



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 (<http://www.dep.state.fl.us/water/stormwater/npdes/contacts.htm>). Files larger than 10MB may be placed on the FTP site at: ftp://ftp.dep.state.fl.us/pub/NPDES_Stormwater/. After uploading files, email the MS4 coordinator or NPDES Program Administrator to notify them the report is ready for downloading; or by mail to the address in the box at right.
- Refer to the Form Instructions for guidance on completing each section.
- **Please print or type information in the appropriate areas below.**

Submit the form and attachments to:
 Florida Department of Environmental Protection
 Mail Station 3585
 2600 Blair Stone Road
 Tallahassee, Florida 32399-2400

SECTION I. BACKGROUND INFORMATION

A.	Permittee Name: City of Boca Raton		
B.	Permit Name: Palm Beach County MS4		
C.	Permit Number: FLS000018-004		
D.	Annual Report Year: <input type="checkbox"/> Year 1 <input type="checkbox"/> Year 2 <input checked="" type="checkbox"/> Year 3 <input type="checkbox"/> Year 4 <input type="checkbox"/> Year 5 <input type="checkbox"/> Other, specify Year:		
E.	Reporting Time Period (month/year): October / 2018 through September / 2019		
F.	Name of the Responsible Authority: Maurice Morel, PE		
	Title: City Civil Engineer		
	Mailing Address: 201 West Palmetto Park Road		
	City: Boca Raton	Zip Code: 33432	County: Palm Beach
	Telephone Number: 561-416-3425		Fax Number: 561-416-3343
	E-mail Address: MMorel@ci.boca-raton.fl.us		
G.	Name of the Designated Stormwater Management Program Contact (if different from Section I.F above): N/A		
	Title: N/A		
	Department: N/A		
	Mailing Address: N/A		
	City: N/A	Zip Code: N/A	County: N/A
	Telephone Number: N/A		Fax Number: N/A
E-mail Address: N/A			

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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable)
C.	Is the change in the total number of outfalls due to lands annexed or vacated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable

SECTION III. PART V.B. ASSESSMENT PROGRAM

A.	<p>Provide a brief statement as to the status of water quality monitoring plan implementation. Status may include sampling frequency changes, monitoring location changes, or sampling waiver conditions. <u>DEP Note:</u> <i>If permittee participates in a collaborative monitoring plan, permittee may refer to a joint response as defined by the interlocal agreement.</i></p> <p>Name and date of the approved plan: 5/15/2018 (via email) Status: The monitoring program is carried out jointly by the PBC Co-permittees. See the PBC Joint Annual Report. The information relevant to the City's outfalls is addressed within the Annual Assessment Report document, provided herewith.</p>
B.	<p>Provide a brief discussion of the monitoring and loading results to date which includes a summary of the water quality monitoring data and / or stormwater pollutant loading changes from the reporting year. <u>DEP Note:</u> <i>Results must be specific to the permittee's SWMP.</i></p> <p>The information relevant to the City's outfalls is addressed within the Annual Assessment Report document, provided herewith.</p>
C.	<p>Attach a monitoring data summary as required by the permit. An analysis of the data discussing changes in water quality and/or stormwater pollutant loading from previous reporting years. <u>DEP Note:</u> <i>Analysis must be specific to the permittee's SWMP.</i></p> <p>See provided Annual Assessment Report.</p>

SECTION IV. FISCAL ANALYSIS

A.	Total expenditures for the NPDES stormwater management program for the current reporting year: \$ 3,395,893
B.	Total budget for the NPDES stormwater management program for the subsequent reporting year: \$ 5,289,000
C.	<p>Did subsequent program resources decrease from the current reporting period? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/></p> <p>If program resources decreased, provide a discussion of the impacts on the implementation of the SWMP.</p> <p>n/a</p>

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	Required Attachments	Permit Citation	Attachment Number/Title
<input checked="" type="checkbox"/>	<input type="checkbox"/>	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.	Part III.A	Updated SOP(s)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If program resources have decreased from the previous year, a discussion of the impacts on the implementation of the SWMP.	Part II.F	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	An explanation of why the minimum inspection frequency in Table II.A.1.a. was not met, if applicable.	Part II.A.1	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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).	Part III.A.4	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A monitoring data summary as directed in Section III.C above and in accordance with Rule 62-624.600(2)(c), F.A.C.	Part V.B.3	See Joint Annual Report & City's Annual Assessment Report
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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.	Part III.A.1	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 2: A summary review of codes and regulations to reduce the stormwater impact from development.	Part III.A.2	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	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.	Part V.A	See Joint Annual Report & City's Annual Assessment Report
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 3: Summary of TMDL Monitoring Results (if applicable).	Part VIII.B.2	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 3: Bacteria Pollution Control Plan (if applicable).	Part VIII.B.3	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 4: A follow-up report on plan implementation of changes to codes and regulations to reduce the stormwater impact from development.	Part III.A.2	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 4: A report on any amendments to the applicable legal authority (if applicable).	Part III.A.7.a	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 4: Permit re-application information in accordance with Rule 62-624.420(2), F.A.C. <ul style="list-style-type: none"> The monitoring plan (with revisions, if applicable). If the total annual pollutant loadings have not decreased over the past two permit cycles, revisions to the SWMP, as appropriate. 	Part V.B.3 Part V.A.3	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	YEAR 4: TMDL Supplemental SWMP (if applicable).	Part VIII.B.3	

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): Maurice Morel, PE

Title: City Civil Engineer

Signature: maurice morel Date: 4 / 30 / 2020

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	Documentati on / Record	Entity Performing the Activity	Comments	
Part III.A.1	Structural Controls and Stormwater Collection Systems Operation									
	Report the current known inventory.									
	Report the number of inspection and maintenance activities conducted for each applicable 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.									
	<i>Note: Delete structures that are not in your MS4's inventory. 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.</i>									
	Type of Structure	Number of Structures	Number of Inspections	Percent Inspected	Number of Maintenance Activities	Percent Maintained				
	Dry retention systems	3	32	100	0	0	Work Orders/ Inspection Forms	Streets Supervisor	Systems mowed, but no restoration done	
	Underdrain filter systems	0								
	Exfiltration trench / French drains (miles)	3.33	0	0	0	0	Work Orders/ Inspection Forms	Streets Supervisor	All trench inspected in fall 2017; will be inspected again in 2020	
	Grass treatment swales (miles)	18*	77	100	0	0	Work Orders	Streets Supervisor	*Swales are still being re- inventoried and evaluated for those that provide treatment.	
	Dry detention systems	1	11	100	0	0	Work Orders/ Inspection Forms	Streets Supervisor	Systems mowed, but no restoration done	
	Wet detention systems	6	78	100	0	0	Work Order Forms	Streets Supervisor	Banks mowed, but no restoration done	
	Detention with filtration systems	0								
	Alum Injection systems	0								
	Pollution control boxes	0								

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		Documentati on / Record	Entity Performing the Activity	Comments
	Pump Stations	1	2	100	0	0	Insp. Forms	Engineering Insp	Texas Trail
	Major outfalls	16	142	100	0	0	Work Order Forms	Streets Supervisor	
	Weirs or other control structures	13	13	100	0	0	Insp. Forms	Engineering Insp	
	pipes / culverts (miles)	29	11.9	41%	1.06	4	Work Orders/ Inspection Forms	Streets Supervisor	
	Canals (miles)	2.4	12	100	0	0	Work Orders/ Inspection Forms	Streets Supervisor	
	Inlets / catch basins / grates	3,149	1278	41%	827	26%	Inspection Forms	Streets Supervisor	
	Ditches / conveyance swales (miles)	0							
	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.				<input type="checkbox"/>				

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	Documentati on / Record	Entity Performing the Activity	Comments
Part III.A.1 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Insp. and maint. of structural components of the MS4 enhance water quality and flood protection. The inspections also identify drainage areas that are problematic and that may require additional programs.				
	Limitations: The mandate to meet the specified minimum number of inspections may not be appropriate for all components within a system. This leads to wasted time and resources that could be better spent elsewhere.				
	SWMP revisions implemented to address limitations: None.				
Part III.A.2	Areas of New Development and Significant Redevelopment				
	Report the number of significant development projects, including new and redevelopment, reviewed and approved by the permittee for post-development stormwater considerations.				
	Number of significant development projects reviewed	42	N: DEVELOPME NT SERVICES\La nd Development\ PWR\2019	Engineering	
	Number of significant development projects approved	42	N:\DEVELOP MENT SERVICES\La nd Development\ PWR\2019\A byss\Common \Land Development\ PWR\2019	Engineering	
	Provide in the Year 2 Annual Report the summary report of the review activity. Provide in the Year 4 Annual Report the follow-up report on plan implementation.				
	Year 2 ONLY: Attach the summary report of the review activity	<input type="checkbox"/>			N/A this year
Year 4 ONLY: Attach the follow-up report on plan implementation	<input type="checkbox"/>			N/A this year	
Part III.A.2 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: The review of Land Development Regulations to ensure they are as relevant as they should be is beneficial.				
	Limitations: Annual tracking and reporting of the number of projects reviewed does not improve water quality.				
	SWMP revisions implemented to address limitations: None.				
Part III.A.3	Roadways				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentati on / Record	Entity Performing the Activity	Comments
	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. <i>Note: If the permittee does not contract activities, delete CONTRACTOR activities.</i>				
	PERMITTEE Litter Control: Frequency of litter collection	None			Majority of swales maintained by adjacent property owner (City code 10-27). For swales mowed & maintained by City, litter is collected during mowing and is a negligible amount.
	PERMITTEE Litter Control: Estimated amount of area maintained (lf)	0			
	PERMITTEE Litter Control: Estimated amount of litter collected (cy)	0			
	OPTIONAL: 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. If you do not participate in an Adopt-A-Road program, report "0".				
	Trash Pick-up Events: Total miles cleaned	0			City does not participate in these events
	Trash Pick-up Events: Estimated amount of litter collected (cy)	0			
	Adopt-A-Road: Total miles cleaned	0			City does not have this program
	Adopt-A-Road: Estimated amount of litter collected (cy)	0			
	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 and total phosphorus loadings that were removed by the collection of sweepings. If no street sweeping program is implemented, provide the explanation of why not in column F.				
	Frequency of street sweeping	Weekly	Naviline Work Order System	Supervisor of Streets	
	Total miles swept	432	Naviline Work Order System	Supervisor of Streets	
	Estimated quantity of sweeping material collected (cy)	512	Naviline Work Order System	Supervisor of Streets	
	Total phosphorous loadings removed (pounds)	424	Hard & e-copy of Spreadsheets	Stormwater Manager	Calculated using FDEP Nutrient Load Reduction Assessment Tool
	Total nitrogen loadings removed (pounds)	661	Hard & e-copy of spreadsheets	Stormwater Manager	
	Report the equipment yards and maintenances shops that support road maintenance activities, and the number of inspections conducted for each facility.				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentati on / Record	Entity Performing the Activity	Comments
	Name of Facility	Number of Inspections			
	Municipal Services Complex	12	Safety Inspection Reports	Risk Management Safety Officer	
	Municipal Services Complex	10	Yard Inspection Reports	Supervisor of Streets/Munici pal Services	
Part III.A.3 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: The street sweeping program definitely removes potential pollutants from receiving waters.				
	Limitations: None noted.				
	SWMP revisions implemented to address limitations: None.				
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.				
	Flood control projects completed during the reporting period	0	N/A	N/A	
	Flood control projects completed that did <u>not</u> include stormwater treatment	0	N/A	N/A	
	Stormwater retrofit projects planned/under construction	9	Q:\ENGINEER ING\CIP DESIGN - ROW2017-18 CIP	Engineering	
	Stormwater retrofit projects completed	2	NW 2 nd Ave Drainage Plan; SW 7 th St and SW 3 rd Drainage Plan	Engineering	
	If there were projects that did not include stormwater treatment, provide as an attachment a list of the projects and an explanation for each of why it did not.	<input type="checkbox"/>			N/A
Part III.A.4 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: None.				
	Limitations: This tracking requirement is unhelpful in improving water quality. Permitting with the SFWMD requires the inclusion of water quality features whenever possible/feasible for a project.				
	SWMP revisions implemented to address limitations: None at this time.				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentati on / Record	Entity Performing the Activity	Comments
Part III.A.5	Municipal Waste Treatment, Storage, and Disposal Facilities Not Covered by an NPDES Stormwater Permit				
	Report the applicable facilities and the number of the inspections conducted for each facility.				
	Name of Facility	Number of Inspections			
	Municipal Services Complex Washrack	11	Inspection Forms	Supervisor of Streets	washrack is inspected during cleaning
Part III.A.5 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Good housekeeping practices decrease the chance of unwanted pollutant discharges into the MS4.				
	Limitations: None.				
	SWMP revisions implemented to address limitations: None.				
Part III.A.6	Pesticides, Herbicides, and Fertilizer Application				
	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 who have been trained through the Green Industry BMP Program and the number of contracted commercial applicators of fertilizer who are FDACS certified / licensed.				
	PERSONNEL: FDACS public applicators of pesticides/herbicides	24	Personnel Records	Muni Services & Rec Services	
	CONTRACTORS: FDACS commercial applicators of pesticides/ herbicides	2	Contracts	Muni Services & Rec Services	
	PERSONNEL: Green Industry BMP Program training completed	70	Attendance Records	Rec Services	
	CONTRACTORS: FDACS certified / licensed applicators of fertilizer	1	Contracts	Rec Services	
	Provide a copy of the adopted ordinance with the Year 2 Annual Report. If this provision is not applicable because the permittee is not within the watershed of a nutrient-impaired water body, indicate that in Column F.				
	Year 2 ONLY: Attach copy of adopted Florida-friendly ordinance	<input type="checkbox"/>			N/A
	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, and the number of Web site visits (if applicable).				
	Public outreach and education is funded and carried out as a joint program by the Palm Beach County MS4 co-permittees. Please see the Joint Annual Report for a description of the public education and outreach activities.				
	Number of visitors to Best Landscape Practices page	108	web stats report	IT Network Analyst	page on City website

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Part III.A.6 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: Training and education improve the chance that proper procedures and application of chemicals will occur. Local training for municipal staff and the state requirements that licensed contractors be certified should prove beneficial.				
	Limitations: Public Education on this topic should be state-wide, not just local.				
	SWMP revisions implemented to address limitations: None at this time.				
Part III.A.7.a	Illicit Discharges and Improper Disposal — Inspections, Ordinances, and Enforcement Measures				
	Report amendments in Year 4.				
	Year 4 ONLY: Attach a report on amendments to applicable legal authority	<input type="checkbox"/>			N/A this year
Part III.A.7.c	Illicit Discharges and Improper Disposal — Investigation of Suspected Illicit Discharges and/or Improper Disposal				
	Report on the proactive inspection program, including the number of inspections conducted by the permittee, the number of illicit activities found, and the number and type of enforcement actions taken.				
	Proactive inspections for suspected illicit discharges	487	Inspection Reports & Logs	Supervisor of Streets	
	Illicit discharges found during a proactive inspection	0	Inspection Reports	Supervisor of Streets	
	NOV/WL/citation/fines issued for illicit discharges found during proactive inspection	0	Code Enforcement HTE System	Code Enforcement	
	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.				
	Reports of suspected illicit discharges received	0	N/A	Engineering	
	Reactive investigations of reports of suspected illicit discharges etc.	0	N/A	Engineering	
	Illicit discharges etc. found during reactive investigation	0	N/A	Engineering	
	NOV/WL/citation/fines issued for illicit discharges etc. found during reactive investigation	0	N/A	Code Enforcement	
	Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training) within the reporting year.				
	Personnel trained	8	Sign-In Sheets	PBC MS4 Group	3/20/2019 P Robinson, D Placide, J Ahern, E Tellez, P Baker, A Bigatao, JRamkhalawan M Morel

