



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes ☒ No ☐

WIN Station Name: MILL BRANCH 400m upstream of Old San Mateo at Corrections

Date: 12/19/2019

(mm/dd/yyyy)

WIN/ Field ID: G2NE1209

WBID: 2592

Latitude: 29.6479

(Decimal Degrees)

County: Putnam

ORG ID: 21FLA

Longitude: -81.58877

(Decimal Degrees)

Receiving Body of Water: SJR

RQ-2019- 09-09-18

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
J. Parrish						X			
J. Kalmbacher					X		X	X	

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>Secchi</u>		
Equipment ID <u>Ortho Rt 44</u>		

Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low / Normal / High / Flooded
Photos: Yes / No / Flow: No Flow / Intestinal / Flowing / NA
Meter ID# YSI Pro DSS Satch Matrix: Fresh Marine / DI
Tide: Rising/ Falling/ Slack/ NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)
<u>EST</u>	<u>1100</u>	<u>0.15</u>	<u>0.07</u>	<u>0.15</u>	<u>6.85</u>	<u>63.8</u>	<u>7.0</u>	<u>0.39</u>	<u>787</u>	<u>12.1</u>
CEN				<u>S</u>						

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:

SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / ☒ W-NO2NO3 / ☒ W-TKN / ☒ W-TOC / ☒ W-S-A-TP	☒ Ice ☒ H2SO4	<u>SA9203100</u>	<u>7/2020</u>	☐ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	<u>NA834405</u>	<u>12/2019</u>	☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	<u>R91BA88015</u>		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / ☒ W-F / ☒ W-TSS / ☒ TURBIDITY / ☒ W-CI-IC / ☒ W-COLOR / ☒ W-SO4-IC / ☒ W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / ☐ W-BR-IC / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides	☒ W-PSNP-TQ ☐ W-CT-CL-R ☒ W-E8321-DI ☐ W-PCL-SQ-R ☒ WE8321-MS ☐ W-CARB-AA	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes:

WIN ID/Field ID:



G2NE1209

Mill Branch 400m upstream of Old San Mateo at Corrections

Signature:

J. Kalmbacher

Date:

12-19-2019

LIMS EVENT ID: WIN Import ID:

Enter Field Parameters, Verify Station ID in LIMS DMT: QC Station ID, Field Parameters in LIMS DMT:

Scan/Save Field Sheets Migrate Data to WIN: Verify Data in WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

(Initials/Date)

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLA LATITUDE 29.6479
 COUNTY Putnam STORET # 62NE1209 LONGITUDE -81.58877
 DATE 12/19/19 TIME 1100 SAMPLING AGENCY _____
 SITE NAME Mill Branch 400m upstream of Old Sunnyside Correctional
 FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐							Landscape Development Intensity Index (LDI) ☐
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy							Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>1.75</u> m wide
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>218</u> Right Bank: <u>218</u>				Hydrologic Modification Score (per FT 3101) ☐		<u>0.125</u> m/s	
High Water Mark: <u>0.9</u> + <u>0.2</u> = <u>0.7</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No		<u>0.75</u> m deep	
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☒ Heavily Shaded ☐ Moderate Shaded (46-80%)			

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse			Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): _____			Smothering of Substrates Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Algae Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐				
SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon			WATER QUALITY							
Woody Debris (Snags) <u>3.75</u> <u>7</u> <u>7</u> Undercut Banks / Roots <u>4.25</u> <u>7</u> <u>7</u> Leaf Packs or Mat Aquatic Vegetation Rock or Shell Rubble..... Sand..... <u>75</u> <u>3</u> <u>3</u> Mud / Muck / Silt <u>25</u> <u>3</u> <u>3</u> Other Other			Depth (M) Top: <u>0.15</u> Mid: <u>0.15</u> Bottom: <u>0.15</u>	Temp. (°C) <u>12.1</u>	pH (SU) <u>7.0</u>	D.O. (MG/L) <u>6.85</u>	D.O. Sat (%) <u>63.8</u>	Cond. (UMHO/CM) <u>787</u>	Salinity (PPT) <u>0.34</u>	SECCHI (M) <u>0.15</u> ☒ VOB TOTAL DEPTH <u>0.15</u>
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐					
			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐					
			Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____							
			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐							
			AMBIENT FIELD CONDITIONS / NOTES: <u>not 25g water plants</u> ☐ The antecedent hydrologic conditions have been met to my best knowledge.							

