



Palm Beach County MS4s

**Palm Beach County MS4 NPDES
Steering Committee Meeting
Wednesday February 16, 2022**

Palm Beach County NPDES

Northern Palm Beach County Improvement District
359 Hiatt Drive
Palm Beach Gardens, FL 33418
www.pbco-npdes.org



AGENDA

**PALM BEACH COUNTY NPDES MS4
STEERING COMMITTEE MEETING
WEDNESDAY, FEBRUARY 16, 2022**

9:00 A.M. – 11:00 A.M.

**Palm Beach Gardens City Hall
- Council Chambers & Virtual
(Ref. No. C1050.10)**

LINK TO TEAMS MEETING: Refer to NPDES Website (www.pbco-npdes.org)
CALL IN NUMBER: Refer to NPDES Website (www.pbco-npdes.org)
CONFERENCE ID: Refer to NPDES Website (www.pbco-npdes.org)

The agenda for the meeting is as follows:

I. MS4 Activities

- a. Introductions
- b. Approval of January 19, 2020, Minutes
- c. Individual 5th Year Annual Reports
- d. Joint Annual Report for Year 5
- e. Training Registration Flyers
- f. 2020-2022 Biennial Assessment
- g. Cycle 5 Draft Permit
- h. FDEP Request for Retention/Detention Inventory

II. Next Scheduled Event

**March 17, 2022, IDDE, Spills & SEC Refresher Training by Cheryl Moore,
9:00 a.m. at City of Palm Beach Gardens Emergency Center & Virtual**

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PBC MS4 Co-Permittee Meeting
Cycle 4 Year 5 Joint Annual Report
WQ Program/Results

February 16, 2022



This website has been authorized by the Palm Beach County MS4 NPDES (PBC NPDES) Steering Committee as a resource for all permittees within the county. It is intended that this site will provide the permittee with helpful information on understanding and complying with the requirements of the MS4 NPDES permit.

Google Site Search

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- Components of the MS4 Permit
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Home

What is PBC MS4 NPDES?

The Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit allows a permittee to discharge stormwater from its stormwater collection and conveyance system into a receiving water owned by the state and/or federal government. The requirements detailed in the permit are intended to reduce stormwater pollutant discharges into those receiving water bodies.

In 1987, the Environmental Protection Agency was required, under Section 402 (p) of the Clean Water Act (N40CFR Part 112.26), to establish final regulations governing stormwater discharge permit application requirements. Typically the permit is reissued in five year intervals. Effective dates for issuance of the MS4 cycle permits is as follows:

- Cycle 1 - February 1, 1997
- Cycle 2 - November 18, 2002
- Cycle 3 - March 2, 2011
- Cycle 4 - September 8, 2016

Latest News

October 21, 2020 Steering Committee Meeting Presentation
10/21/2020

Cycle 4 - Year 4 Permit Requirements Presented September 16, 2020
9/16/2020

PBC MS4 NPDES Permit Annual Staff Training Presented March 11, 2020
3/11/2020

Upcoming Meeting or Training

5th Year Annual Reports - Individual Reports, Joint Report Cycle 5 Permit Requirements Permit Re-Application

February 16, 2022
9:00 AM-11:00 AM
Location: Palm Beach Hall Council Chamber:
The meeting will be held at the Palm Beach Gardens City Hall Chambers located at 1000 Military Trail, Palm Beach, FL 33410.

Face coverings are required in all City of Palm Beach buildings.

Virtual attendance is available for co-permittees/interested parties. A few minutes before the meeting, click here to join the meeting virtually through Microsoft Teams or call in.

Call-In Number:
561-421-3607

Conference ID:
582 482 2488

Home

News

The MS4 Permit

What is SWMP?

Components of the MS4 Permit

Group/Joint Activities

Impaired Waters & TMDLs

Annual Reporting

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Annual Reporting

Annual reporting requirements for the MS4 NPDES Permit are in Part V, Sections C-E of the Permit. These sections of the Permit refer to Rule 62-624.600 F.A.C. for report preparation requirements.

Certification of the Annual Report Form (ARF) must be in accordance with Rule 62.620.305 F.A.C.

The ARF must be submitted within 6 months of the end of the reporting cycle.

The Permit requires that records be retained in accordance with Rule 62-620.350 F.A.C.(generally three years).

Reporting Forms and Guidance

Individual permittees must prepare annual reports using the ARF, provided by FDEP. The most current ARF template is available here:

- [Instructions](#)
- [Cycle 4 Annual Report Forms](#)
- [Guidance for Completing Selected Sections of the C4-Y2 Individual ARFs](#)

In addition to the individual annual reports, a joint annual report is prepared that covers all the joint activities.

Report Archive

Cycle 4

Year 5 (2020-2021)

Joint Report(DRAFT)
Individual Annual Report Forms (ARFs)

Google Site Search

Reference Documents

- [Legal Authority Ordinances](#)
- [Florida Friendly Ordinances - Landscape/Fertilizer](#)

Municipal Separate Storm Sewer System
National Pollutant Discharge
Elimination System

Joint Annual Report

Cycle 4 - Year 5

October 1, 2020 Thru
September 30, 2021

DRAFT

Submitted by
Northern Palm Beach County
Improvement District
as Lead Permittee

prepared by
MOCK•ROOS



Palm Beach County MS4
Permit No. FLS000018-004

MS4 NPDES



PBC MS4 Program

- ▶ Contacts
- ▶ Group Activities
 - ▶ Annual Training
 - ▶ Public Education
 - ▶ TMDL Tracking
 - ▶ Water Quality Monitoring

