

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes / No

WIN Station Name:	Thompson Branch @ US17 north of Causey Road				Sample Date:	12/15/2022	
WIN / Field ID:	G3SW0086	ORG ID:	21FLTPA	ENR:			
County:	Hardee	WBID:	1844	STREAM		Latitude:	27.52483
Receiving Body of Water:	Peace River				Longitude:	-81.80986	
					RQ-	2022-11-14-42	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Ben Paswater	x	x	x		
Ken Turman		x		x	x

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

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
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	1205	0.5	0.25	8.18	92.4	21.3	7.26	0.5	331.4	0.16
								VOB (s)		

Biological Samples Collected: HA LVS RPS SCI

SBIO Visit ID: 85972 HA ID: 18091 RPS ID: 10036 Macrophyte ID: LIMS Sample ID Entered Into The Macrophyte Module: 2375938

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation			
				Type	Lot#	Expiration Date	pH Check
Microbiology	E. coli	Contract Lab	Benchmark	ICE			
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#; Filter Lot#:		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA2229010	8/30/2023
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA1105100	06/07/2023
Organics (LC)	W-E8321-DI	W-E8321-MS					
Macroinvertebrates	MI-FW-QLDC			Formalin	9.28091819T R		
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise		
Molecular							
Periphyton							
Phytoplankton							
BOD							
DOC							
Other(s)				SyringeLot#		FilterLot#	
Field Comments:	/ SCI Collection Time: 1205						
Comments on COC:	Microbiology sample(s) submitted to contract laboratory.						
Relinquish Date:	12/15/2022	Signature:					

LIMS EVENT ID: SW-DIST-2022-12-16-01

WIN Import ID: 38555

Enter Field Parameters, Verify Station ID in LIMS DMT: MM 1/5/2023

QC Station ID, Field Parameters in LIMS DMT: DM 1/12/2023

Save Field Sheets on Network: MM 3/16/2023 (Initials/Date)

Migrate Data to WIN: MM 3/16/2023 (Initials/Date)

(Initials/Date)

(Initials/Date)

Field ID/WIN

G3SW0086

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

Site Name:

STORET STATION
NUMBER:DATE
(MM/DD/YY):

SAMPLING AGENCY:

Thompson Branch @ US17 north of Causey Road

FDEP SWROC

FIELD ID/NAME:

COUNTY:

LOCATION:

RECEIVING BODY OF WATER:

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>10</u>	20 19 18 17 16	15 14 13 12 11	<u>10</u> 9 8 7 6	5 4 3 2 1
Substrate Availability <u>4</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 <u>4</u> 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 <u>16</u>	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>5</u> ----- Primary Score <u>35</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. <u>5</u> 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>16</u>	20 19 18 17 <u>16</u>	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>8</u> Left Bank <u>8</u>	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. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. <u>LR</u> <u>8</u> 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>5</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>5</u> 10 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system <u>5</u> 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>6</u> Left Bank <u>6</u> ----- Secondary Score <u>59</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>LR</u> 8 7 <u>6</u>	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:

12/15/2022

Analyst:

Ben Prewater, Ken Turman

Signature:

Ben Prewater

Site Name:

21FLTPA

LATITUDE

LONGITUDE

Thompson Branch @ US17 north of Causey Road

SAMPLING AGENCY FDEP SW ROC

RECEIVING BODY OF WATER

Peace River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☒ 20 ☐ Silviculture ☐ Field/Pasture ☒ 40 ☐ Agricultural ☒ 20 ☐ Residential ☒ 20 ☐ 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 2.5 m wide .25 m/s .3 m/s .25 m/s .3 m deep .15 m deep .3 m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: 18 Right Bank: 10				Hydrologic Modification Score (per FT 3101) 5					
High Water Mark: 15 + .5 = 1.0 (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			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: .3 21.3 7.26 8.18 92.4 331 .16 .5 Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH 1.5 Meter ID: Denier Lein					
Woody Debris (Snags) 2.9 7 Undercut Banks / Roots 1.7 7 Leaf Packs or Mat Aquatic Vegetation 3 Rock or Shell Rubble..... Sand..... 3 Mud / Muck / Silt Other Other			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			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 ☐		
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, Ken Turman

SIGNATURE:

Ben Paswater

DATE:

12/15/2022

Site Name:



Thompson Branch @ US17 north of Causey Raod

Mid Periphyton Survey Field Sheet

Date:

12/15/22

Investigators:

BP, KT

STORET Station Number:

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	1	N		
	2					2			
	3					3			
	4					4			
	5			86		5			20
	6					6			
	7					7			
	8					8			
	9					9			
10	1				70	1			
	2					2			
	3					3			
	4			96		4			
	5					5			12
	6					6			
	7					7			
	8					8			
	9					9			
20	1				80	1			
	2					2			
	3					3			
	4			60		4			24
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
30	1				90	1			
	2					2			
	3					3			
	4			41		4			68
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
40	1				100	1			
	2					2			
	3					3			
	4			45		4			86
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
50	1					1			
	2					2			
	3					3			
	4			48		4			
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			

Secchi depth

Estimated?

points ranked 4-6

total points assessed

% points ranked 4-6

Check accompanying data collected at same site/date.

Algal mat sample

Linear Veg Survey

Habitat Assessment

SCI/Biorecon

Water sample

RQ-2022-11-14-42

① 1205pm

Algal Thickness Rank

N	rough, no algae, slimy, algae up to 1m
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 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 FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

Site Name:



Thompson Branch @ US17 north of Causey Road

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

County:

Hardie

Waterbody: See Sticker

Date:

12/15/2011

Signature:

Ben Davis

Analyst:

Ben Davis

Comments:

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. **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																							

24/m

not enough for SBO

G3SW0086



te Name:

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

Thompson Branch @ US17 north of Causey Road

Location:

Date:

Sampler:

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ S	Snags	2.9
☒ R	Roots/undercut banks	1.7
☐	Leaf Packs (or mats)	
☒ V	Aquatic Macrophytes	few
☐	ROCKS	
☐		0
☒ O	Pools	

total # observed = _____
range expected = _____

Average width 2.5 m
Average depth 0.5 m
Velocity measured at 0.50-1.00 meter mark.

WQ & chemistry taken at 0 meter mark

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitat ability.

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:

$S = 72 \frac{1}{25}$
 $R = 42$

2.7m

Left
Bank

Downstream

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

Benchmark EnviroAnalytical, Inc
1711 12th Street East
Palmetto, FL 34221
941-723-9986
941-723-6061 Fax

PO# C00EF5

Client Information: **DEP: SW-DIST**

Address: 13051 N. Telecom Parkway

Tampa FL 33604

Phone # 815-470-5878

Report to: benjamin.paswater@dep.state.fl.us
DEP-Overflomicro@dep.state.fl.us

Invoice to: FDEP Micro Overflow

Project Name: RQ-2022- 11-14-42

Laboratory Submission # 2+120465

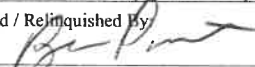
Sample Name	Sample Type ¹ / Sample Matrix ²	Collection		Container			Preservative ⁴	Parameters for Analysis	Laboratory Sample #
		Date	Time	Qty	Capacity	Type ³			
G3SW0086	SW	12/15/22	1205	1	250mL	P	Plain (on Ice)	E-Coli	1
	SW				250mL	P	Plain (on Ice)		
	SW				250mL	P	Plain (on Ice)		
	SW				250mL	P	Plain (on Ice)		
	SW				250mL	P	Plain (on Ice)		
	SW				250mL	P	Plain (on Ice)		
	SW				250mL	P	Plain (on Ice)		

1. "Sample Type" is used to indicate whether the sample was a grab (G) or whether it was a composite (C).
2. "Sample Matrix" is used to indicate whether the sample is being discharged to drinking water (DW), groundwater (GW), surface water (SW), fresh surface water (FSW), saline surface water (SSW), soil, sediment (SDMNT), or sludge (SLDG).
3. "Container Type" is used to indicate whether the container is plastic (P) or glass (G).
4. Sample must be refrigerated or stored in wet ice after collection. The temperature during storage should be less than or equal to 6°C (42.8°F).
Under "Preservative," list any preservatives that were added to the sample container.

Instructions:

- Each bottle has a label identifying sample ID, preservative contained in the bottle, sample type, client ID, and parameter for analysis.
- The following information should be added to each bottle label after collection with permanent black ink: date and time of collection, sampler's name or initials, and any field number or ID.
- All bottles not containing preservative may be rinsed with appropriate sample prior to collection.
- The client is responsible for documentation of the sampling event. Please note special sampling events on the sample custody form.

Laboratory Sample Acceptability:
Temperature: 1.0°C

1	Collected / Relinquished By: 	Date: <u>12/15/22</u>	Time: <u>1400</u>	Received By: 	Date: <u>12-15-22</u>	Time: <u>1400</u>
2	Relinquished By:	Date:	Time:	Received By:	Date:	Time: