ANNUAL REPORT FORM FOR INDIVIDUAL NPDES PERMITS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS (RULE 62-624.600(2), F.A.C.)

- This Annual Report Form must be completed and submitted to the Department to satisfy the annual reporting requirements established in Rule 62-621.600, F.A.C.
- Submit this fully completed and signed form and any REQUIRED attachments by email to the NPDES Stormwater Program Administrator or to the MS4 coordinator. Their names and email addresses are available at: http://www.dep.state.fl.us/water/stormwater/npdes/contacts.htm. If files are larger than 10mb, materials may be placed on the NPDES Stormwater ftp site at: ftp://ftp.dep.state.fl.us/pub/NPDES_Stormwater/. After uploading the ANNUAL REPORT files, an email must be sent to the MS4 coordinator or the NPDES program administrator notifying them the report is ready for downloading
- Refer to the Form Instructions for guidance on completing each section.
- **Please print or type information in the appropriate areas below**

SECTION I. BACKGROUND INFORMATION			
A.	Permittee Name: City of North Port		
B.	Permit Name: Sarasota County Municipal Separate Storm Sewer System		
C.	Permit Number: FLS000004-004 (Cycle 4)		
D.	Annual Report Year: ☐ Year 1 ☐ Year 2 ☐ Year 3 ☐ Year 4 ☒ Year 5 ☐ Other, specify Year:		
E.	Reporting Time Period (month/year): Jan/2018 through Dec/2018		
F.	Name of the Responsible Authority: Peter D. Lear		
	Title: Interim City Manager		
	Mailing Address: 4970 City Hall Boulevard		
	City: North Port	Zip Code: 34286	County: Sarasota
	Telephone Number: 941-429-7076	Fax Number: 941-429-7079	
	E-mail Address: jlewis@cityofnorthport.com		
G.	Name of the Designated Stormwater Management Program Contact (if different from Section I.F above): Elizabeth Wong		
	Title: Stormwater Manager		
	Department: Department of Public Works, Operations Division		
	Mailing Address: 1100 Chamberlain Boulevard		
	City: North Port	Zip Code: 34286	County: Sarasota County
	Telephone Number: 941-240-8321	Fax Number: 941-240-8063	
	E-mail Address: ewong@cityofnorthport.com		

SECTION II. MS4 MAJOR OUTFALL INVENTORY (Not Applicable In Year 1)	
A.	Number of outfalls ADDED to the outfall inventory in the current reporting year (insert "0" if none): 0 (Does this number include non-major outfalls? ☐ Yes ☐ No ☒ Not Applicable)
B.	Number of outfalls REMOVED from the outfall inventory in the current reporting year (insert "0" if none): 0 (Does this number include non-major outfalls? ☐ Yes ☐ No ☒ Not Applicable)
C.	Is the change in the total number of outfalls due to lands annexed or vacated? ☐ Yes ☐ No ☒ Not Applicable

SECTION III. MONITORING PROGRAM

A.

Provide a brief statement as to the status of monitoring plan implementation:

DEP Note: The co-permittees may refer to the Sarasota County AR here as follows: "The monitoring plan is carried out through an inter-local agreement with Sarasota County. Please see the Sarasota County Annual Report for the monitoring information."

The water quality monitoring plan in the National Pollutant Discharge Elimination System (NPDES) permit approved the use of the City's Hydrobiological (HB) sampling sites and monitoring data collected under the City's Southwest Florida Water Management District (SWFWMD) Water Use Permit to satisfy the NPDES monitoring requirements. The HB data has very similar parameters to the Sarasota County's monitoring plan. The sampling locations provide specific water quality data for the surface water runoff from the City of North Port.

B.

Provide a brief discussion of the monitoring results to date:

DEP Note: See Part V of the permit for the monitoring requirements. Each permittee must discuss the monitoring results as it relates to the implementation and effectiveness of their SWMP.

Please see Appendix A for the discussion of the monitoring results.

C.

Attach a monitoring data summary, as required by the permit.

Please see Appendix A and B for the monitoring data and graphs.

SECTION IV. FISCAL ANALYSIS

A.

Total expenditures for the NPDES stormwater management program for the current reporting year: $4,148,010.
This is for fiscal year October 1, 2017 to September 30, 2018.

DEP Note: If program resources have decreased from the previous year, attach a discussion of the impacts on the implementation of the SWMP as per Part II.F of the permit.

B.

Total budget for the NPDES stormwater management program for the subsequent reporting year: $8,351,475.
This is for fiscal year October 1, 2018 to September 30, 2019.

SECTION V. MATERIALS TO BE SUBMITTED WITH THIS ANNUAL REPORT FORM

Only the following materials are to be submitted to the Department along with this fully completed and signed Annual Report Form (check the appropriate box to indicate whether the item is attached or is not applicable):

Attached	N/A	
☐	☒	***DEP Note: Please complete Checklists A & B at the end of the tailored form.*** Any additional information required to be submitted in this current annual reporting year in accordance with Part III.A of your permit that is not otherwise included in Section VII below.
☒ App. A,B	☐	A monitoring data summary as directed in Section III.C above and in accordance with Rule 62-624.600(2)(c), F.A.C.
☐	☒	Year 1 ONLY: An inventory of all known major outfalls and a map depicting the location of the major outfalls (hard copy or CD-ROM) in accordance with Rule 62-624.600(2)(a), F.A.C.
☐	☒	Year 3 ONLY: The estimates of pollutant loadings and event mean concentrations for each major outfall or each major watershed in accordance with Rule 62-624.600(2)(b), F.A.C.
☐	☒	Year 4 ONLY: Permit re-application information in accordance with Rule 62-624.420(2), F.A.C.

DO NOT SUBMIT ANY OTHER MATERIALS

(such as records and logs of activities, monitoring raw data, public outreach materials, etc.)

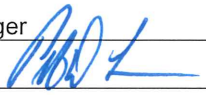
SECTION VI. CERTIFICATION STATEMENT AND SIGNATURE

The Responsible Authority listed in Section I.F above must sign the following certification statement, as per Rule 62-620.305, F.A.C:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Authority (type or print): Peter D. Lear

Title: City Manager

Signature:  Date: 6 / 18 / 19

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE

A.	B.	C.	D.	E.	F.
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
Part III.A.1	**Structural Controls and Stormwater Collection Systems Operation**				

Maintain an up-to-date inventory of the structural controls and roadway stormwater collection structures operated by the permittee, including, at a minimum, all of the types of control structures listed in Table II.A.1.a of the permit. Report the current known inventory.

DEP Note: The permittee needs to "customize" this section by adding any structural controls to the list below that are part of the permittee's MS4 currently or are planned for the future. The permittee may remove any structural controls listed that it does not have currently or will likely not have during this permit cycle. Please see the attached description of each type of structure. In addition, the permittee may choose its own unit of measurement for each structural control to be consistent with the unit of measurement in the documentation. Unit options include: miles, linear feet, acres, etc.

Provide an inventory of all known major outfalls covered by the permit and a map depicting the location of the major outfalls (hard copy or CD-ROM). Provide the outfall inventory and map with the Year 1 Annual Report.

Report the number of inspection and maintenance activities conducted for each type of structure included in Table II.A.1.a, and the percentage of the total inventory of each type of structure inspected and maintained. If the minimum inspection frequencies set forth in Table II.A.1.a were not met, provide as an attachment an explanation of why they were not and a description of the actions that will be taken to ensure that they will be met.

DEP Note: If the minimum inspection frequencies set forth in Table II.A.1.a of the permit were not met for one or more type of structure, the permittee must provide as an attachment an explanation of why they were not and a description of the actions that will be taken to ensure that they will be met. Please provide the title of the attached explanation in Column D and the name of the entity who finalized the explanation in Column E.

Maintain documentation of the wet detention systems in the Adopt-A-Pond program. Report the number of systems in the Adopt-A-Pond program.

Type of Structure	Number of Activities Performed					Documentation / Record	Entity Performing the Activity	Comments
	Total Number of Structures	Number of Inspections	Percentage Inspected	Number of Maintenance Activities	Percentage Maintained			
Dry retention systems	71	71	100	71	100	NPDES Backup Binder - \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Inventory and Maintenance	E. Wong inspect, PW Ops and NDS maintain	All ponds routinely mowed, additional maintenance repair on 21 dry retention ponds and 8 dry retention with effluent filtration.
Dry retention systems with effluent filtration (side drains/underdrains)	64	64	100	64	100			

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	Exfiltration trench / French drains (linear feet)	No exfiltration trench / french drains in City.								
	Type of Structure	**Total Number of Structures**	**Number of Inspections**	**Percentage Inspected**	**Number of Maintenance Activities**	**Percentage Maintained**				
	Grass treatment swales (miles)	1613	1613	100	31,170 acres of swales mowed and 57.59 miles of swales rehabilitated	100 % mowed, 3.6 % swales rehabilitated		NPDES Backup Binder - \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Inventory and Maintenance	PW Ops	City mowing records are in acres. All roadside swales are mowed several times per year.
	Dry detention systems	No dry detention systems in City.								
	Wet detention systems Ponds at City Facilities	36	36	100	36	100		NPDES Backup Binder - \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Inventory and Maintenance	E. Wong and Engineering inspector, PW Ops and NDS maintain	Ponds routinely mowed more than once per year, add'l maintenance on 6 wet ponds.
	Stormwater wet Treatment ponds installed originally by General Development Corporation (GDC) as part of 1983 DER consent order for wetland compensation	245	245	100	61	25		NPDES Backup Binder - \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Inventory and Maintenance	PW Ops maintain	All ponds were inspected in late 2018. The ponds will be inspected every 3 years and next inspection is 2021. Maintenance activities are based on ponds banks mowed
	Pollution control boxes	7	7	100	7	100		NPDES Backup Binder, data from	John Hodge, PW Ops	7 grate inlet baskets inspected once

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							John Hodge 11/14/18		per year and cleaned. ~80 lbs of trash
	Stormwater pump stations	No stormwater pump stations in City.							
	Major stormwater outfalls	10	10	100	2	20	NPDES Backup Binder, Major Outfalls Inspection forms	E. Wong inspect and PW Ops maintain	WCS 101 and WCS 106 outfalls maintained routinely. The remaining outfalls did not require maintenance.
	Weirs or other control structures	64	64	100	43	67.2	Lucity database on gated WCS Inspection Form. Annually all structure inspected. NPDES Backup Binder	PW Ops inspect and maintain	Gated structures are inspected several times a week, cleared of vegetation/debris and greased annually. WCS 115 was completely replaced in 2018. 11 WCS had minor repairs done.
	MS4 pipes / culverts (miles)	70.33	15.83	22.5	2.77 miles of pipes replaced, 30 pipes ends cleaned of debris	3.94% of pipes replaced	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\Pipe and Outfall Inventory\Pipe Inventory for 2018\2018-Pipes-Inspected-Installed-v2. Data Collated by Dan Waldron	PW Engineer Inspectors, PW Ops replaced some pipes and cleaned out debris in pipes. Road Bond contractors install some of the pipes	Ongoing road bond projects include replacement of many existing CMP pipes and installation of new culvert pipes. Pipe inventory will be updated as information is available.
	Inlets / catch basins / grates	1580	165	10.4	112	7.09%	NPDES Backup Binder - \\cnpsvr8749\Engine	E. Wong, D. Jayroe inspect.	Maintained CBs include new CBs and CBs

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							ering\NPDES\NPDES Annual Report 2018 - Year 5\Inventory and Maintenance Data Collated by Dan Waldron	PW and Parks and Rec maintain.	maintained in permitted City Facilities.
	Ditches / conveyance swales (miles)	132 miles of R-Ditches and 79.1 miles of canals	132 miles of R-Ditches and 79.1 miles of canals	100	596 acres sprayed, 129 miles mowed, 22.87 miles of R-ditches rehabilitated.	100% R-Ditches mowed. 17.3% of R-ditches rehabilitated.	NPDES Backup Binder - \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Inventory and Maintenance	Mower Operator inspects R-Ditches, PW Ops inspect canals and maintain both.	All R-ditches mowed more than once per year and the mower operator inspect during mowing. Canals are sprayed for vegetation control as needed in the developed areas, west of I-75 about twice per year.
	Systems in the Adopt-A-Pond program	0							No City program
	ATTACH explanation if any of the minimum inspection frequencies in Table II.A.1.a were not met								
	Year 1 ONLY: Attach a map of all known major outfalls						N/A in Year 5		
Part III.A.2	**Areas of New Development and Significant Redevelopment**								
	Report the number of significant redevelopment projects reviewed by the permittee for post-development stormwater considerations. Report the number of new development projects reviewed under Part III.A.9.a *DEP Note: Please provide an explanation in Column F for any "0" reported in Column C.*								
	Number of significant redevelopment projects reviewed				0		\ NPDES Backup Binder - \cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Area of New	E. Wong	
	Number of new development projects reviewed				78				
	Provide in the Year 2 Annual Report the summary report of the review of local codes activity. Provide in the Year 4 Annual Report the follow-up report on plan implementation of modifying codes to allow low impact design BMPs. *DEP Note: Refer to Part III.A.2 of the permit for details regarding what the review entails, and what must be included in the summary report and follow-up report. Please provide the title of the attached report in Column D and the name of the entity who finalized the report in Column E.*								

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	Year 2 ONLY: Attach the summary report of the review activity		N/A in Year 5		
	Year 4 ONLY: Attach the follow-up report on plan implementation		N/A in Year 5		
Part III.A.3	**Roadways**				
	Annually review (and revise, as needed) and implement the permittee's written procedures for the litter control program(s) for public streets, roads, and highways, including rights-of-way, employed within the permittee's jurisdictional area and properly dispose of collected material. Implement the program on a monthly, or on an as needed, basis. Report on the litter control program, including the frequency of litter collection, an estimate of the total number of road miles cleaned or amount of area covered by the activities, and an estimate of the quantity of litter collected. *DEP Note: Please provide an explanation in Column F for any "0" reported in Column C. In addition, the permittee may choose its own units of measurement for the reporting items. Unit options for the amount of litter include: bags, cubic yards, pounds, tons. Unit options for the amount of area covered by the activity include: square feet, linear feet, yards, miles, acres. If all litter collection is performed by staff or by contractors, but not by both, please remove the non-applicable reporting items.*				
	PERMITTEE Litter Control Program: Frequency of litter collection	Daily	GIS and Lucity data	PW Operations John Hodge	Mowing staff also pick up litter.
	PERMITTEE Litter Control Program: Estimated amount of area maintained (linear feet)	4,292,640 feet (813 miles)			All 813 miles of North Port streets
	PERMITTEE Litter Control Program: Estimated amount of litter collected (cubic yards)	35.48 tons	NPDES Backup Binder, Lori Hollingshead email 6/15/19	PW Operations Lori Hollingshead for invoices	Litter collected is quantified in tons and not cubic yards
	CONTRACTOR Litter Control Program: Frequency of litter collection	N/A	N/A	N/A	City does not retain contractor for litter control.
	CONTRACTOR Litter Control Program: Estimated amount of area maintained (linear feet)	N/A	N/A	N/A	
	CONTRACTOR Litter Control Program: Estimated amount of litter collected (cubic yards)	N/A	N/A	N/A	
	If an Adopt-A-Road or similar program is implemented, report the total number of road miles cleaned and an estimate of the quantity of litter collected. *DEP Note: Please provide an explanation in Column F for any "0" reported in Column C. The permittee may choose its own unit of measurement for the amount of litter collected. Unit options include: bags, cubic yards, pounds, tons. If an Adopt-A-Road or similar program is not implemented by the permittee, please note that in Column F but do not remove the Adopt-A-Road Program reporting items.*				
	Trash Pick-up Events: Total miles cleaned	7.4	NPDES Backup Binder, Lori Hollingshead email 6/15/19	Michael Fear coordinate events, Lori Hollingshead for Adopt-A-Road	2 trash pick up events - International Coastal Cleanup, Great American Clean-up.
	Trash Pick-up Events: Estimated amount of litter collected (cubic yards)	2,485 pounds			
	Adopt-A-Road Program: Total miles cleaned	1433.5			
	Adopt-A-Road Program: Estimated amount of litter collected (cubic yards)	2,558 pounds			

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	Report on the street sweeping program, including the frequency of the sweeping, total miles swept, an estimate of the quantity of sweepings collected, and the total nitrogen (TN) and total phosphorus (TP) loadings that were removed by the collection of sweepings. If no street sweeping program is implemented, provide the explanation of why not in the Year 1 Annual Report. *DEP Note: Please provide an explanation in Column F for any "0" reported in Column C. Also, the permittee may choose its own unit of measurement for the amount of sweeping material collected. Unit options include: cubic yards, pounds, tons.* *DEP Note: If the permittee has curbs and gutters but no street sweeping program is implemented, the permittee must provide an explanation of why not in the Year 1 Annual Report. Refer to Part III.A.3 of the permit for the information that must be included in the explanation (including the alternate BMPs used or planned in lieu of street sweeping). Please provide the title of the attached explanation in Column D and the name of the entity who finalized the explanation in Column E.*				
	Frequency of street sweeping	Quarterly	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2017 - Year 4\Street Sweeping and Litter Control	PW Operations John Hodge	Curbed Streets, 48 intersections Public Works Parking area swept quarterly.
	Total miles swept (per year)	443.3	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Street Sweeping and Litter Control	PW Operations John Hodge	
	Estimated quantity of sweeping material collected (pounds)	403,445	NPDES Backup Binder, Lori Hollingshead email 6/15/19	Lori Hollingshead	
	Total nitrogen loadings removed (pounds)	282	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Street Sweeping and Litter Control Lori Hollingshead email 6/15/19	E. Wong	Use ms4-load-reduction-tool

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	Total phosphorus loadings removed (pounds)	165	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Street Sweeping and Litter Control Lori Hollingshead email 6/15/19	E. Wong	Use ms4-load-reduction-tool
	Year 1 ONLY: If have curbs and gutters, attach explanation of why no street sweeping program and the alternate BMPs used or planned				
	Annually review (and revise, as needed) and implement the permittee's written standard practices to reduce the pollutants in stormwater runoff from areas associated with road repair and maintenance, and from permittee-owned or operated equipment yards and maintenance shops that support road maintenance activities. Report the number of applicable facilities and the number of inspections conducted for each facility. *DEP Note: The permittee needs to "customize" this section by listing the names of the applicable facilities in Column B and the number of inspections of each facility in Column C. Add more rows if necessary. If "0" is reported in Column C for the number of inspections conducted and the permittee has one or more applicable facilities, please provide an explanation in Column F for why no inspections were conducted. In addition, if the same facility is applicable under both Parts III.A.3 and III.A.5 of the permit, the same site inspection can count towards both inspection requirements as long as it covers the applicable waste area(s). Be sure to report the site inspection under both Parts III.A.3 and III.A.5.*				
		Number of Inspections			
	Name of facility #1: Public Works/Fleet Maintenance facilities	1	NPDES Backup Binder, Site Inspection Form	E. Wong	
	Name of facility #2:				
	Name of facility #3:				
Part III.A.4	**Flood Control Projects**				
	Report the total number of flood control projects that were constructed by the permittee during the reporting period and the number of those projects that did NOT include stormwater treatment. The permittee shall provide a list of the projects where stormwater treatment was not included with an explanation for each of why it was not. Report on any stormwater retrofit planning activities and the associated implementation of retrofitting projects to reduce stormwater pollutant loads from existing drainage systems that do not have treatment BMPs. *DEP Note: A "stormwater retrofit project" is one implemented primarily to provide stormwater treatment for areas currently without treatment.* *DEP Note: The status of the flood control and retrofit projects should be reported as of the last day of the applicable reporting period. Therefore, there should be no duplication for those reported as planned, for those reported as under construction and for those reported as completed.* *DEP Note: If applicable, please provide the title of the attached list of flood control projects that did not include stormwater treatment in Column D and the name of the entity who finalized the list in Column E. Please provide an explanation in Column F for any "0" reported in Column C.*				

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	Flood control projects completed during the reporting period	1	Appendix C - FMP Progress Report	E. Wong	WCS 115 completed
	Flood control projects completed during the reporting period that did <u>not</u> include stormwater treatment	0	Appendix C - FMP Progress Report	E. Wong	Flood control projects all have water quality treatment functions
	ATTACH a list of the flood control projects that did <u>not</u> include stormwater treatment and an explanation for each of why it was not		Appendix C - FMP Progress Report	E. Wong	
	Stormwater retrofit projects planned	12	Appendix C - FMP Progress Report	E. Wong	11 Minor WCS Repairs, Grid 205
	Stormwater retrofit projects under construction during the reporting period	12	Appendix C - FMP Progress Report	E. Wong	11 Minor WCS Repairs, Grid 205
	Stormwater retrofit projects completed during the reporting period	12	Appendix C - FMP Progress Report	E. Wong	11 Minor WCS Repairs, Grid 205
Part III.A.5	**Municipal Waste Treatment, Storage, and Disposal Facilities Not Covered by an NPDES Stormwater Permit**				
	Annually review (and revise, as needed) and implement the permittee's written procedures for inspections and the implementation of measures to control discharges from the following facilities that are not otherwise covered by an NPDES stormwater permit: • Operating municipal landfills; • Municipal waste transfer stations; • Municipal waste fleet maintenance facilities; and • Any other municipal waste treatment, waste storage, and waste disposal facilities. Report the number of applicable facilities and the number of the inspections conducted for each facility. *<u>DEP Note:</u> The permittee needs to "customize" this section by listing the names of the applicable facilities in Column B and the number of inspections of each facility in Column C. Add more rows if necessary. If "0" is reported in Column C for the number of inspections conducted and the permittee has one or more applicable facilities, please provide an explanation in Column F for why no inspections were conducted.* ***An applicable facility under Part III.A.5 includes, but is not limited to, those facilities/yards where street sweeping material and/or yard waste are temporary stockpiled, and where solid waste collection vehicles are parked and/or maintained.*** *In addition, if the same facility is applicable under both Parts III.A.3 and III.A.5 of the permit, the same site inspection can count towards both inspection requirements as long as it covers the applicable waste area(s). Be sure to report the site inspection under both Parts III.A.3 and III.A.5.*				
		Number of Inspections			
	Name of facility #1: Public Works/Fleet Maintenance facilities	1	NPDES Backup Binder Site Inspection Form	E. Wong	
	Name of facility #2:				
	Name of facility #3:				
	Name of facility #4:				

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Part III.A.6	**Pesticides, Herbicides, and Fertilizer Application**				
	Continue to require proper certification and licensing by the Florida Department of Agriculture and Consumer Services (FDACS) for all applicators contracted to apply pesticides, herbicides, or fertilizers on permittee-owned property, as well as any permittee personnel employed in the application of these products. Report the number of permittee personnel applicators and contracted commercial applicators of pesticides and herbicides who are FDACS certified / licensed. Report the number of permittee personnel and contractors who have been trained through the Green Industry BMP Program, and the number of contracted commercial applicators of fertilizer who are FDACS certified / licensed. *DEP Note: If "0" is reported in Column C for any of the reporting items, please include in Column F an explanation of why training was not provided to / obtained by personnel and contractors during the applicable reporting year, the most recent year that training / certification was previously provided / obtained, and the names of the personnel and contractors previously trained / certified.*				
	PERSONNEL: Florida Department of Agriculture and Consumer Services (FDACS) certified applicators of pesticides and herbicides	11	NPDES Backup Binder, Jana White and Jeff Nelson emails 6/18/19	PW Ops Chuck Speake NDS Jana White Park and Grounds Jeff Nelson	5 PW Ops - Rick St Louis, Bob Houlihan, Richard Stawowy, Tammy Bennett, David Young 6 Parks Staff – George Ayres, James Willis, John Slusher, Kenneth Short, Shawn Brennan, William Hoffman
	CONTRACTORS: FDACS certified / licensed applicators of pesticides and herbicides	1			William Rightmire.
	PERSONNEL: FDACS certified / licensed applicators of fertilizer	24	NPDES Backup Binder, 6/14/19 email List from University of Florida IFAS Extension	Barry Sawicki IFAS gi.bmp@ifas.ufl.edu	City of North Port Staff
	CONTRACTORS: FDACS certified / licensed applicators of fertilizer	2 contractors retained by City of North Port 328 contractors working or living in North Port			2 NDS fertilizer contractors Clifford Walker and William Rightmire.
	Pursuant to SB 2080 (2009), all local governments are encouraged to adopt a Florida-friendly Landscaping Ordinance similar to the one set forth in the document "Florida-friendly Guidance Models for Ordinances, Covenants and Restrictions." If the broader Florida-friendly ordinance described above is not adopted, then all local governments within the watershed of a nutrient-impaired water body shall adopt the Department's Model Ordinance for Florida-Friendly Fertilizer Use on Urban Landscapes pursuant to SB 494 (2009) or an ordinance that includes all of the requirements set forth in the Model Ordinance. The ordinance shall be adopted within 24 months of the date of permit issuance. Provide a copy of the adopted ordinance with the subsequent Year 1 or Year 2 Annual Report.				

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
A. Permit Citation/ SWMP Element	**B. Permit Requirement/Quantifiable SWMP Activity**	**C. Number of Activities Performed**	**D. Documentation / Record**	**E. Entity Performing the Activity**	**F. Comments**
	DEP Note: If this provision is not applicable because the permittee is not within the watershed of a nutrient-impaired water body, then please indicate that in Column F, but do not remove this reporting item. *DEP Note: Please provide the title and citation of the ordinance in Column D, and the name of the entity who finalized the ordinance in Column E.*				
	Year 1 or Year 2 ONLY: Attach copy of adopted Florida-friendly ordinance		Fertilizer Ordinance provided in Year 1 report		
	During Year 1 of the permit, develop and implement a written public education and outreach program plan to encourage citizens to reduce their use of pesticides, herbicides, and fertilizers. Report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to encourage citizens to reduce their use of pesticides, herbicides, and fertilizers, including the type and number of activities conducted, the type and number of materials distributed, the percentage of the population reached by the activities in total, and the number of Web site visits (if applicable). Activities performed under the Florida Yards and Neighborhoods (FYN) program should only be reported if the permittee is contributing funding towards the FYN staff and program within its jurisdiction. *DEP Note: The permittee should "customize" the list of public outreach activities by removing items or adding items to the list below as appropriate to their particular public outreach program. However, the reporting item of "Estimated percentage of the population reached by the activities in total" must remain. The permittee may add more specifics to the reporting items, such as the name of the brochure or newsletter distributed. If "0" is reported in Column C for all the reporting items please include in Column F an explanation for why no outreach was performed.* *DEP Note: IF APPLICABLE Sarasota County is to report the public education and outreach activities that it performed county-wide (and not just in the unincorporated areas of Sarasota County). The co-permittees are to report just the public education and outreach activities that they performed.* *DEP Note: Indicate under Column E "Entity Performing the Activity" if FYN or IFAS is performing any of the reported public education and outreach activities. In addition, please complete the following line:* **FYN PROGRAM FUNDING: Permittee Provides Funding? ☐ Yes ☒ No Amount of Funding = $**				
	Estimated percentage of the population reached by the activities in total	88.7%	NPDES Backup Binder Public Outreach Tracking.xls	E. Wong coordinated	
	Brochures/Flyers/Fact sheets distributed	872		E. Wong coordinated	
	FYN: Brochure/Flyers/Fact sheets distributed	N/A		FYN	Not part of FYN
	Neighborhood presentations: Number conducted	1		Mike Fear coordinated	
	FYN: Neighborhood presentations: Number of participants	N/A		FYN	Not part of FYN
	FYN: Neighborhood presentations: Number conducted	N/A		FYN	Not part of FYN
	Neighborhood presentations: Number of participants	400		E. Wong & Mike Fear coordinated	
	Newspapers & newsletters: Number of articles/notices published	7		E. Wong & Mike Fear coordinated	
	Newsletters: Number of newspaper & newsletters distributed	54,906		E. Wong & Mike Fear coordinated	
	Public displays (e.g., kiosks, storyboards, posters, etc.)	2		E. Wong & Mike Fear coordinated	
	FYN: Public displays (e.g., kiosks, storyboards, posters, etc.)	N/A		FYN	Not part of FYN

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
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	Radio or television Public Service Announcements (PSAs)	2		E. Wong & Mike Fear coordinated	
	FYN: Radio or television Public Service Announcements (PSAs)	N/A		FYN	Not part of FYN
	School presentations: Number conducted	4		E. Wong & Mike Fear coordinated	
	School presentations: Number of participants	825		E. Wong & Mike Fear coordinated	
	FYN: School presentations: Number conducted	N/A		FYN	Not part of FYN
	FYN: School presentations: Number of participants	N/A		FYN	Not part of FYN
	Seminars/Workshops: Number conducted	6		E. Wong & Mike Fear coordinated	
	Seminars/Workshops: Number of participants	272		E. Wong & Mike Fear coordinated	
	FYN: Seminars/Workshops: Number conducted	N/A		FYN	Not part of FYN
	FYN: Seminars/Workshops: Number of participants	N/A		FYN	Not part of FYN
	Special events: Number conducted	6		E. Wong & Mike Fear coordinated	
	Special events: Number of participants	4133		E. Wong & Mike Fear coordinated	
	FYN: Special events: Number conducted	N/A		FYN	Not part of FYN
	FYN: Special events: Number of participants	N/A		FYN	Not part of FYN
	Web Site: Number of hits / visitors to the stormwater-related pages	1267	NPDES Backup Binder Email from Mike Fear 5/10/19	Mike Fear, PW Customer Service Coordinator	
Part III.A.7.a	**Illicit Discharges and Improper Disposal — Inspections, Ordinances, and Enforcement Measures**				
	Where applicable, strengthen the legal authority to conduct inspections, conduct monitoring, control illicit discharges, illicit connections, illegal dumping and spills into the MS4 and to require compliance with conditions in ordinances, permits, contracts, and orders. Report amendments, as needed. *DEP Note: If applicable, please provide the title of the attached report in Column D and the name of the entity who finalized the report in Column E.*				
	ATTACH a report on any amendments to the applicable legal authority		No amendments		
Part III.A.7.c	**Illicit Discharges and Improper Disposal — Investigation of Suspected Illicit Discharges and/or Improper Disposal**				
	During Year 1 of the permit, develop and implement a written proactive inspection program plan for identifying and eliminating sources of illicit discharges, illicit connections, or dumping to the MS4. Report on the proactive inspection program, including the number of inspections conducted, the number of illicit activities found, and the number and type of enforcement actions taken. *DEP Note: If "0" is reported in Column C for the first reporting item, please include an explanation in Column F for why no proactive inspections were performed. In addition, the permittee should re-word the "NOVs / warning letters / citations issued" reporting item to more accurately reflect its particular initial enforcement activity, if necessary.*				

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
A.	**B.**	**C.**	**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	DEP Note: *Proactive inspections may include, for example, suspect areas (e.g., industrial areas), commercial businesses (e.g., restaurants, car washes, service stations, laundries / dry cleaners, auto body shops, mobile carpet cleaners) or temporary activities (e.g., special events / fairs / circus) that would not otherwise be inspected during routine inspections and maintenance of the MS4, in association with high risk industrial facilities or construction sites, or in response to citizen or staff reports*. *DEP Note:* *Refer to Part III.A.7.c of the permit for what must be included in the written proactive inspection program plan. Please provide the title of the attached plan in Column D and the name of the entity who finalized the plan in Column E.*				
	Proactive inspections for suspected illicit discharges / connections / dumping	16	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Proactive Inspections	E. Wong	
	Illicit discharges / connections / dumping found during a proactive inspection	1	NPDES Backup Binder Site Inspection Form	E. Wong	Gas Station Cleaned up
	Notices of Violation (NOVs) / warning letters / citations issued for illicit discharges / connections / dumping found during a proactive inspection	0	NPDES Backup Binder Site Inspection Form	E. Wong	All Violations resolved
	Fines issued for illicit discharges / connections / dumping found during a proactive inspection	0	NPDES Backup Binder Site Inspection Form	E. Wong	All Violations No fines issued
	Year 1 ONLY: Attach the written proactive inspection program plan		N/A		
	Annually review (and revise, as needed) and implement the permittee's written procedures to conduct reactive investigations to identify and eliminate the source(s) of illicit discharges, illicit connections or improper disposal to the MS4, based on reports received from permittee personnel, contractors, citizens, or other entities regarding suspected illicit activity. Report on the reactive investigation program as it relates to responding to reports of suspected illicit discharges, including the number of reports received, the number of investigations conducted, the number of illicit activities found, and the number and type of enforcement actions taken. *DEP Note:* *If the number of reports received differs from the number of reactive investigations, please provide an explanation for the discrepancy in Column F.* *In addition, the permittee should re-word the "NOVs / warning letters / citations issued" reporting item to more accurately reflect its particular initial enforcement activity, if necessary.*				
	Reports of suspected illicit connections / discharges / dumping received	10	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Reactive Inspections	E. Wong and other PW staff and Trysta Cassell of NDS	

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE

A. Permit Citation/ SWMP Element	B. Permit Requirement/Quantifiable SWMP Activity	C. Number of Activities Performed	D. Documentation / Record	E. Entity Performing the Activity	F. Comments
	Reactive investigations of reports of suspected illicit discharges/ connections / dumping	10	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Reactive Inspections	E. Wong and other PW staff and Trysta Cassell of NDS	
	Illicit discharges / connections / dumping found during a reactive investigation	7	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Reactive Inspections	E. Wong and other PW staff and Trysta Cassell of NDS	All cleaned up
	Notices of Violation (NOVs) / warning letters / citations issued for illicit discharges / connections / dumping found during a reactive investigation	0	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Reactive Inspections	E. Wong and other PW staff and Trysta Cassell of NDS	All Violations resolved
	Fines issued for illicit discharges / connections / dumping found during a reactive investigation	0			No fines issued
	During Year 1 of the permit, develop and implement a written plan for the training of all appropriate permittee personnel (including field crews, fleet maintenance staff, and inspectors) and contractors to identify and report conditions in the stormwater facilities that may indicate the presence of illicit discharges / connections / dumping to the MS4. Refresher training shall be provided annually. Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training). *DEP Note: If "0" is reported for either reporting item, please include in Column F an explanation of why training was not provided to / obtained by personnel and contractors during the applicable reporting year, the most recent year that training was previously provided / obtained, and the names of the personnel and contractors previously trained.*				
	Personnel trained	**Initial Training**: 2 City staff trained by E. Wong	**Refresher Training**: 19 City staff trained by E. Wong		NPDES Backup Binder, Sign-in Sheet	E. Wong	E. Wong performs In-House training

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE							
A.	**B.**			**C.**	**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**			**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	Contractors trained	53 Trained by E. Wong			NPDES Backup Binder, Pre-con Sign-in sheet	E. Wong	E. Wong performs training at mandatory pre-construction meeting
Part III.A.7.d	**Illicit Discharges and Improper Disposal — Spill Prevention and Response**						
	Annually review (and revise, as needed) and implement the permittee's written spill-prevention/spill-response plan and procedures to prevent, contain, and respond to spills that discharge into the MS4. Report on the spill prevention and response activities, including the number of spills addressed. *DEP Note: The permittee may report the number of hazardous material spills separately from the number of non-hazardous material spills, or report one combined number, to more accurately reflect its tracking of these spills.*						
	Hazardous and non-hazardous material spills responded to			89 by Fire Dept 21 by PW and Fire Dept	NPDES Backup Binder, NP Fire Rescue Incident List Report received from Karl Bennett email 5/18/18	E. Wong Fire Dept. – Karl Bennett	
	During Year 1 of the permit, develop and implement a written plan for the training of all appropriate permittee personnel (including field crews, firefighters, fleet maintenance staff and inspectors) and contractors on proper spill prevention, containment, and response techniques and procedures. Refresher training shall be provided annually. Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training). *DEP Note: If "0" is reported for either reporting item, please include in Column F an explanation of why training was not provided to / obtained by personnel and contractors during the applicable reporting year, the most recent year that training was previously provided / obtained, and the names of the personnel and contractors previously trained.*						
		Initial Training	**Refresher Training**				
	Personnel trained	2 City staff trained by E. Wong	19 City staff trained by E. Wong 89 Hazmat trained in Fire Dept		NPDES Backup Binder, Sign-in Sheet Hazmat Training log and Karl Bennett email 5/15/19	E. Wong Karl Bennett – NP Fire Dept.	E. Wong performs In-House training Fire Dept. has additional Hazmat training
	Contractors trained	53 Trained by E. Wong			NPDES Backup Binder, Pre-con Sign-in sheet	E. Wong	Mandatory pre-construction meeting by E.Wong
Part III.A.7.e	**Illicit Discharges and Improper Disposal — Public Reporting**						
	During Year 1 of the permit, develop and implement a written public education and outreach program plan to promote, publicize, and facilitate public reporting of the presence of illicit discharges and improper disposal of materials into the MS4. Report on the public education and outreach activities that are performed or sponsored						

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
A.	**B.**	**C.**	**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	by the permittee within the permittee's jurisdiction to encourage the public reporting of suspected illicit discharges and improper disposal of materials, including the type and number of activities conducted, the type and number of materials distributed, the percentage of the population reached by the activities in total, and the number of Web site visits (if applicable). *DEP Note: The permittee should "customize" the list of public outreach activities by removing items or adding items to the list below as appropriate to their particular public outreach program. However, the reporting item of "Estimated percentage of the population reached by the activities in total" must remain. The permittee may add more specifics to the reporting items, such as the name of the brochure or newsletter distributed. If "0" is reported in Column C for all the reporting items, please include in Column F an explanation for why no outreach was performed.* *DEP Note: IF APPLICABLE Sarasota County is to report the public education and outreach activities that it performed county-wide (and not just in the unincorporated areas of Sarasota County). The co-permittees are to report just the public education and outreach activities that they performed.*				
	Estimated percentage of the population reached by the activities in total	88.7%	NPDES Backup Binder	E. Wong & Mike Fear coordinated	
	Brochures/Flyers/Fact sheets distributed	872	Public Outreach Tracking.xls	E. Wong & Mike Fear coordinated	
	Neighborhood presentations: Number conducted	1		E. Wong & Mike Fear coordinated	
	Neighborhood presentations: Number of participants	400		E. Wong & Mike Fear coordinated	
	Newspapers & newsletters: Number of articles/notices published	7		E. Wong & Mike Fear coordinated	
	Newspapers & newsletters: Number of newsletters distributed	54,906		E. Wong & Mike Fear coordinated	
	Public displays (e.g., kiosks, storyboards, posters, etc.)	2		E. Wong & Mike Fear coordinated	
	Radio or television Public Service Announcements (PSAs)	2		E. Wong & Mike Fear coordinated	
	School presentations: Number conducted	4		E. Wong & Mike Fear coordinated	
	School presentations: Number of participants	825		E. Wong & Mike Fear coordinated	
	Seminars/Workshops: Number conducted	6		E. Wong & Mike Fear coordinated	
	Seminars/Workshops: Number of participants	272		E. Wong & Mike Fear coordinated	
	Special events: Number conducted	6		E. Wong & Mike Fear coordinated	
	Special events: Number of participants	4133		E. Wong & Mike Fear coordinated	
	Web Site: Number of visitors to the stormwater-related pages	1267	NPDES Backup Binder, 5/10/19 Email from Mike Fear	Michael Fear, PW Customer Service Coordinator	