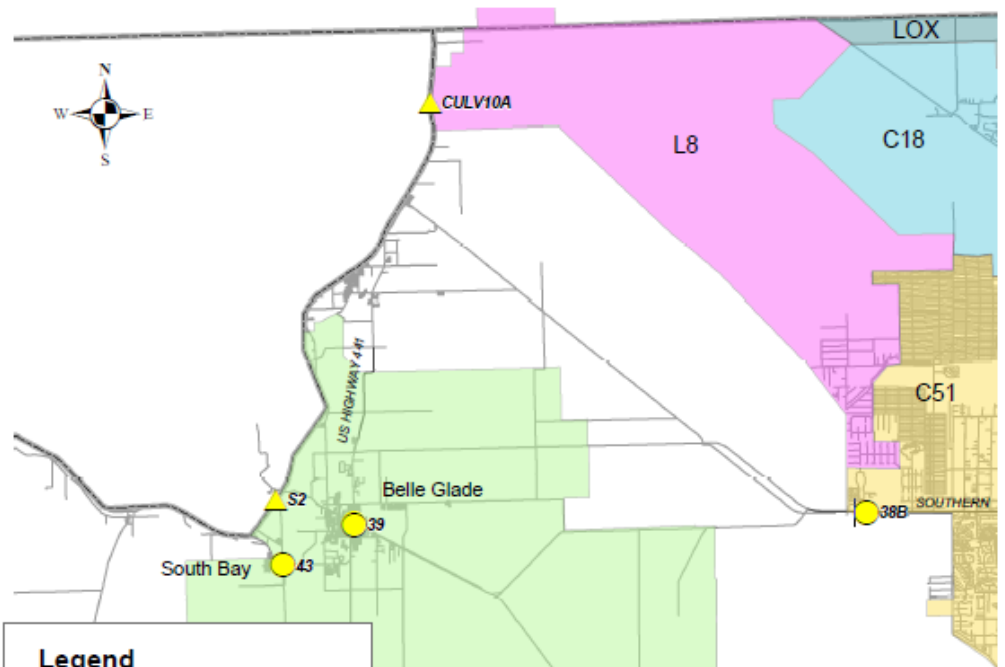
Water Quality Monitoring Program

- ▶ Ambient WQ Program
- ▶ Began in 1999
- ▶ Provides Data & Trend Analyses

Water Quality Monitoring Program

Data Sources:

- ▶ PBC ERM (25)
- ▶ Lox River District (7)
- ▶ SFWMD (5)
- ▶ Broward County (3)
- ▶ West Palm Beach (4)



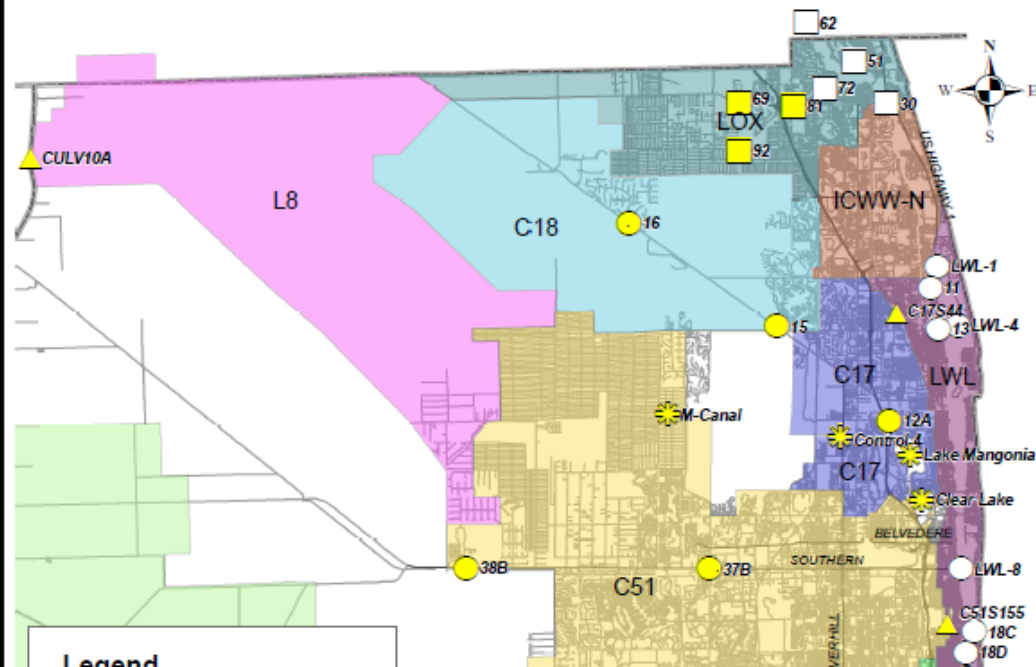
Legend

MS4 NPDES Water Quality Monitoring Stations

- ERM, Freshwater
- ERM, Marine
- LRD, Freshwater
- LRD, Marine
- ▲ SFWMD, Freshwater
- ★ BC, Marine
- ★ BC, Freshwater
- ☀ CWPB, Freshwater
- Palm Beach County Boundary
- Major Road
- Background roads

LRD - Loxahatchee River District
 PBC - Palm Beach County Environmental Resources Management
 SFWMD - South Florida Water Management District
 BC - Broward County
 LWL - Lake Worth Lagoon
 CWPB - City of West Palm Beach

Palm Beach County (Western Area) Watershed Boundaries and Water Quality Monitoring Stations



Legend

MS4 NPDES Water Quality Monitoring Stations

- ERM, Freshwater
- ERM, Marine
- LRD, Freshwater
- LRD, Marine
- ▲ SFWMD, Freshwater
- ★ BC, Marine
- ★ BC, Freshwater
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LRD - Loxahatchee River District
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 LWL - Lake Worth Lagoon
 CWPB - City of West Palm Beach

Palm Beach County (Eastern Area) Watershed Boundaries and Water Quality Monitoring Stations

Water Quality Monitoring Program

- ▶ 44 Stations
- ▶ +/- 22 Parameters
- ▶ Frequencies (Table 5-2)
 - ▶ Monthly
 - ▶ Bi-Monthly
 - ▶ Quarterly

Program Reporting

- ▶ Table 5-1: Monitoring Site Data
- ▶ Table 5-2: Sampling Schedule per parameter
- ▶ Table 5-3: WQ Standards per Waterbody (7 pages)

Program Reporting

- ▶ Table 5-4: Current Period Data per site (44 pages)
- ▶ Table 5-5: Current Period Data Summary of Exceedences per site
- ▶ Table 5-6: Period of Record Data Summary per site per watershed (25 pages)

Program Reporting

- ▶ Table 5-7: Period of Record Annual Geometric Mean for TN, TP & Chl-a, per watershed, per site
- ▶ Tables 5-8 thru 5-10: 10-year Period AGMs w/ comparisons to the criteria for TN, TP, Chl-a

Program Reporting

- ▶ Table 5-11: Period of Record WQ Trends for TP, TN, Chl-a, per watershed (14 pages)
- ▶ Figures 5-2 thru 5-4: Period of Record WQ Trends for TN, TP, & Chl-a

Year 5 Summary of Exceedances

Parameter	Exceedance Location(s)
DO	C-15, C-16, C-18, Lox River, Hillsboro, L-8, S-2-6-7
Fecal coliform	Loxahatchee River
Turbidity	C-17, L-8, S-2-6-7, WPBWS
pH	C-17, WPBWS
Chl-a	Lox River, LWL-N, LWL-C
Specific Conductivity	C-16, C51, S-2-6-7
Copper	ICWW-S, LWL-N, LWL-C

Year 5 Summary of Exceedances

Table 5-5
Summary of Exceedences per Site by Parameter
October 1, 2020 - September 30, 2021