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentati on / Record	Entity Performing the Activity	Comments
	Contractors trained				No Contractors used by City
Part III.A.7.d	Illicit Discharges and Improper Disposal — Spill Prevention and Response				
	Report on the spill prevention and response activities, including the number of spills addressed.				
	Hazardous and non-hazardous material spills responded to	111	NFIRS Fire Reports	City Fire Rescue Services	
	Report the type of training activities, and the number of permittee personnel and contractors trained (both in-house and outside training) within the reporting year.				
	Personnel trained	8	Sign-In Sheets	PBC MS4 Group	3/20/2019 P Robinson, D Placide, J Ahern, E Tellez, P Baker, A Bigatao, JRamkhalawan M Morel
	Personnel trained	112	Dept Records & class certifications	Training & Safety Division Chief	All staff receive annual training
	Contractors trained				No contractors used
Part III.A.7.e	Illicit Discharges and Improper Disposal — Public Reporting				
	Report on the public education and outreach activities that are performed or sponsored 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, and the number of Web site visits (if applicable).				
	Public outreach and education is funded and carried out as a joint program by the Palm Beach County MS4 co-permittees. Please see the Joint Annual Report for a description of the public education and outreach activities.				
	Number of visitors to stormwater-related pages	1,092	web stats report	IT Network Analyst	Stormwater pages on City website

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentati on / Record	Entity Performing the Activity	Comments
Part III.A.7.f	Illicit Discharges and Improper Disposal — Oils, Toxics, and Household Hazardous Waste Control				
	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, and the number of Web site visits (if applicable).				
		Public outreach and education is funded and carried out as a joint program by the Palm Beach County MS4 co-permittees. Please see the Joint Annual Report for a description of the public education and outreach activities.			
	Number of visitors to HHW-related pages	2,032	web stats report	IT Network Analyst	HHHW pages on City website
Part III.A.7.g	Illicit Discharges and Improper Disposal — Limitation of Sanitary Sewer Seepage				
	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. Report only the SSOs and inflow / infiltration incidents into the MS4.				
	Owner of the sanitary sewer system	City of Boca Raton			
	Activity to reduce/eliminate SSOs and I&I: (repair/lining of SS pipe, LF)	23,300	Utility Services records Asset Management Program	Utility Services	On-going lining projects & add'l 10,000 LF pipe televised
	Activity to reduce/eliminate SSOs and I&I: (repair/lining of SS manholes, #)	300	Utility Services records Asset Management Program	Utility Services	(277 lined/23 repaired) Ongoing MH lining projects
	Activity to reduce/eliminate SSOs and I&I: (septic systems removed, #)	0	Utility Services records CIP Program	Utility Services	Very few remain
	Activity to reduce/eliminate SSOs and I&I: (emergency generators added, #)	2	Utility Services records Emergency Response Plan	Utility Services	2 new + 4 replacements Total of 73 EGs
	Activity to reduce/eliminate SSOs and I&I: (Training)	1	Utility Services records Training Records	Utility Services	Annual SSO Training on Response Plan Updated SOP 2019

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentati on / Record	Entity Performing the Activity	Comments	
	SSO incidents discovered	2	Utility Services records	Utility Services	SWP, DOH, & FDEP notifications	
	SSO incidents resolved	2	Utility Services records	Utility Services	SWP, DOH, & FDEP notifications	
	Inflow / infiltration incidents discovered	0	N/A	Engineering		
	Inflow / infiltration incidents resolved	0	N/A	Engineering		
Part III.A.7 Summary	For activities required by Part III.A.7: Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.					
	Strengths: Training and education improve the chance that illicit discharges and illegal dumping will be reported. Local training for municipal staff is beneficial.					
	Limitations: Public education would be more effective with a wider (national or state-wide), more commercial message.					
	SWMP Revisions implemented to address limitations: None.					
Part III.A.8.a	Industrial and High-Risk Runoff — Identification of Priorities and Procedures for Inspections					
	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.					
	Report on the high-risk facilities inspection program, including the number of inspections conducted and the number and type of enforcement actions taken.					
	Type of Facility	Number of Facilities	Number of Inspections	Enforcement Actions		
	Operating municipal landfills	0	0	0		City has none
	Hazardous waste treatment, storage, disposal and recovery (HWTSDR) facilities	30	0	0	High Risk Facilities GIS, Inspection log & photos	City SW Consultant (Mock•Roos)
	EPCRA Title III, Section 313 facilities (TRI)	0			High Risk Facilities GIS & Inspection Reports	City SW Consultant (Mock•Roos)
Facilities determined as high risk by the permittee	0				City SW Consultant (Mock•Roos)	
Part III.A.8.b	Industrial and High-Risk Runoff — Monitoring for High Risk Industries					
	Report the number of high risk facilities sampled.					
	High risk facilities sampled	0			Not needed	

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	Documentati on / Record	Entity Performing the Activity	Comments
Part III.A.8 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.				
	Strengths: None. This SWMP element is repetitive to the IDDE program and provides no additional benefit to Water Quality.				
	Limitations: Program is redundant to the proactive illicit inspection program. The two programs need to be combined for increased effectiveness.				
	SWMP revisions implemented to address limitations: None.				
Part III.A.9.a	Construction Site Runoff — Site Planning and Non-Structural and Structural Best Management Practices				
	Report the number of permittee and private pre-construction site plans reviewed for stormwater, erosion, and sedimentation controls, and the number approved.				
	PERMITTEE SITES: Construction site plans reviewed	21	Public Works Review Agenda	Engineering	
	PERMITTEE SITES: Construction site plans approved	21	Public Works Review Agenda	Engineering	
	PRIVATE SITES: Construction site plans reviewed	42	Public Works Review Agenda	Engineering	
	PRIVATE SITES: Construction site plans approved	42	Public Works Review Agenda	Engineering	
	Report the number of development permit applicants notified of the ERP and CGP, and the number of applicants who confirmed ERP and CGP coverage.				
	Notified of ERP stormwater permit requirements	42	Permit Files	Engineering	
	Confirmed ERP coverage	42	Permit Files	Engineering	
	Notified of CGP stormwater permit requirements	42	Permit Files	Engineering	
	Confirmed CGP coverage	42	Permit Files	Engineering	
Part III.A.9.b	Construction Site Runoff — Inspection and Enforcement				
	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.				
	PERMITTEE SITES: Active construction sites	21	Inspection Reports	Engineering Inspectors	ALL projects less than 1 acre. None of the projects included soil disturbance in excess of 8 hours & pollution prevention practices were in place.
	PERMITTEE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs	0	Inspection Reports	Engineering Inspectors	
	PERMITTEE SITES: Percentage of active construction sites inspected	0	calculation	Chief Constr. Insp., Muni Services	

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	Documentati on / Record	Entity Performing the Activity	Comments
	PRIVATE SITES: Active construction sites		37	Inspection Reports	Engineering Inspectors	
	PRIVATE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs		48	Inspection Reports	Engineering Inspectors	
	PRIVATE SITES: Percentage of active construction sites inspected		100	calculation	Chief Constr. Insp., Muni Services	
	Enforcement Action		0	Dept. Records	Code Enforcement	
Part III.A.9.c	Construction Site Runoff — Site Operator Training					
	Report the type of training activities, the number of inspectors, site plan reviewers and site operators trained (both in-house and outside training).					
		DEP Certification	Annual Training			
	Permittee construction site inspectors	1	3	Certifications/ Sign-In Sheets	FDEP Certified Training Class	
	Permittee construction site plan reviewers		0	Sign-In Sheets	Municipal Services	City SPR already certified
	Permittee construction site operators		0	Sign-In Sheets	Municipal Services	
Part III.A.9 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.2 of the permit.					
	Strengths: The program for inspecting sites that discharge to the MS4 is beneficial. The state's training program is beneficial. The inclusion of personnel from site plan reviewers, to operators, to inspectors is beneficial.					
	Limitations: None noted at this time.					
	SWMP revisions implemented to address limitations: None.					

SECTION VIII. 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.
		None.
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)
		None.

SECTION IX. TMDL Status Report

A.	YEAR 1 Provide a table summarizing the status of the TMDL process. Include a list of prioritized TMDLs and their monitoring and implementation schedule; and include the Identification number of the outfall prioritized for TMDL monitoring.								
	WBID Number	Segment/ Waterbody/ Basin	Pollutant of Concern	TMDL DEP / EPA	Percent Reduction (WLA)	Priority Rank	Priority Outfall	Monitoring Summary / BPCP Due Date	Supplemental SWMP Due Date
	NONE			<input type="checkbox"/> / <input type="checkbox"/>		1		(Year 3 AR)	(Year 4 AR; N/A if BPCP)
B.	YEAR 3 and annually thereafter, provide a summary of the estimated load reductions that have occurred for the pollutant(s) of concern being discharged from the MS4 to the TMDL water body during the reporting period and cumulatively since the date the Supplemental SWMP was implemented. Year 3: Submit a Monitoring data summary or BPCP (if applicable). Year 4: Submit a Supplemental SWMP (if applicable).								
	WBID Number	Pollutant of Concern	Monitoring Summary / BPCP Submitted	Supplemental SWMP Submitted	Projected load reductions OR Actual load reductions to date				
	NONE		(Year 3 AR)	(Year 4 AR; N/A if BPCP)					
C.	Provide a brief statement as to the status of TMDL implementation according to Part VIII.B of the permit (e.g. status of monitoring to validate WLA): The City does not discharge to any water body with an FDEP adopted TMDL.								



City of Boca Raton

NPDES MS4 Discharge Permit

SWMP Assessment Program Annual Report – 2018/2019 (Permit Cycle 4, Year 3)

Prepared: December 2019

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Status of Water Quality Monitoring Plan

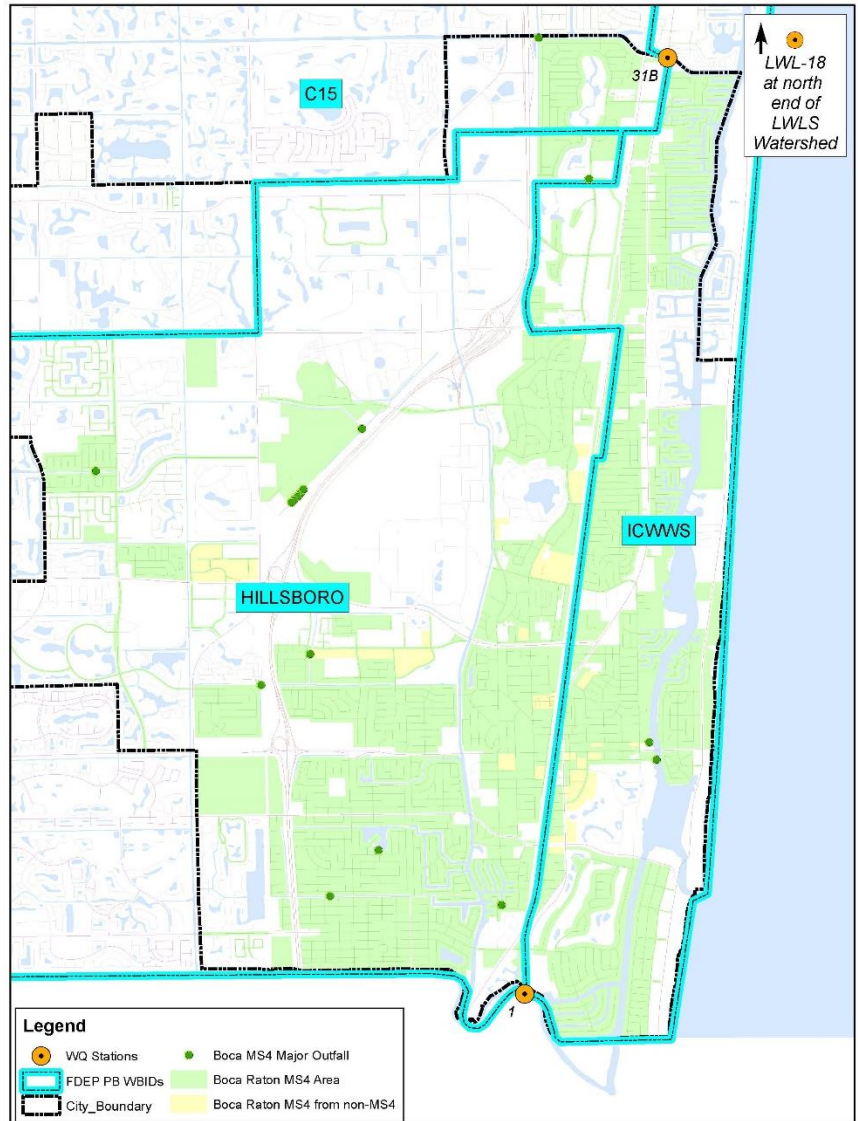
As noted in the approved Assessment Plan, the water quality data being used for the assessment is sourced from the Palm Beach County ambient water quality program, which includes reporting of water quality data from Broward County on the Hillsboro Canal.

Discussion of Assessment Program Results

Summary of WQ monitoring data

The City of Boca Raton’s MS4, and its associated contributing area, lie within three watersheds: the Hillsboro, the Intracoastal Waterway South (ICWWS – f/k/a Lake Worth Lagoon South (LWLS)), and the C-15. The MS4 has at least one major MS4 outfall to each of these watersheds.

The water quality monitoring stations are the C15S40/31B (C-15 Canal), the LWL-18 (Intracoastal Waterway South), and 1 (Hillsboro Canal).



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C-15 Canal

Station 31B in the C-15 Canal is the water quality station closest to the discharge from the City's MS4. The water quality results for the period October 1, 2014 through September 30, 2019, for Station 31B were graphed and are provided in Appendix A. In summary, the water quality trends for Site 31B are as follows:

Parameter	Trend	Comment
Chlorophyll-a	Downward	Site 31B has trended below exceedance level. The Annual Geometric Mean has been below the 20 µg/L criteria since 2016.
Copper, Dissolved	Downward	Measured values below calculated limit.
Nitrate + Nitrite	Flat	
Nitrogen, Total Kjeldahl	Downward	
Nitrogen, Total	Downward	
Oxygen, Dissolved	Upward	Site 31B has no recorded insufficiency.
pH	Flat, to slightly upward	Trend is nearing upper limit of range.
Phosphorus, Total	Downward	
Suspended Solids, Total	Downward	
Turbidity	Downward	No exceedance recorded at Site 31B.
Zinc, Dissolved	Flat	No exceedance recorded at Site 31B.

In general, the water quality sampling results for this monitoring location indicate improved water quality over time.

Intracoastal Waterway South

Site LWL-18 is located in the Intracoastal Waterway South (ICWWS), south of the discharge from the C-16 Canal in Boynton Beach and represents the southern extents of the ICWW system within Palm Beach County. (This site was previously referred to as Lake Worth Lagoon South, or LWL-S.) This site is the closest existing ambient water quality station to the City's discharge into the ICWW. The water quality measured at the station may be more reflective of the discharge from the C-16 and C-15 Canals than of the direct discharge from the City. However, it is reflective of the quality of the water into which the City discharges.