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE

A. Permit Citation/ SWMP Element	B. Permit Requirement/Quantifiable SWMP Activity	C. Number of Activities Performed	D. Documentation / Record	E. Entity Performing the Activity	F. Comments
Part III.A.7.f	**Illicit Discharges and Improper Disposal — Oils, Toxics, and Household Hazardous Waste Control**				
	During Year 1 of the permit, develop and implement a written public education and outreach program plan to encourage the proper use and disposal of used motor vehicle fluids, leftover hazardous household products, and lead acid batteries. Report on the public education and outreach activities that are performed or sponsored by the permittee within the permittee's jurisdiction to encourage the proper use and disposal of oils, toxics, and household hazardous waste, including the type and number of activities conducted, the type and number of materials distributed, the amount of waste collected / recycled / properly disposed, the percentage of the population reached by the activities in total, and the number of Web site visits (if applicable). *DEP Note: The permittee should "customize" the list of public outreach activities by removing items or adding items to the list below as appropriate to their particular public outreach program. However, the reporting items of "Estimated percentage of the population reached by the activities in total" and "Household Chemical Collection Center Program: Amount of waste collected / recycled / properly disposed (tons)" must remain. The permittee may add more specifics to the reporting items, such as the name of the brochure or newsletter distributed. If "0" is reported in Column C for all the reporting items, please include in Column F an explanation for why no outreach was performed.* *DEP Note: IF APPLICABLE Sarasota County is to report the public education and outreach activities that it performed county-wide (and not just in the unincorporated areas of Sarasota County). The co-permittees are to report just the public education and outreach activities that they performed.*				
	Estimated percentage of the population reached by the activities in total	9.24%	NPDES Backup Binder	Frank Lama and Mike Fear	
	Household Chemical Collection Center Program: Amount of waste collected / recycled / properly disposed (tons)	19.26			
	Household Chemical Collection Center Program: Events	1			
	Household Hazardous Waste Materials Guides distributed	1941			
	Brochures/Flyers/Fact sheets distributed	2430			
	Neighborhood presentations: Number conducted	3			
	Neighborhood presentations: Number of participants	445			
	Newspapers & newsletters: Number of articles/notices published	3			Article in North RePort
	Newsletters: Number of newsletters distributed	15,608			
	Public displays (e.g., kiosks, storyboards, posters, etc.)	8			8 signs at locations in the City to not pollute waterways installed 2010 and 2012
	Radio or television Public Service Announcements (PSAs)	1			Youtube Solid Waste Video in 12/18
	School presentations: Number conducted	9			
	School presentations: Number of participants	1544			
	Seminars/Workshops: Number conducted	1			
	Seminars/Workshops: Number of participants	200			
	Special events: Number conducted	12			

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	Special events: Number of participants	4339			
	Storm sewer inlets newly marked/replaced	0	H:\My Documents\ SWFWMD Cooperative Funding	E. Wong	100 Markers installed in 2010
	Web Site: Number of visitors to the stormwater-related pages	1267	NPDES Backup Binder, 5/10/19 Email from Mike Fear	Michael Fear, PW Customer Service Coordinator	
Part III.A.7.g	**Illicit Discharges and Improper Disposal — Limitation of Sanitary Sewer Seepage**				
	Annually review (and revise, as needed) and implement the permittee's written procedures to reduce or eliminate sanitary wastewater contamination into the MS4, including discharges to the MS4 from sanitary sewer overflows (SSOs) and from inflow / infiltration from collection / transmission systems and/or septic tank systems. Advise the appropriate utility owner of a violation if constituents common to wastewater contamination are discovered in the MS4. Report on the type and number of activities undertaken to reduce or eliminate SSOs and inflow/ infiltration, the number of SSOs or inflow / infiltration incidents found and the number resolved, and the name of the owner of the sanitary sewer system within the permittee's jurisdiction. *DEP Note: The permittee needs to "customize" this section as it pertains to the type of activities undertaken to reduce or eliminate SSOs and inflow / infiltration into the MS4. The first five reporting items below are examples.* *DEP Note: The permittee should contact the appropriate authorities for accurate reporting information, such as the sanitary sewer system operator who is responsible for investigating and eliminating SSOs and the local health department who is responsible for permitting / overseeing septic tank systems.* *DEP Note: Report only the SSOs and inflow / infiltration incidents into the MS4.*				
	Activity to reduce/eliminate SSOs and inflow / infiltration: Sanitary sewer pipe inspected for infiltration (linear feet)	32,459	NPDES Backup Binder, Mike Vuolo email 6/6/19	Utilities Field Operations Manager Mike Vuolo	
	Activity to reduce/eliminate SSOs and inflow / infiltration: Sanitary sewer pipe sealed, lined, and / or replaced (linear feet)	20,115			
	Activity to reduce/eliminate SSOs and inflow / infiltration: Sanitary sewer line breaks repaired	17			Spot repairs
	Activity to reduce/eliminate SSOs and inflow / infiltration: Septic systems removed	0			None were removed
	Activity to reduce/eliminate SSOs and inflow / infiltration: Emergency generator added	1			LS111 Brave Stadium
	SSO incidents discovered	3			
	SSO incidents resolved	3			
	Inflow / infiltration incidents discovered	52			At manholes
	Inflow / infiltration incidents resolved	52			Manholes Lined
	Name of owner of the sanitary sewer system	North Port Utilities Department			
Part III.A.8.a	**Industrial and High-Risk Runoff — Identification of Priorities and Procedures for Inspections**				

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE

A. Permit Citation/ SWMP Element	B. Permit Requirement/Quantifiable SWMP Activity	C. Number of Activities Performed	D. Documentation / Record	E. Entity Performing the Activity	F. Comments

Continue to maintain an up-to-date inventory of all existing high risk facilities discharging into the permittee's MS4. The inventory shall identify the outfall and surface water body into which each high risk facility discharges. For the purposes of this permit, high risk facilities include:

- Operating municipal landfills;
- Hazardous waste treatment, storage, disposal and recovery facilities;
- Facilities that are subject to EPCRA Title III, Section 313 (also known as the Toxics Release Inventory (TRI) maintained by the U.S. EPA); and
- Any other industrial or commercial discharge that the permittee determines is contributing a substantial pollutant loading to the permittee's MS4. This could include facilities identified through the proactive inspection program as per Part III.A.7.c of the permit.

Report on the high risk facilities inventory, including the type and total number of high risk facilities and the number of facilities newly added each year. If a permittee relies on Sarasota County to conduct these activities on its behalf, the permittee shall obtain (and, upon request, Sarasota County shall make available) the necessary annual report information from the County.

DEP Note: The TRI is updated every spring / summer by the U.S. EPA at www.epa.gov/triexplorer. Select "Facility" on the left, chose your Geographic Location, and then select "Generate Report." Please indicate in Column F when (month / year) you last checked EPA's TRI for applicable facilities.

During Year 1 of the permit, develop and implement a written plan for conducting inspections of high risk facilities to determine compliance with all appropriate aspects of the stormwater program. While the permittee may determine the order and frequency of the inspections, the permittee shall inspect each identified facility at least once during the permit term; however, facilities identified as high risk due to the findings of the proactive inspection program as per Part III.A.7.c of the permit shall be inspected annually. Report on the high risk facilities inspection program, including the number of inspections conducted and the number and type of enforcement actions taken. . If a permittee relies on Sarasota County to conduct these activities on its behalf, the permittee shall obtain (and, upon request, Sarasota County shall make available) the necessary annual report information from the County

DEP Note: If "0" is reported for the number of inspections conducted and the permittee has one or more high risk facilities, please provide an explanation in Column F for why no inspections were conducted. In addition, the permittee should re-word the "NOVs / warning letters / citations issued" reporting item to more accurately reflect its particular initial enforcement activity, if necessary.

DEP Note: Sarasota County is to report ONLY the inventory of high risk facilities in the unincorporated areas of Sarasota County – the inventory of high risk facilities located in the co-permittees' jurisdictions are to be reported by the co-permittees. Likewise, the County is to report ONLY the high risk facility inspections it performed in the unincorporated areas of Sarasota County – any high risk facility inspections it performed in the co-permittees' jurisdictions are to be reported by the co-permittees. Each co-permittee is to obtain the necessary information from Sarasota County that pertains to its jurisdiction.

	Number of Facilities	Number of Inspections	For violations discovered during a high risk inspection				
			Fines issued	Notices of Violation (NOVs) / warning letters / citations issued			
Total high risk facilities	0						City of North Port has no high risk facilities
New high risk facilities added to the inventory during the current reporting period	0						

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	Operating municipal landfills	0						
	Hazardous waste treatment, storage, disposal and recovery (HWTSDR) facilities	0						
	EPCRA Title III, Section 313 facilities (that are not landfills or HWTSDR facilities)	0						
	Facilities determined as high risk by the permittee through the proactive inspections as per Part III.A.7.c	0						
	Other facilities determined as high risk by the permittee (that are <u>not</u> facilities identified through the proactive inspections)	0						
Part III.A.8.b	**Industrial and High-Risk Runoff — Monitoring for High Risk Industries**							
	Sampling of the discharge to the stormwater system may be required on an as-needed basis in the event that inspections of high-risk facilities disclose suspected illicit discharges to the MS4. New high-risk industrial facilities as defined in 40 CFR 122.26(d)(2)(iv)(C) must be evaluated to determine if the new discharge is contributing a substantial pollutant load to the MS4. The evaluation may include site-specific monitoring. Report the number of high risk facilities sampled.							
	High risk facilities sampled				0	N/A		City of North Port has no high risk facilities
Part III.A.9.a	**Construction Site Runoff — Site Planning and Non-Structural and Structural Best Management Practices**							
	Continue to implement the local codes or land development regulations and the written pre-construction site plan review procedures that require the use and maintenance of appropriate structural and non-structural erosion and sedimentation controls during construction to reduce the discharge of pollutants to the MS4. Report the number of permittee and private pre-construction site plans <u>reviewed for stormwater, erosion, and sedimentation controls</u>, and the number approved. *<u>DEP Note:</u> Please provide an explanation in Column F for any "0" reported in Column C.*							
	PERMITTEE SITES: Construction site plans reviewed				3	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Area of New Development and Significant Redevelopment	E. Wong	
	PERMITTEE SITES: Construction site plans approved				0		E. Wong	Review continued to 2019
	PRIVATE SITES: Construction site plans reviewed				78		E. Wong	
	PRIVATE SITES: Construction site plans approved				15		E. Wong	Based on Final Plans approved
	Annually review (and revise, as needed) and implement the permittee's written procedures to notify all new development / redevelopment permit applicants of the need to obtain all required stormwater permits. Report the number of new development/redevelopment permit applicants notified of the ERP and CGP, and the number of applicants who confirmed ERP and CGP coverage. *<u>DEP Note:</u> Please provide an explanation in Column F for any "0" reported in Column C. If the number of applicants notified of ERP or CGP coverage is less than the number of construction site plans reviewed, please provide an explanation for the discrepancy in Column F.*							

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
A.	**B.**	**C.**	**D.**	**E.**	**F.**
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**	**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	Notified of ERP stormwater permit requirements	30	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NPDES Annual Report 2018 - Year 5\Area of New Development and Significant Redevelopment	E. Wong	Notify in Pre-app comments of possible ERP needed.
	Confirmed ERP coverage	16	NPDES Backup Binder, \\cnpsvr8749\Engineering\SWFWMD PERMITS\SDR Projects SWFWMD Permits	E. Wong	SWFWMD permit received prior to construction
	Notified of CGP stormwater permit requirements	12	NPDES Backup Binder, \\cnpsvr8749\Engineering\NPDES\NOI\NOI for 2018 Construction	E. Wong	NOI to use CGP permit received prior to construction for sites >1acre
	Confirmed CGP coverage	12		E. Wong	
Part III.A.9.b	**Construction Site Runoff — Inspection and Enforcement**				
	As an attachment to the Year 1 Annual Report, the permittee shall submit a written plan that details the standard operating procedures for implementation of the stormwater, erosion and sedimentation inspection program for construction sites discharging stormwater to the MS4. The permittee shall implement the plan for inspecting construction sites immediately upon written approval by the Department. Prior to Department approval, the permittee shall continue to perform inspections in accordance with its previously developed construction site inspection procedures. Report on the inspection program for privately-operated and permittee-operated construction sites, including the number of active construction sites during the reporting year, the number of inspections of active construction sites, the percentage of active construction sites inspected, and the number and type of enforcement actions / referrals taken. *DEP Note: If "0" is reported in Column C for the number of inspections conducted, please provide an explanation in Column F of why no inspections were conducted. If the number of inspections reported is equal to or less than the number of active construction sites, or the percentage inspected is less than 100%, please provide an explanation in Column F. In addition, the permittee should re-word the "NOVs / warning letters / citations issued" reporting item to more accurately reflect its particular initial enforcement activity, if necessary.* *DEP Note: Refer to Part III.A.9.b of the permit for what must be included in the construction site inspection program plan. Please provide the title of the attached plan in Column D and the name of the entity who finalized the plan in Column E.*				
	PERMITTEE SITES: Active construction sites	2	NPDES Backup Binder	E. Wong and Engineering Inspectors	
	PERMITTEE SITES: Inspections of active construction sites for proper stormwater, erosion and sedimentation BMPs	39			

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE

A. Permit Citation/ SWMP Element	B. Permit Requirement/Quantifiable SWMP Activity	C. Number of Activities Performed	D. Documentation / Record	E. Entity Performing the Activity	F. Comments
	PERMITTEE SITES: Percentage of active construction sites inspected	100			
	PRIVATE SITES: Active construction sites	24			
	PRIVATE SITES: Inspections of active construction sites for proper stormwater, erosion and sedimentation BMPs	40			
	PRIVATE SITES: Percentage of active construction sites inspected	100			
	Red Tags issued	0	NPDES Backup Binder	E. Wong and Engineering Inspectors	All issues resolved no NOVs or fines issued.
	Notices of Violation (NOVs) issued	0			
	Stop Work Orders issued	0			
	Fines issued				
	Year 1 ONLY: Attach the written construction site inspection program plan				
Part III.A.9.c	**Construction Site Runoff — Site Operator Training**				

During Year 1 of the permit, develop and implement a written plan for stormwater training / outreach for construction site plan reviewers, site inspectors and site operators. Provide training for permittee personnel (employed by or under contract with the permittee) involved in the site plan review, inspection or construction of stormwater management, erosion, and sedimentation controls. Also provide training for private construction site operators. All permittee inspectors (employed by or under contract with the permittee) of construction sites shall be certified through the Florida Stormwater, Erosion and Sedimentation Control Inspector Training program, or an equivalent program approved by the Department. Refresher training shall be provided annually. Report the type of training activities, the number of inspectors, site plan reviewers and site operators trained (both in-house and outside training), and the number of private construction site operators trained by the permittee.

DEP Note: If "0" is reported for any of these reporting items, please include in Column F an explanation of why training was not provided to / obtained by the permittee's staff and private construction site operators during the applicable reporting year.

DEP Note: The permittee should report only the number of staff and private construction site operators trained / certified during the applicable reporting year, and then note in Column F the number of staff who were previously trained / certified. Private site operator training can include pre-construction meetings.

	Certification Training	Initial Training (non-certification)	Refresher Training				
Permittee construction site inspectors	20 FDEP certified Stormwater Management Inspectors		21 staff in-house refresher training by E. Wong		NPDES Backup Binder, FDEP certificates, Sign-sheets for in-house refresher training 6/14/19 Email list from FSESCI@dep.state.fl.us on FDEP Sediment and Stormwater Management Inspector Certification	FDEP for the Stormwater Management Inspector Certification, E. Wong conducted in-house refresher training	E. Wong in-house training based on a powerpoint previous approved by FDEP. Same powerpoint used for contractor training.

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE

A.	B.				C.	D.	E.	F.
Permit Citation/ SWMP Element	**Permit Requirement/Quantifiable SWMP Activity**				**Number of Activities Performed**	**Documentation / Record**	**Entity Performing the Activity**	**Comments**
	Permittee construction site plan reviewers		1			FDEP for the Stormwater Management Inspector Certification for E. Wong	E. Wong	
	Permittee construction site operators		21 staff in-house training by E. Wong			NPDES Backup Binder, Sign-sheets for in-house training	E. Wong	
	Private construction site operators		40 Contractors trained by E. Wong			NPDES Backup Binder, Sign-sheets for pre-construction meeting training	E. Wong	

SECTION VIII. EVALUATION OF THE STORMWATER MANAGEMENT PROGRAM (SWMP)

A.	Permit Citation/ SWMP Element	SWMP EVALUATION
	Part II.A.1 Structural control inspection and maintenance	Strengths: Good guidance and criteria for inspection frequency
		Weaknesses: Difficult to calculate percentage maintenance due to different reporting units, for example, NPDES report form requires miles of roadside swales mowed but City existing internal tracking system reports acres of swales mowed.
		SWMP Revisions to address deficiencies: Allow narrative discussion of maintenance accomplishments.
	Part II.A.2 Significant redevelopment	Strengths: All redevelopments in North Port must meet the most current City stormwater regulations.
		Weaknesses: None
		SWMP Revisions to address deficiencies: None
	Part II.A.3 Roadways	Strengths: Requirement to document street maintenance and litter control frequency and calculate nitrogen and phosphorus removal in street sweepings
		Weaknesses: Report form specifies reporting of volume in cubic yards of roadway litter collected. City measures the weight of litter collected.
		SWMP Revisions to address deficiencies: Change the reporting requirement to weight of roadway litter collected.

SECTION VIII. EVALUATION OF THE STORMWATER MANAGEMENT PROGRAM (SWMP)		
	Part II.A.4 Flood control	Strengths: Good to document flood control projects. The City's flood control structures also serve to retain water in the canal system much like a linear wet detention pond system. This provide additional water quality treatment.
		Weaknesses: Some flood control projects are specific to flood control and may not have a water quality treatment component.
		SWMP Revisions to address deficiencies: Remove requirement to explain why a flood control project does not have a water quality treatment component or modify the form to reflect two categories of flood control projects - with or without water quality treatment.
	Part II.A.5 Waste TSD Facilities	Strengths: No TSD in North Port
		Weaknesses: No TSD in North Port
		SWMP Revisions to address deficiencies: No TSD in North Port
	Part II.A.5 Waste TSD Facilities	Strengths: No TSD in North Port
		Weaknesses: No TSD in North Port
		SWMP Revisions to address deficiencies: No TSD in North Port
	Part II.A.6 Pesticide, herbicide, fertilizer application	Strengths: Good requirement for training on Fertilizer BMPs
		Weaknesses: None
		SWMP Revisions to address deficiencies: None
	Part II.A.7 Illicit Discharge Detection and Elimination	Strengths: Good requirement for training on Illicit Discharge Detection and Elimination
		Weaknesses: Consider reducing the frequency of the annual refresher training from annually to every three years as the subject matter does not change each year.
		SWMP Revisions to address deficiencies: Suggest refresher every three years and initial training for all new employees.
	Part II.A.8 High Risk Industry Runoff	Strengths: No High Risk Industry in North Port.
		Weaknesses: None
		SWMP Revisions to address deficiencies: None
	Part II.A.9 Construction Site Runoff	Strengths: Good requirement for training and documentation of inspections. In a mandatory preconstruction meeting with site construction managers, City Stormwater Manager provides a detailed site specific BMP training to site construction managers. Also included are Illicit discharge and spill control training. This is documented in the sign-in sheet.
		Weaknesses: Consider reducing the frequency of the annual refresher training from annually to every three years as the subject matter does not change much each year.
		SWMP Revisions to address deficiencies: Suggest refresher every three years and initial training for all new employees.

SECTION IX. CHANGES TO THE STORMWATER MANAGEMENT PROGRAM (SWMP) ACTIVITIES (Not Applicable In Year 4)		
A.	**Permit Citation/ SWMP Element**	**Proposed Changes to the Stormwater Management Program Activities Established as Specific Requirements Under Part III.A of the Permit (Including the Rationale for the Change) — REQUIRES DEP APPROVAL PRIOR TO CHANGE IF PROPOSING TO REPLACE OR DELETE AN ACTIVITY.** *DEP Note: There may be changes deemed necessary after developing / reviewing your plans and SOPs as per Part III.A of the permit, after completing your SWMP evaluation as per Part VI.B.2 of the permit, or due to a TMDL / BMAP as per Part VIII.B of the permit.*
		See above Section VIII suggestions on the reporting form and frequency of refresher training.
B.	**Permit Citation/ SWMP Element**	**Changes to the Stormwater Management Program Activities NOT Established as Specific Requirements Under Part III.A of the Permit (Including the Rationale for the Change)** *DEP Note: There may be changes deemed necessary after developing / reviewing your plans and SOPs as per Part III.A of the permit, after completing your SWMP evaluation as per Part VI.B.2 of the permit, or due to a TMDL / BMAP as per Part VIII.B of the permit.*
		None.

CHECKLIST A: ATTACHMENTS TO BE SUBMITTED WITH THE ANNUAL REPORTS

Below is a list of items required by the permit that may need to be attached to the annual report. Please check the appropriate box to indicate whether the item is attached or is not applicable for the current reporting period. Please provide the number and the title of the attachments in the blanks provided.

Attached	N/A	Rule / Permit Citation	Required Attachment	Attachment Number	Attachment Title
☐	☒	Part II.F	**EACH ANNUAL REPORT:** If program resources have decreased from the previous year, a discussion of the impacts on the implementation of the SWMP.	N/A	
☐	☒	Part III.A.1	**EACH ANNUAL REPORT:** An explanation of why the minimum inspection frequency in Table II.A.1.a was not met, if applicable.	N/A	Met minimum inspection frequency
☐	☒	Part III.A.4	**EACH ANNUAL REPORT:** A list of the flood control projects that did not include stormwater treatment and an explanation for each of why it did not, if applicable.	N/A	Appendix C
☐	☒	Part III.A.7.a	**EACH ANNUAL REPORT:** A report on amendments / changes to the legal authority to control illicit discharges, connections, dumping, and spills, if applicable.	N/A	No changes
☒	☐	Part V.B.9	**EACH ANNUAL REPORT:** Reporting and assessment of monitoring results. **[Also addressed in Section III of the Annual Report Form]**	Appendix A & B	Water Quality Data and Graphs
☒	☐	Part VI.B.2	**EACH ANNUAL REPORT:** An evaluation of the effectiveness of the SWMP in reducing pollutant loads discharged from the MS4 that, at a minimum, must include responses to the questions listed in the permit.	Section VIII	SWMP Evaluation
☐	☒	Part VIII.B.3.e	**EACH ANNUAL REPORT:** A status report on the implementation of the requirements in this section of the permit and on the estimated load reductions that have occurred for the pollutant(s) of concern.	N/A	Will be done when TMDL is implemented
☐	☒	Part VIII.B.4.f	**EACH ANNUAL REPORT after approval of the BPCP:** The status of the implementation of the Bacterial Pollution Control Plan (BPCP).	N/A	
☐	☒	Part III.A.1	**YEAR 1:** An inventory of all known major outfalls and a map depicting the location of the major outfalls (hard copy or CD-ROM).	N/A	Submitted in Year 1
☐	☒	Part III.A.3	**YEAR 1:** If have curbs and gutters but no street sweeping program, an explanation of why no street sweeping program and the alternate BMPs used or planned.	N/A	City has street sweeping program
☐	☒	Part III.A.6	**YEAR 1 or YEAR 2:** A copy of the adopted Florida-friendly Ordinance, if applicable.	N/A	Submitted in Year 1
☐	☒	Part III.A.7.c	**YEAR 1:** A proactive illicit discharge / connection / dumping inspection program plan.	N/A	Submitted in Year 1
☐	☒	Part III.A.9.b	**YEAR 1:** A construction site inspection program plan. **[For approval by DEP]**	N/A	Submitted in Year 1
☐	☒	Part III.A.2	**YEAR 2:** A summary report of a review of codes and regulations to reduce the stormwater impact from new development / redevelopment.	N/A	Submitted in Year 2
☐	☒	Part V.A.2	**YEAR 3:** Estimates of annual pollutant loadings and EMCs, and a table comparing the current calculated loadings with those from the previous two Year 3 ARs.	N/A	Submitted in Year 3
☐	☒	Part III.A.2	**YEAR 4:** A follow-up report on plan implementation of changes to codes and regulations to reduce the stormwater impact from new development / redevelopment.	N/A	Submitted in Year 4
☐	☒	Part V.A.3	**YEAR 4:** If the total annual pollutant loadings have not decreased over the past two permit cycles, revisions to the SWMP, as appropriate.	N/A	Submitted in Year 4

☐	☒	Part V.B.3	**YEAR 4:** The monitoring plan (with revisions, if applicable).	N/A	Submitted in Year 4
☐	☒	Part VII.C	**YEAR 4:** An application to renew the permit.	N/A	Submitted in Year 4
☐	☒	Part VIII.B.3.d	**YEAR 4:** A TMDL Implementation Plan / Supplemental SWMP.	N/A	

CHECKLIST B: THE REQUIRED ANNUAL REVIEWS OF WRITTEN STANDARD OPERATING PROCEDURES (SOPs) & PLANS

The permit requires annual review, and revision if needed, of written Standard Operating Procedures (SOPs) and plans (e.g., public education and outreach, training, inspections). Please indicate your review status below. **If you have made revisions that need DEP approval, you must complete Section VIII.A of the annual report.**

Did not complete review of existing SOP / Plan	Developed new written SOP / Plan	Reviewed & no revision needed to existing SOP / Plan	Reviewed & revised existing SOP / Plan	Permit Citation	Description of Required SOPs / Plans
☐	☐	☒	☐	Part III.A.1	SOP and/or schedule of inspections and maintenance activities of the structural controls and roadway stormwater collection system.
☐	☐	☒	☐	Part III.A.2	SOP for development project review and permitting procedures and/or local codes and regulations for new development / areas of significant development.
☐	☐	☒	☐	Part III.A.3	SOP for the litter control program.
☐	☐	☒	☐	Part III.A.3	SOP for the street sweeping program.
☐	☐	☒	☐	Part III.A.3	SOP for inspections of equipment yards and maintenance shops that support road maintenance activities.
☐	☐	☒	☐	Part III.A.5	SOP for inspections of waste treatment, storage, and disposal facilities not covered by an NPDES stormwater permit.
☐	☐	☒	☐	Part III.A.6	Plan for public education and outreach on reducing the use of pesticides, herbicides and fertilizer.
☐	☐	☒	☐	Part III.A.6	SOP for reducing the use of pesticides, herbicides and fertilizer, and for the proper application, storage and mixing of these products.
☐	☐	☒	☐	**Part III.A.7.c**	**Plan for proactive illicit discharge / connections / dumping inspections.***
☐	☐	☒	☐	Part III.A.7.c	SOP for reactive illicit discharge / connections / dumping investigations.
☐	☐	☒	☐	Part III.A.7.c	Plan for illicit discharge training.
☐	☐	☒	☐	Part III.A.7.d	SOP for spill prevention and response efforts.
☐	☐	☒	☐	Part III.A.7.d	Plan for spill prevention and response training.
☐	☐	☒	☐	Part III.A.7.e	Plan for public education and outreach on how to identify and report the illicit discharges and improper disposal to the MS4.
☐	☐	☒	☐	Part III.A.7.f	Plan for public education and outreach on the proper use and disposal of oils, toxics and household hazardous waste.
☐	☐	☒	☐	Part III.A.7.g	SOP to reduce / eliminate sanitary wastewater contamination of the MS4.
☐	☐	☒	☐	Part III.A.8	SOP for inspections of high risk industrial facilities.
☐	☐	☒	☐	Part III.A.9.a	SOP for construction site plan review for stormwater, erosion and sedimentation controls, and ERP and CGP coverage.

☐	☐	☒	☐	**Part III.A.9.b**	**Plan for inspections of construction sites.***
☐	☐	☒	☐	Part III.A.9.c	Plan for stormwater, erosion and sedimentation BMPs training.

*** Revisions to these plans require DEP approval – complete please of the annual Section VIII.A report.**

REMINDER LIST OF THE TMDL / BMAP REPORTS TO BE SUBMITTED SEPARATELY FROM AN ANNUAL REPORT

Rule / Permit Citation	Report Title	Due Date
Part VIII.B.3.a	**6 MONTHS from effective date of permit:** TMDL Prioritization Report.	Completed 6/5/14
Part VIII.B.3.b	**12 MONTHS from effective date of permit:** TMDL Monitoring and Assessment Plan.	January 2025 WBID #1991C Myakka River at Big Slough
Part VIII.B.3.c	**6 MONTHS from receiving analyses from the lab:** TMDL Monitoring Report.	Start January 2027 WBID #1991C Myakka River at Big Slough
Part VIII.B.4	**30 MONTHS from start date per TMDL Prioritization Report:** A Bacterial Pollution Control Plan (BPCP).	June 2021 WBID #1976 Big Slough Canal

BMAP Reporting

MS4 permittees are NOT required to submit the annual report required by any BMAP that applies to them since the NPDES Stormwater Staff can obtain them from the department's Watershed Planning and Coordination staff. However, to assure that the stormwater staff are aware of which BMAPs apply to the MS4 permittees and when the latest BMAP annual report was submitted, please complete the information below, if applicable:

Rule/Permit Citation	BMAP Title	Date BMAP Annual Report Submitted to DEP
Part VIII.B.2	Not Applicable	
Part VIII.B.2		

Part VIII.B.2		
Part VIII.B.2		

END OF REVISED TAILORED MS4 AR FORM

WATER QUALITY DATA DISCUSSION
CURRENT YEAR 2018

The water quality monitoring plan in the National Pollutant Discharge Elimination System (NPDES) permit approved the use of the City's Hydrobiological (HB) sampling sites and monitoring data collected under the City's Southwest Florida Water Management District (SWFWMD) Water Use Permit to satisfy the NPDES monitoring requirements. The HB data has very similar parameters to the Sarasota County's monitoring plan. The sampling locations provide specific water quality data for the surface water runoff from the City of North Port.

Appendix A includes the following:

- A location map of the HB sampling sites.
- Appendices A-1 through A-10 provides all the monthly HB sampling data from each of the 10 sites.
- Appendices A-11 and A-12 gives a summary comparison of the geometric means of all the sites for current and previous years respectively.
- Appendices A-13 and A-14 gives a summary comparison of the current year and past year's geometric means of the average of the fresh water site Nos. 1 and 2, and for the tidal site Nos. 3 through 10, respectively.
- Appendix A-15 gives a summary of the geometric means for all sites for all data collected since the start of the monitoring from April 2006 to current year.
- Appendix A-16 gives a summary of the geometric means for the fresh water site Nos. 1 and 2 for the last three years. Three-year comparisons are needed as FAC 62-302.531 criteria for total nitrogen and total phosphorus are annual geometric mean concentrations that must not be exceeded more than once in any three-calendar year period.
- Appendix A-17 gives the arithmetic mean for the current year for all sites.
- Appendix A-18 and A-19 gives the comparison of total ammonia nitrogen (TAN) concentrations for fresh water site Nos. 1 and 2 respectively, in comparison with the established TAN limit per FAC 62.302-530 that was effective on February 17, 2016.
- Appendix A-20 gives summary of the relevant regulatory standards.

Total Nitrogen, Total Phosphorus and Chlorophyll *a*

Fresh Water sites

The City of North Port is located within the numeric nutrient criteria (NNC) watershed region called the "West Central", and the NNC water quality standards for fresh water flowing streams per FAC 62-302.531 are as follows:

- Total Nitrogen (TN) = 1.65 mg/L
- Total Phosphorus (TP) = 0.49 mg/L
- The annual geometric mean for TN or TP shall not be exceeded more than once in any three-calendar year period.

As shown in Appendix A-16, for North Port's flowing stream Site No. 1 (Myakkahatchee Creek at Appomatox Blvd.), the maximum of the geometric means for the last three years for TN and TP are 1.32 mg/L and 0.23 mg/L for TN and TP respectively and did not exceed the NNC. The other freshwater site No. 2 (Cocoplum Waterway at Sumter Blvd) is not considered a flowing stream per the NNC rules.

Appendix A-16 shows the chlorophyll *a* data for Site No. 1 (Myakkahatchee Creek at Appomatox Blvd.) is lower for the current year than the previous year. Chlorophyll *a* data for Site No. 2 (Cocoplum at Sumter

Blvd.) is also lower for the current year than the previous year. FDEP has not established a flowing stream criterion for chlorophyll *a* for comparison.

Tidal Water Sites Nos. 3-10

Site Nos. 3 through 8 fall in the tidal creek classification and the NNC has not been established yet for these tidal creek sites.

Site Nos. 9 and 10 are located in the Myakkahatchee tidal creek close to the border with the Tidal Myakka River Estuary. The nutrient criteria for Tidal Myakka River Estuary per FAC 62-302.532, is given in the table below. Note the City's water quality sampling parameters for tidal creek site Nos. 9 and 10 do not include these nutrient parameters:

Estuary	*Total Phosphorus*	*Total Nitrogen*	*Chlorophyll a*
Tidal Myakka River	*0.31 mg/L*	*1.02 mg/L*	*11.7 µg/L*

The Annual arithmetic mean values for nutrients and annual arithmetic means for chlorophyll a, not to be exceeded more than once in a three-year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions

Appendix A-14 for tidal creek site Nos. 4, 6 and 7 shows negligible changes in the current year concentration for nutrient parameters - nitrate, nitrite, ammonia, total kjeldahl nitrogen (TKN), total nitrogen, ortho phosphorus and total phosphorus, over the previous year. There is a decrease in chlorophyll *a* concentration from the previous year data. A tidal creek chlorophyll *a* standard is not available for comparison.

Total Ammonia Nitrogen (TAN)

The TAN criteria for fresh water in FAC 62.302-530 was effective on February 17, 2016. The TAN criterion is not a fixed number value but is based on a complex formula given in Appendix A-20 with input variables of pH and temperature. Since temperature was not measured for fresh water site Nos. 1 and 2 in the monitoring program, the temperature of the downstream site No. 3 was used in the calculation of the allowable TAN limit. Appendix A-18 and 19 TAN water quality data are all well below the TAN criteria.

Other Water Quality Parameters

Following is a discussion of the comparison of other water quality parameters data for the 10 sampling sites, between the current year and for the previous year.

Average of Fresh Water Site Nos. 1 and 2 (Appendix A-13)

- The data for total suspended solids, turbidity, color, pH, specific conductance and salinity are not significantly different between the current year and the previous year.

Average of Estuarine Tidal Water Site Nos. 3-10 (Appendix A-14)

- Tidal water data is subject to tidal and flow conditions at the time of measurement, so it is difficult to compare data from current year with the previous year.

- The data for total suspended solids, turbidity, color, pH, temperature, dissolved oxygen (D.O.), percent saturation of dissolved oxygen and secchi depth are not significantly different between the previous and current years.
- Specific conductance and salinity are very subject to tidal conditions at the time of sampling and will differ from year to year.
- FAC 62-302.533 which was effective February 17, 2016, replaced the historical D.O. concentration standard with a percent saturation D.O. criteria. The percent saturation D.O. criteria for the City which is in "Peninsula bioregion", is no more than 10% of daily average % D.O. saturation shall be below 38% saturation in fresh waters and 42% saturation in marine waters. The data in Appendix A-3 through 10 and A-17 shows the tidal sites 3 through 10 all met this criterion.

Appendix B includes the following:

- Graphs are provided for all the data collected from the City's HB monitoring program for the current year and all previous years. Separate graphs are prepared for each parameter.
- Site No. 6 is the location that represents most closely the water quality immediately downstream of the City of North Port. For Site No, 6, comparison graphs are also included for the following:

  - Nutrients - Nitrate, Nitrite, Ammonia-N, TKN, Orthophosphorus, and Total Phosphorus – These graphs show a correlation of the nitrogen data with the phosphorus data. Higher concentrations of nutrients are typically seen in the wet season months between June and September.
  - Turbidity, Total Suspended Solids, Color - The turbidity, total suspended and color are higher in the wet season. This is probably due to influence of more surface water flow entraining turbidity, suspended solids and dissolution of organic color material in the surface water flow path.
  - Dissolved Oxygen, and Temperature – As expected, the dissolved oxygen content is inversely proportional to temperature.

- The last three graphs show a correlation between rain and color/total nitrogen/total phosphorus concentration. This is attributed to rainwater runoff entraining pollutants into the waterways.

Hydrobiological Data - Site 1 Myk Creek at Appomattox

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18 *	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean
Nitrate, Nitrite as N (mg/L)	0.223	0.136	0.308	U0.005	0.090	0.030	0.038	0.042	0.112	0.071	0.330	0.263	0.330	0.005	0.137	0.085	0.078	0.054	0.085	0.056
Ammonia as N (mg/L)	0.060	0.070	0.089	U0.005	0.016 I	0.178	0.050 G	0.084	0.100	0.088	0.100	0.091	0.178	0.005	0.078	0.059	0.050	0.044	0.059	0.049
Total Kjeldahl Nitrogen as N (mg/L)	0.73	0.90	0.79	0.72	0.68	2.22	1.39	1.35	1.36	1.49	1.12	0.80	2.22	0.68	1.13	1.06	1.11	1.00	1.11	0.98
Total Nitrogen as N (mg/L)	0.95	1.04	1.10	0.72	0.77	2.25	1.43	1.39	1.47	1.56	1.45	1.06	2.25	0.72	1.27	1.21	1.32	1.08	1.32	1.07
Ortho Phosphorus as P (mg/L)	0.106	0.161 I	0.094	0.043	0.060	0.658	0.220	0.197	0.243	0.294	0.238	0.132	0.658	0.043	0.204	0.159	0.162	0.172	0.172	0.176
Total Phosphorus as P (mg/L)	0.11 I	0.22	0.10 I	0.09 I	0.09 I	0.84	0.25	0.27	0.30	0.36	0.31	0.08 I	0.84	0.08	0.25	0.19	0.22	0.23	0.23	0.22
Total Suspended Solids (mg/L)	U2	3 I	3 I	3 I	5 I	6 I	10	6 I	4 I	2 I	11	3 I	11	2	5	4	5	5	5	4
Turbidity (NTU)	3.8	5.0	4.1	4.1	4.2	5.7	6.6	3.9	5.3	5.0	8.7	4.6	8.7	3.8	5.1	4.9	5.9	6.0	6.0	4.6
Color Apparent (PCU)	75	130	60	60	50	560	360	320	280	360	150	70	560	50	206	149	151	176	176	127
Color pH SU	7.60	7.57	7.62	7.78	7.80	6.99		7.13	7.37	6.88	7.70	7.65	7.80	6.88	7.46	7.46	7.42	7.43	7.46	7.42
Chlorophyll a - Pheo Corrected (ug/L)	2.74	3.53	2.02	14.34	9.65	6.43	4.41	3.84	7.10	5.25	1.95	1.28	14.34	1.28	5.21	4.17	4.50	2.21	4.50	2.95
Specific Conductance (mmhos)/cm	1.009	0.800	0.904	0.846	0.942	0.322	0.221	0.189	0.362	0.224	0.732	0.897	1.009	0.189	0.621	0.523	0.731	0.442	0.731	0.661
Salinity - Lab (PSU)	0.5 I	0.4 I	0.4 I	0.4 I	0.5 I	U 0.2	U 0.2	U 0.2	U 0.2	U 0.2	0.4 I	0.4 I	0.5	0.2	0.3	0.3	0.4	0.3	0.4	0.3
Overall Depth (meters)																				
Depth of Measurement (meters)																				
Field Salinity (PSU)																				
Field Specific Conductance (mmhos)/cm																				
Field Temperature (^{0}C)																				
Field pH (SU)																				
Field Dissolved Oxygen (mg/L)																				
Percent Saturation of D.O. (%)																				
Secchi Depth (meters)																				

Blank Cell = No data

U = Less than Method Detection Limit

I = Value > or = MDL but < Practical Quantitation Limit (PQL)

S = Secchi disc visible to bottom; water body depth reported

G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample

*J = Color pH analyte was questionable and unusally low value of 5.30J was not used in the statistically analysis

Hydrobiological Data - Site 2 Cocoplum at Sumter

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)	U0.005	U0.005	0.008 I	U0.005	U0.005	0.048	0.055	0.061	0.094	0.089	0.040	U0.005	0.094	0.005	0.035	0.018	0.015	0.013	0.018	0.010	0.019
Ammonia as N (mg/L)	U0.005	U 0.008 I	U0.005	U0.005	U0.005	0.257	0.099 G	0.131	0.078	0.106	0.013 I	U0.005	0.257	0.005	0.060	0.021	0.024	0.016	0.024	0.017	0.039
Total Kjeldahl Nitrogen as N (mg/L)	0.65	0.66	0.61	0.70	0.62	1.80	1.20	1.19	1.01	1.18	0.82	0.63	1.80	0.61	0.92	0.86	0.91	0.90	0.91	0.87	0.91
Total Nitrogen as N (mg/L)	0.65	0.66	0.62	0.70	0.62	1.85	1.25	1.25	1.10	1.27	0.86	0.63	1.85	0.62	0.95	0.89	0.93	0.92	0.93	0.89	0.92
Ortho Phosphorus as P (mg/L)	0.014 I	0.008 I	0.020	U 0.005 I	U0.005	0.298	0.167	0.128	0.087	0.105	0.037	0.018 I	0.298	0.005	0.074	0.034	0.033	0.038	0.038	0.030	0.052
Total Phosphorus as P (mg/L)	U0.05	U0.05	U0.05	U0.05	U0.05	0.38	0.18 I	0.16 I	0.12 I	0.16 I	0.07 I	U0.05	0.38	0.05	0.11	0.09	0.09	0.08	0.09	0.08	0.10
Total Suspended Solids (mg/L)	3 I	2 I	U2	2 I	U2	U2	3 I	U2	U2	U2	U2	U2	3	2	2	2	3	4	4	3	4
Turbidity (NTU)	2.2	2.1	1.5	2.6	1.1	2.3	4.0	2.6	2.6	2.7	1.8	1.3	4.0	1.1	2.2	2.1	2.6	3.9	3.9	2.7	3.2
Color Apparent (PCU)	55	55	40	35	33	200	240	240	200	240	110	50	240	33	125	93	87	102	102	74	96
Color pH SU	8.14	7.98	8.11	8.27	8.24	7.26	7.26	7.53	7.70	7.44	7.92	8.02	8.27	7.26	7.82	7.81	7.92	7.84	7.92	7.84	7.84
Chlorophyll a - Pheo Corrected (ug/L)	8.7	9.1	1.8	11.0	4.2	2.5	10.9	4.4	5.3	3.2	13.4	5.73	13.40	1.77	6.68	5.63	7.06	12.72	12.72	9.98	13.32
Specific Conductance (mmhos)/cm	0.97	0.89	0.98	1.06	1.06	0.40	0.35	0.42	0.54	0.44	0.74	0.87	1.060	0.352	0.726	0.672	0.500	0.686	0.686	0.803	0.862
Salinity - Lab (PSU)	0.5 I	0.4 I	0.5 I	0.5 I	0.5 I	U0.2	U0.2	0.2 I	0.3 I	0.2 I	0.4 I	0.4 I	0.5	0.2	0.4	0.3	0.3	0.3	0.3	0.4	0.4
Overall Depth (meters)																					
Depth of Measurement (meters)																					
Field Salinity (PSU)																					
Field Specific Conductance (mmhos)/cm																					
Field Temperature (^{0}C)																					
Field pH (SU)																					
Field Dissolved Oxygen (mg/L)																					
Percent Saturation of D.O. (%)																					
Secchi Depth (meters)																					

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 3 Myk Creek Downstream WTP

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)																					
Ammonia as N (mg/L)																					
Total Kjeldahl Nitrogen as N (mg/L)																					
Total Nitrogen as N (mg/L)																					
Ortho Phosphorus as P (mg/L)																					
Total Phosphorus as P (mg/L)																					
Total Suspended Solids (mg/L)																					
Turbidity (NTU)																					
Color Apparent (PCU)																					
Color pH SU																					
Chlorophyll a - Pheo Corrected (ug/L)																					
Specific Conductance (mmhos)/cm																					
Salinity - Lab (PSU)																					
Overall Depth (meters)	1.0	1.4	1.3	1.2	1.1	1.7	1.8	1.4	1.7	1.8	1.1	0.8	1.8	0.8	1.4	1.3	1.2	1.5		1.4	1.4
Depth of Measurement (meters)	0.8	1.0	1.1	1.0	0.9	1.0	1.0	1.2	1.0	1	0.9	0.6	1.2	0.6	1.0	0.9	0.9	1.0		1.0	1.0
Field Salinity (PSU)	7.6	0.7	8.4	14.0	17.9	0.15 I	0.1	0.08 I	0.2	0.1	0.4	3.0	17.9	0.1	4.4	0.9	1.6	0.5		1.7	6.2
Field Specific Conductance (mmhos)/cm	13.20	1.24	15.20	23.20	29.00	0.31	0.19	0.19 I	0.43	0.22	0.68	5.49	29.00	0.19	7.45	1.72	2.78	0.90		3.07	10.26
Field Temperature (^{o}C)	18.2	21.3	23.3	28.1	26.4	29.1	28.3	29.6	28.8	27.8	25.5	20.3	29.6	18.2	25.6	25.3	26.0	25.0		25.0	25.4
Field pH (SU)	7.6	7.5	7.3	7.3	7.4	6.7	6.6	6.7	7.1	6.9	7.4	7.7	7.7	6.6	7.2	7.2	7.1	7.2		7.2	7.2
Field Dissolved Oxygen (mg/L)	8.2	7.3	4.2	3.9	4.6	4.8	5.2	5.5	5.0	5.6	6.2	7.7	8.20	3.90	5.69	5.54	4.51	5.70		4.63	4.94
Percent Saturation of D.O. (%)	91	83	52	54	63	63	67	72	65	72	76	87	91	52	70	69	58	70		58	61
Secchi Depth (meters)	S1.0	1.2	1.1	1.1	S1.1	0.4	0.4	0.6	0.6	0.5	0.9	0.8	1.20	0.35	0.80	0.74	0.70	0.72		0.88	0.94

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 4 Myk Creek Tidal

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)	0.044	0.079	0.007 I	U0.005	U0.005	0.039	0.040	0.053	0.100	0.079	0.103	0.047	0.103	0.005	0.050	0.033	0.030	0.030	0.033	0.024	0.046
Ammonia as N (mg/L)	0.013 I	0.029	U0.005	U0.005	U0.005	0.175	0.072	0.100	0.078	0.092	0.017 I	0.014 I	0.175	0.005	0.050	0.026	0.029	0.023	0.029	0.031	0.048
Total Kjeldahl Nitrogen as N (mg/L)	0.72	0.85	0.83	0.79	0.96	2.09	1.40	1.25	1.13	1.41	0.88	0.87	2.09	0.72	1.10	1.05	1.03	0.99	1.05	0.98	1.02
Total Nitrogen as N (mg/L)	0.76	0.93	0.85	0.79	0.96	2.13	1.44	1.30	1.23	1.49	0.98	0.92	2.13	0.76	1.15	1.10	1.09	1.03	1.10	1.03	1.06
Ortho Phosphorus as P (mg/L)	0.082	0.111	0.099	0.126	0.170	0.592	0.192	0.166	0.135	0.262	0.084	0.090	0.592	0.082	0.176	0.146	0.147	0.123	0.147	0.142	0.155
Total Phosphorus as P (mg/L)	0.12 I	0.16 I	0.16 I	0.20 I	0.30	0.73	0.28 I	0.22	0.18 I	0.34	0.15 I	0.07 I	0.73	0.07	0.24	0.20	0.20	0.19	0.20	0.20	0.22
Total Suspended Solids (mg/L)	6 I	4 I	5 I	6 I	8	5 I	21	6 I	5 I	5 I	6 I	7 I	21	4	7	6	7	6	7	5	6
Turbidity (NTU)	5.7	4.5	3.6	4.6	3.8	3.9	12.0	3.0	4.0	4.7	6.1	5.9	12.0	3.0	5.1	4.8	5.8	5.8	5.8	4.6	5.0
Color Apparent (PCU)	75	95	70	65	60	560	320	280	200	300	110	110	560	60	187	143	150	148	150	116	141
Color pH SU	7.79	7.73	7.82	7.69	7.74	7.20	7.25	7.32	7.58	7.30	7.83	7.87	7.87	7.20	7.59	7.59	7.54	7.58	7.59	7.61	7.62
Chlorophyll a - Pheo Corrected (ug/L)	19.0	12.2	26.3	16.9	19.3	5.6	15.2	4.5	7.5	4.9	31.9	38.4	38.40	4.54	16.81	13.44	14.08	9.91	14.08	11.41	13.63
Specific Conductance (mmhos)/cm	6.978	1.262	9.113	18.230	28.860	0.357	0.266	0.498	0.486	0.288	0.996	5.758	28.860	0.266	6.091	1.850	2.564	0.853	2.564	2.436	7.083
Salinity - Lab (PSU)	3.8	0.6 I	5.1	10.8	17.8	U0.2	U0.2	0.2 I	0.2 I	U0.2	0.5 I	3.1	17.8	0.2	3.6	1.0	1.5	0.5	1.5	1.3	4.1
Overall Depth (meters)	1.4	1.3	1.4	1.1	1.4	1.6	1.6	1.8	1.9	1.8	1.3	0.9	1.9	0.9	1.5	1.4	1.2	1.4	1.4	1.3	1.3
Depth of Measurement (meters)	1.0	1.0	1.0	0.9	1.0	1.0	1.0	0.2	1.0	1.0	1.0	0.7	1.0	0.2	0.9	0.8	0.9	1.0	1.0	0.9	0.9
Field Salinity (PSU)	7.8	1.1	8.6	14.3	19.1	0.1	0.1	0.2	0.3	0.1	0.6	5.6	19.1	0.1	4.8	1.2	1.7	0.6	1.7	2.0	6.3
Field Specific Conductance (mmhos)/cm	13.5	2.0	14.7	23.7	30.8	0.3	0.3	0.3	0.5	0.3	1.2	9.9	30.80	0.25	8.11	2.16	2.88	1.02	2.88	3.53	10.56
Field Temperature (^{o}C)	18.3	21.5	23.0	28.0	26.0	28.7	28.6	29.8	28.7	27.7	25.6	21.7	29.8	18.3	25.6	25.4	25.9	25.1	25.9	25.1	25.4
Field pH (SU)	7.6	7.4	7.4	7.4	7.5	6.6	6.8	6.9	7.1	7.0	7.5	7.4	7.6	6.6	7.2	7.2	7.2	7.2	7.2	7.3	7.3
Field Dissolved Oxygen (mg/L)	8.0	7.1	5.2	5.1	4.8	4.6	4.8	4.6	5.5	5.7	5.7	5.1	8.00	4.59	5.51	5.44	5.21	5.43	5.44	4.72	4.92
Percent Saturation of D.O. (%)	89	81	64	70	65	59	62	61	71	73	70	60	89	59	69	68	67	67	68	60	61
Secchi Depth (meters)	1.1	1.0	1.0	1.1	1.2	0.4	0.4	0.6	0.6	0.5	0.9	0.7	1.20	0.35	0.78	0.73	0.67	0.80	0.80	0.84	0.89

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 5 Myk Creek Tidal

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)																					
Ammonia as N (mg/L)																					
Total Kjeldahl Nitrogen as N (mg/L)																					
Total Nitrogen as N (mg/L)																					
Ortho Phosphorus as P (mg/L)																					
Total Phosphorus as P (mg/L)																					
Total Suspended Solids (mg/L)																					
Turbidity (NTU)																					
Color Apparent (PCU)																					
Color pH SU																					
Chlorophyll a - Pheo Corrected (ug/L)																					
Specific Conductance (mmhos)/cm																					
Salinity - Lab (PSU)																					
Overall Depth (meters)	2.0	1.5	1.8	1.7	1.6	2.1	2.0	2.1	2.0	2.0	1.4	1.2	2.1	1.2	1.8	1.8	1.7	2.0		1.8	1.8
Depth of Measurement (meters)	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0		1.0	1.0
Field Salinity (PSU)	10.3	4.9	9.1	14.6	18.0	0.2 I	0.1	0.1 I	0.2	0.1	1.2	7.1	18.0	0.1	5.5	1.4	1.9	0.6		2.3	6.9
Field Specific Conductance (mmhos)/cm	17.50	8.76	15.60	24.10	29.30	0.31	0.24	0.29	0.42	0.27	2.20	12.40	29.30	0.24	9.28	2.64	3.26	1.06		4.08	11.44
Field Temperature (^{0}C)	17.7	22.0	22.3	27.3	25.2	28.7	28.5	29.8	28.7	27.8	25.8	21.9	29.8	17.7	25.5	25.2	25.8	25.0		25.0	25.3
Field pH (SU)	7.7	7.3	7.5	7.5	7.6	6.7	6.8	6.9	7.0	7.0	7.4	7.4	7.7	6.7	7.2	7.2	7.2	7.3		7.3	7.3
Field Dissolved Oxygen (mg/L)	8.0	6.9	7.0	5.4	6.0	4.9	4.8	4.9	5.2	5.8	4.6	4.4	8.00	4.40	5.65	5.56	5.22	5.54		5.25	5.37
Percent Saturation of D.O. (%)	89	81	84	74	80	63	62	65	67	73	57	52	89	52	71	70	67	68		66	67
Secchi Depth (meters)	1.10	0.95	1.50	1.30	1.40	0.35	0.35	0.53	0.53	0.53	0.88	0.78	1.50	0.35	0.85	0.76	0.66	0.86		0.90	0.96
	Blank Cell = No data																				
	U = Less than Method Detection Limit																				
	I = Value > or = MDL but < Practical Quantitation Limit (PQL)																				
	S = Secchi disc visible to bottom; water body depth reported																				
	G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample																				
	- 9 = Missing data																				

Hydrobiological Data - Site 6 Myk Creek Tidal

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)	0.010 I	0.051 I	U0.005	U0.005	U0.005	0.039	0.045	0.048	0.100	0.076	0.145	0.009 I	0.145	0.005	0.045	0.025	0.024	0.021	0.025	0.018	0.039
Ammonia as N (mg/L)	0.005	0.012 I	U0.005	U0.005	U0.005	0.166	0.062	0.085	0.076	0.094	0.010 I	U 0.005	0.166	0.005	0.044	0.019	0.022	0.019	0.022	0.021	0.038
Total Kjeldahl Nitrogen as N (mg/L)	0.77	0.78	0.67	0.71	0.69	2.03	1.27	1.24	1.27	1.40	0.97	0.89	2.03	0.67	1.06	1.00	1.06	1.00	1.06	0.99	1.02
Total Nitrogen as N (mg/L)	0.78	0.83	0.67	0.71	0.69	2.07	1.32	1.29	1.37	1.48	1.12	0.90	2.07	0.67	1.10	1.04	1.11	1.04	1.11	1.03	1.06
Ortho Phosphorus as P (mg/L)	0.077	0.094	0.092	0.108	0.156	0.587	0.185	0.180	0.188	0.270	0.114	0.083	0.587	0.077	0.178	0.147	0.142	0.124	0.147	0.139	0.152
Total Phosphorus as P (mg/L)	0.13 I	0.15 I	0.11 I	0.17 I	0.20	0.70	0.21	0.21	0.24	0.33	0.18 I	0.09 I	0.70	0.09	0.23	0.19	0.20	0.19	0.20	0.20	0.22
Total Suspended Solids (mg/L)	6 I	4 I	3 I	5 I	7 I	3 I	8	3 I	4 I	4 I	5 I	5 I	8	3	5	4	5	6	6	5	5
Turbidity (NTU)	3.9	3.9	2.7	3.0	2.9	3.3	7.7	3.0	3.7	4.1	5.0	4.5	7.7	2.7	4.0	3.8	4.7	5.0	5.0	4.0	4.2
Color Apparent (PCU)	75	85	60	65	60	560	320	240	280	300	120	110	560	60	190	143	155	151	155	118	144
Color pH SU	7.93	7.78	7.90	7.85	7.82	7.18	7.30	7.26	7.46	7.24	7.78	7.92	7.93	7.18	7.62	7.61	7.60	7.60	7.61	7.67	7.68
Chlorophyll a - Pheo Corrected (ug/L)	23.1	16.7	8.4	11.5	9.4	7.1	9.9	3.8	5.8	4.3	31.2	31.8	31.83	3.75	13.57	10.71	14.62	13.45	14.62	12.90	15.69
Specific Conductance (mmhos)/cm	10.960	2.458	10.890	19.860	28.305	0.345	0.260	0.254	0.405	0.297	1.121	8.592	28.305	0.254	6.979	2.010	3.008	1.126	3.008	3.140	8.668
Salinity - Lab (PSU)	6.3	1.3	6.2	11.8	17.4	U 0.2	U 0.2	U 0.2	U 0.2	U 0.2	0.6 I	4.8	17.4	0.2	4.1	1.2	1.7	0.6	1.7	1.7	5.0
Overall Depth (meters)	2.5	2.3	2.9	2.7	2.6	2.9	2.9	2.8	2.8	2.9	2.2	1.9	2.9	1.9	2.6	2.6	2.6	2.7	2.7	2.6	2.6
Depth of Measurement (meters)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Field Salinity (PSU)	8.2	3.6	7.6	13.0	17.5	0.15 I	0.1	0.12 I	0.2	0.1	0.7	5.2	17.5	0.1	4.7	1.2	2.1	0.7	2.1	2.2	6.6
Field Specific Conductance (mmhos)/cm	14.20	6.53	13.10	21.80	28.50	0.31	0.25	0.25	0.41	0.27	1.31	9.29	28.50	0.25	8.02	2.28	3.50	1.24	3.50	3.95	10.95
Field Temperature (^{o}C)	18.5	22.5	21.3	26.6	24.7	28.7	28.5	29.8	28.7	27.7	25.9	19.7	29.8	18.5	25.2	24.9	25.8	25.2	25.8	24.7	25.1
Field pH (SU)	7.7	7.50	7.6	7.6	7.6	6.7	6.8	6.8	7.0	7.0	7.6	7.7	7.7	6.7	7.3	7.3	7.2	7.3	7.3	7.3	7.4
Field Dissolved Oxygen (mg/L)	8.8	7.50	7.2	6.2	5.9	4.8	4.8	5.2	5.3	5.5	6.6	7.3	8.80	4.79	6.26	6.15	5.14	5.63	6.15	5.57	5.70
Percent Saturation of D.O. (%)	98	88	85	83	79	62	62	68	68	70	81	82	98	62	77	76	66	69	76	70	71
Secchi Depth (meters)	1.10	0.95	1.70	1.20	1.40	0.35	0.27	0.58	0.63	0.48	0.88	0.98	1.70	0.27	0.88	0.77	0.79	0.81	0.81	0.91	0.98

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 7 Myk Creek Tidal

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)	0.010 I	0.190 I	U0.005	U0.005	U0.005	0.040	0.037	0.044	0.088	0.076	0.061	0.006 I	0.190	0.005	0.047	0.024	0.023	0.021	0.024	0.017	0.034
Ammonia as N (mg/L)	U0.005	0.006 I	U0.005	U 0.007 I	U0.005	0.164	0.055	0.075	0.070	0.082	0.010 I	U0.005	0.164	0.005	0.041	0.018	0.020	0.020	0.020	0.020	0.035
Total Kjeldahl Nitrogen as N (mg/L)	0.77	0.76	0.69	0.69	0.77	2.08	1.28	1.24	1.27	1.36	0.94	0.83	2.08	0.69	1.06	1.00	1.03	1.00	1.03	0.98	1.02
Total Nitrogen as N (mg/L)	0.78	0.78	0.69	0.69	0.77	2.12	1.33	1.28	1.36	1.44	1.00	0.84	2.12	0.69	1.09	1.02	1.07	1.03	1.07	1.01	1.05
Ortho Phosphorus as P (mg/L)	0.085	0.086	0.097	0.111	0.147	0.601	0.192	0.187	0.180	0.279	0.110	0.083	0.601	0.083	0.180	0.148	0.140	0.137	0.148	0.146	0.162
Total Phosphorus as P (mg/L)	0.13 I	0.11 I	0.13 I	0.16 I	0.19 I	0.75 I	0.25	0.25	0.22	0.33	0.17 I	0.07 I	0.75	0.07	0.23	0.19	0.20	0.19	0.20	0.21	0.23
Total Suspended Solids (mg/L)	2 I	4 I	4 I	5 I	8	3 I	17	3 I	4 I	4 I	6 I	5 I	17	2	5	5	5	6	6	5	6
Turbidity (NTU)	3.3	4.1	2.5	3.0	3.3	3.2	8.9	3.2	3.7	4.0	4.7	4.0	8.9	2.5	4.0	3.8	4.3	4.5	4.5	3.7	4.0
Color Apparent (PCU)	75	85	65	65	60	560	340	280	280	300	140	110	560	60	197	148	145	152	152	119	145
Color pH SU	7.94	7.92	7.94	7.84	7.83	7.14	7.18	7.23	7.46	7.28	7.85	7.94	7.94	7.14	7.63	7.62	7.58	7.61	7.62	7.66	7.66
Chlorophyll a - Pheo Corrected (ug/L)	23.0	14.7	7.7	9.1	10.7	6.4	6.1	4.4	8.6	4.9	23.4	35.5	35.52	4.37	12.87	10.35	11.97	11.52	11.97	12.07	14.29
Specific Conductance (mmhos)/cm	11.310	3.877	12.530	22.095	30.280	0.370	0.2	0.243	0.394	2.930	2.322	9.091	30.280	0.224	7.972	2.741	3.771	1.401	3.771	4.026	10.073
Salinity - Lab (PSU)	6.4	2.0	7.2	13.3	18.7	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.2	5.1	18.7	0.2	4.6	1.4	2.1	0.8	2.1	2.2	5.9
Overall Depth (meters)	3.4	3.3	3.1	3.2	3.0	3.7	3.3	3.4	3.6	3.6	3.2	2.8	3.7	2.8	3.3	3.3	3.3	3.3	3.3	3.2	3.2
Depth of Measurement (meters)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Field Salinity (PSU)	8.6	4.6	9.3	14.5	18.5	0.2	0.1	0.1 I	0.2	0.1	1.7	6.8	18.5	0.1	5.4	1.4	2.7	1.0	2.7	2.8	7.3
Field Specific Conductance (mmhos)/cm	14.90	8.18	16.00	24.00	30.00	0.34	0.21	0.24	0.42	0.27	3.07	11.80	30.00	0.21	9.12	2.61	4.65	1.62	4.65	4.87	12.10
Field Temperature (^{o}C)	19.2	22.8	21.0	26.3	24.6	28.8	28.2	29.8	28.6	27.8	26.1	20.1	29.8	19.2	25.3	25.0	25.8	25.2	25.8	24.7	25.1
Field pH (SU)	7.6	7.4	7.6	7.5	7.5	6.7	6.7	6.8	7.0	7.0	7.5	7.5	7.6	6.7	7.2	7.2	7.2	7.2	7.2	7.3	7.4
Field Dissolved Oxygen (mg/L)	7.8	6.5	7.1	5.8	5.6	4.0	4.9	4.7	4.9	5.4	6.3	6.2	7.80	4.02	5.78	5.69	5.32	5.40	5.69	5.50	5.64
Percent Saturation of D.O. (%)	89	78	84	78	75	52	63	62	63	69	79	71	89	52	72	71	69	67	71	70	71
Secchi Depth (meters)	1.10	0.95	1.50	0.93	1.30	0.35	0.45	0.58	0.63	0.48	0.88	0.98	1.50	0.35	0.84	0.77	0.79	0.82	0.82	0.91	0.98

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 8 Myk Creek Tidal

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)																					
Ammonia as N (mg/L)																					
Total Kjeldahl Nitrogen as N (mg/L)																					
Total Nitrogen as N (mg/L)																					
Ortho Phosphorus as P (mg/L)																					
Total Phosphorus as P (mg/L)																					
Total Suspended Solids (mg/L)																					
Turbidity (NTU)																					
Color Apparent (PCU)																					
Color pH SU																					
Chlorophyll a - Pheo Corrected (ug/L)																					
Specific Conductance (mmhos)/cm																					
Salinity - Lab (PSU)																					
Overall Depth (meters)	4.1	3.4	4.5	4.9	4.8	2.3	5.1	5.3	5.2	5.2	4.8	3.7	5.3	2.3	4.4	4.3	4.7	4.6		4.6	4.6
Depth of Measurement (meters)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Field Salinity (PSU)	9.5	5.0	10.4	16.3	19.8	0.3	0.4	0.1 I	0.2	0.1	2.7	5.5	19.8	0.1	5.9	1.7	3.4	1.4		3.5	8.0
Field Specific Conductance (mmhos)/cm	16.30	8.86	17.60	26.70	31.80	0.55	0.70	0.28	0.33	0.26	4.86	9.77	31.80	0.26	9.83	3.15	5.93	2.24		6.14	13.28
Field Temperature (^{0}C)	19.3	22.7	20.6	26.1	23.9	28.8	29.4	29.2	27.6	27.5	26.6	18.6	29.4	18.6	25.0	24.7	25.8	25.1		24.6	25.0
Field pH (SU)	7.6	7.4	7.5	7.4	7.6	6.5	6.6	6.7	6.6	6.8	7.4	7.6	7.6	6.5	7.1	7.1	7.2	7.2		7.3	7.3
Field Dissolved Oxygen (mg/L)	7.7	6.4	6.9	5.1	5.7	3.0	3.6	4.0	3.9	4.6	5.9	7.1	7.70	3.01	5.32	5.11	4.82	5.27		5.24	5.45
Percent Saturation of D.O. (%)	88	76	82	69	76	39	47	52	50	58	74	78	88	39	66	64	63	65		67	68
Secchi Depth (meters)	1.20	0.95	1.60	1.40	1.30	0.50	0.45	0.55	0.68	0.63	0.83	1.10	1.60	0.45	0.93	0.86	0.88	0.85		0.91	0.97

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 9 Myakka River Upstream

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)																					
Ammonia as N (mg/L)																					
Total Kjeldahl Nitrogen as N (mg/L)																					
Total Nitrogen as N (mg/L)																					
Ortho Phosphorus as P (mg/L)																					
Total Phosphorus as P (mg/L)																					
Total Suspended Solids (mg/L)																					
Turbidity (NTU)																					
Color Apparent (PCU)																					
Color pH SU																					
Chlorophyll a - Pheo Corrected (ug/L)																					
Specific Conductance (mmhos)/cm																					
Salinity - Lab (PSU)																					
Overall Depth (meters)	3.2	3.1	3.6	3.5	3.6	3.5	3.5	3.7	3.4	3.9	3.2	3.1	3.9	3.1	3.4	3.4	3.5	3.3		3.2	3.3
Depth of Measurement (meters)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Field Salinity (PSU)	9.5	4.9	10.3	16.4	19.1	0.3	0.3	0.1 I	0.1 I	0.1	2.9	4.9	19.1	0.1	5.7	1.6	3.0	1.2		3.2	7.7
Field Specific Conductance (mmhos)/cm	16.30	8.77	17.50	26.90	30.70	0.61	0.54	0.26	0.22	0.17	5.20	8.64	30.70	0.17	9.65	2.86	5.46	2.01		5.59	12.86
Field Temperature (^{o}C)	19.3	22.9	20.6	26.2	24.3	28.8	29.5	28.9	27.6	27.3	26.6	18.6	29.5	18.6	25.1	24.8	25.8	25.2		24.7	25.0
Field pH (SU)	7.6	7.4	7.5	7.4	7.6	6.5	6.6	6.6	6.6	6.8	7.3	7.6	7.6	6.5	7.1	7.1	7.1	7.1		7.3	7.3
Field Dissolved Oxygen (mg/L)	7.5	6.7	7.0	5.0	5.7	3.0	3.6	3.7	4.0	4.6	5.3	7.1	7.50	2.96	5.25	5.03	4.76	5.05		5.21	5.42
Percent Saturation of D.O. (%)	86	80	82	68	76	38	47	48	50	58	66	78	86	38	65	63	62	62		66	68
Secchi Depth (meters)	1.30	0.95	1.80	1.30	1.30	0.45	0.50	0.65	0.63	0.63	0.88	0.88	1.80	0.45	0.94	0.86	0.89	0.99		0.92	0.98

Blank Cell = No data
U = Less than Method Detection Limit
I = Value > or = MDL but < Practical Quantitation Limit (PQL)
S = Secchi disc visible to bottom; water body depth reported
G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample
- 9 = Missing data

Hydrobiological Data - Site 10 Myakka River Downstream

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Nitrate, Nitrite as N (mg/L)																					
Ammonia as N (mg/L)																					
Total Kjeldahl Nitrogen as N (mg/L)																					
Total Nitrogen as N (mg/L)																					
Ortho Phosphorus as P (mg/L)																					
Total Phosphorus as P (mg/L)																					
Total Suspended Solids (mg/L)																					
Turbidity (NTU)																					
Color Apparent (PCU)																					
Color pH SU																					
Chlorophyll a - Pheo Corrected (ug/L)																					
Specific Conductance (mmhos)/cm																					
Salinity - Lab (PSU)																					
Overall Depth (meters)	2.5	1.9	2.1	2.1	2.0	2.2	2.2	2.2	2.3	2.4	2.1	1.6	2.5	1.6	2.1	2.1	2.1	2.3		2.1	2.1
Depth of Measurement (meters)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Field Salinity (PSU)	10.1	6.2	12.4	18.1	20.8	0.3	0.3	0.2	0.2	0.1	4.3	6.8	20.8	0.1	6.7	2.0	4.0	1.6		4.1	9.0
Field Specific Conductance (mmhos)/cm	17.20	10.90	20.70	29.30	33.20	0.58	0.59	0.43	0.36	0.28	7.73	11.90	33.20	0.28	11.10	3.63	6.88	2.64		7.18	14.84
Field Temperature (^{0}C)	19.2	22.7	20.1	25.3	23.4	28.8	29.2	29.0	27.7	27.4	26.7	18.6	29.2	18.6	24.8	24.5	25.7	25.1		24.6	25.0
Field pH (SU)	7.6	7.4	7.5	7.4	7.6	6.5	6.6	6.6	6.6	6.7	7.3	7.5	7.6	6.5	7.1	7.1	7.1	7.1		7.3	7.3
Field Dissolved Oxygen (mg/L)	7.7	6.7	6.6	5.1	5.6	2.9	3.9	3.8	3.9	4.6	5.5	7.2	7.70	2.92	5.29	5.08	4.86	5.27		5.31	5.52
Percent Saturation of D.O. (%)	88	81	79	68	74	38	52	49	50	58	70	80	88	38	66	64	63	65		68	70
Secchi Depth (meters)	1.30	1.30	1.60	1.30	1.20	0.45	0.55	0.55	0.53	0.68	0.85	1.10	1.60	0.45	0.95	0.87	0.91	0.95		0.93	1.01
	Blank Cell = No data																				
	U = Less than Method Detection Limit																				
	I = Value > or = MDL but < Practical Quantitation Limit (PQL)																				
	S = Secchi disc visible to bottom; water body depth reported																				
	G = Analyte was detected abov e MDL in sample and associated EQP BLK, and EQP BLK value is > 10% of associated sample																				
	- 9 = Missing data																				

Hydrobiological Data - Year 2018 Geometric Mean

	Site 1	Site 2	Avg of Fresh Water Sites	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Avg of Tidal Water Sites
	Myk Creek at Appomattox	Cocoplum at Sumter		Myk Creek Down-stream of WTP	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myakka River Upstream	Myakka River Down - stream	
Fresh Water or Tidal Water	**Fresh**	**Fresh**	**Fresh**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**
Nitrate, Nitrite as N (mg/L)	0.085	0.018	**0.052**		0.033		0.025	0.024				**0.027**
Ammonia as N (mg/L)	0.059	0.021	**0.040**		0.026		0.019	0.018				**0.021**
Total Kjeldahl Nitrogen as N (mg/L)	1.06	0.86	**0.96**		1.05		1.00	1.00				**1.01**
Total Nitrogen as N (mg/L)	1.21	0.89	**1.05**		1.10		1.04	1.02				**1.05**
Ortho Phosphorus as P (mg/L)	0.16	0.03	**0.10**		0.15		0.15	0.15				**0.15**
Total Phosphorus as P (mg/L)	0.19	0.09	**0.14**		0.20		0.19	0.19				**0.20**
Total Suspended Solids (mg/L)	4	2	**3**		6		4	5				**5**
Turbidity (NTU)	4.9	2.1	**3.5**		4.8		3.8	3.8				**4.1**
Color Apparent (PCU)	149	93	**121**		143		143	148				**144**
Color pH SU	7.46	7.81	**7.63**		7.59		7.61	7.62				**7.61**
Chlorophyll a - Pheo Corrected (ug/L)	4.17	5.63	**4.90**		13.44		10.71	10.35				**11.50**
Specific Conductance (mmhos)/cm	0.52	0.67	**0.60**		1.85		2.01	2.74				**2.20**
Salinity - Lab (PSU)	0.3	0.3	**0.3**		1.0		1.2	1.4				**1.2**
Overall Depth (meters)				1.3	1.4	1.8	2.6	3.3	4.3	3.4	2.1	**2.5**
Depth of Measurement (meters)				0.9	0.8	1.0	1.0	1.0	1.0	1.0	1.0	**1.0**
Field Salinity (PSU)				0.9	1.2	1.4	1.2	1.4	1.7	1.6	2.0	**1.4**
Field Specific Conductance (mmhos)/cm				1.72	2.16	2.64	2.28	2.61	3.15	2.86	3.63	**2.63**
Field Temperature (^{0}C)				25.3	25.4	25.2	24.9	25.0	24.7	24.8	24.5	**25.0**
Field pH (SU)				7.2	7.2	7.2	7.3	7.2	7.1	7.1	7.1	**7.2**
Field Dissolved Oxygen (mg/L)				5.5	5.4	5.6	6.1	5.7	5.1	5.0	5.1	**5.5**
Percent Saturation of D.O. (%)				69	68	70	76	71	64	63	64	**68**
Secchi Depth (meters)				0.74	0.73	0.76	0.77	0.77	0.86	0.86	0.87	**0.80**

Hydrobiological Data
Year 2017 Geometric Mean

	Site 1	Site 2	Avg of Fresh Water Sites	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Avg of Tidal Water Sites
	Myk Creek at Appomattox	Cocoplum at Sumter		Myk Creek Down-stream of WTP	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myakka River Upstream	Myakka River Down - stream	
Fresh Water or Tidal Water	**Fresh**	**Fresh**	**Fresh**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**
Nitrate, Nitrite as N (mg/L)	0.078	0.015	**0.047**		0.030		0.024	0.023				**0.026**
Ammonia as N (mg/L)	0.050	0.024	**0.037**		0.029		0.022	0.020				**0.024**
Total Kjeldahl Nitrogen as N (mg/L)	1.11	0.91	**1.01**		1.03		1.06	1.03				**1.04**
Total Nitrogen as N (mg/L)	1.32	0.93	**1.13**		1.09		1.11	1.07				**1.09**
Ortho Phosphorus as P (mg/L)	0.16	0.03	**0.10**		0.15		0.14	0.14				**0.14**
Total Phosphorus as P (mg/L)	0.22	0.09	**0.15**		0.20		0.20	0.20				**0.20**
Total Suspended Solids (mg/L)	5	3	**4**		7		5	5				**6**
Turbidity (NTU)	5.9	2.6	**4.3**		5.8		4.7	4.3				**4.9**
Color Apparent (PCU)	151	87	**119**		150		155	145				**150**
Color pH SU	7.42	7.92	**7.67**		7.54		7.60	7.58				**7.57**
Chlorophyll a - Pheo Corrected (ug/L)	4.50	7.06	**5.78**		14.08		14.62	11.97				**13.56**
Specific Conductance (mmhos)/cm	0.73	0.50	**0.62**		2.56		3.01	3.77				**3.11**
Salinity - Lab (PSU)	0.4	0.3	**0.4**		1.5		1.7	2.1				**1.8**
Overall Depth (meters)				1.2	1.2	1.7	2.6	3.3	4.7	3.5	2.1	**2.5**
Depth of Measurement (meters)				0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	**1.0**
Field Salinity (PSU)				1.6	1.7	1.9	2.1	2.7	3.4	3.0	4.0	**2.6**
Field Specific Conductance (mmhos)/cm				2.78	2.88	3.26	3.50	4.65	5.93	5.46	6.88	**4.42**
Field Temperature (^{0}C)				26.0	25.9	25.8	25.8	25.8	25.8	25.8	25.7	**25.8**
Field pH (SU)				7.1	7.2	7.2	7.2	7.2	7.2	7.1	7.1	**7.2**
Field Dissolved Oxygen (mg/L)				4.5	5.2	5.2	5.1	5.3	4.8	4.8	4.9	**5.0**
Percent Saturation of D.O. (%)				58	67	67	66	69	63	62	63	**64**
Secchi Depth (meters)				0.70	0.67	0.66	0.79	0.79	0.88	0.89	0.91	**0.79**

Hydrobiological Data

Comparison of Geometric Means

For Fresh Water Sites (Average of # 1 Myk Creek at Appomattox and #2 Cocoplum at Sumter)

Date	Previous Year Geom Mean Year 2017	Current Year Geom Mean Year 2018	Difference in Geom Mean
Nitrate, Nitrite as N (mg/L)	0.047	0.052	0.005
Ammonia as N (mg/L)	0.037	0.040	0.003
Total Kjeldahl Nitrogen as N (mg/L)	1.01	0.96	-0.05
Total Nitrogen as N (mg/L)	1.13	1.05	-0.08
Ortho Phosphorus as P (mg/L)	0.10	0.10	0.00
Total Phosphorus as P (mg/L)	0.152	0.141	-0.011
Total Suspended Solids (mg/L)	4	3	0
Turbidity (NTU)	4.3	3.5	-0.8
Color Apparent (PCU)	119	121	2
Color pH SU	7.67	7.63	-0.03
Chlorophyll a - Pheo Corrected (ug/L)	5.78	4.90	-0.88
Specific Conductance (mmhos)/cm	0.62	0.60	-0.02
Salinity - Lab (PSU)	0.4	0.3	0.0
Overall Depth (meters)			
Depth of Measurement (meters)			
Field Salinity (PSU)			
Field Specific Conductance (mmhos)/cm			
Field Temperature (^{0}C)			
Field pH (SU)			
Field Dissolved Oxygen (mg/L)			
Percent Saturation of D.O. (%)			
Secchi Depth (meters)			

Hydrobiological Data

Comparison of Geometric Means

For Tidal Creek Sites

Date	Average of Sites	Previous Year Geom Mean Year 2017	Current Year Geom Mean Year 2018	Difference in Geom Mean
Nitrate, Nitrite as N (mg/L)	4, 6, 7	0.026	0.027	0.002
Ammonia as N (mg/L)	4, 6, 7	0.024	0.021	-0.003
Total Kjeldahl Nitrogen as N (mg/L)	4, 6, 7	1.04	1.01	-0.03
Total Nitrogen as N (mg/L)	4, 6, 7	1.09	1.05	-0.04
Ortho Phosphorus as P (mg/L)	4, 6, 7	0.143	0.147	0.004
Total Phosphorus as P (mg/L)	4, 6, 7	0.199	0.195	-0.004
Total Suspended Solids (mg/L)	4, 6, 7	6	5	-1
Turbidity (NTU)	4, 6, 7	4.9	4.1	-0.8
Color Apparent (PCU)	4, 6, 7	150	144	-6
Color pH SU	4, 6, 7	7.57	7.61	0.03
Chlorophyll a - Pheo Corrected (ug/L)	4, 6, 7	13.56	11.50	-2.05
Specific Conductance (mmhos)/cm	4, 6, 7	3.11	2.20	-0.91
Salinity - Lab (PSU)	4, 6, 7	1.8	1.2	-0.6
Overall Depth (meters)	All Tidal Site Nos. 3-10	2.5	2.5	0.0
Depth of Measurement (meters)	All Tidal Site Nos. 3-10	1	1	0
Field Salinity (PSU)	All Tidal Site Nos. 3-10	2.56	1.42	-1.14
Field Specific Conductance (mmhos)/cm	All Tidal Site Nos. 3-10	4.42	2.63	-1.79
Field Temperature (^{0}C)	All Tidal Site Nos. 3-10	25.8	25.0	-0.9
Field pH (SU)	All Tidal Site Nos. 3-10	7.2	7.2	0.0
Field Dissolved Oxygen (mg/L)	All Tidal Site Nos. 3-10	5.0	5.5	0.5
Percent Saturation of D.O. (%)	All Tidal Site Nos. 3-10	64.5	68.2	3.7
Secchi Depth (meters)	All Tidal Site Nos. 3-10	0.79	0.80	0.01

Hydrobiological Data
Geom Mean All Available Data
2006 to 2018

	Site 1 Myk Creek at Appomattox	Site 2 Cocoplum at Sumter	Avg of Fresh Water Sites	Site 3 Myk Creek Down-stream of WTP	Site 4 Myk Creek Tidal	Site 5 Myk Creek Tidal	Site 6 Myk Creek Tidal	Site 7 Myk Creek Tidal	Site 8 Myk Creek Tidal	Site 9 Myakka River Upstream	Site 10 Myakka River Down - stream	Avg of Tidal Water Sites
Fresh Water or Tidal Water	**Fresh**	**Fresh**	**Fresh**	**Fresh**	**Fresh**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**
Nitrate, Nitrite as N (mg/L)	0.056	0.010	**0.033**		0.024		0.018	0.017				**0.020**
Ammonia as N (mg/L)	0.049	0.017	**0.033**		0.031		0.021	0.020				**0.024**
Total Kjeldahl Nitrogen as N (mg/L)	0.98	0.87	**0.93**		0.98		0.99	0.98				**0.99**
Total Nitrogen as N (mg/L)	1.07	0.89	**0.98**		1.03		1.03	1.01				**1.02**
Ortho Phosphorus as P (mg/L)	0.18	0.03	**0.10**		0.14		0.14	0.15				**0.14**
Total Phosphorus as P (mg/L)	0.22	0.08	**0.15**		0.20		0.20	0.21				**0.20**
Total Suspended Solids (mg/L)	4	3	**3**		5		5	5				**5**
Turbidity (NTU)	4.6	2.7	**3.7**		4.6		4.0	3.7				**4.1**
Color Apparent (PCU)	127	74	**101**		116		118	119				**118**
Color pH SU	7.42	7.84	**7.63**		7.61		7.67	7.66				**7.65**
Chlorophyll a - Pheo Corrected (ug/L)	2.95	9.98	**6.47**		11.41		12.90	12.07				**12.13**
Specific Conductance (mmhos)/cm	0.7	0.8	**0.7**		2.4		3.1	4.0				**3.2**
Salinity - Lab (PSU)	0.3	0.4	**0.3**		1.3		1.7	2.2				**1.7**
Overall Depth (meters)				1.4	1.3	1.8	2.6	3.2	4.6	3.2	2.1	**2.5**
Depth of Measurement (meters)				1	1	1	1	1	1	1	1	**1**
Field Salinity (PSU)				1.7	2.0	2.3	2.2	2.8	3.5	3.2	4.1	**2.7**
Field Specific Conductance (mmhos)/cm				3.07	3.53	4.08	3.95	4.87	6.14	5.59	7.18	**4.80**
Field Temperature (^{0}C)				25.0	25.1	25.0	24.7	24.7	24.6	24.7	24.6	**24.8**
Field pH (SU)				7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	**7.3**
Field Dissolved Oxygen (mg/L)				4.6	4.7	5.3	5.6	5.5	5.2	5.2	5.3	**5.2**
Percent Saturation of D.O. (%)				58	60	66	70	70	67	66	68	**66**
Secchi Depth (meters)				0.88	0.84	0.90	0.91	0.91	0.91	0.92	0.93	**0.90**

Hydrobiological Data
Max of Past 3 Years
Geometric Mean

	Site 1 Myakkahatchee Creek at Appomatox Blvd.				Site 2 Cocoplum at Sumter Blvd.			
Year	**2018**	**2017**	**2016**	**Max of Last 3 Year**	**2018**	**2017**	**2016**	**Max of Last 3 Year**
Nitrate, Nitrite as N (mg/L)	0.085	0.078	0.054	0.085	0.018	0.015	0.013	0.018
Ammonia as N (mg/L)	0.059	0.050	0.044	0.059	0.021	0.024	0.016	0.024
Total Kjeldahl Nitrogen as N (mg/L)	1.06	1.11	1.00	1.11	0.86	0.91	0.90	0.91
Total Nitrogen as N (mg/L) *	1.21	1.32	1.08	1.32	0.89	0.93	0.92	0.93
Ortho Phosphorus as P (mg/L)	0.16	0.16	0.17	0.17	0.03	0.03	0.04	0.04
Total Phosphorus as P (mg/L)*	0.19	0.22	0.23	0.23	0.09	0.09	0.08	0.09
Total Suspended Solids (mg/L)	4	5	5	5	2	3	4	4
Turbidity (NTU)	4.9	5.9	6.0	6.0	2.1	2.6	3.9	3.9
Color Apparent (PCU)	149	151	176	176	93	87	102	102
Color pH SU	7.46	7.42	7.43	7.46	7.81	7.92	7.84	7.92
Chlorophyll a - Pheo Corrected (ug/L)	4.17	4.50	2.21	4.50	5.63	7.06	12.72	12.72
Specific Conductance (mmhos)/cm	0.5	0.7	0.4	0.7	0.7	0.5	0.7	0.7
Salinity - Lab (PSU)	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3

* EPA 12/9/10 Final Stream NNC standards for West Central Region based on annual geom. mean not exceeded more than once in a three-year period

TN = 1.65 mg/L
TP = 0.49 mg/L

Hydrobiological Data
Year 2018 Arithmetic Mean

	Site 1	Site 2	Avg of Fresh Water Sites	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Avg of Tidal Water Sites
	Myk Creek at Appomattox	Cocoplum at Sumter		Myk Creek Down-stream of WTP	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myk Creek Tidal	Myakka River Upstream	Myakka River Down - stream	
Fresh Water or Tidal Water	**Fresh**	**Fresh**	**Fresh**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**	**Tidal**
Nitrate, Nitrite as N (mg/L)	0.137	0.035	**0.086**		0.050		0.045	0.047				**0.047**
Ammonia as N (mg/L)	0.078	0.060	**0.069**		0.050		0.044	0.041				**0.045**
Total Kjeldahl Nitrogen as N (mg/L)	1.13	0.92	**1.02**		1.10		1.06	1.06				**1.07**
Total Nitrogen as N (mg/L)	1.27	0.95	**1.11**		1.15		1.10	1.09				**1.11**
Ortho Phosphorus as P (mg/L)	0.20	0.07	**0.14**		0.18		0.18	0.18				**0.18**
Total Phosphorus as P (mg/L)	0.25	0.11	**0.18**		0.24		0.23	0.23				**0.23**
Total Suspended Solids (mg/L)	5	2	**3**		7		5	5				**6**
Turbidity (NTU)	5.1	2.2	**3.7**		5.1		4.0	4.0				**4.4**
Color Apparent (PCU)	206	125	**166**		187		190	197				**191**
Color pH SU	7.46	7.82	**7.64**		7.59		7.62	7.63				**7.61**
Chlorophyll a - Pheo Corrected (ug/L)	5.21	6.68	**5.95**		16.81		13.57	12.87				**14.42**
Specific Conductance (mmhos)/cm	0.62	0.73	**0.67**		6.09		6.98	7.97				**7.01**
Salinity - Lab (PSU)	0.3	0.4	**0.3**		3.6		4.1	4.6				**4.1**
Overall Depth (meters)				1.4	1.5	1.8	2.6	3.3	4.4	3.4	2.1	**2.6**
Depth of Measurement (meters)				1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	**1.0**
Field Salinity (PSU)				4.4	4.8	5.5	4.7	5.4	5.9	5.7	6.7	**5.4**
Field Specific Conductance (mmhos)/cm				7.45	8.11	9.28	8.02	9.12	9.83	9.65	11.10	**9.07**
Field Temperature (^{0}C)				25.6	25.6	25.5	25.2	25.3	25.0	25.1	24.8	**25.3**
Field pH (SU)				7.2	7.2	7.2	7.3	7.2	7.1	7.1	7.1	**7.2**
Field Dissolved Oxygen (mg/L)				5.7	5.5	5.7	6.3	5.8	5.3	5.3	5.3	**5.6**
Percent Saturation of D.O. (%)				70	69	71	77	72	66	65	66	**69**
Secchi Depth (meters)				0.80	0.78	0.85	0.88	0.84	0.93	0.94	0.95	**0.87**

Hydrobiological Data - Site 1 Total Ammonia Nitrogen

Comparison with Regulatary Limit

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Ammonia as N (mg/L)	0.060	0.070	0.089	0.005	0.016	0.178	0.050	0.084	0.100	0.088	0.100	0.091	0.178	0.005	0.078	0.059	0.050	0.044	0.059	0.049	0.059
Color pH SU	7.60	7.57	7.62	7.78	7.80	6.99	*	7.13	7.37	6.88	7.70	7.65	7.80	6.88	7.46	7.46	7.42	7.43	7.46	7.42	7.43
Site 3 Temperature	18.2	21.3	23.3	28.1	26.4	29.1	28.3	29.6	28.8	27.8	25.5	20.3	29.6	18.2	25.6	25.3	26.0	25.0		25.0	25.4
Total Ammonia Nitrogen (TAN)* limit (using Site 3 Temp.)	1.426	1.202	1.006	0.618	0.673	1.053	*	0.961	0.876	1.189	0.801	1.183	1.350	0.777	1.021	1.007	0.952	1.059	1.059	1.017	1.057
Exceedence of Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	*	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit
*FAC 62.302.530 Effective 2/17/16																					
	* July 12, 2019 data for Color pH was questionable and not used.																				

Hydrobiological Data - Site 2 Total Ammonia Nitrogen

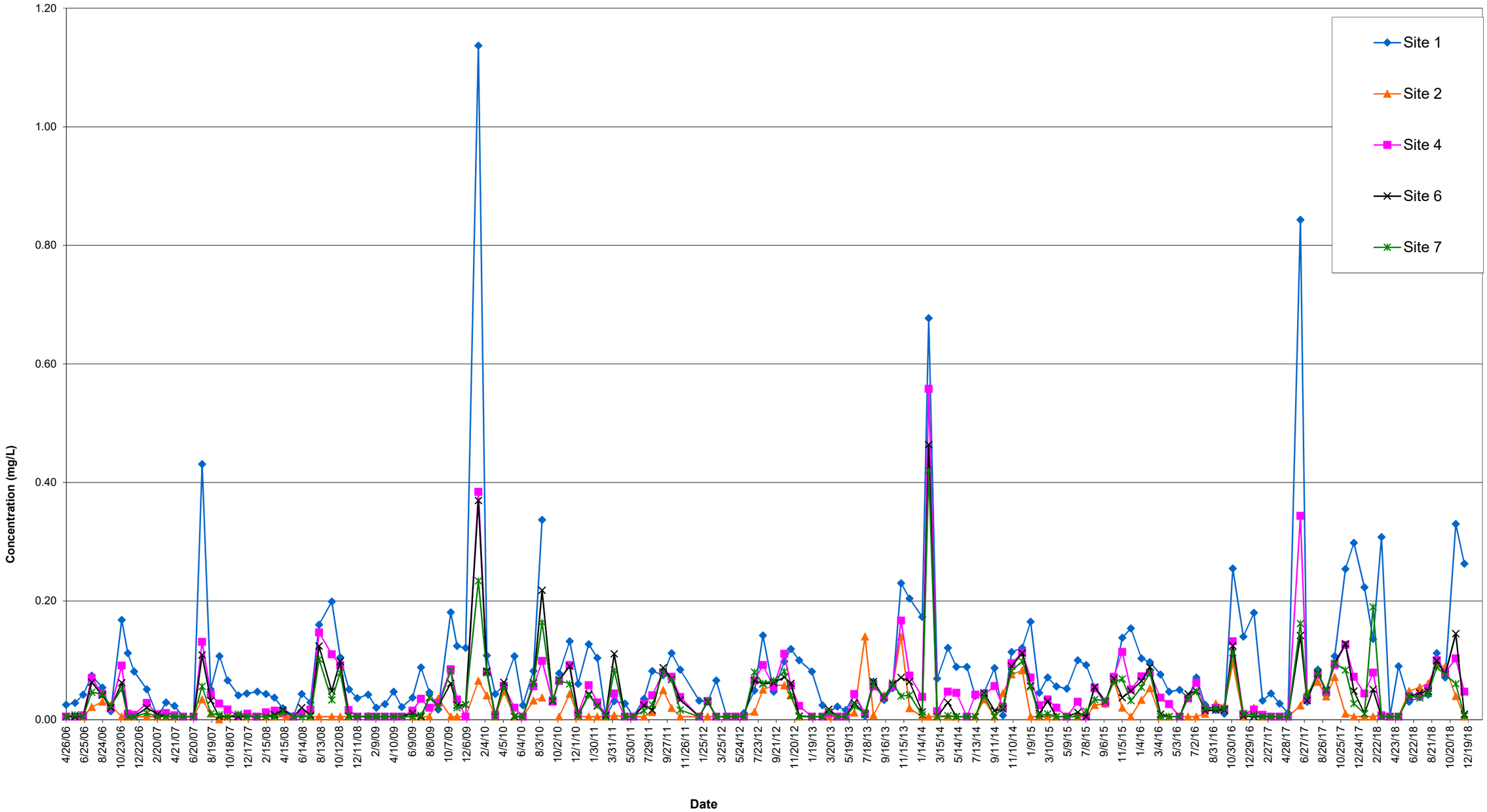
Comparison with Regulatary Limit

Date	1/11/18	2/8/18	3/8/18	4/5/18	5/3/18	6/7/18	7/12/18	8/9/18	9/6/18	10/4/18	11/8/18	12/6/18	2018 Max	2018 Min	2018 Arith Mean	2018 Geom Mean	2017 Geom Mean	2016 Geom Mean	Max of last 3 year Geom Mean	All Years Geom Mean	All Years Arith Mean
Ammonia as N (mg/L)	U0.005	U0.008	U0.005	U0.005	U0.005	U0.257	U0.099	U0.131	U0.078	U0.106	U0.013	U0.005	0.257	0.005	0.060	0.021	0.024	0.016	0.024	0.017	0.039
Color pH SU	8.14	7.98	8.11	8.27	8.24	7.26	7.26	7.53	7.70	7.44	7.92	8.02	8.27	7.26	7.82	7.81	7.92	7.84	7.92	7.84	7.84
Site 3 Temperature	18.2	21.3	23.3	28.1	26.4	29.1	28.3	29.6	28.8	27.8	25.5	20.3	29.6	18.2	25.6	25.3	26.0	25.0	26.0	25.0	25.4
Total Ammonia Nitrogen (TAN)* limit (using Site 3 Temp.)	0.707	0.735	0.537	0.303	0.358	0.925	0.976	0.731	0.651	0.886	0.614	0.746	1.026	0.386	0.693	0.664	0.632	0.703	0.703	0.658	0.701
Exceedence of Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit	< Limit
*FAC 62.302.530 Effective 2/17/16																					

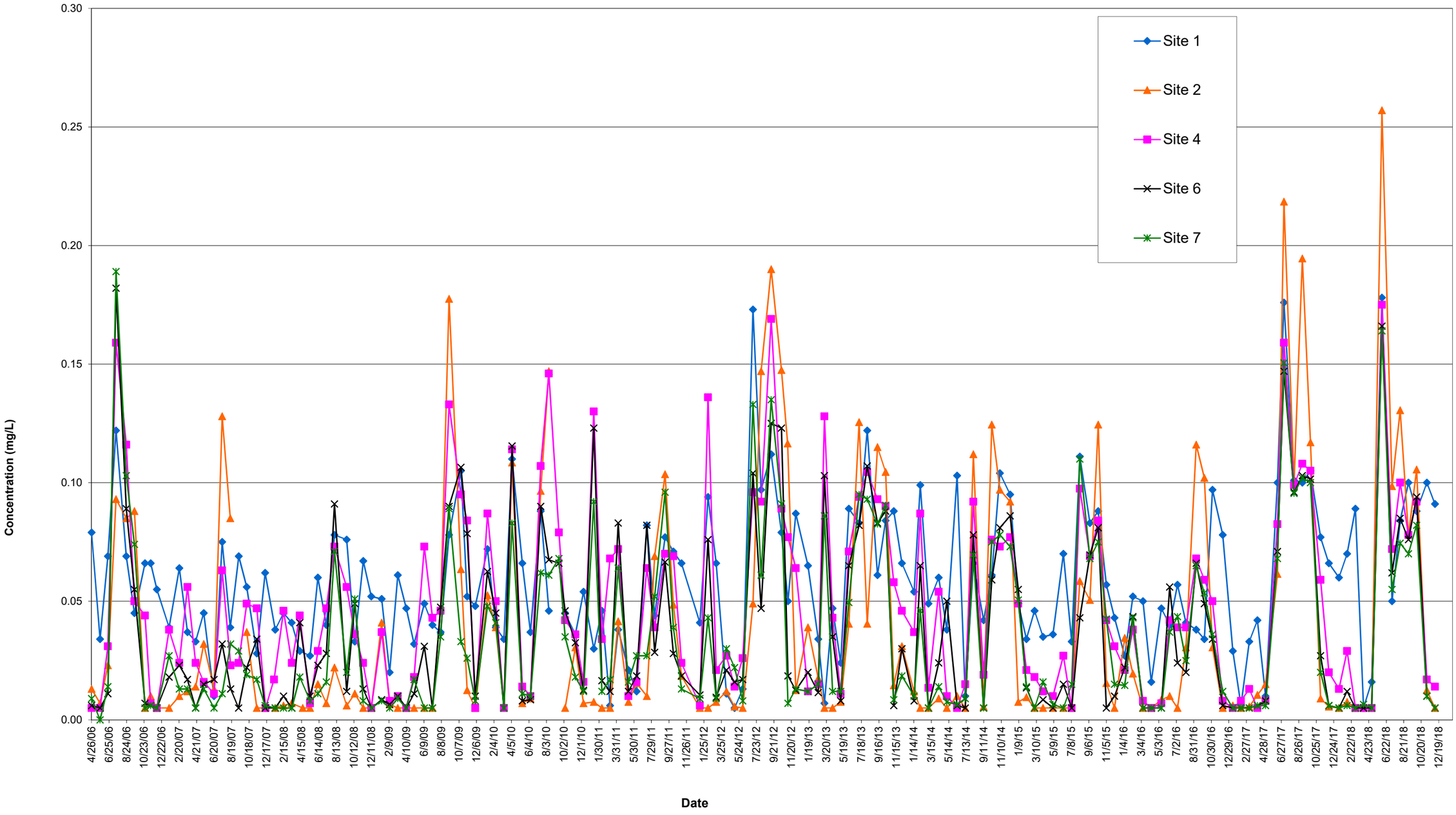
Surface Water Regulatory Standards

Parameter	Class I Potable Surface Water Supply FAC 62-302.530 Effective 2/17/16	Class III Fresh Surface Waters FAC 62-302.530 Effective 8/1/13	Numeric Nutrient Citeria (NNC) for Freshwater Streams West Central FAC 62-302.531 Effective 2/17/16	Numeric Nutrient Citeria (NNC) for Estuarine for Tidal Myakka River FAC 62-302.532 Effective 2/17/16
Nitrate as N (mg/L)	≤ 10 mg/L or <NNC			
Total Ammonia Nitrogen (TAN) limit (mg/L)	FAC 62-302.530 effective 2/17/16 - Total Ammonia Nitrogen criterion is based on relationship with Temperature and pH. The 30-day average TAN value shall not exceed the average of the values calculated from the following equation, with no single value exceeding 2.5 times the value from the equation: $30-\text{day Average} = 0.8876 \times \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}}\right) \times \left(2.126 \times 10^{0.028\times(20-MAX(T,7))}\right)$ T and pH are defined as the paired temperature (°C) and pH associated with the TAN sample. For purposes of total ammonia nitrogen criterion calculations, pH is subject to the range of 6.5 to 9.0. The pH shall be set at 6.5 if measured pH is < 6.5 and set at 9.0 if the measured pH is > 9.0.			
Total Nitrogen as N (mg/L)			1.65 mg/L Annual Geom Mean	1.02 mg/L Annual Arithmetric Mean
Total Phosphorus as P (mg/L)			0.49 mg/L Annual Geom Mean	0.31 mg/L Annual Arithmetric Mean
Turbidity (NTU)	≤ 29 NTU above background conditions			
Chlorophyll a - Pheo Corrected (ug/L)				11.7 mg/L Annual Arithmetric Mean
Specific Conductance (mmhos)/cm	Shall not be increased more that 50% above background or to 1.275 mmhos/cm whichever is greater			
Field pH (SU)	Shall not vary more than one unit above or below natural background provided that the pH is not lowered to less than 6 units or raised above 8.5 units. If natural background is less than 6 units, the pH shall not vary below natural background or vary more than one unit above natural background. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below background.	Shall not vary more than one unit above or below natural background of predominantly fresh waters and coastal waters as defined in paragraph 62-302.520(3)(b), F.A.C. or more than two-tenths unit above or below natural background of open waters as defined in paragraph 62-302.520(3)(f), F.A.C., provided that the pH is not lowered to less than 6 units in predominantly fresh waters, or less than 6.5 units in predominantly marine waters, or raised above 8.5 units. If natural background is less than 6 units, in predominantly fresh waters or 6.5 units in predominantly marine waters, the pH shall not vary below natural background or vary more than one unit above natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit above natural background of open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit below natural background of open waters.		
Percent D.O. Saturation (%)	FAC 62-302.533 Effective 2-17-16 for Peninsula bioregion - No more than 10% of daily average % DO Saturation shall be below 38% Saturation in fresh waters, 42% Saturation in marine waters			

Nitrate, Nitrite as N



Ammonia as N


Site 1
Site 2
Site 4
Site 6
Site 7
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Concentration (mg/L)
4/26/06
6/25/06
8/24/06
10/23/06
12/22/06
2/20/07
4/21/07
6/20/07
8/19/07
10/18/07
12/17/07
2/15/08
4/15/08
6/14/08
8/13/08
10/12/08
12/11/08
2/9/09
4/10/09
6/9/09
8/8/09
10/7/09
12/6/09
2/4/10
4/5/10
6/4/10
8/3/10
10/2/10
12/1/10
1/30/11
3/31/11
5/30/11
7/29/11
9/27/11
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1/25/12
3/25/12
5/24/12
7/23/12
9/21/12
11/20/12
1/19/13
3/20/13
5/19/13
7/18/13
9/16/13
11/15/13
1/14/14
3/15/14
5/14/14
7/13/14
9/11/14
11/10/14
1/9/15
3/10/15
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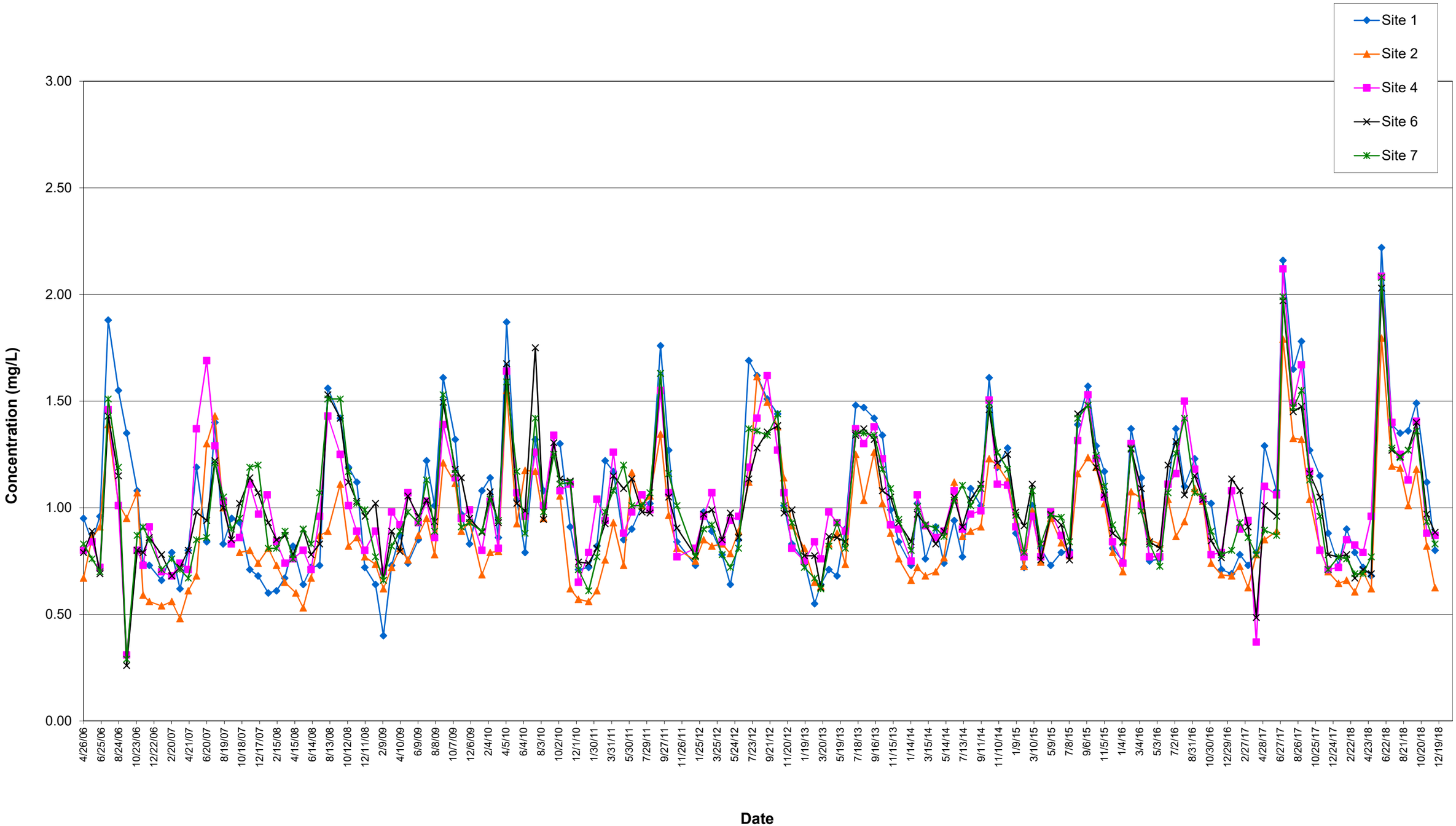
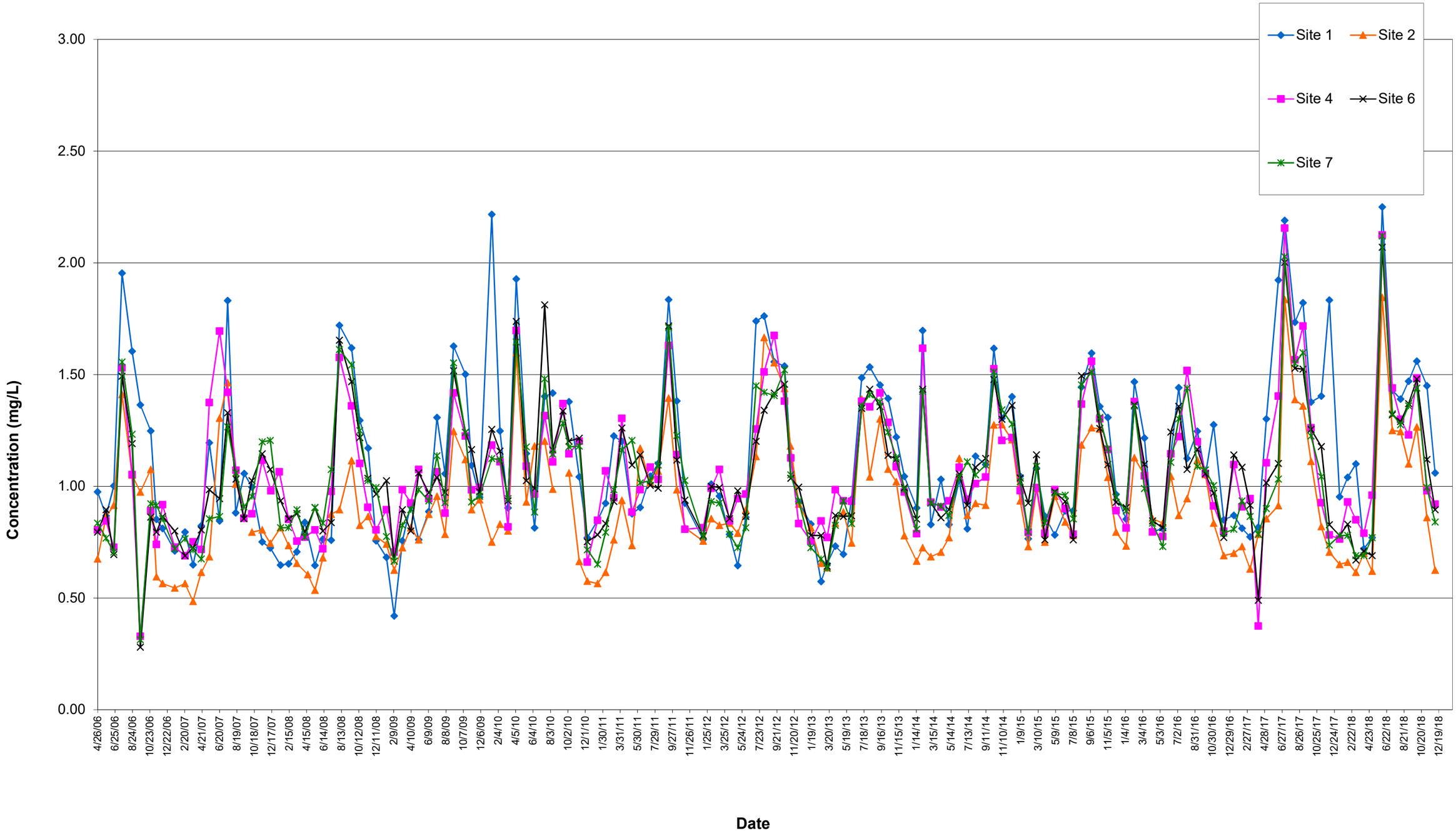
7/8/15
9/6/15
11/5/15
1/4/16
3/4/16
5/3/16
7/2/16
8/31/16
10/30/16
12/29/16
2/27/17
4/28/17
6/27/17
8/26/17
10/25/17
12/24/17
2/22/18
4/23/18
6/22/18
8/21/18
10/20/18
12/19/18
Date