Watershed	Site	Dissolved Oxygen	Turbidity	Fecal Coliform	pH	Specific Conductivity	Chlor-a*	Copper
							(AGM or %TPTV)	
C-15	31E	1/8						
	31C							
	31B				1/8			
C-16	22							
	24				1/8			
	27B	1/5						
	27A	1/8						
	28							
C-17	12A		1/8					
	C17S44							
C-18	16	2/8						
	15	4/8						
	92							
	81							
C-51	38B							
	37B							
	C51S155				1/10			
Lox	69	1/8		1/1				
	51							
	62							
	72						6.6	
ICWW-N	30							
LWL-N	LWL-1						4.4	1/3
	11							
	13							
	LWL-4							
LWL-C	LWL-8				1/11		18%	1/4
	18C							
	18D							1/5
	LWL-11				1/11			1/4
ICWW-S	LWL-13				1/10			
	LWL-18							1/4
Hillsboro	1							
	2							
	3							
	S39	1/11						
L-8	Culv10a	2/9	4/9			1/9		
S-2-6-7	S-2	2/11				3/11		
	39	2/8	1/8			1/8		
	43	1/8	1/8			1/8		
WPBWS	M Canal		5/10		2/10			
	Control 4		1/10					
	Lake Mangonia							
	Clear Lake				2/8			

*AGM - Annual Geometric Mean
 • Narrative - Shall not cause an imbalance in flora and fauna
 • TPTV- Ten Percent Threshold Value

Year 5 Table 5-4

**Table 5-4
Monitoring Data
Reporting Period October 2020 - September 2021
(Page 1 of 44)**

C-15 Watershed Monitoring Events

SITE 31E	SAMPLE DATE	11/19/20	1/28/21	3/17/21	5/19/21	7/26/21	9/23/21							Geometric Mean	Numeric Surface Water Quality Standard Criteria
PARAMETER	UNITS														
Alkalinity	mg/L														
Arsenic	mg/L	0.0036	0.0036	0.0036	0.0036	0.0036	0.0017								≤ 0.05
Cadmium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0011	0.0002								See Table 5-3, page 2
Chlorophyll-a (corrected)	ug/L	0.5	8.1	0.5	0.5	0.5	0.5						0.8		≤ 20 AGM
Copper	mg/L	0.0046	0.0032	0.0028	0.0013	0.0013	0.003								See Table 5-3, page 2
Dissolved Oxygen	% Saturation	52.1	77.8	81.0	107.8	71.1	27.6								> 38
E. Coli	cfu/100mL														≤ 400 cfu/100ml TPTV
Lead	mg/L	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023								See Table 5-3, page 2
Nitrogen, Ammonia	mg/L	0.320	0.018	0.018	0.018	0.018	0.150								
Nitrogen, nitrate + nitrite	mg/L	0.150	0.017	0.017	0.054	0.036	0.039								
Nitrogen, Total	mg/L	1.55	1.12	0.92	0.93	1.14	0.91						1.07		Narrative
Nitrogen, Total Kjeldahl	mg/L	1.4	1.1	0.9	0.88	1.1	0.87								
pH	None	7.74	7.55	7.75	8.11	7.61	7.33								6.0 to 8.5
Phosphorus, orthophosphate	mg/L	0.4700	0.230	0.066	0.037	0.120	0.069								
Phosphorus, Total	mg/L	0.5200	0.3000	0.1300	0.073	0.2200	0.14						0.189		Narrative
Salinity	ppth														
Specific Conductivity	umho/cm	382	651	671	554	532	439.2								≤ 1275
Temperature	deg C	23.6	23.4	25.2	28.0	31.4	28.6								
Total Hardness	mg/L	149	229	219	175	169	161								
Total Suspended Solids	mg/L	2.5	2.5	2.5	1.5	4.2	3.2								
Turbidity	NTU	5.4	2.8	2.9	1.6	3.5	0.3								≤ 29
Zinc	mg/L	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055								See Table 5-3, page 2

- Metal exceedences are based on hardness
- Highlighted in "blue" are substituted values that were below the limits of detection. The value shown is the method detection limit provided with the data.
- Highlighted in "yellow" are sample values that exceed either the State Water Quality Standards for a specific parameter or Florida's Impaired Waters Rule criteria for chlorophyll-a.
- AGM - Annual Geometric Mean
- TPTV - Ten Percent Threshold Value
- Narrative - Shall not cause an imbalance in flora and fauna

AGMs - 10-Year for TN, TP & Chl-a

Table 5-9
Total Phosphorus (Annual Geometric Mean)
(Page 2 of 4)

	C-18					C-51				Lox	Lox			
	16	15	92	81	Basin	38B	37B	C51S155	Basin	69	51	62	72	Basin
2012	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2013	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2014	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2015	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2016	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2017	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2018	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2019	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2020	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2021	●	●	●	●	●	●	●	●	●	●	●	●	●	●
FDEP Criteria	<=0.12	<=0.12	<=0.12	<=0.12	<=0.12	No Criteria	No Criteria	No Criteria	No Criteria	<=0.12	<=0.03	<=0.075	<=0.075	<=0.1

- Meeting criteria
- Not meeting criteria
- No numeric criteria

Values Used (mg/l)

2012	0.03	0.01	0.02	0.02	0.02	0.13	0.04	0.03	0.06	0.04	0.03	0.04	0.04	0.03
2013	0.03	0.00	0.02	0.02	0.02	0.09	0.08	0.06	0.08	0.03	0.03	0.06	0.04	0.04
2014	0.01	0.01	0.04	0.02	0.02	0.11	0.14	0.06	0.10	0.04	0.03	0.06	0.04	0.04
2015	0.02	0.01	0.02	0.02	0.02	0.11	0.08	0.08	0.09	0.03	0.02	0.05	0.04	0.03
2016	0.02	0.01	0.03	0.03	0.02	0.08	0.09	0.06	0.08	0.03	0.02	0.05	0.05	0.04
2017	0.03	0.15	0.04	0.02	0.04	0.18	0.05	0.06	0.08	0.04	0.02	0.04	0.03	0.03
2018	0.02	0.01	0.06	0.03	0.02	0.16	0.11	0.09	0.11	0.06	0.03		0.04	0.03
2019	0.03	0.01	0.03	0.02		0.04	0.01	0.07		0.03	0.02	0.05	0.04	0.03
2020	0.03	0.01	0.03	0.02	0.02	0.08	0.01	0.05	0.04	0.03	0.02	0.04	0.04	0.03
2021	0.04	0.02	0.03	0.02	0.02	0.06	0.00	0.06	0.03	0.03	0.02	0.04	0.03	0.03

Trends - Period-of-Record for TN, TP & Chl-a

Table 5-11 Water Quality Trends

C-18 Watershed

(Page 4 of 14)

Total Nitrogen

Site	Date Range	Tau	Slope ¹	Selected P-Value ²	Statistical Trend Interpretation ³
16	1999 - 2021	-0.090693	-0.000020	0.175867	Decreasing Trend
15	1999 - 2021	-0.292275	-0.000055	0.000038	Significant Decreasing Trend
92	1999 - 2021	-0.053939	-0.000007	0.301856	Decreasing Trend
81	1999 - 2021	-0.047833	-0.000006	0.361806	Decreasing Trend