The water quality results for the period October 1, 2014 through September 30, 2019, for Site LWL-18 were graphed and are provided in Appendix A. In summary, the water quality trends are as follows:

Parameter	Trend	Comment
Chlorophyll-a	Upward	
Nitrate + Nitrite	Downward	
Nitrogen, Total Kjeldahl	Upward	No limit for this parameter in marine waters.
Nitrogen, Total	Upward	Annual Geometric Mean has remained below WQ limit.
Oxygen, Dissolved	Downward	Site LWL-18 has no recorded insufficiency.
pH	Upward	Values remain within acceptable WQ range
Phosphorus, Total	Upward	Annual Geometric Mean has remained below WQ limit.
Suspended Solids, Total	Upward	No limit for this parameter in marine waters.
Turbidity	Flat	No exceedance recorded.

In general, the water quality data trends for the LWL-18 monitoring station in the Intracoastal Waterway are not showing an indication of water quality improvement; but neither are they indicating a problem.

Hillsboro Canal

Station 1 in the Hillsboro Canal is the water quality station most closely located to the discharge from the City’s MS4. However, it is also influenced by all the contributions made upstream of the City’s MS4. The station is also downstream of the Hillsboro Canal’s control structure and subject to tide.

The water quality results for the period October 1, 2014 through September 30, 2019, for Site 1 were graphed and are provided in Appendix A. In summary, the water quality trends for Station 1 are as follows:

Parameter	Trend	Exceedance of State WQ Standard(s)
Chlorophyll-a	Upward	The Annual Geometric Mean values for Site B-1 have not exceeded the WQ limit.
Nitrate + Nitrite	Downward	
Nitrogen, Total Kjeldahl	Downward	
Nitrogen, Total	Upward	Narrative criteria
Oxygen, Dissolved	Downward	Site B-1 has no recorded insufficiency.
pH	Flat	
Phosphorus, Total	Upward	Narrative criteria
Turbidity	Flat to slightly upward	No exceedance recorded.

The monitoring station number 1 in the Hillsboro Canal has produced mixed results in water quality parameter data trends, and in general is inconclusive regarding the improvement of the stormwater runoff quality.

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Summary of Pollutant Loading Estimates

Estimated pollutant loading information was sourced from the Palm Beach County county-wide pollutant loading effort conducted during Year 3 of this permit cycle.

While the total municipal area for the City of Boca Raton is 19,228 acres, the total contributing area to Boca Raton’s MS4 is just +/- 4,250 acres, with an additional 2,475 acres with no surface water connection. There are three watersheds that receive discharges from the City’s MS4: C-15 Basin, Intracoastal Waterway (Lake Worth Lagoon South or LWLS), and the Hillsboro Basin. The respective contributing areas discharged to each watershed are:

C-15 Basin

Total contributing land area: 38,400 acres

Area contributing from Boca Raton MS4 area: 357 acres +/- 39 acres that have no surface water connection (less than 1% of the contributing area to this receiving water body)

ICWW-S Basin

Total contributing land area: 9,750 acres

Area contributing from Boca Raton MS4 area: 1,231 acres (+/- 1,060 acres have no surface water connection (12.6% of the contributing area to this receiving water body)

Hillsboro Basin

Total contributing land area: 40,000 acres

Area contributing from Boca Raton MS4 area: 2,663 acres (+/- 1,377 acres have no surface water connection (6.7% of the contributing area to this receiving water body)

The pollutant loading estimate analyses performed indicated the following load estimates (all in lbs/year):

C-15	BOD ₅	TP	TN	TSS	CU	ZN
2013	1,574	69	481	8,769	5	22
2018	1,423	63	448	7,668	4	18
Change	-151	-6	-33	-1,101	-1	-4
% Change	-9.6%	-8.7%	-6.9%	-12.6%	-20%	-18%

ICWWS	BOD ₅	TP	TN	TSS	CU	ZN
2013	60,758	2,780	20,195	307,808	174	705
2018	60,912	2,786	20,293	306,466	172	704
Change	+154	-6	+98	-1,342	-2	-1
% Change	+0.3%	-0.2%	+0.5%	-0.4%	-1.1%	-0.1%

HILLSBORO	BOD ₅	TP	TN	TSS	CU	ZN
2013	112,165	5,118	39,730	556,101	335	1,354
2018	111,045	5,072	39,579	544,510	327	1,329
Change	-1,120	-46	-151	-11,591	-8	-25
% Change	-1.0%	-0.9%	-0.4%	-2.1%	-2.4%	-1.8%

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Other Water Quality Discharge Improvements

There are several BMP programs that are not taken into consideration in the pollutant loading estimate modeling; specifically, public education and on-going system maintenance activities such as street sweeping and catchbasin/inlet/pipe jetting/vacuuming.

FDEP allows for an assumed 6% reduction in loading if public education programs are carried out throughout the contributing area. As part of the Palm Beach County-wide MS4 group's public education annual campaign, an additional 6% reduction in each parameter can arguable be added to the % change noted in the tables above.

Street sweeping is a directly measured activity, where the amount of material removed is documented. Since 2014, the City's street sweeping program has documented the removal of 4,075 cubic yards of street sweeping debris and 917 cubic yards of catch basin sediments (includes only 2016-2019), which translate into the removal of 3.2 tons of total nitrogen and 2.2 tons of total phosphorus that would otherwise have been loaded into the receiving waters of the City's MS4.

Analysis of Data

Changes in WQ from previous reporting year(s)

As the trend graphs indicate, water quality is improving for almost all parameters at station 31B.

Water quality in the Lake Worth Lagoon South appears to be worsening for several parameters, including nutrients.

The water quality in the Hillsboro Canal appears to be predominantly stable at Station 1.

The current permit programs (SWMP) have been in place since 1997, with only minor changes over the years. At the surface, the trend graphs do not appear to indicate a clear-cut determination of the benefits of the SWMP. However, from 2010 to 2017, the City experienced an 11.3% increase in population (source: <https://www.towncharts.com/Florida/Demographics/Boca-Raton-city-FL-Demographics-data.html>); given that growth, a stable or improving trend in receiving water quality, is suggestive of a positive effect of the SWMP.

Changes in Loading Estimates From Previous Cycle

This analysis indicates that by and large, there has been a decrease in the estimated pollutant loading from the Boca MS4 system to the receiving water bodies, when comparing 2018 conditions to 2013 conditions. This is likely the result of redevelopment with the inclusion of Best Management Practices and the elimination of septic systems.

Identification of areas within MS4 that should be targeted for additional programs

No specific area of Boca's MS4 contributing area appears to require additional programs. The current SWMP, along with re-development requirements and criteria are anticipated to continue improving the water quality of the discharge from the MS4. It may be noted that while water quality in the Intracoastal Waterway South watershed is worsening for

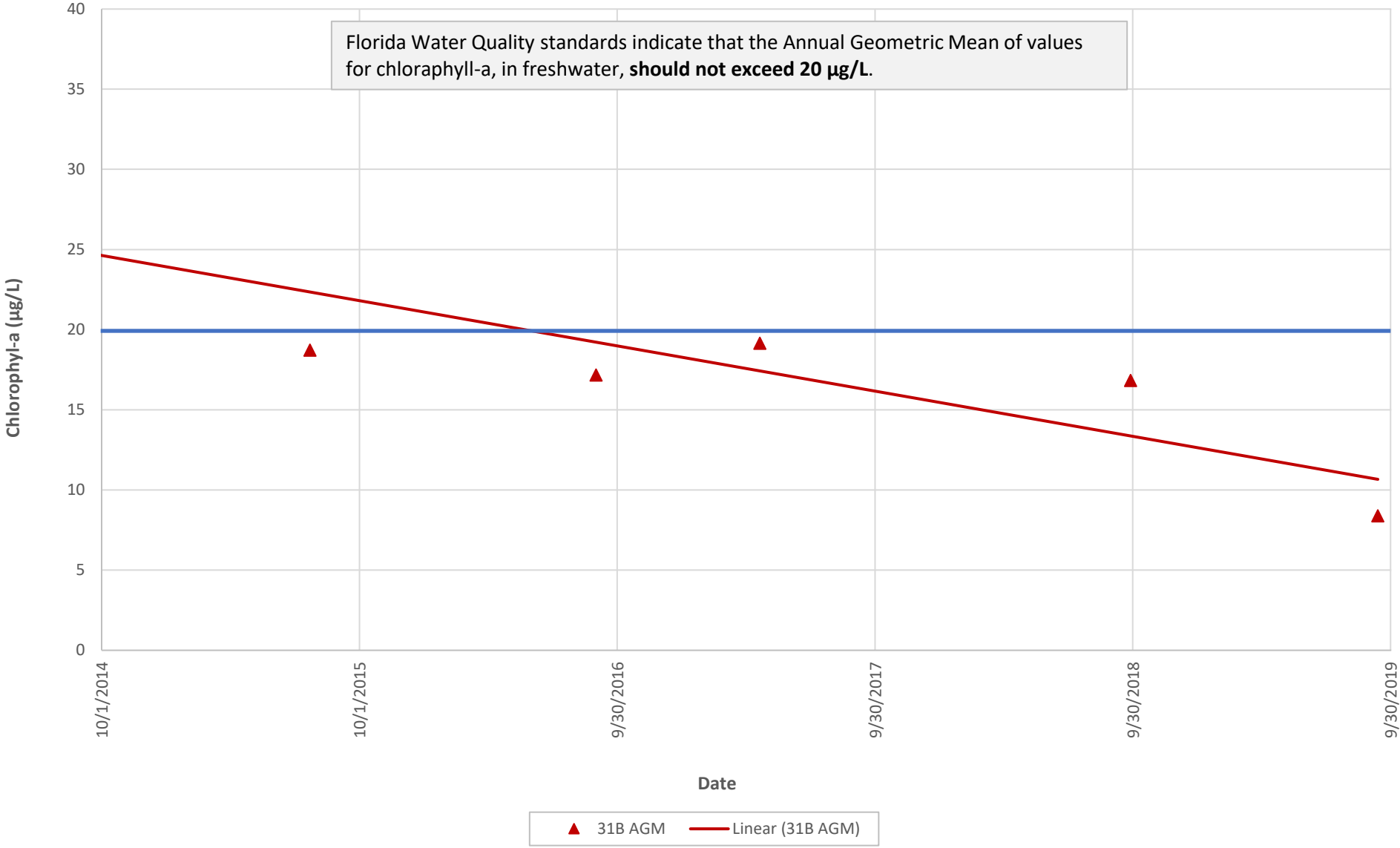
some parameters, this is the contributing MS4 area that is likely to experience the most re-development and therefore added water quality BMPs that could further improve the quality of the discharge.

Request(s) for Changes to Approved Assessment Program

No changes to the approved assessment program are requested at this time.

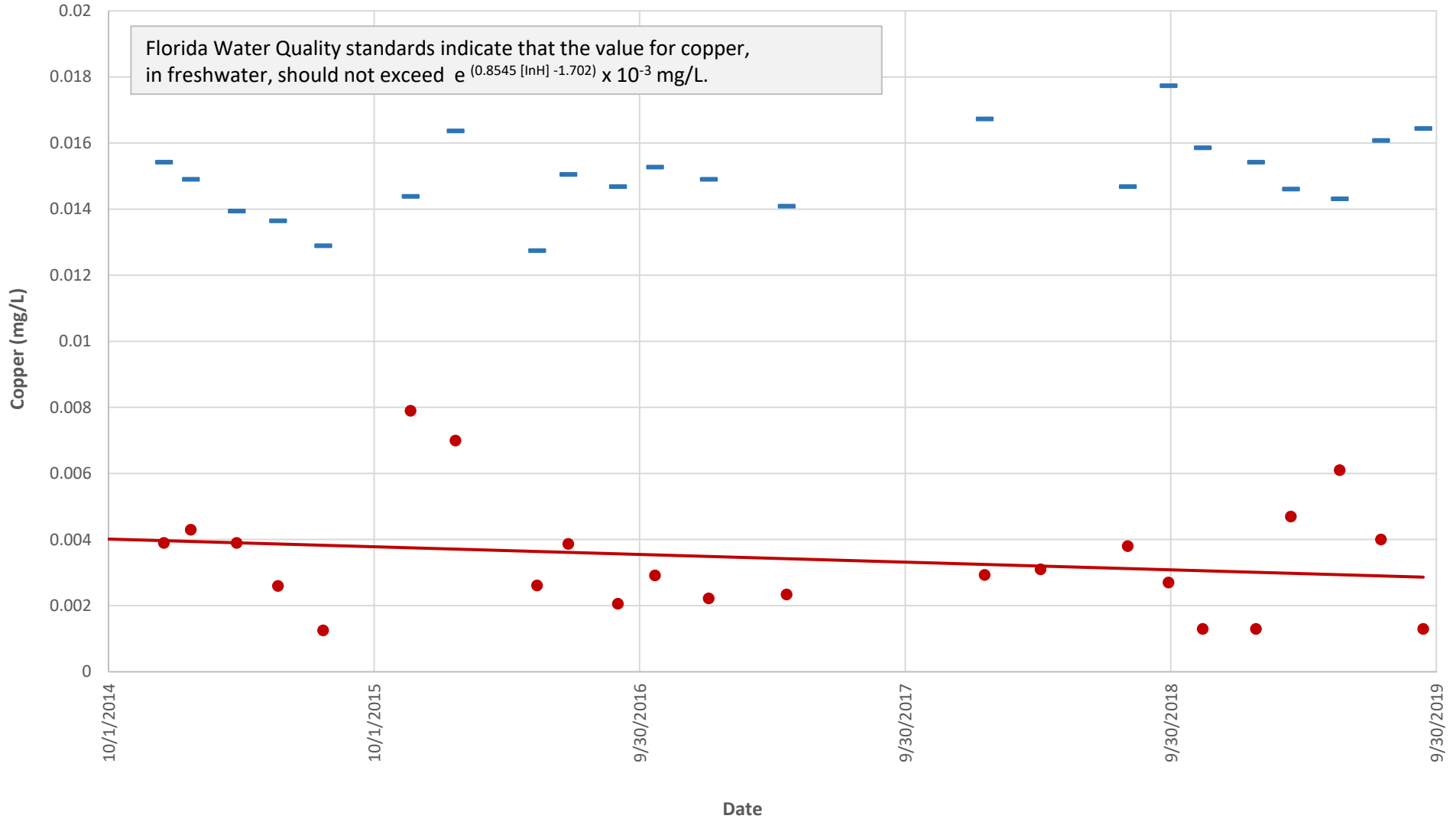
C-15 Basin, Chl-a (corrected)

Florida Water Quality standards indicate that the Annual Geometric Mean of values for chlorophyll-a, in freshwater, **should not exceed 20 µg/L**.



