



John E. Manning
District One

Cecil L. Pendergrass
District Two

Ray Sandelli
District Three

Brian Hamman
District Four

Frank Mann
District Five

Roger Desjarlais
County Manager

Richard Wesch
County Attorney

Donna Marie Collins
County Hearing Examiner

Borja Crane-Amores
Matt Irwin
NPDES Stormwater Program
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Lee County Cycle 4, Year 3 Annual Report

October 28, 2020

Dear Borja and Matt:

Please find submitted the Cycle 4, Year 3 Annual Report for Lee County and the Co-permittees. As the NPDES group in Lee County tries to coordinate and harmonize, we submit the Annual Reports as a group. Any Co-permittees unable to submit to the County by our Reporting date of October 31, 2020 has been instructed to submit directly to you or ask for an extension. I understand that FDOT and Miromar Lakes CDD have previously submitted to you.

Year 3 has been a unique year with the pandemic effecting a number of existing protocols. Meetings, staff training, and public education have continued but with procedural changes. In March, the County initiated work from home practices to reduce staff in the office. The Environmental Laboratory halted water-sampling collection for one month to follow statewide Covid guidelines. Some standard NPDES activities were temporarily delayed but did not affect the SWMP. NPDES protocols have since been reviewed and reinstated with the exception of County managed FSFSCI class.

Matt : welcome to our group. Please do not hesitate to contact me with any Annual Report issues.

A handwritten signature in blue ink, appearing to read "Leigh Simmons".

Leigh Simmons
Division of Natural Resources, Lee County
1500 Monroe Street
Ft Myers, FL 33901



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 62-624.600, 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: Lee County		
B.	Permit Name: Lee County MS4		
C.	Permit Number: FLS000035-004		
D.	Annual Report Year: Year 1 Year 2 ☒ Year 3 ☐ Year 4 ☐ Year 5 ☐ Other, specify Year:		
E.	Reporting Time Period (month/year): May/ 2019 through April / 2020		
F.	Name of the Responsible Authority: David Harner		
	Title: Deputy County Manager		
	Mailing Address: 1500 Monroe Street		
	City: Ft Myers	Zip Code: 33901	County: Lee
	Telephone Number: 239-533-7408		Fax Number: 239-533-8335
	E-mail Address: dharner@leegov.com		
G.	Name of the Designated Stormwater Management Program Contact (if different from Section I.F above): Lisa Kreiger		
	Title: Operations Manager		
	Department: Natural Resources		
	Mailing Address: 1500 Monroe Street		
	City: Ft Myers	Zip Code: 33901	County: Lee
	Telephone Number: 239-533-8706		Fax Number: 239-485-8408
	E-mail Address: lkreiger@leegov.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. PART V.B. ASSESSMENT PROGRAM

A.	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. <i>DEP Note: If permittee participates in a collaborative monitoring plan, permittee may refer to a joint response as defined by the interlocal agreement.</i> Name and date of the approved plan: Lee County Watershed Monitoring Plan, May 2018. Lee County continues to monitor water quality from 100 sampling sites in both State and County waters. Samples are collected monthly to evaluate water quality in the MS4 before discharge to State waters. A number of sampling sites are in state waters and tidal waters. Due to the impact of the Corona 19 virus, sampling was temporarily discontinued between March 18, 2020 and April 13, 2020. The three temporary sampling sites in Hendry Creek to help assess the BPCP are still active.
B.	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. <i>DEP Note: Results must be specific to the permittee's SWMP.</i> Please see attachment.
C.	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. <i>DEP Note: Analysis must be specific to the permittee's SWMP.</i> Attached.

SECTION IV. FISCAL ANALYSIS

A.	Total expenditures for the NPDES stormwater management program for the current reporting year: \$29,448,315
B.	Total budget for the NPDES stormwater management program for the subsequent reporting year: \$31,489,389

C.	Did subsequent program resources decrease from the current reporting period? Y / N
	If program resources decreased, provide a discussion of the impacts on the implementation of the SWMP.
	n/a

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):

<u>Attached</u>	<u>N/A</u>	Required Attachments	Permit Citation	Attachment Number/Title
X		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	
	X	If program resources have decreased from the previous year, a discussion of the impacts on the implementation of the SWMP.	Part II.F	
	X	An explanation of why the minimum inspection frequency in Table II.A.1.a. was not met, if applicable.	Part II.A.1	
X		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	1
X		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 VI.B.2.	2
	X	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	
	X	YEAR 2: A summary review of codes and regulations to reduce the stormwater impact from development.	Part III.A.2	
X		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	3
	X	YEAR 3: Summary of TMDL Monitoring Results (if applicable).	Part VIII.B.2	
X		YEAR 3: Bacteria Pollution Control Plan (if applicable).	Part VIII.B.3	4
	X	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	
	X	YEAR 4: A report on any amendments to the applicable legal authority (if applicable).	Part III.A.7.a	
	X	YEAR 4: Permit re-application information in accordance with Rule 62-624.420(2), F.A.C. - 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	
	X	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): David Harner

Title: Deputy County Manager

Signature: _____ Date: / /

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							
	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		
	Grass treatment swales (miles)	22	88	100	37	100	Doraine Wetzel Cartegraph Query, Work Orders	Once every three years minimum
	Wet detention systems	169	161	95	161	95	Doraine Wetzel Cartegraph Query, Work Orders	Once every three years
	Pollution control boxes	24	49	100	24	100	Doraine Wetzel Cartegraph Query, Work Orders	Annual inspections
	Major outfalls	36	36	100	0	0	Hubbard, DNR	Annual Inspections
	Weirs or other control structures	23	40	100	338	100	Doraine Wetzel Cartegraph Query, Work Orders	Weirs with gates. Annual Inspections
	pipes / culverts (miles)	681	681	100	18	3		10%/year
	Canals (mi)	116	261	100	18	15		Annual Inspections
	Inlets / catch basins / grates	12,873	1,051	8	370	3		10%/year or 100% every 2

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE										
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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity					Number of Activities Performed	Documentation / Record		Entity Performing the Activity	Comments
	Ditches / conveyance swales (miles)									cycles
	2,327	2,327	100	33	1.4	10%/year				
	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.									

SECTION VII. STORMWATER MANAGEMENT PROGRAM (SWMP) SUMMARY TABLE					
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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
Part III.A.1 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.				
	Strengths: Lee County DOT has transitioned from a pencil and paper work order system to a web-based computer program to track inventory, inspection and maintenance of the municipal stormwater system. Work Orders are no longer used to collect NPDES data.				
	Limitations: Lee County DOT has transitioned from a pencil and paper work order system to a web-based computer program to track inventory, inspection and maintenance of the municipal stormwater system. Staff is adjusting to the new system while specific input problems are being addressed.				
	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	32	Redevelopment DO List FY20.xlsx	Jessica Sulzer Development Review, jsulzer@leegov.com	
	Number of significant development projects approved	56			
	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	☐			
	Year 4 ONLY: Attach the follow-up report on plan implementation	☐			
Part III.A.2 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.				
	Strengths: Per the Lee County Land Development Code all project are required to be designed in accordance with the SFWMD requirements and provided for attenuation/retention of stormwater from the site.				
	Limitations: Site constraints for redevelopment.				
	SWMP revisions implemented to address limitations: None at this time.				
Part III.A.3	Roadways				
	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				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	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	Daily	Litter Collection SOP	LDOT, Doraine Wetzel	
	PERMITTEE Litter Control: Estimated amount of area maintained (mi)	2,190	Cartegraph Query		
	PERMITTEE Litter Control: Estimated amount of litter collected (tons)	1,841			In-house activity only
	CONTRACTOR Litter Control: Frequency of litter collection	0			
	CONTRACTOR Litter Control: Estimated amount of area maintained (mi)	0			
	CONTRACTOR Litter Control: Estimated amount of litter collected (tons)	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".				
	Keep Lee County Beautiful: Total miles cleaned	203	Trish Francher 8/19/20 email	Volunteers	Roadway and shoreline
	Keep Lee County Beautiful: Estimated amount of litter collected (tons)	10			
	Adopt-A-Road: Total miles cleaned	237	Cartegraph Query, Doraine Wetzel	LDOT	Volunteers
	Adopt-A-Road: Estimated amount of litter collected (tons)	59			
	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	Daily	SOP	LDOT	
	Total miles swept	2,938	Cartegraph Query, Doraine Wetzel		
	Estimated quantity of sweeping material collected (tons)	798			
	Estimated quantity of material from catch basins (tons)	2,892			
	Total phosphorous loadings removed (pounds)	2,989	MS4 Load Reduction Tool		SS 576 CB 2412
	Total nitrogen loadings removed (pounds)	4,827			SS 899 CB 3928
Report the equipment yards and maintenances shops that support road maintenance activities and the number of inspections conducted for each facility.					
Name of Facility		Number of Inspections			
LDOT Operations, Zip Drive		1	S:\NPDES\Proacti	DNR Simmons	