SAMPLING TEAM

SIGNATURE:

DATE:

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Mill Branch</u>					County: <u>Putnam</u>		Date: <u>12-19-2019</u>		Investigators: <u>J. Parrish / A. Kimberlin</u>	
Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	STORET Station Number: <u>G2NE1209</u>
0	1	N	N		60	1	N	N		Secchi depth Estimated?
	2					2				
	3					3				
	4					4				
	5			96		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N	N		# points ranked 4-6 <u>0</u> total points assessed <u>99</u> % points ranked 4-6 <u>0/100</u>
	2					2				
	3					3				
	4					4				
	5			88		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N	N		Check accompanying data collected at same site/date. Algal mat sample Linear Veg Survey Habitat Assessment SCI/Biorecon Water sample RQ- <u>2019-09-09-18</u>
	2					2				
	3					3				
	4					4				
	5			76		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N	N		Algal Thickness Rank
	2					2				
	3					3				
	4					4				
	5			96		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N	N		N rough, no algae, slimy, algae up to 1mm 3 >1mm - 6mm 4 >6mm - 20mm 5 >20mm - 10 cm 6 >10 cm
	2					2				
	3					3				
	4					4				
	5			96		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N			Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank. Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6. Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.					
	2									
	3									
	4									
	5			96						
	6									
	7									
	8									
	9									

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY:		STORET STATION NUMBER: <u>62NE1209</u>	DATE (MM/DD/YY): <u>12/19/19</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Penn</u>	LOCATION: <u>Mill Branch 400m above old Sunnyside Prison</u>	FIELD ID/NAME:	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>8</u>	20 19 18 17 16	15 14 13 12 11	10 9 <u>8</u> 7 6	5 4 3 2 1
Substrate Availability <u>5</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 <u>8</u> 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>15</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 <u>15</u> 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>13</u> Primary Score <u>44</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 <u>13</u> 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components Artificial Channelization <u>19</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 <u>19</u> 18 17 16	Good sinuosity within old channelized area. Evidence of dredging or straightening in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank <u>6</u> Left Bank <u>6</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 <u>6</u>	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>8</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 9	Width of vegetation >12 to 18m <u>8</u> 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>7</u> Left Bank <u>8</u> Secondary Score <u>64</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. <u>8</u> <u>7</u> 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

108 TOTAL SCORE

Date: <u>12/19/19</u>	Analyst:	Signature:
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The graph is a hand-drawn plot on a grid. The vertical axis is labeled from 0 to 100 in increments of 10. The horizontal axis is also labeled from 0 to 100 in increments of 10. The plot contains several handwritten annotations:

- Vertical Axis:**
 - At the top (near 100), there is an 'X' and the value '0.075'.
 - Between 80 and 90, there is a circle with '0.15' inside.
 - Between 70 and 80, there is a circle with '0.3' inside.
 - Between 60 and 70, there is a circle with '0.5' inside.
 - Between 50 and 60, there is a circle with '0.75' inside.
 - Between 40 and 50, there is a circle with '1.0' inside.
 - Between 30 and 40, there is a circle with '2.5' inside.
 - Between 20 and 30, there is a circle with '7.5' inside.
 - Between 10 and 20, there is a circle with '0.075' inside.
- Horizontal Axis:**
 - At the right (near 100), there is an 'X' and the value '0.5'.
 - Between 80 and 90, there is an 'X' and the value '0.75'.
 - Between 70 and 80, there is an 'X' and the value '0.25'.
 - Between 60 and 70, there is an 'X' and the value '0.25'.
 - Between 50 and 60, there is an 'X' and the value '0.5'.
 - Between 40 and 50, there is an 'X' and the value '0.75'.
 - Between 30 and 40, there is an 'X' and the value '0.5'.
 - Between 20 and 30, there is an 'X' and the value '0.5'.
 - Between 10 and 20, there is an 'X' and the value '0.75'.
 - At the bottom (near 0), there is an 'X' and the value '2.5'.
- Other Annotations:**
 - At the bottom center, there is a wavy line labeled 'Downstream'.
 - At the bottom right, there is a large '7.5'.

5 - Revision Date: January 2017

[illegible]