C-15 Basin, Copper

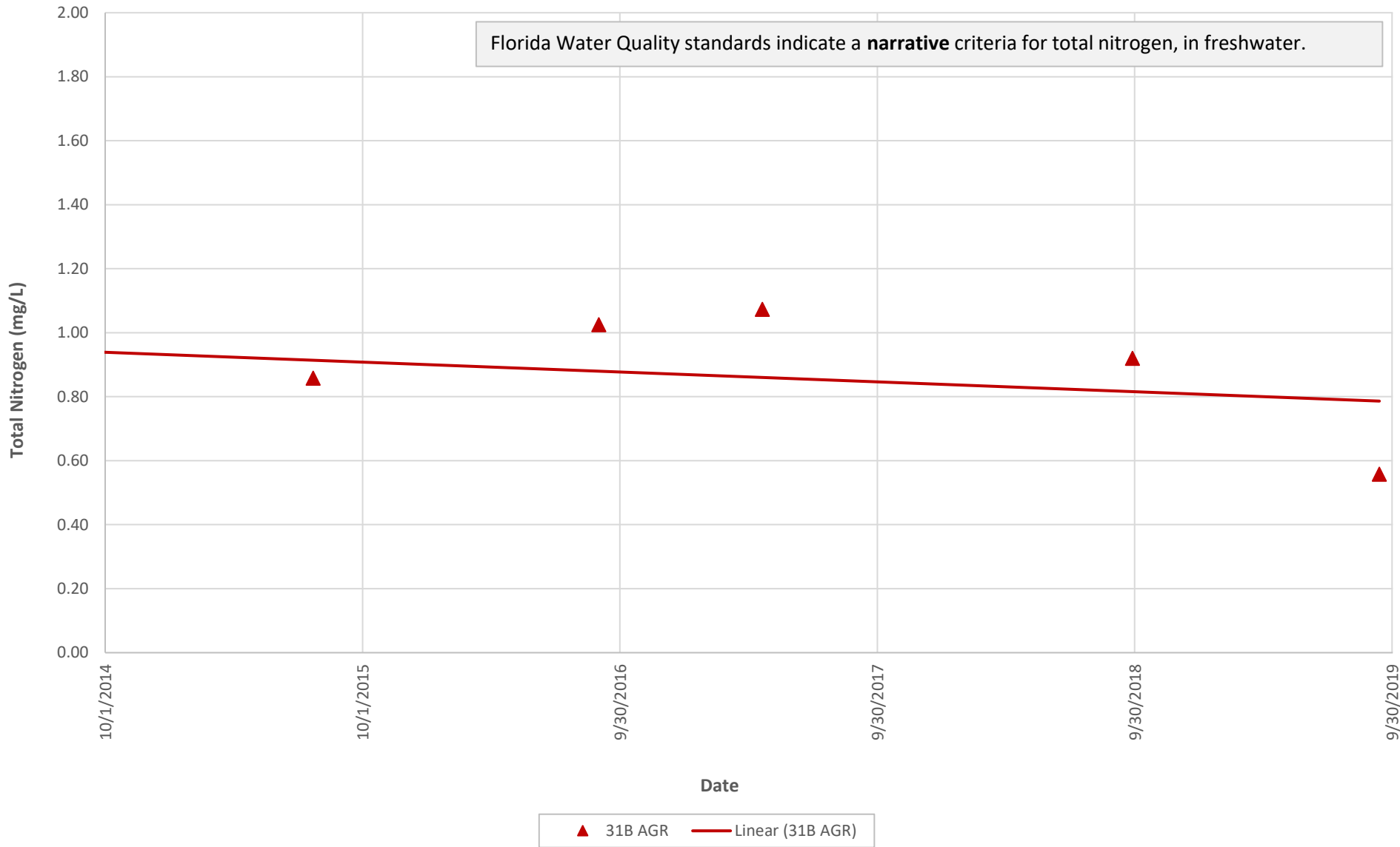
Florida Water Quality standards indicate that the value for copper, in freshwater, should not exceed $e^{(0.8545 [\ln H] - 1.702)} \times 10^{-3}$ mg/L.



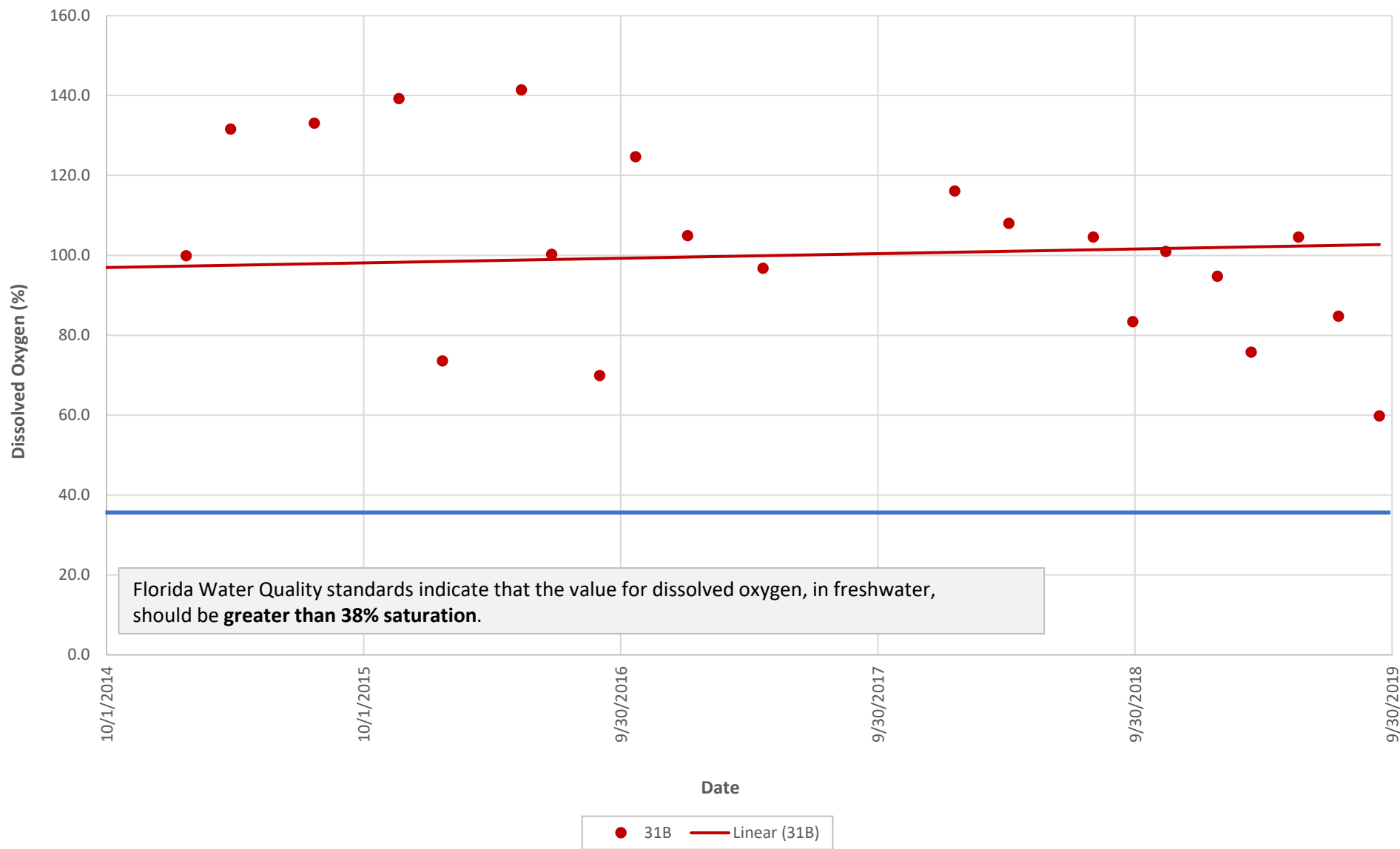
● 31B — 31B Calculated Limit — Linear (31B)

C-15 Basin, Total Nitrogen

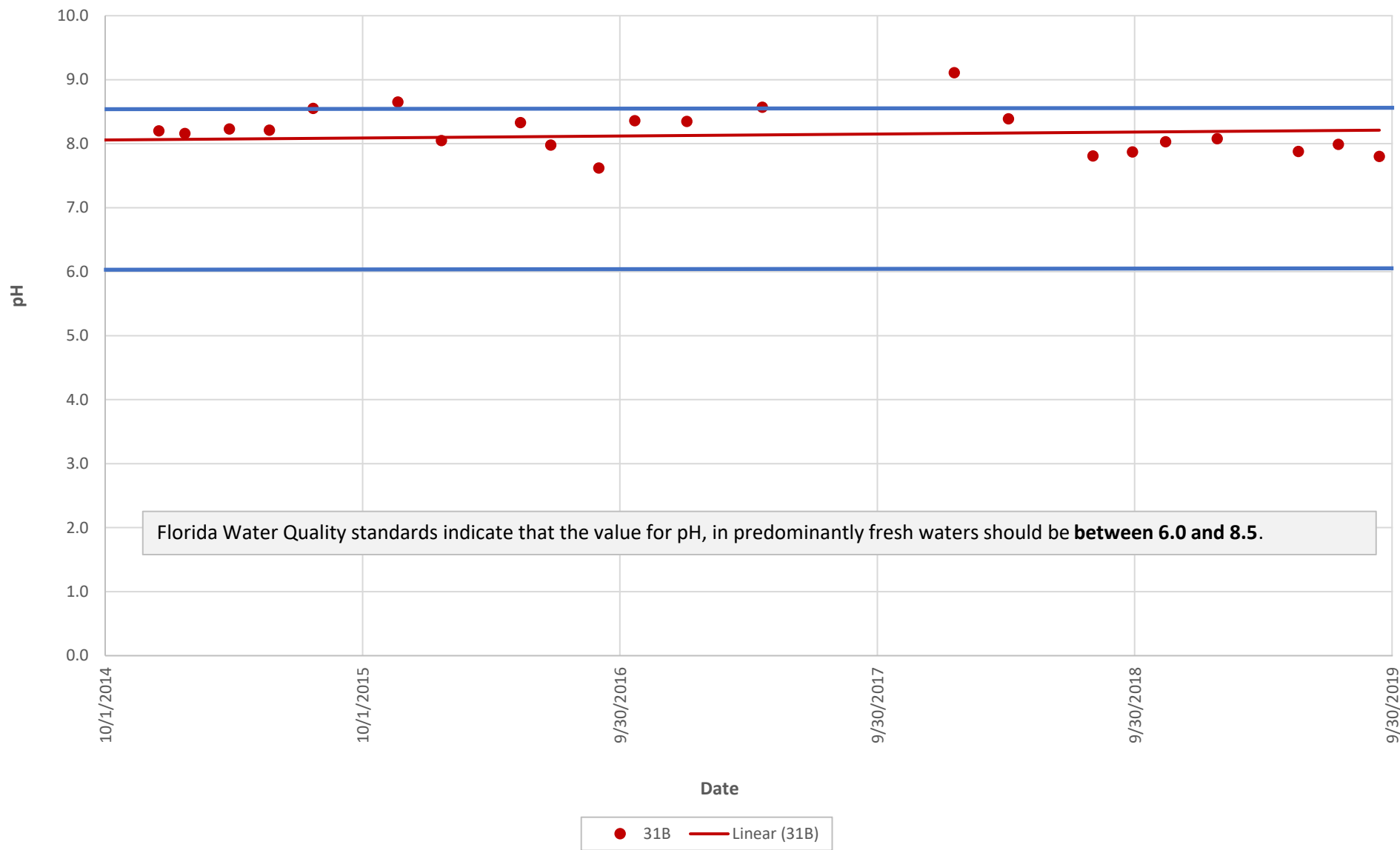
Florida Water Quality standards indicate a **narrative** criteria for total nitrogen, in freshwater.