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	Fleet Satellite Bay - Detar	1	ve - High Risk - Industrial Facilities\Lee County Municipal\Equipm ent-Maintenance Yards		
	Fleet Management, Van Buren Street	1			

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
Part III.A.3 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.				
	Strengths: Lee County's litter collection program has been an important part of keeping our MS4 clean. Daily streetsweeping and litter collection are considered essential.				
	Limitations: Covid 19 – DNR arranged to purchase a second sweeper for LDOT. Due to the Corona virus pandemic, this purchase was put on hold and remains so to this day.				
	SWMP revisions implemented to address limitations: None at this time.				
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	34	S:\NPDES\Annual Reports\Cycle 4, Year 3, 2019-2020\Surface Water\NatRes_CI P_Program Schedule_FY18-19_20191031 Karyn Allman 20/20 email, 7/20/20	DNR, Luis Molina, LMolina@leegov.com 20/20. Karyn Allman	Bob Janes, Caloosahatchee TMDL, Caloosahatchee Canal Rehab, Deep Lagoon Preserve, Hendry Creek West Branch, Lakes Park Water Quality, Lee Civic Center BMP, Olga Shores Preserve Hyd. Restoration, Powell Creek/Old Bridge Park Restoration, Spanish Creek Restoration, Sunniland/Nine Mile Run, Yellow Fever Creek Restoration/Gator Slough, Pine Lake Preserve
	Flood control projects completed that did <u>not</u> include stormwater treatment	19			
	Stormwater retrofit projects planned/under construction	12			
	Stormwater retrofit projects completed	2		DNR, Luis Molina, LMolina@leegov.com	North Fort Myers FPL Easement Water

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				com	Quality Improvement Project, Nalle Grade Stormwater Park.
	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.	☒			See Attached
Part III.A.4 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.				
	Strengths: Lee County continues to have an active CIP division investing in major water quality treatment projects as well as many annual maintenance projects to reduce flooding. Those projects that provide water storage and treatment include a water quality element. Those projects not containing storage are for flooding projects only and contain incidental water quality treatment. Lee County has several projects planned and/or under construction for the upcoming reporting year.				
	Limitations: Hurricane Irma necessitated the expenditure of major funds to restore the municipal system and improve drainage in areas that were susceptible to flooding. Projects to provide relief from flooding under storm conditions outnumbered water quality programs this year.				
	SWMP revisions implemented to address limitations: None				

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / 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 facilities and the number of the inspections conducted for each facility.				
	Name of Facility	Number of Inspections			
	Alva Storage	1	S:\NPDES\Proactive - High Risk - Industrial Facilities\Lee County Municipal\Non-permitted Municipal Storage\Cycle 4, Year 3	DNR, Hubbard	Ditching Material Temporary Storage
	Buckingham Storage	1			
	Six Mile Storage	1			
	Lehigh Depot	1			
	Polishing Ponds	1			
	Orchid Storage	1			
Part III.A.5 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.				
	Strengths: Lee County DOT and DNR have initiated stormwater management techniques on these sites to control material run-off during rain events. Maintenance and retrofit are on going as conditions change.				
	Limitations: None at this time.				
	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	29	Pest Applicator Parks Staff.xlsx LDOT Staff	LDOT/Parks	11 LDOT 18 Parks and Rec
	CONTRACTORS: FDACS commercial applicators of pesticides/ herbicides	8	Pest Applicator Staff.xlsx 9/22/20 Diana Khan LC Purchasing 344-5450	P&T Lawn & Tractor, Big Tree,Landscape Dimensions	
	PERSONNEL: Green Industry BMP Program training completed	51	http://fyn.ifas.ufl.edu/professionals/c	Lee County Staff	Total Staff

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	CONTRACTORS: FDACS certified / licensed applicators of fertilizer CONTRACTORS: Green Industry BMP Program training completed		ertification_lists/cert_county_name.shtml#Lee		
		80	Tamara James FDACS LF Licenses May 2019-April 2020	Contractors	Ft Myers, Lehigh, Boca Grande, Bokeelia
		2	Pest Applicator Staff.xlsx 9/22/20 Diana Khan LC Purchasing 344-5450	P&T Lawn & Tractor, Big Tree	
	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	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).				
	Brochures/Flyers/Fact sheets distributed Public displays (e.g., kiosks, storyboards, posters, billboards etc.) Radio or television Public Service Announcements (PSAs) Special events: Number conducted Number of visitors to stormwater-related pages	208,732	S:\NPDES\Annual Reports\Cycle 4, Year 3, 2019-2020\Public Education\2019 Fertilize Smart Campaign	DNR, Kurt Harclerode KHarclerode@leegov.com	Fertilize Smart Campaign (Billboards, TV spots, direct mail)
		3			
		812			
		0			No special events
		88,638	Jeff Bristow JBristow@leegov.co 7/14/20; Kurt Harclerode, KHarclerode@leegov.com 9/13/8; Stephen Brown BROWNSH@leegov.com		Fertilizesmart.com, YouTube-UF extension services, Lee County Home and Yard Care

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	FYN: Brochure/Flyers/Fact sheets distributed	4,257	ov.com 7/28/20	FYN, Stephen Brown	
	FYN: Newspapers & newsletters: Number of articles/notices published	10,667	S:\Natural Resources\NPDE		
	FYN: Newsletters: Number of newsletters distributed	30,000	S\Annual		
	FYN: Seminars/Workshops: Number conducted	75	Reports\Cycle 4, Year 3, 2019-		
	FYN: Seminars/Workshops: Number of participants	2,272	2020 Lee County		
	FYN: Special events: Number conducted	2,047	Extension		Consultations
	FYN: Special events: Number of participants	2,047	Services.docx ,		Consultations
	Part III.A.6 Summary	Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.			
Strengths: Lee County proactively passed a Comprehensive Landscape/Fertilizer Ordinance on May 13, 2008 with a mandatory fertilizer black-out period during the rainy season. The Ordinance is enforced by Lee County DNR staff. Lee County’s Fertilize Smart campaign continued this year with new radio, television and billboard spots educating the public on the impacts of over fertilization.					
Limitations: A full-time position, intended to be the enforcement element of the ordinance, was eliminated in Reduction in Force personnel cuts.					
SWMP revisions implemented to address limitations: None expected.					
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				No amendments to the Lee County Land Development Code on Clean Water Provisions occurred 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	99	GIS Attribute	DNR Hubbard,	
	Illicit discharges found during a proactive inspection	26	Table, Collector	Simmons	

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
	NOV/WL/citation/fines issued for illicit discharges found during proactive inspection P2 Proactive Small generator Inspections P2 Number of Violations Found and Resolved P2 Number of citations issued		App	P2	
		7	S:\Natural Resources\NPDE S\Enforcement\Citation and Stop Work Data		
		2,381	Becky Alexander, ralexander@leegov.com		
		384	Miles Washko, AWashko@leegov.com		
		21			
	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 Reactive investigations of reports of suspected illicit discharges etc. Illicit discharges etc. found during reactive investigation NOV/WL/citation/fines issued for illicit discharges etc. found during reactive investigation	95	Intranet2\dotrfa\rfar_results.asp,, CarteGraph	DNR Hubbard, Simmons	
		95			
		64			
		4	S:\NPDES\Enforcement\Citation and Stop Work Data		Verbal Enforcement Mostly Effective
	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	35	Sign-in Sheets	Simmons, DNR	25 Codes, 11 DNR
Contractors trained	75	Sign-in sheets, September FSESC Class ; Access Query	Hubbard, Simmons, DNR	54 Class, 21 in field	
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	328	S:\NPDES\Annual Report\Cycle 4,	State Fire Depts., Lee	

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Permit Citation/ SWMP Element	Permit Requirement/Quantifiable SWMP Activity	Number of Activities Performed	Documentation / Record	Entity Performing the Activity	Comments
			Year 3, 2019- 2020\ Fire\Spills	County DOT	
	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	42	Sign-in Sheet	Simmons, DNR	Fleet & DOT
	Contractors trained	76	Sign-in sheets, S:\NPDES\Construct ion Sites\Active\ConstIn spdata.mdb	Hubbard, Simmons, DNR	54 Class, 22 in field
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).				
	Brochures/Flyers/Fact sheets distributed	3,349	Becky Alexander, ralexander@leegov.com 7/27/20; S:\NPDES\Annual Reports\Cycle 4, Year 3, 2019- 2020/Public Education	DNR	SQG Assessment handouts, Solid Waste event, Science Fair St. Francis, Conservation 20/20 Celebration, WOW Festival, Arthrex
	Public displays (e.g., kiosks, storyboards, posters, etc.)	5			Solid Waste event, Science Fair St. Francis, Conservation 20/20 Celebration, WOW Festival, Arthrex
	Pet Waste Bags distributed	5,335			Animal Services, Dog Club, Lee Grows, Gateway, plus the above events
	Number of visitors to stormwater-related pages	2,089			NPDES, P2 Web

