

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
☒ Yes / ☐ No

WIN Station Name:	Tributary Howard Prairie Branch @ Grange Hall				Sample Date:	11/1/2022	
WIN / Field ID:	G2SW0153	ORG ID:	21FLTPA	ENR:		Latitude:	27.692129988
County:	Hillsborough	WBID:	1762A	STREAM	3F	Longitude:	-82.19123
Receiving Body of Water:	Little Manatee River				RQ-	2022-08-01-32	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Ben Paswater	x			x	x
Devin Mathias		x	x		

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
	Syringe		Pole
	Syringe Lot# 1145497		Filter Lot# 17232873
	Secchi Equipment ID: Secchi #3		
Collection Method			
	Wading		Canoe/Kayak
x	From Shore		Electric Motor
			Gasoline Motor
	Depth Measured With Secchi		

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	No
Meter ID:	Leia
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
EST	1200	0.6	0.3	4.12	48.1	23	6.63	0.6	220.2	0.1
								VOB (s)		

Biological Samples Collected: HA LVS RPSSBIO Visit ID: 85768 HA ID: 18027 RPS ID: 9986 Macrophyte ID: 12316 LIMS Sample ID Entered 2366753
Into The Macrophyte Module:

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation			
	Type	Lot#	Expiration Date	pH Check			
Microbiology							
Chlorophyll	CHLSUITE-W	ICE					
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS	ICE					
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE					
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter	ICE	Syringe Lot#:1145497; Filter Lot#:17232873			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	SA1308030	12/1/2022	H2SO4 pH<2	
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA1105100	06/07/2023
Organics (LC)	W-E8321-DI	W-E8321-MS	W-CARB-AA**	ICE	MCAA***	128343	2/4/23
Macroinvertebrates							
Organics (GC)	W-CT-CI-R	W-PCL-TQ-R	W-TR-SQ-R	Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise ***5 ml MCAA (Monochloroacetic Acid Buffer Solution)		
Molecular	W-PSNP-TQ						
Periphyton							
Phytoplankton							
BOD							
DOC							
Other(s)							
Field Comments:							
Comments on COC:							
Relinquish Date:	11/01/2022	Signature:					

LIMS EVENT ID: SW-DIST-2022-11-02-01

WIN Import ID: 37191

Enter Field Parameters, Verify Station ID In LIMS DMT: DM 11/15/2022

QC Station ID, Field Parameters In LIMS DMT: MM 12/15/2022

Save Field Sheets on Network: MM 12/15/2022 (Initials/Date)

Migrate Data to WIN: MM 12/15/2022 (Initials/Date)

(Initials/Date)

(Initials/Date)

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

Site Name:

Tributary Howard Prairie Branch @ Grange Hall

STORET STATION
NUMBER: see stickerDATE (MM/DD/YY):
see bottom of pageSAMPLING AGENCY:
FDEP SWROC

FIELD ID/NAME: see sticker ^

LOCATION:
see sticker ^COUNTY:
ManateeRECEIVING BODY OF WATER:
Little Manatee

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>15</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>13</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>12</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>19</u> ----- Primary Score <u>59</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 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. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging 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>10</u> <u>10</u> Left Bank	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. LR 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	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 root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>9</u> <u>9</u> Left Bank	Width of vegetation greater than 18 m LR 10 9	Width of vegetation >12 to 18m 8 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> <u>7</u> Left Bank ----- Secondary Score <u>72</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. LR 8 7 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

TOTAL SCORE

Date:

11/1/2022

Analyst:

Ben Paswater, Devin Mathias

Signature:

Ben Paswater

Site Name:

Tributary Howard Prairie Branch @ Grange Hall

21FLTPA

LATITUDE

LONGITUDE

SAMPLING AGENCY FDEP SW ROC

RECEIVING BODY OF WATER

Little Manatee River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ 10 ☐ Silviculture ☐ Field/Pasture ☐ 40 ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ 50 ☐ 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 ☐ 3 m wide ☐ 13 m/s ☐ 13 m/s ☐ 13 m/s ☐ 4 m deep ☐ 06 m deep ☐ 04 m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: ☐ 718 ☐ Right Bank: ☐ 718				Hydrologic Modification Score (per FT 3101) ☐ 4			
High Water Mark: ☐ 1.3 + ☐ 0.6 = ☐ 1.9 (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>0.3</td> <td>23.0</td> <td>6.63</td> <td>4.12</td> <td>48.1</td> <td>220.2</td> <td>10</td> <td>0.6</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>TOTAL DEPTH</td> </tr> </tbody> </table> Meter ID: ☐ 0.6				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	0.3	23.0	6.63	4.12	48.1	220.2	10	0.6	Mid:								☒ VOB	Bottom:								TOTAL DEPTH
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Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐																																																																														
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: see Water Datasheet			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐																																																																														
Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: Exp:			Clarity Clear ☒ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																																																														
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐																																																																														
AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																																	
SAMPLING TEAM Ben Paswater, Devin Mathias			SIGNATURE Ben Paswater		DATE: 11/1/2022																																																																												

Site Name:



DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

Tributary Howard Prairie Branch @ Grange Hall

County:

Date:

Waterbody: See Sticker

Signature:

Analyst:

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m 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. **BOLD is exotic invasive**

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides	✓			✓		✓						Micranthemum glomeratum					✓						
Bacopa caroliniana (Lemon)												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nitella sp.											
Centella asiatica												Nuphar luteum											
Ceratophyllum demersum												Orontium aquaticum											
Chara sp.												Panicum hemitomon											
Cicuta maculata												Panicum repens											
Cladium jamaicense												Panicum rigidulum											
Colocasia esculenta												Pistia stratioides											
Commelina diffusa												Polygonum glabra						✓	✓	✓	✓	✓	
Commelina virginica												Polygonum hydropiperoides						✓	✓	✓	✓	✓	
Crinum americanum												Polygonum punctatum											
Cyperus												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex (Mex Petunia)						✓					
Eleocharis (wispy viviparous)												Sacciolepis striata											
Fontinalis sp. (Aquatic Moss)												Sagittaria kurziana											
Fraxinus caroliniana		✓	✓									Sagittaria lancifolia											
Hydrilla verticillata												Sagittaria latifolia											
Hydrocotyle sp.		✓	✓				✓	✓	✓	✓		Salvinia minima					✓	✓	✓				
Hygrophila polysperma												Samolus parviflora											
Hymenachne amplexicaulis												Saururus cernuus											
Hymenocallis												Sparganium americanum											
Lachnanthes caroliniana												Schoenoplectus americanus											
Landoltia punctata												Sphagneticola trilobata (Wedelia)											
Lemna sp.												Typha sp.											
Limnophila sessiflora				✓	✓							Urochloa mutica (Brachiaria)											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens																							
Luziola fluitans																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓													
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

