8[b]
2023	57	7374.91

[a] Low number of reported hours and low number of volunteers reporting their hours likely due to Pandemic related closures and precautions.

[b] Low number of reported hours and low number of volunteers reporting their hours likely due to difficulty in adopting and transitioning volunteers to new online hours reporting system.

Table 5-3 Summary of Total Number of FOW Tours and Visitors on FOW Tours

Year	No. of FOW Tours	No. of Visitors on FOW Tours
2011	39	223
2012	146	547
2013	231	885
2014	341	1356
2015	225	774
2016	475	2435
2017[a]	270	1373
2018	832	4499
2019	1075	6138
2020[b]	371	2012
2021[b]	420	1791
2022	1001	4879
2023	1654	10575

[a] Reported only from July – December 2017.

[b] Decreased traffic related to Covid-19 closures and safety precautions.

Table 5-4 Summary of the Number of OEW Outreach Programs and Participants[a]

Year	No. OEW Outreach Programs	No. of Participants in OEW Outreach Programs
2015	16	326
2016	62	3,216
2017	53	1,815
2018	58	2,445
2019	42	2,095
2020[b]	0	0
2021[b]	7	308
2022	40	1,591
2023	59	2,390

[a] Does not include estimated numbers of Orlando Wetlands Festival attendees.

[b] Decreased number of OEW outreach programs and participants related to Covid-19 closures and safety precautions.

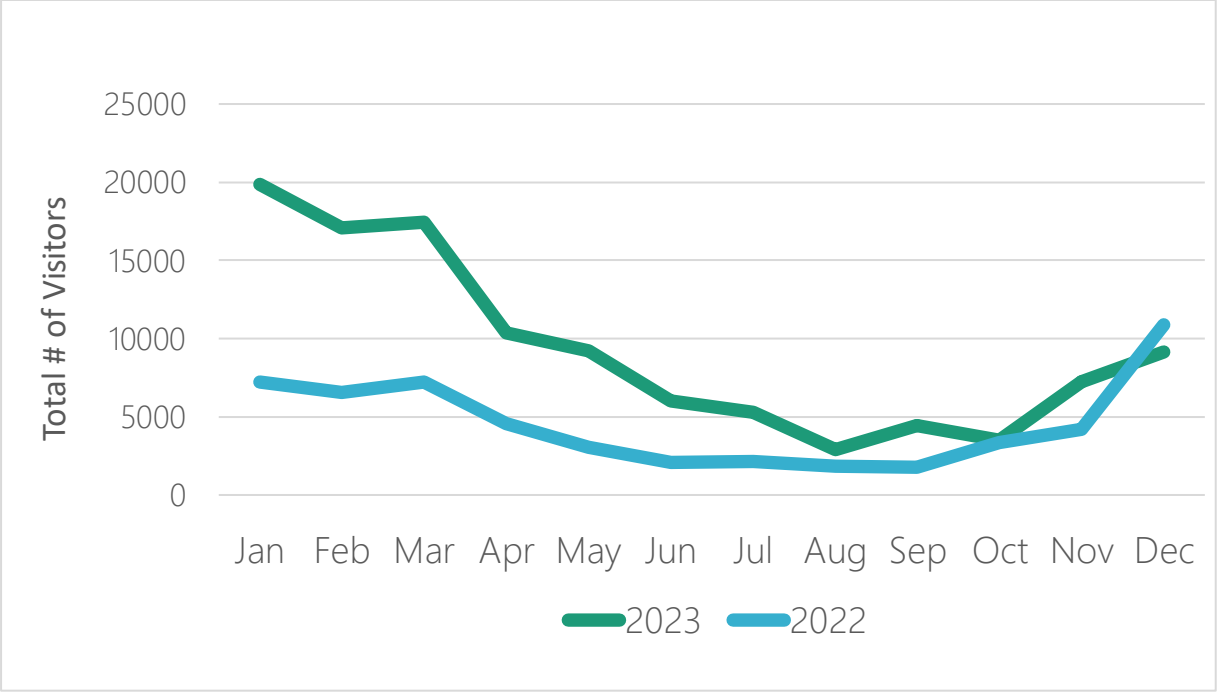

Figure 5-1 Total Monthly Visitors to the Orlando Easterly Wetlands[(a)]

(a) Values based on Extrapolated data

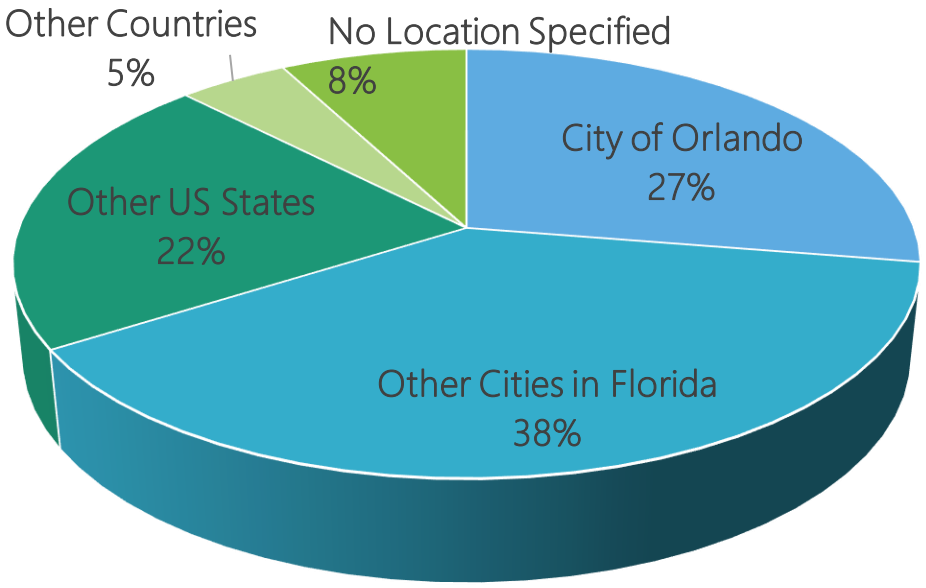

Figure 5-2 Visitors by location in 2023

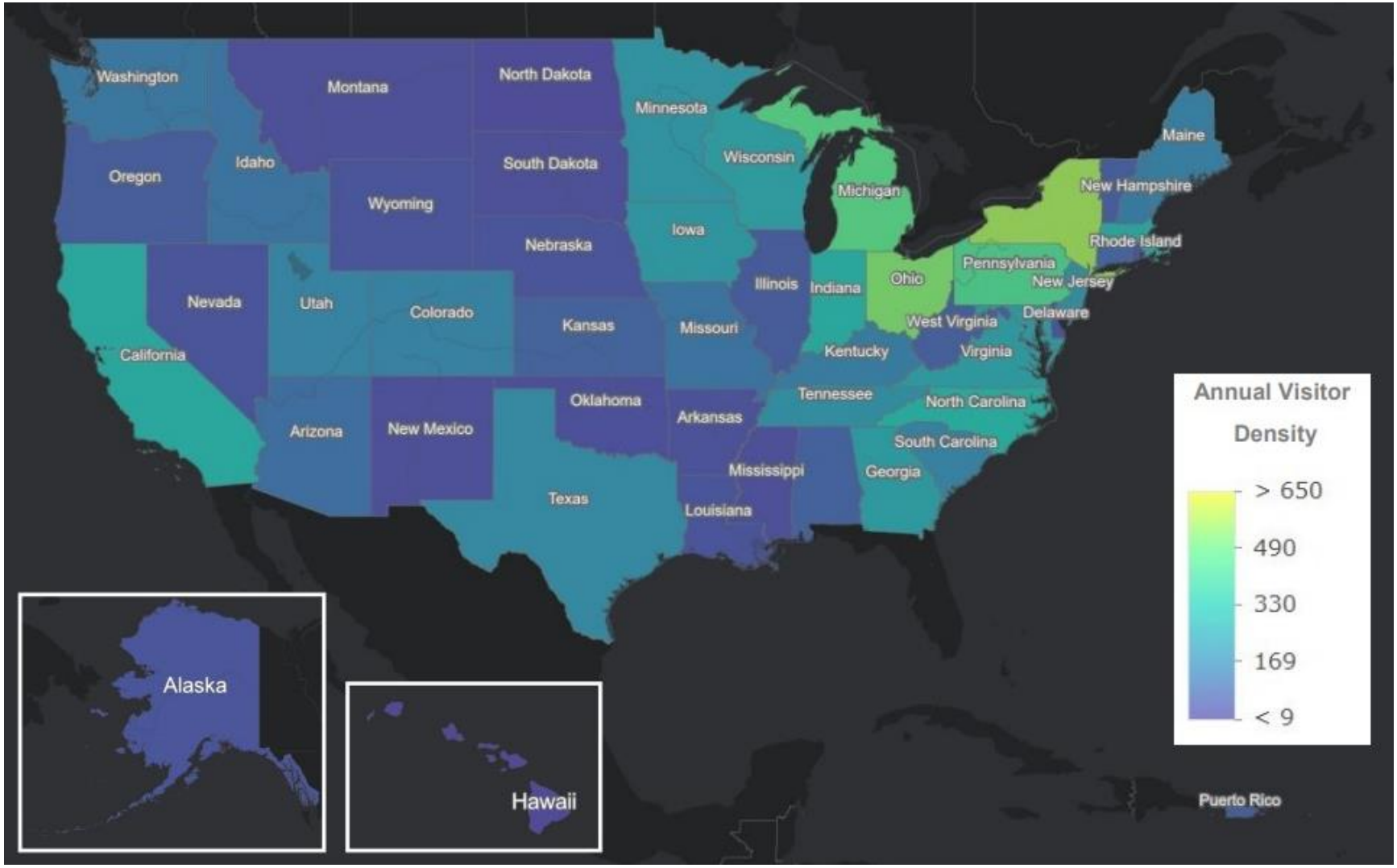

Figure 5-3 2023 Density Map of Visitors to the Orlando Easterly Wetlands from US States Outside of Florida

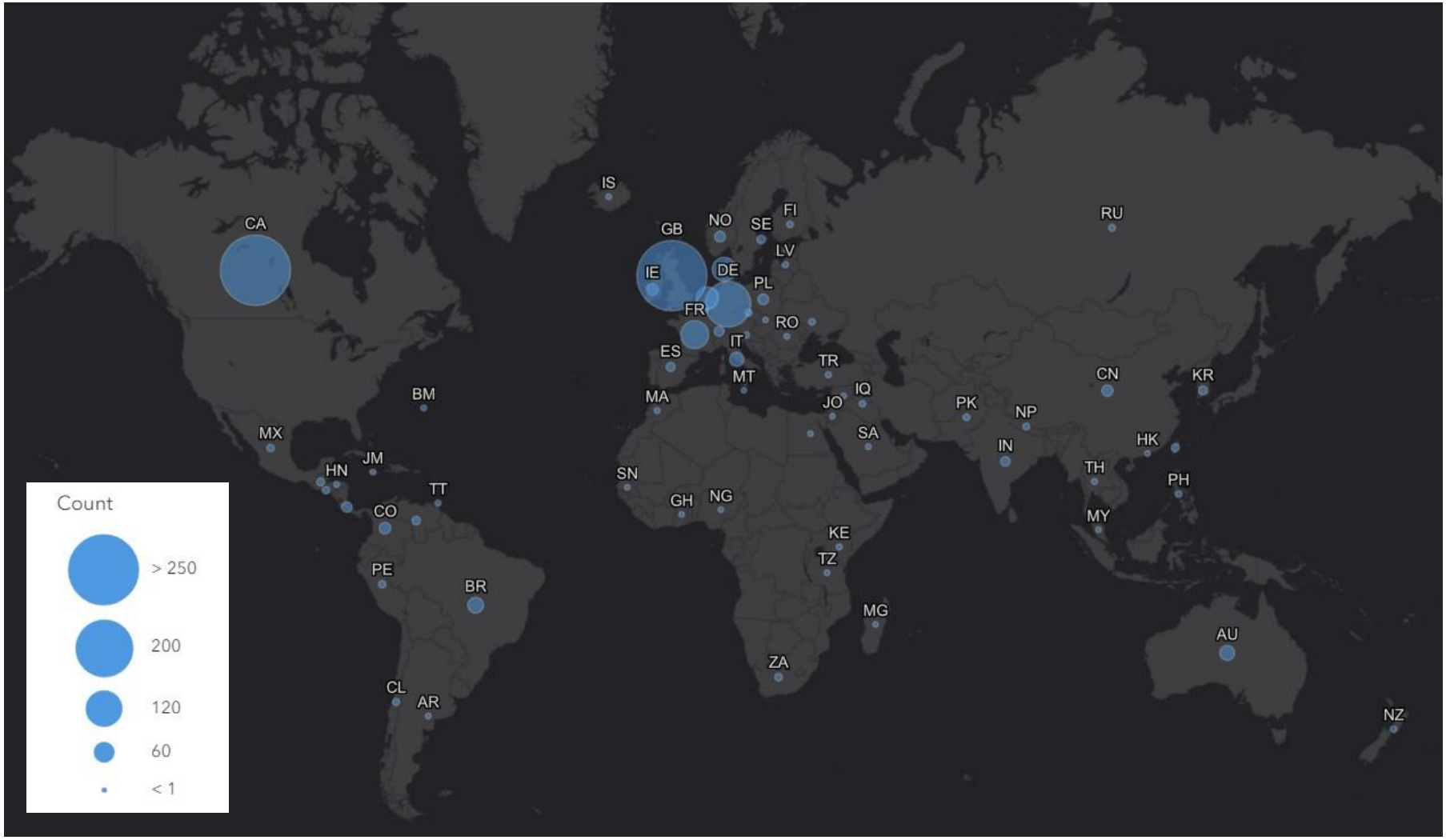

Figure 5-4 2023 Density Map of Visitors to the Orlando Easterly Wetlands Who Traveled from A Country Outside of the US

Conclusion

The 2023 Orlando Easterly Wetlands Annual Report summarizes the water quality, land management, and public outreach goals and efficacy. The OEW managed to reach parameters of concern as outlined in the FDEP Domestic Wastewater Facility Permit (FL0037966) issued on October 22, 2020. The OEW is one of the permitted discharge locations for the Iron Bridge Regional WRF. In 2023, the OEW discharge continued to satisfy all monthly permit conditions as outlined by the FDEP operating permit. Nutrient removal performance for the Iron Bridge Regional WRF combined with the OEW in 2023 was exceptional with utilizing only 16.71% of the maximum allowable loading for TN. Within the OEW, a 65% reduction of TN - the highest recorded in OEW history was observed in 2023. The Iron Bridge Regional WRF combined with the OEW also utilized only 8.61% of the maximum allowable loading for TP despite receiving a TP annual average inflow concentration of 0.390 mg/L - the second highest inflow concentration of TP recorded since 2001. In spite of this, the OEW achieved a 79.7% loading reduction of TP– the third highest recorded in OEW history. Additionally, the OEW continues to be efficient in removing other analytes such as VOCs, metals, herbicide and pesticide residuals to below laboratory method detection limits.

While the data presented within this report serves to comply with FDEP permit requirements, it also serves as a unique and invaluable management tool. This data is used by staff to guide management decisions such as prescribed burns, demucking projects, and aquatic herbicide applications. This quantifiable data informs and helps to determine wetland performance and effectiveness of the system.

The OEW continues to demonstrate its ability to polish nutrient loadings from reclaimed water prior to discharge to the river system. The OEW continues to provide nutrient removal, diverse habitats, a wide array of wildlife species, and facilitate educational recreation opportunities thus providing a multifaceted beneficial reuse project which positively impacts Florida’s environment and the general public.

Appendix A

2023 USGS Little Econlockhatchee River and St. Johns River Gage Height and Discharge Data

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
1/1/2023	28.74	95.7	61.9
1/2/2023	28.70	94.2	60.9
1/3/2023	28.63	91.4	59.1
1/4/2023	28.58	89.6	57.9
1/5/2023	28.53	87.7	56.7
1/6/2023	28.56	88.8	57.4
1/7/2023	28.48	86.0	55.6
1/8/2023	28.41	83.3	53.8
1/9/2023	28.38	82.0	53.0
1/10/2023	28.36	81.5	52.7
1/11/2023	28.25	77.6	50.2
1/12/2023	28.22	76.4	49.4
1/13/2023	28.35	80.5	52.0
1/14/2023	28.66	91.0	58.8
1/15/2023	28.51	85.8	55.5
1/16/2023	28.33	79.5	51.4
1/17/2023	28.24	76.6	49.5
1/18/2023	28.18	74.3	48.0
1/19/2023	28.16	73.5	47.5
1/20/2023	28.14	72.8	47.1
1/21/2023	28.06	69.8	45.1
1/22/2023	28.02	68.5	44.3
1/23/2023	27.99	67.5	43.6
1/24/2023	27.92	65.2	42.1
1/25/2023	27.89	64.1	41.4
1/26/2023	28.02	68.0	43.9
1/27/2023	27.98	66.5	43.0
1/28/2023	27.83	61.6	39.8
1/29/2023	27.79	60.4	39.0
1/30/2023	27.74	58.5	37.8
1/31/2023	27.85	61.8	39.9
2/1/2023	27.73	57.9	37.4
2/2/2023	27.67	56.1	36.3
2/3/2023	27.76	58.7	37.9
2/4/2023	28.18	72.1	46.6
2/5/2023	27.91	63.2	40.8
2/6/2023	27.78	58.9	38.1
2/7/2023	27.69	56.0	36.2
2/8/2023	27.65	54.6	35.3
2/9/2023	27.63	54.0	34.9

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
2/10/2023	27.73	56.8	36.7
2/11/2023	27.81	59.4	38.4
2/12/2023	27.76	57.5	37.2
2/13/2023	27.61	52.8	34.1
2/14/2023	27.46	48.1	31.1
2/15/2023	27.39	45.9	29.7
2/16/2023	27.36	45.0	29.1
2/17/2023	27.43	46.8	30.2
2/18/2023	27.42	46.4	30.0
2/19/2023	27.41	45.9	29.7
2/20/2023	27.41	45.9	29.7
2/21/2023	27.39	45.2	29.2
2/22/2023	27.31	42.6	27.5
2/23/2023	27.30	42.3	27.3
2/24/2023	27.29	42.0	27.1
2/25/2023	27.27	41.2	26.6
2/26/2023	27.25	40.5	26.2
2/27/2023	27.24	40.0	25.9
2/28/2023	27.21	39.1	25.3
3/1/2023	27.16	37.7	24.4
3/2/2023	27.09	35.7	23.1
3/3/2023	27.15	37.5	24.2
3/4/2023	27.13	36.8	23.8
3/5/2023	27.04	34.3	22.2
3/6/2023	28.10	71.4	46.1
3/7/2023	28.23	77.5	50.1
3/8/2023	27.64	58.2	37.6
3/9/2023	27.33	48.7	31.5
3/10/2023	27.20	44.8	29.0
3/11/2023	27.12	42.3	27.3
3/12/2023	27.07	40.9	26.4
3/13/2023	27.11	42.1	27.2
3/14/2023	27.36	49.5	32.0
3/15/2023	27.12	42.4	27.4
3/16/2023	27.01	39.3	25.4
3/17/2023	26.96	37.8	24.4
3/18/2023	26.94	37.3	24.1
3/19/2023	26.89	35.8	23.1
3/20/2023	26.85	34.8	22.5
3/21/2023	26.81	33.4	21.6
3/22/2023	26.78	32.6	21.1
3/23/2023	26.76	32.2	20.8

