



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 1

metals bottle

February 2016

Data Qualified?
Yes / No

STORET Station Name: North canal @ US1

Date: 10/3/16
(mm/dd/yyyy)

STORET Station ID: G5SE0043

Latitude: 27.692554°

(Decimal Degrees)

WBID: 3147

RQ - 2016-10-24-73

ORG ID: 21FLWPB

Longitude: -80.413187°

(Decimal Degrees)

Receiving Body of Water:

Field ID: G5SE0043

County: Indian River

Sampling Team Members						WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
T. WIPPOCK										
J. DITTS										
M. SENEH										

Sampling Equipment			
☒ Sample Container	☐ Van Dorn	☒ Pole	
☐ Carboy	☐ Syringe		
☐ Dipper	☐ Other		
Equipment ID			
Collection Method			
☒ Wading	☐ Canoe/Kayak		
☐ From Shore	☐ Electric Motor		
☐ Other (note below)	☐ Gasoline Motor		

Water Level: Dry / Low / <u>Normal</u> / High / Flooded						Matrix: <u>Fresh</u> / Marine / DI					
Meter ID# <u>47 GUS</u>				Photos: Yes / <u>No</u>				Tide Falling: Yes / No / <u>NA</u>			
Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)	
EST	1415	0.15	0.3	6.9	86	7.2	0.5	0.3	1041	26.3	
CEN								(S)			

Biological Samples Collected: None / <u>HA</u> / SCI / LVS / RPS / LVI / Other										
Parameter Suite	Parameter Methods				Preservation	Acid Lot#	Expiration	pH Check		
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4			☐ <2		
Metals	☐ W-ICPMS ☒ W-ICP				☒ Ice ☒ HNO3			☐ <2		
Filtered Nutrients	☐ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice					
Chlorophyll	☐ CHLSUITE-W				☒ Ice					
BOD	☒ BOD-UNIN				☐ Ice					
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice					
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY				☐ Ice					
Macroinvertebrates	☐ MI-FW-QLDC				☐ Formalin					
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ QPCR				☐ Ice					
Periphyton	☐ ALGAE-ID				☐ Ice					
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R				☐ Ice					
	☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH				☐ Other					

Notes:	Place Label Here (If Available)
Signature: <u>Jm P. Ith</u>	Date: <u>10/3/16</u>

Field Parameters Entered into LIMS: 12/1/16 (Initials/Date) Field Parameters QC in LIMS: (Initials/Date)
Date Migrated to STORET: (Initials/Date) Field Sheets Scanned/Saved: 4/13/17 (Initials/Date)

VISIT ID: 701111

655E0043

Storet Number:

Signature: Tom W

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

Less than
2m

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Wm and</u>					County: _____		Date: <u>10/3/16</u>		Investigators: <u>Sewell Wm et</u>	
					STORET Station Number: <u>655600-13</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	
0	1	N	X		60	1	N	N		
	2	N				2	N			
	3					3				
	4					4				
	5			0		5			0	
	6					6				
	7					7				
	8	N				8	N			
	9	N	N			9	N	N		
10	1	N			70	1	N	N		
	2	N				2				
	3					3				
	4					4				
	5			10		5			0	
	6					6				
	7					7				
	8					8				
	9	N				9	N	N		
20	1	N	N		80	1	N	N		
	2					2				
	3					3				
	4					4				
	5			10		5			15	
	6					6				
	7					7				
	8					8				
	9	N	N			9	N	N		
30	1	N	N		90	1	N	N		
	2	N				2				
	3					3				
	4					4				
	5			0		5			0	
	6					6				
	7					7				
	8					8				
	9	N	N			9	N	N		
40	1	N	N		100	1	N	N		
	2	N				2				
	3					3				
	4					4				
	5			22		5			0	
	6					6				
	7					7				
	8					8				
	9	N	N			9	N	N		
50	1	N	N			1	N	N		
	2					2				
	3					3				
	4					4				
	5			0		5				
	6					6				
	7					7				
	8					8				
	9	N	N			9	N	N		

Secchi depth	<u>0.3</u>
Estimated?	<u>0</u>

# points ranked 4-6	<u>0</u>
total points assessed	<u>49</u>
% points ranked 4-6	<u>0</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	
Water sample	☒
RQ-2016-0-04-73	

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

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%.

VISIT ID: 77441

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:				County:		Date:		Investigator:		STORLET Station Number:	
Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover			
0	1			80	1				Secchi depth Estimated? # points ranked 4-6 total points assessed % points ranked 4-6		
	2				2						
	3				3						
	4				4						
	5				5						
	6				6						
	7				7						
	8				8						
	9				9						
10	1			70	1			Check accompanying data collected at same site/date Algal mat sample Linear V60 Survey Habitat Assessment SCUBA/ROV Water sample RO-			
	2				2						
	3				3						
	4				4						
	5				5						
	6				6						
	7				7						
	8				8						
	9				9						
20	1			80	1			Algal Thickness Rank N rough, no algae slimy, algae up to 1mm >1mm - 6mm >6mm - 20mm >20mm - 10 cm >10 cm			
	2				2						
	3				3						
	4				4						
	5				5						
	6				6						
	7				7						
	8				8						
	9				9						
30	1			90	1						
	2				2						
	3				3						
	4				4						
	5				5						
	6				6						
	7				7						
	8				8						
	9				9						
40	1			100	1						
	2				2						
	3				3						
	4				4						
	5				5						
	6				6						
	7				7						
	8				8						
	9				9						
50	1				1			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 densimeter quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6. Collect algal mat sample following DEP SOP FSS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.			
	2				2						
	3				3						
	4				4						
	5				5						
	6				6						
	7				7						
	8				8						
	9				9						