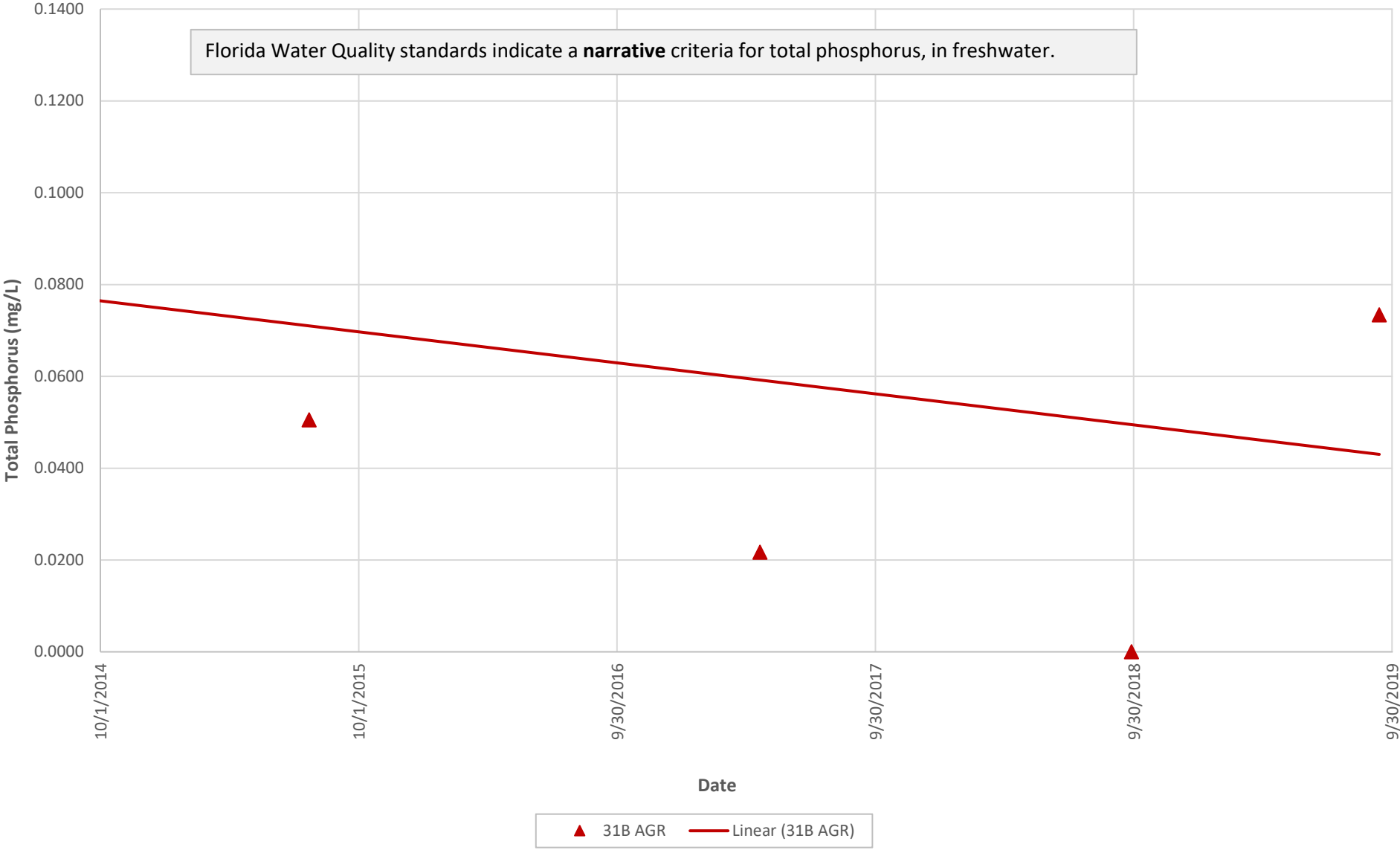
C-15 Basin, Dissolved Oxygen



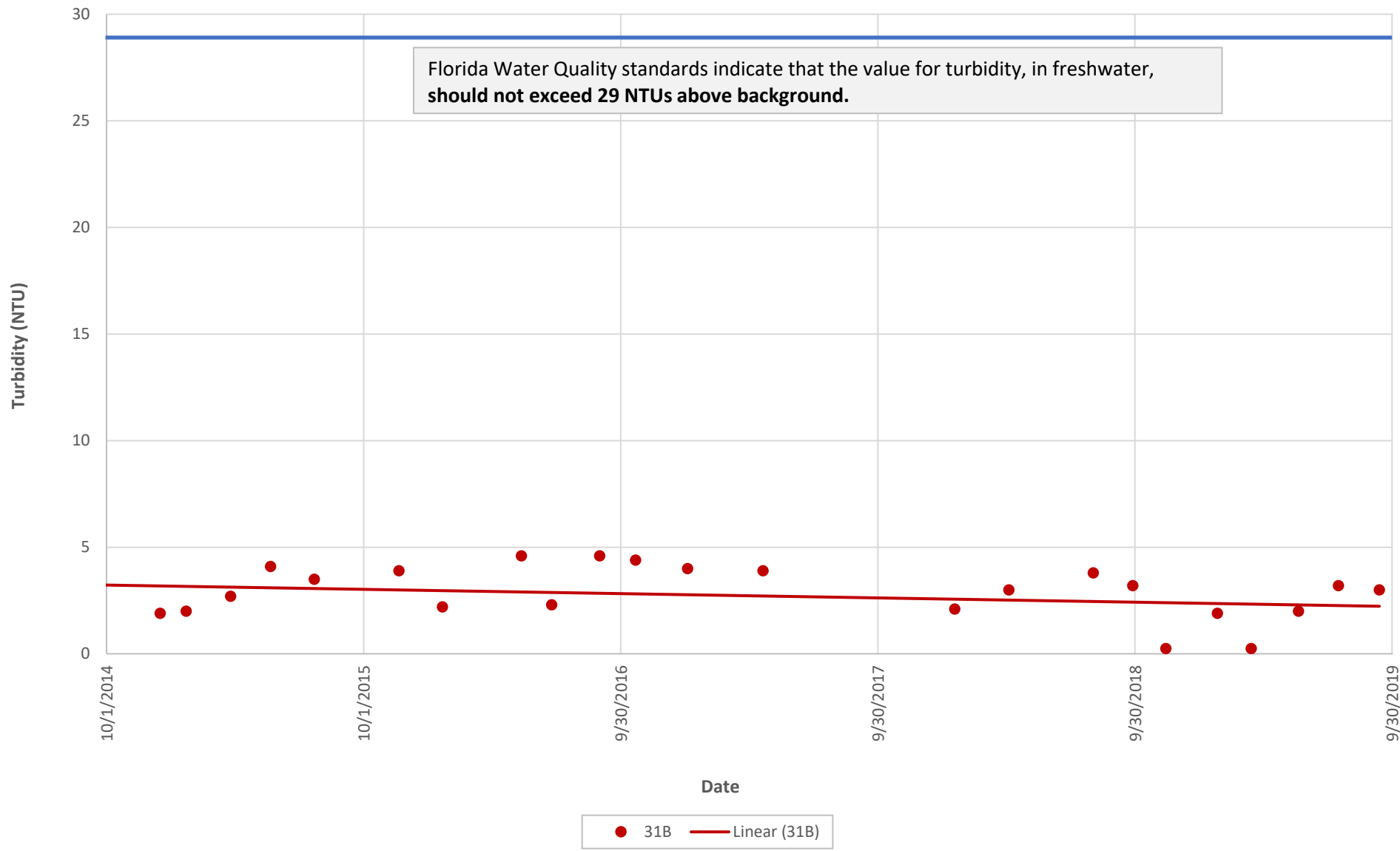
C-15 Basin, pH



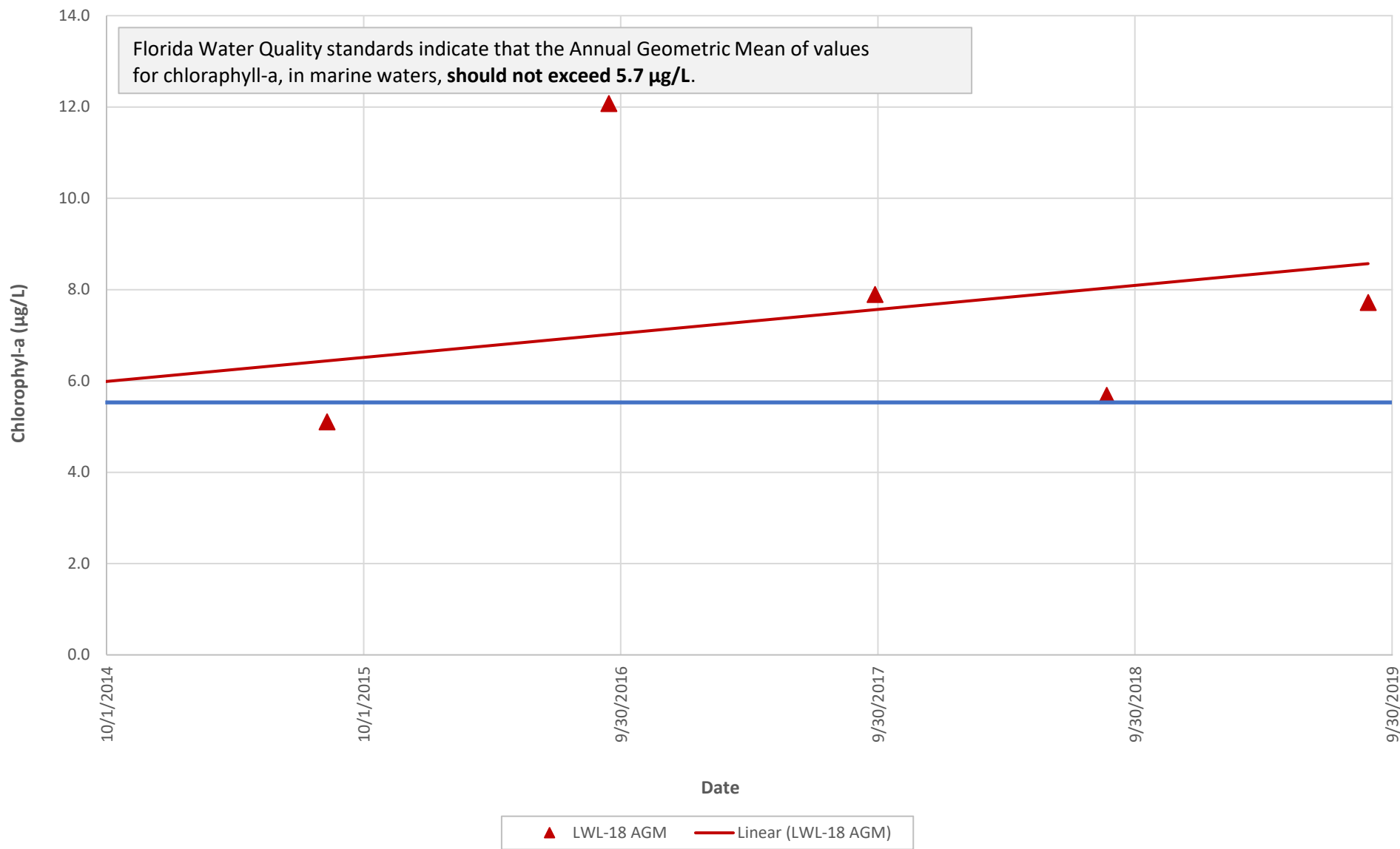
C-15 Basin, Total Phosphorus



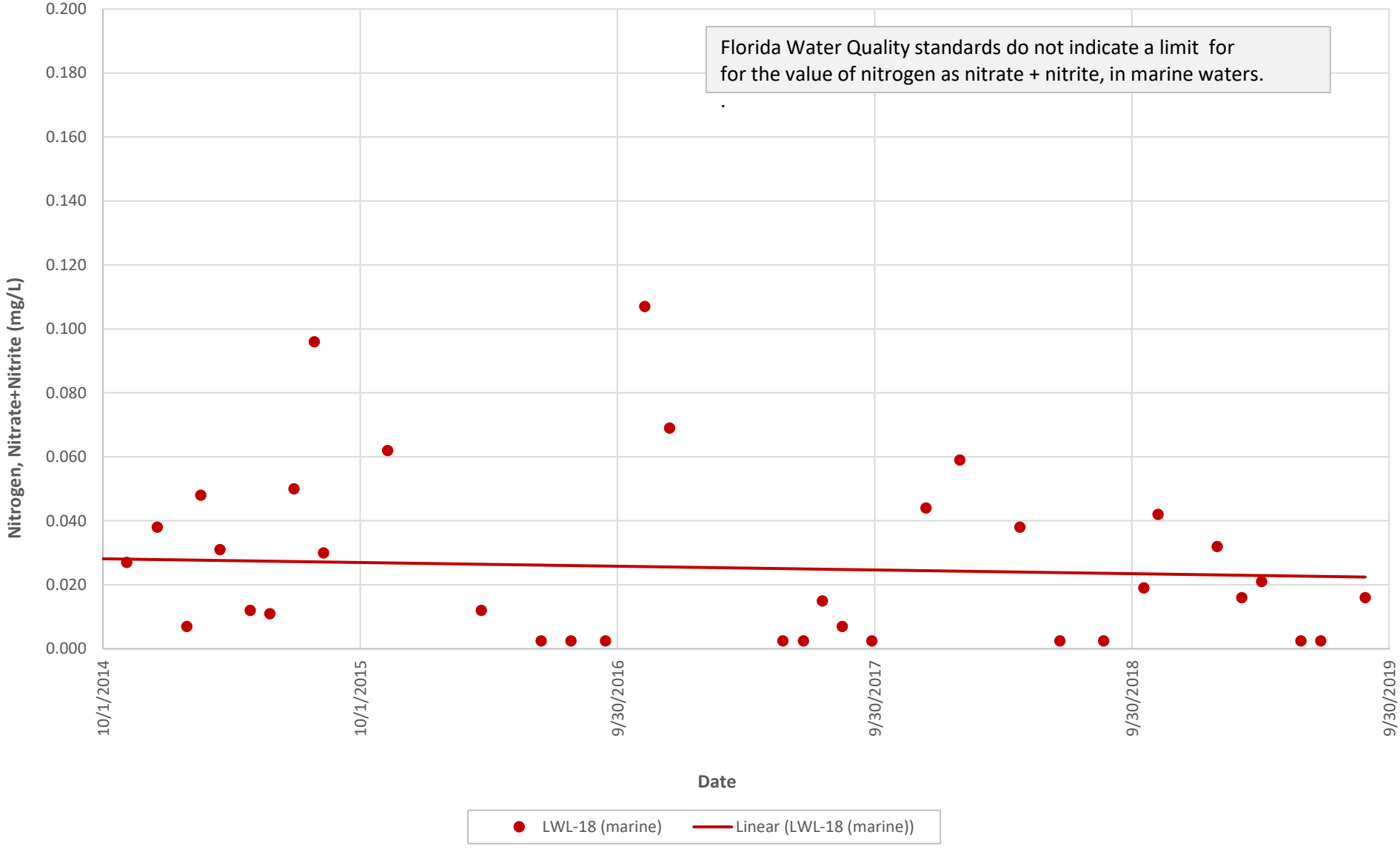
C-15 Basin, Turbidity



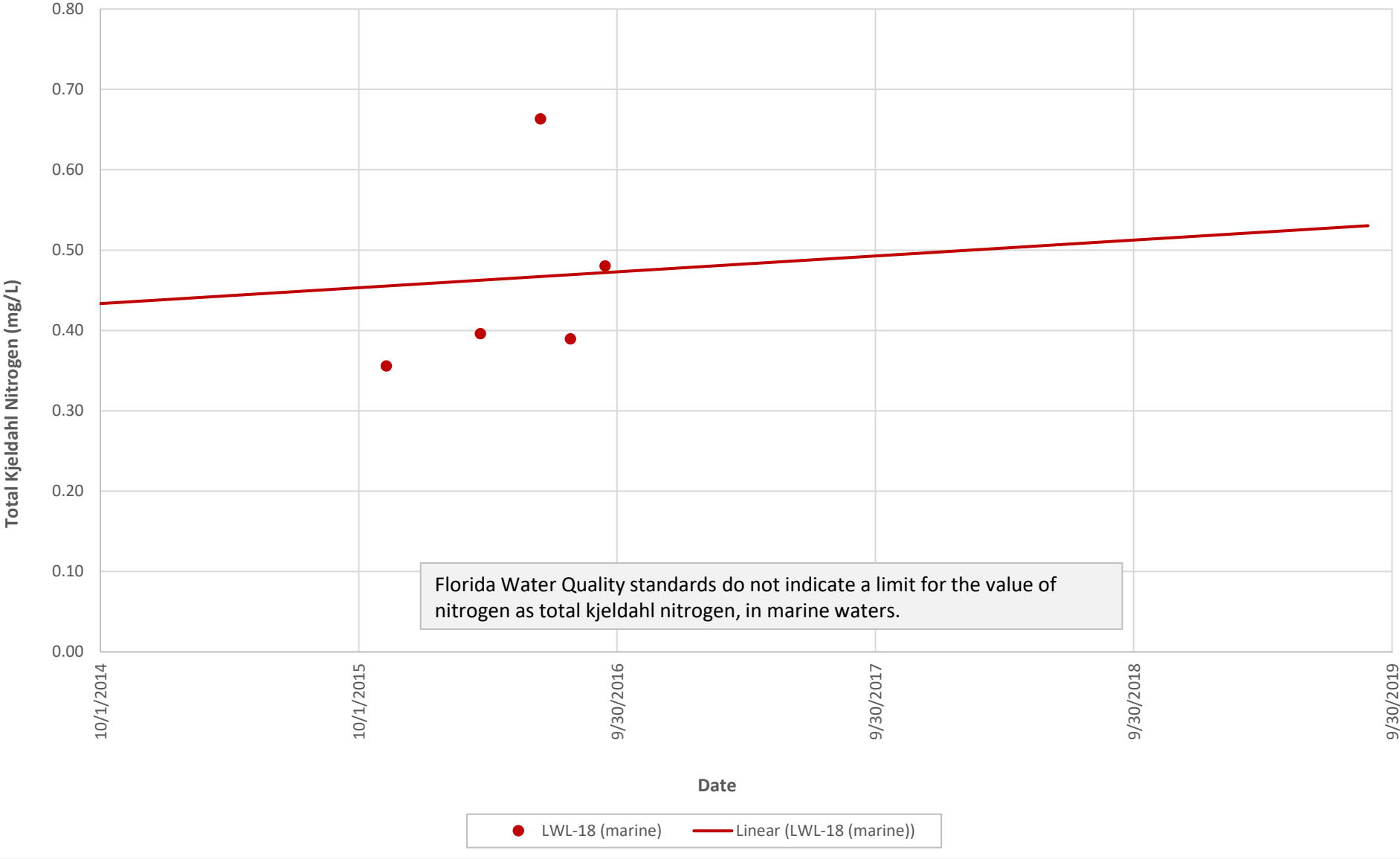
ICWW-S Basin, Chl-a (corrected)