Total Phosphorus

Site	Date Range	Tau	Slope ¹	Selected P-Value ²	Statistical Trend Interpretation ³
16	1999 - 2021	-0.112598	-0.000002	0.091093	Decreasing Trend
15	1999 - 2021	-0.221786	-0.000002	0.001118	Significant Decreasing Trend
92	1999 - 2021	0.172869	0.000002	0.001580	Significant Increasing Trend
81	1999 - 2021	-0.014659	0.000000	0.791554	Decreasing Trend

Total Chlorophyll-a (corrected)

Site	Date Range	Tau	Slope ¹	Selected P-Value ²	Statistical Trend Interpretation ³
16	1999 - 2021	-0.042291	-0.000077	0.545340	Decreasing Trend
15	1999 - 2021	-0.302247	-0.000256	0.000018	Significant Decreasing Trend
92	1999 - 2021	0.106205	0.000121	0.293913	Increasing Trend
81	1999 - 2021	0.160619	0.000322	0.118181	Increasing Trend

Trends - Period-of-Record for TN

Figure 5-3 Total Nitrogen Trend

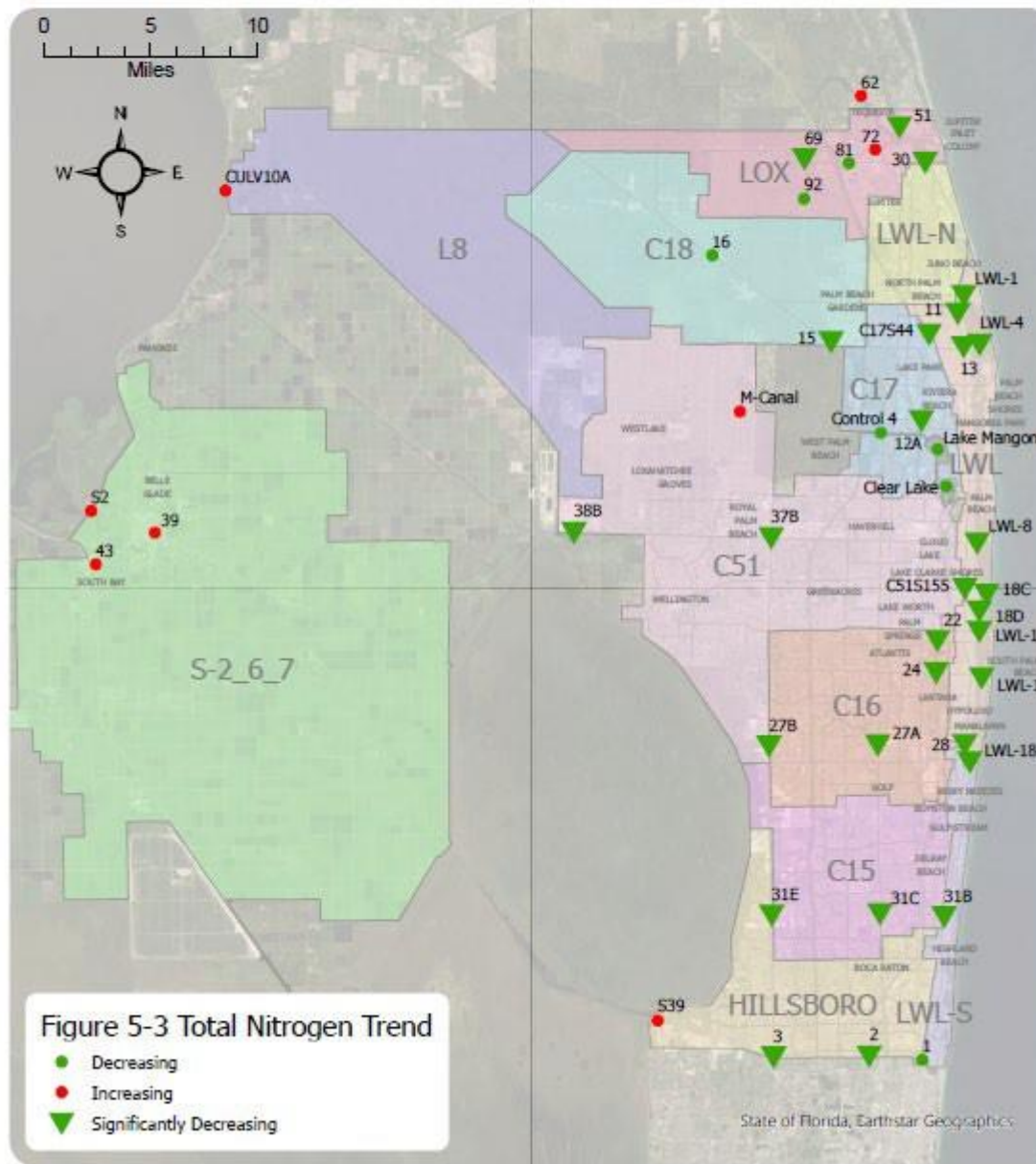
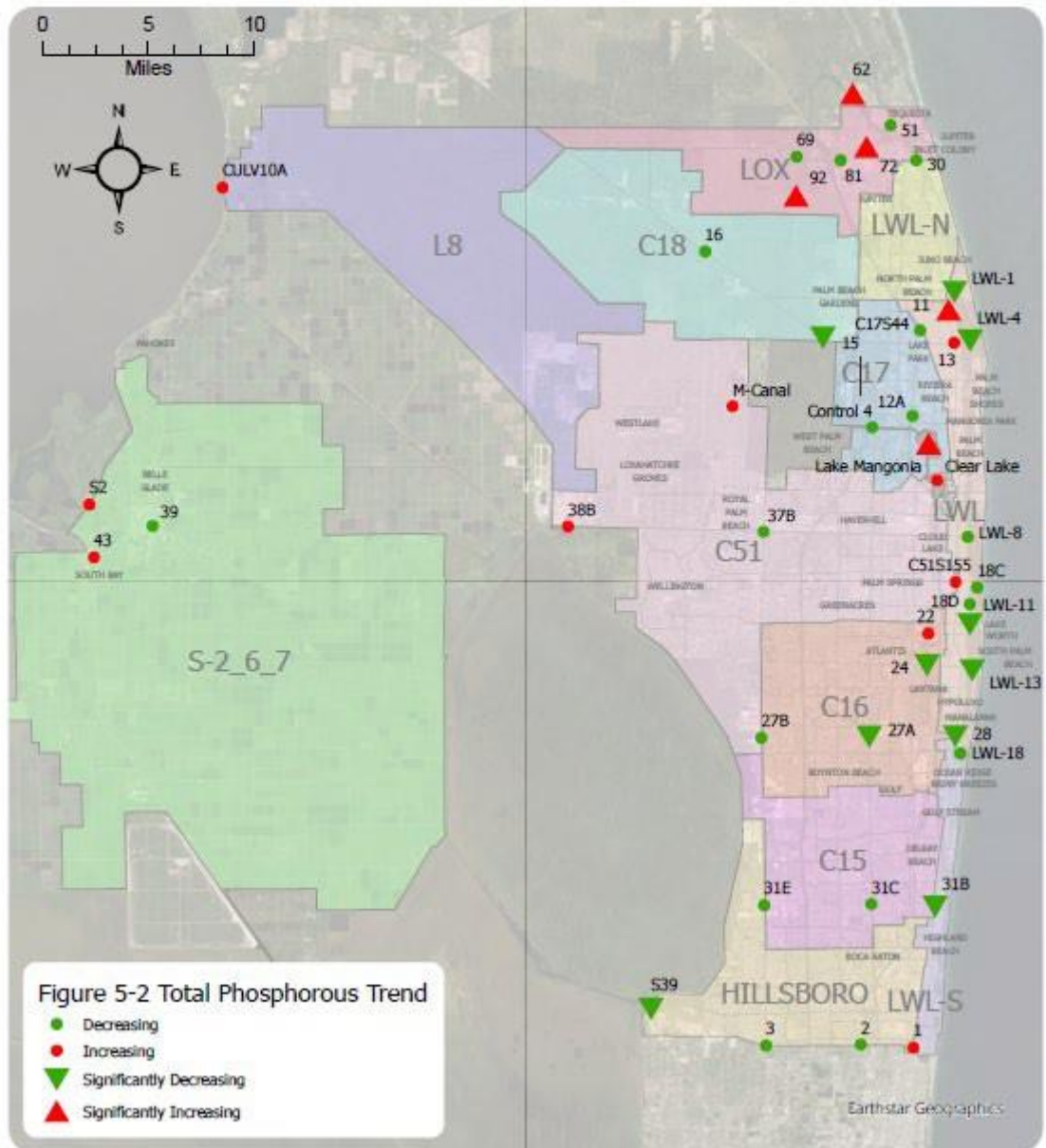