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
3/24/2023	26.76	32.2	20.8
3/25/2023	26.72	31.1	20.1
3/26/2023	26.70	30.4	19.6
3/27/2023	26.68	29.9	19.3
3/28/2023	26.68	29.9	19.3
3/29/2023	26.92	36.7	23.7
3/30/2023	26.87	35.1	22.7
3/31/2023	26.69	30.2	19.5
4/1/2023	26.63	28.6	18.5
4/2/2023	26.58	27.2	17.6
4/3/2023	26.57	27.0	17.5
4/4/2023	26.57	26.9	17.4
4/5/2023	26.52	25.6	16.5
4/6/2023	26.50	25.0	16.2
4/7/2023	26.47	24.4	15.8
4/8/2023	26.47	24.2	15.6
4/9/2023	26.45	23.8	15.4
4/10/2023	26.48	24.6	15.9
4/11/2023	26.51	25.4	16.4
4/12/2023	26.47	24.3	15.7
4/13/2023	26.50	25.0	16.2
4/14/2023	26.51	25.4	16.4
4/15/2023	26.99	39.2	25.3
4/16/2023	26.95	37.9	24.5
4/17/2023	26.76	32.2	20.8
4/18/2023	27.26	46.8	30.2
4/19/2023	26.85	34.7	22.4
4/20/2023	26.63	28.6	18.5
4/21/2023	26.59	27.4	17.7
4/22/2023	26.69	30.3	19.6
4/23/2023	26.49	24.8	16.0
4/24/2023	26.47	24.2	15.6
4/25/2023	26.99	38.7	25.0
4/26/2023	27.04	40.1	25.9
4/27/2023	26.79	33.0	21.3
4/28/2023	26.91	36.2	23.4
4/29/2023	26.92	36.6	23.7
4/30/2023	27.96	68.7	44.4
5/1/2023	27.92	67.4	43.6
5/2/2023	27.38	50.3	32.5
5/3/2023	27.03	39.8	25.7
5/4/2023	26.83	34.1	22.0

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
5/5/2023	26.68	29.9	19.3
5/6/2023	26.63	28.6	18.5
5/7/2023	26.66	29.5	19.1
5/8/2023	26.58	27.2	17.6
5/9/2023	26.50	25.1	16.2
5/10/2023	26.52	25.6	16.5
5/11/2023	26.49	24.7	16.0
5/12/2023	26.46	24.1	15.6
5/13/2023	26.44	23.4	15.1
5/14/2023	26.42	23.0	14.9
5/15/2023	26.38	21.8	14.1
5/16/2023	26.33	20.7	13.4
5/17/2023	26.32	20.4	13.2
5/18/2023	26.34	21.0	13.6
5/19/2023	27.75	62.5	40.4
5/20/2023	29.83	134.0	86.6
5/21/2023	28.87	99.7	64.4
5/22/2023	27.98	69.1	44.7
5/23/2023	30.81	178.0	115.0
5/24/2023	33.93	395.0	255.3
5/25/2023	33.39	327.0	211.3
5/26/2023	32.73	271.0	175.1
5/27/2023	32.76	274.0	177.1
5/28/2023	31.19	189.0	122.2
5/29/2023	30.03	142.0	91.8
5/30/2023	29.30	115.0	74.3
5/31/2023	28.79	96.7	62.5
6/1/2023	28.53	87.8	56.7
6/2/2023	28.48	85.8	55.5
6/3/2023	28.38	82.6	53.4
6/4/2023	30.57	163.0	105.3
6/5/2023	30.81	172.0	111.2
6/6/2023	29.75	132.0	85.3
6/7/2023	28.98	103.0	66.6
6/8/2023	28.72	94.4	61.0
6/9/2023	28.36	81.9	52.9
6/10/2023	28.63	91.1	58.9
6/11/2023	30.74	170.0	109.9
6/12/2023	30.30	152.0	98.2
6/13/2023	29.30	115.0	74.3
6/14/2023	28.58	89.5	57.8
6/15/2023	28.18	75.7	48.9

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
6/16/2023	28.09	72.9	47.1
6/17/2023	28.31	80.7	52.2
6/18/2023	29.88	136.0	87.9
6/19/2023	29.32	116.0	75.0
6/20/2023	30.37	155.0	100.2
6/21/2023	30.47	159.0	102.8
6/22/2023	30.56	162.0	104.7
6/23/2023	32.07	231.0	149.3
6/24/2023	31.87	221.0	142.8
6/25/2023	31.42	198.0	128.0
6/26/2023	30.63	165.0	106.6
6/27/2023	29.87	136.0	87.9
6/28/2023	29.32	116.0	75.0
6/29/2023	29.73	131.0	84.7
6/30/2023	29.56	124.0	80.1
7/1/2023	28.93	102.0	65.9
7/2/2023	28.53	87.6	56.6
7/3/2023	28.24	78.0	50.4
7/4/2023	28.68	93.0	60.1
7/5/2023	32.48	257.0	166.1
7/6/2023	32.27	242.0	156.4
7/7/2023	31.46	200.0	129.3
7/8/2023	30.38	156.0	100.8
7/9/2023	29.69	129.0	83.4
7/10/2023	29.22	112.0	72.4
7/11/2023	29.22	112.0	72.4
7/12/2023	29.30	115.0	74.3
7/13/2023	28.89	100.0	64.6
7/14/2023	28.62	90.9	58.7
7/15/2023	28.55	88.2	57.0
7/16/2023	29.73	131.0	84.7
7/17/2023	31.03	181.0	117.0
7/18/2023	30.86	174.0	112.5
7/19/2023	30.41	157.0	101.5
7/20/2023	30.49	160.0	103.4
7/21/2023	29.71	130.0	84.0
7/22/2023	29.18	110.0	71.1
7/23/2023	29.06	106.0	68.5
7/24/2023	29.09	107.0	69.2
7/25/2023	29.01	105.0	67.9
7/26/2023	28.74	95.0	61.4
7/27/2023	30.80	177.0	114.4

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
7/28/2023	32.86	279.0	180.3
7/29/2023	32.24	241.0	155.8
7/30/2023	31.30	193.0	124.7
7/31/2023	30.53	161.0	104.1
8/1/2023	32.17	238.0	153.8
8/2/2023	32.60	260.0	168.0
8/3/2023	31.55	203.0	131.2
8/4/2023	30.62	161.0	104.1
8/5/2023	30.74	164.0	106.0
8/6/2023	30.06	137.0	88.5
8/7/2023	29.64	120.0	77.6
8/8/2023	29.18	102.0	65.9
8/9/2023	28.84	88.9	57.5
8/10/2023	28.57	79.5	51.4
8/11/2023	28.50	77.1	49.8
8/12/2023	28.42	74.4	48.1
8/13/2023	28.20	67.3	43.5
8/14/2023	28.19	67.1	43.4
8/15/2023	29.15	99.6	64.4
8/16/2023	28.42	74.5	48.1
8/17/2023	28.28	70.0	45.2
8/18/2023	28.55	79.0	51.1
8/19/2023	29.09	97.6	63.1
8/20/2023	28.74	85.3	55.1
8/21/2023	28.59	80.1	51.8
8/22/2023	28.45	75.6	48.9
8/23/2023	28.15	65.7	42.5
8/24/2023	27.92	58.4	37.7
8/25/2023	27.74	52.7	34.1
8/26/2023	27.58	47.8	30.9
8/27/2023	27.47	44.5	28.8
8/28/2023	27.41	42.7	27.6
8/29/2023	27.39	42.3	27.3
8/30/2023	29.48	114.0	73.7
8/31/2023	31.82	204.0	131.8
9/1/2023	31.44	187.0	120.9
9/2/2023	32.13	220.0	142.2
9/3/2023	32.20	223.0	144.1
9/4/2023	31.19	177.0	114.4
9/5/2023	30.20	138.0	89.2
9/6/2023	29.63	117.0	75.6
9/7/2023	29.34	106.0	68.5

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
9/8/2023	29.32	106.0	68.5
9/9/2023	31.01	169.0	109.2
9/10/2023	30.92	166.0	107.3
9/11/2023	30.29	141.0	91.1
9/12/2023	30.55	151.0	97.6
9/13/2023	30.95	167.0	107.9
9/14/2023	30.86	163.0	105.3
9/15/2023	30.32	143.0	92.4
9/16/2023	30.05	132.0	85.3
9/17/2023	29.58	115.0	74.3
9/18/2023	29.16	99.9	64.6
9/19/2023	28.82	87.9	56.8
9/20/2023	28.56	79.2	51.2
9/21/2023	28.82	88.2	57.0
9/22/2023	28.88	90.1	58.2
9/23/2023	28.64	81.9	52.9
9/24/2023	28.32	71.3	46.1
9/25/2023	28.18	66.7	43.1
9/26/2023	29.02	96.5	62.4
9/27/2023	29.50	116.0	75.0
9/28/2023	30.42	153.0	98.9
9/29/2023	31.83	216.0	139.6
9/30/2023	31.59	206.0	133.1
10/1/2023	32.31	269.0	173.9
10/2/2023	34.89	593.0	383.3
10/3/2023	34.79	569.0	367.7
10/4/2023	34.28	461.0	297.9
10/5/2023	33.57	356.0	230.1
10/6/2023	32.85	287.0	185.5
10/7/2023	32.12	241.0	155.8
10/8/2023	31.45	206.0	133.1
10/9/2023	30.86	179.0	115.7
10/10/2023	30.38	160.0	103.4
10/11/2023	ND	ND	ND
10/12/2023	30.03	147.0	95.0
10/13/2023	30.13	150.0	96.9
10/14/2023	29.89	141.0	91.1
10/15/2023	29.51	127.0	82.1
10/16/2023	29.17	114.0	73.7
10/17/2023	28.88	104.0	67.2
10/18/2023	28.63	95.4	61.7
10/19/2023	28.45	89.2	57.6

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
10/20/2023	28.32	84.5	54.6
10/21/2023	28.20	80.5	52.0
10/22/2023	28.07	76.0	49.1
10/23/2023	27.93	71.5	46.2
10/24/2023	27.81	67.7	43.8
10/25/2023	27.71	64.4	41.6
10/26/2023	27.61	61.3	39.6
10/27/2023	27.55	59.4	38.4
10/28/2023	27.47	56.8	36.7
10/29/2023	27.41	54.8	35.4
10/30/2023	27.36	53.2	34.4
10/31/2023	27.29	51.2	33.1
11/1/2023	27.22	49.1	31.7
11/2/2023	27.11	45.7	29.5
11/3/2023	27.07	44.6	28.8
11/4/2023	27.05	44.0	28.4
11/5/2023	27.00	42.5	27.5
11/6/2023	26.96	41.4	26.8
11/7/2023	26.92	40.2	26.0
11/8/2023	26.89	39.1	25.3
11/9/2023	26.84	37.7	24.4
11/10/2023	26.84	37.9	24.5
11/11/2023	26.86	38.2	24.7
11/12/2023	27.06	44.3	28.6
11/13/2023	27.17	47.6	30.8
11/14/2023	27.16	47.1	30.4
11/15/2023	27.17	47.6	30.8
11/16/2023	28.22	82.9	53.6
11/17/2023	35.01	721.0	466.0
11/18/2023	35.87	934.0	603.6
11/19/2023	35.33	722.0	466.6
11/20/2023	34.72	554.0	358.1
11/21/2023	34.08	428.0	276.6
11/22/2023	33.34	330.0	213.3
11/23/2023	32.57	267.0	172.6
11/24/2023	31.95	231.0	149.3
11/25/2023	31.46	206.0	133.1
11/26/2023	31.05	187.0	120.9
11/27/2023	30.75	175.0	113.1
11/28/2023	30.47	164.0	106.0
11/29/2023	30.15	151.0	97.6
11/30/2023	29.88	141.0	91.1

USGS Gauge Height and Discharge Data

USGS 02233475 LITTLE ECONLOCKHATCHEE R. AT SR 434 NR OVIEDO, FL

Date	Gauge Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
12/1/2023	29.66	133.0	86.0
12/2/2023	29.51	127.0	82.1
12/3/2023	29.37	122.0	78.8
12/4/2023	29.27	118.0	76.3
12/5/2023	29.23	117.0	75.6
12/6/2023	29.02	109.0	70.4
12/7/2023	28.81	102.0	65.9
12/8/2023	28.68	97.1	62.8
12/9/2023	28.60	94.1	60.8
12/10/2023	28.56	92.8	60.0
12/11/2023	28.81	102.0	65.9
12/12/2023	28.63	95.4	61.7
12/13/2023	28.42	88.1	56.9
12/14/2023	28.31	84.2	54.4
12/15/2023	28.21	80.8	52.2
12/16/2023	28.42	88.0	56.9
12/17/2023	34.16	574.0	371.0
12/18/2023	35.05	775.0	500.9
12/19/2023	34.56	617.0	398.8
12/20/2023	33.89	461.0	297.9
12/21/2023	33.12	332.0	214.6
12/22/2023	32.38	260.0	168.0
12/23/2023	31.84	224.0	144.8
12/24/2023	31.42	199.0	128.6
12/25/2023	31.09	183.0	118.3
12/26/2023	30.86	174.0	112.5
12/27/2023	30.64	166.0	107.3
12/28/2023	30.75	170.0	109.9
12/29/2023	31.17	187.0	120.9
12/30/2023	30.82	173.0	111.8
12/31/2023	30.45	158.0	102.1
Average	**28.89**	**114.8**	**74.2**

ND – Not Documented

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
1/1/2023	5.00	2680	1732
1/2/2023	4.93	2630	1700
1/3/2023	4.86	2580	1667
1/4/2023	4.79	2510	1622
1/5/2023	4.71	2430	1571
1/6/2023	4.63	2370	1532
1/7/2023	4.55	2350	1519
1/8/2023	4.47	2290	1480
1/9/2023	4.40	2220	1435
1/10/2023	4.32	2180	1409
1/11/2023	4.23	2130	1377
1/12/2023	4.14	2070	1338
1/13/2023	4.08	1970	1273
1/14/2023	4.01	1940	1254
1/15/2023	3.93	1880	1215
1/16/2023	3.86	1660	1073
1/17/2023	3.78	1580	1021
1/18/2023	3.70	1510	976
1/19/2023	3.62	1450	937
1/20/2023	3.54	1390	898
1/21/2023	3.48	1370	885
1/22/2023	3.40	1390	898
1/23/2023	3.34	1240	801
1/24/2023	3.25	1330	860
1/25/2023	3.18	1270	821
1/26/2023	3.13	1120	724
1/27/2023	3.04	1170	756
1/28/2023	2.95	1190	769
1/29/2023	2.86	1180	763
1/30/2023	2.78	1080	698
1/31/2023	2.69	1070	692
2/1/2023	2.60	1010	653
2/2/2023	2.52	1010	653
2/3/2023	2.46	923	597
2/4/2023	2.38	1000	646
2/5/2023	2.29	908	587
2/6/2023	2.21	865	559
2/7/2023	2.14	824	533
2/8/2023	2.08	771	498
2/9/2023	2.01	783	506
2/10/2023	1.94	716	463
2/11/2023	1.88	753	487

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
2/12/2023	1.88	531	343
2/13/2023	1.86	696	450
2/14/2023	1.81	688	445
2/15/2023	1.75	643	416
2/16/2023	1.66	586	379
2/17/2023	1.61	516	333
2/18/2023	1.59	561	363
2/19/2023	1.53	565	365
2/20/2023	1.49	516	333
2/21/2023	1.46	460	297
2/22/2023	1.41	493	319
2/23/2023	1.34	449	290
2/24/2023	1.29	430	278
2/25/2023	1.25	441	285
2/26/2023	1.21	430	278
2/27/2023	1.18	372	240
2/28/2023	1.16	346	224
3/1/2023	1.12	368	238
3/2/2023	1.07	342	221
3/3/2023	1.01	317	205
3/4/2023	0.98	276	178
3/5/2023	0.95	303	196
3/6/2023	ND	323	209
3/7/2023	1.00	338	218
3/8/2023	1.11	365	236
3/9/2023	1.16	394	255
3/10/2023	1.24	383	248
3/11/2023	1.35	387	250
3/12/2023	1.41	352	227
3/13/2023	1.52	336	217
3/14/2023	1.63	404	261
3/15/2023	1.73	383	248
3/16/2023	1.77	457	295
3/17/2023	1.75	459	297
3/18/2023	1.74	326	211
3/19/2023	1.75	420	271
3/20/2023	1.76	429	277
3/21/2023	1.74	450	291
3/22/2023	1.70	406	262
3/23/2023	1.68	304	196
3/24/2023	1.66	310	200
3/25/2023	1.64	298	193

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
3/26/2023	1.60	358	231
3/27/2023	1.53	374	242
3/28/2023	1.46	353	228
3/29/2023	1.41	372	240
3/30/2023	1.33	380	246
3/31/2023	1.28	383	248
4/1/2023	1.29	188	122
4/2/2023	1.30	305	197
4/3/2023	1.24	305	197
4/4/2023	1.17	257	166
4/5/2023	1.08	285	184
4/6/2023	1.00	233	151
4/7/2023	0.98	239	154
4/8/2023	0.99	232	150
4/9/2023	1.05	236	153
4/10/2023	1.14	236	153
4/11/2023	1.24	158	102
4/12/2023	1.36	116	75
4/13/2023	1.55	-41	-27
4/14/2023	1.71	8	5
4/15/2023	1.77	158	102
4/16/2023	1.74	252	163
4/17/2023	1.76	252	163
4/18/2023	1.75	327	211
4/19/2023	1.68	399	258
4/20/2023	1.60	366	237
4/21/2023	1.55	323	209
4/22/2023	1.52	259	167
4/23/2023	1.49	264	171
4/24/2023	1.50	252	163
4/25/2023	1.54	274	177
4/26/2023	1.57	374	242
4/27/2023	1.66	552	357
4/28/2023	1.78	680	439
4/29/2023	1.84	858	555
4/30/2023	2.04	905	585
5/1/2023	2.14	1170	756
5/2/2023	2.18	1220	788
5/3/2023	2.19	1240	801
5/4/2023	2.16	1310	847
5/5/2023	2.10	1240	801
5/6/2023	2.06	1130	730

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
5/7/2023	1.98	1100	711
5/8/2023	1.90	949	613
5/9/2023	1.84	888	574
5/10/2023	1.77	836	540
5/11/2023	1.70	770	498
5/12/2023	1.61	715	462
5/13/2023	1.54	638	412
5/14/2023	1.49	559	361
5/15/2023	1.45	490	317
5/16/2023	1.41	444	287
5/17/2023	1.39	385	249
5/18/2023	1.39	346	224
5/19/2023	1.40	339	219
5/20/2023	1.40	333	215
5/21/2023	1.44	413	267
5/22/2023	1.49	465	301
5/23/2023	1.61	455	294
5/24/2023	1.76	549	355
5/25/2023	2.00	807	522
5/26/2023	2.19	933	603
5/27/2023	2.36	1180	763
5/28/2023	2.49	1140	737
5/29/2023	2.56	1050	679
5/30/2023	2.58	989	639
5/31/2023	2.55	894	578
6/1/2023	2.49	863	558
6/2/2023	2.45	821	531
6/3/2023	2.42	779	503
6/4/2023	2.42	675	436
6/5/2023	2.42	834	539
6/6/2023	2.45	821	531
6/7/2023	2.47	690	446
6/8/2023	2.49	665	430
6/9/2023	2.49	645	417
6/10/2023	2.44	692	447
6/11/2023	2.42	706	456
6/12/2023	2.39	702	454
6/13/2023	2.37	734	474
6/14/2023	2.31	728	471
6/15/2023	2.27	635	410
6/16/2023	2.23	678	438
6/17/2023	2.26	614	397