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

SAMPLE ID GSSE0043 ORG ID 21F1WPB LATITUDE _____
COUNTY Dan Bar STORET # GSSE0043 LONGITUDE _____
DATE _____ TIME _____ SAMPLING AGENCY SE DEP
SITE NAME _____
FIELD ID/NAME _____ RECEIVING BODY OF WATER JRL

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 ☐ m wide ☐ m/s ☒ 0.20 m/s ☐ m/s ☐ m deep ☒ 0.3 m deep ☐ m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: ☒ 0 Right Bank: ☒ 8				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: ☒ 0.3 + ☒ 0.3 = ☒ 0.6 (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☒ Yes ☐ No				
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 <table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT # Times Sampled</th> <th>PERI # Times Sampled</th> </tr> </thead> <tbody> <tr> <td>Woody Debris (Snags)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Undercut Banks / Roots</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Leaf Packs or Mat</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Aquatic Vegetation</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Rock or Shell Rubble..</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Sand.....</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Mud / Muck / Silt</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Other</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Other</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				% Coverage	INVERT # Times Sampled	PERI # Times Sampled	Woody Debris (Snags)	☐	☐	☐	Undercut Banks / Roots	☒	☐	☐	Leaf Packs or Mat	☐	☐	☐	Aquatic Vegetation	☒	☐	☐	Rock or Shell Rubble..	☐	☐	☐	Sand.....	☐	☐	☐	Mud / Muck / Silt	☐	☐	☐	Other	☐	☐	☐	Other	☐	☐	☐	WATER QUALITY <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td>☒ 0.2</td> <td>☒ 26.3</td> <td>☒ 7.2</td> <td>☒ 6.9</td> <td>☒ 86</td> <td>☒ 1041</td> <td>☒ 0.5</td> <td>☒ 0.3</td> </tr> <tr> <td>Mid:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table> Meter ID: <u>1.1625</u> TOTAL DEPTH: ☒ 0.3				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	☒ 0.2	☒ 26.3	☒ 7.2	☒ 6.9	☒ 86	☒ 1041	☒ 0.5	☒ 0.3	Mid:	☐	☐	☐	☐	☐	☐	☐	☒ VOB	Bottom:	☐	☐	☐	☐	☐	☐	☐	☐
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Bottom:	☐	☐	☐	☐	☐	☐	☐	☐																																																																									
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☒ No Lot Number: _____ Exp: _____																																																																														
System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>canal</u>			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																																																														
AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																																	
SAMPLING TEAM <u>Gewell / P. H. H.</u>			SIGNATURE <u>[Signature]</u> DATE: <u>10/3/16</u>																																																																														

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

SAMPLING AGENCY: <u>DEP SE</u>		STORET STATION NUMBER: <u>655E 0043</u>	DATE (MM/DD/YY): <u>10/3/16</u>	RECEIVING BODY OF WATER: <u>PORT</u>
REMARKS:	COUNTY: <u>Adm Rn</u>	LOCATION: <u>VERO non canal</u>	FIELD ID/NAME: <u>G-55E0043</u>	

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>4</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>14</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 15 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>11</u> ----- Primary Score _____	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 13 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	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>1</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>2</u> Left Bank <u>2</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>1</u> Left Bank <u>3</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>4</u> Left Bank <u>4</u> ----- Secondary Score _____	10 9	8 7 6	5 4	3 2 1

TOTAL SCORE

Date: <u>10/3/16</u>	Analyst: <u>mmw sed</u>	Signature: <u>mmw sed</u>
----------------------	-------------------------	---------------------------

VISIT ID: 77441

Vero canal
North
G5 SEOU 43

Location: GS 01000
Date: 10/31/16
Sampler: TW. D. P. 11

100 m: Latitude _____ Longitude _____
0 m: Latitude _____ Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %
☒ Snags _____
☒ Roots/undercut banks _____
☒ Leaf Packs (or mats) _____
☒ Aquatic Macrophytes _____
☐ _____
☐ _____
☒ Pools total # observed = <u>3</u> # range expected = _____
Average width <u>8</u> m
Average depth <u>0.5</u> m
Velocity measured at <u>100</u> meter mark.
WQ & chemistry taken at <u>100</u> meter mark.
Habitat Smothering: Note areas (on map) where sand or silt is smothering substrates, limiting habitability.
Bank Stability: Note areas (on map) with unstable, eroding banks.
Riparian Buffer Width: Note areas (on map) where natural vegetation is altered or eliminated.

Secs/ Meter	Flow m/s	Secs/ Meter	Flow m/s	Plants observed / other notes:
1	1	12	0.08	
2	0.5	13	0.076	
3	0.33	14	0.071	
4	0.25	15	0.066	
5	0.2	16	0.062	
6	0.16	17	0.058	
7	0.14	18	0.055	
8	0.12	19	0.052	
9	0.11	20	0.052	
10	0.1	21	0.047	
11	0.09	22	No Flow	

Prod. Habitat	1	2	3	4	5
Sweeps Major	10	7	5	4	3
Sweeps Minor	10	6	5	4	5

Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).