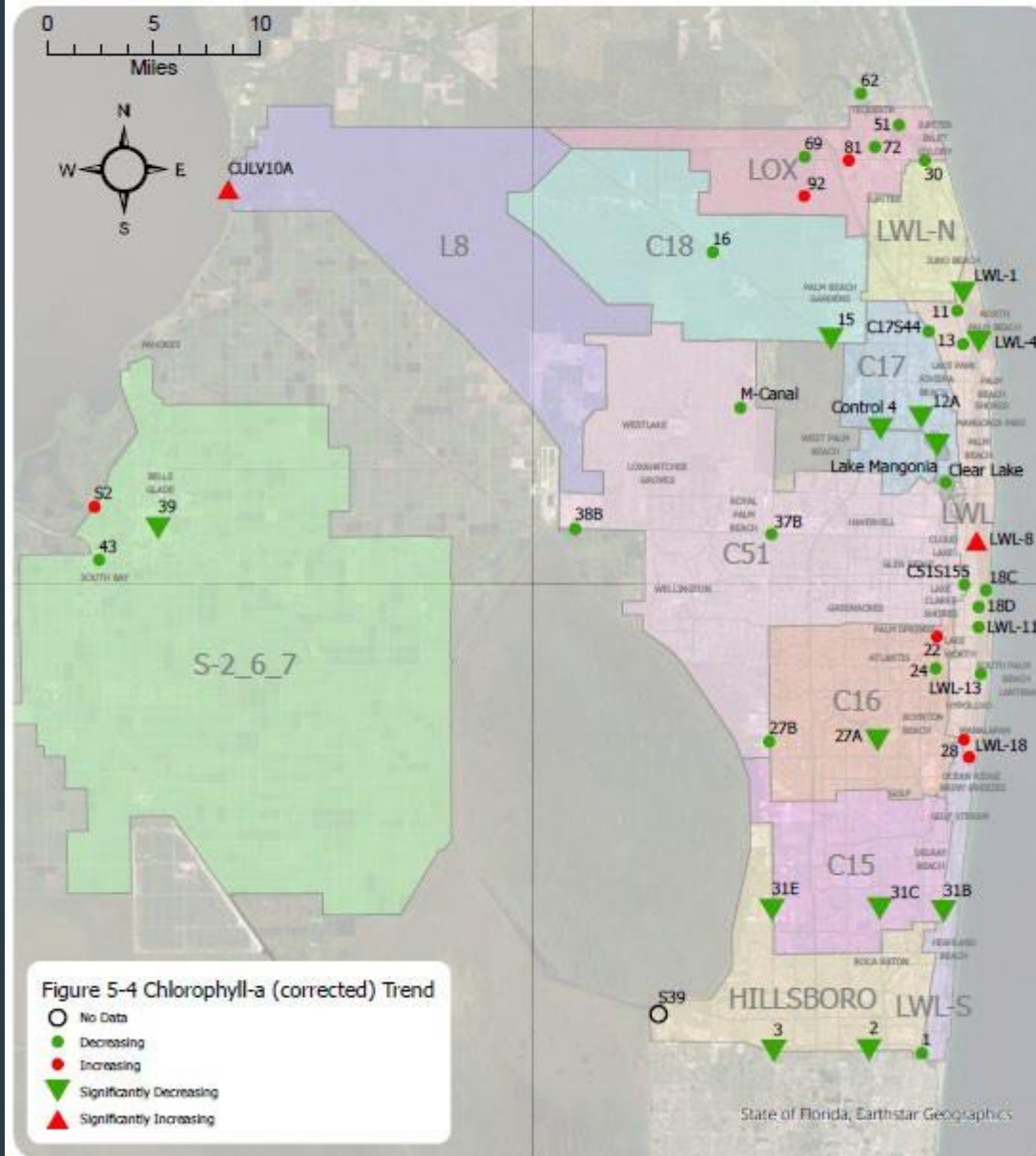
Figure 5-2 Total Phosphorous Trend



Trends - Period-of-Record for TP

Trends - Period-of-Record for Chl-a

Figure 5-4 Chlorophyll-a (corrected) Trend





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Group/Joint Activities - Water Quality Monitoring

The water quality monitoring requirement in the MS4 NPDES permit is met through a joint program. The monitoring program includes the following components:

- ambient water quality sampling
- water quality data analysis
- trend analyses
- annual pollutant loading calculations in Permit Year 3

The Palm Beach County MS4 NPDES permit monitoring program includes 44 ambient water quality monitoring sites which were selected after coordination among the South Florida Water Management District (SFWMD), Palm Beach County Environmental Resource Management (ERM), the Loxahatchee River District (LRD), Broward County (BC), City of West Palm Beach (CWPB), and the Palm Beach County permittees.