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
6/18/2023	2.28	567	366
6/19/2023	2.35	694	449
6/20/2023	2.34	926	598
6/21/2023	2.38	910	588
6/22/2023	2.41	1050	679
6/23/2023	2.57	888	574
6/24/2023	3.04	479	310
6/25/2023	3.36	650	420
6/26/2023	3.43	1030	666
6/27/2023	3.38	1060	685
6/28/2023	3.31	1090	704
6/29/2023	3.24	1090	704
6/30/2023	3.16	1070	692
7/1/2023	3.06	1070	692
7/2/2023	2.96	1020	659
7/3/2023	2.86	1010	653
7/4/2023	2.76	932	602
7/5/2023	2.71	985	637
7/6/2023	2.73	1130	730
7/7/2023	2.72	1080	698
7/8/2023	2.73	1090	704
7/9/2023	2.69	1120	724
7/10/2023	2.64	1080	698
7/11/2023	2.59	1080	698
7/12/2023	2.54	1030	666
7/13/2023	2.53	1090	704
7/14/2023	2.62	1370	885
7/15/2023	2.95	1740	1125
7/16/2023	3.08	1610	1041
7/17/2023	3.24	1740	1125
7/18/2023	3.35	1810	1170
7/19/2023	3.42	1920	1241
7/20/2023	3.48	1920	1241
7/21/2023	3.48	1880	1215
7/22/2023	3.47	1800	1163
7/23/2023	3.44	1770	1144
7/24/2023	3.42	1680	1086
7/25/2023	3.38	1640	1060
7/26/2023	3.32	1660	1073
7/27/2023	3.28	1610	1041
7/28/2023	3.28	1690	1092
7/29/2023	3.29	1710	1105

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
7/30/2023	3.34	1790	1157
7/31/2023	3.39	1820	1176
8/1/2023	3.57	2050	1325
8/2/2023	3.72	2190	1415
8/3/2023	3.85	2240	1448
8/4/2023	3.97	2370	1532
8/5/2023	4.14	2550	1648
8/6/2023	4.22	2400	1551
8/7/2023	4.24	2310	1493
8/8/2023	4.22	2240	1448
8/9/2023	4.19	2180	1409
8/10/2023	4.12	2030	1312
8/11/2023	4.04	1970	1273
8/12/2023	3.96	1920	1241
8/13/2023	3.89	1860	1202
8/14/2023	3.83	1830	1183
8/15/2023	3.88	1960	1267
8/16/2023	3.97	2230	1441
8/17/2023	4.00	2230	1441
8/18/2023	4.09	2480	1603
8/19/2023	4.24	2920	1887
8/20/2023	4.36	3120	2016
8/21/2023	4.49	3250	2100
8/22/2023	4.55	3230	2088
8/23/2023	4.56	3040	1965
8/24/2023	4.53	2900	1874
8/25/2023	4.48	2760	1784
8/26/2023	4.42	2610	1687
8/27/2023	4.34	2480	1603
8/28/2023	4.24	2340	1512
8/29/2023	4.16	2200	1422
8/30/2023	4.24	2290	1480
8/31/2023	4.32	2350	1519
9/1/2023	4.44	2780	1797
9/2/2023	4.53	2970	1920
9/3/2023	4.56	2930	1894
9/4/2023	4.57	2840	1835
9/5/2023	4.54	2660	1719
9/6/2023	4.48	2520	1629
9/7/2023	4.41	2350	1519
9/8/2023	4.36	2260	1461
9/9/2023	4.37	2350	1519

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
9/10/2023	4.36	2390	1545
9/11/2023	4.35	2470	1596
9/12/2023	4.37	2530	1635
9/13/2023	4.39	2520	1629
9/14/2023	4.40	2470	1596
9/15/2023	4.44	2510	1622
9/16/2023	4.50	2580	1667
9/17/2023	4.49	2450	1583
9/18/2023	4.45	2340	1512
9/19/2023	4.39	2290	1480
9/20/2023	4.33	2210	1428
9/21/2023	4.29	2150	1390
9/22/2023	4.23	2080	1344
9/23/2023	4.17	2060	1331
9/24/2023	4.11	1990	1286
9/25/2023	4.06	1970	1273
9/26/2023	4.05	1970	1273
9/27/2023	4.11	1930	1247
9/28/2023	4.35	2300	1486
9/29/2023	4.51	2470	1596
9/30/2023	4.63	2560	1655
10/1/2023	5.00	3140	2029
10/2/2023	5.47	3880	2508
10/3/2023	5.78	4200	2714
10/4/2023	6.03	4410	2850
10/5/2023	6.24	4600	2973
10/6/2023	6.37	4530	2928
10/7/2023	6.42	4420	2857
10/8/2023	6.43	4290	2773
10/9/2023	6.42	4270	2760
10/10/2023	6.38	4190	2708
10/11/2023	6.34	4100	2650
10/12/2023	6.31	3970	2566
10/13/2023	6.31	3830	2475
10/14/2023	6.27	3740	2417
10/15/2023	6.22	3690	2385
10/16/2023	6.16	3620	2340
10/17/2023	6.10	3620	2340
10/18/2023	6.04	3590	2320
10/19/2023	5.98	3520	2275
10/20/2023	5.92	3430	2217
10/21/2023	5.86	3360	2172

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
10/22/2023	5.81	3340	2159
10/23/2023	5.74	3260	2107
10/24/2023	5.66	3230	2088
10/25/2023	5.58	3170	2049
10/26/2023	5.51	3120	2016
10/27/2023	5.44	3060	1978
10/28/2023	5.37	3010	1945
10/29/2023	5.30	2930	1894
10/30/2023	5.24	2880	1861
10/31/2023	5.18	2810	1816
11/1/2023	5.11	2660	1719
11/2/2023	5.01	2770	1790
11/3/2023	4.95	2670	1726
11/4/2023	4.89	2550	1648
11/5/2023	4.80	2530	1635
11/6/2023	4.76	2490	1609
11/7/2023	4.71	2440	1577
11/8/2023	4.65	2390	1545
11/9/2023	4.60	2350	1519
11/10/2023	4.55	2310	1493
11/11/2023	4.49	2280	1474
11/12/2023	4.44	2220	1435
11/13/2023	4.40	2200	1422
11/14/2023	4.37	2250	1454
11/15/2023	4.33	2240	1448
11/16/2023	4.43	2250	1454
11/17/2023	4.99	2600	1680
11/18/2023	5.31	2870	1855
11/19/2023	5.57	3250	2100
11/20/2023	5.84	3670	2372
11/21/2023	6.07	3980	2572
11/22/2023	6.21	3950	2553
11/23/2023	6.28	3890	2514
11/24/2023	6.31	3910	2527
11/25/2023	6.32	3890	2514
11/26/2023	6.31	3870	2501
11/27/2023	6.29	3690	2385
11/28/2023	6.24	3670	2372
11/29/2023	6.18	3620	2340
11/30/2023	6.14	3630	2346
12/1/2023	6.08	3540	2288
12/2/2023	6.02	3470	2243

USGS Gage Height and Discharge Data

USGS 02234000 ST. JOHNS RIVER ABOVE LAKE HARNEY NR GENEVA, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
12/3/2023	5.95	3400	2197
12/4/2023	5.89	3320	2146
12/5/2023	5.82	3250	2100
12/6/2023	5.73	3140	2029
12/7/2023	5.64	3150	2036
12/8/2023	5.56	3110	2010
12/9/2023	5.49	3020	1952
12/10/2023	5.42	2950	1907
12/11/2023	5.36	2830	1829
12/12/2023	5.28	2810	1816
12/13/2023	5.22	2820	1823
12/14/2023	5.15	2790	1803
12/15/2023	5.06	2740	1771
12/16/2023	5.03	2750	1777
12/17/2023	5.32	2920	1887
12/18/2023	5.46	2990	1932
12/19/2023	5.59	3250	2100
12/20/2023	5.77	3690	2385
12/21/2023	5.92	3870	2501
12/22/2023	6.02	3900	2521
12/23/2023	6.07	3880	2508
12/24/2023	6.10	3860	2495
12/25/2023	6.11	3800	2456
12/26/2023	6.11	3740	2417
12/27/2023	6.10	3680	2378
12/28/2023	6.12	3740	2417
12/29/2023	6.10	3640	2353
12/30/2023	6.08	3650	2359
12/31/2023	6.04	3590	2320
Average	**3.48**	**1753**	**1130**

ND – Not Documented

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
1/1/2023	6.18	1640	1060
1/2/2023	6.15	1620	1047
1/3/2023	6.12	1580	1021
1/4/2023	6.07	1530	989
1/5/2023	6.03	1500	969
1/6/2023	5.98	1500	969
1/7/2023	5.93	1480	957
1/8/2023	5.88	1400	905
1/9/2023	5.82	1360	879
1/10/2023	5.77	1330	860
1/11/2023	5.71	1290	834
1/12/2023	5.66	1240	801
1/13/2023	5.60	1190	769
1/14/2023	5.52	1190	769
1/15/2023	5.49	1160	750
1/16/2023	5.42	1080	698
1/17/2023	5.35	1060	685
1/18/2023	5.28	1030	666
1/19/2023	5.21	990	640
1/20/2023	5.14	976	631
1/21/2023	5.06	962	622
1/22/2023	4.98	886	573
1/23/2023	4.88	893	577
1/24/2023	4.80	862	557
1/25/2023	4.71	771	498
1/26/2023	4.61	806	521
1/27/2023	4.51	765	494
1/28/2023	4.40	716	463
1/29/2023	4.30	662	428
1/30/2023	4.19	637	412
1/31/2023	4.09	618	399
2/1/2023	3.99	596	385
2/2/2023	3.88	575	372
2/3/2023	3.77	552	357
2/4/2023	3.69	518	335
2/5/2023	3.58	509	329

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
2/6/2023	3.52	494	319
2/7/2023	3.46	477	308
2/8/2023	3.39	460	297
2/9/2023	3.35	450	291
2/10/2023	3.29	432	279
2/11/2023	3.25	426	275
2/12/2023	3.15	425	275
2/13/2023	3.07	404	261
2/14/2023	2.96	359	232
2/15/2023	2.95	363	235
2/16/2023	2.95	365	236
2/17/2023	2.93	370	239
2/18/2023	2.89	363	235
2/19/2023	2.83	354	229
2/20/2023	2.81	348	225
2/21/2023	2.80	341	220
2/22/2023	2.81	339	219
2/23/2023	2.81	347	224
2/24/2023	2.83	359	232
2/25/2023	2.83	361	233
2/26/2023	2.81	357	231
2/27/2023	2.79	347	224
2/28/2023	2.76	343	222
3/1/2023	2.76	344	222
3/2/2023	2.75	337	218
3/3/2023	2.75	328	212
3/4/2023	2.75	334	216
3/5/2023	2.75	333	215
3/6/2023	2.86	353	228
3/7/2023	2.85	363	235
3/8/2023	2.80	336	217
3/9/2023	2.74	336	217
3/10/2023	2.70	330	213
3/11/2023	2.69	328	212
3/12/2023	2.64	319	206
3/13/2023	2.64	319	206
3/14/2023	2.65	326	211
3/15/2023	2.59	305	197
3/16/2023	2.57	289	187
3/17/2023	2.57	291	188
3/18/2023	2.59	300	194
3/19/2023	2.56	305	197

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
3/20/2023	2.49	277	179
3/21/2023	2.45	267	173
3/22/2023	2.46	268	173
3/23/2023	2.49	281	182
3/24/2023	2.50	279	180
3/25/2023	2.49	296	191
3/26/2023	2.48	288	186
3/27/2023	2.44	277	179
3/28/2023	2.41	274	177
3/29/2023	2.35	256	165
3/30/2023	2.28	239	154
3/31/2023	2.24	216	140
4/1/2023	2.25	258	167
4/2/2023	2.24	245	158
4/3/2023	2.18	223	144
4/4/2023	2.16	211	136
4/5/2023	2.14	203	131
4/6/2023	2.13	197	127
4/7/2023	2.13	204	132
4/8/2023	2.10	202	131
4/9/2023	2.04	183	118
4/10/2023	2.00	159	103
4/11/2023	1.98	166	107
4/12/2023	2.00	173	112
4/13/2023	2.05	203	131
4/14/2023	2.15	231	149
4/15/2023	2.08	208	134
4/16/2023	2.02	191	123
4/17/2023	2.07	211	136
4/18/2023	2.14	221	143
4/19/2023	2.08	195	126
4/20/2023	2.07	200	129
4/21/2023	2.10	208	134
4/22/2023	2.12	236	153
4/23/2023	2.26	258	167
4/24/2023	2.30	261	169
4/25/2023	2.61	341	220
4/26/2023	2.73	360	233
4/27/2023	3.21	497	321
4/28/2023	4.04	741	479
4/29/2023	4.25	699	452
4/30/2023	4.88	945	611

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
5/1/2023	5.03	997	644
5/2/2023	4.90	906	586
5/3/2023	4.71	827	534
5/4/2023	4.52	723	467
5/5/2023	4.31	675	436
5/6/2023	4.13	627	405
5/7/2023	4.01	610	394
5/8/2023	3.88	567	366
5/9/2023	3.75	537	347
5/10/2023	3.62	513	332
5/11/2023	3.49	488	315
5/12/2023	3.36	457	295
5/13/2023	3.22	428	277
5/14/2023	3.08	398	257
5/15/2023	2.92	357	231
5/16/2023	2.76	327	211
5/17/2023	2.62	310	200
5/18/2023	2.51	287	185
5/19/2023	2.45	284	184
5/20/2023	2.49	288	186
5/21/2023	2.53	304	196
5/22/2023	2.53	301	195
5/23/2023	2.52	285	184
5/24/2023	2.61	329	213
5/25/2023	2.93	398	257
5/26/2023	3.11	440	284
5/27/2023	3.17	433	280
5/28/2023	3.17	425	275
5/29/2023	3.16	425	275
5/30/2023	3.15	422	273
5/31/2023	3.11	406	262
6/1/2023	3.09	405	262
6/2/2023	3.08	403	260
6/3/2023	3.06	406	262
6/4/2023	3.09	415	268
6/5/2023	3.09	406	262
6/6/2023	3.07	406	262
6/7/2023	3.05	409	264
6/8/2023	3.08	419	271
6/9/2023	3.11	433	280
6/10/2023	3.09	415	268
6/11/2023	3.01	400	259

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
6/12/2023	2.93	374	242
6/13/2023	2.84	356	230
6/14/2023	2.75	345	223
6/15/2023	2.68	326	211
6/16/2023	2.62	310	200
6/17/2023	2.59	303	196
6/18/2023	2.60	313	202
6/19/2023	2.61	317	205
6/20/2023	2.97	412	266
6/21/2023	3.29	469	303
6/22/2023	3.37	474	306
6/23/2023	3.42	484	313
6/24/2023	3.48	503	325
6/25/2023	3.51	486	314
6/26/2023	3.53	484	313
6/27/2023	3.54	490	317
6/28/2023	3.57	503	325
6/29/2023	3.60	503	325
6/30/2023	3.61	512	331
7/1/2023	3.62	512	331
7/2/2023	3.61	522	337
7/3/2023	3.60	522	337
7/4/2023	3.57	515	333
7/5/2023	3.54	510	330
7/6/2023	3.51	505	326
7/7/2023	3.47	500	323
7/8/2023	3.44	493	319
7/9/2023	3.42	486	314
7/10/2023	3.43	490	317
7/11/2023	3.47	508	328
7/12/2023	3.49	510	330
7/13/2023	3.58	513	332
7/14/2023	3.91	604	390
7/15/2023	4.01	620	401
7/16/2023	4.12	620	401
7/17/2023	4.31	663	428
7/18/2023	4.48	706	456
7/19/2023	4.62	739	478
7/20/2023	4.69	764	494
7/21/2023	4.76	775	501
7/22/2023	4.81	822	531
7/23/2023	4.93	866	560

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
7/24/2023	4.96	904	584
7/25/2023	4.98	904	584
7/26/2023	5.00	920	595
7/27/2023	5.04	969	626
7/28/2023	5.18	1010	653
7/29/2023	5.25	1030	666
7/30/2023	5.29	1040	672
7/31/2023	5.42	1050	679
8/1/2023	5.80	1290	834
8/2/2023	5.93	1420	918
8/3/2023	5.99	1450	937
8/4/2023	6.00	1450	937
8/5/2023	5.99	1430	924
8/6/2023	5.96	1420	918
8/7/2023	5.93	1390	898
8/8/2023	5.88	1360	879
8/9/2023	5.85	1340	866
8/10/2023	5.81	1320	853
8/11/2023	5.78	1290	834
8/12/2023	5.76	1260	814
8/13/2023	5.77	1290	834
8/14/2023	5.76	1300	840
8/15/2023	5.79	1330	860
8/16/2023	5.93	1390	898
8/17/2023	6.06	1480	957
8/18/2023	6.34	1640	1060
8/19/2023	6.71	1990	1286
8/20/2023	6.79	2120	1370
8/21/2023	6.73	2060	1331
8/22/2023	6.63	1910	1234
8/23/2023	6.53	1800	1163
8/24/2023	6.44	1720	1112
8/25/2023	6.34	1610	1041
8/26/2023	6.24	1530	989
8/27/2023	6.15	1460	944
8/28/2023	6.08	1410	911
8/29/2023	6.03	1370	885
8/30/2023	6.09	1330	860
8/31/2023	6.10	1300	840
9/1/2023	6.21	1340	866
9/2/2023	6.26	1440	931
9/3/2023	6.23	1460	944

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
9/4/2023	6.17	1420	918
9/5/2023	6.09	1350	873
9/6/2023	6.00	1280	827
9/7/2023	5.90	1240	801
9/8/2023	5.88	1120	724
9/9/2023	6.08	1050	679
9/10/2023	6.18	1200	776
9/11/2023	6.17	1290	834
9/12/2023	6.12	1360	879
9/13/2023	6.06	1350	873
9/14/2023	6.01	1310	847
9/15/2023	5.94	1270	821
9/16/2023	5.97	1350	873
9/17/2023	6.05	1360	879
9/18/2023	6.12	1400	905
9/19/2023	6.09	1400	905
9/20/2023	6.05	1330	860
9/21/2023	6.02	1350	873
9/22/2023	5.96	1320	853
9/23/2023	5.90	1290	834
9/24/2023	5.83	1260	814
9/25/2023	5.77	1210	782
9/26/2023	5.74	1190	769
9/27/2023	5.71	1160	750
9/28/2023	5.82	1110	717
9/29/2023	5.94	1150	743
9/30/2023	6.01	1210	782
10/1/2023	6.42	1400	905
10/2/2023	6.81	1760	1137
10/3/2023	6.94	2120	1370
10/4/2023	7.06	2380	1538
10/5/2023	7.13	2420	1564
10/6/2023	7.13	2310	1493
10/7/2023	7.13	2280	1474
10/8/2023	7.11	2280	1474
10/9/2023	7.10	2270	1467
10/10/2023	7.07	2200	1422
10/11/2023	7.06	2260	1461
10/12/2023	7.10	2290	1480
10/13/2023	7.13	2420	1564
10/14/2023	7.14	2420	1564
10/15/2023	7.15	2470	1596

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
10/16/2023	7.12	2440	1577
10/17/2023	7.10	2380	1538
10/18/2023	7.07	2340	1512
10/19/2023	7.04	2280	1474
10/20/2023	6.99	2230	1441
10/21/2023	6.96	2200	1422
10/22/2023	6.93	2170	1402
10/23/2023	6.90	2160	1396
10/24/2023	6.87	2170	1402
10/25/2023	6.85	2170	1402
10/26/2023	6.81	2110	1364
10/27/2023	6.78	2080	1344
10/28/2023	6.76	2050	1325
10/29/2023	6.73	2040	1318
10/30/2023	6.70	1960	1267
10/31/2023	6.67	1960	1267
11/1/2023	6.62	1890	1222
11/2/2023	6.61	1930	1247
11/3/2023	6.57	1860	1202
11/4/2023	6.52	1790	1157
11/5/2023	6.49	1780	1150
11/6/2023	6.46	1750	1131
11/7/2023	6.43	1710	1105
11/8/2023	6.39	1680	1086
11/9/2023	6.36	1670	1079
11/10/2023	6.32	1630	1053
11/11/2023	6.29	1620	1047
11/12/2023	6.24	1590	1028
11/13/2023	6.21	1570	1015
11/14/2023	6.24	1650	1066
11/15/2023	6.23	1630	1053
11/16/2023	6.31	1720	1112
11/17/2023	6.56	1910	1234
11/18/2023	6.72	2060	1331
11/19/2023	6.98	2490	1609
11/20/2023	7.09	2600	1680
11/21/2023	7.10	2570	1661
11/22/2023	7.05	2390	1545
11/23/2023	6.99	2270	1467
11/24/2023	6.95	2170	1402
11/25/2023	6.91	2090	1351
11/26/2023	6.88	2010	1299