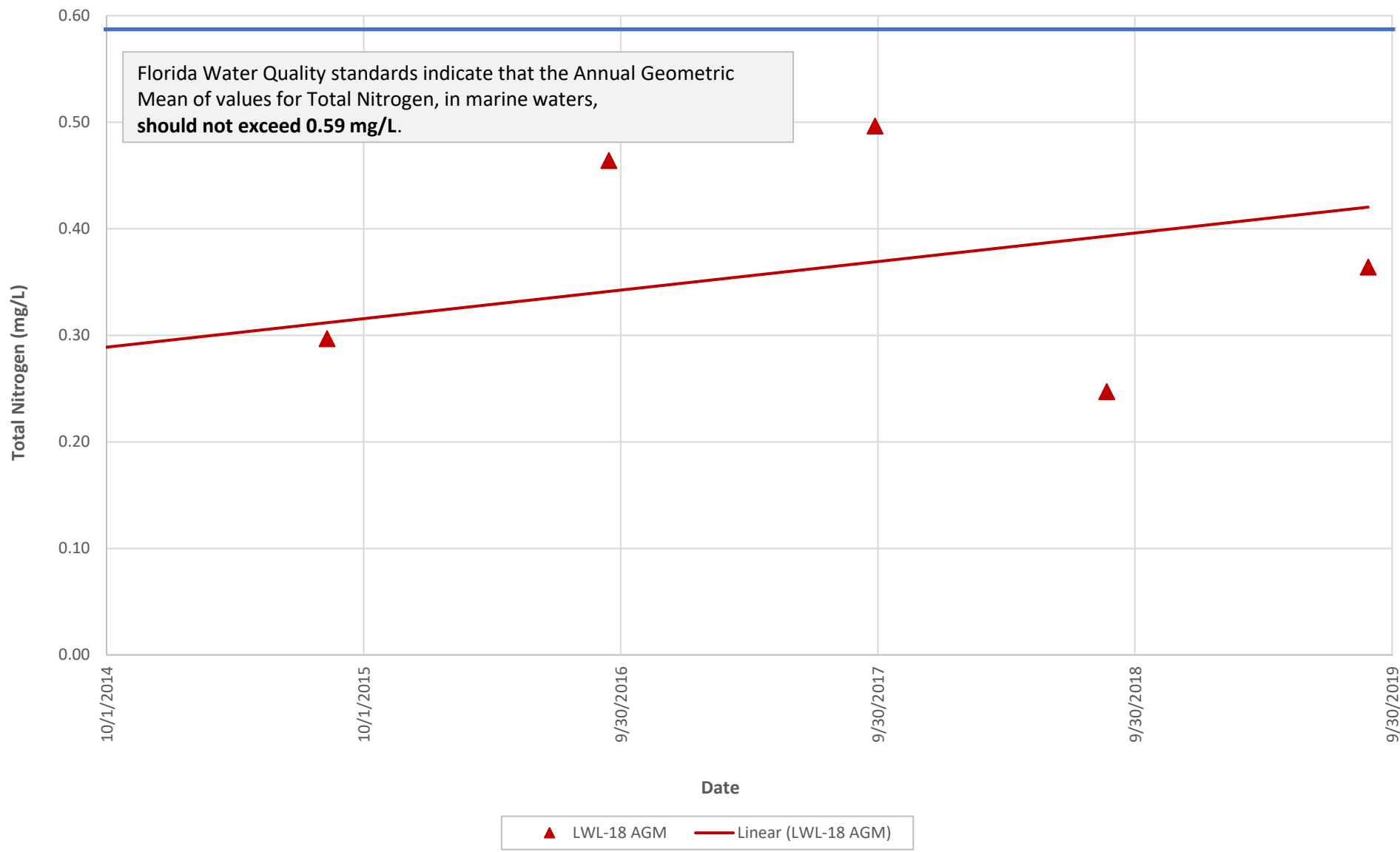
ICWW-S Basin, Nitrogen as Nitrate+Nitrite