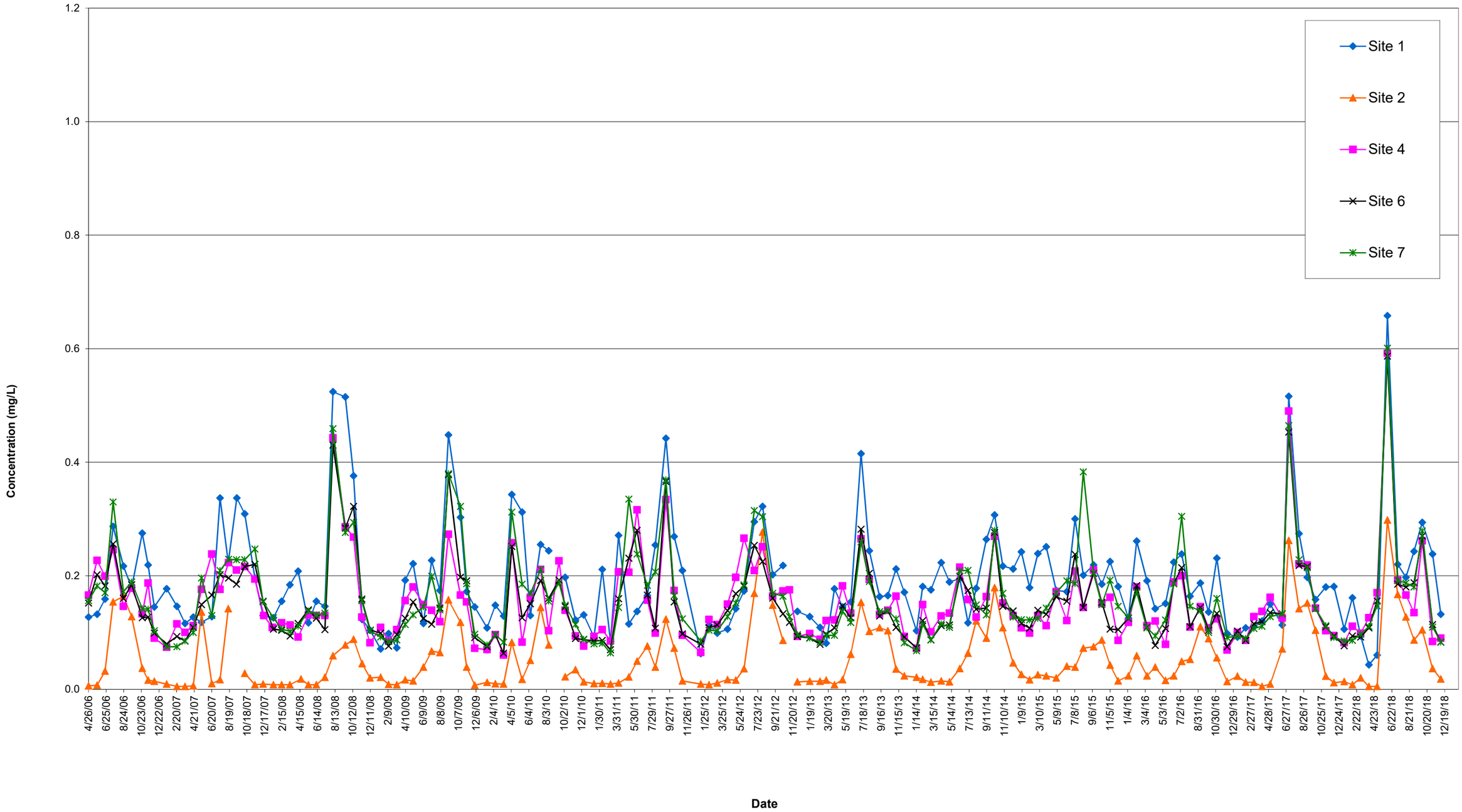
Total Kjeldahl Nitrogen as N



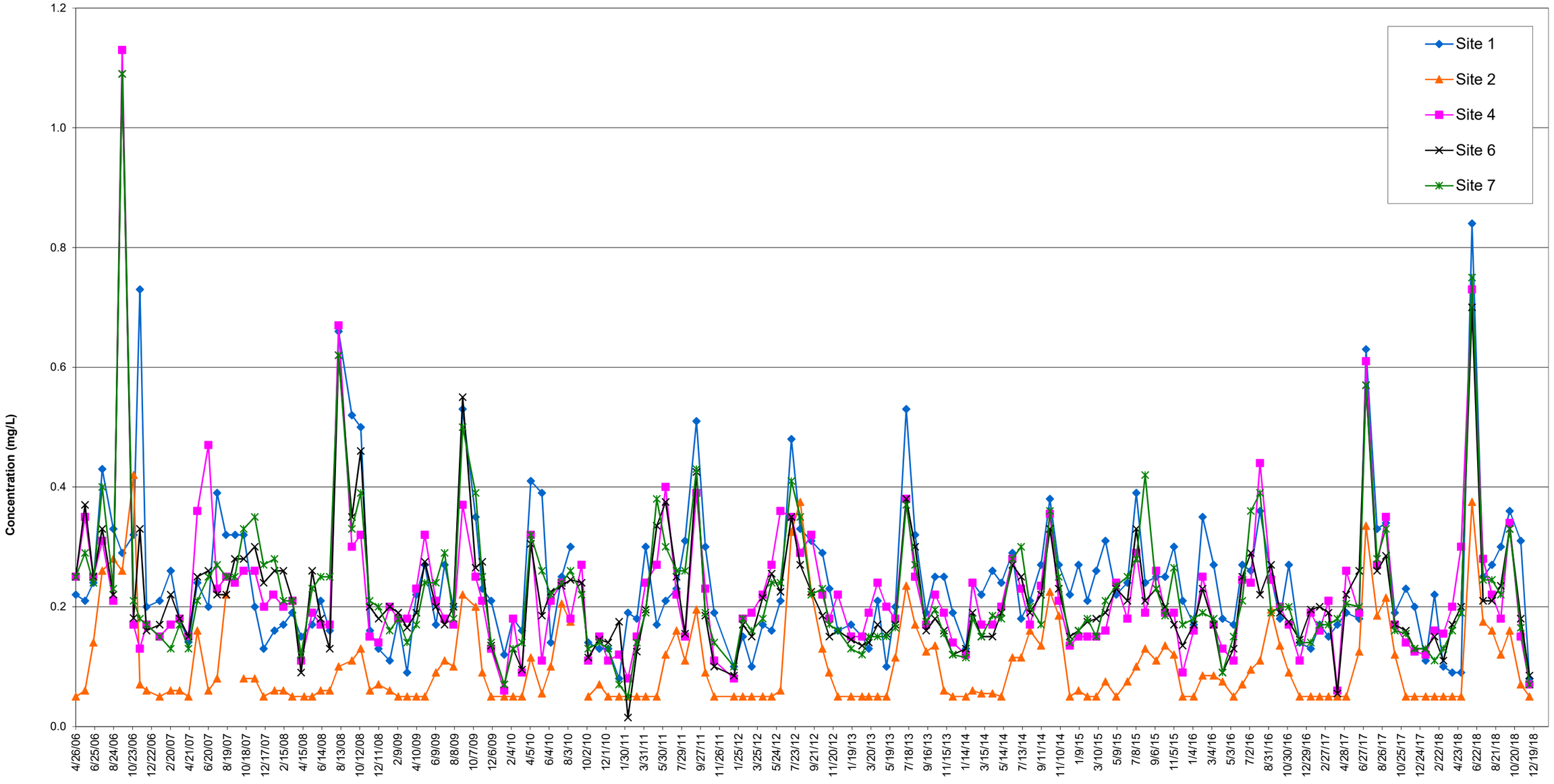
Total Nitrogen as N



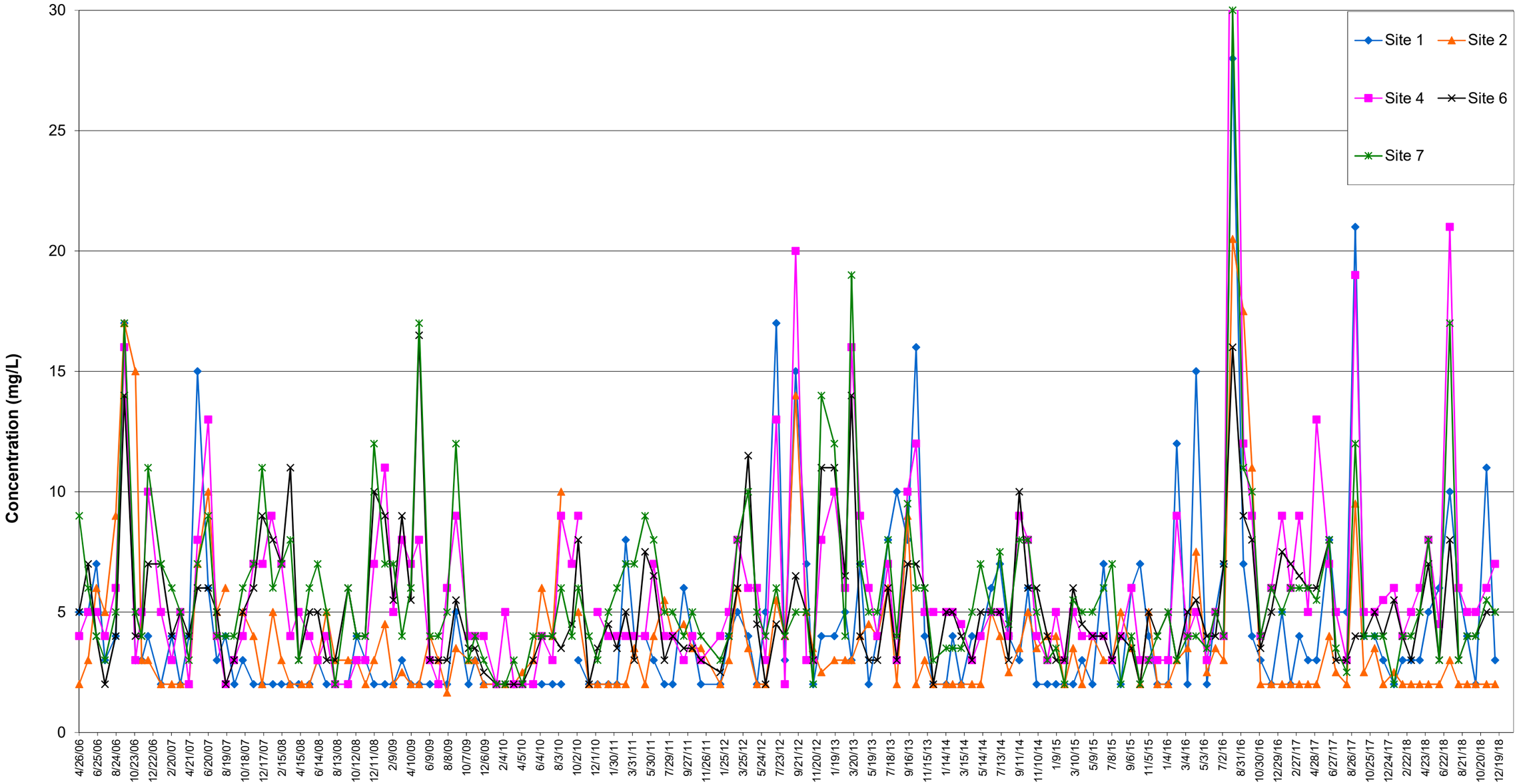
Ortho Phosphorus as P



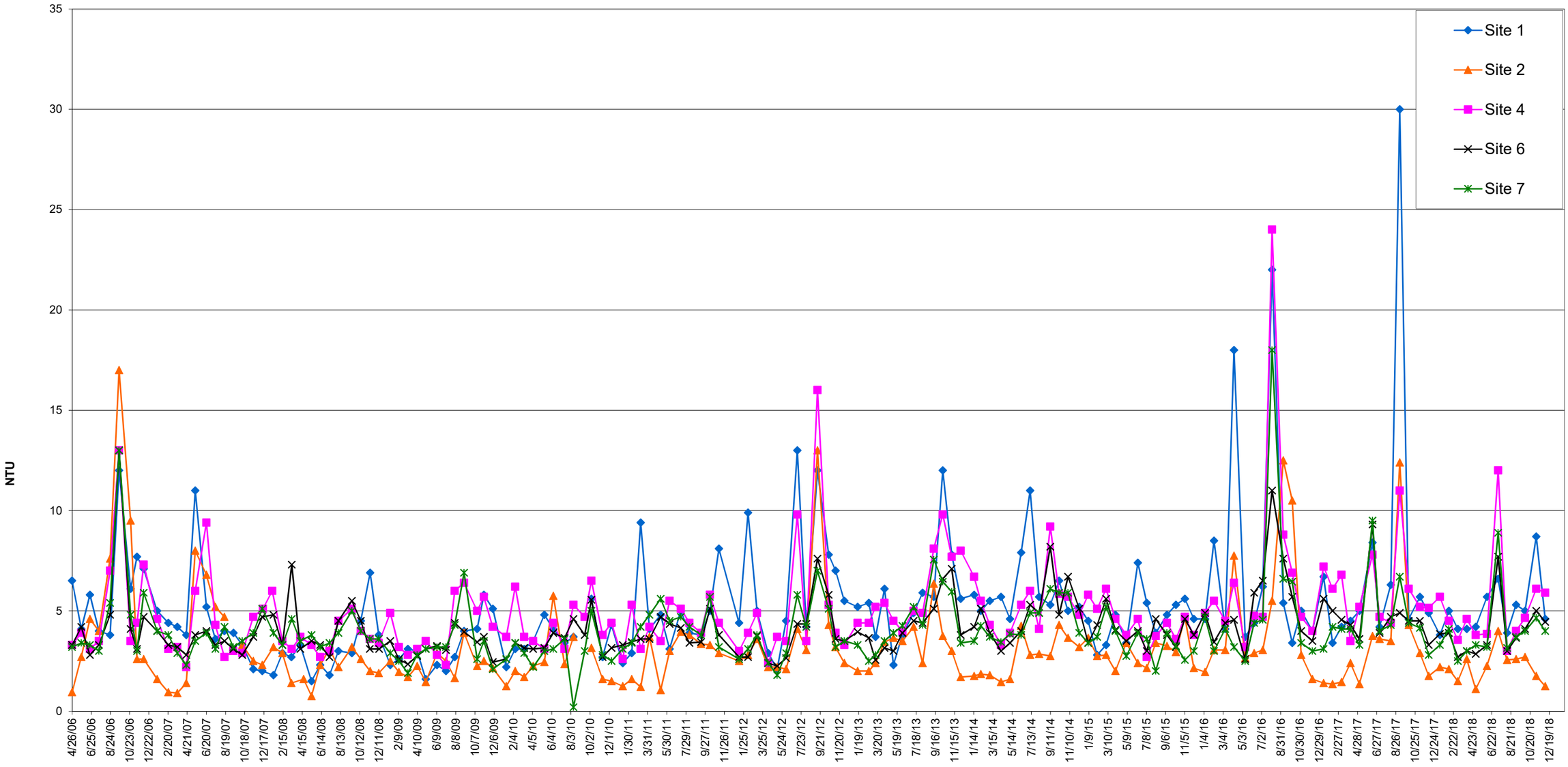
Total Phosphorus as P



Total Suspended Solids

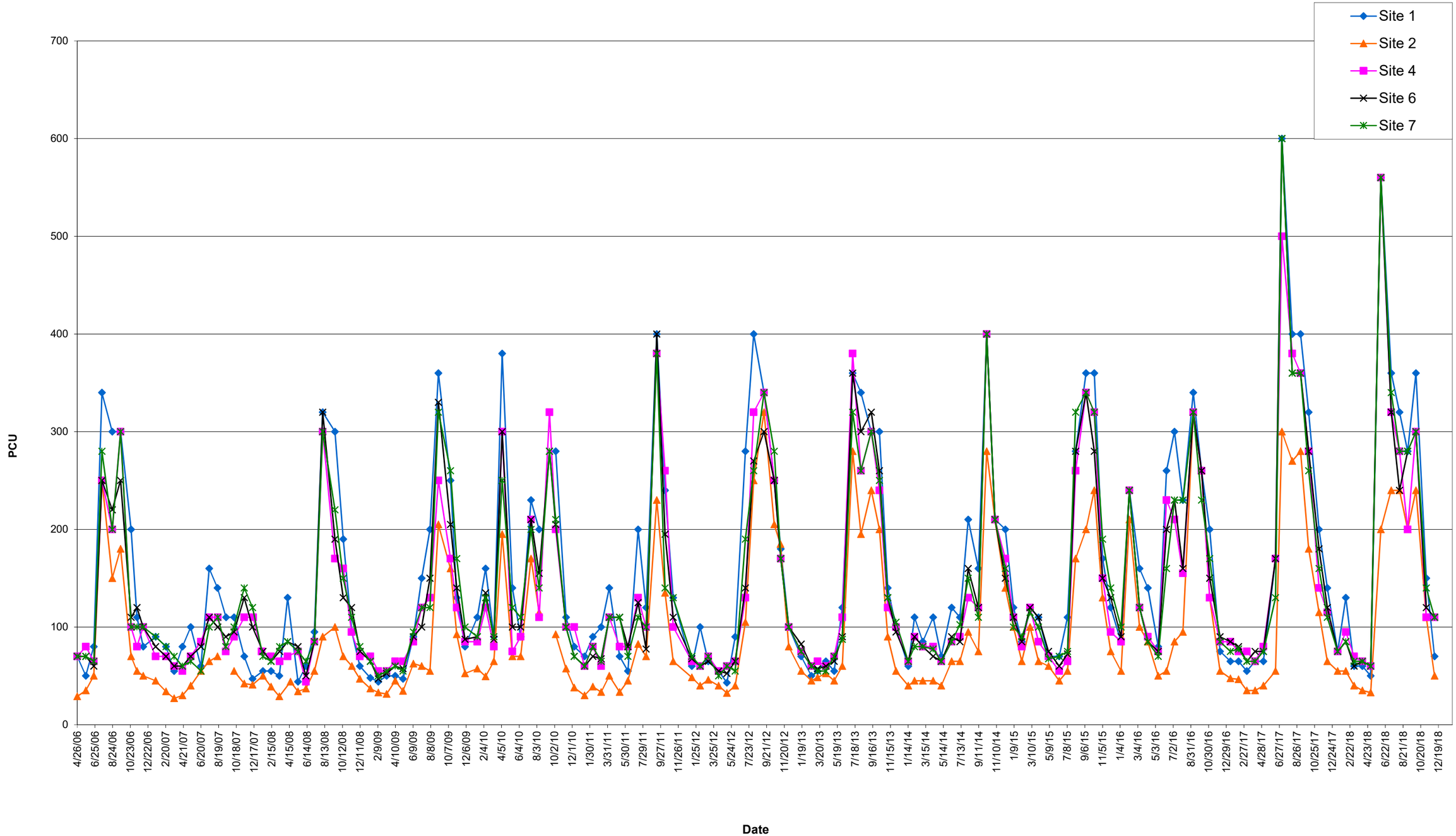


Turbidity

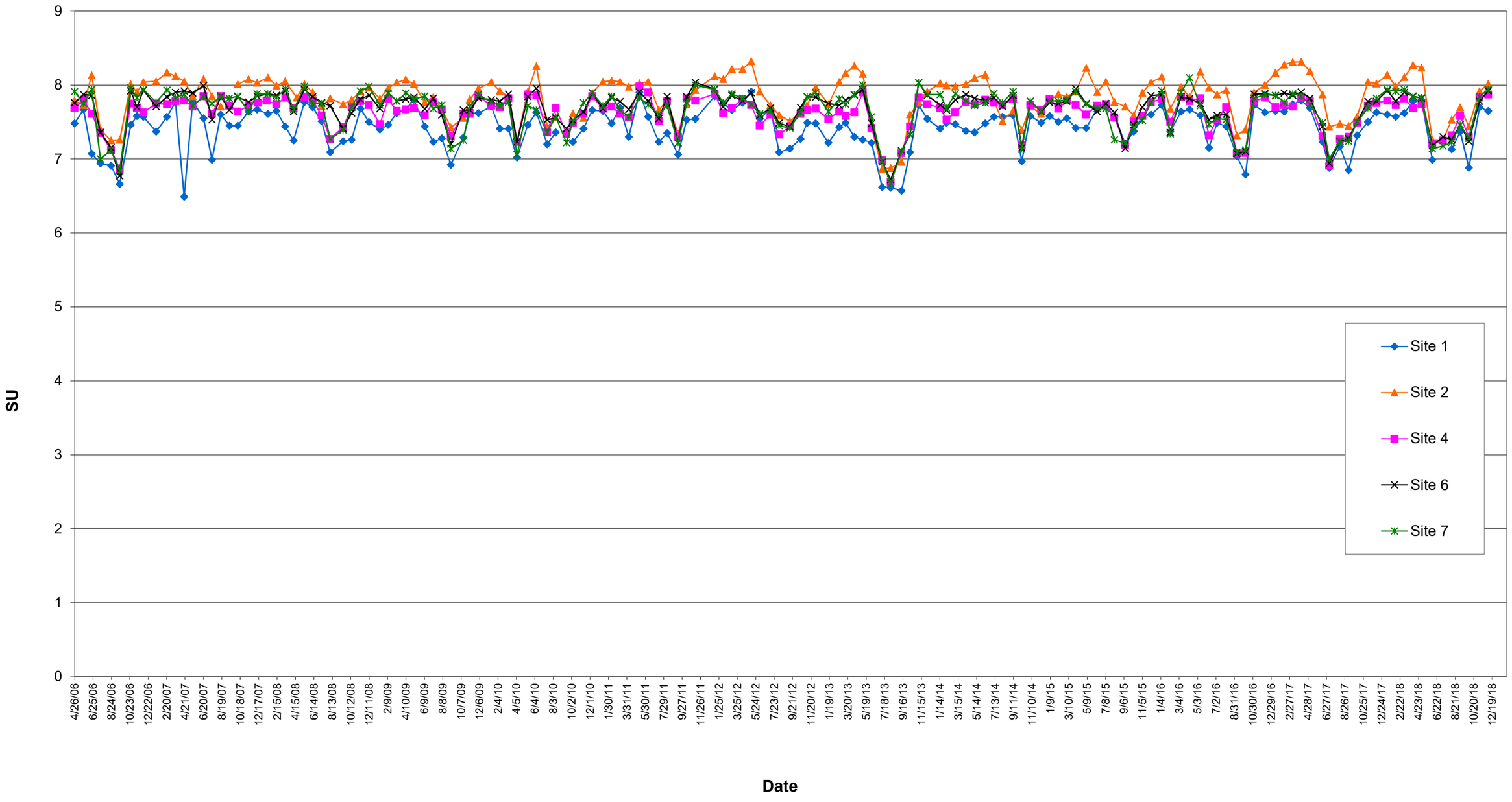


Date

Color Apparent

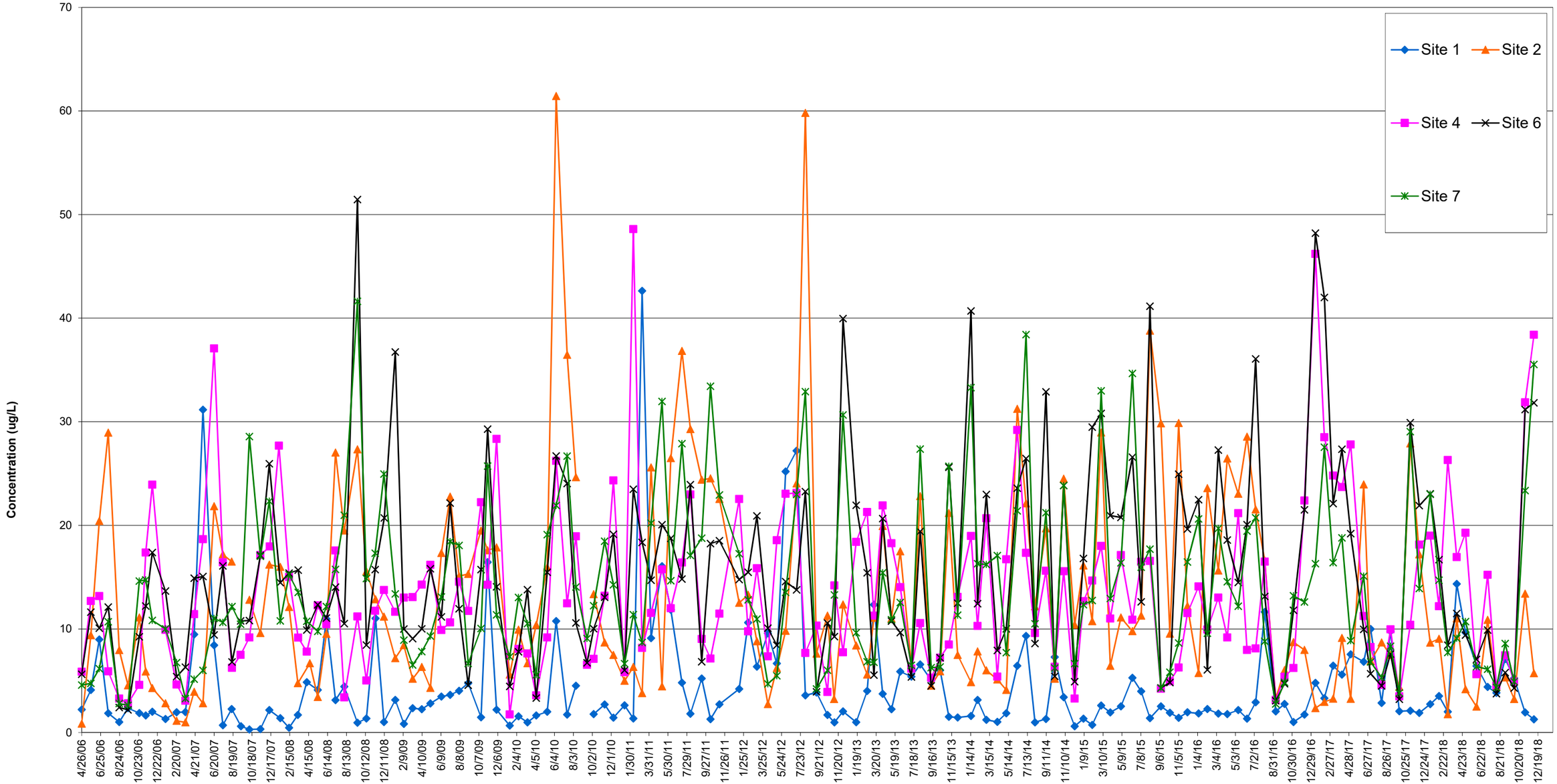


Color pH

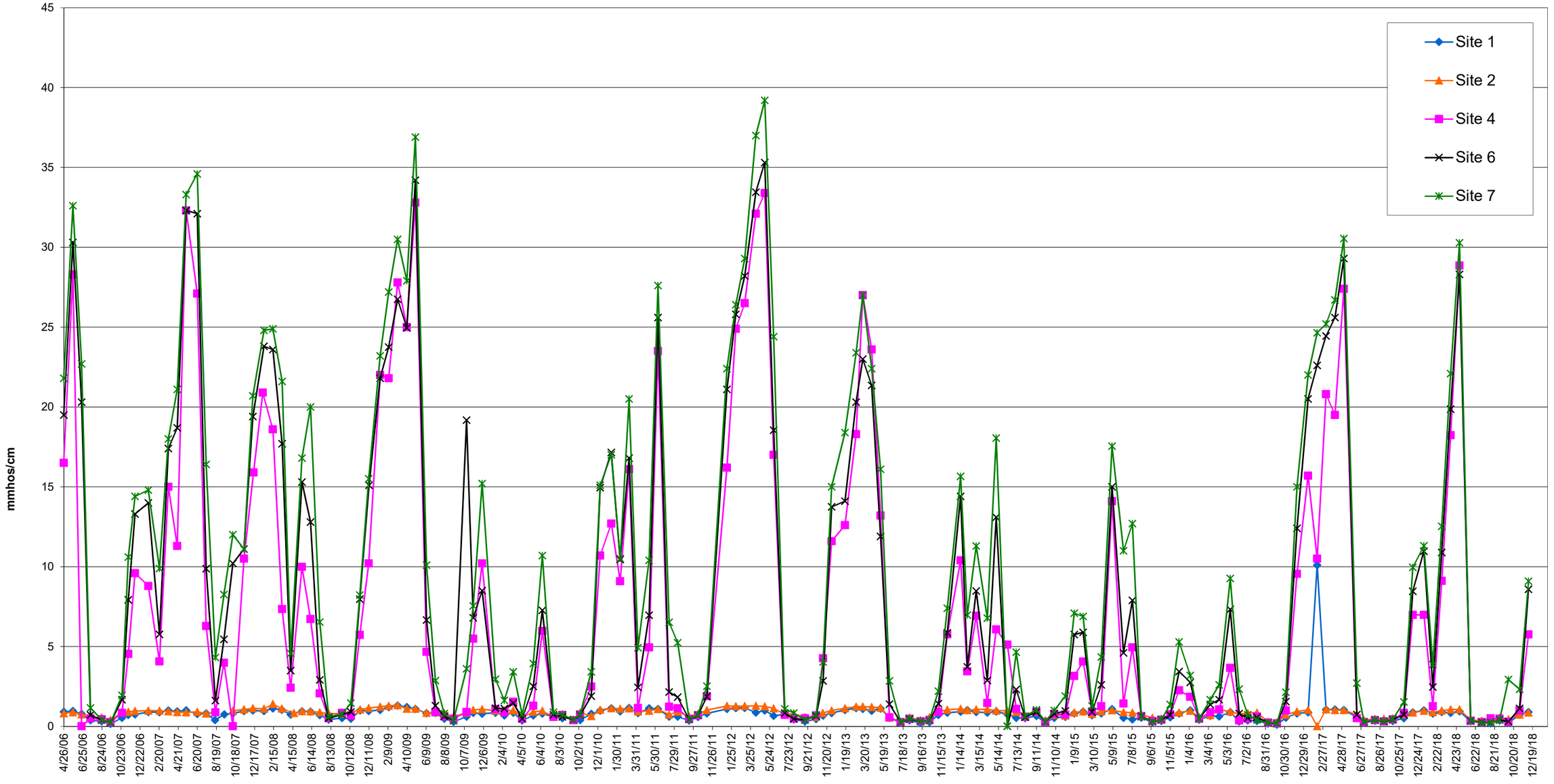


Date

Chlorophyll a - Pheo Corrected

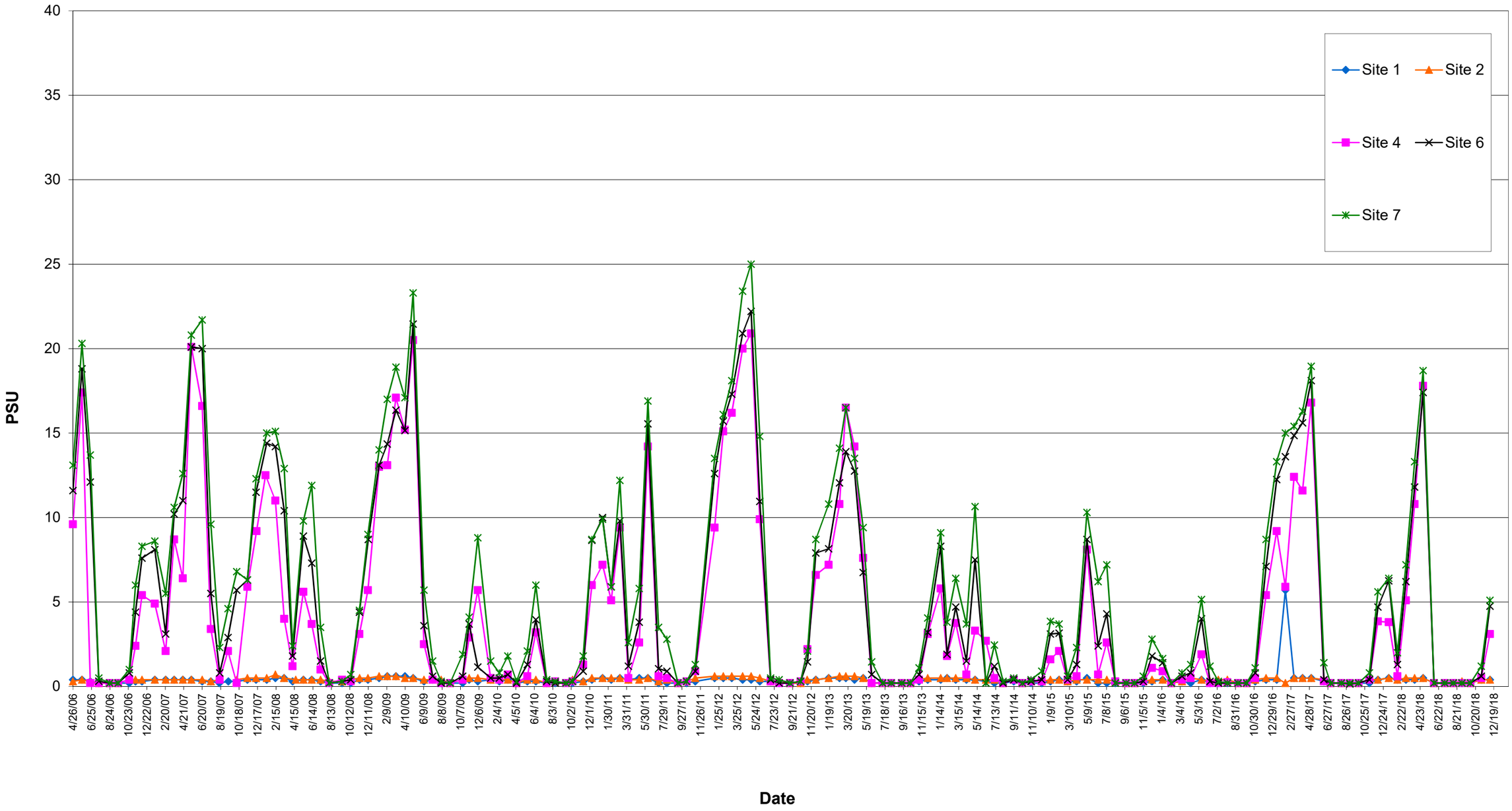


Specific Conductance

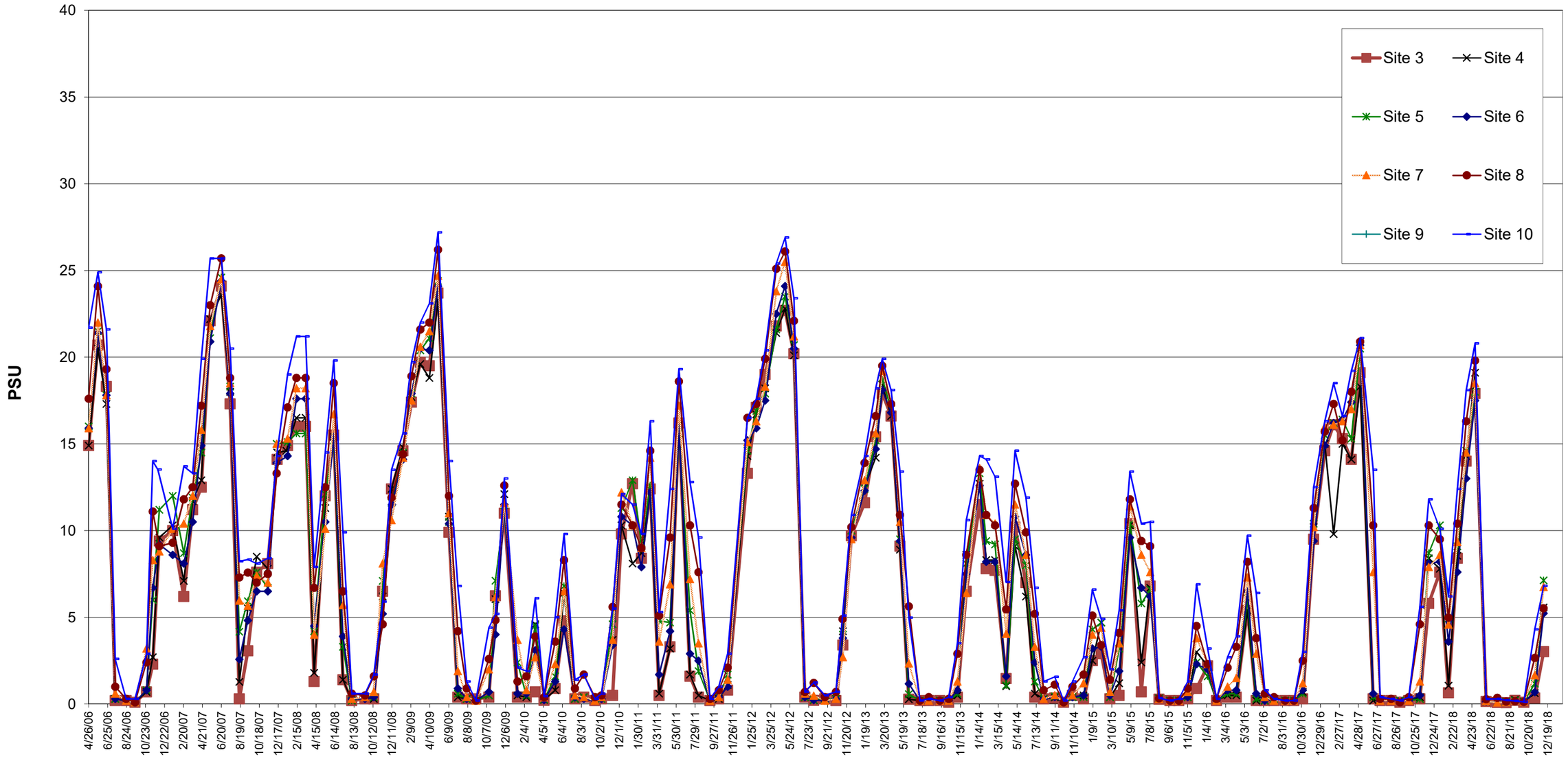


Date

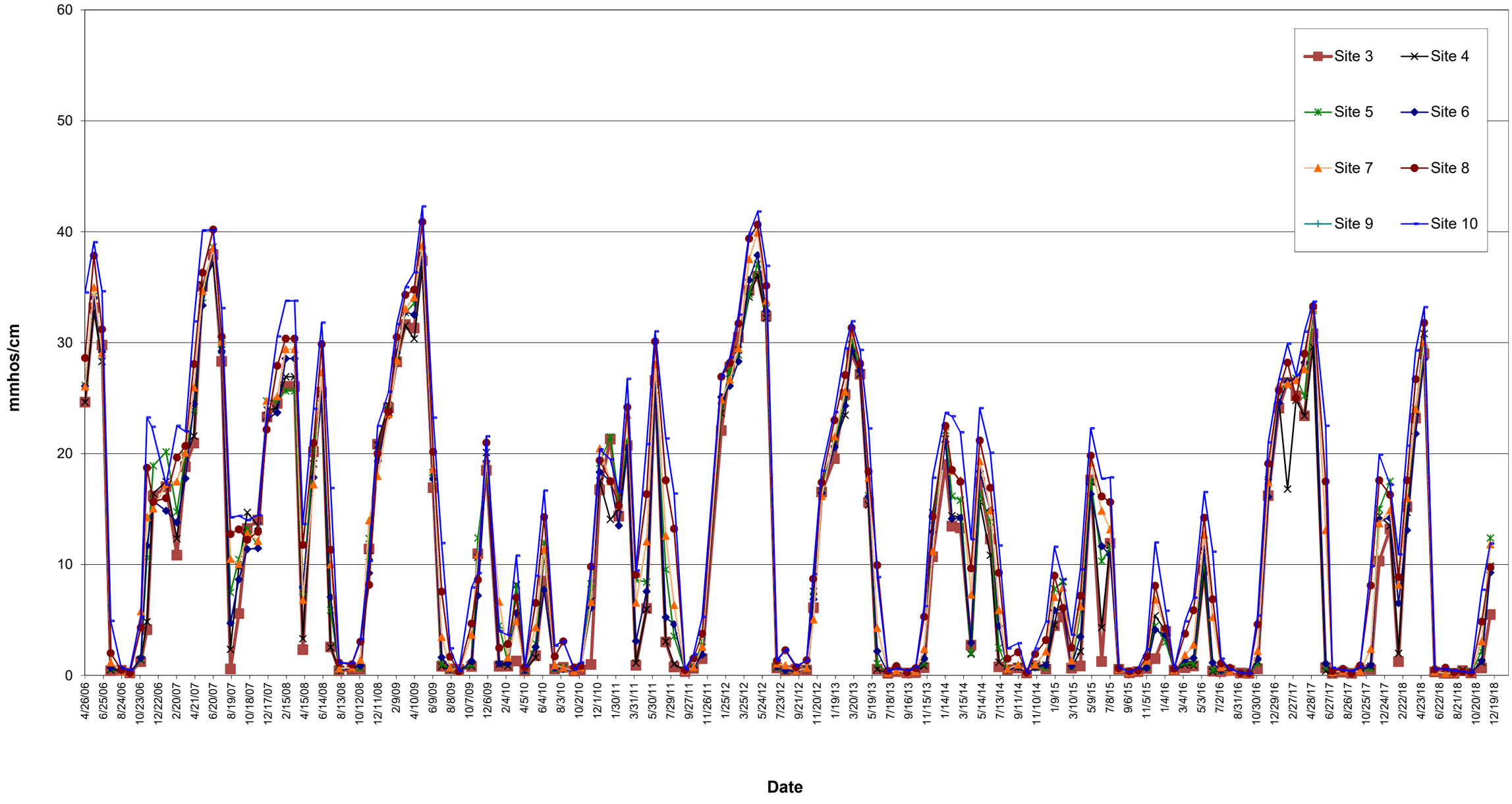