USGS Gage Height and Discharge Data

USGS 02232500 ST. JOHNS RIVER NR CHRISTMAS, FL

Date	Gage Height (ft)	Stream Flow (ft^3/s)	Discharge (MGD)
11/27/2023	6.85	1960	1267
11/28/2023	6.82	1950	1260
11/29/2023	6.77	1900	1228
11/30/2023	6.75	1860	1202
12/1/2023	6.72	1840	1189
12/2/2023	6.69	1810	1170
12/3/2023	6.67	1810	1170
12/4/2023	6.64	1830	1183
12/5/2023	6.61	1810	1170
12/6/2023	6.56	1750	1131
12/7/2023	6.54	1750	1131
12/8/2023	6.52	1720	1112
12/9/2023	6.50	1710	1105
12/10/2023	6.47	1650	1066
12/11/2023	6.44	1670	1079
12/12/2023	6.42	1680	1086
12/13/2023	6.40	1680	1086
12/14/2023	6.39	1700	1099
12/15/2023	6.36	1660	1073
12/16/2023	6.38	1730	1118
12/17/2023	6.63	1840	1189
12/18/2023	6.83	2180	1409
12/19/2023	7.10	2700	1745
12/20/2023	7.23	2870	1855
12/21/2023	7.25	2850	1842
12/22/2023	7.24	2730	1764
12/23/2023	7.23	2710	1751
12/24/2023	7.21	2620	1693
12/25/2023	7.18	2550	1648
12/26/2023	7.15	2450	1583
12/27/2023	7.13	2430	1571
12/28/2023	7.12	2440	1577
12/29/2023	7.09	2340	1512
12/30/2023	7.07	2300	1486
12/31/2023	7.03	2250	1454
Average	**4.74**	**1066**	**687**

Appendix B

2023 Little Econlockhatchee River and St. Johns River Monthly Water Quality Data

Orlando Easterly Wetlands
Monthly River Water Quality Sampling
January – December 2023

Station	Date	Sample Time	Unionized Ammonia (mg/L)	Total Ammonia (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total N (mg/L)	Total P (mg/L)	CBOD (mg/L)	Chlorophyll a (mg/m3)	pH (s.u.)	Dissolved O2 (mg/L)	Conductivity (uS/cm)	Temp (ºC)	Depth (in)	Secchi Depth (in)
R1 [a]	1/17/2023	0740	< 0.01	0.06	1.47	0.09	1.56	0.108	< 2.0	1.60	7.16	NS [b]	501	13.3	21.5	21.5
R1	2/8/2023	0755	< 0.01	0.11	1.6	0.16	1.76	0.094	< 2.0	5.34	6.89	3.90	782	18.7	20.0	17.0
R1	3/8/2023	0805	< 0.01	0.08	2.04	0.08	2.12	0.091	< 2.0	9.61	8.28	6.08	971	24.9	28.0	12.0
R1	4/5/2023	0755	< 0.01	0.08	2.17	0.07	2.24	0.103	< 2.0	6.41	7.81	5.90	1020	26.9	26.0	24.0
R1	5/8/2023	0750	< 0.01	0.10	1.49	0.04	1.53	0.079	< 2.0	4.81	7.41	5.87	1230	24.0	24.0	23.0
R1	6/7/2023	0745	< 0.01	0.07	1.27	0.03	1.30	0.089	< 2.0	4.81	7.58	6.17	1110	27.2	23.0	20.0
R1	7/12/2023	0755	< 0.01	< 0.01	1.76	< 0.01	1.76	0.094	< 2.0	13.90	7.41	5.50	630	29.8	24.0	22.0
R1	8/9/2023	0755	< 0.01	0.05	0.7	< 0.01	0.70	0.077	< 2.0	4.81	6.58	1.37	683	31.7	32.0	21.0
R1	9/13/2023	0740	< 0.01	0.05	1.55	< 0.01	1.55	0.145	< 2.0	2.14	6.22	3.17	657	29.8	35.0	23.0
R1 [c]	10/4/2023	0740	< 0.01	< 0.02	1.29	< 0.01	1.29	0.058	< 2.0	1.07	6.20	2.45	2.33	25.4	34.0	19.0
R1	11/15/2023	0800	< 0.01	< 0.02	1.61	0.03	1.64	0.059	< 2.0	1.07	6.59	6.40	490	22.4	36.0	23.0
R1	12/13/2023	0750	< 0.01	< 0.02	1.38	< .0.1	1.40	0.040	< 2.0	< 0.80	6.32	7.30	515	17.5	22.3	33.0
Average			**< 0.01**	**0.06**	**1.53**	**0.05**	**1.57**	**0.086**	**< 2.0**	**4.70**	**7.04**	**4.92**	**716**	**24.3**	**27.2**	**21.5**

[a] January 2023: Sample was collected approximately 10 linear ft West from designated sample location.

[b] January 2023: Dissolved oxygen not sampled due to issues with dissolved oxygen meter.

[c] October 2023: Water level up 4ft.

Orlando Easterly Wetlands
Monthly River Water Quality Sampling
January – December 2023

Station	Date	Sample Time	Unionized Ammonia (mg/L)	Total Ammonia (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total N (mg/L)	Total P (mg/L)	CBOD (mg/L)	Chlorophyll a (mg/m3)	pH (s.u.)	Dissolved O2 (mg/L)	Conductivity (uS/cm)	Temp (°C)	Depth (in)	Secchi Depth (in)
R5	1/17/2023	0815	< 0.01	0.03	0.91	0.11	1.02	0.05	< 2.0	1.07	6.98	NS [a]	513	12.6	68.8	30.5
R5	2/8/2023	0835	< 0.01	0.08	0.95	0.19	1.14	0.088	< 2.0	4.81	7.19	3.85	906	18.5	49.0	34.5
R5	3/8/2023	0900	< 0.01	0.06	1.28	0.12	1.40	0.126	< 2.0	12.30	8.04	5.60	977	24.9	34.0	22.0
R5	4/5/2023	0835	< 0.01	0.05	2.02	0.02	2.04	0.128	< 2.0	15.50	7.72	5.58	1380	26.3	35.0	17.0
R5	5/8/2023	0830	< 0.01	0.05	1.36	0.01	1.37	0.075	< 2.0	9.61	7.28	5.89	1580	23.8	45.0	24.0
R5	6/7/2023	0830	< 0.01	0.05	1.20	0.03	1.23	0.072	< 2.0	7.48	7.35	5.76	1510	27.1	50.0	29.0
R5	7/12/2023	0840	< 0.01	0.02	1.33	0.04	1.37	0.082	< 2.0	4.27	7.16	5.14	1160	28.8	46.0	22.0
R5	8/9/2023	0840	< 0.01	0.03	1.45	< 0.01	1.45	0.112	< 2.0	2.14	6.45	1.29	649	31.0	72.0	23.0
R5	9/13/2023	0835	< 0.01	0.03	1.22	< 0.01	1.22	0.075	< 2.0	2.14	6.37	3.10	477	28.7	77.5	27.0
R5 [a]	10/4/2023	0820	< 0.01	< 0.02	1.12	0.02	1.14	0.057	< 2.0	1.60	6.30	2.40	297	25.5	101.0	23.0
R5	11/15/2023	0850	< 0.01	< 0.02	1.34	0.05	1.39	0.043	< 2.0	1.07	6.96	6.80	608	22.1	75.0	25.0
R5	12/13/2023	0840	< 0.01	< 0.02	1.09	0.03	1.12	0.036	< 2.0	< 0.80	6.59	6.65	490	17.4	76.0	33.0
Average			**< 0.01**	**0.04**	**1.27**	**0.05**	**1.32**	**0.079**	**< 2.0**	**5.23**	**7.03**	**4.73**	**879**	**23.9**	**60.8**	**25.8**

[a] January 2023: Dissolved oxygen not sampled due to issues with dissolved oxygen meter.

Orlando Easterly Wetlands
Monthly River Water Quality Sampling
January – December 2023

Station	Date	Sample Time	Unionized Ammonia (mg/L)	Total Ammonia (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total N (mg/L)	Total P (mg/L)	CBOD (mg/L)	Chlorophyll a (mg/m3)	pH (s.u.)	Dissolved O2 (mg/L)	Conductivity (uS/cm)	Temp (°C)	Depth (in)	Secchi Depth (in)
Econ Up	1/17/2023	0925	< 0.01	0.03	0.42	0.25	0.67	0.068	< 2.0	< 0.80	7.18	6.35	202	20.3	18.0	18.0
Econ Up	2/8/2023	1000	< 0.01	0.04	0.49	0.19	0.68	0.057	< 2.0	< 0.80	7.18	5.58	200	21.8	17.5	17.5
Econ Up	3/8/2023	1005	< 0.01	0.05	0.49	0.18	0.67	0.076	< 2.0	< 0.80	7.3	5.25	211	23.2	22.8	22.8
Econ Up	4/5/2023	0950	< 0.01	0.09	0.59	0.21	0.80	0.087	< 2.0	3.20	6.97	5.23	184	21.3	17.0	17.0
Econ Up	5/8/2023	0925	< 0.01	0.04	0.79	0.08	0.87	0.087	< 2.0	< 0.80	7.13	5.54	221	27.8	21.5	21.5
Econ Up	6/7/2023	0945	< 0.01	0.04	0.42	0.14	0.56	0.058	< 2.0	< 0.80	6.98	ND	235	27.7	13.0	13.0
Econ Up	7/12/2023	1000	< 0.01	0.04	0.62	0.12	0.74	0.071	< 2.0	1.07	6.9	ND	167	27.1	44.0	44.0
Econ Up	8/9/2023	1000	< 0.01	0.06	0.65	0.19	0.84	0.095	< 2.0	2.14	7.01	4.62	189	28	34.0	34.0
Econ Up	9/13/2023	0955	< 0.01	0.05	0.70	0.15	0.85	0.075	< 2.0	< 0.80	6.36	4.26	156	27.3	46.5	46.5
Econ Up [(a)]	10/4/2023	0930	< 0.01	0.08	0.64	0.20	0.84	0.089	< 2.0	< 0.80	6.96	4.91	181	25.9	19.0	19.0
Econ Up	11/15/2023	1020	< 0.01	0.04	0.71	0.14	0.85	0.069	< 2.0	2.67	6.91	7.96	136	18.8	37.0	37.0
Econ Up	12/13/2023	1010	< 0.01	0.04	0.56	0.24	0.80	0.038	< 2.0	< 0.80	6.97	6.08	167	20.3	22.0	22.0
Average			**< 0.01**	**0.05**	**0.59**	**0.17**	**0.76**	**0.073**	**< 2.0**	**1.29**	**6.99**	**5.58**	**187**	**24.1**	**26.0**	**26.0**

[(a)] October 2023: Little Econlockhatchee has high water levels. Sample was collected approximately 15 linear ft north from designated sample location.

Orlando Easterly Wetlands
Monthly River Water Quality Sampling
January – December 2023

Station	Date	Sample Time	Unionized Ammonia (mg/L)	Total Ammonia (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total N (mg/L)	Total P (mg/L)	CBOD (mg/L)	Chlorophyll a (mg/m3)	pH (s.u.)	Dissolved O2 (mg/L)	Conductivity (uS/cm)	Temp (ºC)	Depth (in)	Secchi Depth (in)
Econ Down	1/17/2023	0935	< 0.01	0.04	0.87	0.25	1.12	0.194	< 2.0	< 0.80	6.94	NS [a]	180	15.0	20.5	20.5
Econ Down	2/8/2023	1015	< 0.01	0.05	0.50	0.29	0.79	0.078	< 2.0	< 0.80	6.96	3.88	219	19.4	27.0	27.0
Econ Down	3/8/2023	1015	< 0.01	0.05	0.66	0.24	0.90	0.101	< 2.0	1.07	7.44	5.51	238	25.3	36.0	36.0
Econ Down	4/5/2023	1005	< 0.01	0.03	0.52	0.19	0.71	0.084	< 2.0	1.07	6.92	4.79	286	25.4	39.0	39.0
Econ Down	5/8/2023	0945	< 0.01	0.06	0.62	0.34	0.96	0.100	< 2.0	1.60	6.89	6.66	334	24.5	40.0	40.0
Econ Down	6/7/2023	1000	< 0.01	0.06	0.70	0.18	0.88	0.090	< 2.0	2.14	6.80	5.64	177	26.0	44.0	44.0
Econ Down	7/12/2023	1015	< 0.01	0.24	0.88	0.18	1.06	0.117	< 2.0	1.07	6.78	4.95	183	28.8	31.0	31.0
Econ Down	8/9/2023	1010	< 0.01	0.02	0.53	0.16	0.69	0.106	< 2.0	< 0.80	6.70	5.01	168	30.8	46.0	46.0
Econ Down	9/13/2023	1010	< 0.01	0.02	0.67	0.08	0.75	0.088	< 2.0	1.60	6.52	5.71	169	28.2	50.0	50.0
Econ Down [b]	10/4/2023	0945	< 0.01	0.03	0.92	0.07	0.99	0.070	< 2.0	4.27	6.50	5.30	125	25.5	42.0	33.0
Econ Down	11/15/2023	1040	< 0.01	0.02	0.57	0.26	0.83	0.069	< 2.0	< 0.80	7.00	6.77	255	22.7	37.0	37.0
Econ Down	12/13/2023	1025	< 0.01	< 0.02	0.6	0.21	0.81	0.068	< 2.0	1.60	7.11	8.35	185	18.6	27.0	27.0
Average			**< 0.01**	**0.06**	**0.67**	**0.19**	**0.86**	**0.089**	**< 2.0**	**1.60**	**6.87**	**5.87**	**212**	**25.6**	**39.2**	**38.3**

[a] January 2023: Dissolved oxygen not sampled due to issues with dissolved oxygen meter.

[b] October 2023: Little Econlockhatchee has high water levels. Sample was collected approximately 15 linear ft north from designated sample location.

Orlando Easterly Wetlands
Monthly River Water Quality Sampling
January – December 2023

Station	Date	Sample Time	Unionized Ammonia (mg/L)	Total Ammonia (mg/L)	TKN (mg/L)	Nitrate/Nitrite (mg/L)	Total N (mg/L)	Total P (mg/L)	CBOD (mg/L)	Chlorophyll a (mg/m3)	pH (s.u.)	Dissolved O2 (mg/L)	Conductivity (uS/cm)	Temp (°C)	Depth (in)	Secchi Depth (in)
Econ A	1/17/2023	0850	< 0.01	0.04	0.55	0.24	0.79	0.131	< 2.0	1.07	6.67	NS [a]	147	14.4	18.5	18.5
Econ A	2/8/2023	0935	< 0.01	0.05	0.34	0.27	0.61	0.133	< 2.0	< 0.80	6.57	4.11	213	19.1	13.0	13.0
Econ A	3/8/2023	0940	< 0.01	0.04	0.56	0.22	0.78	0.093	< 2.0	1.60	7.60	5.29	231	24.9	26.0	26.0
Econ A	4/5/2023	0920	< 0.01	0.05	0.67	0.17	0.84	0.094	< 2.0	< 0.80	7.02	3.96	278	25.1	22.0	22.0
Econ A	5/8/2023	0905	< 0.01	0.06	0.62	0.21	0.83	0.089	< 2.0	2.14	7.07	5.60	283	23.7	20.0	20.0
Econ A	6/7/2023	0920	< 0.01	0.07	0.65	0.15	0.80	0.087	< 2.0	1.60	6.90	5.37	165	26.2	33.0	33.0
Econ A	7/12/2023	0930	< 0.01	0.16	0.77	0.24	1.01	0.123	< 2.0	< 0.80	7.05	5.09	183	28.7	40.0	40.0
Econ A	8/9/2023	0940	< 0.01	0.03	0.46	0.16	0.62	0.092	< 2.0	< 0.80	6.80	4.69	163	30.8	26.0	26.0
Econ A	9/13/2023	0920	< 0.01	0.03	0.66	0.08	0.74	0.089	< 2.0	1.07	6.50	5.02	168	27.8	82.0	33.0
Econ A [b]	10/4/2023	0915	< 0.01	< 0.02	0.82	0.08	0.9	0.070	< 2.0	2.14	6.48	6.99	125	25.6	40.0	40.0
Econ A	11/15/2023	0950	< 0.01	< 0.02	0.59	0.23	0.82	0.073	< 2.0	< 0.80	7.05	6.75	239	22.8	26.0	26.0
Econ A	12/13/2023	0935	< 0.01	< 0.02	0.7	0.22	0.92	0.094	< 2.0	< 0.80	6.87	8.00	202	18.7	18.0	18.0
Average			**< 0.01**	**0.05**	**0.65**	**0.18**	**0.83**	**0.090**	**< 2.0**	**1.26**	**6.93**	**5.68**	**204**	**25.4**	**33.3**	**28.4**

[a] January 2023: Dissolved oxygen not sampled due to issues with dissolved oxygen meter.

[b] October 2023: Little Econlockhatchee has high water levels. Sample was collected approximately 100 linear ft south from designated sample location.