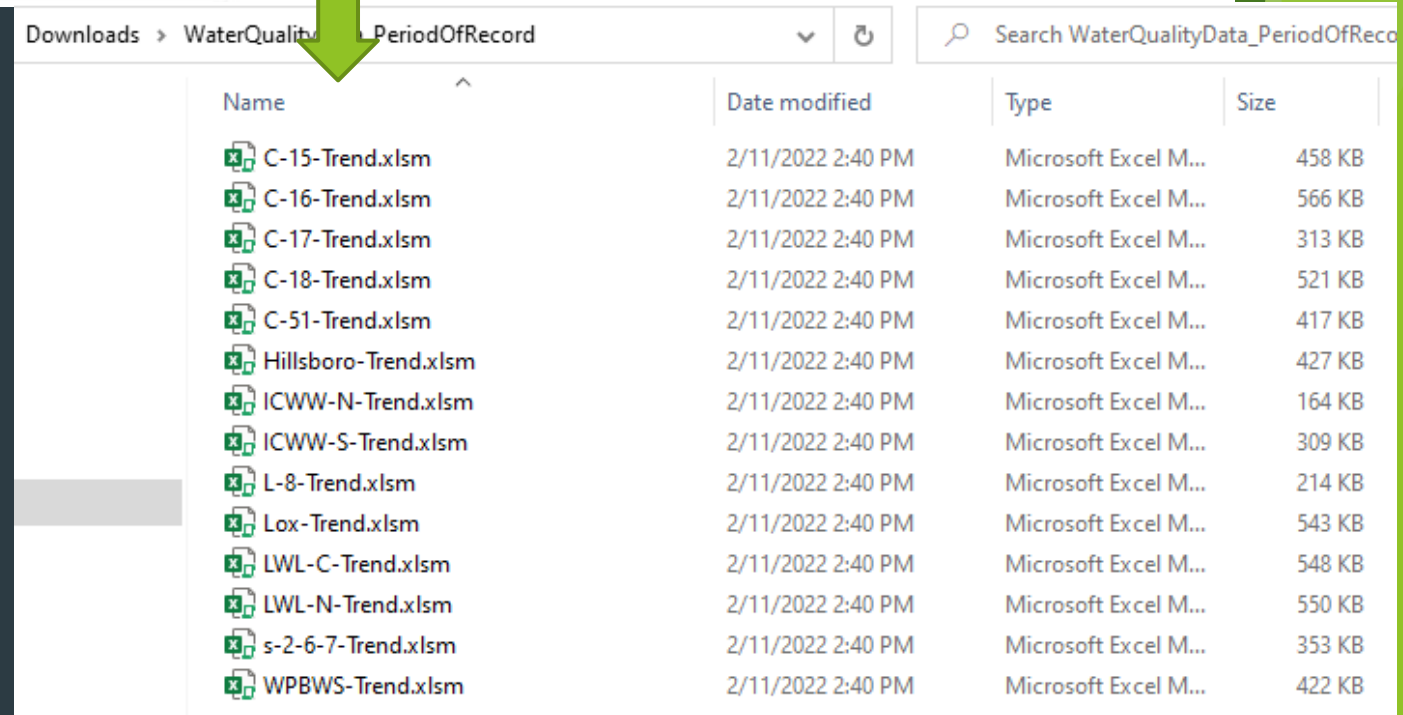
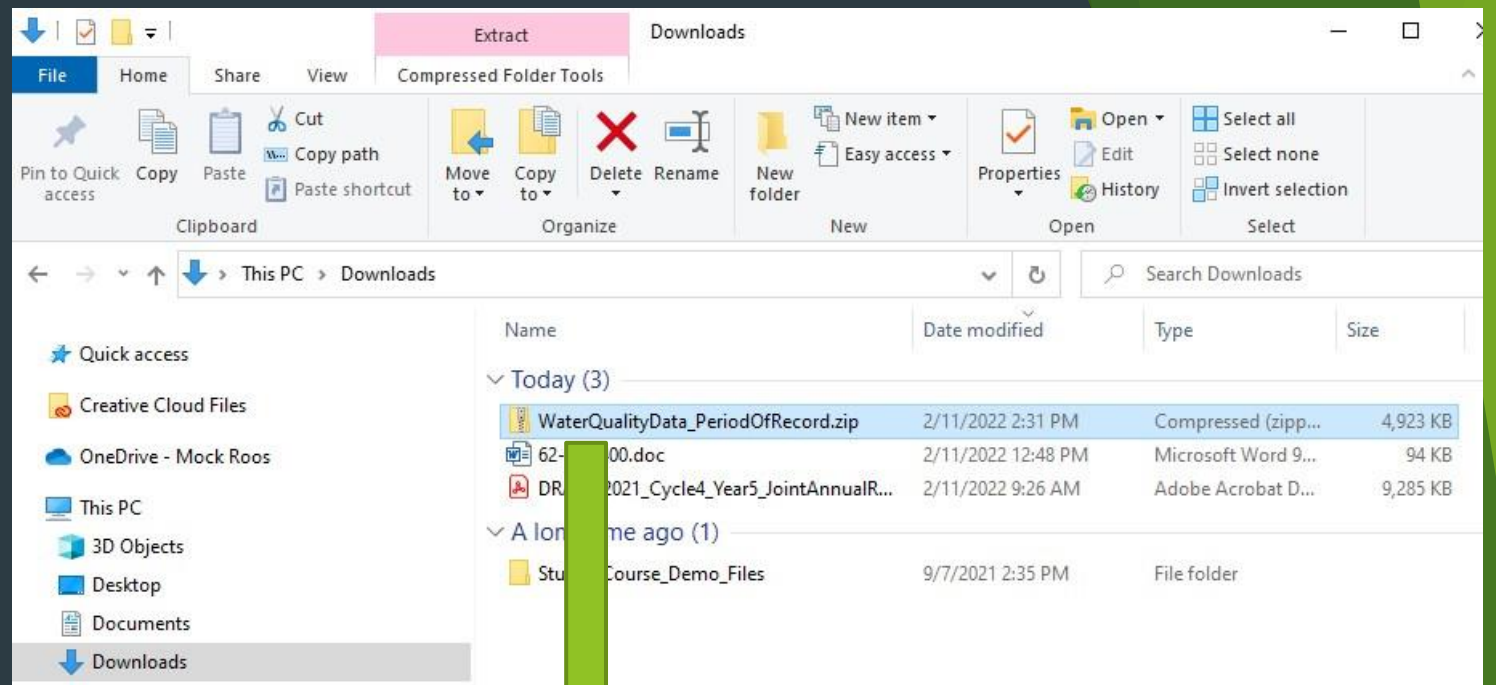
The Watershed Boundary Maps depicts the 40 water quality monitoring site locations. Sites monitored by ERM are shown as circles, those monitored by the LRD are shown as squares, those monitored by SFWMD are shown as triangles, those monitored by BC are shown as stars, and those monitored by CWPB are shown as suns. White symbols signify marine or tidal sites and yellow symbols designate freshwater sites. The LRD monitors four marine sites and three freshwater. ERM monitors ten marine sites and fifteen freshwater sites. The SFWMD monitors five freshwater sites and CWPB monitors four freshwater sites. Broward County monitors one freshwater and two marine water sites. All of Palm Beach County's ERM, LRD, BC, and CWPB data is in WIN/STORET and SFWMD data is in DbHydro.