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
			JBristow@leegov.co 7/14/20		pages
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).				
	Brochures/Flyers/Fact sheets distributed Publicize the Lee County Home Chemical Collection Program HHW Collection Day: Amount collected/recycled/properly disposed(tons) Newsletters: Number of newsletters distributed Public displays (e.g., kiosks, storyboards, posters, etc.) Radio or television Public Service Announcements (PSAs) School presentations: Number conducted School presentations: Number of participants Seminars/Workshops: Number conducted Seminars/Workshops: Number of participants Special events: Number conducted Special events: Number of participants Storm sewer inlets newly marked/replaced Number of visitors to stormwater-related pages	2.093 365 911 0 10 0 84 1,787 25 1,003 31 1,018 24 21,676	Molly Schweers, Solid Waste, mschweers@leegov.com , 7/23/20 Lee- county.com/solidw aste Amanda Condomina email acondomina@leegov.com 7/31/20 Molly Schweers, Solid Waste, mschweers@leegov.com , 7/23/20 Suzanne Frechette email 11/12/19 Jeff Bristow JBristow@leegov.co 7/14/20	Lee County Solid Waste	Materials distributed Booth at events Classroom Presentation Speaking Engagement Tours Pine Brook Lakes HCW and Household Hazardous Waste Web page

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.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		Lee County, Florida Governmental Utility Authority			
	Activity to reduce/eliminate SSOs and I&I: (Lined Pipe)		9,262,LF	Rich Simms email NPDES 8/11/20, Lina Quintero / Natalie Harvey nharvey@uswater corp.net 9/3/20	LCU	Pipe Lined
	Activity to reduce/eliminate SSOs and I&I: (Manholes sealed and coated)		13			
	SSO incidents discovered		34		LCU & FGUA	16 LCU 18 FGUA
	SSO incidents resolved		34			
	Inflow / infiltration incidents discovered		120	LCU		
	Inflow / infiltration incidents resolved		120		Lateral and main line repairs	
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.3 of the permit.					
	Strengths: LCU continues to maintain the system – 7,630 manholes were inspected this year. Smoke testing resulted in 94 repairs.					
	Limitations: Storm events. Illegal draining into the sanitary system are problematic.					
	SWMP Revisions implemented to address limitations: None at this time.					
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				M W Horticulture
	Hazardous waste treatment, storage, disposal and recovery (HWTSDR) facilities	0				
	EPCRA Title III, Section 313 facilities (TRI)	0				
	Facilities determined as high risk by the permittee	1	1		Proactive Reports	

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.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			
Part III.A.8 Summary	For activities required by Part III.A.8: Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.				
	Strengths: Lee County has no High-Risk landfills, HWTSDR, or TRI facilities. However, the County has selected one facility that has a history of illicit discharges and properties that require annual inspections for quality of stormwater run-off.				
	Limitations: staffing and budget				
	SWMP revisions implemented to address limitations: One facility has been entitled High-Risk so that it receives extra staff time.				
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	9	Simmons, Hubbard, DNR	S:NPDES/Annual Reports/Cycle 4 Year 3 Municipal	
	PERMITTEE SITES: Construction site plans approved	5			
	PRIVATE SITES: Construction site plans reviewed	224	Hubbard, Simmons, DNR	S:NPDES/Annual Reports/Cycle 4 Year 3 Private	
	PRIVATE SITES: Construction site plans approved	114			
	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	157	Accela Search, Community Development Reviewers, DNR	Community Development; DO Requirements	
	Confirmed ERP coverage	157			
	Notified of CGP stormwater permit requirements	157			
	Confirmed CGP coverage	157		Access Inspections Search	157 Development Order requirement, 68

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
						in field
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		14	Hubbard, Simmons, DNR	Access Inspections Search	
	PERMITTEE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs		99			
	PERMITTEE SITES: Percentage of active construction sites inspected		100			7 Average / site
	PRIVATE SITES: Active construction sites		154			
	PRIVATE SITES: Pre-, During, and Post inspections of active construction sites for E&S and waste control BMPs		1447			
	PRIVATE SITES: Percentage of active construction sites inspected		100		9 Average / site	
	Enforcement Action		26		S: NPDES Enforcement	citations
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	0	2			No new inspectors, refresher only
	Permittee construction site plan reviewers		2			Refresher only
	Permittee construction site operators		0			No LC site operators
Part III.A.9 Summary	For activities required by Part III.A.9: Provide an evaluation of the Stormwater Management Program according to Part VI.B.3 of the permit.					
	Strengths: Lee County provided the FSESCI class along with ID training and BMP choice. We trained 82 attendees this year.					
	Limitations: Staff and time required for the FSESCI class is significant. Covid 19 restrictions affected the 2020 classes.					
	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.
		No change.
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)
		No change.

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	Monitoring Summary / BPCP Due Date	Supplemental SWMP Due Date
	3258B1	Hendry Creek Marine	Bacteria	X / ☐	57.4	1	(Year 3 AR)	(Year 4 AR; N/A if BPCP)
	3240G	Trout Creek	Bacteria	X / ☐	58	2		
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			
	3258B1	Bacteria	(Year 3 AR)	(Year 4 AR; N/A if BPCP)	Please see Attachment 4 for progress report.			
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):							
	Please see Attachment 4							

Attachments

Attachment 1	Flood Control Projects
Attachment 2	Water Quality Monitoring Summary
Attachment 3	Pollutant Loading
Attachment 4	Bacterial Pollution Control Plan Update

ATTACHMENT 1: FLOOD CONTROL PROJECTS

Flood Control Projects Completed 2019-2020	
Project Name	
Hickey's Creek/Dyess Creek	
Yellow Fever Creek @ Corbett rd	
Millers Gully	
Indian Creek	
Orange River	
Werner Dr Canal Maintenance	
Misc Downed Trees NFM	
Mullock Creek	
Wyomi Creek Maintenance	
Popash Creek/Chapel Branch	
Bayshore Cr/Henderson Gr	
Sunshine Village	
Grande Pine/Meadowlark	
Antigua Way	
River Forest/Lazy River Ditch Maintenance	
Luckett Ext to Homestead Ditch	
Homestead Lane Culvert Replacement	

These projects are maintenance issues only for flow associated with flood control, essentially through vegetation removal, structure repairs and replacement and dredging. There is little opportunity to include additional stormwater treatment.

ATTACHMENT 2: WATER QUALITY MONITORING SUMMARY

Nine watersheds with water quality sampling sites at major County outfalls have been assessed over nine years. Sampling results for 2020 are for a partial year through the end of Year 3. Total Nitrogen and Total Phosphorus are annual geometric means; all others are arithmetic means. Numeric Nutrient Criteria lines have been included for Total Nitrogen and Total Phosphorus. No benchmark levels are depicted for Biological Oxygen Demand (BOD), Copper, Total Suspended Solids (TSS) and Zinc as the water quality results are substantially below the benchmark levels as to make the graphs awkward. Trend lines are displayed for all parameters.

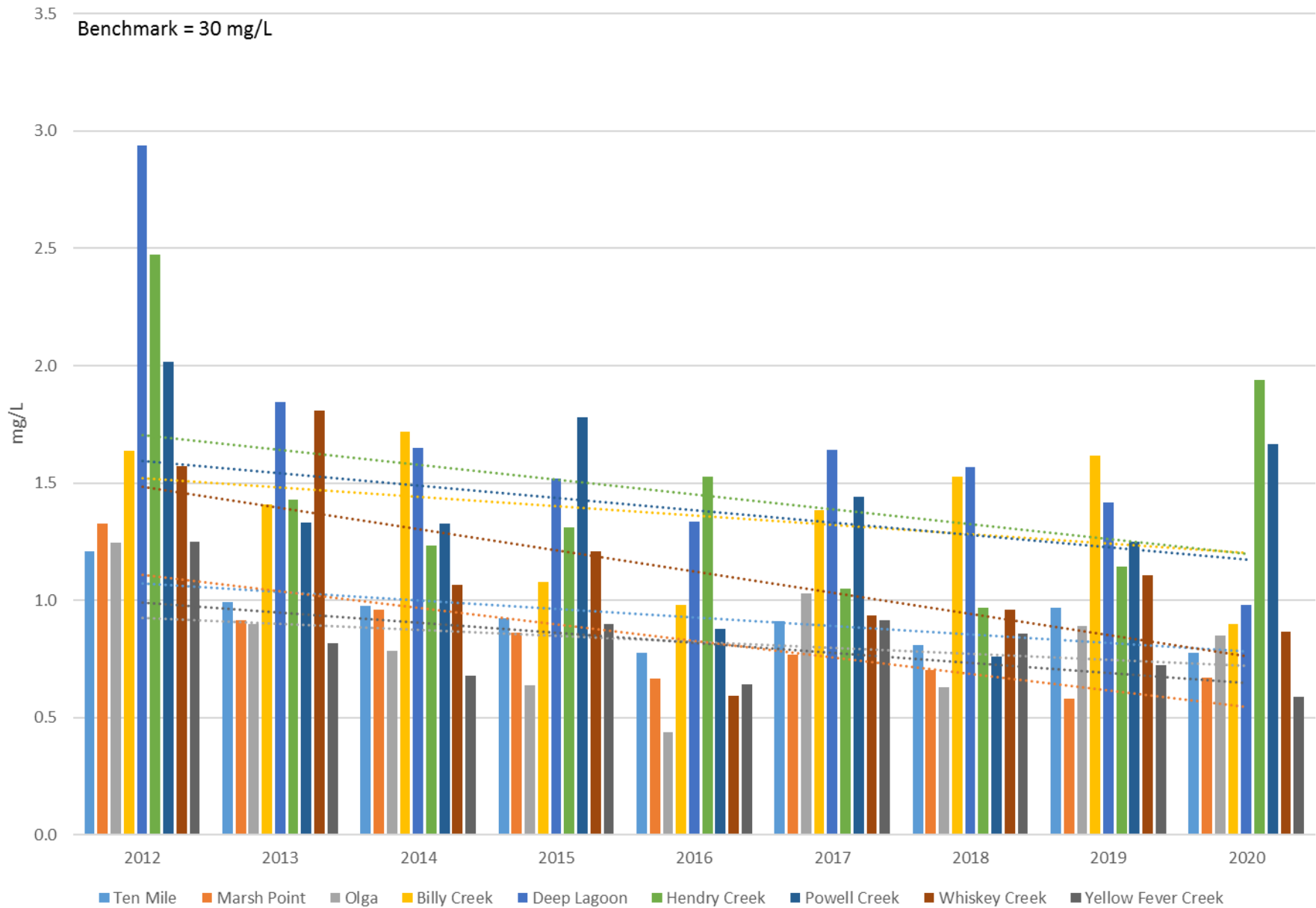
Results for Total Phosphorus show three watersheds; Billy Creek, Marsh Point, and Yellow Fever Creek, above the Numeric Nutrient Criteria (NNC) of 0.116 mg/L. The contributing land uses are mixed mobile home and older densely packed quarter-acre lots. Deep Lagoon watershed, elevated last permit year, has decreased under the NNC.

All Total Nitrogen sampling results for Year 3 remain below the Numeric Nitrogen Criteria for peninsular Florida (1.54 mg/L). Billy Creek remains the watershed with the uppermost reading. The sampling site is located on the boundary of the City of Ft Myers and the County in an area of older, densely populated small-lot home sites.

Of the metals, both Copper and Zinc are well below set standards. Copper results are steady or declining. Biological Oxygen Demand is low and Total Suspended Turbidity are not problems.

BOD

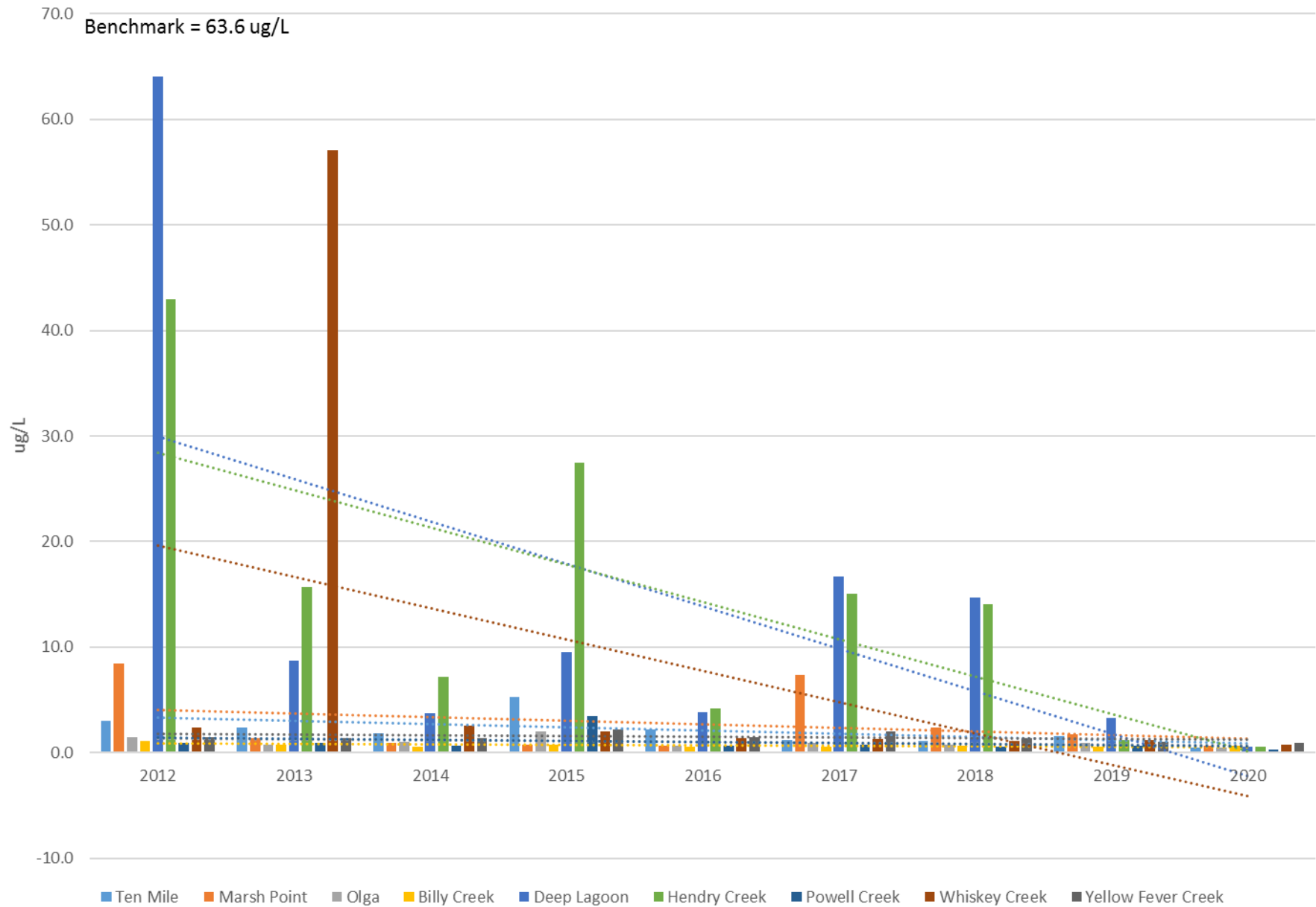
Benchmark = 30 mg/L



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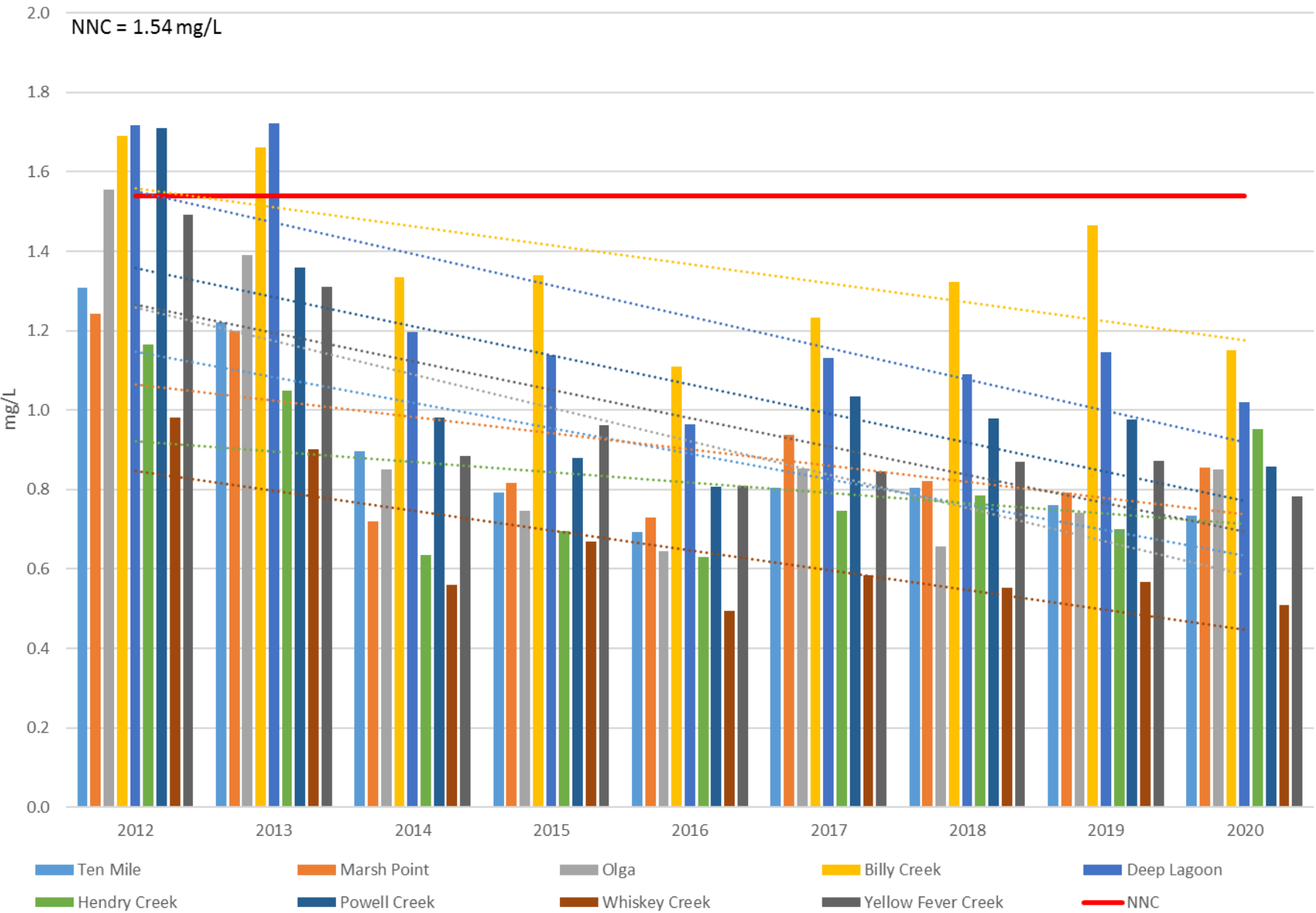
Copper

Benchmark = 63.6 ug/L



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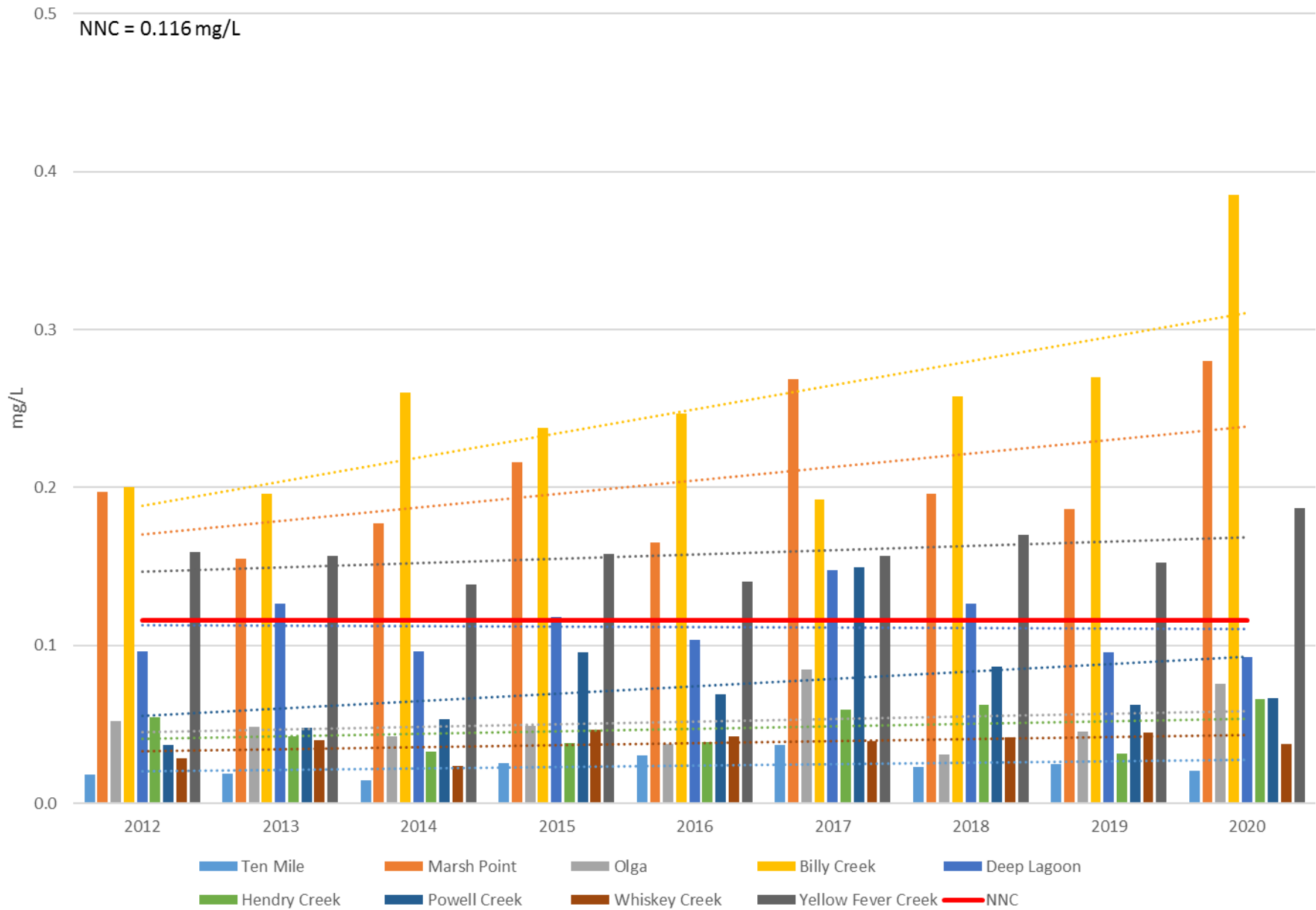
Total Nitrogen