Salinity - Lab



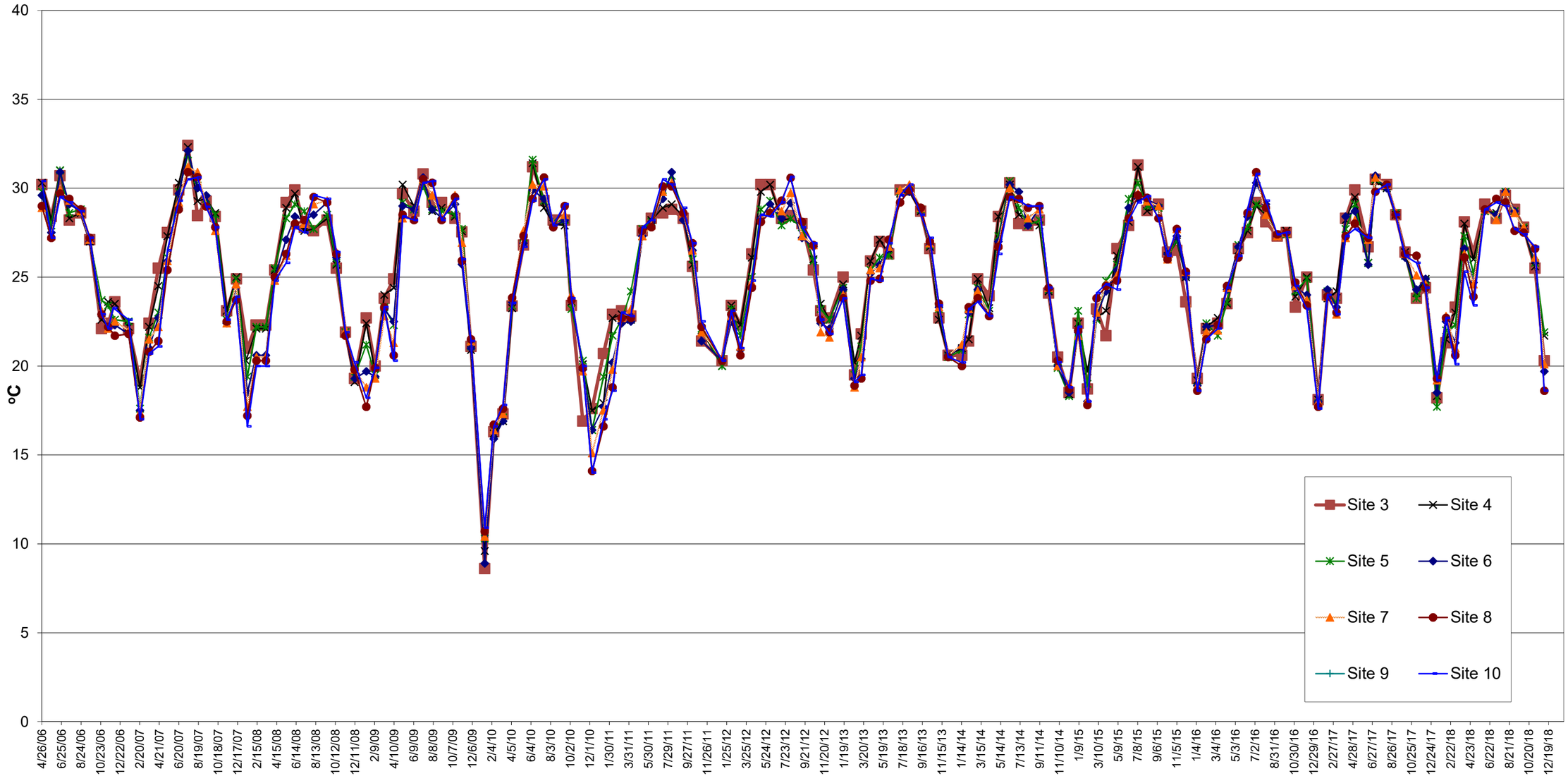
Field Salinity



Field Specific Conductance

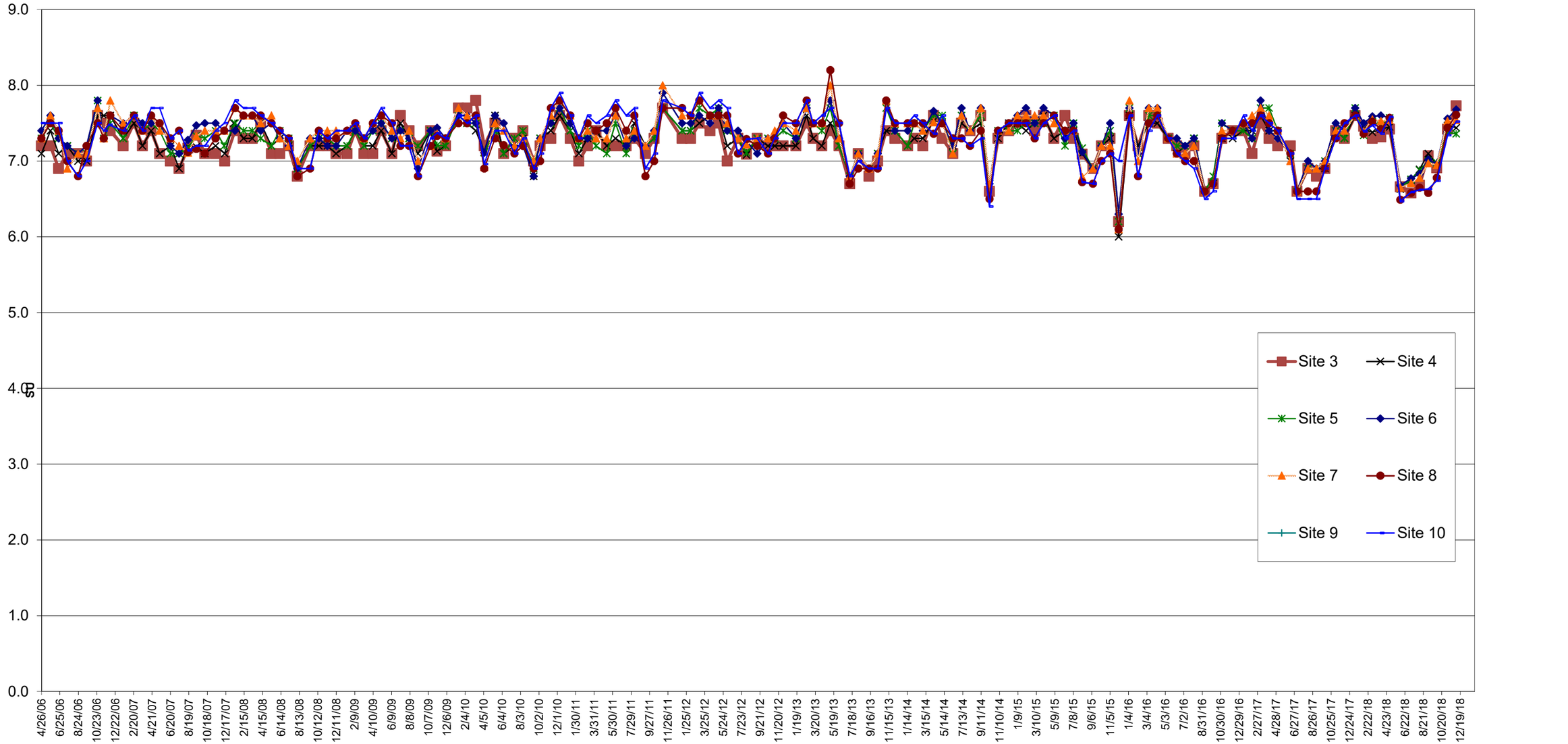


Field Temperature



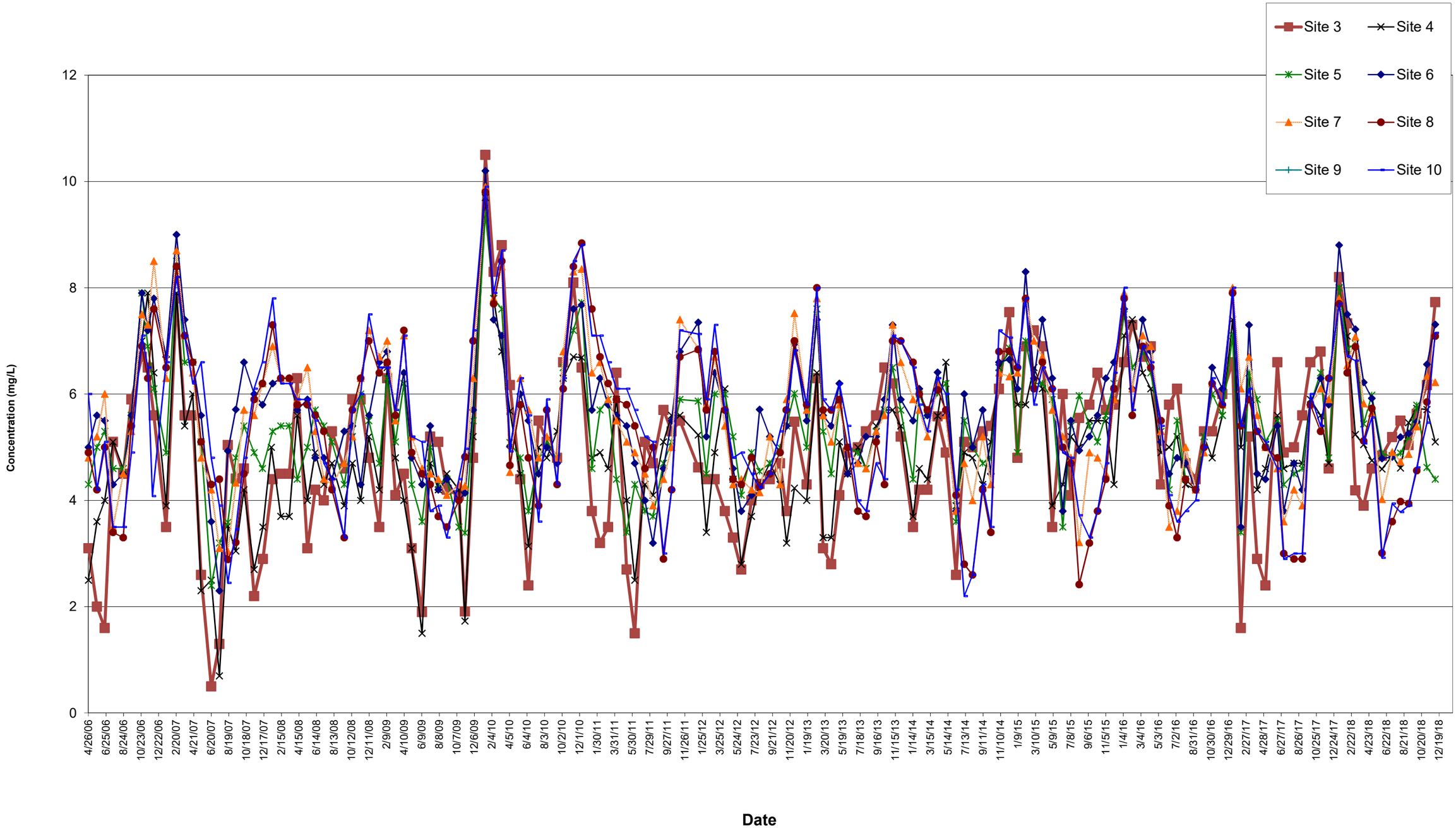
Date

Field pH

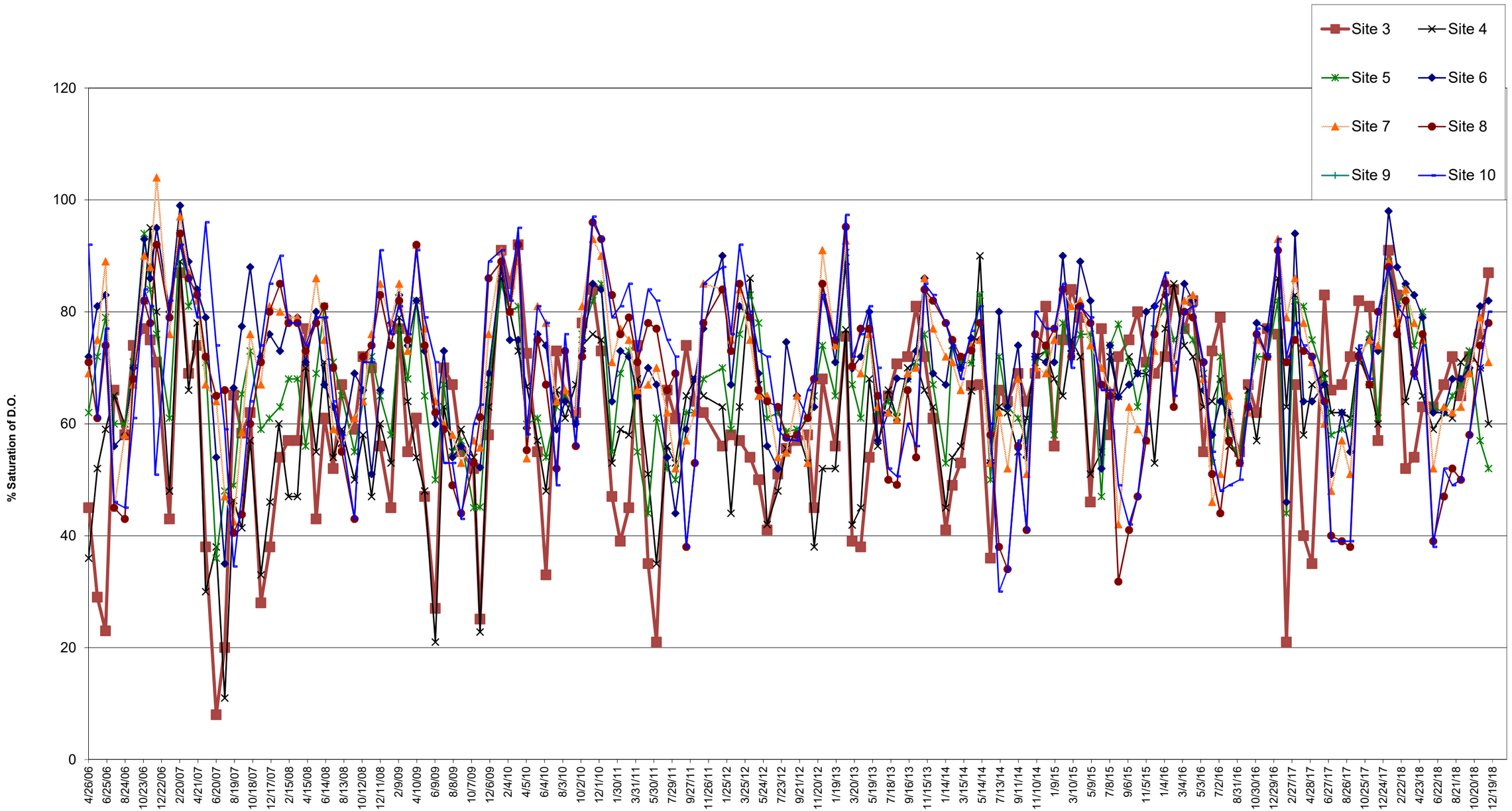


Date

Field Dissolved Oxygen

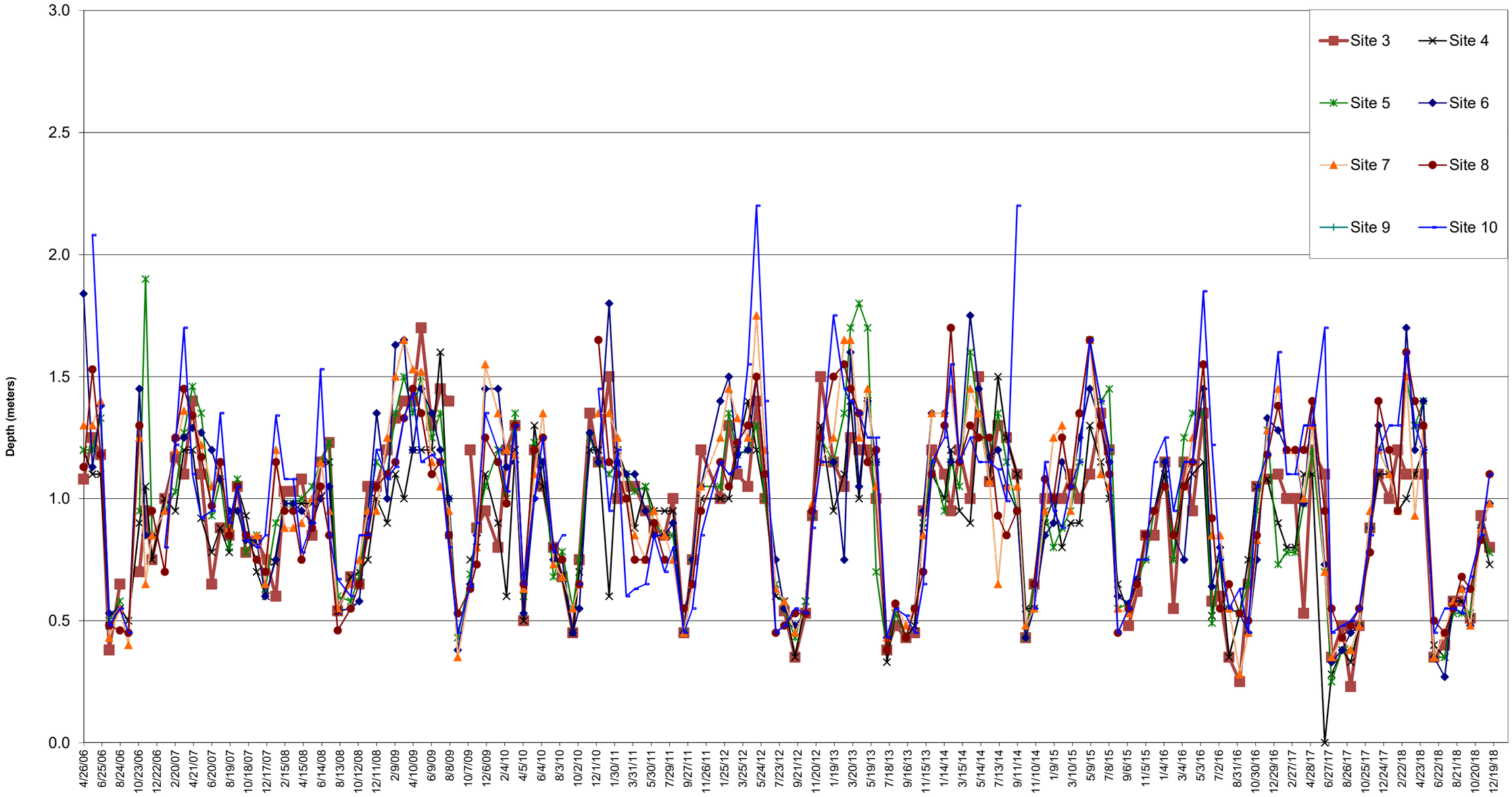


Percent Saturation of D.O.



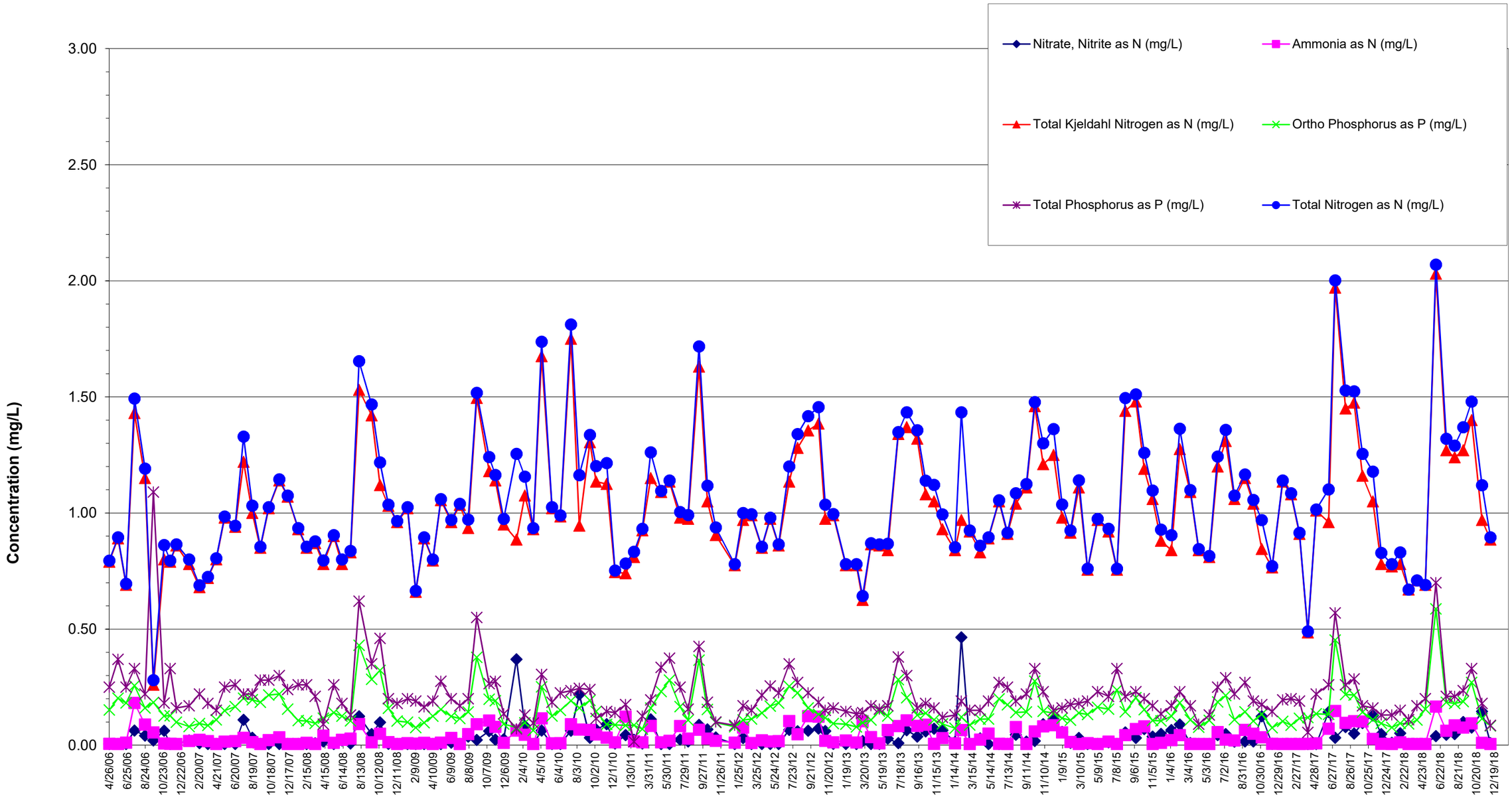
Date

Secchi Depth

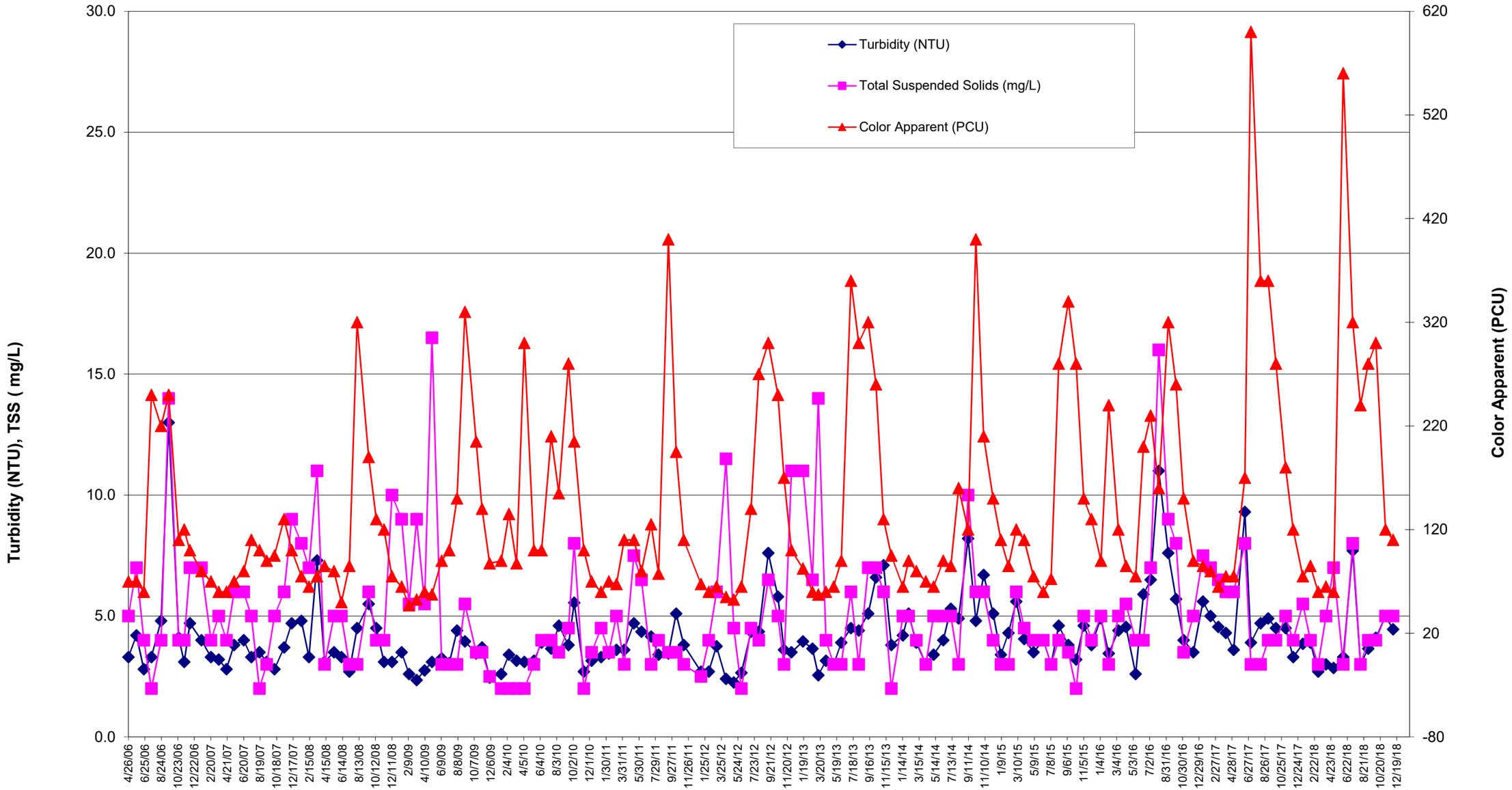


Date

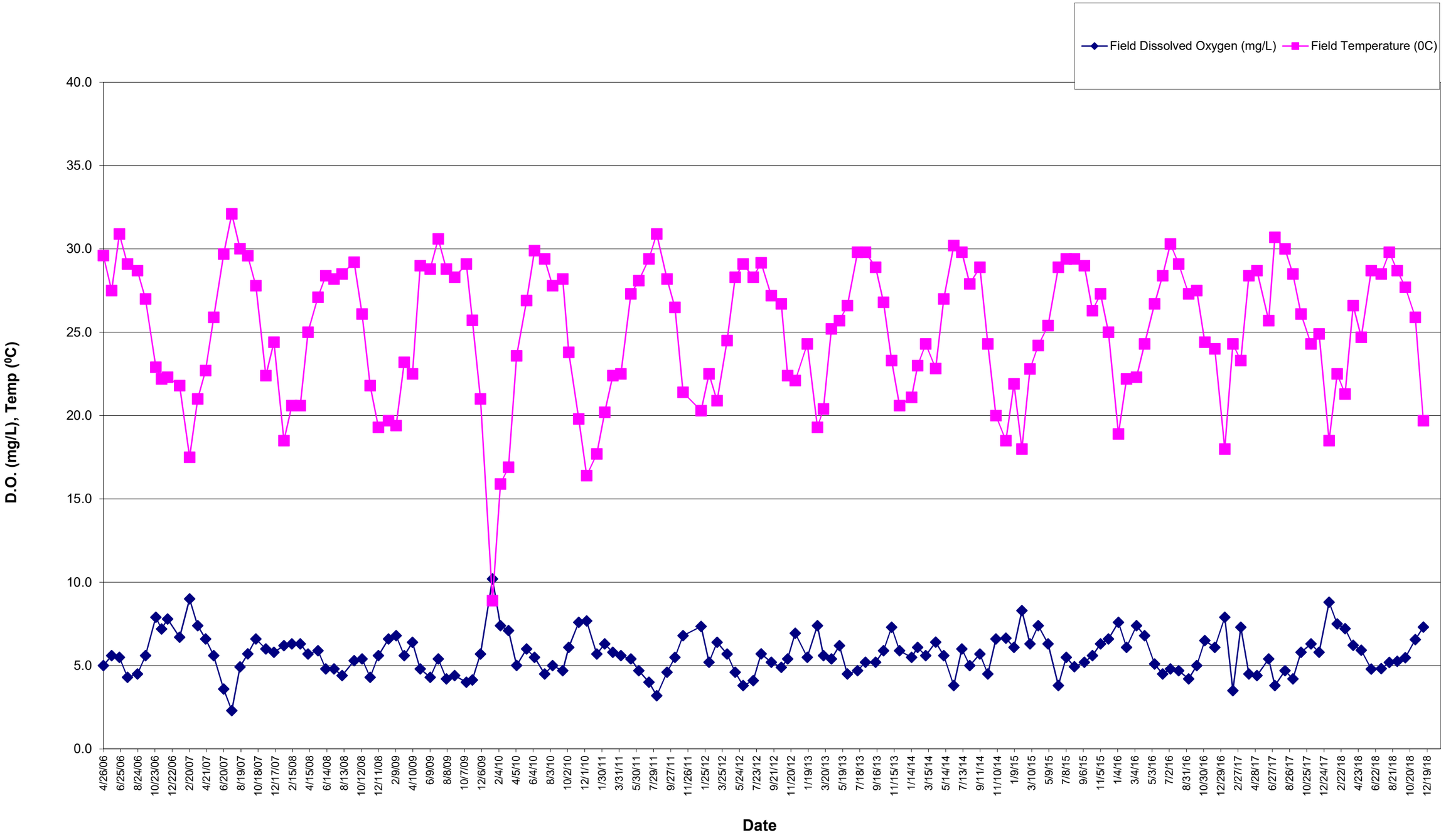
Site 6 Nutrients



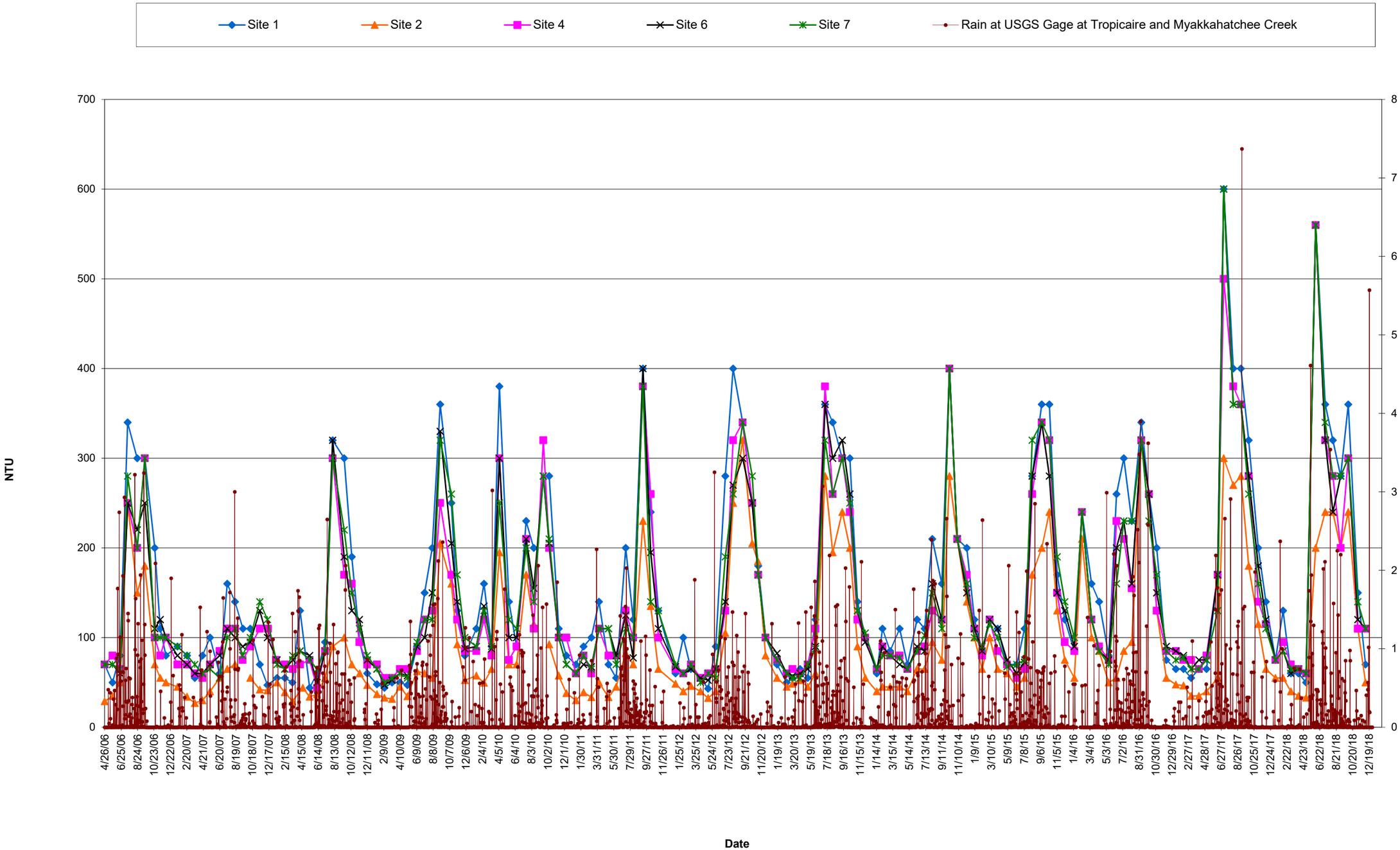
Site 6 Turbidity, TSS, Color

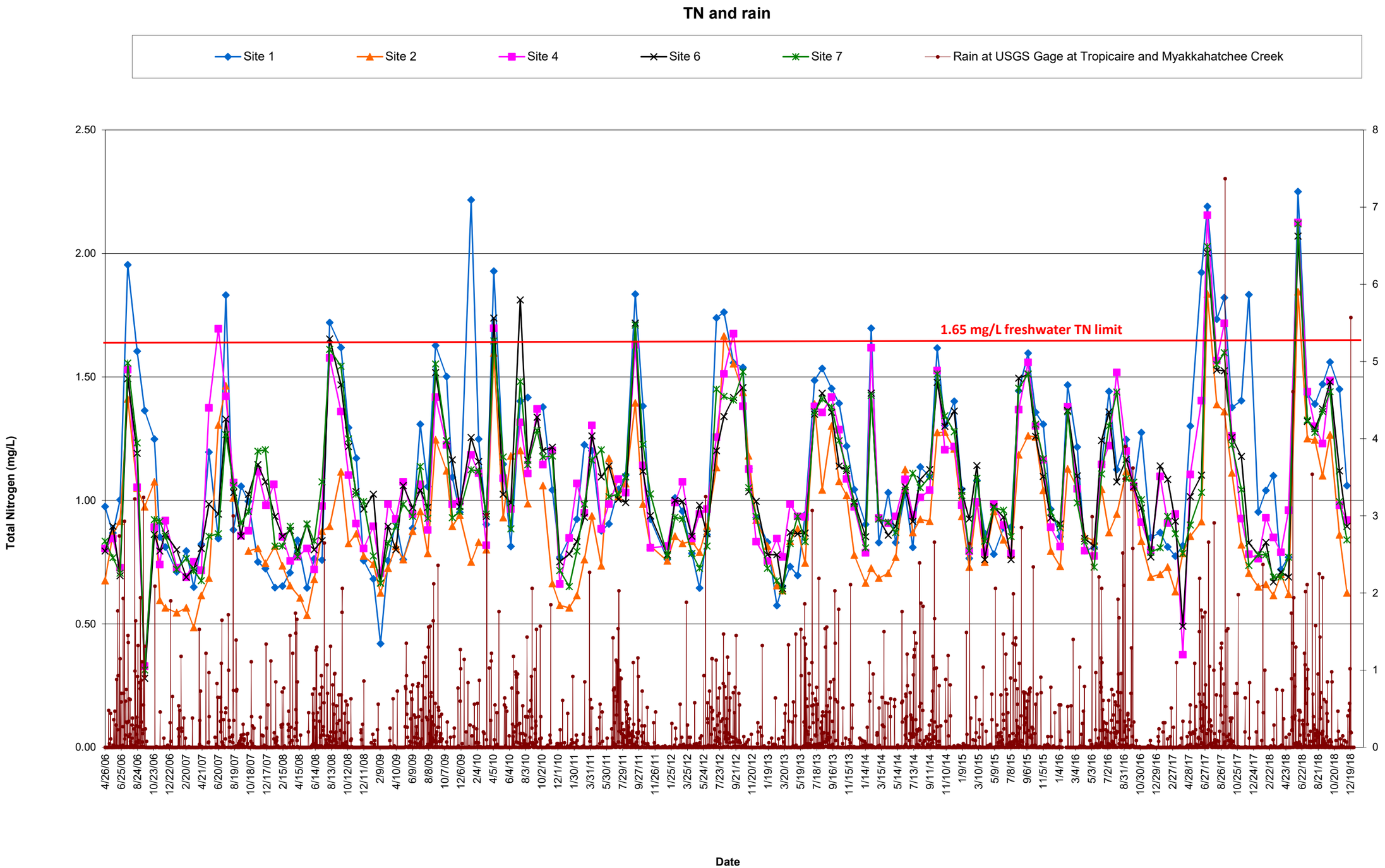


Site 6 Field D.O., Field Temp.