The data set for the trend analyses includes approximately 22 water quality parameters and all MS4 sampling events for each site's period of record as identified in [these Excel spreadsheets](#).

Water quality nutrient trends for 40 water quality monitoring sites (TN, TP, and Chl-a for the period of record) is graphed. The trend analyses were performed on the available



Finding your data of interest



Finding your data of interest

	A	B	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ
1	LAKE WORTH LAGOON NOR		7/1/2019	11/1/2019	1/1/2020	2/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020	8/1/2020	9/1/2020
2	SITE LWL-1	SAMPLE DATE	7/25/2019	11/7/2019	1/23/2020	2/20/2020	4/16/2020	5/14/2020	6/18/2020	7/16/2020	8/26/2020	9/16/2020
3	PARAMETER	UNITS										
4	Alkalinity	mg/L										
5	Arsenic	mg/L										
6	Cadmium	mg/L										
7	Chlorophyll-a (corrected)	ug/l	3.17	3.83	0.038	3.73	4.07	6.94		2.77	5.57	4.66
8	Copper	mg/L										
9	Dissolved Oxygen	mg/L	89.46	100.86	103.83	110.95	96.89	94.71		105.08	92.81	89.0
10	Enterococci	cfu/100mL										
11	Lead	mg/L										
12	Nitrogen, Ammonia	mg/L	0.011	0.008	0.019	0.0025	0.008	0.0025		0.005	0.005	0.002
13	Nitrogen, nitrate + nitrite	mg/L	0.0025	0.0025	0.024	0.0025	0.0025	0.0025		0.0025	0.0025	0.002
14	Nitrogen, Total	mg/L	0.36	0.33	0.313	0.205	0.321	0.299		0.356	0.404	0.29
15	Nitrogen, Total Kjeldahl	mg/L										
16	pH	None			8	7.9	7.9	7.8		7.9	7.9	7.8
17	Phosphorus, orthophosphate	mg/L	0.010	0.008	0.014	0.007	0.010	0.003		0.024	0.019	0.01
18	Phosphorus, Total	mg/L	0.033	0.051	0.03	0.028	0.027	0.032		0.05	0.044	0.04
19	Salinity	ppth	33.6	30.7	31.2	31.2	34.4	34.9		29	29.2	30
20	Specific Conductivity	umho/cm	51427	47329	47823	47970	52370	52978		45105	45417	4639
21	Temperature	deg C	30.9	27.7	20	26.4	28.5	25.9		32.2	30.8	30.8
22	Total Hardness	mg/L										
23	Total Suspended Solids	mg/L	5	7	4	7	1.5	8		5	5	7
24	Turbidity	NTU	0.9	0.2	0.8	1.1	1	2		0.8	1	0.6
25	Zinc	mg/L										
26												
27												
28	Show outlier values that are a perc											
29	Alkalinity	1000%	-	-	-	-	-	-	-	-	-	-
30	Arsenic	1000%	-	-	-	-	-	-	-	-	-	-
31	Cadmium	1000%	-	-	-	-	-	-	-	-	-	-
32	Chlorophyll-a (corrected)	1000%	-	-	-	-	-	-	-	-	-	-
33	Copper	1000%	-	-	-	-	-	-	-	-	-	-
34	Dissolved Oxygen	1000%	-	-	-	-	-	-	-	-	-	-
35	Enterococci	1000%	-	-	-	-	-	-	-	-	-	-
36	Lead	1000%	-	-	-	-	-	-	-	-	-	-
37	Nitrogen, Ammonia	1000%	-	-	-	-	-	-	-	-	-	-



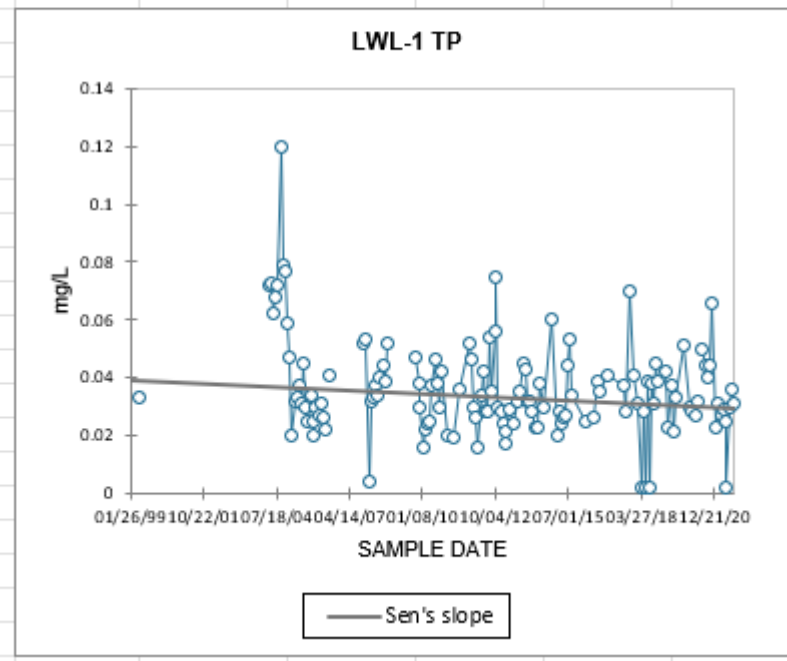
◀ ▶
Trend
Summary
LWL-1
LWL-1-TP
LWL-1-TN
LWL-1-Chlor
11
11-TP
11-TN
13
11-Chlor
1