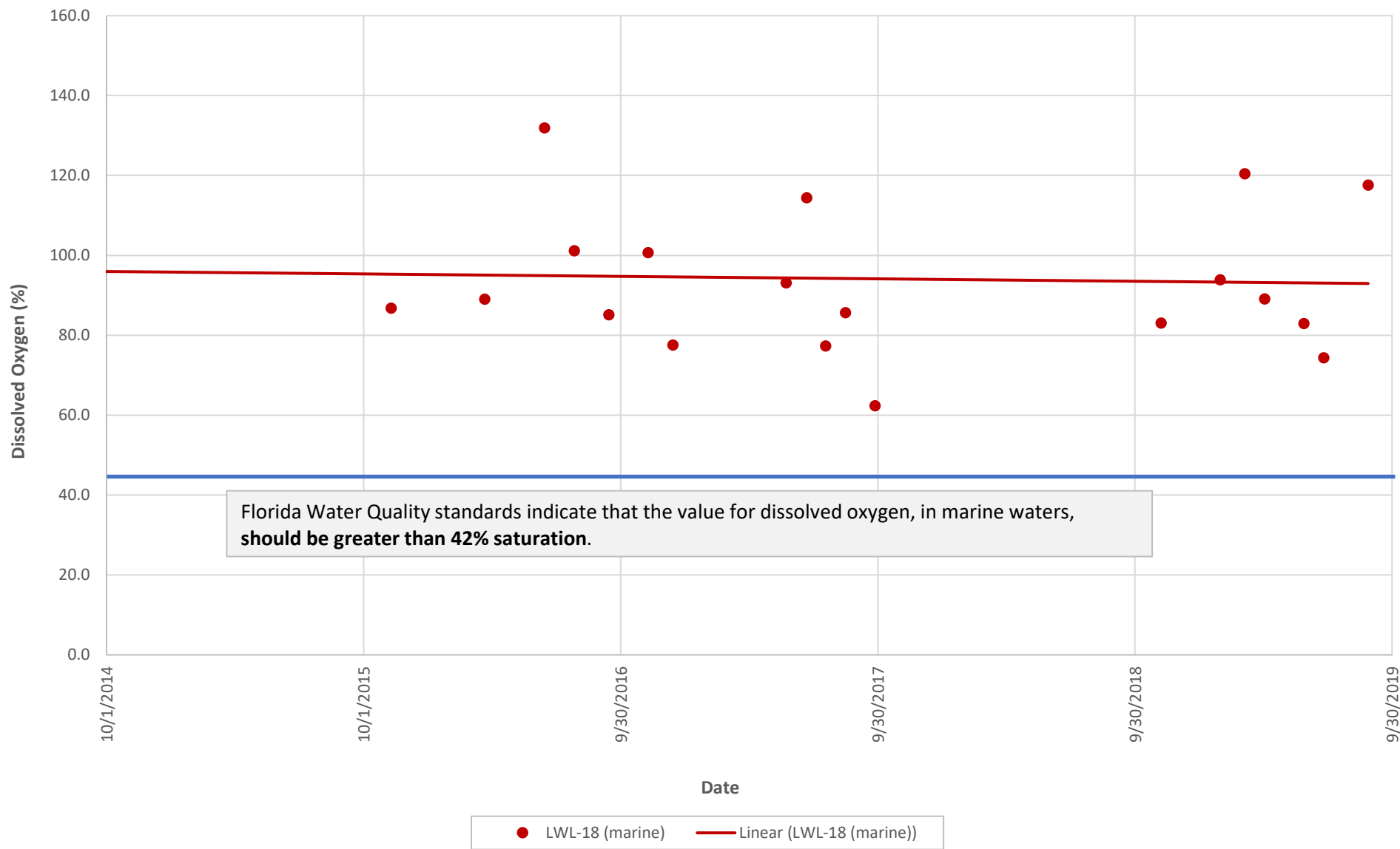
ICWW-S Basin, Total Kjeldahl Nitrogen



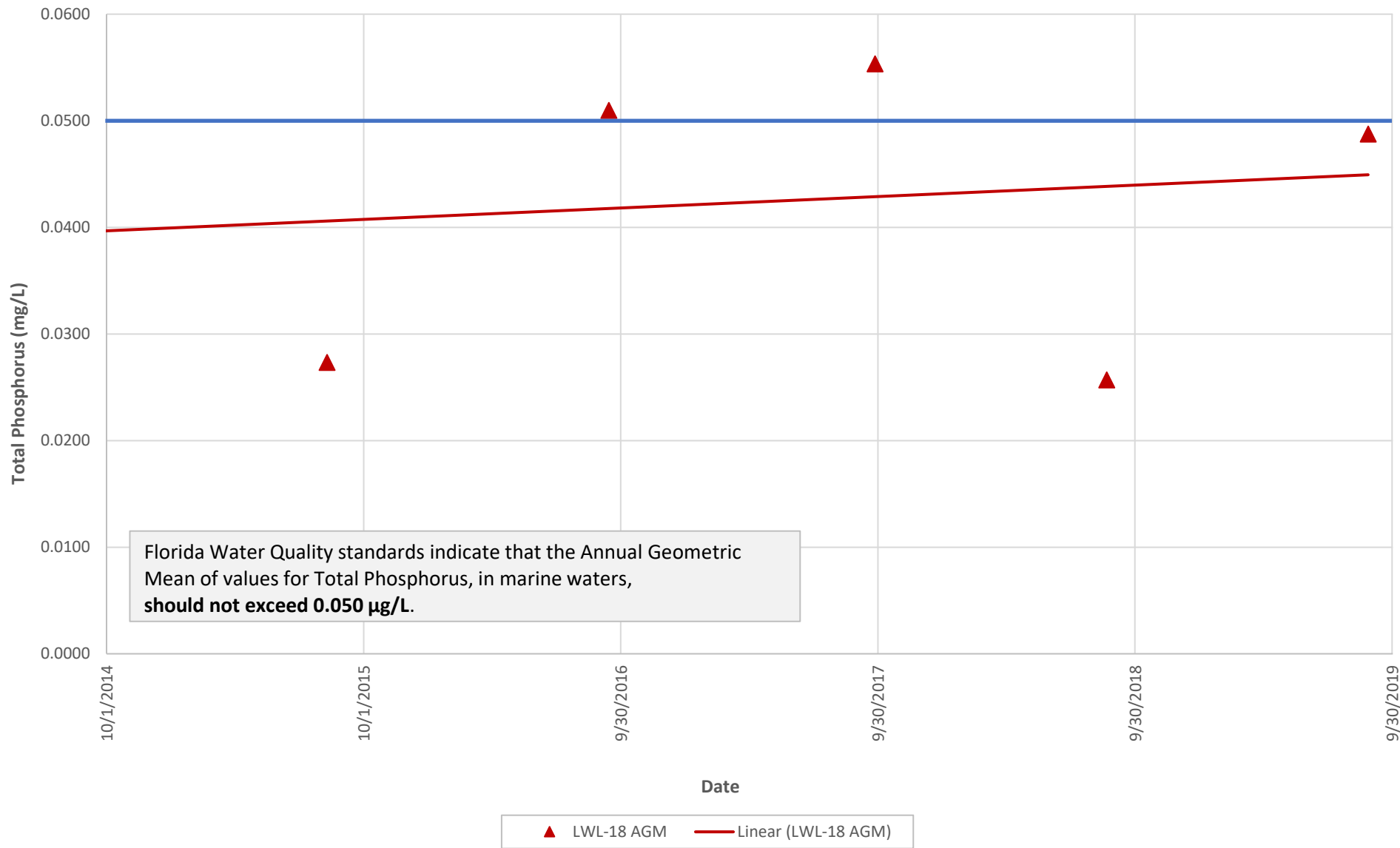
ICWW-S Basin, Total Nitrogen



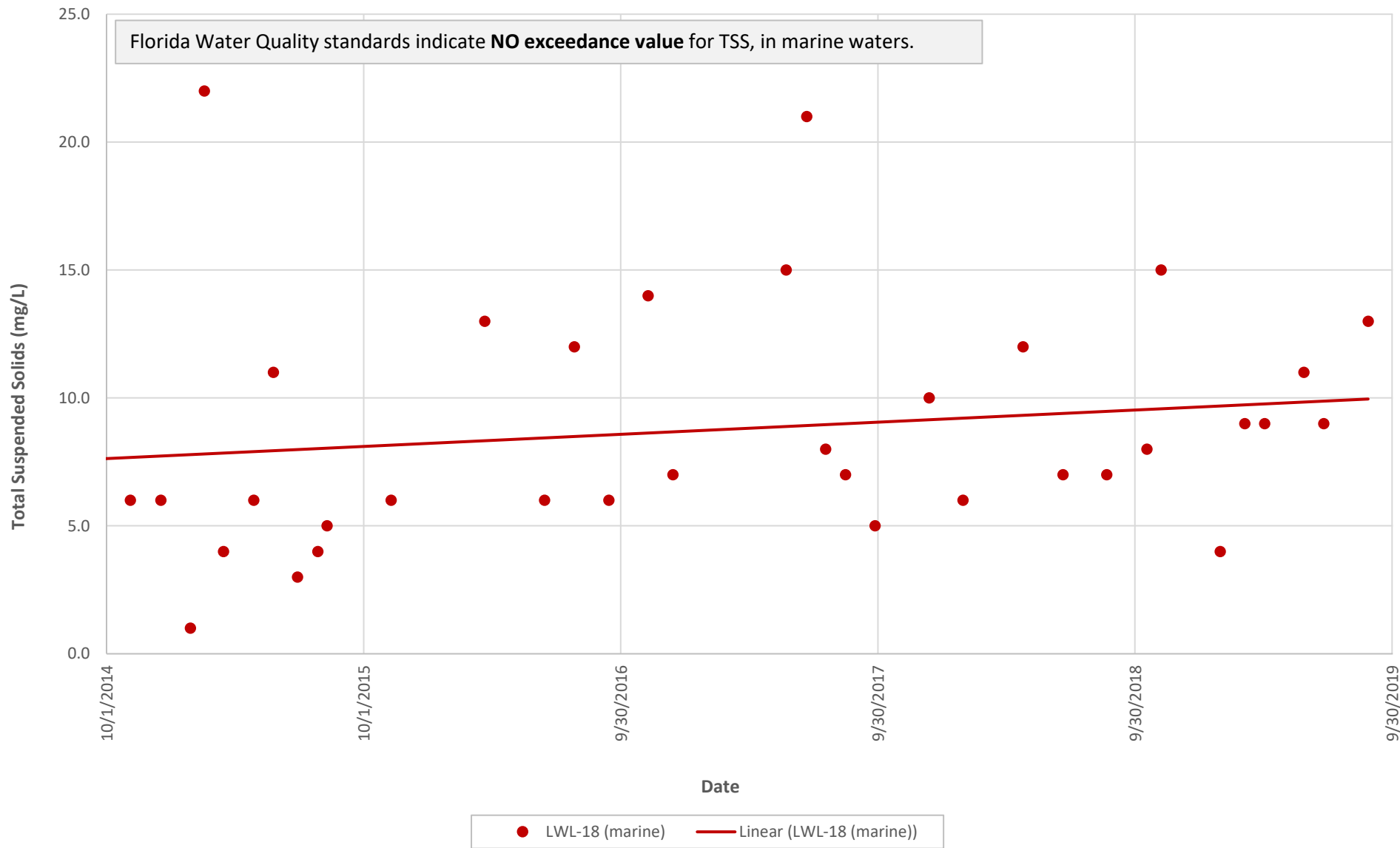
ICWW-S Basin, Dissolved Oxygen



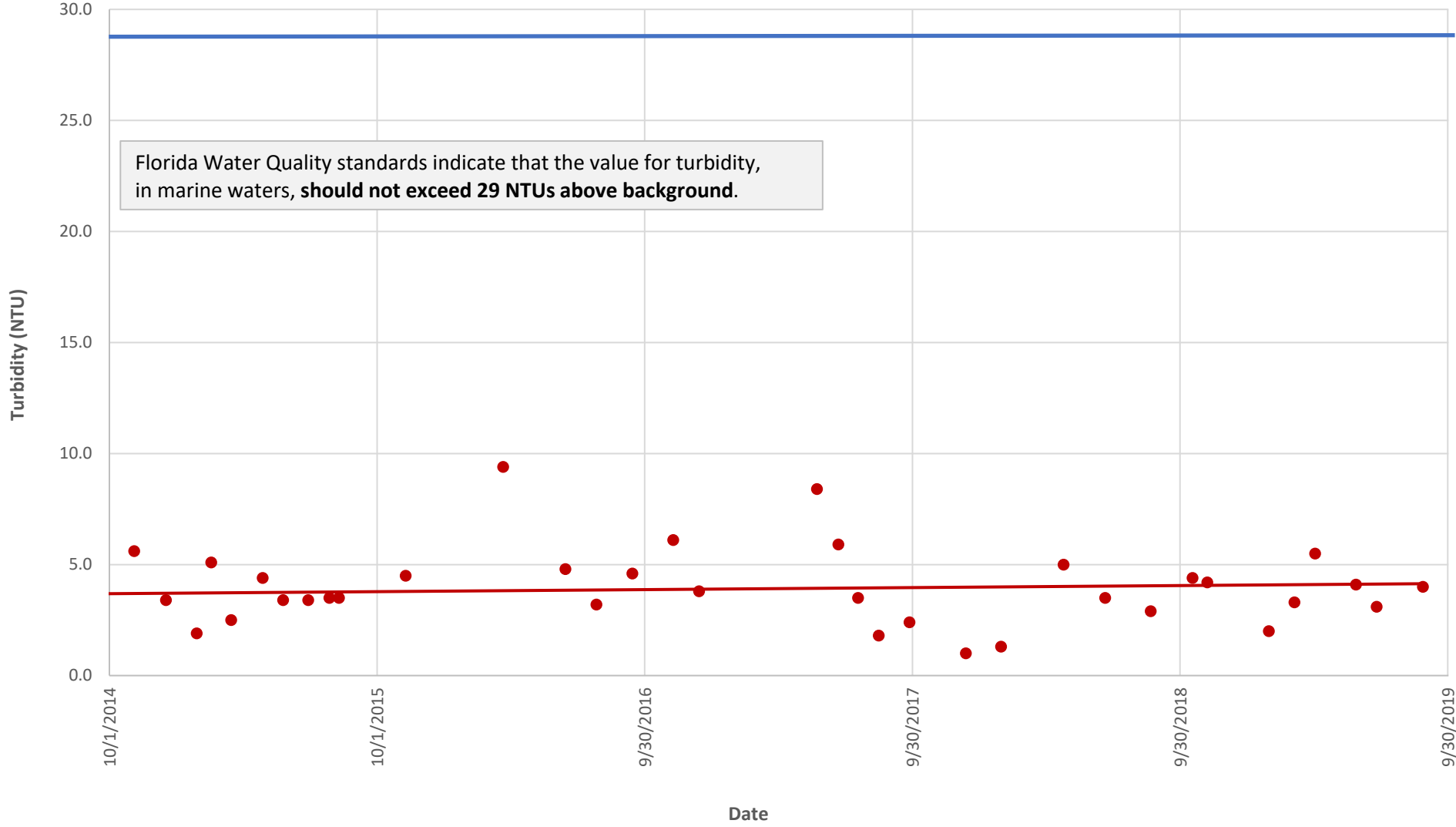
ICWW-S Basin, Total Phosphorus



ICWW-S Basin, Total Suspended Solids



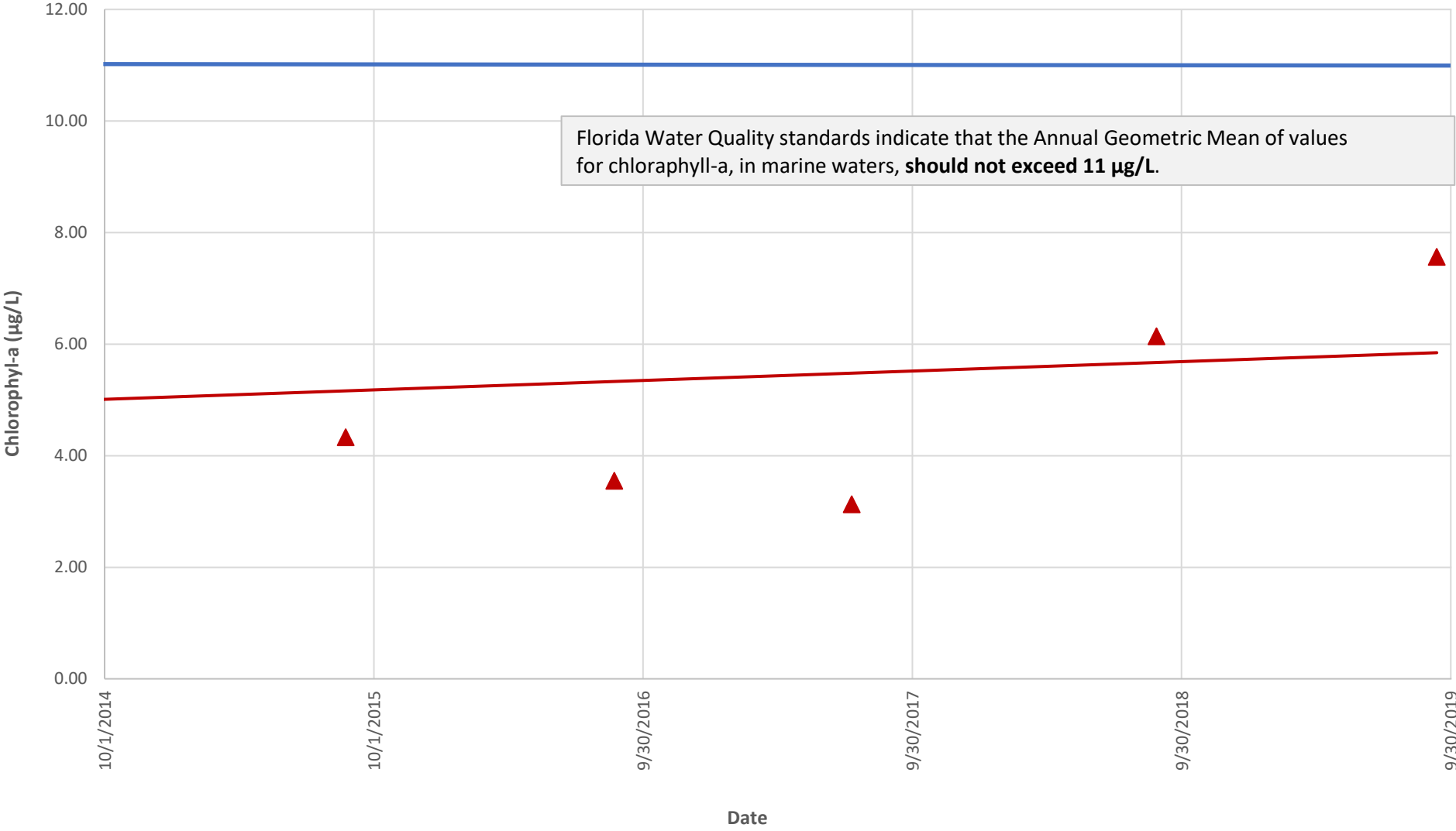
ICWW-S Basin, Turbidity



● LWL-18 (marine) — Linear (LWL-18 (marine))

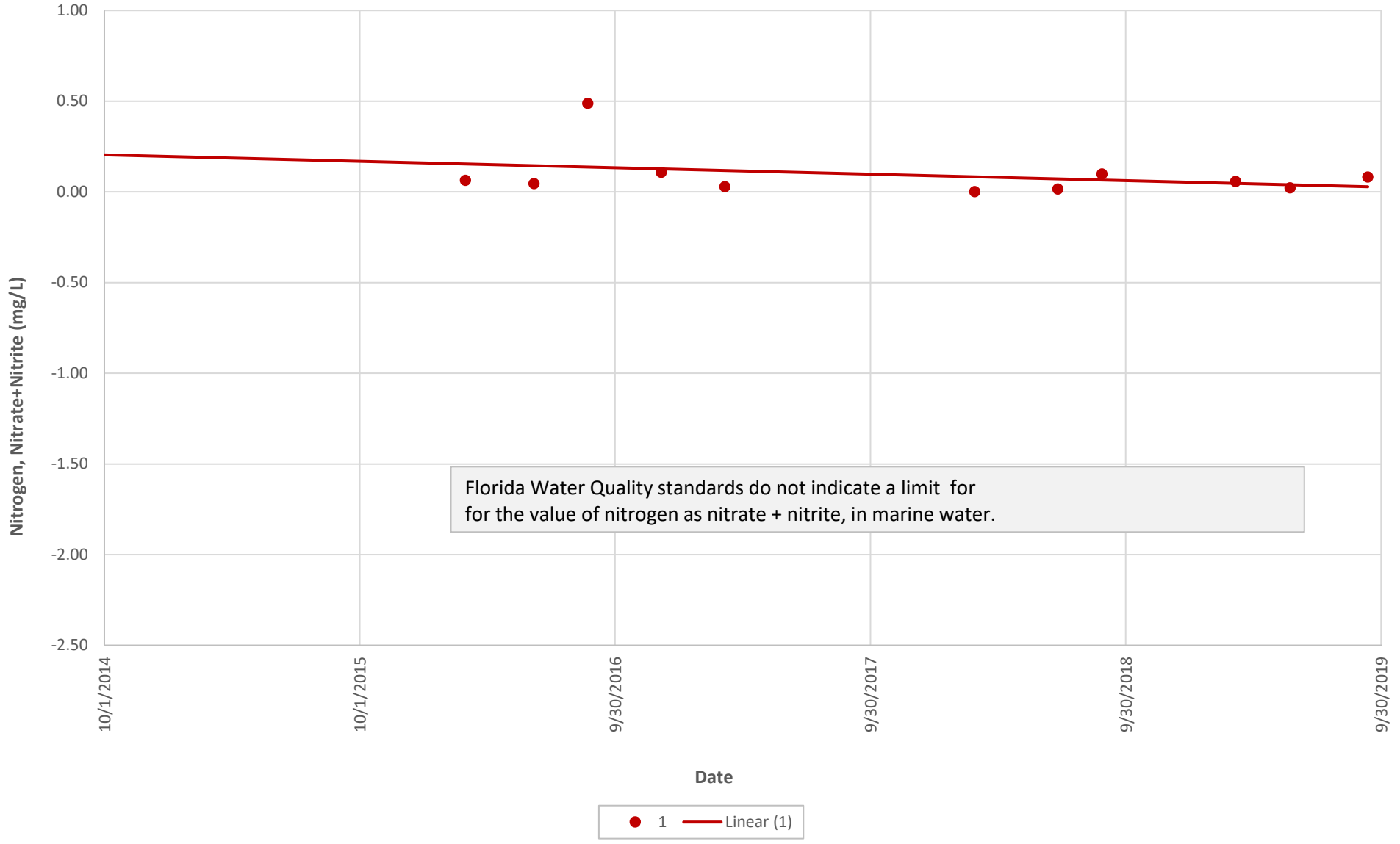
Hillsboro Basin, Chl-a (corrected)

Florida Water Quality standards indicate that the Annual Geometric Mean of values for chlorophyll-a, in marine waters, **should not exceed 11 µg/L.**



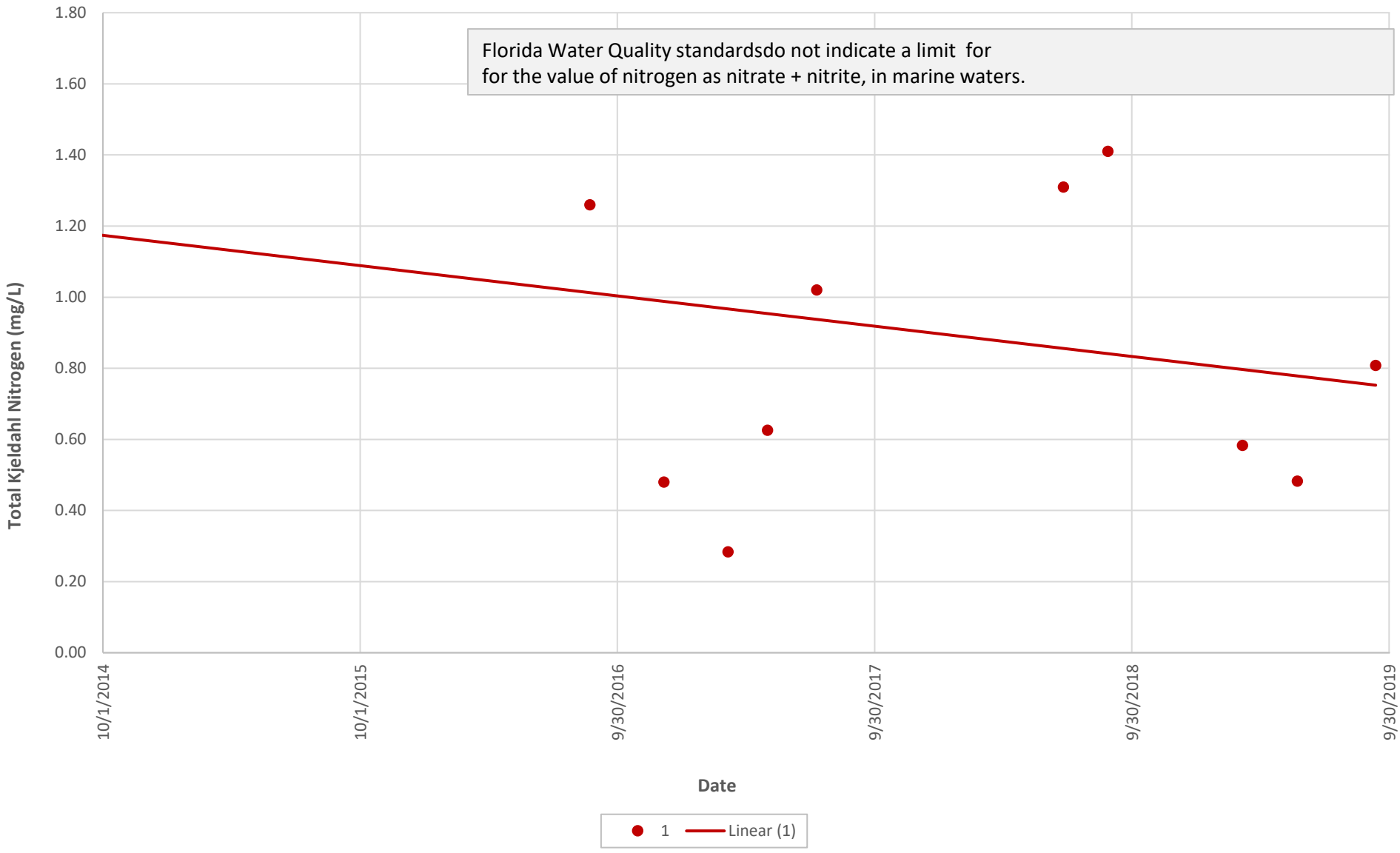
▲ 1 AGM — Linear (1 AGM)