EFF DATE

Total Phosphorus

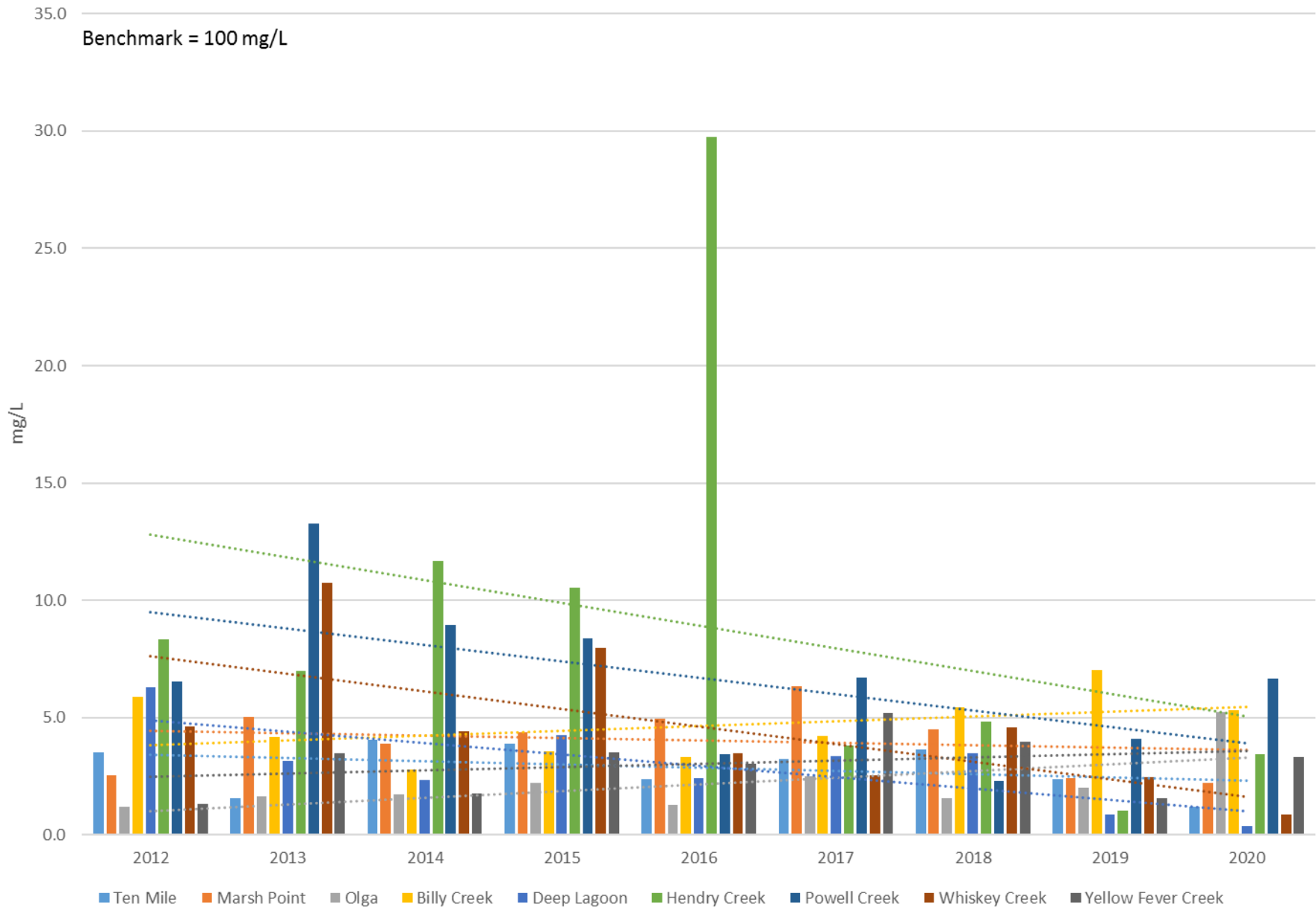
NNC = 0.116 mg/L



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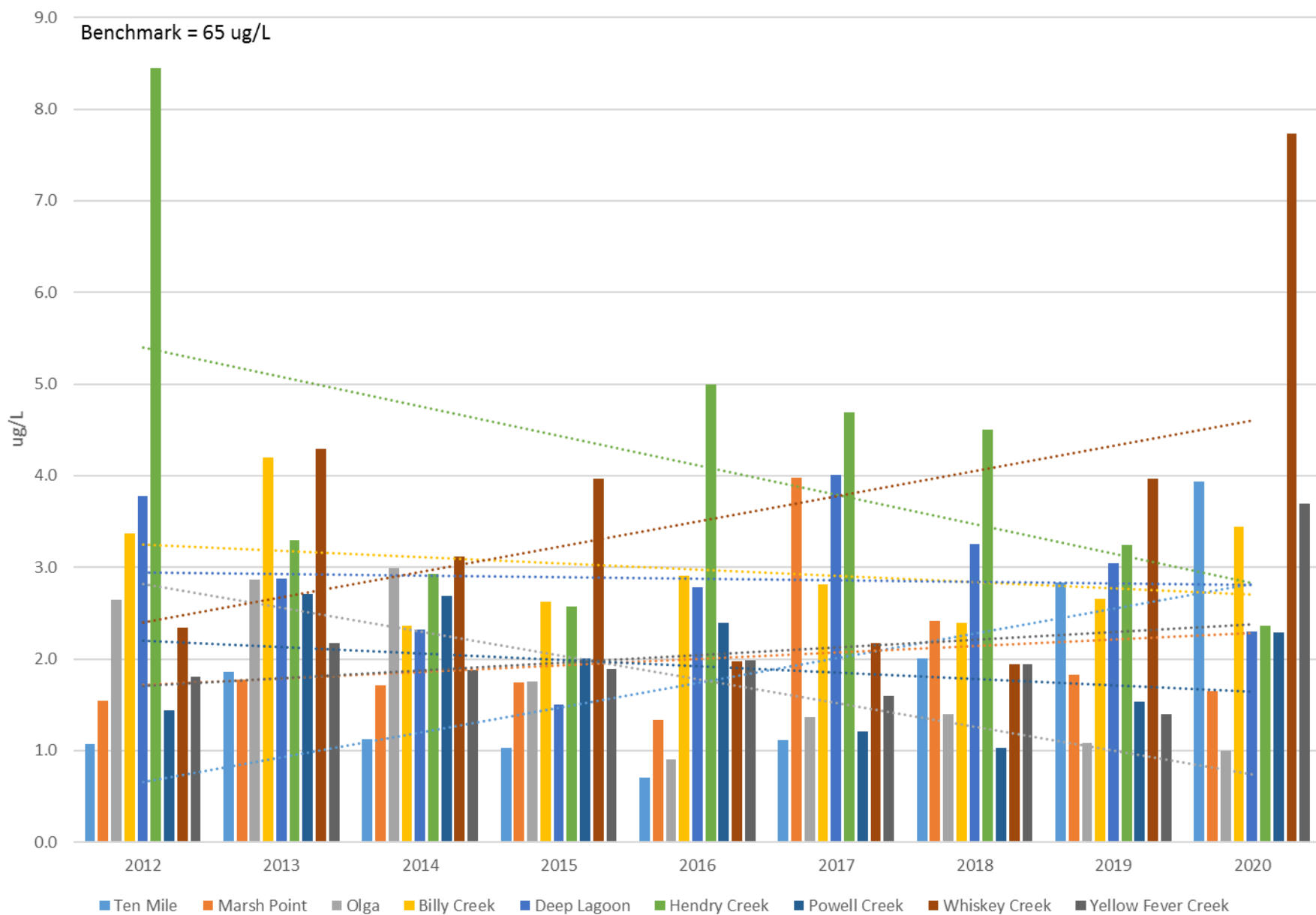
Total Suspended Solids

Benchmark = 100 mg/L



EFF DATE

Zinc Graph



EFF DATE

Annual Pollutant Loading Analysis *Cycle 4, Year 3*



*Lee County
Fort Myers, Florida*

September 2020



APPLIED TECHNOLOGY AND MANAGEMENT, INC.
2201 NW 40 TERRACE.
GAINESVILLE, FLORIDA 32605
386-256-1477

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- 2 Watersheds and Sampling Stations Used in the Pollutant Loading Analysis
- 3 Average Annual Rainfall Based on Water Year
- 4 2014 and 2019 Normalized Total Annual Loads (tons)

List of Figures

- 1 Watersheds and Water Quality Sampling Stations for the Cycle 4, Year 3 Pollutant Loading Analysis

1.0 Introduction

Part V.A. of Lee County's municipal separate storm sewer system (MS4) permit (Permit #FLS000035) requires the County to estimate average annual pollutant loading from its major outfalls or major watersheds for six constituents (Table 1) and compare current annual loadings to loadings calculated in the previous permit cycle. If pollutant loadings are increasing, the permittee is required to re-evaluate its stormwater management plan (SWMP) and identify and submit revisions to the SWMP in its Year 4 report. This report summarizes the results of the Cycle 4, Year 3 pollutant loading analyses at nine outfall stations in nine major watersheds in Lee County. Analysis methodology is discussed in Section 2.0 and results are presented in Section 3.0.

Table 1. Water Quality Constituents Evaluated in
Year 3 Pollutant Loading Analysis

Parameter
Biochemical Oxygen Demand (BOD5)
Total Nitrogen
Total Phosphorus
Total Copper
Total Zinc
Total Suspended Solids

2.0 Methodology

Pollutant loading analyses were conducted using a loading model the Lee County Department of Natural Resources developed. This model was used in the Cycle 3 pollutant load analyses and has been used by Lee County since at least 2009 to estimate watershed loads and assess progress in reduction pollutant loads. The model uses measured water quality data and monthly U.S. Geological Survey (USGS) gauged stream data in Lee County to estimate the load for the watershed. Monthly flow in ungauged basins is estimated using the average monthly county-wide flow per square mile from local USGS gauged streams. Annual analyses are based on the water year, i.e., October 1 to September 30. For this analysis, loading in water year 2019 (October 1, 2018 – September 30, 2019) is compared to loading from water year 2014 (October 1, 2013 – September 30, 2014).

Table 2 lists the characteristics of the nine watersheds evaluated. Figure 1 shows the watershed locations and the water quality sampling stations used in the analyses. Water quality samples are collected monthly at each station. To determine the total load for a given month, the pollutant concentration for the month's sample is multiplied by the total monthly discharge. The sum of monthly loads for the water year is the total annual load.

Table 2. Watersheds and Sampling Stations Used in the Pollutant Loading Analysis

Tributary	Watershed	Sampling Stations	Drainage Area (square miles)	% of Watershed above Sampling Station
Ten Mile Canal	46C	10MIGR40	12.3	18
Hancock/Yellow Fever Creek	16	YFC-CI	3.7	96
Marsh Point	18	18-6GR	2.2	100
Olga Creek	39	39-GR20	6.1	100
Billy Creek	41	BillGR60	1.3	12
Deep Lagoon	43	DeepGR50	7.8	100
Hendry Creek	45	HendGR20	13.6	100
Powell Creek	17	PowlGR81	10	75
Whiskey Creek	42	WhisGR10	9.3	100