Appendix C

2023 OEW Monthly Water Quality and Performance Data

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WLWP1

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TDS	TEMP-B	TKN-B	TN	TP-B	TSS-B
1/9/2023	122	< 2.0	1.07	72.6	548	3.97	0.04	< 0.01	0.94	0.415	7.13	29.1	7.38	302	25	0.59	1.53	0.373	< 1.0
2/6/2023	124	< 2.0	< 0.80	69.2	538	4.52	0.03	< 0.01	1	0.161	7.04	23.5	6.80	306	24.7	0.72	1.72	0.200	< 1.0
3/6/2023	131	3.5	1.07	76.0	1040	5.92	0.03	< 0.01	0.36	0.192	7.62	28.1	6.63	266	26.3	0.77	1.13	0.215	< 1.0
4/3/2023[a]	134	< 2.0	6.94	82.8	560	NS[b]	0.03	< 0.01	0.25	0.144	7.34	27.7	7.00	326	27.4	0.85	1.1	0.193	2.2
5/1/2023[a]	134	< 2.0	< 0.80	77.9	572	NS[b]	0.04	< 0.01	0.82	0.161	6.88	27.8	6.56	324	27.9	1.12	1.94	0.180	< 1.0
6/5/2023	121	< 2.0	< 0.80	81.5	527	7.44	0.04	< 0.01	0.9	0.230	6.88	29.2	5.99	310	29.2	0.78	1.68	0.245	< 1.0
7/10/2023	130	< 2.0	< 0.80	77.7	519	7.13	1.55	0.01	1.53	0.649	6.86	28.0	7.40	296	30.7	2.82	4.35	0.635	< 1.0
8/7/2023	120	< 2.0	< 0.80	77.6	505	7.55	0.02	< 0.01	1.72	0.613	6.62	27.9	6.55	304	31	0.86	2.58	0.615	< 1.0
9/11/2023	120	< 2.0	< 0.80	76.8	545	6.63	< 0.01	< 0.01	0.76	0.195	6.95	26.8	6.49	270	30.8	0.70	1.46	0.229	< 1.0
10/2/2023	122	< 2.0	< 0.80	73.8	537	6.50	1.26	< 0.01	1.38	0.096	6.72	27.9	7.20	274	30	2.22	3.6	0.137	< 1.0
11/13/2023	117	< 2.0	2.67	91.9	599	7.35	0.03	< 0.01	1.42	0.290	6.61	23.8	7.07	320	28.3	1.00	2.42	0.323	< 1.0
12/11/2023	114	< 2.0	< 0.80	84.1	556	7.78	< 0.02	< 0.01	1.34	0.200	6.42	25.0	6.87	330	26.6	0.92	2.26	0.225	< 1.0
Average	124	2.1	1.51	78.5	587	6.48	0.26	< 0.01	1.04	0.279	6.92	27.1	6.83	302	28.2	1.11	2.15	0.298	1.1

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL1X[a]

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/9/2023	< 2.0	< 0.80	484	0.83	0.03	< 0.01	0.269	7.26	19.2	0.29	0.29	0.267	< 1.0	27.4
2/6/2023[b]	4.8	< 0.80	459	NS[c]	0.04	< 0.01	0.161	6.70	17.8	0.57	0.57	0.180	< 1.0	27.3
3/6/2023	< 2.0	1.07	961	1.09	0.02	< 0.01	0.636	7.02	22.0	0.51	0.51	0.550	< 1.0	27.3
4/3/2023	< 2.0	< 0.80	573	0.66	< 0.01	< 0.01	0.143	7.06	21.9	0.44	0.44	0.182	< 1.0	27.2
5/1/2023	< 2.0	1.07	531	0.48	0.03	< 0.01	0.506	6.93	21.6	0.81	0.81	0.422	< 1.0	27.4
6/5/2023	< 2.0	< 0.80	559	1.05	0.04	< 0.01	0.312	6.83	25.0	0.62	0.62	0.382	1.3	27.3
7/10/2023	< 2.0	< 0.80	509	3.12	0.09	< 0.01	0.594	6.80	27.9	0.68	0.68	0.609	< 1.0	27.4
Average	2.4	0.88	582	1.21	0.04	< 0.01	0.374	6.94	22.2	0.56	0.56	0.370	< 1.0	27.3

[a]Sampling paused after 7/10/2023 due to demucking of Cell 1

[b]DO was not sampled due to DO probe issues

[c]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL1Y[(a)]

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/9/2023	< 2.0	< 0.80	540	1.48	0.04	0.01	0.199	7.02	25.1	0.33	0.34	0.2	< 1.0	27.4
2/6/2023	< 2.0	< 0.80	448	0.81	0.03	< 0.01	0.195	6.85	16.3	0.52	0.52	0.22	< 1.0	27.3
3/6/2023	< 2.0	3.20	963	1.12	0.02	< 0.01	0.582	7.17	22.2	0.52	0.52	0.784	< 1.0	27.3
4/3/2023	< 2.0	< 0.80	583	0.4	< 0.01	< 0.01	0.224	7.14	22.0	0.35	0.35	0.209	< 1.0	27.3
5/1/2023	< 2.0	1.07	522	0.35	0.04	< 0.01	0.595	7.01	21.1	0.74	0.74	0.494	< 1.0	27.4
6/5/2023	< 2.0	1.60	546	1.79	0.07	< 0.01	0.370	6.92	25.0	0.63	0.63	0.386	< 1.0	27.3
7/10/2023	< 2.0	1.60	529	3.95	0.07	< 0.01	0.332	6.83	27.7	0.60	0.60	0.331	< 1.0	27.3
Average	< 2.0	1.41	590	1.41	0.04	< 0.01	0.357	6.99	22.8	0.53	0.53	0.375	< 1.0	27.3

[(a)]Sampling paused after 7/10/2023 due to demucking of Cell 1

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL2X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	20.30	500	0.5	0.07	0.03	0.374	7.16	21.0	0.75	0.78	0.391	3.7	27.2
2/7/2023	< 2.0	10.10	469	0.38	0.08	0.04	0.200	6.91	18.5	0.73	0.77	0.246	2.7	27.2
3/7/2023	< 2.0	3.20	566	0.1	0.08	< 0.01	0.375	7.45	24.8	0.56	0.56	0.493	1.9	27.2
4/4/2023	< 2.0	1.07	600	0.16	0.05	< 0.01	0.121	6.97	24.8	0.55	0.55	0.141	< 1.0	27.1
5/2/2023	< 2.0	3.74	554	0.41	0.07	< 0.01	0.230	6.95	23.8	0.66	0.66	0.233	2.0	27.2
6/6/2023	< 2.0	3.20	553	0.86	0.09	< 0.01	0.166	6.97	27.2	0.60	0.60	0.207	1.4	27.3
7/11/2023	2.8	18.70	519	0.8	0.2	< 0.01	0.555	6.79	29.3	0.84	0.84	0.661	4.3	27.3
8/7/2023	< 2.0	2.14	501	2.91	0.09	0.04	0.426	6.65	30.8	0.86	0.90	0.474	3.2	27.3
9/12/2023	< 2.0	< 0.80	558	6	0.05	< 0.01	0.268	6.55	29.0	0.61	0.61	0.295	< 1.0	27.4
10/3/2023	< 2.0	< 0.80	533	2.75	0.17	< 0.01	0.219	6.68	27.7	0.72	0.72	0.25	< 1.0	27.4
11/14/2023	< 2.0	1.60	597	0.42	0.39	0.22	0.320	6.74	25.3	1.18	1.40	0.328	1.6	27.3
12/12/2023	< 2.0	1.60	561	1.95	0.06	0.28	0.280	6.62	20.7	0.86	1.18	0.28	1.6	27.3
Average	2.1	5.60	543	1.44	0.12	0.06	0.295	6.87	25.2	0.74	0.80	0.333	2.1	27.3

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL2Y

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	3.74	516	3.96	0.08	< 0.01	0.366	7.30	22.4	0.46	0.46	0.36	1.1	27.1
2/7/2023	< 2.0	2.14	459	0.26	0.1	< 0.01	0.246	6.85	17.3	0.61	0.61	0.282	< 1.0	27.1
3/7/2023	< 2.0	2.40	570	0.15	0.1	< 0.01	0.408	7.32	23.9	0.66	0.66	0.452	1.4	26.9
4/4/2023	< 2.0	2.67	599	0.22	0.14	0.12	0.124	6.96	23.9	0.50	0.62	0.176	2.3	26.8
5/2/2023	< 2.0	1.60	554	0.2	0.07	< 0.01	0.274	6.64	23.2	0.70	0.70	0.249	1.2	26.9
6/6/2023	< 2.0	2.14	555	0.23	0.07	< 0.01	0.232	6.83	26.2	0.65	0.65	0.247	2.9	27.0
7/11/2023	2.4	8.01	525	0.35	0.25	< 0.01	0.499	6.72	28.7	0.94	0.94	0.658	1.1	27.0
8/7/2023	< 2.0	2.67	499	1.34	0.16	< 0.01	0.429	6.58	30.2	0.89	0.89	0.447	1.9	27.0
9/12/2023	< 2.0	1.60	552	1.94	0.07	< 0.01	0.271	6.53	28.0	0.65	0.65	0.302	< 1.0	27.2
10/3/2023	< 2.0	1.07	510	4.33	0.15	< 0.01	0.159	6.71	26.6	0.64	0.64	0.181	< 1.0	23.2
11/14/2023	< 2.0	1.60	599	1.83	0.21	< 0.01	0.310	6.71	24.3	0.72	0.72	0.288	1.2	27.1
12/12/2023	< 2.0	1.60	562	0.89	0.1	0.1	0.160	6.55	19.9	0.77	0.87	0.172	2.2	27.1
Average	< 2.0	2.60	542	1.31	0.13	0.03	0.290	6.81	24.6	0.68	0.70	0.318	1.5	26.7

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL2Z

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	< 0.80	506	1.76	0.09	0.03	0.398	7.3	21.6	0.50	0.53	0.392	< 1.0	26.9
2/7/2023[a]	< 2.0	< 0.80	440	NS[b]	0.06	0.02	0.367	6.75	15.1	0.54	0.56	0.398	< 1.0	27.0
3/7/2023	< 2.0	2.14	569	0.18	0.05	< 0.01	0.591	7.29	21.5	0.65	0.65	0.778	< 1.0	26.9
4/4/2023	< 2.0	1.07	598	0.49	0.02	< 0.01	0.216	6.95	21.8	0.51	0.51	0.324	< 1.0	26.8
5/2/2023	< 2.0	< 0.80	550	0.57	0.02	< 0.01	0.203	6.62	20.9	0.58	0.58	0.208	< 1.0	26.9
6/6/2023	< 2.0	< 0.80	555	1.99	0.06	< 0.01	0.291	6.78	23.7	0.49	0.49	0.297	< 1.0	26.9
7/11/2023	< 2.0	< 0.80	532	1.5	< 0.01	< 0.01	0.498	6.76	27.1	0.86	0.86	0.549	< 1.0	26.9
8/7/2023	< 2.0	1.60	494	2.02	0.02	< 0.01	0.470	6.62	28.6	0.48	0.48	0.487	< 1.0	26.0
9/12/2023	< 2.0	1.07	548	1.8	< 0.01	< 0.01	0.299	6.62	26.4	0.50	0.50	0.319	< 1.0	27.0
10/3/2023	< 2.0	< 0.80	491	4.32	< 0.02	< 0.01	0.238	6.81	24.9	0.46	0.46	0.262	< 1.0	27.1
11/14/2023	< 2.0	< 0.80	597	1.6	< 0.02	0.01	0.380	6.8	22.2	0.38	0.39	0.383	< 1.0	27.0
12/12/2023	< 2.0	< 0.80	560	2.05	< 0.02	0.06	0.310	6.7	16.1	0.68	0.74	0.323	< 1.0	27.0
Average	< 2.0	1.02	537	1.66	0.03	0.02	0.355	6.83	22.5	0.55	0.56	0.393	< 1.0	26.9

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL3A

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	1.60	431	2.46	0.03	0.01	0.417	7.03	14.7	0.43	0.44	0.411	< 1.0	22.8
Average	< 2.0	1.60	431	2.46	0.03	0.01	0.417	7.03	14.7	0.43	0.44	0.411	< 1.0	22.8

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL3X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	< 0.80	434	3.04	0.02	< 0.01	0.383	7.12	15.1	0.32	0.32	0.360	< 1.0	22.7
2/6/2023	< 2.0	< 0.80	442	2.84	0.02	< 0.01	0.415	6.90	15.8	0.54	0.54	0.473	< 1.0	22.7
3/6/2023	< 2.0	< 0.80	977	1.68	0.02	< 0.01	0.681	7.10	22.3	0.55	0.55	0.671	1.2	22.6
4/3/2023	< 2.0	< 0.80	576	1.06	< 0.01	< 0.01	0.201	7.01	21.5	0.64	0.64	0.200	< 1.0	22.5
5/1/2023	< 2.0	1.07	476	2.05	0.03	< 0.01	0.239	6.81	21.2	0.88	0.88	0.257	5.6	22.6
6/5/2023	< 2.0	< 0.80	530	1.87	0.04	< 0.01	0.253	6.84	24.7	0.68	0.68	0.250	1.1	22.6
7/10/2023	< 2.0	< 0.80	528	2.67	0.02	< 0.01	0.334	6.82	27.3	0.65	0.65	0.338	2.3	22.6
8/7/2023	< 2.0	< 0.80	502	2.72	0.02	< 0.01	0.903	6.49	27.7	0.41	0.41	0.872	3.7	22.5
9/11/2023[a]	< 2.0	1.60	402	0.89	0.02	< 0.01	1.110	6.59	25.5	0.74	0.74	1.200	4.4	ND[b]
10/2/2023[a]	< 2.0	4.81	335	4.57	0.09	0.01	1.030	6.77	24.2	0.86	0.87	1.090	3.4	ND[b]
11/13/2023	< 2.0	1.07	602	4.13	< 0.02	0.01	0.420	6.97	22.9	1.41	1.42	0.863	4.8	22.7
12/11/2023	< 2.0	< 0.80	553	5.91	< 0.02	< 0.01	0.620	6.90	17.2	0.64	0.64	0.653	2.7	21.8
Average	< 2.0	1.25	530	2.79	0.03	< 0.01	0.549	6.86	22.1	0.69	0.70	0.602	2.7	22.5

[a]Water Level of WL3X not documented due to water level being below water level indicator

[b]ND – Not Documented

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL4X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	2.67	443	2.68	0.03	< 0.01	0.341	7.30	16.2	0.37	0.37	0.328	4.0	22.6
2/6/2023	< 2.0	< 0.80	446	2.22	0.04	< 0.01	0.503	6.76	16	0.62	0.62	0.567	< 1.0	22.5
3/6/2023	< 2.0	< 0.80	953	2.88	0.02	< 0.01	0.626	7.07	22.3	0.59	0.59	0.636	2.8	22.6
4/3/2023	< 2.0	< 0.80	578	0.65	< 0.01	< 0.01	0.242	6.96	22.2	0.39	0.39	0.157	< 1.0	22.5
5/1/2023	< 2.0	1.07	481	1.7	0.03	< 0.01	0.232	6.80	21.2	0.73	0.73	0.293	< 1.0	22.6
6/5/2023	< 2.0	1.07	536	1.52	0.04	< 0.01	0.078	6.76	25	0.78	0.78	0.205	1.7	22.6
7/10/2023	< 2.0	< 0.80	537	3.34	0.04	< 0.01	0.060	6.72	27.6	0.73	0.73	0.101	1.9	22.6
8/7/2023	< 2.0	< 0.80	501	0.5	0.02	< 0.01	0.224	6.57	29	0.52	0.52	0.277	< 1.0	22.7
9/11/2023	< 2.0	< 0.80	540	0.54	< 0.01	< 0.01	0.282	7.09	27.9	0.67	0.67	0.319	3.7	22.9
10/2/2023	< 2.0	1.07	461	3.66	0.09	< 0.01	0.261	6.72	26.5	0.79	0.79	0.315	7.7	23.0
11/13/2023	< 2.0	1.07	594	0.64	0.05	0.16	0.320	6.78	24.7	0.76	0.92	0.34	1.3	23.0
12/11/2023	< 2.0	1.60	551	1.36	< 0.02	0.14	0.420	6.54	21.5	0.72	0.86	0.446	2.0	23.0
Average	< 2.0	1.11	552	1.81	0.03	0.03	0.299	6.84	23.3	0.64	0.66	0.332	2.4	22.7

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL5A

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	< 0.80	423	2.21	0.06	0.02	0.385	7.25	13.9	0.41	0.43	0.378	4.3	23.2
2/7/2023[a]	< 2.0	1.07	445	NS[b]	0.05	0.03	0.337	6.78	15.2	0.60	0.63	0.331	< 1.0	23.2
Average	< 2.0	0.94	434	2.21	0.06	0.03	0.361	7.02	14.6	0.51	0.53	0.355	2.7	23.2

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL5X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	4.27	437	0.45	0.05	< 0.01	0.394	7.11	15.1	0.40	0.40	0.384	2.0	23.3
2/7/2023	< 2.0	1.07	451	0.47	0.05	0.02	0.263	6.69	16.6	0.57	0.59	0.281	< 1.0	23.2
3/7/2023	< 2.0	2.67	569	0.13	0.05	< 0.01	0.531	7.21	23.4	0.68	0.68	0.812	< 1.0	23.2
4/4/2023	< 2.0	< 0.80	598	1.12	0.07	0.07	0.194	6.72	23.2	0.42	0.49	0.189	< 1.0	23.2
5/2/2023	< 2.0	< 0.80	545	0.30	0.03	< 0.01	0.215	6.46	22.5	0.62	0.62	0.233	1.0	23.3
6/6/2023	< 2.0	1.07	550	1.07	0.05	< 0.01	0.257	6.81	25.6	0.56	0.56	0.265	1.0	23.3
7/11/2023	< 2.0	3.20	513	0.83	0.17	< 0.01	0.489	6.70	28.2	0.65	0.65	0.534	2.0	23.3
8/7/2023	< 2.0	1.07	519	1.24	0.13	< 0.01	0.377	6.59	30.0	0.60	0.60	0.395	1.1	23.3
9/12/2023	< 2.0	1.60	554	2.00	0.02	< 0.01	0.309	6.56	27.9	0.54	0.54	0.324	< 1.0	23.4
10/3/2023	< 2.0	< 0.80	518	3.22	0.12	< 0.01	0.156	6.72	26.3	0.60	0.60	0.174	< 1.0	23.5
11/14/2023	< 2.0	1.07	598	0.55	0.11	0.02	0.300	6.65	24.3	0.68	0.70	0.273	< 1.0	23.3
12/12/2023	< 2.0	1.07	562	0.77	0.04	0.07	0.180	6.50	18.6	0.70	0.77	0.186	1.3	23.4
Average	< 2.0	1.62	535	1.01	0.07	0.02	0.305	6.73	23.5	0.59	0.60	0.338	1.2	23.3

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL6X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	< 0.80	418	2.10	0.06	0.08	0.445	7.25	13.7	0.36	0.44	0.463	1.3	23.7
2/7/2023	< 2.0	1.07	439	2.15	0.04	0.04	0.347	6.77	15.1	0.61	0.65	0.357	1.6	23.8
3/7/2023	< 2.0	1.07	558	1.28	0.02	< 0.01	0.611	7.32	21.8	0.52	0.52	0.608	< 1.0	23.6
4/4/2023	< 2.0	< 0.80	599	1.07	0.01	< 0.01	0.267	6.96	22.1	0.43	0.43	0.247	< 1.0	23.4
5/2/2023	< 2.0	< 0.80	537	1.35	0.02	< 0.01	0.203	6.85	20.9	0.60	0.60	0.203	2.0	23.7
6/6/2023	< 2.0	< 0.80	518	1.51	0.04	< 0.01	0.278	6.91	23.9	0.65	0.65	0.299	4.9	23.7
7/11/2023	< 2.0	1.07	536	1.40	< 0.01	< 0.01	0.387	6.84	26.9	0.72	0.72	0.418	2.2	23.7
8/7/2023	< 2.0	< 0.80	485	2.29	0.02	< 0.01	0.562	6.70	29.0	0.64	0.64	0.580	1.6	23.6
9/12/2023	< 2.0	1.07	548	2.73	< 0.01	< 0.01	0.305	6.62	26.3	0.68	0.68	0.345	5.8	23.9
10/3/2023	< 2.0	< 0.80	488	5.02	< 0.02	0.01	0.264	6.83	24.9	0.47	0.48	0.281	1.8	23.9
11/14/2023	< 2.0	< 0.80	597	2.93	< 0.02	< 0.01	0.320	6.84	22.3	0.50	0.50	0.322	1.6	23.8
12/12/2023	< 2.0	1.07	561	5.24	< 0.02	0.05	0.300	6.73	15.9	0.69	0.74	0.305	1.0	23.8
Average	< 2.0	0.91	524	2.42	< 0.02	0.02	0.357	6.89	21.9	0.57	0.59	0.369	2.2	23.7

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL6Y

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	< 0.80	395	2.20	0.04	< 0.01	0.444	7.11	11.6	0.47	0.47	0.417	< 1.0	23.6
2/7/2023	< 2.0	< 0.80	424	1.17	0.05	< 0.01	0.486	6.84	13.3	0.56	0.56	0.479	1.9	23.6
Average	< 2.0	< 0.80	410	1.69	0.05	< 0.01	0.465	6.98	12.5	0.52	0.52	0.448	1.5	23.6

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL7X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	4.81	462	1.91	0.05	< 0.01	0.455	7.36	17.5	0.50	0.50	0.443	2.0	20.5
2/6/2023	< 2.0	1.07	450	1.70	0.08	< 0.01	0.450	6.66	15.8	0.72	0.72	0.525	< 1.0	20.4
3/6/2023	< 2.0	11.20	975	3.05	0.08	< 0.01	0.496	7.18	23.1	0.65	0.65	0.496	1.9	20.4
4/3/2023	< 2.0	2.67	582	1.44	0.05	< 0.01	0.220	7.14	23.1	0.64	0.64	0.238	1.0	20.3
5/1/2023	2.3	15.50	476	2.05	0.08	< 0.01	0.192	6.97	22.0	1.18	1.18	0.257	6.6	20.6
6/5/2023	2.5	1.60	534	2.05	0.05	< 0.01	0.220	6.95	25.4	0.89	0.89	0.238	1.7	20.4
7/10/2023	< 2.0	3.20	520	3.30	0.02	< 0.01	0.520	6.85	28.4	0.64	0.64	0.520	1.0	20.4
8/7/2023	2.5	8.54	500	0.70	0.04	< 0.01	0.304	6.60	29.8	0.83	0.83	0.342	1.8	20.2
9/11/2023	< 2.0	2.14	409	0.65	0.01	< 0.01	0.421	6.42	26.2	0.52	0.52	0.454	< 1.0	20.3
10/2/2023	< 2.0	7.48	324	4.34	< 0.02	< 0.01	0.244	6.59	24.6	0.55	0.55	0.266	1.3	20.7
11/13/2023	< 2.0	2.67	603	1.75	0.02	< 0.01	0.210	6.71	22.6	0.71	0.71	0.235	1.6	20.3
12/11/2023	< 2.0	2.14	554	4.40	< 0.02	< 0.01	0.410	6.71	18.1	0.72	0.72	0.424	1.3	20.3
Average	2.1	5.25	532	2.28	0.04	< 0.01	0.345	6.85	23.1	0.71	0.71	0.370	1.9	20.4