enter in SB10

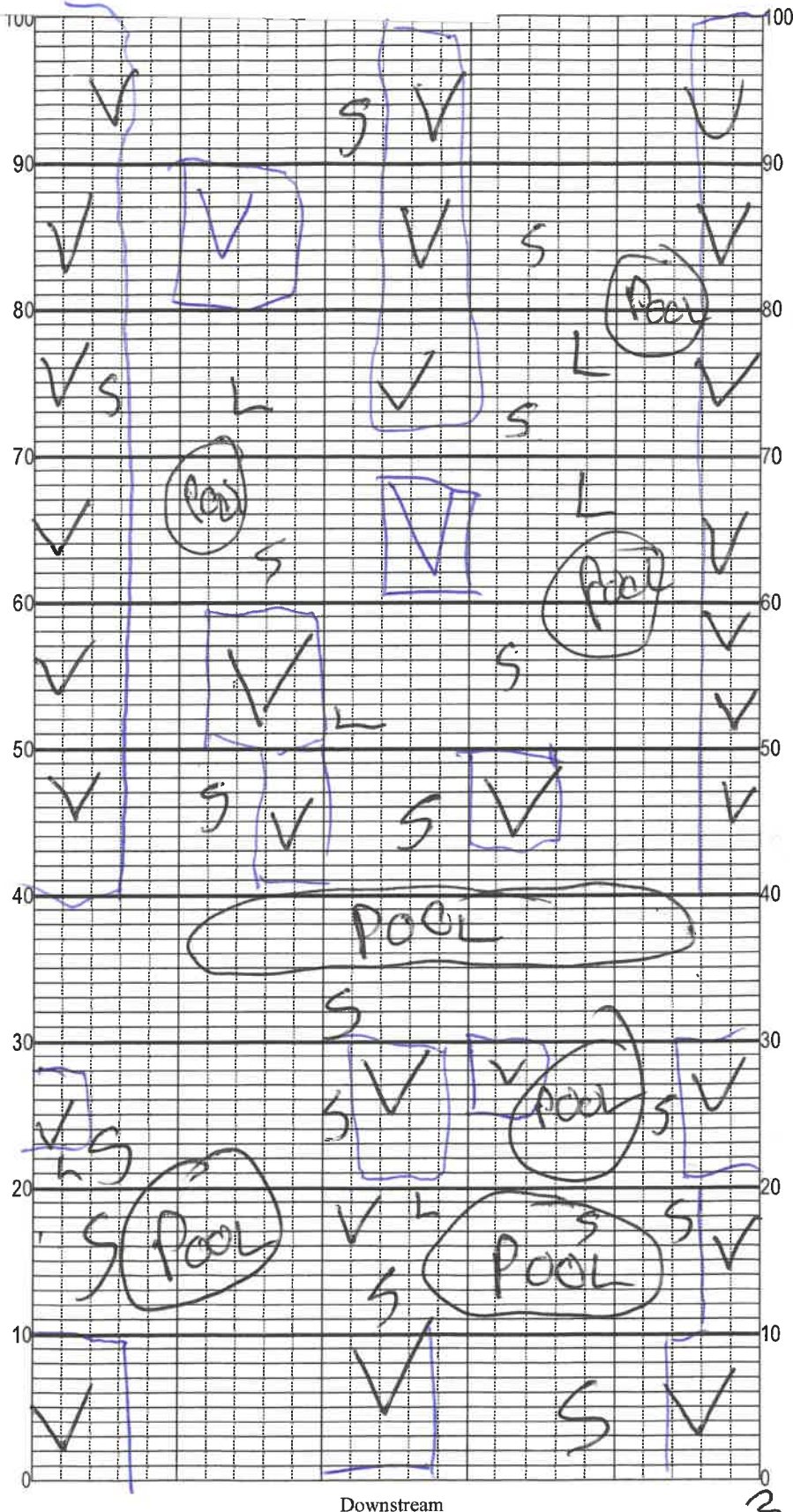
Site Name:



DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

Tributary Howard Prairie Branch @ Grange Hall

Left Bank



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

Location:

Date:

Sampler:

100 m: Latitude 27.69099

Longitude -82.198245

0 m: Latitude 27.69193

Longitude -82.19898

Substrates: Code key, draw proportionate habitat abundance.

S

Snags

3.5%

R

Roots/undercut banks

L

Leaf Packs (or mats)

1%

V

Aquatic Macrophytes

15%

ROCKS

7

Pools

total # observed = 7

range expected = 3-6

Average width 3m m

Average depth 0.6 m

Velocity measured at 0.50/100 meter mark.

WQ & chemistry taken at 100 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.

Plants observed / other notes:

$$V = 276/2500 = 11\%$$

$$S = 88/2500 = 3.5\%$$

$$L = 27/2500 = 1\%$$

Site Name:



Tributary Howard Prairie Branch @ Grange Hall

EP FORM FD 9000-25 Rapid Periphyton Survey Field Sh

Investigators:

BP, DM

County:

Manatee

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		60	60	1	N		28	
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
10	1			68	70	1			90	
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
20	1			90	80	1			70	
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
30	1			64	90	1			2	
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
40	1			88	100	1			16	
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
50	1	V		80	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.					
	2					Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.				
	3					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.				
	4					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%.				
	5									
	6									
	7									
	8									
	9									

STORET Station Number: see label

Secchi depth

.6

Estimated?

No

points ranked 4-6

0

total points assessed

99

% points ranked 4-6

0

Check accompanying data collected at same site/date.

Algal mat sample

Linear Veg Survey

Habitat Assessment

SCI/Biorecon

Water sample

RQ-2022-08-01-32

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