Color and rain




TN and rain
Site 1
Site 2
Site 4
Site 6
Site 7
Rain at USGS Gage at Tropicaire and Myakkahatchee Creek
1.65 mg/L freshwater TN limit
Total Nitrogen (mg/L)
Date
2.50
2.00
1.50
1.00
0.50
0.00
8
7
6
5
4
3
2
1
0
4/26/06
6/25/06
8/24/06
10/23/06
12/22/06
2/20/07
4/21/07
6/20/07
8/19/07
10/18/07
12/17/07
2/15/08
4/15/08
6/14/08
8/13/08
10/12/08
12/11/08
2/9/09
4/10/09
6/9/09
8/8/09
10/7/09
12/6/09
2/4/10
4/5/10
6/4/10
8/3/10
10/2/10
12/1/10
1/30/11
3/31/11
5/30/11
7/29/11
9/27/11
11/26/11
1/25/12
3/25/12
5/24/12
7/23/12
9/21/12
11/20/12
1/19/13
3/20/13
5/19/13
7/18/13
9/16/13
11/15/13
1/14/14
3/15/14
5/14/14
7/13/14
9/11/14
11/10/14
1/9/15
3/10/15
5/9/15
7/8/15
9/6/15
11/5/15
1/4/16
3/4/16
5/3/16
7/2/16
8/31/16
10/30/16
12/29/16
2/27/17
4/28/17
6/27/17
8/26/17
10/25/17
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2/22/18
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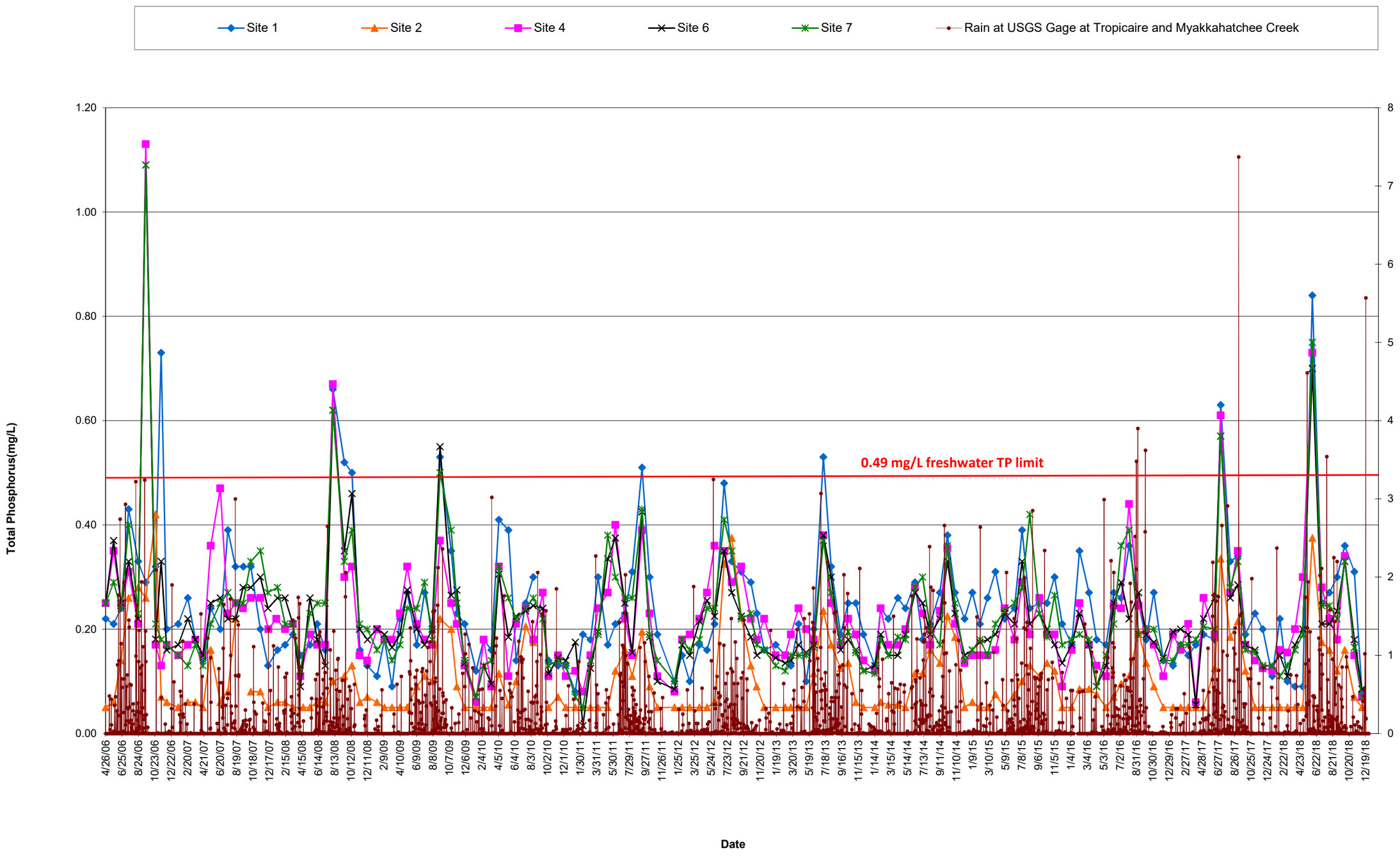
6/22/18
8/21/18
10/20/18
12/19/18

TP and rain


Site 1
Site 2
Site 4
Site 6
Site 7
Rain at USGS Gage at Tropicaire and Myakkahatchee Creek
1.20
1.00
0.80
0.60
0.40
0.20
0.00
8
7
6
5
4
3
2
1
0
0.49 mg/L freshwater TP limit
Total Phosphorus(mg/L)
4/26/06
6/25/06
8/24/06
10/23/06
12/22/06
2/20/07
4/21/07
6/20/07
8/19/07
10/18/07
12/17/07
2/15/08
4/15/08
6/14/08
8/13/08
10/12/08
12/11/08
2/9/09
4/10/09
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8/8/09
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12/6/09
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12/1/10
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3/31/11
5/30/11
7/29/11
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3/25/12
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8/26/17
10/25/17
12/24/17
2/22/18
4/23/18
6/22/18
8/21/18
10/20/18
12/19/18
Date

APPENDIX C - FLOOD CONTROL PROJECTS SUMMARY
Taken from
FLOODPLAIN MANAGEMENT PLAN (FMP) PROGRESS REPORT (App. A)
Updated of FMP Section 8 - Action Plan and Review of Current Activities
(Revised April 23, 2019)

8.1 Major Water Control Structures (WCS) Improvements

Responsible Department for Action: Public Works, Engineering Department
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

WCS Nos. 115 Replacement - WCS No. 115 is a gated weir structure on the Snover Waterway just west of Chamberlain Boulevard. Over time, the metal weir structure and the four gates have corroded. Collapse of the structure can cause flooding and loss of storage capacity in the canal for potable water supply and for peak flow attenuation. A new replacement weir structure with a concrete cap and four stainless steel automated gates with remote telemetry control has been completed.

Budget and Schedule for Completion

Activity	Company	Costs	Time of Completion
Consultant services for design, permitting and construction engineering services	Aim Engineering and Surveying Inc.	$108,081	2017
Project Construction	V&H Construction Inc.	$1,064,496	August 31, 2018
Total		$1,172,577	

WCS Nos. 106 Replacement - WCS No. 106 is a gated weir structure on the Cocoplum Waterway just west of North Port Boulevard. The Cocoplum Waterway discharges to the Myakkahatchee Creek. The existing WCS is equipped with six gates, which in the closed position, allow storage of water like a reservoir. In anticipation of pending rain storm events and as the water level rises, the gates are opened as needed to reduce the potential for flooding. The water in the Cocoplum Waterway and the Myakkahatchee Creek serves as a raw water supply for the City's Water Treatment Plant. Thus, the proper functioning of these gates and structure is critical to the City's ability to control water levels, minimize adverse impacts from a storm event, and supplement the City's potable water supply. WCS No. 106 was constructed in 1959. Over time, the concrete supports for the gates and catwalk has severely deteriorated, extensive corrosion has developed in the sheet metal weir, gates and catwalk. Design of a new replacement weir structure with a concrete cap and eight (8) stainless steel automated gates with remote telemetry control has been completed. Construction has just started in April 2019 and anticipated to be completed by April 2020.

Budget and Schedule for Completion

Activity	Company	Costs	Time of Completion
Consultant services for design, permitting and construction engineering services	Kimley-Horn and Associates	$168,000	Design Completed November 2018
Project Construction	Zep Construction, Inc	$2,272,480	April 2020
Total		$2,440,480	

Future WCS Replacement Plan - The priority for the replacement of the major WCS's is annually updated. The proposed 5-year budget plan for the next five top priority WCS's is given in Exhibit 8.1.

8.2 Minor Water Control Structures Repairs

Responsible Department for Action: Public Works, Engineering and Operations Divisions
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

Since the last reporting period, minor repairs were completed on several structures WCS Nos. 101, 108, 110, 111, 114, 118, 124, 127, 130, 137, 140. Repairs consist of repair or replacement of corroded horizontal and vertical I-beams, tie rods, gates, gate tracks, catwalk, gear boxes and patching of corroded sections of weir sheet piling. The City will continue to plan and complete minor WCS repairs as needed each year. Exhibit 8.2 describes the repairs.

8.3 Retention (R) - Ditches and Major Canal Dredging

Responsible Department for Action: Public Works, Operations Division
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

The City has an aggressive program of clearing R-ditches and canals of vegetation and silt deposits. Several segments of R- ditches and canals require annual maintenance dredging due to their location, surrounding development and need to restore flow conveyance capacity.

Summary of Accomplishments
Exhibit 8.3 provides a monthly reporting of length of R-ditches and canals which have been rehabilitated. The silt and vegetation removal effort will continue each year.

8.4 Roadside Swale Rehabilitation, Mowing And Pipe Replacement

Responsible Department for Action: Public Works, Operations Division
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

Silt debris and vegetation accumulation in roadside swales affect drainage flow. The majority of the drainage pipes installed by General Development Corporation (GDC) in the 1970's were corrugated metal pipes which have corroded and deteriorated over time. Over the past several years, Public Works staff has vastly increased the maintenance activities on the roadside drainage system to include swale regrading, pipe replacement and roadside mowing.

A work management system (WMS) has also been implemented to efficiently track drainage issues reported by residents and other work requests. The public can contact Public Works customer service at (941)240-8050. The information received is then entered into the WMS and a tracking number assigned.

With many different components making up the stormwater drainage system, it is difficult to effectively maintain the system by continually operating in a reactionary mode. Using a holistic approach to rehabilitate a neighborhood system of swales, road crossing pipes, outfalls and retention ditches better utilizes resources. The Neighborhood Rehabilitation by Grid System, prioritizes neighborhood stormwater systems improvements by: known flooding, impact on other infrastructure (roads, waterways, etc.), present condition

of system, residential density and impact to community facilities (schools, parks, etc.). A map of the grid system is shown in Exhibit 8.4.

Summary of Accomplishments

Grid 205 rehabilitation, which started in fiscal year (FY) 2017, is on schedule to be completed in FY 2018. Grid 407 is being rehabilitated in FY 2019 and Grid 307 is proposed for FY 2020. The FY 2019 budget of $1,022,525 covers pipes, catch basins, asphalt, rip rap, concrete, sod, hydroseed and surveying. Exhibit 8.3 provides monthly reporting of roadside swales rehabilitated, roadsides mowed, and pipes installed. This maintenance effort will continue each year.

8.5 Blockage Removal in Stormwater Conveyance

Responsible Department for Action: Public Works, Engineer and Operations Division
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

Aquatic Vegetation Management

It is vital to control excessive growth of nuisance vegetation which impedes flow in the extensive system of R-ditches and canals in the City. A team of licensed and well-trained City staff including an aquatic spray supervisor and technicians perform aquatic vegetation control. Spraying herbicides for aquatic vegetation control is conducted only under calm weather conditions. Windy conditions are avoided to prevent over-spraying. Staff closely monitors the effects of spraying. Typically, the lower end of the manufacturer's recommended dose is used. The herbicide is reapplied only if needed.

Record keeping of the date and time of spraying, licensed applicator, size of treatment area, type and amount of herbicide used, and application method is carefully documented.

Summary of Accomplishments

In 2018, Operations has developed a systematic method of controlling the nuisance vegetation by applying herbicides to the young developing plants before maturity. This minimized the number of mature plants reproducing at a rapid rate. A planned stretch of waterway is sprayed rather than scattered reactive treatment of vegetative blooms. This systematic method has reduced the amount of herbicides used. Exhibit 8.3 includes the monthly reporting of the aquatic vegetation control performed. This maintenance effort will continue each year.

Myakkahatchee Creek Blockage Removal

Historic extensive flooding is experienced in the areas adjacent to the Myakkahatchee Creek (creek) near I-75. Debris in the creek can cause the following adverse effects:

1. Debris blockages can restrict flow and contribute to upstream flooding.
2. Debris can be washed down into the City's Water Control Structure No. 101 and can damage the gates and structure. Opening of the gates are critical to flood control and closing of the gates is vital for storage of potable water supply.

During the dry season in 2017 and 2018, Public Work staff conducted detailed inspections of the extent of debris blockages in the creek. In 2017, a 3615 feet segment of the creek was inspected from Price Boulevard to the creek intersection with Snover Waterway. In 2018, a 5500 ft segment of the creek was inspected from the intersection with Snover Waterway to Sensation St. Exhibit 8.5 is a map of the creek segments. Severe blockages found were found to include the following:

- Overgrown Brazilian Peppers trees that created an almost impenetrable barrier across the entire creek at multiple locations.
- Several huge fallen trees including root balls, lying in and across the entire creek channel.
- Branches and fallen trees trap other debris including hot water heater, wooden planks, tires, truck bedliner, etc. These in turn trap and create sand bars which adds to the blockage.

The City had obtained a written Permit Exemption #648689 approval from Southwest Florida Water Management District (SWFWMD) to remove blockages in the creek with the following conditions:

1. All work within the creek shall be performed by manual labor utilizing chain-saws and other hand-held tools.
2. Trees within or directly adjacent to the creek shall be cut no less than 12 inches above natural grade. Stumps shall remain in place to minimize erosion.
3. All cutting and debris shall be removed from the creek with the assistance of machinery which must be located on uplands adjacent to the creek.
4. The City of North Port shall implement effective erosion, sediment and turbidity control measures within the proposed work zones where applicable.

Summary of Accomplishments

Operations Staff cleared all creek blockages during the 2017 and 2018 dry seasons, while adhering to the conditions of the SWFMWD approval. The success of creek blockage removal projects was evident in the subsequent rainy season, by evaluating the data from the upstream United States Geological Society (USGS) water level gage that is located on the creek at the Tropicaire Boulevard bridge, upstream of the creek blockage removal projects. The positive results are as follows:

1. Before the 2017 and 2018 creek blockage removal projects, one inch of rainfall resulted in a 0.75ft rise in creek level. After the 2017 and 2018 creek blockage removal projects, one inch of rainfall resulted in a 0.4ft rise in creek level. This is a 47% improvement.
2. Before the 2017 and 2018 creek blockage removal projects, a USGS gage water level reading of 21.35ft resulted in street flooding. After the 2017 and 2018 creek blockage removal projects, there was no street flooding during the 2018 rainy season with USGS gage readings of over 21.35ft. Even during an unusually large rain storm event in December 2018, when the USGS gage water level reading was 22.15ft, there was still no street flooding (see Exhibit 8.5)

Based on the success of the 2017 and 2018 creek blockage removal projects, the City plans to continue inspecting and removal all blockages in the remaining portions of the creek within the City limits (see Exhibit 8.5)

8.6 Drainage Pipe Replacement

Responsible Department for Action: Public Works, Engineering and Operations Divisions
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

The quality of the City's roads has been one of the largest issues facing North Port. Originally paved in the 1960s, many of North Port's neighborhood streets have fallen into severe disrepair. On November 6, 2012, nearly 60 percent of the voters approved a referendum authorizing the City to obtain a $46 million bond to upgrade 266 miles of substandard roads in the City. The City had begun this road rehabilitation program in 2014 and is anticipated to be complete in 2019. As with all roadwork done in the City, road related drainage improvements are included in the rehabilitation of the roadway. Corrugated metal pipe (CMP) was typically used by General Development Corporation (GDC) in the 1960s for drainage pipes. Over time, many of these CMPs have corroded and the City's road rehabilitation program includes replacing failing drainage pipes with

reinforced concrete pipe (RCP). RCP culvert pipes crossings are also installed to replace the "Texas swales" to allow stormwater to cross under the road instead of just sheet flowing over the asphalt and causing deterioration.

Summary of Accomplishments
Exhibit 8.3 includes the monthly reporting of pipes replaced. This effort will continue each year.

8.7 FEMA Flood Map Updates

Responsible Department for Action: Public Works, Engineering and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

The FEMA flood insurance rate maps (FIRMs) with an effective date of November 4, 2016, have been in use since the City Commission approved Ordinance 2016-21 on September 13, 2016 to adopt the FIRMs.

In February 2014, FEMA started a new Coastal Risk Mapping, Assessment and Planning (Risk Map) effort to identify, assess, and update coastal flood hazard Risk Maps that include storm surge analysis. The draft Risk Maps provided in August 2018 show major portions of North Port developments (Island Walk, Gran Paradiso, the Preserve, Renaissance, Lake Geraldine) that were removed from the high risk AE zone in the November 4, 2016 effective FIRMs, will again be in a high risk flood zone AE. Some areas may see increase in base flood elevations from 7ft NAVD88 to as much as 10ft NAVD88.

The final preliminary Risk Maps are expected at the end of December 2019. FEMA in coordination with the City, will conduct subsequent public outreach open houses and comments will be solicited from the affected properties.

8.8 Big Slough Flood Reduction Study

Responsible Department for Action: Public Works, Engineering and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment and Southwest Florida Water Management District (SWFWMD) Cooperative Funding Initiative Grant

In October 2016, the City received a SWFWMD Cooperative Funding of up to $125,000 of the $300,000 budgeted for a flood reduction study. The consultant, DeLoach Engineering Science, PLLC was retained to evaluate alternatives to accomplish the following:

1. Reduce historic flooding in the following two localized areas in the City:
   - Area near the Myakkahatchee Creek just north and south of interstate I-75.
   - Area near Dorothy Avenue west of Biscayne Drive and north of US 41.
2. Regional stormwater study to reduce the extensive floodplain that is delineated in the new FEMA FIRMs.

Existing site conditions were evaluated, and the Big Slough Watershed model used to model flood reduction projects also known as Best Management Practices (BMPs). A BMP implementation plan was developed with prioritized recommendations and probable costs for implementation of selected BMPs. The Consultant's recommended flood reduction plan has the following phased BMP components:

- Widen and deepen the existing retention ditch/conveyance system and upsizing road crossing culverts in the Dorothy Avenue area.
- Construction of a new bypass canal parallel to the Myakkahatchee Creek within a portion of the City's Tier I lots that are located north of Price Boulevard.

- Increasing the conveyance capacity through widening and upsizing pipe culverts in the R-36 retention ditch/conveyance system that runs along the northern and western boundaries of the City.
- Restriction/reduction of high flow into Myakkahatchee Creek near the north City Boundary.

Summary of Accomplishments

The Final Report, conceptual drawings and checklist were received in February 2019. A City Commission Workshop was held on March 4, 2019, to review the Study recommendations. City Commission consensus was received to submit the consultant's recommended plan for SWFWMD Conceptual Permit application with minor changes. Consensus was also received on the following staff recommendations:

- Continue Debris/Vegetation Blockage Removal Project.
- Evaluate localized drainage improvements in the Dorothy Avenue area upstream of the retention ditches.
- Do not proceed with researching grant fund to acquire flooded properties, but to schedule a future workshop with Commission on recommended flooded property acquisition.
- Continue reaching out to the SWFWMD and Sarasota County on the Inflow Reduction Option.

8.9 Review and Implementation of Stormwater Regulations

All major site developments in North Port, whether on private or City property, must go through pre-application meeting in the City's Site Development Review (SDR) process. Key City staff members from all relevant departments provide site specific input, so that the development meets the City's Unified Land Development Code (ULDC) requirements in the formal submittal. During the mandatory SDR pre-application process, the City Stormwater Manager reiterates the stormwater treatment, attenuation and floodplain mitigation requirements in the City's ULDC. A stormwater checklist is available on the City website to assist the developer's consultant with a complete submittal that meets all stormwater treatment, attenuation and floodplain analysis and compensation requirements.

ULDC Chapter 17 Flood Damage Prevention Regulations

Responsible Department for Action: Public Works, Stormwater Manager, Neighborhood Development Services
Schedule for Completion of Action: Complete

The City's ULDC Chapter 17 provides flood damage prevention regulations. The 2010 Florida Building Code (FBC), that was effective on March 2012, incorporates the flood provisions from the model International Code Series. Therefore, changes to floodplain management regulations were implemented to properly coordinate with the FBC and meet requirements of the National Flood Insurance Program (NFIP).

Summary of Accomplishments

The City revised ULDC Chapter 17 flood damage prevention regulations using the State Model Floodplain Management Ordinance and obtained approval from the Florida Division of Emergency Management Contractor. The revised ULDC Chapter 17 flood damage prevention regulations were adopted by the City of North Port Commission on May 10, 2016.

ULDC Chapter 18 Stormwater Regulations

Responsible Department for Action: Public Works, Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

On June 14, 2010, the City of North Port adopted a complete revision of the ULDC which included consolidating all stormwater regulations into one new Chapter 18. In 2011, all City departments reviewed the ULDC code that was adopted on June 14, 2010, and proposed needed revisions. In January 30, 2012, ULDC Chapter 18 – Stormwater Regulations, Section 18-10 (C)(2) was amended to require the proposed length and material of the pipe to be submitted with the permit application. ULDC Chapter 33 – Minor and Major Site Development Regulations, Sections 33-6 and 33-8 were amended to provide additional requirements for survey, site and drainage design, driveway culverts and swale piping requirements. As the City's stormwater swales/ditch/canals/creek system serves not only as a stormwater conveyance system, stormwater also is the main raw water supply for the City's Water Treatment Plant, thus the need for greater water quality treatment and protection. The ULDC Chapter 18 – Stormwater Regulations was revised in June 2010 to incorporate additional water quality improvement requirements. These requirements exceed, or are in addition, to those required by SWFMWD.

Summary of Accomplishments

In 2016, the City began another revision of the ULDC. The Stormwater regulations are currently being reviewed and revised to further protect water quality, encourage use of Low Impact Development (LID) methods, to reduce flooding and reduce erosion. This effort is anticipated to be completed in 2020.

8.10 Incorporation of Low Impact Development (LID) Design

Responsible Department for Action: Public Works, Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

In the SDR review process, developers are encouraged to implement LID design to the maximum extent practicable such as minimization of impervious areas, use of pervious pavement, green roofs, rain cisterns, reuse of stormwater for irrigation, direct runoff to bioretention/biotreatment vegetated swale areas prior to discharge stormwater pond, Florida friendly native landscaping, and other surface water quality improvement controls and devices.

Summary of Accomplishments

Exhibit 8.6 provides a detailed list of LIDs implemented to date to reduce stormwater impact from new development for both City projects and Developer projects.

8.11 Grant Funding of Projects

Responsible Department for Action: Public Works, Grants Writer
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

The City has pursued several sources of grant funding such as the Community Budget Issue Requests (CBIRS) grant and has received a total grant allocation of $1,600,000. SWFWMD and the City have cooperatively funded the construction of the new replacement WCS No. 101 located on the Myakkahatchee Creek near the Water Treatment Plant. The City has received reimbursements from SWFWMD for $658,630.75 of the $1,317,261.50 spent on the replacement structure.

The City Public Work Department shall continue to apply for grant funding from agencies such as SWFWMD, FEMA, EPA, FDEP and CBIRS to offset the cost of the flood reduction projects to the City and its residents.

Summary of Accomplishments

SWFMWD has committed to cooperative grant funding up to $125,000 of the $300,000 budgeted for the afore mentioned Big Slough Flood Reduction Study. As of March 2019, the City received grant reimbursements totaling $107,441.

8.12 Property Acquisition in the SFHA and Open Space Areas

Responsible Department for Action: City Manager Office and Parks and Recreation
Schedule for Completion of Action: Ongoing
Funding Source: General Fund

Over the last sixteen years, the City has applied for and received grant funding and with supplemental City funds, has acquired a significant portion of the lands immediately adjacent to Myakkahatchee Creek from Price Boulevard north to the City limits. The majority of these properties are in the 100-year floodplain. Exhibit 8.7 provides a map of the properties acquired. The City is currently continuing this effort of land purchase.

8.13 Public Outreach Meetings and Open Houses

Responsible Department for Action: Public Works, Administration and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

Public Works staff participated in several Commission meetings and Public Open Houses in 2015 and 2016 to disseminate information ad address resident's concerns prior to the adoption of the November 4, 2016 FIRMs. An informational update on the FIRM map adoption process was presented to the City of North Port Commission public meeting on March 22, 2016. On July 7, 2016, the City's Planning and Zoning Advisory board held a public hearing where they unanimously recommended approval of the ordinance by the City Commission. Two City of North Port Commission public hearings were held on July 26, 2016 and September 13, 2016, to approve the Ordinance 2016-21 that revised ULDC Chapter 17 to adopt the new FIRMs with an effective date of November 4, 2016.

The City in cooperation with Sarasota County, SWFMWD and FEMA conducted extensive public outreach which included multiple public open houses throughout the County including three open houses in the City of North Port. After FEMA's release of the preliminary FIRMs dated December 15, 2014, FEMA in cooperation with SWFWMD, cities of North Port Venice, Sarasota and Sarasota County held three public outreach open houses at three different locations in January 20-22, 2015. FEMA placed two notices in the several local newspapers (Sun Herald, Sarasota Herald Tribune, Sarasota Observer, Longboat Key News and Venice Gondolier Sun) and also in the Federal Register.

North Port, Venice, Sarasota and Sarasota County and SWFWMD staff subsequently conducted a second series of three public outreach open houses on March 4, 2015, March 12, 2015 and April 9, 2015. A third series of six public outreach open houses were conducted in June 2016. The three Public Open houses held in the City of North Port were on January 22, 2015, March 12, 2015 and June 23, 2016.

Summary of Accomplishments

A Public Outreach meeting was held on February 13, 2019, at the Morgan Family Community Center to solicit input from the residents on the afore mentioned Big Slough Flood Reduction study recommended BMPs. Exhibit 8.8 provides a summary of the City's public outreach efforts from the last progress report in 2017 to March 1, 2019.

8.14 Presentations at Seminars And Workshops

Responsible Department for Action: Public Works, Administration and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

Public Works has been invited to speak on flood map updates and flood prevention, stormwater issues, environmental protection, green development, fertilizer use, and pollution prevention at the following events in Exhibit 8.8. Items highlighted in yellow are directly related to flood protection.

- Radio interview
- Gran Paradiso Home Owners Association
- West Villages Town Hall meeting
- Larmarque Elementary School Earth Night
- Peace River Engineering Society
- Toledo Blade Elementary School Spring Fling
- Atwater Elementary School earth Day
- City of North Port Summer Kids Camp Sessions
- North Port Library Flood Zone Workshops
- Canal Water Group
- Water Control structure No. 115 Ribbon Cutting event
- Flood Reduction Study Public Outreach Meeting - City of North Port sent 1591 invitations to residents within the Big Slough flood study area, to attend the February 13, 2019 Flood Reduction Study Public Outreach Meeting.

Annually, the Fire Rescue Emergency Manager conducts multiple public outreach activities on Hurricane preparedness with homeowners assassinations and civic groups. A list of these activities is included in Exhibit 8.9.

8.15 Brochure Handouts At Community Events

Responsible Department for Action: Public Works, Administration and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

City staff volunteers at many community events and host booths with displays of the City's stormwater system, flood maps and offers an array of free brochures and education material. The City 10 CRS Topics flyer on Flood Information produced in-house by the City staff is distributed at these public events and at the afore mentioned seminars and workshops. This brochure is also available in kiosks at the three floors on City Hall and at Public Works building. Examples of community events are included in Exhibit 8.8. Items highlighted in yellow are directly related to flood protection:

- Great American and International Coastal Cleanup Sessions
- Oscar Scherer Park Earth Day Celebration
- July 4th Freedom Festival
- North Port Newcomer's days at the North Port Library
- Charlotte Harbor National Estuary Program Nature Festivals
- Leadership North Port Tour group
- Public Works Road-E-O

8.16 Newsletters/Releases, Television and Social Media Public Outreach

Responsible Department for Action: Public Works, Administration and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

Flood Information is disseminated through various forms of news media and social media. Exhibit 8.10 provides a listing and range of distribution and includes:

- North RePort Newsletter to all every home in North Port
- Facebook and Twitter message releases
- NBC, ABC and WBBH TV stations
- North Port Sun and Herald Tribune Newspapers articles
- Newspaper Ad on Flood Zone Workshops
- City Website News Releases
- Utility bill message
- Disaster Planning Guide

8.17 City website

Responsible Department for Action: Public Works, Administration and Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

The City of North Port posts the most current information concerning stormwater and flooding potential on the City's website. The City has added a Flood Information page that provides information on FEMA flood map Updates, flood warning, CRS program and available flood elevation certificates:
http://www.cityofnorthport.com/index.aspx?page=956

The City provides a link to a searchable user-friendly web application to view flood zones and obtain base flood elevations on the new FEMA FIRMs through the City's FEMA Flood Map Updates webpage:
http://www.cityofnorthport.com/index.aspx?page=1004

Elevation Certificates are also available on the City webpage at:
http://www.cityofnorthport.com/government/city-services/public-works/flood-information/elevation-certificates-3188

The City's Emergency Management webpage "Hazards We Face" provides useful information on storm preparation and dealing with hazards:
http://www.cityofnorthport.com/government/city-services/fire-rescue/emergency-management/hazards-we-face

Links are provided to related websites such as FEMA, NFIP, Floodsmart, Florida Disaster, Sarasota County Library Catalog on Flood information, Sarasota CRS webpage and FEMA site on FIRM maps.

8.18 FIRMs Available To The Public

Responsible Department for Action: Public Works, Stormwater Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment

The November 4, 2016 FEMA FIRMs panels are available on the FEMA website but these map panels are not currently searchable with an address and the underlying aerial is from early 2007. Homes built after the aerial date are not be visible. The pdfs of the new preliminary FIRMS panels are available from the FEMA website at: https://hazards.fema.gov/femaportal/prelimdownload/

The City has subsequent released a user-friendly web map application that allows searching the new FIRMS by address or Parcel Identification Number or by name. The map is also overlaid on the 2018 aerial to allow easy location of houses. Flood zones, property lines and base flood elevations are easily visible in this web application which can be accessed from the City's FEMA Flood Map Updates webpage at: http://www.cityofnorthport.com/index.aspx?page=1004

Since the release of the December 15, 2014, preliminary FIRMs, the City Stormwater Manager has responded to hundreds of requests for flood information. Anyone who desires a written determination of the existing and proposed flood zones, can submit a Flood Information request form to the City's Stormwater Manager. The request form can be downloaded from the City's website: http://www.cityofnorthport.com/home/showdocument?id=5424.

Annually, the City mails letters offering flood protection and mapping information services to all Insurance companies, Realtors, Financial Institutions, Abstract and Title companies that are registered with the City of North Port. The letter is also mailed to the president of North Port Realtors Board and to president of the North Port Chamber of Commerce.

8.19 Flood Warning, Response And Evacuation

Responsible Department for Action: Public Works Operations, Fire Rescue Emergency Manager
Schedule for Completion of Action: Ongoing
Funding Source: Road and Drainage Assessment and Fire and Rescue District Assessment

The City has funded two United States Geological Survey (USGS) gages, in the Myakkahatchee Creek, one at Tropicaire Boulevard and the other at WCS 101. These USGS gages monitor the elevation of the water level in the creek and provide real time data on water levels in the Creek and precipitation. The City has correlated the levels in the creek at the Tropicaire gage with known areas of flooding and this information, together with a link to the USGS gage, is available on the City website at: http://cityofnorthport.com/index.aspx?page=1513

The Emergency Manager and Public Works Operations staff monitors weather conditions and in particular, the creek USGS gages during rain events. Public Works Operations staff will raise/lower gates at water control structures to move, retain, or redirect water flow to avoid flooding. Once water levels have reached an action stage, warnings are provided to the public through door-to-door contact, advisories through the city web site, advisories through local and cable broadcast media, and/or NOAA weather alert radios. If the situation is severe, the City has the ability to release a geographically-targeted telephonic and text message to affected individuals through the City's CodeRED emergency notification system. In 2018, the City of North Port was fortunate not be experience a storm event that required CodeRED emergency notification.

The City of North Port has worked with the Peace River/Manasota Regional Water Supply Authority (PRMRWSA) in the development of the Emergency Action Plan (EAP) for the new Peace River Reservoir #2. Computer modeling has shown that failure of the reservoir embankment can affect the City of North Port, particularly in the eastern areas of the City. The City has participated in the Statewide Hurricane exercise in May 2014 as part of a simulation of a breech at the Peace River Manasota Regional Water Supply Authority's

(PRMRWSA) reservoir. Notification was received from PRMRWSA and maps were reviewed to determine impacts to City.

The City was recognized on July 28, 2014, by the National Weather Service as the third municipality in the State of Florida to achieve the designation of StormReady. This designation is reserved for locations which go above and beyond to protect their citizens from the impacts of hazardous weather. This program helps citizens feel safer knowing that our Emergency Management and the National Weather Service are working together through enhanced planning, education and awareness programs. The StormReady designation that expired in 2017, was renewed until 2020 (Exhibit 8.11).

The City of North Port Emergency Management has installed four-inch, reflective vinyl collars (traffic-grade reflective yellow tape with zone labels) on street-sign posts to mark hurricane evacuation zones A and B. The zones represent a storm surge threat to a neighborhood. The “A” zone (including manufactured housing communities) is at most risk and will be advised to evacuate first, while zones marked by other letters (B through E) are less likely to see floodwaters from the Gulf of Mexico or the Myakka River. A total of 164 signs were installed as of July 2013. Twenty (21) signs were installed in the “A” zone and 143 signs were installed in the “B” zone.

Exhibit 8.1 - Future Water Control Structure Replacmenet Plan

	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
Design	**WCS 106**		**WCS 108**	**WCS 113**	**WCS 114**	**FW 157**	**WCS 124**	**WCS 127**
Design Cost *	$168,000		$198,208	$307,443	$202,588	$233,596	$240,129	$264,142
Rounded Design Cost	**$168,000**		**$199,000**	**$308,000**	**$203,000**	**$234,000**	**$241,000**	**$265,000**
Construction	**WCS 115**	**WCS 106**		**WCS 108**	**WCS 113**	**WCS 114**	**FW 157**	**WCS 124**
Construction Cost	$1,064,496	$2,278,360		$2,477,595	$3,843,043	$2,532,348	$2,919,953	$3,001,614
Rounded Construction Cost	**$1,065,000**			**$2,480,000**	**$3,850,000**	**$2,540,000**	**$2,920,000**	**$3,010,000**
Total Each Year	**$1,233,000**		**$199,000**	**$2,788,000**	**$4,053,000**	**$2,774,000**	**$3,161,000**	**$3,275,000**

Exhibit 8.2

Minor Water Control Structures Repairs

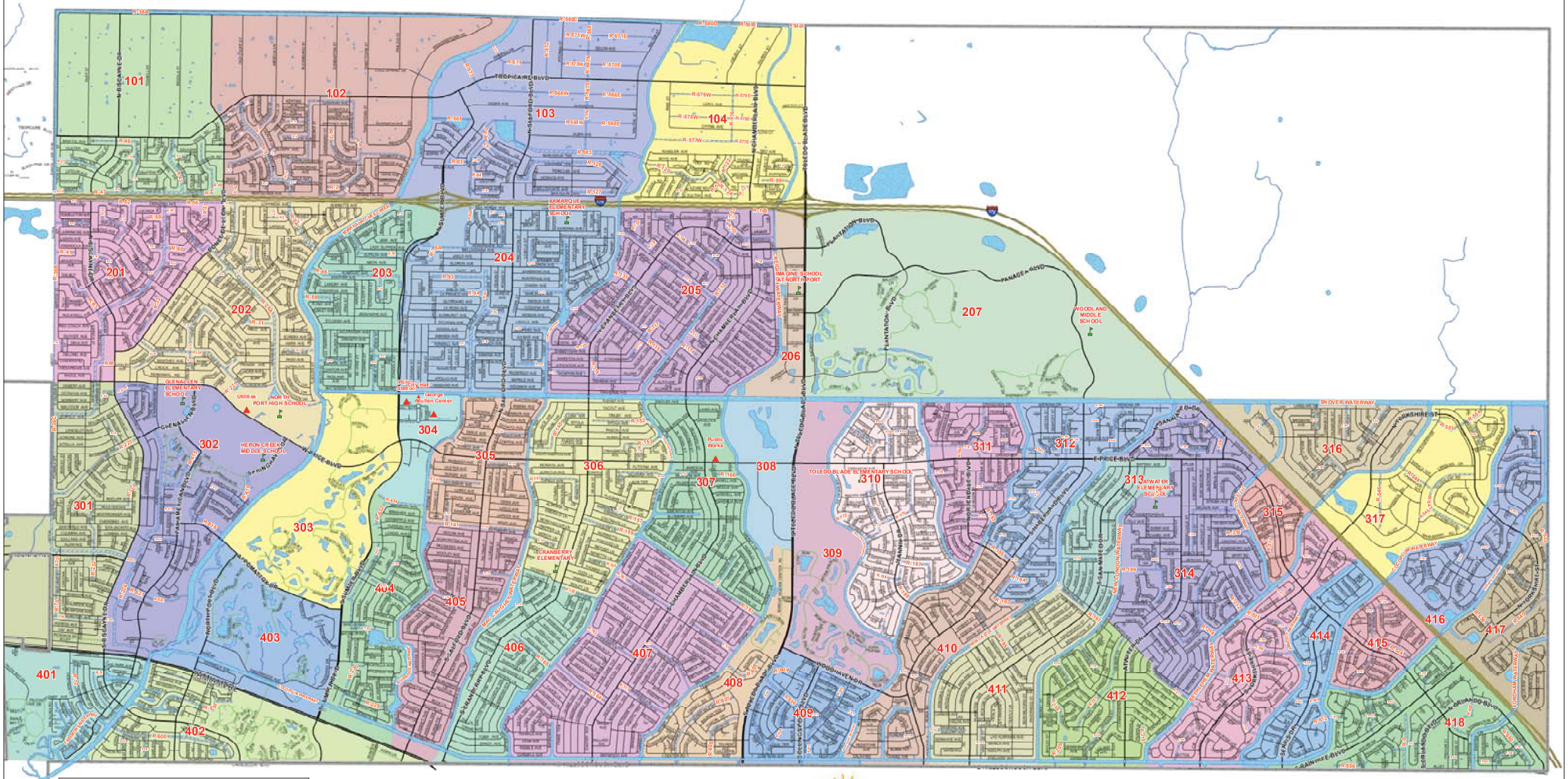
Water Control Structures	Waterway	Location	Minor Repairs	Costs	Contractor / Supervisor	Project Completion
WCS 101	Myakkahatchee Creek	At WTP	Telemetry malfunction, replaced part no, NL120 CSI Ethernet Interface	$446.00	Locher Enviromental Technology (mike Vega)	9/5/2018
WCS 108	Cocoplum	West of Collingswood Blvd	Fixed catwalk grate rusted through in one location	$7,500.00	MS Welding. Mark Spalding	1/30/19
WCS 110	Cocoplum	West of Yorshire St	Fixed top bars in gate frames very corroded, one hole behind I-beam	$8,000.00	MS Welding. Mark Spalding	1/30/19
WCS 111	Cocoplum	Near Newman Dr.	Fixed top bars in gate frames that was corroded	$8,500.00	MS Welding. Mark Spalding	1/30/19
WCS 114	Snover	West of Salford Blvd	Fixed hole in S. side sheet piling. Repaired Gate #2 as it does not close all the way down	$9,000.00	MS Welding. Mark Spalding	1/30/19
WCS 118	Blueridge	at Ridgewood Dr	Replaced I Beam- with painted with 2 part apoxy coating Inspect Rod, clean and repair any bad threads Gear box- open, replace any bad bearings, check key ways in gear drives. Check brass lifting bushing. Tracks, replace spacer bars as needed or tracks as needed.Adjust, clean and inspect door for proper operation. Minor repairs if needed. Inspect concrete and base of structure (under water)	$8,000.00	MS Welding. Mark Spalding	6/4/18
WCS 124	Lagoon	North of Cocoplum Near Parlay Ln	Repaired holes in east side sheet piling and repaired vertical I-Beam. Retrofit surplus actuator in place of non-working actuator	$8,000.00	MS Welding. Mark Spalding	1/30/19
WCS 127	Creighton	Near Alabelle Ln	Repaired hole in Vertical I-beams and repaired hole in sheet piling by support bar	$8,500.00	MS Welding. Mark Spalding	1/30/19
WCS 130	Bass Point	Just north of Cocoplum	Replaced I Beam -with painted with 2 part apoxy coating Inspect Rod, clean and repair any bad threads Gear box- open, replace any bad bearings, check key ways in gear drives. Check brass lifting bushing. Tracks, replace spacer bars as needed or tracks as needed. Adjust, clean and inspect door for proper operation. Minor repairs if needed Inspect concrete and base of structure (under water)	$8,000.00	MS Welding. Mark Spalding	6/4/18
WCS 137	New Castle	Near Laredo Ave	Replaced I Beam- with painted with 2 part apoxy coating Inspect Rod, clean and repair any bad threads Gear box- open, replace any bad bearings, check key ways in gear drives. Check brass lifting bushing. Tracks, replace spacer bars as needed or tracks as needed.Adjust, clean and inspect door for proper operation. Minor repairs if needed. Inspect concrete and base of structure (under water) PO# 047588	$9,000.00	MS Welding. Mark Spalding	6/4/18
WCS 140	Bethlehem		Repaired one horizontal I beam, Repair one Vertical I beam, Replace gate #1, Replace gate #2. PO# 047293	$25,000.00	MS Welding. Mark Spalding	End of 2017