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL8X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	1.60	460	3.58	0.03	< 0.01	0.560	7.46	17.5	0.69	0.69	0.559	< 1.0	20.3
2/6/2023	< 2.0	1.07	460	1.80	0.04	< 0.01	0.732	6.63	15.8	0.63	0.63	0.806	1.1	20.2
3/6/2023	< 2.0	< 0.80	939	5.79	0.02	< 0.01	0.540	7.11	22.9	0.56	0.56	0.510	1.9	20.2
4/3/2023	< 2.0	1.07	597	0.75	< 0.01	< 0.01	0.199	7.01	22.7	0.64	0.64	0.250	1.4	20.1
5/1/2023	< 2.0	3.20	453	0.81	0.03	< 0.01	0.123	6.73	21.1	0.89	0.89	0.089	1.0	20.4
6/5/2023	< 2.0	< 0.80	519	0.50	0.03	< 0.01	0.014	6.70	25.2	0.72	0.72	0.037	1.3	20.4
7/10/2023	< 2.0	1.07	518	3.08	0.01	< 0.01	0.011	6.68	27.9	0.59	0.59	0.073	2.6	20.4
8/7/2023	< 2.0	1.07	489	1.28	0.03	< 0.01	0.056	6.29	28.4	0.75	0.75	0.090	6.0	20.4
9/11/2023	< 2.0	< 0.80	471	0.70	0.01	< 0.01	0.255	6.48	27.0	0.60	0.60	0.287	3.0	20.5
10/2/2023	< 2.0	< 0.80	390	5.04	< 0.02	< 0.01	0.258	6.74	25.2	0.58	0.58	0.289	3.4	20.7
11/13/2023	< 2.0	1.07	593	1.66	< 0.02	< 0.01	0.330	6.71	23.4	0.73	0.73	0.355	3.5	20.5
12/11/2023	< 2.0	1.07	550	2.70	< 0.02	0.02	0.460	6.60	19.5	0.69	0.71	0.481	1.7	20.5
Average	< 2.0	1.20	537	2.31	< 0.02	< 0.01	0.295	6.76	23.1	0.67	0.67	0.319	2.3	20.4

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL8Y

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	6.41	455	2.81	0.05	< 0.01	0.662	7.27	17.2	0.78	0.78	0.662	3.3	20.5
Average	< 2.0	6.41	455	2.81	0.05	< 0.01	0.662	7.27	17.2	0.78	0.78	0.662	3.3	20.5

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL9X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
2/7/2023	< 2.0	< 0.80	424	1.57	0.04	0.04	0.396	6.87	13.8	0.50	0.54	0.412	1.2	20.3
3/7/2023	< 2.0	1.07	561	0.52	0.02	0.02	0.580	7.32	21.0	0.46	0.48	0.571	1.2	20.2
4/4/2023	< 2.0	< 0.80	603	0.95	0.06	0.06	0.261	6.85	21.5	0.40	0.46	0.244	1.5	20.1
5/2/2023	< 2.0	1.07	511	1.13	0.03	< 0.01	0.203	6.51	20.3	0.61	0.61	0.193	< 1.0	20.3
6/6/2023	< 2.0	1.07	543	2.14	0.03	< 0.01	0.189	6.94	23.4	0.58	0.58	0.201	< 1.0	20.3
7/11/2023	< 2.0	1.07	531	0.66	< 0.01	< 0.01	0.330	6.76	26.6	0.54	0.54	0.368	< 1.0	20.4
8/7/2023	< 2.0	1.07	506	1.13	0.02	< 0.01	0.213	6.67	30.1	0.56	0.56	0.255	< 1.0	20.4
9/12/2023	< 2.0	< 0.80	544	1.6	< 0.01	0.02	0.286	6.65	26.3	0.43	0.45	0.313	< 1.0	20.4
10/3/2023	< 2.0	< 0.80	471	3.27	< 0.02	0.03	0.200	6.74	24.4	0.44	0.47	0.216	1.8	20.5
11/14/2023	< 2.0	1.07	604	1.31	< 0.02	0.04	0.340	6.75	22.8	0.53	0.57	0.349	1.7	20.3
12/12/2023	< 2.0	< 0.80	562	3.8	< 0.02	0.07	0.340	6.71	15.2	0.61	0.68	0.345	1.0	20.4
Average	< 2.0	0.95	533	1.64	0.03	0.03	0.303	6.80	22.3	0.51	0.54	0.315	1.2	20.3

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL9Y

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
2/7/2023	< 2.0	< 0.80	428	NS[b]	0.03	0.06	0.313	6.81	14.1	0.49	0.55	0.327	< 1.0	20.3
3/7/2023	< 2.0	< 0.80	556	1.74	0.02	0.04	0.556	7.38	21.3	0.52	0.56	0.528	< 1.0	20.3
4/4/2023	< 2.0	1.07	595	3.63	< 0.01	0.03	0.227	7.05	21.5	0.39	0.42	0.202	< 1.0	20.1
5/2/2023	< 2.0	1.60	536	1.87	0.02	0.01	0.193	6.60	20.5	0.63	0.64	0.184	1.4	20.4
6/6/2023	< 2.0	1.07	550	1.96	0.03	0.02	0.266	7.00	23.4	0.49	0.51	0.277	< 1.0	20.4
7/11/2023	< 2.0	1.07	522	1.50	0.01	0.04	0.499	6.91	26.8	0.56	0.60	0.529	< 1.0	20.5
8/7/2023	< 2.0	< 0.80	491	1.34	0.02	0.04	0.426	6.72	28.8	0.54	0.58	0.417	< 1.0	20.6
9/12/2023	< 2.0	< 0.80	549	3.00	< 0.01	0.04	0.290	6.71	26.2	0.51	0.55	0.303	< 1.0	20.5
10/3/2023	< 2.0	< 0.80	470	3.10	< 0.02	0.05	0.147	6.85	24.6	0.42	0.47	0.167	< 1.0	20.6
11/14/2023	< 2.0	1.07	608	2.65	< 0.02	0.05	0.290	6.84	22.5	0.50	0.55	0.281	1.1	20.4
12/12/2023	< 2.0	1.07	561	4.94	< 0.02	0.09	0.250	6.74	16.1	0.61	0.70	0.255	< 1.0	20.4
Average	< 2.0	1.00	533	2.57	< 0.02	0.04	0.314	6.87	22.3	0.51	0.56	0.315	< 1.0	20.4

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL10X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	< 0.80	396	3.70	0.04	0.07	0.425	7.28	11.5	0.44	0.51	0.409	1.6	21.0
2/7/2023	< 2.0	< 0.80	424	2.69	0.03	0.01	0.524	6.70	13.4	0.62	0.63	0.522	1.6	20.9
3/7/2023	< 2.0	1.07	553	1.33	0.02	< 0.01	0.603	7.40	20.9	0.57	0.57	0.666	2.9	20.9
4/4/2023	< 2.0	1.07	601	1.62	0.01	< 0.01	0.250	7.00	21.1	0.46	0.46	0.269	1.3	20.7
5/2/2023	< 2.0	< 0.80	521	1.5	0.03	< 0.01	0.192	6.55	20.5	0.57	0.57	0.142	< 1.0	21.0
6/6/2023	< 2.0	< 0.80	547	1.24	0.03	< 0.01	0.262	6.97	23.2	0.52	0.52	0.263	< 1.0	20.9
7/11/2023	< 2.0	< 0.80	532	1.30	< 0.01	< 0.01	0.262	6.84	26.5	0.61	0.61	0.309	1.2	20.9
8/7/2023	< 2.0	< 0.80	511	1.23	0.01	< 0.01	0.572	6.65	28.4	0.61	0.61	0.566	2.3	21.0
9/12/2023	< 2.0	1.07	506	1.21	0.04	< 0.01	0.323	6.50	26.1	0.55	0.55	0.341	1.6	21.0
10/3/2023	< 2.0	< 0.80	469	1.80	< 0.02	< 0.01	0.247	6.72	24.6	0.45	0.45	0.263	< 1.0	21.3
11/14/2023	< 2.0	1.07	596	2.89	< 0.02	0.01	0.350	6.84	22.1	0.57	0.58	0.350	2.3	21.0
12/12/2023	< 2.0	< 0.80	561	5.40	< 0.02	0.05	0.370	6.67	14.6	0.54	0.59	0.370	1.3	21.1
Average	< 2.0	0.89	518	2.16	< 0.02	0.02	0.365	6.84	21.1	0.54	0.55	0.373	1.6	21.0

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL10Y

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023[a]	< 2.00	< 0.80	385	2.07	ND[b]	< 0.01	0.418	6.96	11.1	0.54	0.54	0.395	< 1.0	21.1
Average	< 2.0	< 0.80	385	2.07	ND	< 0.01	0.418	6.96	11.1	0.54	0.54	0.395	< 1.0	21.1

[a]NH3-B not documented

[b]ND – Not Documented

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL11X

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/9/2023	122	< 2.0	2.67	75.4	272	1.53	0.04	< 0.01	0.02	0.535	7.08	25.5	7.04	17.8	0.77	0.79	0.528	< 1	27.4
2/6/2023[a]	132	< 2.0	2.14	75.1	464	NS[b]	0.05	< 0.01	< 0.01	0.481	6.89	18.4	7.36	16.7	0.67	0.67	0.547	< 1	27.3
3/7/2023	133	< 2.0	6.41	79.9	560	0.66	0.08	< 0.01	< 0.01	0.433	7.25	23.1	7.88	22.7	0.64	0.64	0.412	1	27.4
4/4/2023	147	< 2.0	1.6	89.3	599	0.78	0.05	< 0.01	< 0.01	0.106	6.74	18.4	8.04	22.3	0.61	0.61	0.136	< 1	27.3
5/2/2023	110	2.1	2.67	70.5	491	0.31	0.05	< 0.01	< 0.01	0.147	6.43	33.9	7.5	21.4	0.58	0.58	0.169	1	27.5
6/6/2023	125	< 2.0	3.2	83.4	538	0.37	0.07	< 0.01	< 0.01	0.18	6.73	19.9	7.98	24.5	0.68	0.68	0.2	< 1	27.4
7/11/2023	134	< 2.0	2.14	88	532	0.88	0.09	< 0.01	< 0.01	0.39	6.61	16.4	8.6	27.3	0.63	0.63	0.405	1	27.4
8/7/2023	124	< 2.0	2.14	77.1	486	1.13	0.15	< 0.01	< 0.01	0.522	6.45	14.4	8.09	28.2	0.82	0.82	0.533	< 1	27.4
9/12/2023	99.2	< 2.0	3.74	68.7	456	4.65	0.02	< 0.01	< 0.01	0.267	6.28	13.8	6.86	25.6	0.58	0.58	0.287	< 1	27.5
10/3/2023	99.9	< 2.0	1.6	63.4	444	2.19	0.05	< 0.01	< 0.01	0.252	6.51	12.8	6.26	24.9	0.58	0.58	0.27	< 1	27.6
11/14/2023	139	< 2.0	2.67	86.3	606	0.72	0.06	< 0.01	< 0.01	0.28	6.62	26.5	6.89	21.4	0.7	0.7	0.282	1.4	27.5
12/12/2023	119	< 2.0	2.14	81	566	0.49	0.03	< 0.01	< 0.01	0.25	6.33	33.4	6.49	16.1	0.54	0.54	0.274	< 1	27.5
Average	124	< 2	2.76	78.2	501	1.25	0.06	< 0.01	< 0.01	0.320	6.66	21.4	7.42	22.4	0.65	0.65	0.337	< 1.0	27.4

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL12X

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
2/6/2023[a]	< 2.0	1.07	451	NS[b]	0.05	< 0.01	0.430	6.93	16.6	0.54	0.54	0.465	< 1.0	27.4
3/7/2023	< 2.0	2.67	544	0.69	0.03	< 0.01	0.496	7.15	22.1	0.45	0.45	0.471	< 1.0	27.4
4/4/2023	< 2.0	3.20	606	1.36	0.02	0.02	0.213	6.76	21.9	0.46	0.48	0.200	2.3	27.3
5/2/2023	< 2.0	1.07	497	0.43	0.03	< 0.01	0.366	6.42	20.9	0.57	0.57	0.200	< 1.0	27.4
6/6/2023	< 2.0	< 0.80	563	1.13	0.05	< 0.01	0.262	6.72	24.1	0.51	0.51	0.272	< 1.0	27.4
7/11/2023	< 2.0	1.60	562	1.83	0.01	< 0.01	0.337	6.68	26.8	0.66	0.66	0.348	1.1	27.4
8/7/2023	< 2.0	< 0.80	512	1.44	0.03	< 0.01	0.560	6.48	24.4	0.68	0.68	0.561	< 1.0	27.3
9/12/2023	< 2.0	2.14	505	1.91	0.03	< 0.01	0.375	6.43	25.8	0.54	0.54	0.397	< 1.0	27.5
10/3/2023	< 2.0	1.07	449	3.1	0.06	< 0.01	0.458	6.61	24.6	0.51	0.51	0.502	< 1.0	27.6
11/14/2023	< 2.0	1.60	601	1.35	0.07	< 0.01	0.380	6.67	21.9	0.56	0.56	0.361	< 1.0	27.5
12/12/2023	< 2.0	1.60	559	1.85	0.08	< 0.01	0.240	6.47	15.9	0.58	0.58	0.259	< 1.0	27.5
Average	< 2.0	1.60	531.7	1.5	0.04	< 0.01	0.37	6.67	22.27	0.55	0.55	0.367	1.1	27.4

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL12Y

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/9/2023	< 2.0	< 0.80	521	3.08	0.04	0.01	0.335	7.43	22.0	0.45	0.46	0.312	< 1.0	22.5
2/6/2023[a]	< 2.0	< 0.80	444	NS[b]	0.04	< 0.01	0.383	6.60	16.5	0.52	0.52	0.437	< 1.0	27.4
3/7/2023	< 2.0	2.67	562	0.35	0.02	< 0.01	0.635	7.14	22.0	0.46	0.46	0.640	< 1.0	27.3
4/4/2023	< 2.0	< 0.80	610	0.76	0.02	< 0.01	0.294	6.74	22.2	0.41	0.41	0.254	< 1.0	27.2
5/2/2023	< 2.0	< 0.80	508	0.28	0.02	< 0.01	0.299	6.34	21.5	0.58	0.58	0.322	< 1.0	27.4
6/6/2023	< 2.0	< 0.80	563	1.66	0.03	< 0.01	0.325	6.76	24.3	0.49	0.49	0.326	< 1.0	27.3
7/11/2023	< 2.0	1.07	562	0.75	< 0.01	< 0.01	0.470	6.67	26.9	0.66	0.66	0.456	2.8	27.3
8/7/2023	< 2.0	< 0.80	523	0.80	0.03	< 0.01	0.778	6.50	28.3	0.73	0.73	0.758	1.5	27.2
9/12/2023	< 2.0	1.60	496	1.03	0.04	< 0.01	0.469	6.36	25.8	0.56	0.56	0.510	< 1.0	27.4
10/3/2023	< 2.0	1.07	445	3.35	0.03	< 0.01	0.533	6.60	24.5	0.46	0.46	0.567	< 1.0	27.6
11/14/2023	< 2.0	1.07	600	0.74	0.03	< 0.01	0.290	6.59	21.6	0.68	0.68	0.285	1.3	27.4
12/12/2023	< 2.0	1.07	557	1.79	0.05	< 0.01	0.170	6.45	15.1	0.64	0.64	0.171	< 1.0	28.7
Average	< 2.0	1.11	533	1.33	0.03	< 0.01	0.415	6.68	22.6	0.55	0.55	0.420	1.2	27.1

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL13X

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	120	< 2.00	2.67	74.8	464	0.73	0.02	< 0.01	< 0.01	0.334	7.05	28.5	7.12	17.9	0.63	0.63	0.354	< 1.0	16.5
2/6/2023	143	< 2.00	1.60	84.6	474	4.52	0.02	< 0.01	< 0.01	0.317	6.61	19.1	8.18	15.9	0.86	0.86	0.361	1.2	16.4
3/6/2023	136	3.00	9.61	77.0	928	1.14	0.02	< 0.01	< 0.01	0.223	7.11	15.5	9.37	22.8	0.81	0.81	0.263	2.0	16.3
4/3/2023	160	< 2.00	11.70	96.3	955	0.86	0.01	< 0.01	< 0.01	0.056	7.11	15.5	11.20	22.6	1.08	1.08	0.112	1.7	16.2
5/1/2023	113	< 2.00	3.74	73.4	486	0.40	0.04	< 0.01	< 0.01	0.013	6.79	31.1	7.26	21.7	0.87	0.87	0.046	< 1.0	16.7
6/5/2023	140	2.00	2.14	82.8	552	0.45	0.05	< 0.01	< 0.01	0.018	6.84	< 2.0	9.20	25.2	1.08	1.08	0.063	3.4	16.4
7/10/2023	160	2.10	3.20	88.1	565	0.36	0.09	< 0.01	< 0.01	0.023	6.73	< 2.0	9.95	27.4	0.87	0.87	0.163	1.3	16.4
8/7/2023	132	3.00	4.27	70.7	475	0.34	0.09	< 0.01	< 0.01	0.256	6.51	7.3	8.38	27.9	0.88	0.88	0.276	1.3	16.5
9/11/2023	116	< 2.00	1.60	68.4	443	0.55	0.06	< 0.01	< 0.01	0.354	6.36	14.3	7.77	25.2	0.74	0.74	0.393	1.3	16.8
10/2/2023	93	2.40	12.80	48.9	417	3.38	0.22	< 0.01	< 0.01	0.35	6.6	< 2.0	8.09	24.6	0.86	0.86	0.410	2.0	17.4
11/13/2023	152	< 2.00	7.48	89.7	606	0.26	0.06	< 0.01	< 0.01	0.35	6.65	18.2	7.72	21.7	0.76	0.76	0.361	1.3	16.5
12/11/2023	116	< 2.00	3.74	73.4	549	0.55	< 0.02	< 0.01	< 0.01	0.28	6.48	29.5	7.54	17.2	0.79	0.79	0.299	< 1.0	16.5
Average	132	2.2	5.38	77.3	576	1.13	0.06	< 0.01	< 0.01	0.215	6.74	15.4	8.48	22.5	0.85	0.85	0.258	1.5	16.6