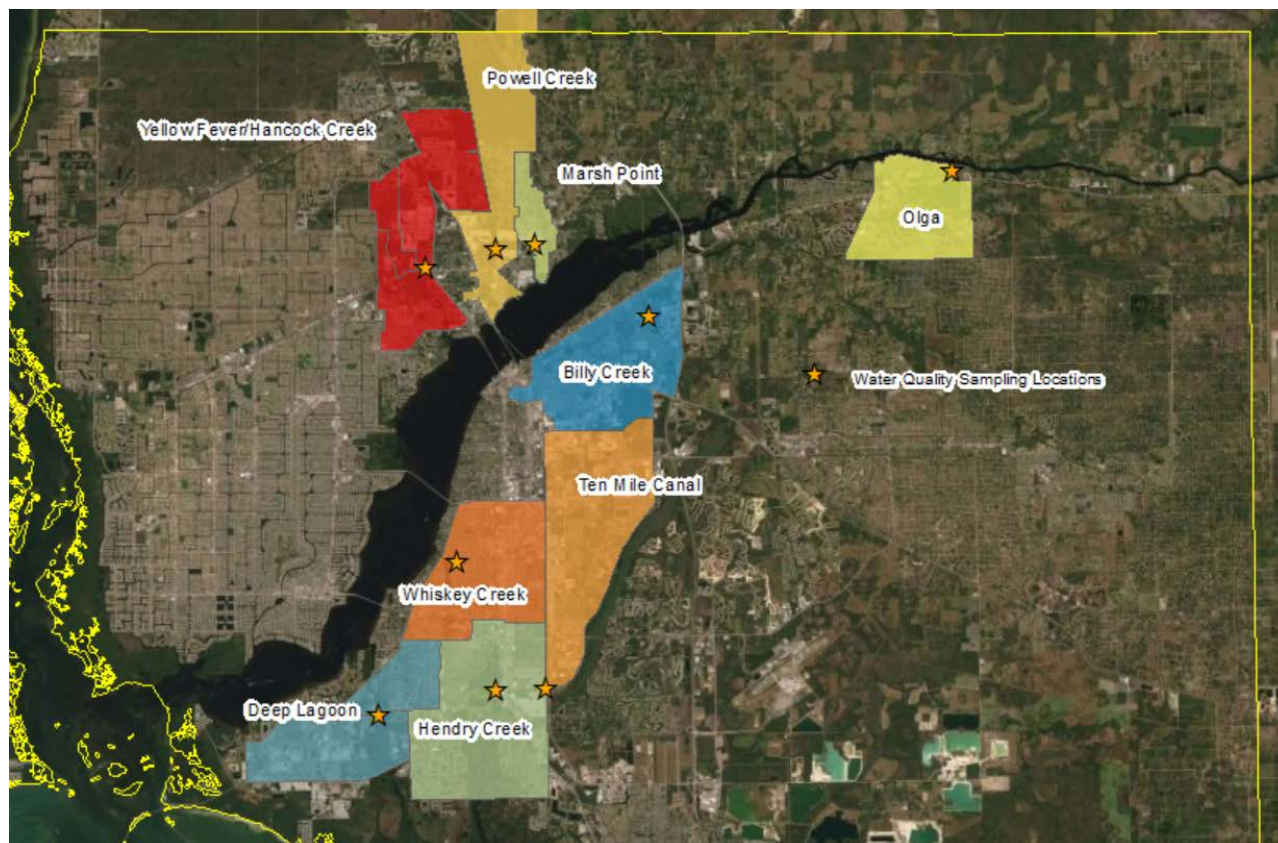


Figure 1. Watersheds and Water Quality Sampling Stations for the Cycle 4, Year 3 Pollutant Loading Analysis

As required by the permit, loads were normalized using annual rainfall. Since load is determined based on discharges measured at USGS gages, average annual rainfall is determined from the county rain gages within the areas of influence of the USGS gauges. Annual rainfall values used to normalize results are shown in Table 3.

Table 3. Average Annual Rainfall Based on Water Year	
Water Year	Rainfall (in.)
2014	40.35
2019	52.37

3.0 Results

Annualized loading results for the nine basins are summarized in Table 4. Decreases of more than 15 percent relative to Cycle 3 are highlighted in green, and increases of more than 15 percent are highlighted in peach.

Table 4. 2014 and 2019 Normalized Total Annual Loads (tons)

Parameter	Watershed								
	Olga	Yellow Fever/ Hancock	Powell	Marsh	Billy	Ten Mile Canal	Hendry	Deep Lagoon	Whiskey
TN - 2014	3.48	2.15	7.50	1.12	1.21	5.93	4.75	6.69	5.72
TN - 2019	3.15	2.50	7.45	1.23	1.49	9.68	5.34	6.05	5.78
TP - 2014	0.20	0.71	0.35	0.27	0.21	0.14	0.23	0.50	0.28
TP - 2019	0.19	0.36	0.35	0.24	0.24	0.32	0.21	0.51	0.43
BOD - 2014	3.01	1.84	6.33	1.22	1.45	6.79	10.77	10.00	10.92
BOD - 2019	2.83	2.05	4.80	0.66	1.66	12.22	8.70	7.15	8.37
TSS - 2014	5.01	8.11	32.51	5.49	4.16	34.53	38.04	14.57	53.42
TSS - 2019	8.42	6.62	14.49	3.65	4.49	39.12	8.00	5.48	20.96
CU - 2014	0.0048	0.0038	0.0042	0.0011	0.0005	0.0197	0.0339	0.0173	0.0274
CU - 2019	0.0035	0.0040	0.0043	0.0017	0.0006	0.0151	0.0119	0.0090	0.0130
ZN - 2014	0.0108	0.0049	0.0226	0.0031	0.0022	0.0104	0.0279	0.0294	0.0510
ZN - 2019	0.0043	0.0049	0.0092	0.0030	0.0023	0.0241	0.0254	0.0136	0.0279

4.0 Summary

Except for Ten Mile Canal, pollutant loads are generally decreasing or staying constant. The Cycle 3 pollutant loading analysis also showed increasing pollutant loads in Ten Mile Canal. In response, the County updated its SWMP to increase the frequency and areal extent of street sweeping and frequency of pro-active illicit discharge inspections. These activities are ongoing and expected to continue indefinitely.

Even with the remediation actions taken in Cycle 3, the pollutant loads in Ten Mile Canal have not decreased. Since about 60 percent of the watershed upstream of the sample location is in the City of Fort Myers, the County evaluated pollutant loading rates at the southern boundary of the City, approximately 3.8 miles upstream, and at several locations in between. These analyses show no appreciable difference between the pollutant loading rates from the City and the pollutant loading rates downstream. This suggests that meaningful reduction in pollutant loads in this watershed are most likely to occur in conjunction with the implementation of additional efforts within the City's jurisdiction. Therefore, in addition to the County's increased street sweeping and pro-active inspections implemented in Cycle 3, during the next reporting year, the County will coordinate with the City of Fort Myers to investigate potential causes of the increasing loads within the City's jurisdiction.

ATTACHMENT 4: BACTERIAL POLLUTION CONTROL PLAN UPDATE

Year 3, Cycle 4 marks the fourth year of the Lee County Bacterial Pollution Control Plan for Hendry Creek WBID 3258B2. Most of the sampling sites are tidal so Enterococci bacteria is reviewed. All indicated sites drain to the creek. Three additional sampling sites were added in June 2018 to further trace back bacterial sources into neighborhoods. The figure below depicts the watershed with discussed sampling points.



Figure 1. Monitoring sites for Hendry Creek. Red sample sites are newly installed sites to support bacterial investigation.

Enterococci data during Year 2 and Year 3 of the BPCP are compared below. F.A.C.62-302.530 Surface Water Criteria sets the parameter for Enterococci bacteria at 130 units/100mL. A number of BMPs were initiated in the first two years of the BPCP, but, in general, there is little difference between the two years. Since the parameter of concern was changed from fecal coliform to E. coli and Enterococci, sampling results are limited to two years. While this is not a large dataset, trends may be indicated. Bacterial reduction may not be evident for a number of years into the future.

LP-CT2

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/7/2018	167	130	21%
6/7/2018	132	130	2%
7/2/2018	25	130	0%
8/16/2018	201	130	38%
9/12/2018	33	130	0%
10/9/2018	1	130	0%
11/15/2018	3	130	0%
12/3/2018	4	130	0%
1/10/2019	199	130	35%
2/7/2019	4	130	0%
3/12/2019	17	130	0%
4/9/2019	58	130	0%
Year 2		Required reduction	8%
5/9/2019	73	130	0%
6/13/2019	40	130	0%
7/11/2019	687	130	81%
8/14/2019	96	130	0%
9/12/2019	6	130	0%
10/10/2019	15	130	0%
11/19/2019	15	130	0%
12/2/2019	3	130	0%
1/9/2020	2	130	0%
2/20/2020	1	130	0%
3/17/2020	1	130	0%
4/27/2020	8	130	0%
5/7/2020	25	130	0%
Year 3		Required reduction	6%

LP-CT3

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/7/2018	11	130	0%

6/7/2018	27	130	0%
7/2/2018	100	130	0%
8/16/2018	6	130	0%
9/12/2018	4	130	0%
10/9/2018	2	130	0%
11/15/2018	2	130	0%
12/3/2018	9	130	0%
1/10/2019	10	130	0%
2/7/2019	10	130	0%
3/12/2019	9	130	0%
4/9/2019	308	130	58%
Year 2		Required reduction	5%
5/9/2019	79	130	0%
6/13/2019	24	130	0%
7/11/2019	26	130	0%
8/14/2019	1414	130	91%
9/12/2019	2	130	0%
10/10/2019	9	130	0%
11/19/2019	11	130	0%
12/2/2019	11	130	0%
1/9/2020	5	130	0%
2/20/2020	20	130	0%
3/17/2020	24	130	0%
4/27/2020	15	130	0%
5/7/2020	55	130	0%
Year 3		Required reduction	7%