Hillsboro Basin, Nitrogen as Nitrate+Nitrite

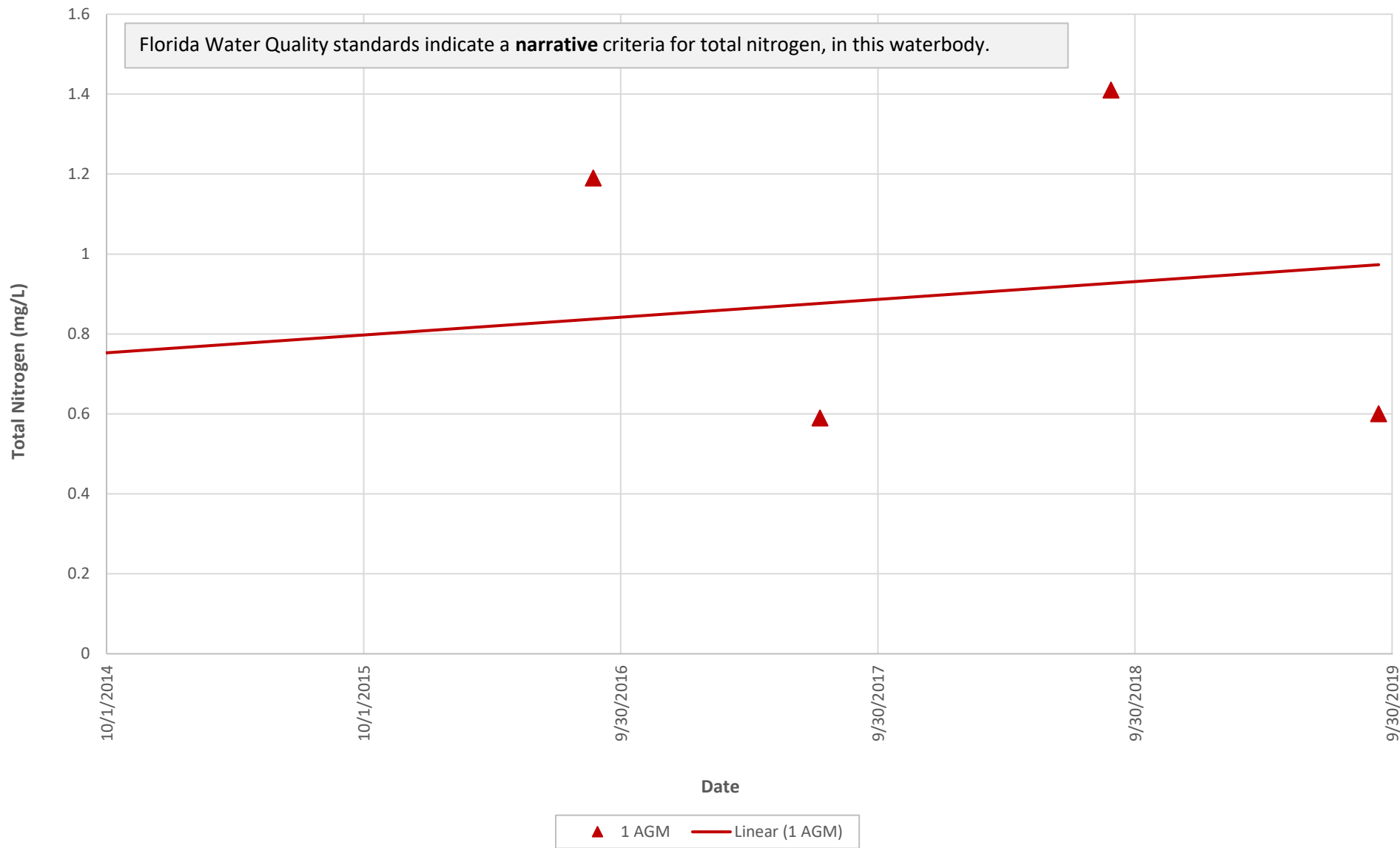


Hillsboro Basin, Total Kjeldahl Nitrogen

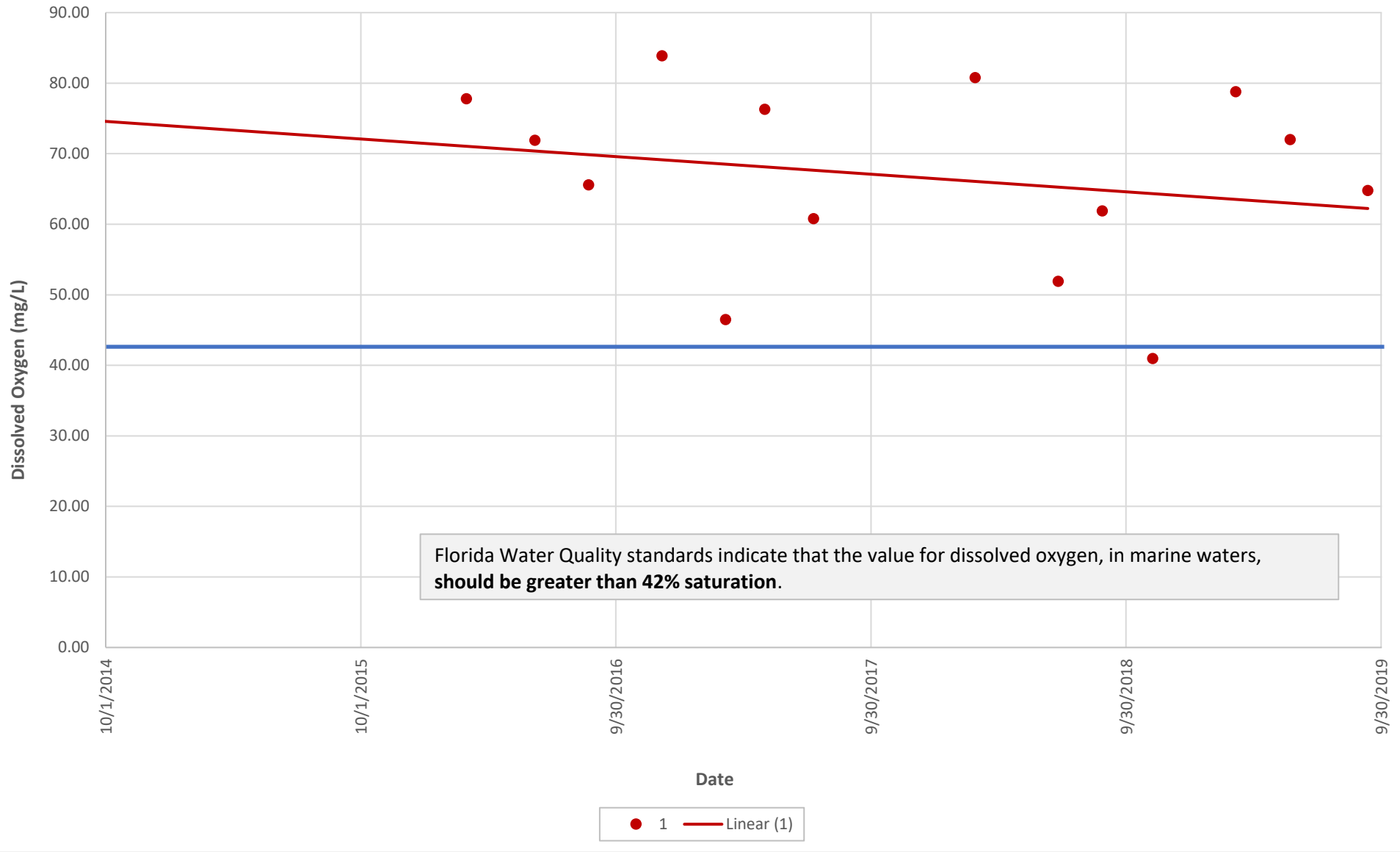
Florida Water Quality standards do not indicate a limit for the value of nitrogen as nitrate + nitrite, in marine waters.



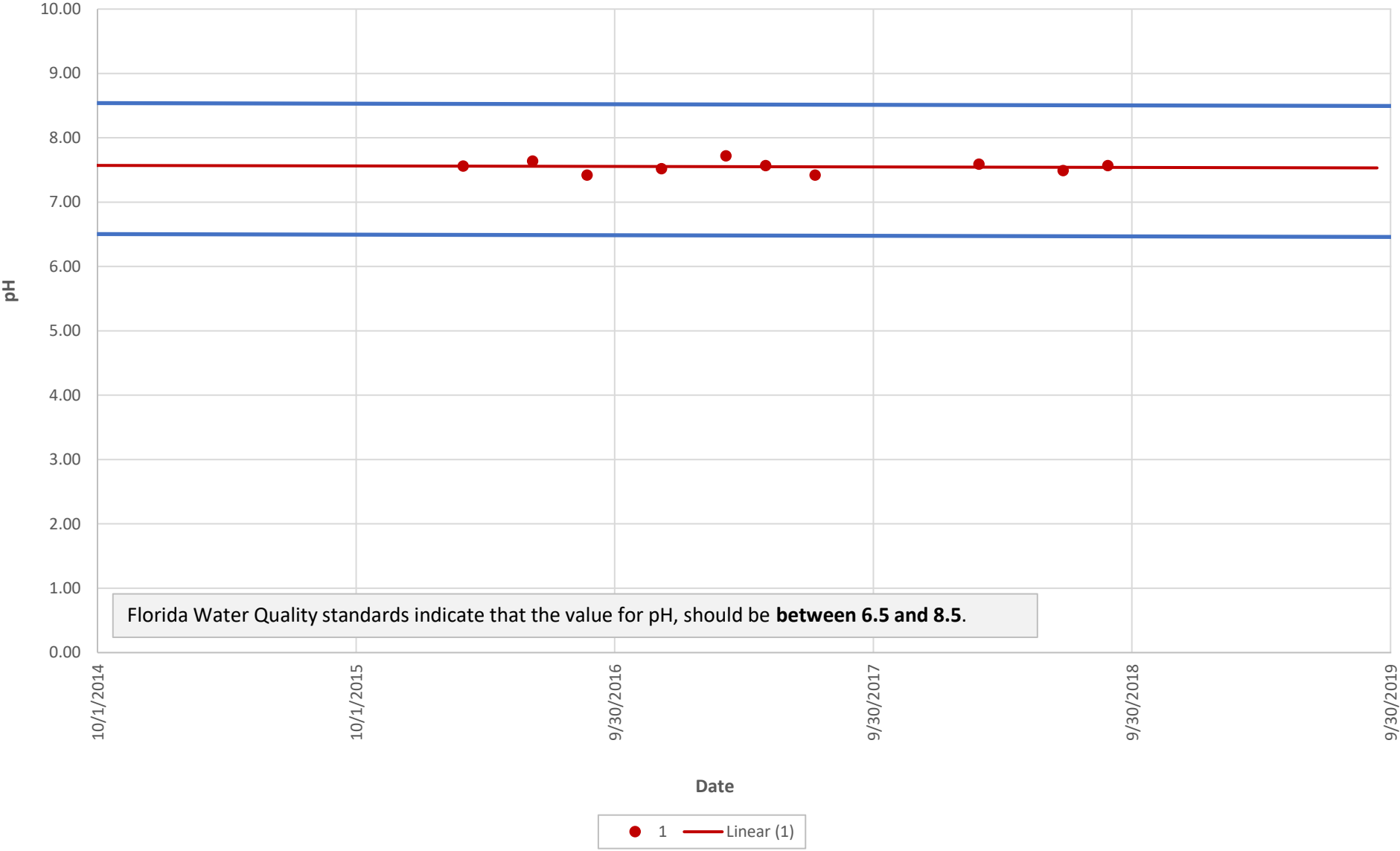
Hillsboro Basin, Total Nitrogen



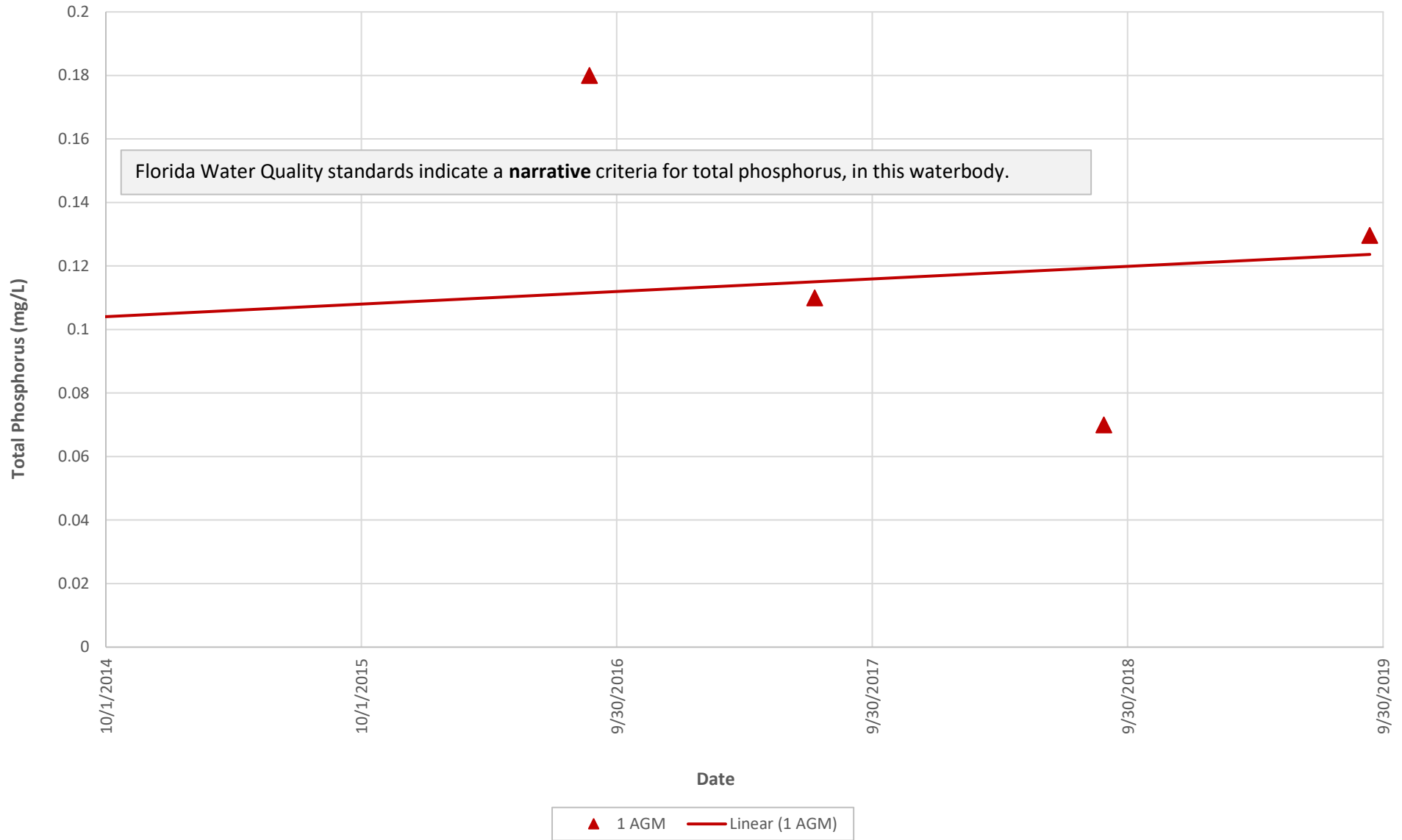
Hillsboro Basin, Dissolved Oxygen



Hillsboro Basin, pH



Hillsboro Basin, Total Phosphorus



Hillsboro Basin, Turbidity

Florida Water Quality standards indicate that the value for turbidity, in marine waters, should not exceed 29 NTUs above background.