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL13Y

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	125	< 2.00	38.40	72.3	470	5.60	0.05	< 0.01	< 0.01	0.125	7.32	29.3	7.85	17.7	0.68	0.68	0.152	2.9	16.6
2/6/2023	144	< 2.00	2.14	85.3	478	1.17	0.03	< 0.01	< 0.01	0.265	6.66	13.6	8.66	16.2	0.75	0.75	0.399	1.1	16.4
3/6/2023	132	3.20	4.27	76.4	996	1.17	0.03	< 0.01	< 0.01	0.101	7.30	13.1	9.15	23.9	0.62	0.62	0.183	1.2	16.4
4/3/2023	148	< 2.00	4.81	101	610	0.33	< 0.01	< 0.01	< 0.01	0.053	7.09	16.1	10.90	23.8	0.85	0.85	0.097	< 1.0	16.3
5/1/2023	117	< 2.00	2.67	70.5	479	0.43	0.03	< 0.01	< 0.01	0.009	6.97	12.5	6.94	21.7	0.72	0.72	0.035	< 1.0	16.8
6/5/2023	148	< 2.00	3.20	82.9	550	0.02	0.04	< 0.01	< 0.01	0.015	6.91	10.5	8.92	24.9	0.89	0.89	0.056	1.0	16.5
7/10/2023	170	< 2.00	3.74	89	578	0.27	0.09	< 0.01	< 0.01	0.032	6.86	< 2.0	11.30	27.3	1.06	1.06	0.099	1.6	16.4
8/7/2023	123	2.50	4.81	65.1	460	0.34	0.16	< 0.01	< 0.01	0.038	6.53	< 2.0	12.00	28.0	1.17	1.17	0.082	1.7	16.5
9/11/2023	118	< 2.00	3.74	69.8	420	0.44	0.03	< 0.01	< 0.01	0.215	6.39	9.7	7.21	25.5	0.72	0.72	0.252	1.2	16.8
10/2/2023	102	2.10	12.30	56	384	2.47	0.13	< 0.01	< 0.01	0.246	6.60	11.2	7.00	24.8	0.8	0.8	0.290	2.3	17.4
11/13/2023	155	< 2.00	8.01	87.7	642	0.24	0.05	< 0.01	< 0.01	0.27	6.68	20.2	7.92	21.8	0.78	0.78	0.292	1.2	16.5
12/11/2023	126	< 2.00	4.27	78.3	576	0.55	< 0.02	< 0.01	< 0.01	0.38	6.47	30.8	7.62	17.4	0.76	0.76	0.397	< 1.0	16.5
Average	134	2.2	7.70	77.9	554	1.09	0.06	< 0.01	< 0.01	0.146	6.82	14.3	8.79	22.8	0.82	0.82	0.195	1.4	16.6

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL14X

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	120	< 2.00	1.60	77.6	424	3.09	0.04	< 0.01	< 0.01	0.39	7.51	27.3	7.33	14.1	0.48	0.48	0.381	< 1.0	17.5
2/6/2023	129	< 2.00	4.27	75.8	496	5.36	0.04	< 0.01	< 0.01	0.334	7.72	23.8	7.83	19.3	0.68	0.68	0.412	1.0	17.3
3/6/2023	132	< 2.00	2.67	78.1	991	7.22	0.03	< 0.01	< 0.01	0.17	8.07	13.0	8.47	24.8	0.64	0.64	0.203	1.3	17.3
4/3/2023	129	< 2.00	3.20	91.5	594	6.16	0.11	< 0.01	0.02	0.062	7.99	19.5	8.60	24.2	0.59	0.61	0.086	1.4	17.1
5/1/2023	112	< 2.00	1.07	71.4	491	1.36	0.04	< 0.01	< 0.01	0.008	6.95	32.5	7.77	21.9	0.7	0.7	0.034	< 1.0	17.6
6/5/2023	155	< 2.00	3.74	82.8	559	0.85	0.04	< 0.01	< 0.01	0.02	7.07	20.9	9.70	24.5	0.93	0.93	0.046	< 1.0	17.3
7/10/2023	164	2.40	5.34	91.2	549	2.22	0.09	< 0.01	< 0.01	0.058	7.05	< 2.0	10.40	27.3	0.79	0.79	0.101	1.4	17.2
8/7/2023	128	< 2.00	3.74	71.3	490	0.90	0.12	< 0.01	< 0.01	0.197	6.73	7.2	8.98	27.9	0.86	0.86	0.226	< 1.0	17.4
9/11/2023	88	< 2.00	4.27	54.7	356	0.77	0.12	< 0.01	< 0.01	0.169	6.38	3.0	8.09	25.5	0.79	0.79	0.143	1.2	17.5
10/2/2023	100	< 2.00	6.41	60.7	382	2.28	0.1	< 0.01	< 0.01	0.265	6.75	9.8	6.32	25	0.71	0.71	0.300	1.4	18.0
11/13/2023	143	< 2.00	4.81	88.5	598	0.50	0.16	< 0.01	< 0.01	0.09	6.64	33.0	8.05	21.6	0.74	0.74	0.114	1.4	17.5
12/11/2023	121	< 2.00	2.14	80.1	551	1.43	0.03	< 0.01	< 0.01	0.37	6.58	30.3	6.54	17.7	0.71	0.71	0.401	< 1.0	17.4
Average	127	< 2.0	3.61	77.0	540	2.68	0.08	< 0.01	< 0.01	0.178	7.12	18.5	8.17	22.8	0.72	0.72	0.204	1.2	17.4

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL14Y

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	124	< 2.0	3.20	78.7	437	3.13	0.04	< 0.01	< 0.01	0.084	7.60	22.4	8.49	14.9	0.62	0.62	0.123	1.6	17.4
2/6/2023[b]	138	< 2.0	6.41	77.1	568	NS[c]	0.03	< 0.01	< 0.01	0.108	7.45	13.1	9.07	18.5	0.80	0.80	0.165	1.5	17.3
3/6/2023	131	3.2	5.87	81.4	988	5.02	0.05	< 0.01	< 0.01	0.076	7.91	15.7	10.70	25.0	0.76	0.76	0.116	2.2	17.2
2/6/2023[a]																			
5/1/2023	121	< 2.0	2.14	68.7	466	0.95	0.03	< 0.01	< 0.01	0.005	6.83	24.3	8.31	22.2	1.06	1.06	0.031	1.3	17.6
6/5/2023	143	< 2.0	2.14	83.0	548	1.20	0.06	< 0.01	< 0.01	0.008	7.05	21.2	9.73	25.5	0.85	0.85	< 0.030	1.1	17.3
7/10/2023[a]																			
8/7/2023	142	< 2.0	2.67	68.3	472	1.20	0.10	< 0.01	< 0.01	0.014	6.78	< 2.0	9.49	28.4	0.89	0.89	0.045	1.1	17.3
9/11/2023	89	< 2.0	4.81	56.3	353	0.80	0.04	< 0.01	< 0.01	0.009	6.63	3.0	8.22	26.7	0.61	0.61	0.037	1.3	17.4
10/2/2023	88	< 2.0	3.74	50.7	358	3.97	0.03	< 0.01	< 0.01	0.025	6.79	5.9	7.37	25.0	0.60	0.60	0.047	< 1.0	18.0
11/13/2023	153	< 2.0	3.20	81.4	633	1.14	< 0.02	< 0.01	< 0.01	0.010	6.75	28.5	8.66	22.3	0.79	0.79	0.030	1.4	17.2
12/11/2023	129	< 2.0	3.74	83.5	568	2.83	< 0.02	< 0.01	< 0.01	0.020	6.69	26.8	7.65	17.0	0.68	0.68	0.037	< 1.0	17.4
Average	126	2.1	3.79	72.9	539	2.25	0.04	< 0.01	< 0.01	0.036	7.05	16.3	8.77	22.6	0.77	0.77	0.066	1.4	17.4

[a]WL14Y did not flow in April or July

[b]DO was not sampled due to DO probe issues

[c]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL15X

Date	ALK	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/9/2023	119	< 2.0	3.20	79.3	251	5.78	0.03	< 0.01	< 0.01	0.627	6.86	24.3	7.10	18.1	0.41	0.41	0.546	3.9	24.4
2/6/2023	136	< 2.0	< 0.80	77.7	485	1.21	0.06	< 0.01	< 0.01	0.438	6.87	19.8	8.44	17.5	0.76	0.76	0.472	< 1.0	24.3
3/7/2023	133	< 2.0	1.60	80.5	556	1.70	0.04	< 0.01	< 0.01	0.132	7.48	15.2	10.10	24.2	0.69	0.69	0.180	1.2	24.2
4/4/2023	143	< 2.0	2.67	94.5	608	1.19	0.05	< 0.01	< 0.01	0.067	7.02	15.1	9.47	23.8	0.74	0.74	0.095	< 1.0	24.1
5/2/2023	101	2.3	1.60	64.6	465	4.16	0.04	< 0.01	< 0.01	0.006	6.85	21.5	6.02	22.9	0.58	0.58	0.033	1.7	24.4
6/6/2023	125	< 2.0	2.67	84.1	539	1.80	0.07	< 0.01	< 0.01	0.034	7.03	19.8	8.42	26.1	0.72	0.72	0.034	< 1.0	24.2
7/11/2023	145	< 2.0	< 0.80	90.0	562	0.29	0.06	< 0.01	< 0.01	0.016	6.88	18	9.26	28.0	0.72	0.72	0.063	< 1.0	24.2
8/7/2023	124	< 2.0	< 0.80	75.7	498	1.02	0.08	< 0.01	< 0.01	0.196	6.44	17.6	8.35	29.1	0.78	0.78	0.205	< 1.0	24.3
9/12/2023	93	< 2.0	1.07	63.1	444	2.15	< 0.01	< 0.01	< 0.01	0.184	5.92	17.4	7.17	27.5	0.54	0.54	0.207	< 1.0	24.4
10/3/2023	88	< 2.0	< 0.80	52.4	362	3.09	0.08	< 0.01	< 0.01	0.248	6.50	< 2	7.37	25.5	0.59	0.59	0.273	< 1.0	24.7
11/14/2023	137	< 2.0	1.60	91.9	613	0.61	0.04	< 0.01	< 0.01	0.15	6.51	33.8	6.98	22.1	0.76	0.76	0.153	< 1.0	24.3
12/12/2023	119	< 2.0	1.60	83.5	566	2.04	0.02	< 0.01	< 0.01	0.23	6.73	34.9	6.84	16.2	0.74	0.74	0.209	< 1.0	24.4
Average	122	< 2.0	1.60	78.1	496	2.09	0.05	< 0.01	< 0.01	0.194	6.76	20.0	7.96	23.4	0.67	0.67	0.206	1.3	24.3

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL18B

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	1.60	425	3.73	0.03	< 0.01	0.434	7.63	14.0	0.45	0.45	0.451	3.4	18.0
2/6/2023[a]	< 2.0	< 0.80	513	NS[b]	0.04	0.02	0.512	7.35	19.9	0.69	0.71	0.512	1.7	17.8
3/6/2023	< 2.0	2.67	997	5.23	0.02	0.01	0.232	7.55	24.6	0.61	0.62	0.254	4.7	17.8
4/3/2023	< 2.0	1.07	578	4.84	0.07	0.05	0.076	7.45	23.7	0.68	0.73	0.087	1.7	17.6
5/1/2023	< 2.0	1.60	446	4.70	0.04	0.01	0.014	6.92	22.4	0.98	0.99	0.041	1.5	18.1
6/5/2023	< 2.0	< 0.80	518	4.65	0.04	0.03	0.017	7.19	25.9	0.83	0.86	0.032	1.4	17.8
7/10/2023	< 2.0	2.67	531	4.08	0.03	0.05	0.022	7.13	28.2	0.56	0.61	0.066	2.1	17.8
8/7/2023	< 2.0	1.60	472	3.58	0.04	0.05	0.140	6.88	28.5	0.66	0.71	0.165	2.8	17.8
9/11/2023	< 2.0	< 0.80	370	3.93	0.02	0.04	0.123	6.69	26.8	0.61	0.65	0.145	1.5	18.0
10/2/2023	< 2.0	1.60	346	3.77	< 0.02	0.02	0.112	6.75	25.0	0.47	0.49	0.134	< 1.0	18.6
11/13/2023	< 2.0	1.07	604	5.72	< 0.02	0.04	0.120	7.02	22.1	0.64	0.68	0.138	1.5	17.8
12/11/2023	< 2.0	< 0.80	552	6.70	< 0.02	0.03	0.190	6.85	17.5	0.63	0.66	0.194	1.0	17.9
Average	< 2.0	1.42	529	4.63	0.03	0.03	0.166	7.12	23.2	0.65	0.68	0.185	2.0	17.9

[a]DO was not sampled due to DO probe issues

[b]NS – Not Sampled

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WL18F

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	< 2.0	1.07	408	3.96	0.04	< 0.01	0.377	7.66	12.2	0.59	0.59	0.389	3.2	17.8
2/6/2023	< 2.0	1.07	542	3.91	0.03	< 0.01	0.318	7.55	17.4	0.60	0.6	0.360	2.0	17.7
3/6/2023	< 2.0	2.14	1020	5.63	0.02	< 0.01	0.227	7.54	24.3	0.56	0.56	0.213	3.3	17.7
4/3/2023	< 2.0	1.60	598	3.86	0.01	< 0.01	0.206	7.40	21.6	0.56	0.56	0.209	1.7	17.2
5/1/2023	< 2.0	1.07	451	4.78	0.03	< 0.01	0.022	7.27	21.4	0.96	0.96	0.051	1.2	18.0
6/5/2023	< 2.0	1.60	542	4.91	0.05	< 0.01	0.036	7.29	24.4	0.81	0.81	0.051	3.1	17.6
7/10/2023	< 2.0	1.07	569	6.54	0.03	0.01	0.038	7.22	27.4	0.82	0.83	0.085	2.3	17.6
8/7/2023	< 2.0	< 0.80	475	3.57	0.03	0.02	0.129	6.94	26.9	0.76	0.78	0.149	5.4	17.6
9/11/2023	< 2.0	1.60	376	3.92	< 0.01	0.01	0.079	6.83	25.5	0.68	0.69	0.111	4.1	17.9
10/2/2023	< 2.0	1.07	339	6.11	< 0.02	< 0.01	0.074	6.91	24.7	0.54	0.54	0.093	1.0	18.6
11/13/2023	< 2.0	2.14	600	7.60	< 0.02	0.03	0.110	7.27	22.2	0.71	0.74	0.125	2.0	17.8
12/11/2023	< 2.0	0.80	557	8.75	< 0.02	0.04	0.180	7.08	15.7	0.57	0.61	0.186	1.1	17.7
Average	< 2.0	1.34	540	5.30	0.03	0.02	0.150	7.25	22.0	0.68	0.69	0.169	2.5	17.8

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WLLS2

Date	CBOD-B	CHLORO	CON-B	DO-B	NH3-B	NOX-B	OP-B	PH-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	< 2.0	8.01	464	4.92	0.03	< 0.01	0.006	8.59	21.3	0.67	0.67	0.042	1.5	16.1
2/6/2023	< 2.0	2.67	460	6.11	0.05	< 0.01	0.017	8.50	20.2	0.67	0.67	0.049	1.2	15.9
3/6/2023	3.2	5.87	866	11.6	0.02	< 0.01	0.016	9.23	26.0	0.61	0.61	0.039	1.6	15.9
4/3/2023	3.7	56.10	476	5.03	< 0.01	< 0.01	0.005	9.04	25.2	1.47	1.47	0.052	9.9	15.6
5/1/2023	2.3	9.61	506	6.62	0.04	< 0.01	0.003	8.32	24.7	1.25	1.25	0.050	3.9	16.6
6/5/2023	< 2.0	4.27	469	6.83	0.05	< 0.01	0.003	8.14	27.9	0.91	0.91	< 0.030	1.2	16.2
7/10/2023	< 2.0	1.07	453	6.4	0.02	< 0.01	0.004	8.24	30.8	0.73	0.73	0.030	< 1.0	16.0
8/7/2023	< 2.0	5.34	404	7.99	0.02	< 0.01	0.007	7.96	31.3	0.77	0.77	0.037	1.7	16.5
9/11/2023	< 2.0	1.60	391	7.4	< 0.01	< 0.01	0.004	7.65	29.5	0.50	0.50	< 0.030	< 1.0	17.0
10/2/2023	< 2.0	2.67	428	3.3	< 0.02	< 0.01	0.004	7.36	27.5	0.51	0.51	< 0.030	< 1.0	17.4
11/13/2023	< 2.0	< 0.80	479	6.69	< 0.02	0.02	0.000	7.60	23.0	0.61	0.63	< 0.030	< 1.0	16.1
12/11/2023	< 2.0	2.14	530	7.03	< 0.02	0.02	0.010	7.36	19.3	0.71	0.73	< 0.030	< 1.0	16.2
Average	2.3	8.35	494	6.66	0.03	< 0.01	0.007	8.17	25.6	0.78	0.79	0.037	2.2	16.3

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WLHS9

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/11/2023	110	< 2.0	2.67	69.1	395	5.40	0.03	< 0.01	< 0.01	0.010	8.77	20.6	7.98	15.2	0.6	0.6	0.041	1.8	16.1
2/6/2023	110	< 2.0	2.67	71.5	464	6.26	0.03	< 0.01	< 0.01	0.018	8.44	21.8	8.14	20.6	0.62	0.62	0.053	< 1.0	16.8
3/6/2023	99	3.4	7.48	75.3	865	11.30	0.02	0.01	< 0.01	0.013	9.19	23.9	8.39	26.1	0.61	0.61	0.041	2.5	15.9
4/3/2023	87	2.9	64.10	86.1	477	4.12	0.06	0.02	0.02	0.020	8.78	28.9	11.3	24.9	1.63	1.65	0.049	5.2	15.7
5/1/2023	96	2.0	9.61	87.8	507	6.20	0.03	< 0.01	< 0.01	0.003	8.17	22.1	9.32	24.8	1.42	1.42	0.038	3.0	16.6
6/5/2023	96	< 2.0	5.87	81.5	469	7.01	0.06	< 0.01	< 0.01	0.003	8.23	14.3	8.2	27.8	0.86	0.86	< 0.030	1.0	16.2
7/10/2023	93	< 2.0	2.14	83.5	454	5.61	0.03	< 0.01	< 0.01	0.004	8.02	10.9	7.87	30.0	0.79	0.79	< 0.030	< 1.0	16.1
8/7/2023	98	< 2.0	2.67	65.8	407	7.55	0.02	< 0.01	< 0.01	0.007	8.02	11.4	7.21	31.3	0.61	0.61	< 0.030	< 1.0	16.5
9/11/2023	100	< 2.0	2.14	62.6	387	6.01	< 0.01	< 0.01	< 0.01	0.005	7.44	11.8	6.76	29.6	0.52	0.52	< 0.030	< 1.0	17.0
10/2/2023	108	< 2.0	3.20	58.6	431	3.15	< 0.02	< 0.01	< 0.01	0.003	7.46	11.2	6.2	27.5	0.46	0.46	< 0.030	< 1.0	17.4
11/13/2023	115	< 2.0	2.67	68.1	478	7.18	< 0.02	< 0.01	0.02	0.000	7.59	13	6.67	23.0	0.66	0.68	< 0.030	< 1.0	16.1
12/11/2023	126	< 2.0	2.14	75.9	530	7.30	< 0.02	< 0.01	0.02	0.010	7.40	15.9	6.86	19.3	0.67	0.69	< 0.030	< 1.0	16.2
Average	103	2.2	8.95	73.8	489	6.42	0.03	< 0.01	< 0.01	0.008	8.13	17.2	7.91	25.0	0.79	0.79	0.036	1.7	16.4