Exhibit 8.3 - 2018 Activities

OPERATIONS DIVISION ACTIVITY REPORT	January	February	March	April	May	June	July	August	September	October	November	December	**Total**
Retention (R) Ditches and Canals Rehabilitated (*linear feet)*	15,420	13,425	11,640	8,475	9,025	9,075	12,600	5,080	10,770	8,220	10,935	6,100	**120,765**
Swales Rehabilitated (*linear feet*)	19,688	21,213	22,375	24,959	32,861	30,349	23,759	31,286	28,427	25,484	23,023	20,634	**304,058**
Asphalt Placed – Pothole Repairs (*tons*)	16	43	45	21	16	46	8	12	16	16.91	6.7	16	**263**
Roadside Mowing (*acres*)	754	754	5937	1000	1300	2,926	2,793	6,241	4,801	1,930	472	2262	**31,170**
Drainage Right of Way (ROW) Mowing (*acres*)	*	1104	*	970	720	430	259	680	680	820	800	0 *	**6,463**
Aquatic Spraying (*acres*)	28	78	44	37	42	92	56	59	62	44.2	36.4	17	**596**
Boom Mowing R-Ditch Bottoms (linear miles)	9	4	4	19	18	9	16	6	17	11	7.9	8	**129**
Pipes Installed (*linear feet)*	560	856	1159	1,089	1,070	815	616	744	692	978	575	516	**9,670**
Catch Basins/Culvert Boxes Installed	1	0	3	9	5	5	5	6	1	0	5	4	**44**

* No Drainage Scheduled

Exhibit 8.4



Legend

- Critical Facilities
- Schools
- DROW
- Waterway
- City Limits
- Interstate
- Major Roads
- Local Roads
- Private Roads

NorthPort FLORIDA

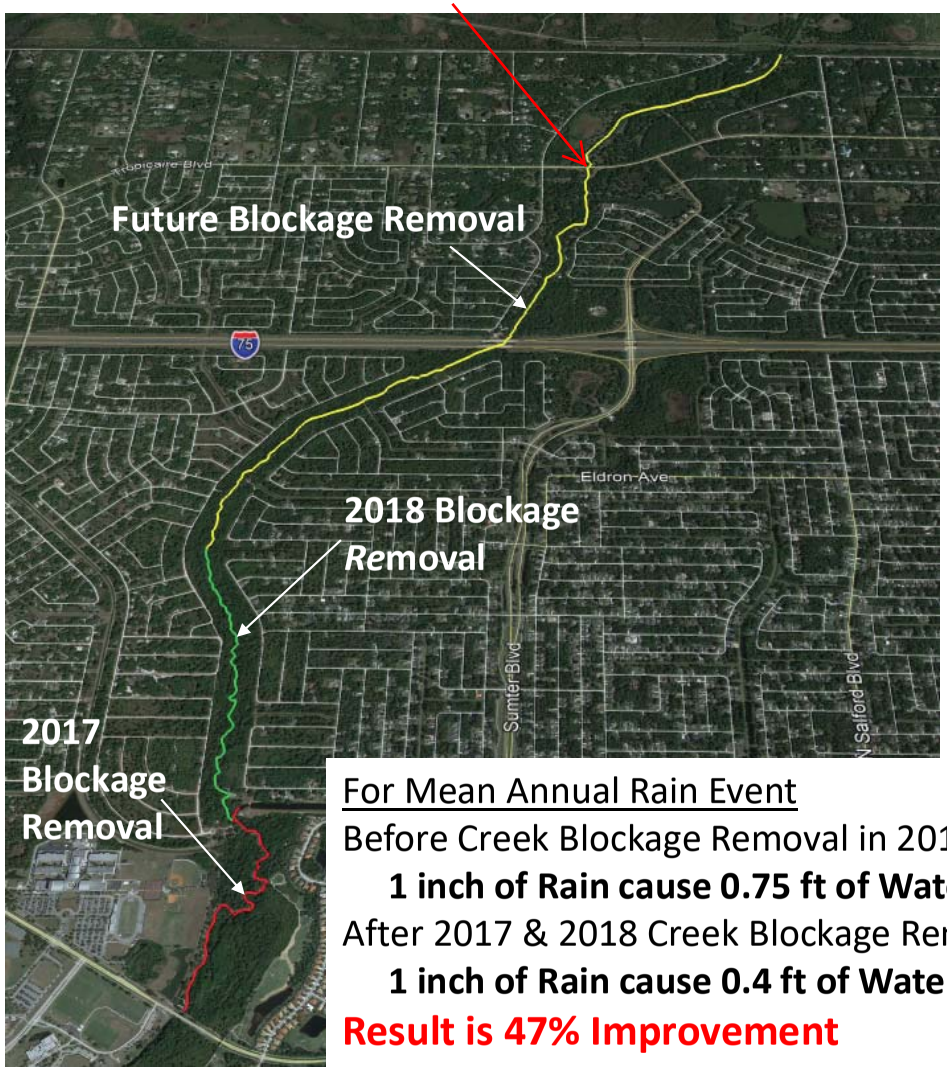
Grid Map

N W E S

Exhibit 8.5

After 2017 - 2018 Creek Blockage Removal

USGS Rain Gage
at Tropicaire Blvd



For Mean Annual Rain Event

Before Creek Blockage Removal in 2016 =

1 inch of Rain cause 0.75 ft of Water Rise

After 2017 & 2018 Creek Blockage Removal =

1 inch of Rain cause 0.4 ft of Water Rise

Result is 47% Improvement

No street flooding after
2017 - 2018 project
Tropicaire Blvd USGS gage at **22.15'**

Gage height, feet
Most recent instantaneous value: 19.45 01-28-2019 12:00 EST

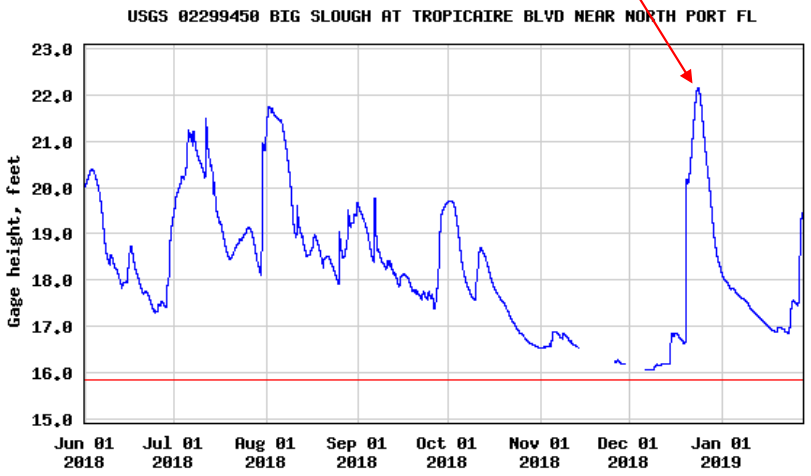


Exhibit 8.6

CITY OF NORTH PORT

LOW IMPACT DEVELOPMENT (LID) PROJECTS AND CITY "GREEN ACHIEVEMENTS"

Year Installed	Project Name	Description
~2007	Public Works Site	Use stormwater from Creighton Waterway for irrigation. Use of grass swales for pretreatment prior to entiering master stormwater pond system.
2005 and continuing	Islandwalk @ The West Villages all phases	Stormwater reuse for irrigation
2007	Fertilizer Ordinance	Adopted a City-wide Fertilizer Ordinance which prohibited a fertilization of lawns during the wet season period between June 1 and September 30. Required 50% slow release fertilizer if used in the allowable periods.
2008	North Port Medical Specialist facility on US 41 near Espanola Ave.	Developer installed 7 pervious asphalt parking spaces at a new North Port Medical Specialist facility along US 41.
2009	Sumter Boulevard Phase 2 widening project	City installed 3 aeration fountains in wet detention ponds and planted non-invasive littoral zone plants as part of the Sumter Boulevard Phase 2 widening project
2009	Lowes store	Developer installed Stormwater Harvesting system to withdraw water out of a large wet pond for irrigation. A shallow well recharges the wet pond during the dry periods.
2009	PBSJ Study North Port Enhancement Project Report	City study cooperatively funded with SWFWMD indicated that the total nitrogen levels within North Port waterways are "lower than the reference levels for natural Florida Streams gnerated in the 1996 FDEP 305(b) report". This is due to the extensive grass swales system in North Port.
2010	SWFWMD Community Education Grant for $1,761.94	Grant funded purchase 100 stormdrain markers which were installed with assistance from the Community and kids. Conducted public education on water quality protection and installed two educational signs
2010	City of North Port Unified Land Development Code (ULDC) New Stormwater Regulations	City adopted new ULDC Chapter 18 - Stormwater Regulations in June 2010 which required all developments to incorporate LIDs to the maximum extent practicable. City water quality regulations required treatment volume of 1-inch of runoff for any systems, wet or dry. This is above the SWFWMD requirement for 1/2" of runoff for dry systems. City required aeration systems in wet ponds and planted littoral zone with non-invasive aquatic plants with 85% survival rate.
2010	Grass parking at Morgan Family Center/Butler Park	Many parking spaces at these facilities were installed as grass parking.
2010	Cocoplum Village Shoppes on US 41 near Salford Blvd	Developer installed a stormwater Harvesting system to withdraw water out of a large wet pond for irrigation.
2010	Toledo Blade Boulevard Widening Project	City planted littoral zones and entire pond periphery with cord grass (Spartina Bakeri) at two stormwater ponds.
2011	City Hall near Post Office	City installed an aeration fountain in a wet detention pond.
2011	Florida Green Building Coalition Gold Rating	City received the FGBC Gold Rating which is the highest rating achieved at that time in Florida for good environmental practices in "green" development
2011	Kingdom Hall Church	Kingdom Hall new church facility incorpated 10 pervious concrete parking spaces
2011	City's Atwater Park	City installed a stormwater Harvesting system that withdraw water out of a large wet pond for irrigation. Also installed an aeration fountain in a wet detention pond.
2012	SWFWMD Community Education Grant for $4136	Grant funded planting of non-invasive aquatic plants around the periphery area of the North Port Library pond, Public workshops on proper fertilizer usage and aquatic planting benefits, two major City clean up events and six educational signs installed throughout the City to encourage protection of waterways.
2012	Sarasota County Area Transit at City Center	City coordinated with SCAT to install 15 pervious concrete parking spaces, along with a bioswale between parking spaces.
2012	Cocoplum Village Shoppes on US 41 new Salford Blvd	Developer installed aeration fountains in two wet detention ponds
2014	City Center George Mullen Activity Center (GMAC)	City installed a new section of Pervious Concrete sidewalk as part of the Phase 1 GMAC improvements
2014	Sarasota County Area Transit (SCAT) at City Center	An electric car charging station was added in June 2014.
2014	Turnberry Trace Recreation Center	Installed 7 parking spaces with Pervious Concrete
2014	Gran Paradiso Amenity Center Phase 2 MAS-14-032	Brick pavers on sand for sidewalks and decking, grassed swales for conveyance before entering inlets and ponds, FF landscaping, oversized stormwater pond, aeration in Lake 34. Project completed in March 2016
2015	Aldi food Store on US 41/Salford Blvd	Constructed 11 pervious concrete parking spaces
2015	City Center George Mullen Activity Center (GMAC)	City installed a new section of Pervious Concrete sidewalk as part of the Phase 2 GMAC improvements
2016	Goodwill ADC MAS 14-105	* 8 Pervious parking stalls - 2.36" thick "Aquaflow" Pavers on 2" thick 1/4" diameter clean crushed stone, over 140N Mirafi over 6" FDOT #57 stone 95% Modified Proctor, over 140N Mirafi, 12" Subgrade 98% Modified Proctor. Grass swales before inlets.
2017	Lowes Outparcel 15-129	Irrigation using Stormwater Pond
2017	Autozone at Toledo Creek (S of Price, west side of Toledo Blade MAS-16-070	20 pervious concrete parking spaces, grass retention area before master stormwater pond, deep sump at several inlets
2017	Toledo Creek INF-15-089	Floguard inlet inserts installed on 9 Type 9 Index 214 inlets
2018	Circle K at Heron Creek Town Center MAS-15-180	Less impervious than allowable, 77.88% vs 94.0%
2017	7-Eleven Store #37298 at Toledo Creek MAS-16-055	70% impervious compared with allowable 95% impervious. Pervious concrete sidewalks adjacent to store

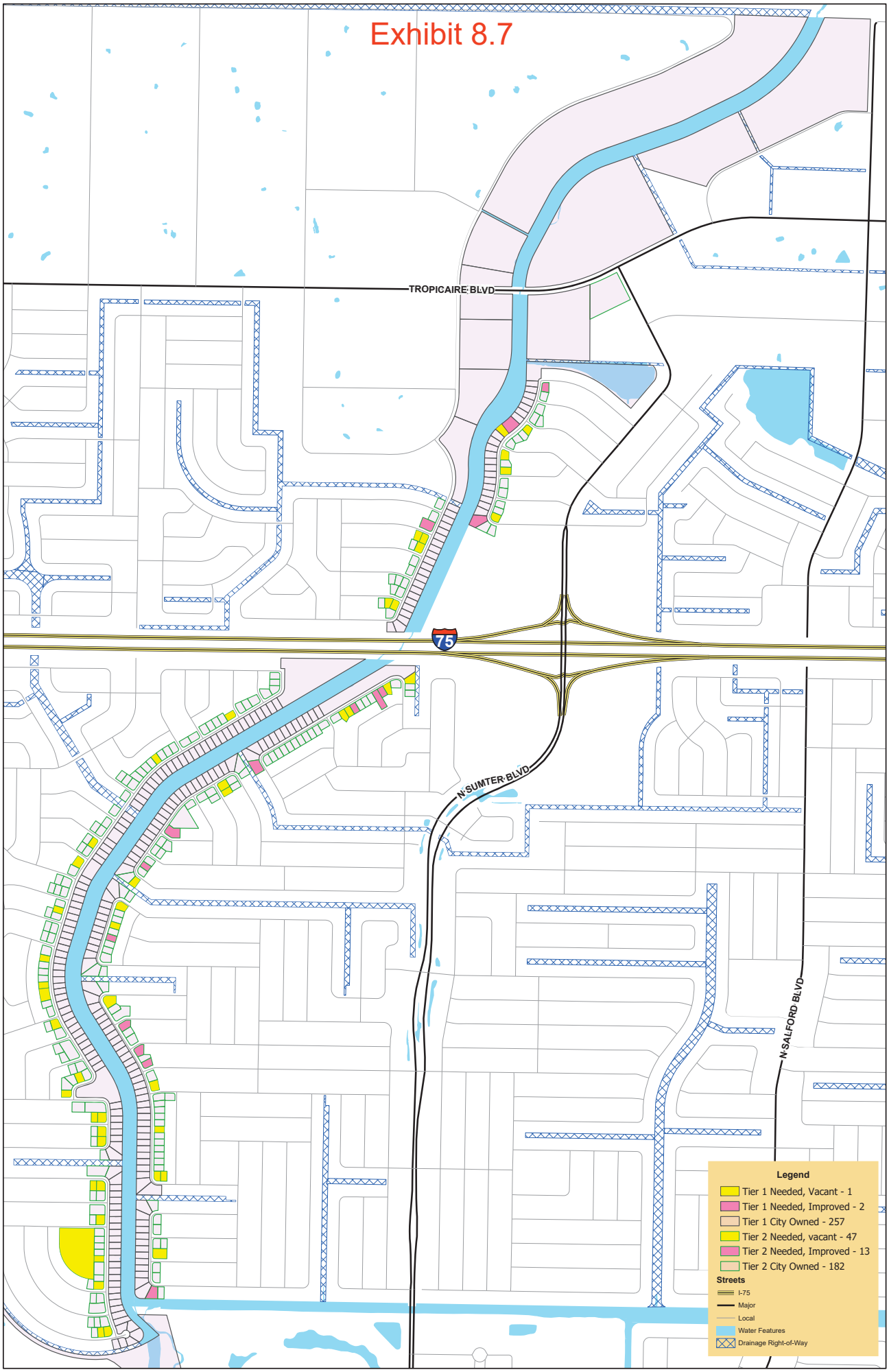
Exhibit 8.6

Year Installed	Project Name	Description
2017	Gran Paradiso Phase 3	All of the driveways for the paired villa (duplex) units are pavers on sand. There are swales along the rear of lots 687-734 which will provide open flow contact time / pre-treatment prior to discharging to lake 29. There is also a 1,000± LF swale outfalling a portion of Renaissance Boulevard prior to draining into lake 68. This swale will also provide some open flow contact time / pre-treatment prior to discharging to the lake
2017	Gran Paradiso Phase 7 , INF-16-122	• Minumize impervious area - The overall Gran Paradiso property (± 1 ,068.09 acres) will consist of approximately±231.36 acres of conservation areas, including wetland and gopher tortoise preserves. There will also be approximately± 222.84 acres of lake area and± 135.72 acres of additional open space. Thus, as a percentage of the total development there will be 21.7% conservation area, 20.9% lake area, and 12.7% open area. • Overland flow areas Where achievable, stormwater runoff is allowed to sheet flow across areas of vegetation prior to flowing into on-site retention areas or wetland areas. • Minimizing of sidewalk widths in areas with lower pedestrian traffic In strategic areas of the community (e.g. along Prestigio Boulevard), sidewalk widths were decreased, thus decreasing impervious area. This was done in order to minimize the amount of required disturbance of native vegetation and habitats. • Inclusion of aerators in lakes Aerators have been added to lakes throughout the development, with 3 included in the Phase 7 project. • Use of pavers throughout the development Where possible, pavers have been used in lieu of concrete pavement. This is most prevalent at the entrance I clubhouse area and driveways of home sites throughout
2017	Islandwalk Phase 5, INF-16-022 *	Stormwater reuse for irrigation
2017	Gran Paradiso, Coach Homes-2 and Mass Grading (MAS-16-172)	• Limiting the footprint of improvements on the property. The overall Gran Paradiso property (± 1 ,068.09 acres) will consist of approximately ± 231.36 acres of conservation areas, including wetland and gopher tortoise preserves. There will also be approximately± 222.84 acres of lake area and± 135.72 acres of additional open space. Thus, as a percentage of the total development there will be 21.7% conservation area, 20.9% lake area, and 12.7% open area. • Overland flow areas Where achievable, stormwater runoff is allowed to sheet flow across areas of vegetation prior to flowing into on-site retention areas or wetland areas. • Minimizing of sidewalk widths in areas with lower pedestrian traffic In strategic areas of the community (e.g. along Prestigio Boulevard), sidewalk widths were decreased, thus decreasing impervious area. This was done in order to minimize the amount of required disturbance of native vegetation and habitats. • Inclusion of aerators in lakes Aerators have been added to lakes throughout the development, with 3 included in the Phase 7 project. • Use of pavers throughout the development Where possible, pavers have been used in lieu of concrete pavement. This is most prevalent at the entrance / clubhouse area and driveways of home sites throughout
2017	Suncoast Plaza INF-14-089	Much Bioswales for additional treatment along roadways, fountains in wet ponds
1/17/18	Renaissance At West Villages	Stormwater Irrigation from Lake 5 with recharge well, Impervious area reduced by 8% from allowable
1/24/18	Heartland Dental MAS-17-013	Two grass swales, impervious area is 68% compared to allowable 95%
1/24/18	Jiffy Lube MAS-16-020	Runoff into three grass retention swales prior to discharge into the master stormwater piping/pond system. Ditch bottom inlets in the grass retention swales are set 0.5' higher than swale bottom. 41.7% impervious compared with allowable 95% impervious .
1/24/18	North Port Library Parking Expansion	23 stalls Pervious Concrete Parking expansion
2/9/18	Sherwin Williams MAS-15-179	Grass swales before entering dry retention pond
2/26/18	7-11 at Cranberry MAS-17-001	3 Pervious Pavers parking stalls
2/27/18	Heron Creek Animal Hospital MAS-16-131	Impervious area reduced by 20% from allowable, biotreatment grass swale
3/3/18	Pine Park Walking Path at McKibben Drive MAS-14-053	4ft wide Pervious path either 4" Pervious Concrete on 9" #57 stone over Filter Fabric US160NW over Stabilized Subgrade max 92%-95% modified Proctor Density ASTM D-1557, or bid alternative is 1.5" Flexipave HD 1500 over 4" #57 stone over Filter Fabric US160NW over Stabilized Subgrade max 95% modified Proctor Density ASTM D-1557
5/2/18	O Reilly Auto Parks MAS-17-030	Runoff to Grass swales for conveyance prior to master stormwater system. Minimized impervious from 70% to 58.73%
5/16/18	Oasis INF-15-174	Stormwater reuse for irrigation, 3 fountains for aeration in wet ponds, 684 sf (4 parking spaces) in pervious concrete at Amenity Center.
5/17/18	Tract C North Port Industrial Park (MTI) MAS-16-191	8 Pervious Concrete Stalls, less impervious than allowed
Underconstruction 2017-2019	Gran Paradiso Phase 5B , INF-17-093	• Inclusion of aerators in lakes • Use of pavers on driveways • Preservation of Native and wetlands vegetation where possible • Use of Florida Friendly landscaping • Rear yards swales for extra treatment

Exhibit 8.6

Year Installed	Project Name	Description
Oct 2018	Dog Park under included Renaissance INF-15-153	Stormwater Harvesting from Lake 3-2
12/7/2018	Taco Bell at Heron Creek Town Center MAS-17-218	Less impervious than allowable, 63.8% vs 94.0%. Florida Friendly Landscaping used
April2019	Braves Stadium MAS-17-075	Stormwater Harvesting with recharge from existing borrow pit, grass bioswales, grass parking >2000 spaces, fountains
Under Construcion April 2019	Heartland Dental West VillagesMAS-18-186	3 Turf block pavers, small grass swale pretreatment area
Under Construcion April 2019	Waffle House at Heron Creek Town Center MAS-17-107	Less impervious than allowable, 60.6% vs 94.0%. Two grass pretreatment areas before entering master system.
Under Construcion April 2019	Lakeside Medical Building MAS-18-081	Grass pretreatment swales, 7 pervious concrerte parking stalls
Under Construcion April 2019	Islandwalk Amenity Center dog park	Use of grass swales pre-treatment
Under Construcion April 2019	Oasis Amenity Center MAS -18-015	Grass Swales before entering wet detention pond, 2728 sf pervious pavers
Future	Villas of Holly Brook MAS-17-003	According to OPI (Office Professional Institutional) zone district, Section 53 -94-Maximum lot coverage; Buildings can cover up to 50% of available lot area. The current site design has a total impervious coverage of 55% (including building, parking, and sidewalks) so impervious area was kept at a minimum. Two landscaped gardens are provided between the building and the Cocoplum Waterway. The garden's runoff travels through yard drains which are all located in grassed depressions. The larger garden drains to the yard drains which then flow into a dry grassed swale before ultimately meeting the dry retention pond. The northwest parking lot quadrant was also regraded so the area flows into a grassed depression before draining to the dry pond.
Future	Wawa - Toledo Blade & Price	Modification of previous Bioswale #3 plus 2 more bioswales increase bioswale volume from 0.03 ac-ft to 0.086 ac-ft. impervious area is 74.2% compared to allowable 85%. 9 pervious pavement parking stalls
Future	Gran Paradiso Phase 8 INF-17-217	Use of pavers on driveways to minimize amount of impervious coverage, preservation of native vegetation where possible, the use of aerators to increase dissolved oxygen in lakes, implementation of rear yard swales to promote additional treatment prior to discharge, and the use of Florida Friendly Landscaping throughout the development.
Future	Shoppes at North Port MAS-18-047	Redevelopment of existing shopping center reduce the impervious area from 39,525.29 SF to 35,962.46 SF. Impervious area under traffic is reduce by 13,530.00 SF.
Future	Gateway at Cocoplum Phase 2 part 1 Texas Road House	27 Pervious concrete parking spaces, 5" pervious concrete over 4" #57 stone
Future	The Preserve Phase 3 INF-17-111	Stormwater Harvesting from Pond 5-1P with recharge well, grass bioswale, fountain
Future	Kenvil Apartments MAS-18-078	Multiple grass swale pre-treatment and 12 grass parking
Future	Hampton Inn & Suites @5664 Tuscola Blvd MAS-18-064	Less impervious than allowable, 77.65% vs allowable 90R. Florida Friendly Landscaping used, stormwater harvesting.

Exhibit 8.7



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Miles

Myakkahatchee Creek Land Acquisition Program

Prepared by GIS Services
October 31, 2018

M:\Departments\CityManager\Admin\CreekCorridor\CreekCorridor.aprx\MyakkaCreekCorridor20181031 Layout

Exhibit 8.8

Public Outreach Activities

Event	Brochure Type	Date of Event	Water Quality Protection Flyers	Flood Info. Flyers	No. of Participants (flood Related)	No. in Participants (WQ Related)	Neighborhood Presentation	Public Displays on Water Quality	School Presentation on Water Quality	Seminar/ Workshop on Water Quality	Special Event on Water Quality	City Staff
Radio interview with WKDW FM Radio		9/14/17			500							Mike Fear discussed in 1 hour radio interview the City's Hurricane Irma update and stormwater preparations, info.
City Hall Three Floors Lobby area and Planning Dept	Fertilizer Fact Sheet	10/19/17	25					4				Elizabeth Wong
	Know Where Your Drinking Water Comes From		80									
	Flood Information 10 Topics Flyer			40								
Utilities Office	Fertilizer Fact Sheet	10/20/17	20					1				Elizabeth Wong
	Know Where Your Drinking Water Comes From		19									
	Flood Information 10 Topics Flyer			20								
International Coastal Cleanup	Fertilizer Fact Sheet	10/28/17	18		21	21					1	Mike Fear - • There were 21 volunteers. • We picked up along North Sumter Blvd, between Price Blvd & I-75 (2 miles). • Estimated 350lbs of debris.
	Know Where Your Drinking Water Comes From		18									
	Flood Information 10 Topics Flyer			18								
Newcommer Day brochures - for Edie Driest to distribute	Fertilizer Fact Sheet	11/4/17	30		30	30						Edie will hand out at Newcommers day on 11/4/17 at NP Library
	Know Where Your Drinking Water Comes From		30									
	Flood Information 10 Topics Flyer			30								
Newcomer Day - Public Works Customer Service handed out	Fertilizer Fact Sheet	11/3/17	42		35	42		1		1		Diane Martin & Michelle Ross attended.
	Know Where Your Drinking Water Comes From		37									
	Flood Information 10 Topics Flyer			35								
Newcomer Day	Fertilizer Fact Sheet	11/04/17	200		300	300		1		1	1	Michael Fear
	Know Where Your Drinking Water Comes		200									
	Flood Information 10 Topics Flyer and			200								
CHNEP Nature Festival	Fertilizer Fact Sheet	11/18/17	50		2000	2000		1			1	E. Wong, Erin Bryce, Anna Duffey
	Know Where Your Drinking Water Comes From		9									
	Flood Information 10 Topics Flyer and floodmap on easel			2								
Leadership North Port Tour	Drainage System Tips	1/12/18	20	20	20	20		1		1		Mike Fear
	Flood Information 10 Topics Flyer			20								
Newcomer Day - Public Works Customer Service	Drainage System Tips	2/3/18	200	300	300	200		1		1		Mike Fear
	Flood Information 10 Topics Flyer			150								
Public Works Road-eo	Fertilizer Fact Sheet	02/24/18	12		2200	2200		1			1	E. Wong
	Know Where Your Drinking Water Comes From		7									
	Flood Information 10 Topics Flyer and			23								
Gran Paradiso Coach Homes HOA Pres Vlad Basch	Flood Information 10 Topics Flyer	03/13/18		27	1							Met with HOA president and gave flyers to share with residents

Exhibit 8.8

Public Outreach Activities

Event	Brochure Type	Date of Event	Water Quality Protection Flyers	Flood Info. Flyers	No. of Participants (flood Related)	No. in Participants (WQ Related)	Neighborhood Presentation	Public Displays on Water Quality	School Presentation on Water Quality	Seminar/ Workshop on Water Quality	Special Event on Water Quality	City Staff
Florida Native Plant Society Mangrove Chapter	Fertilizer Fact Sheet	03/13/18	18			23				1		E. Wong did a presentation on Fertlizer Ordinance protection of water quality and LIDs
	Know Where Your Drinking Water Comes From		19									
West Villages Town Hall	Fertilizer Fact Sheet	03/15/18	50		400	400	1					Mike Fear
	Know Where Your Drinking Water Comes From		50									
	Flood Information 10 Topics Flyer			50								
Earth Night - Lamarque Elementary	Fertilizer Fact Sheet	03/22/18	50		75	75			1			Mike Fear
	Know Where Your Drinking Water Comes From		50									
	Flood Information 10 Topics Flyer			50								
Great American Cleanup	Fertilizer Fact Sheet	03/24/18			23	23					1	Mike Fear - 23 volunteers, 1000 lbs of garbage picked up, 2.4 miles of roadway, North Toledo Blade Boulevard
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer											
Peace River Engineering Society	Flood Information 10 Topics Flyer	04/10/18		7	12	12				1		E. Wong was speaker to Engineers on Flood maps, flood insurance and LIDs design
Oscar Scherer Park for the Earth Day celebration	Flood Information 10 Topics Flyer	04/21/18		200	200							Donna Bailey of Sarasota County distributed
Toledo Blade Elementary Spring Fling	Fertilizer Fact Sheet	05/10/18	50		400	400			1			Mike Fear
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer			50								
Atwater Elementary School Earth Day	Fertilizer Fact Sheet	05/11/18	22		200	200			1			Mike Fear, Elizabeth Wong, Jane Harry, Orrin Pucket, Anna Duffey
	Know Where Your Drinking Water Comes From		22									
	Flood Information 10 Topics Flyer			22								
July 4th Freedomw Festival	Fertilizer Fact Sheet	07/04/18	3		1200	1200					1	Dorothy St Pierre
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer			4								
City of North Port Summer kids camp	Fertilizer Fact Sheet	07/19/18	27		150	150			1			Mike Fear, Elizabeth Wong, David Jayroe, taught kids on flood protection and water quality protection
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer			25								
Canal Watch Group members + outreach	Fertilizer Fact Sheet	07/19/18	16		7	7			1			Elizabeth Wong, David Jayroe
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer			7								

Exhibit 8.8

Public Outreach Activities

Event	Brochure Type	Date of Event	Water Quality Protection Flyers	Flood Info. Flyers	No. of Participants (flood Related)	No. in Participants (WQ Related)	Neighborhood Presentation	Public Displays on Water Quality	School Presentation on Water Quality	Seminar/ Workshop on Water Quality	Special Event on Water Quality	City Staff
Water Control Structure No. 115 Ribbon Cutting Ceremony					55	55	1					Neighbors were invited to celebrate completion of new WCS 115. E. Wong discussed water quality and flood onveyance functions. City Commissioners, SWFWMD and City Staff were included. Mike Fear helped organzise
International Coastal Cleanup	Fertilizer Fact Sheet	09/15/18	30		100	100					1	Mike Fear, 2 streets, ~ 5 miles 1,485 lbs of garbage colleted
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer			30								
Canal Watch Group members + outreach + WTP tour	Know Where Your Drinking Water Comes From	10/25/218	80			10						David Jayroe, Elizabeth Wong, Anna Duffey, Corey B, Michael
CHNEP Nature Festival	Fertilizer Fact Sheet	11/17/18	5		1750	1750		1			1	David Jayroe, Christopher Whittaker, Josh Pelfrey
	Know Where Your Drinking Water Comes From											
	Flood Information 10 Topics Flyer			4								
Public Works Road-E-O	Fertilizer Fact Sheet	01/25/19	39		2400	2400						David Jayroe & E. Wong
	Fertilizer Resolution Sheet		91									
	Know Where Your Drinking Water Comes From		49									
	Flood Information 10 Topics Flyer and floodmap on easel			1								
Clean up of Myakkahatchee Canal using kayaks		02/23/19			6	6					1	Allain Hale Nancy Granum, Jill Luke and brother Rod, E. Wong and D. Jayroe. Clear floating trash on Myakkahatchee Canal between Price Blvd and Appomattox. About 150 pounds.
Flood Reduction Study Public Outreach Meeting	Fertilizer Fact Sheet	02/13/19	50		47							Mike Fear, E. Wong, J Bellia
	Know Where Your Drinking Water Comes From		29									
	Flood Information 10 Topics Flyer and floodmap on easel			46								
Total			**1767**	**1381**	**12432**	**11624**	**2**	**12**	**5**	**6**	**9**	

Yellow cells include discussion of flood information

Exhibit 8.9

NPFR

Summary of Public Attendance

EM Emergency Management Presentation

Date	Time	Description	Location	Hrs	Stn	Public Attendance #Adults	Public Attendance #Children
12/19/2017	09:00:00	Emergency Management Presentation	Riverwalk hurricane presentation.	1.50	HQ	20	0
03/23/2018	11:00:00	Emergency Management Presentation	Holiday Park hurricane presentation	2.00	HQ	50	0
04/19/2018	18:00:00	Emergency Management Presentation	Jockey Club hurricane presentation.	1.25	HQ	30	0
05/07/2018	18:30:00	Emergency Management Presentation	Shannob Staub Library hurricane presentation.	1.50	HQ	2	0
05/09/2018	13:00:00	Emergency Management Presentation	Cypress Falls hurricane presentation.	2.00	HQ	25	0
05/09/2018	16:30:00	Emergency Management Presentation	NP CHAT hurricane presentation.	1.00	HQ	10	0
05/22/2018	07:30:00	Emergency Management Presentation	NorthPort Business Club hurricane presentation.	1.00	HQ	12	0
05/24/2018	10:00:00	Emergency Management Presentation	Islandwalk hurricane presentation	1.50	HQ	100	0

Exhibit 8.9

NPFR

Summary of Public Attendance

05/31/2018 18:00:00	Emergency Management Presentation	Grand Court Apts. hurricane presentation.	1.00 HQ	15	0
06/05/2018 17:30:00	Emergency Management Presentation	Talon Bay hurricane presentation.	1.50 HQ	24	0
06/06/2018 07:30:00	Emergency Management Presentation	NP Chamber of Commerce hurricane presentation	1.00 HQ	50	0
06/07/2018 12:00:00	Emergency Management Presentation	National Association of Retired Federal Employees hurricane presentation.	1.00 HQ	35	0
06/08/2018 13:00:00	Emergency Management Presentation	North Port Senior Center hurricane presentation.	1.50 HQ	10	0
06/27/2018 10:00:00	Emergency Management Presentation	Gran Paradiso hurricane presentation.	2.00 HQ	30	0
06/27/2018 18:00:00	Emergency Management Presentation	Woodhaven Villas hurricane presentation.	1.50 HQ	15	0
08/01/2018 18:30:00	Emergency Management Presentation	NP Neighborhood Watch hurricane presentation.	1.50 HQ	20	0
		Sub-Total for Activity Code EM		**448**	**0**

Exhibit 8.9

	Adults	Children
Total Public Attendance	448	0

Exhibit 8.10

News, Newsletters, Social Media Public Outreach

Date	Description	No. of Distribution	Water Quality	Flood Related
1/11/18	New pervious concrete installed by the NP Library on Facebook	6,457		6,457
3/15/18	Facebook Posting of Annual Household Hazardous Waste Collection	1,505	1,505	
3/20/18	Flood Zone Workshops North Port Sun Newspaper	4,192		4,192
4/28/18 to 5/5/18	For flood awareness Week, North Port Facebook and Twitter messages on 8 Topics related Flood Protection, one topic per day	16,000		16,000
8/30/18	North Port Environmental Board Kicks Off Sun Newpaper Article	4,192	4,192	
9/10/18	Facebook Posting - Recyle Plastic Bags	9,911	9,911	
10/23/18	News Release City encouraging the voluntary non-use 10-23-18	11,000	11,000	
10/24/18	Utlity Bill Message encouraging Fertilizer non-use	22,000	22,000	
11/1/18	Herald Tribune Newspaper Article 11-1-18 Local officials unite in fight against red tide	2,106	2,106	
12/18/18	We are more than Garbage Man Christmas Video Sun Newspaper Article	4,192	4,192	
Holiday 2018	North RePort Newsletter to all Every Home in North Port with Flood Protection	30,000		30,000
2018	Disaster Planning Guide	1,000		1,000
Total 2018		**142,555**	**54,906**	**87,649**
No. of Articles in Newspaper and Newsletters on Water Quality			**7**	**5**
No. of Newspaper and Newsletters on Water Quality Distributed			**54,906**	**57,649**
No. of Newspaper and Newsletters Related to Solid Waste			**3**	
No. of Newspaper and Newsletters Related to Solid Waste Distributed			**15,608**	

Television and Youtube Videos Outreach

Date	Description	Water Quality Related Info.	Flood Related
1/12/18	NBC and WBBH news "North Port introducing new material to help with flooding"		x
10/17/18	ABC News on Canal Neighborhood Watch and water quality protection	x	x
12/18/18	We are more than Garbage Man Christmas Video	x	
Total 2018		**2**	**2**

Exhibit 8.11

July 7, 2017

Richard Berman
Emergency Management Administrator
City of North Port Fire Rescue
4980 City Center Blvd
North Port, FL 34286

Dear Rich,

Congratulations on the successful *StormReady* application for North Port. The recognition is valid until July 8, 2020 at which time the City will have the opportunity to renew. Your efforts, and those of your team, will better prepare North Port to protect life and property from the onslaught of hazardous weather through better planning, education, and awareness. No community is storm proof, but *StormReady* can help save lives.

Sincerely,

Daniel Noah

Daniel Noah
Warning Coordination Meteorologist
National Weather Service – Tampa Bay Area
(813) 645-2323

Cc: *StormReady* Advisory Board

StormReady
NATIONAL WEATHER SERVICE

The West Central and Southwest Florida Storm Ready
Advisory Board has Recognized

North Port

as a

STORM READY COMMUNITY

until July 8, 2020

NATIONAL WEATHER SERVICE

Daniel Noah

Daniel Noah, Warning Coordination Meteorologist

National Weather Service, Ruskin, FL