Finding your data of interest

	A	B	EH	EI	EJ	EK	EL	EM	EN	EO
1	LAKE WORTH LAGOON NOR	SAMPLE DATE	7/1/2019	11/1/2019	1/1/2020	2/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020
2	SITE LWL-1	SAMPLE DATE	7/25/2019	11/7/2019	1/23/2020	2/20/2020	4/16/2020	5/14/2020	6/18/2020	7/16/2020
3	PARAMETER	UNITS								
4	Alkalinity	mg/L								
5	Arsenic	mg/L								
6	Cadmium	mg/L								
7	Chlorophyll-a (corrected)	ug/l	3.17	3.83	0.038	3.73	4.0			
8	Copper	mg/L								
9	Dissolved Oxygen	mg/L	89.46	100.86	103.83	110.95	96.4			
10	Enterococci	cfu/100mL								
11	Lead	mg/L								
12	Nitrogen, Ammonia	mg/L	0.011	0.008	0.019	0.0025	0.0			
13	Nitrogen, nitrate + nitrite	mg/L	0.0025	0.0025	0.024	0.0025	0.00			
14	Nitrogen, Total	mg/L	0.36	0.33	0.313	0.205	0.3			
15	Nitrogen, Total Kjeldahl	mg/L								
16	pH	None	8		8	7.9	7.4			
17	Phosphorus, orthophosphate	mg/L	0.010	0.008	0.014	0.007	0.0			
18	Phosphorus, Total	mg/L	0.033	0.051	0.03	0.028	0.0			
19	Salinity	ppth	33.6	30.7	31.2	31.2	34			
20	Specific Conductivity	umho/cm	51427	47329	47823	47970	523			
21	Temperature	deg C	30.9	27.7	20	26.4	28			
22	Total Hardness	mg/L								
23	Total Suspended Solids	mg/L	5	7	4	7	1.1			
24	Turbidity	NTU	0.9	0.2	0.8	1.1	1			
25	Zinc	mg/L								
26										
27										
28	Show outlier values that are a perc									
29	Alkalinity	1000%	-	-	-	-	-			
30	Arsenic	1000%	-	-	-	-	-			
31	Cadmium	1000%	-	-	-	-	-			
32	Chlorophyll-a (corrected)	1000%	-	-	-	-	-			
33	Copper	1000%	-	-	-	-	-			
34	Dissolved Oxygen	1000%	-	-	-	-	-			
35	Enterococci	1000%	-	-	-	-	-			
36	Lead	1000%	-	-	-	-	-			
37	Nitrogen, Ammonia	1000%	-	-	-	-	-			

Sen's slope:

	Value	Lower bound (95%)	Upper bound (95%)
Slope	0.000	0.000	0.000
Intercept	0.082	0.032	0.136



Questions



Palm Beach County NPDES

Northern Palm Beach County Improvement District
359 Hiatt Drive
Palm Beach Gardens, FL 33418
www.pbco-npdes.org



AGENDA

**PALM BEACH COUNTY NPDES MS4
STEERING COMMITTEE MEETING
WEDNESDAY, FEBRUARY 16, 2022**

9:00 A.M. – 11:00 A.M.

**Palm Beach Gardens City Hall
- Council Chambers & Virtual
(Ref. No. C1050.10)**

LINK TO TEAMS MEETING: Refer to NPDES Website (www.pbco-npdes.org)
CALL IN NUMBER: Refer to NPDES Website (www.pbco-npdes.org)
CONFERENCE ID: Refer to NPDES Website (www.pbco-npdes.org)

The agenda for the meeting is as follows:

- I. MS4 Activities
 - a. Introductions
 - b. Approval of January 19, 2020, Minutes
 - c. Individual 5th Year Annual Reports
 - d. Joint Annual Report for Year 5
 - e. Training Registration Flyers
 - f. 2020-2022 Biennial Assessment
 - g. Cycle 5 Draft Permit
 - h. FDEP Request for Retention/Detention Inventory

- II. Next Scheduled Event

March 17, 2022, IDDE, Spills & SEC Refresher Training by Cheryl Moore,
9:00 a.m. at City of Palm Beach Gardens Emergency Center & Virtual

You are invited to the following event:

**NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) PERMIT MS4
STAFF**



Thursday, March 17, 2022
from 9:00 AM to 10:00 AM (EDT)
City of Palm Beach Gardens EOC
10500 N Military Trail, Palm Beach
Gardens, FL 33410

[View Map](#)

Attend Event

Palm Beach County MS4 Permittees Staff Training ONLINE (via Zoom) or IN-
PERSON (limited to 25 persons)
We hope you can make it!
Cheers,
Cheryl L. Moore Consulting, LLC

This invitation was sent to cheryl@floridastormwaterclass.com by the organizer of this event, [Cheryl L. Moore Consulting, LLC](#).

To stop receiving invitations from this organizer, you can [unsubscribe](#).

Eventbrite, Inc. | 535 Mission Street, 8th Floor | San Francisco, CA 94105



Register

Palm Beach County MS4 Permittees Staff Training ONLINE (via Zoom) or IN-PERSON (for a limited number)

About this event

Thursday, March 17, 2022, from 9:00 AM to 10:00 AM (EDT)

1-Hour Program to obtain state refresher training for the Florida Department of Environmental Protection's MS4 Training Requirements.

FREE: Palm Beach County Employees and Co-Permittees.

(All Government attendees must register with a government email address).

Available ONLINE (via Zoom) and In-Person (for a limited number):

City of Palm Beach Gardens EOC 10500 N Military Trail, Palm Beach Gardens, FL 33410

In-Person will be limited to 25 Attendees (Please Register Early)

Online via Zoom an Unlimited Number of Attendees.

This course will provide 1 Professional Development Hour for FL Engineers and 1 Continuing Education Credit for F.A.C.E. Code Enforcement Officers

For more information Email: cheryl@floridastormwaterclass.com

Sponsored by the Florida Department of Environmental Protection, Palm Beach County MS4 Permittee Group and Cheryl L. Moore Consulting, LLC.

Date and time

Thu, March 17, 2022

9:00 AM - 10:00 AM EDT

[Add to calendar](#)

Location

City of Palm Beach Gardens EOC

10500 N. Military Trail

Palm Beach Gardens, FL 33410

[View Map](#)

Thu, Mar 17, 2022 9:00 AM - 10:00 AM EDT

Enter promo code

PBC Employees / Co-Permittees (In Person)

Free

Sales end on Mar 16, 2022

PBC Employees / Co-Permittees (Online Via Zoom)

Free

Sales end on Mar 16, 2022

Powered by **eventbrite**

English (US) ▼



Order summary

3 x PBC Employees /
Co-Permittees (In
Person) \$0.00

3 x PBC Employees /
Co-Permittees (Online
Via Zoom) \$0.00

Total \$0.00



Register



By clicking "Register", I accept the [Terms of Service](#) and have read the [Privacy Policy](#). I agree that Eventbrite may [share my information](#) with the event organizer.

Contact information

Continue as guest or login for a faster experience.

First name *	Last name *
Email address * cheryl@floridastormwaterclass.com	Confirm email *

Ticket 1 · PBC Employees / Co-Permittees (In Person)

First name *	Last name *
Email address *	



Register



Order summary

3 x PBC Employees / Co-Permittees (In Person)	\$0.00
3 x PBC Employees / Co-Permittees (Online Via Zoom)	\$0.00
Delivery 6 x eTicket	\$0.00
Total	\$0.00

Palm Beach County NPDES

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9:00 a.m. at City of Palm Beach Gardens Emergency Center & Virtual



Palm Beach County MS4s

**Palm Beach County MS4 NPDES
Steering Committee Meeting
Wednesday February 16, 2022**