Orlando Easterly Wetlands
2023 Internal Water Quality
Sample Point: WLHS10

Date	ALK-B	CBOD-B	CHLORO	CL-B	CON-B	DO-B	NH3-B	NH3U-B	NOX-B	OP-B	PH-B	SO4-B	STOC-B	TDS-B	TEMP-B	TKN-B	TN	TP-B	TSS-B	WATERLVL
1/10/2023	114	< 2.0	2.14	72.0	444	3.82	0.04	< 0.01	0.03	0.120	7.32	28.0	7.00	290	17.2	0.56	0.59	0.143	< 1.0	15.2
2/6/2023	126	< 2.0	1.07	75.1	474	1.69	0.01	< 0.01	0.03	0.144	6.73	17.5	7.59	292	18.5	0.57	0.60	0.168	< 1.0	15.0
3/6/2023	110	< 2.0	1.60	71.0	891	5.66	0.02	< 0.01	< 0.01	0.108	7.22	11.4	8.37	248	23.5	0.58	0.58	0.130	< 1.0	15.1
4/3/2023[a]	114	< 2.0	2.67	92.0	476	5.19	< 0.01	< 0.01	< 0.01	0.005	7.17	13.8	9.22	308	23.4	0.76	0.76	0.055	1.1	ND[b]
5/1/2023	103	< 2.0	1.60	79.9	480	4.61	0.03	< 0.01	< 0.01	0.015	6.77	16.1	8.07	232	22.1	0.95	0.95	0.033	< 1.0	15.8
6/5/2023	115	< 2.0	1.07	82.7	509	4.38	0.03	< 0.01	< 0.01	0.015	6.84	18.9	7.84	296	25.5	0.88	0.88	< 0.030	< 1.0	14.8
7/10/2023	138	< 2.0	1.07	87.6	479	4.17	0.02	< 0.01	< 0.01	0.024	6.89	5.1	8.45	328	28.1	0.69	0.69	0.059	< 1.0	14.7
8/7/2023	119	< 2.0	< 0.80	67.9	445	3.80	0.03	< 0.01	< 0.01	0.069	6.35	2.4	7.62	260	28.9	0.61	0.61	0.088	1.0	15.4
9/11/2023	110	< 2.0	1.07	65.5	388	51.10	< 0.01	< 0.01	< 0.01	0.077	6.49	14.2	6.99	250	27.2	0.59	0.59	0.100	1.4	16.0
10/2/2023	93	< 2.0	2.14	50.8	370	4.31	< 0.02	< 0.01	< 0.01	0.099	6.69	< 2.0	8.43	186	25.4	0.64	0.64	0.123	2.5	16.4
11/13/2023	138	< 2.0	1.07	82.8	569	4.66	0.03	< 0.01	0.01	0.100	6.40	17.7	6.80	302	22.3	0.68	0.69	0.112	< 1.0	15.0
12/11/2023	125	< 2.0	1.60	78.3	543	5.30	< 0.02	< 0.01	0.02	0.150	6.50	27.9	6.94	304	18.6	0.69	0.71	0.161	1.1	15.2
Average	117	< 2.0	1.49	75.5	506	8.22	< 0.02	< 0.01	< 0.01	0.077	6.78	14.6	7.78	275	23.4	0.68	0.69	0.100	1.2	15.3

[a]Water Level not documented due to water level being below waterlevel indicator

[b]ND – Not Documented

Appendix D

2023 OEW Semiannual Metals, Organochlorine Pesticides, PCBs and Volatile Organic Compounds

ORLANDO EASTERLY WETLANDS
2023 Semi-Annual Metals Testing

Method	Metal	Units	WP1 (Influent)		WL11X		WL15X		HS9		HS10 (D002 Outfall)	
			5/16/2023	11/1/2023	5/16/2023	11/1/2023	5/16/2023	11/1/2023	5/16/2023	11/1/2023	5/16/2023	11/1/2023
ICP	Aluminum - Al	(ug/L)	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
	Arsenic - As	(ug/L)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
	Boron - B	(ug/L)	**263**	**195**	**230**	**185**	**219**	**157**	**207**	**149**	**214**	**162**
	Barium - Ba	(ug/L)	**8.7**	**9.8**	**10.4**	**10.6**	**9.2**	**10.0**	**6.7**	**10.7**	**9.0**	**10.3**
	Calcium ICP- Ca	(ug/L)	**42.7**	**40.2**	**43.1**	**41.2**	**41.5**	**40.4**	**25.1**	**36.1**	**37.1**	**40.8**
	Chromium - Cr	(ug/L)	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	Iron - Fe	(ug/L)	**72.7**	**45.5**	**15.3**	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0
	Hardness	(mg/L as CaCO3)	**145.0**	**136.0**	**144.0**	**138.0**	**139.0**	**136.0**	**95.3**	**118.0**	**126.0**	**133.0**
	Magnesium ICP	(ug/L)	**9.42**	**8.75**	**8.92**	**8.50**	**8.50**	**8.43**	**7.92**	**6.71**	**8.21**	**7.58**
	Manganese - Mn	(ug/L)	**14.00**	<1.5	**8.80**	**5.40**	**2.10**	**1.60**	<1.5	<1.5	**2.50**	**2.30**
	Nickel - Ni	(ug/L)	**9.50**	**8.70**	**10.30**	**8.90**	**8.00**	**9.50**	<2.00	**4.80**	**6.80**	**8.20**
	Selenium - Se	(ug/L)	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
	Zinc - Zn	(mg/L)	**30.1**	**14.9**	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
AA Graphite Furnace	Silver - Ag	(ug/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Beryllium - Be	(ug/L)	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
	Cadmium - Cd	(ug/L)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Copper - Cu	(ug/L)	**1.46**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	Lead - Pb	(ug/L)	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	Antimony - Sb	(ug/L)	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50
	Thallium - Tl	(ug/L)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cold Vapor	Mercury - Hg	(ug/L)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

ORLANDO EASTERLY WETLANDS
EPA Method# 608.3: Organochlorine Pesticides and PCBs
2023 Semi-Annual Monitoring Data
Location: WP1

Analyte	8/22/2023		12/18/2023	
	Result	MDL	Result	MDL
Aldrin (ug/L)	< 0.0013	0.0013	< 0.002	0.002
alpha-BHC (ug/L)	< 0.0014	0.0014	< 0.00098	0.00098
beta-BHC (ug/L)	< 0.0016	0.0016	< 0.002	0.002
Chlordane (ug/L)	< 0.12	0.12	< 0.16	0.16
4,4'-DDD (ug/L)	< 0.0018	0.0018	< 0.002	0.002
4,4'-DDE (ug/L)	< 0.0011	0.0011	**0.025**	0.00098
4,4'-DDT (ug/L)	< 0.0024	0.0024	< 0.00098	0.00098
DCB Decachlorobiphenyl (%)	89		86	
delta-BHC (ug/L)	< 0.0022	0.0022	< 0.002	0.002
Dieldrin (ug/L)	< 0.0012	0.0012	**0.0058**	0.002
Endosulfan I (ug/L)	< 0.0018	0.0018	< 0.002 J3	0.002
Endosulfan II (ug/L)	< 0.003	0.0030	< 0.002	0.002
Endosulfan sulfate (ug/L)	< 0.0036	0.0036	< 0.002	0.002
Endrin (ug/L)	< 0.0017	0.0017	< 0.00098	0.00098
Endrin aldehyde (ug/L)	< 0.002	0.0020	< 0.0039	0.0039
gamma-BHC (Lindane) (ug/L)	< 0.0011	0.0011	< 0.00098	0.00098
Heptachlor (ug/L)	< 0.0019	0.0019	< 0.00098	0.00098
Heptachlor epoxide (ug/L)	< 0.0023	0.0023	< 0.002	0.002
Methoxychlor (ug/L)	< 0.0071	0.0071	< 0.002	0.002
Tetrachloro-m-xylene (%)	54		97	
Toxaphene (ug/L)	< 0.074	0.074	< 0.3	0.3
PCB-1016 (ug/L)	< 0.061 J3	0.061	< 0.098	0.098
PCB-1221 (ug/L)	< 0.15	0.15	< 0.098	0.098
PCB-1232 (ug/L)	< 0.12	0.12	< 0.098	0.098
PCB-1242 (ug/L)	< 0.13	0.13	< 0.098	0.098
PCB-1248 (ug/L)	< 0.093	0.092	< 0.098	0.098
PCB-1254 (ug/L)	< 0.11	0.11	< 0.098	0.098
PCB-1260 (ug/L)	< 0.044 J3	0.044	< 0.098	0.098

ORLANDO EASTERLY WETLANDS
EPA Method# 608.3: Organochlorine Pesticides and PCBs
2023 Semi-Annual Monitoring Data
Location: WL11X

Analyte	8/22/2023		12/18/2023	
	Result	MDL	Result	MDL
Aldrin (ug/L)	< 0.0013	0.0013	< 0.0019	0.0019
alpha-BHC (ug/L)	< 0.0014	0.0014	< 0.00097	0.00097
beta-BHC (ug/L)	< 0.0016	0.0016	< 0.0019	0.0019
Chlordane (ug/L)	< 0.12	0.12	< 0.16	0.16
4,4'-DDD (ug/L)	< 0.0018	0.0018	< 0.0019	0.0019
4,4'-DDE (ug/L)	< 0.0011	0.0011	< 0.00097	0.00097
4,4'-DDT (ug/L)	< 0.0024	0.0024	< 0.00097	0.00097
DCB Decachlorobiphenyl (%)	82		98	
delta-BHC (ug/L)	< 0.0022	0.0022	< 0.0019	0.0019
Dieldrin (ug/L)	< 0.0012	0.0012	< 0.0019	0.0019
Endosulfan I (ug/L)	< 0.0018	0.0018	< 0.0019 J3	0.0019
Endosulfan II (ug/L)	< 0.0030	0.0030	< 0.0019	0.0019
Endosulfan sulfate (ug/L)	< 0.0036	0.0036	< 0.0019	0.0019
Endrin (ug/L)	< 0.0017	0.0017	< 0.00097	0.00097
Endrin aldehyde (ug/L)	< 0.0020	0.0020	< 0.0039	0.0039
gamma-BHC (Lindane) (ug/L)	< 0.0011	0.0011	< 0.00097	0.00097
Heptachlor (ug/L)	< 0.0019	0.0019	< 0.00097	0.00097
Heptachlor epoxide (ug/L)	< 0.0023	0.0023	< 0.0019	0.0019
Methoxychlor (ug/L)	< 0.0071	0.0071	< 0.0019	0.0019
Tetrachloro-m-xylene (%)	60		87	
Toxaphene (ug/L)	< 0.074	0.074	< 0.3	0.3
PCB-1016 (ug/L)	< 0.061 J3	0.061	< 0.097	0.097
PCB-1221 (ug/L)	< 0.15	0.15	< 0.097	0.097
PCB-1232 (ug/L)	< 0.12	0.12	< 0.097	0.097
PCB-1242 (ug/L)	< 0.13	0.13	< 0.097	0.097
PCB-1248 (ug/L)	< 0.093	0.093	< 0.097	0.097
PCB-1254 (ug/L)	< 0.11	0.11	< 0.097	0.097
PCB-1260 (ug/L)	< 0.044 J3	0.044	< 0.097	0.097

ORLANDO EASTERLY WETLANDS
EPA Method# 608.3: Organochlorine Pesticides and PCBs
2023 Semi-Annual Monitoring Data
Location: WL15X

Analyte	8/22/2023		12/18/2023	
	Result	MDL	Result	MDL
Aldrin (ug/L)	< 0.0013	0.0013	< 0.0019	0.0019
alpha-BHC (ug/L)	< 0.0014	0.0014	< 0.00097	0.00097
beta-BHC (ug/L)	< 0.0016	0.0016	< 0.0019	0.0019
Chlordane (ug/L)	< 0.12	0.12	< 0.16	0.16
4,4'-DDD (ug/L)	< 0.0018	0.0018	< 0.0019	0.0019
4,4'-DDE (ug/L)	< 0.0011	0.0011	< 0.00097	0.00097
4,4'-DDT (ug/L)	< 0.0024	0.0024	< 0.00097	0.00097
DCB Decachlorobiphenyl (%)	106		106	
delta-BHC (ug/L)	< 0.0022	0.0022	< 0.0019	0.0019
Dieldrin (ug/L)	< 0.0012	0.0012	< 0.0019	0.0019
Endosulfan I (ug/L)	< 0.0018	0.0018	< 0.0019 J3	0.0019
Endosulfan II (ug/L)	< 0.0030	0.0030	< 0.0019	0.0019
Endosulfan sulfate (ug/L)	< 0.0036	0.0036	< 0.0019	0.0019
Endrin (ug/L)	< 0.0017	0.0017	< 0.00097	0.00097
Endrin aldehyde (ug/L)	< 0.0020	0.0020	< 0.0039	0.0039
gamma-BHC (Lindane) (ug/L)	< 0.0011	0.0011	< 0.00097	0.00097
Heptachlor (ug/L)	< 0.0019	0.0019	< 0.00097	0.00097
Heptachlor epoxide (ug/L)	< 0.0023	0.0023	< 0.0019	0.0019
Methoxychlor (ug/L)	< 0.0071	0.0071	< 0.0019	0.0019
Tetrachloro-m-xylene (%)	68		90	
Toxaphene (ug/L)	< 0.074	0.074	< 0.3	0.3
PCB-1016 (ug/L)	< 0.061 J3	0.061	< 0.097	0.097
PCB-1221 (ug/L)	< 0.15	0.15	< 0.097	0.097
PCB-1232 (ug/L)	< 0.12	0.12	< 0.097	0.097
PCB-1242 (ug/L)	< 0.13	0.13	< 0.097	0.097
PCB-1248 (ug/L)	< 0.093	0.092	< 0.097	0.097
PCB-1254 (ug/L)	< 0.11	0.11	< 0.097	0.097
PCB-1260 (ug/L)	< 0.044 J3	0.044	< 0.097	0.097

ORLANDO EASTERLY WETLANDS
EPA Method# 608.3: Organochlorine Pesticides and PCBs
2023 Semi-Annual Monitoring Data
Location: HS9

Analyte	8/22/2023		12/18/2023	
	Result	MDL	Result	MDL
Aldrin (ug/L)	< 0.0013	0.0013	< 0.002	0.002
alpha-BHC (ug/L)	< 0.0014	0.0014	< 0.00098	0.00098
beta-BHC (ug/L)	< 0.0016	0.0016	< 0.002	0.002
Chlordane (ug/L)	< 0.12	0.12	< 0.16	0.16
4,4'-DDD (ug/L)	< 0.0018	0.0018	< 0.002	0.002
4,4'-DDE (ug/L)	< 0.0011	0.0011	< 0.00098	0.00098
4,4'-DDT (ug/L)	< 0.0024	0.0024	< 0.00098	0.00098
DCB Decachlorobiphenyl (%)	104		83	
delta-BHC (ug/L)	< 0.0022	0.0022	< 0.002	0.002
Dieldrin (ug/L)	< 0.0012	0.0012	< 0.002	0.002
Endosulfan I (ug/L)	< 0.0018	0.0018	< 0.002 J3	0.002
Endosulfan II (ug/L)	< 0.0030	0.0030	< 0.002	0.002
Endosulfan sulfate (ug/L)	< 0.0036	0.0036	< 0.002	0.002
Endrin (ug/L)	< 0.0017	0.0017	< 0.00098	0.00098
Endrin aldehyde (ug/L)	< 0.0020	0.0020	< 0.0039	0.0039
gamma-BHC (Lindane) (ug/L)	< 0.0011	0.0011	< 0.00098	0.00098
Heptachlor (ug/L)	< 0.0019	0.0019	< 0.00098	0.00098
Heptachlor epoxide (ug/L)	< 0.0023	0.0023	< 0.002	0.002
Methoxychlor (ug/L)	< 0.0071	0.0071	< 0.002	0.002
Tetrachloro-m-xylene (%)	68		81	
Toxaphene (ug/L)	< 0.074	0.074	< 0.3	0.3
PCB-1016 (ug/L)	< 0.061 J3	0.061	< 0.098	0.098
PCB-1221 (ug/L)	< 0.15	0.15	< 0.098	0.098
PCB-1232 (ug/L)	< 0.12	0.12	< 0.098	0.098
PCB-1242 (ug/L)	< 0.13	0.13	< 0.098	0.098
PCB-1248 (ug/L)	< 0.093	0.092	< 0.098	0.098
PCB-1254 (ug/L)	< 0.11	0.11	< 0.098	0.098
PCB-1260 (ug/L)	< 0.044 J3	0.044	< 0.098	0.098

ORLANDO EASTERLY WETLANDS
EPA Method# 608.3: Organochlorine Pesticides and PCBs
2023 Semi-Annual Monitoring Data
Location: HS10

Analyte	8/22/2023		12/18/2023	
	Result	MDL	Result	MDL
Aldrin (ug/L)	< 0.0013	0.0013	< 0.002	0.002
alpha-BHC (ug/L)	< 0.0014	0.0014	< 0.00098	0.00098
beta-BHC (ug/L)	< 0.0016	0.0016	< 0.002	0.002
Chlordane (ug/L)	< 0.12	0.12	< 0.16	0.16
4,4'-DDD (ug/L)	< 0.0018	0.0018	< 0.002	0.002
4,4'-DDE (ug/L)	< 0.0011	0.0011	< 0.00098	0.00098
4,4'-DDT (ug/L)	< 0.0024	0.0024	< 0.00098	0.00098
DCB Decachlorobiphenyl (%)	93		91	
delta-BHC (ug/L)	< 0.0022	0.0022	< 0.002	0.002
Dieldrin (ug/L)	< 0.0012	0.0012	< 0.002	0.002
Endosulfan I (ug/L)	< 0.0018	0.0018	< 0.002 J3	0.002
Endosulfan II (ug/L)	< 0.0030	0.0030	< 0.002	0.002
Endosulfan sulfate (ug/L)	< 0.0036	0.0036	< 0.002	0.002
Endrin (ug/L)	< 0.0017	0.0017	< 0.00098	0.00098
Endrin aldehyde (ug/L)	< 0.0020	0.0020	< 0.0039	0.0039
gamma-BHC (Lindane) (ug/L)	< 0.0011	0.0011	< 0.00098	0.00098
Heptachlor (ug/L)	< 0.0019	0.0019	< 0.00098	0.00098
Heptachlor epoxide (ug/L)	< 0.0023	0.0023	< 0.002	0.002
Methoxychlor (ug/L)	< 0.0071	0.0071	< 0.002	0.002
Tetrachloro-m-xylene (%)	63		85	
Toxaphene (ug/L)	< 0.074	0.074	< 0.3	0.3
PCB-1016 (ug/L)	< 0.061 J3	0.061	< 0.098	0.098
PCB-1221 (ug/L)	< 0.15	0.15	< 0.098	0.098
PCB-1232 (ug/L)	< 0.12	0.12	< 0.098	0.098
PCB-1242 (ug/L)	< 0.13	0.13	< 0.098	0.098
PCB-1248 (ug/L)	< 0.093	0.092	< 0.098	0.098
PCB-1254 (ug/L)	< 0.11	0.11	< 0.098	0.098
PCB-1260 (ug/L)	< 0.044 J3	0.044	< 0.098	0.098

ORLANDO EASTERLY WETLANDS
EPA Method# 624.1 Volatile Organic Compounds
2023

Analyte	MDL	WP1		WL11X		WL15X		HS9		HS10	
		8/22/2023	12/18/2023	8/22/2023	12/18/2023	8/22/2023	12/18/2023	8/22/2023	12/18/2023	8/22/2023	12/18/2023
1,1,1-Trichloroethane (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2 Tetrachloroethane (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2 Trichloroethane (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1 Dichloroethane (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1 Dichloroethene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2 Dichlorobenzene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2 Dichloroethane (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2 Dichloropropane (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3 Dichlorobenzene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4 Dichlorobenzene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Chloroethyl vinyl ether (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4 Bromofluorobenzene (%)	0.5	**87**	**96**	**86**	**99**	**86**	**101**	**87**	**102**	**95**	**96**
Acrolein (ug/L)	10	< 10 J3	< 10 J3	< 10 J3	< 10 J3	< 10 J3	< 10 J3	< 10 J3	< 10 J3	< 10 J3	< 10 J3
Acrylonitrile (ug/L)	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane (ug/L)	0.5	**5**	**6.2**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform (ug/L)	0.5	**20**	**24**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2 Dichloroethene (ug/L)	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
cis-1,3 Dichloropropene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane (ug/L)	0.5	**0.77**	**0.76**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromofluoromethane (%)	0.5	**117**	**114**	**118**	**112**	**117**	**113**	**115**	**114**	**106**	**113**
Dichlorodifluoromethane (ug/L)	0.5	< 0.5	< 0.5 J3	< 0.5	< 0.5 J3	< 0.5	< 0.5 J3	< 0.5	< 0.5 J3	< 0.5	< 0.5 J3
Ethylbenzene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m,p-Xylenes (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene Chloride (ug/L)	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
0-Xylene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene-d8 (%)	0.5	**100**	**104**	**100**	**102**	**110**	**104**	**101**	**105**	**103**	**105**
trans-1,2-Dichloroethene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl Chlorida (ug/L)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes, Total (ug/L)	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1