HENDGR02

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
8/6/2018	10	130	0%
10/23/2018	10	130	0%
3/27/2019	10	130	0%
2/22/2019	137	130	5%
8/14/2019	10	130	0%
11/20/2019	20	130	0%
3/3/20	10	130	0%
Year 2 & 3		Required reduction	<1%

HENDGR01

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
-----------------	--------------------	------------------------	--------------------

7/24/2018	10	130	0%
10/23/2018	10	130	0%
3/27/2019	10	130	0%
5/22/2019	31	130	0%
8/14/2019	42	130	0%
11/20/2019	20	130	0%
3/3/2020	10	130	0%
Year 2 & 3		Required reduction	<1%

HENDGR41

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/3/2018	133	130	2%
6/13/2018	411	130	68%
7/23/2018	345	130	62%
8/15/2018	137	130	5%
9/18/2018	395	130	67%
10/23/2018	42	130	0%
11/5/2018	1414	130	91%
12/6/2018	488	130	73%
1/29/2019	1553	130	92%
2/12/2019	308	130	58%
3/6/2019	219	130	41%
4/9/2019	2420	130	95%
Year 2		Required reduction	55%
5/28/2019	89	130	0%
6/26/2019	162	130	20%
7/17/2019	1300	130	90%
8/21/2019	770	130	83%
9/24/2019	549	130	76%
10/17/2019	659	130	80%
11/20/2019	272	130	52%
12/17/2019	31	130	0%
1/21/2020	14	130	0%
2/4/2020	461	130	72%
3/12/2020	142	130	8%
4/14/2020	1542	130	92%
5/11/2020	132	130	2%
Year 3		Required reduction	44%

HENDGR40

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/3/2018	980	130	87%
6/13/2018	344	130	62%
7/23/2018	1733	130	92%
8/15/2018	197	130	34%
9/18/2018	866	130	85%
10/23/2018	479	130	73%
11/5/2018	1986	130	93%
12/6/2018	140	130	7%
1/29/2019	117	130	0%
2/12/2019	260	130	50%
3/6/2019	411	130	68%
4/9/2019	2420	130	95%
Year 2		Required reduction	62%
5/28/2019	1046	130	88%
6/26/2019	330	130	61%
7/17/2019	613	130	79%
8/21/2019	830	130	84%
9/24/2019	2420	130	95%
10/17/2019	727	130	82%
11/20/2019	1300	130	90%
12/17/2019	436	130	70%
1/21/2020	66	130	0%
2/4/2020	208	130	37%
3/12/2020	228	130	43%
4/14/2020	1186	130	89%
5/11/2020	30	130	0%
Year 3		Required reduction	63%

HENDGR30

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/3/2018	2420	130	95%
6/13/2018	154	130	16%
7/23/2018	649	130	80%
8/15/2018	548	130	76%
9/18/2018	126	130	0%
10/23/2018	159	130	18%
11/5/2018	1986	130	93%
12/6/2018	160	130	19%
1/29/2019	378	130	66%
2/12/2019	435	130	70%

3/6/2019	173	130	25%
4/9/2019	231	130	44%
Year 2		Required reduction	50%
5/28/2019	130	130	0%
6/26/2019	122	130	0%
7/17/2019	649	130	80%
8/21/2019	549	130	76%
9/24/2019	365	130	64%
10/17/2019	512	130	75%
11/20/2019	241	130	46%
12/17/2019	34	130	0%
1/21/2020	51	130	0%
2/4/2020	457	130	72%
3/12/2020	10	130	0%
4/14/2020	895	130	85%
5/11/2020	30	130	0%
Year 3		Required reduction	38%

HENDGR11A

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
6/13/2018	1986	130	94%
7/23/2018	816	130	84%
8/15/2018	29	130	0%
9/18/2018	32	130	0%
1/29/2019	84	130	0%
Year 2			36%
6/26/2019	291	130	55%
7/17/2019	152	130	14%
8/21/2019	75	130	0%
9/24/2019	248	130	48%
10/17/2019	276	130	53%
11/20/2019	158	130	18%
12/17/2019	4	130	0%
1/21/2020	3	130	0%
2/4/2020	54	130	0%
Year 3		Required reduction	21%

HENDGR42

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/2018	2420	130	95%

6/218	2420	130	95%
7/2018	2420	130	95%
8/2018	461	130	72%
9/2018	1120	130	88%
10/2018	157	130	17%
11/2018	2420	130	95%
12/2018	549	130	76%
1/2019	1300	130	90%
2/2019	461	130	72%
3/2019	435	130	70%
4/2019	548	130	76%
Year 2		Required reduction	78%
5/2019	2420	130	95%
6/2019	2420	130	95%
7/2019	724	130	82%
8/2019	921	130	86%
9/2019	2420	130	95%
10/2019	2420	130	95%
11/2019	770	130	83%
1/2020	38	130	0%
2/2020	1553	130	92%
3/2020	26	130	0%
4/2020	1986	130	93%
Year 3		Required reduction	74%

HENDGR43

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
5/2018	756	130	83%
6/218	816	130	84%
7/2018	770	130	83%
8/2018	1986	130	93%
9/2018	722	130	82%
10/2018	225	130	42%
11/2018	1986	130	93%
12/2018	118	130	0%
1/2019	1300	130	90%
2/2019	103	130	0%
3/2019	199	130	35%
4/2019	2420	130	95%
Year 2		Required reduction	65%
5/2019	548	130	76%

6/2019	1228	130	89%
7/2019	1986	130	93%
8/2019	1011	130	77%
9/2019	2420	130	95%
10/2019	1986	130	93%
11/2019	1046	130	88%
12/2019	111	130	0%
1/2020	16	130	0%
2/2020	579	130	78%
3/2020	89	130	0%
4/2020	272	130	52%
Year 3		Required reduction	62%

HENDGR44

Collection Date	Enterococci Result	TPTV (130counts/100mL)	Required Reduction
6/218	101	130	0%
7/2018	292	130	55%
8/2018	649	130	80%
1/2019	2420	130	95%
2/2019	689	130	81%
Year 2		Required reduction	62%
7/2019	1986	130	93%
8/2019	571	130	77%
9/2019	145	130	10%
10/2019	2420	130	95%
11/2019	64	130	0%
12/2019	6	130	0%
1/2020	387	130	66%
2/2020	378	130	66%
Year 3		Required reduction	51%
<i>Note: Missing data indicates sampling site was dry.</i>			

Bacterial reduction results at the eleven sampling sites have been averaged and grouped by general location. See Figure 1.

Group A

Site ID	General Site Location	Required Reduction
LP-CT2	Lakes Park East Weir	7%
LP-CT3	Lakes Parks West Weir	6%

HENDGR02	Mid-Hendry Creek	0%
HENDG01	South-Hendry Creek	0%

Group B

SITE ID	General Site Location	Required Reduction
HENDGR41	Northwest Watershed	49%
HENDGR40	West Watershed	63 %
HENDGR30	Mid-West Watershed	40%
HENDGR11A	East Watershed	26%

Group C

Site ID	General Site Location	Required Reduction
HENDGR44	NW Neighborhood	56%
HENDGR43	Mid-West Neighborhood	64%
HENDGR42	SW Neighborhood	76%

Group A (shaded in orange in Figure 1) shows very minimal bacterial concentration. Group B exhibits a moderate bacterial reduction requirement; HENDGR40 has the highest reduction in this group. Two sites in Group C (HENDGR43 & 44) drain through this point. Group C reflects the highest required reductions for Hendry Creek. Group C has the NEW sampling sites added in June 2018 to further investigate bacterial sources by moving into neighborhood discharges. These three sites were added to reflect an area of older homes on septic systems, both mounded and at ground level, susceptible to water table rise and heavy rains.

In July of 2019, samples from sites HENDGR42 and HENDGR43 were analyzed for Bird, Dog and Human DNA. (Site HENDGR had been dry for months.) Both Bird and Human fecal DNA were detected in both sites. Dog fecal DNA was not detected.

To address the finding of Human fecal DNA, Lee County Board of County Commissions has allocated \$650,000 to the Division of Natural Resources for the *Microbial Source Tracking Study in Lee County Waterways*. Sampling at sites County-wide is ongoing through 2021 in 20 different neighborhoods. Results and a final report are expected in 2021.

Public Education alerting Lee County citizens to the potential harm of uncollected pet waste continues. As reported in Part III.A.6 billboards and TV spots brought the message to the public. County Ordinance 14-22 requires pet waste removal on public walks, recreation areas, private property or any other place where the pet waste may be damaging. Thousands of pet waste bags are distributed yearly to Lee County citizens. Private lift stations in the Hendry Creek Watershed were inspected for the third year, again revealing no problems. Illicit discharge reports are investigated promptly.