



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2016

PAGE 1 OF 1

Check box if data
qualified

RQ-2016-01-25-76

1/26/2016
WBID 3258D2

G3SD012516-01

Field ID

Estero River @ E
Broadway

STORET
28020262FTM

WBID:

3258 D2

Date:

1-26-16
(mm/dd/yyyy)

ORG ID:

21FLFTM

Latitude:

(Decimal Degrees)

Longitude:

(Decimal Degrees)

Receiving Body of Water:

Estero Bay

County:

Lee

Sampling Agency:

FDEP South

Sampling Team Members				WQ Measurements	Documentation	Sample Collection	Preservation	Preservation Check	Sampling Equipment				
Danny Balge				X					Sample Container	Van Dorn			
Ben Pasquale						X			Dipper	Other			
Corey Anderson						X			Equipment ID:				
Chris Link						X			Collection Method				
									Wading	Via Boat			
									From Shore	Canoe/Kayak			
									Other	Electric Motor			
										Gasoline Motor			
Water Level: Dry / Low / <u>Normal</u> / High / Flooded				Matrix: <u>Fresh</u> / Marine / DI									
Meter ID# <u>A</u>				Photos: <u>Yes</u> / No				Tide Falling: Yes / No					
Time Zone	Time	Sample Depth (m)	Total Depth (m)	Temp (°C)	DO (mg/L)	DO (%SAT)	COND (µmhos/cm)	Salinity (ppt)	pH	Secchi Disk (m)			
<u>EST</u>	Top	<u>0.3</u>	<u>1.2</u>	<u>16.6</u>	<u>6.3</u>	<u>64</u>	<u>372</u>	<u>-</u>	<u>6.7</u>	<u>1.2s</u>			
	Bottom												
CST	Blank or Duplicate		Duplicate Field Blank Equipment Blank Equipment ID#										
Biological Samples Collected: None <u>MA</u> SCI <u>EVS</u> <u>EPS</u> LVI Other													
Parameter Suite		Parameter Methods					Preservation						
Preserved Nutrients		☒ TKN ☒ TP ☒ NOx ☒ NH3 ☒ TOC ☐ Other					<u>H2SO4</u> pH of all acidified samples verified to be <2 <u>Yes</u> No						
Metals		☐ W-ICPMS ☐ W-ICP					<u>HNO3</u>						
Filtered Nutrients		☒ <u>OP</u> ☒ Field Filtered 0.45 µm Filter					Sulfuric Acid Lot# <u>1</u> Expiration						
Macroinvertebrates		☐ MI-FW-QLDC					Formalin						
Microbiology		☐ E Coli ☐ F Coli ☐ Entero ☐ QPCR					Nitric Acid Lot# Expiration						
Periphyton		ALGAE-ID											
Pesticides		☐ W-PSNP-TQ ☐ W-PC-AA-SF ☐ W-AHERB-AA ☐ W-UHERB-AA					Other						
Other		☐ All Other Samples Unless Otherwise Noted											
All Samples Placed in Wet Ice ≤ 6° C? <u>Yes</u> No													
Notes:						Place Blank or Duplicate Label Here							
Sampler Signatures: <u>[Signature]</u> <u>[Signature]</u>													

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

RQ-2016-01-25-74

1/26/2016
WBID 3258D2

G3SD012516-01

Estero River @ E
Broadway

28020262FTM

SAMPLING AGENCY: FDEP South ROC		STORET STATION NUMBER
RECEIVING BODY OF WATER: <u>Estero Bay</u>	COUNTY: <u>Lee</u>	LOCATION:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>5</u>	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock) 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered (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>20</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>57</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 Artificial Channelization <u>17</u>	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>9</u> Left Bank <u>9</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) RL	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>10</u> Left Bank <u>4</u>	Width of vegetation greater than 18 m R (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) L	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>8</u> Left Bank <u>6</u> Secondary Score <u>43</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. R (8) 7 (6) L	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: <u>1/26/15</u>	Analyst: <u>Ben Paswaters</u>	Signature: <u>Ben Paswaters</u>
----------------------	-------------------------------	---------------------------------

RQ-2016-01-25-76

1/26/2016

WBID 3258D2

Estero River @ E
Broadway

G3SD012516-01

Field ID

28020262FTM

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

County:

Investigators

VLL

BP CA CL DB

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				60	1			
	2	N				2	N		
	3					3			
	4			96		4			92
	5					5			
	6					6			
	7					7			
	8	V				8			
	9					9			
10	1	N			70	1			
	2					2			
	3					3			
	4			96		4			90
	5					5			
	6					6			
	7					7			
	8	V				8			
	9					9			
20	1				80	1			
	2	N				2			
	3					3			
	4			96		4			88
	5					5			
	6					6			
	7					7			
	8	V				8			
	9					9			
30	1				90	1			
	2	N				2			
	3					3			
	4			96		4			90
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
40	1				100	1			
	2					2			
	3					3			
	4			96		4			94
	5					5			
	6					6			
	7					7			
	8					8			
	9					9			
50	1					1			
	2			88		2			
	3					3			
	4					4			
	5	V				5			
	6					6			
	7					7			
	8					8			
	9					9			

Secchi depth 0.8
Estimated? N8

points ranked 4-6 0
total points assessed 90
% 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- 2016-01-25-76

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 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%.

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

RQ-2016-01-25-76

Waterbody: Estero RiverDate: 1/26/16County: Lee1/26/2016
WBID 3258D2

G3SD012516-01

Field ID

Analyst: Ben PaswaterSignature: Ben PaswaterEstero River @ E
BroadwaySTORET
28020262FTM

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.

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												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle sp.	✓									✓		Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenachne amplexicaulis												Salvinia minima											
Hymenocallis												Samolus parviflora											
Lachnanthes caroliniana												Saururus cernuus											
Landoltia punctata												Sparganium americanum											
Lemna												Sphagneticola trilobata (Wedelia)											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa												Urochloa mutica (Brachiaria)											
Ludwigia palustris												Vallisneria americana											
Ludwigia peruviana												Zizania aquatica											
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																							

SAMPLE ID <u>see sticker upper right</u>	ORG ID <u>21FLFTM</u>	L RQ-2016-01-25-76	
STORET # <u>see sticker upper right</u>	COUNTY <u>Lee</u>	L 1/26/2016	G3SD012516-01
DATE <u>see sticker upper right</u>	TIME _____	L WBID 3258D2	Field ID ▲
SITE NAME _____		Estero River @ E	STORET ▼
		Broadway	28020262FTM
FIELD ID/NAME <u>see sticker upper right</u>	RECEIVING BODY OF WATER <u>Estero Bay</u>		
RIPARIAN ZONE / STREAM FEATURES			

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 ☐			

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.

Revision Date: March 1, 2014

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

RQ-2016-01-25-74

1/26/2016
WBID 3258D2

Estero River @ E
Broadway

G3SD012516-01

Field ID

STORET

28020262FTM

Sampler: Danny Berger

100 m: Latitude 26.44344

Longitude -81.79578

0 m: Latitude 26.44294

Longitude -81.79598

Substrates: Code key, draw
proportionate habitat abundance.

S Snags 20 %

R Roots/undercut banks <1 %

L Leaf Packs (or mats) <1 %

V Aquatic Macrophytes <1 %

Ro Rocks <1 %

P Pools total # observed =
range expected =

Average width 2.5 m

Average depth 0.8 m

Velocity measured at 0 meter mark.

WQ & chemistry taken at 0 meter mark.

Habitat Smothering:

Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:

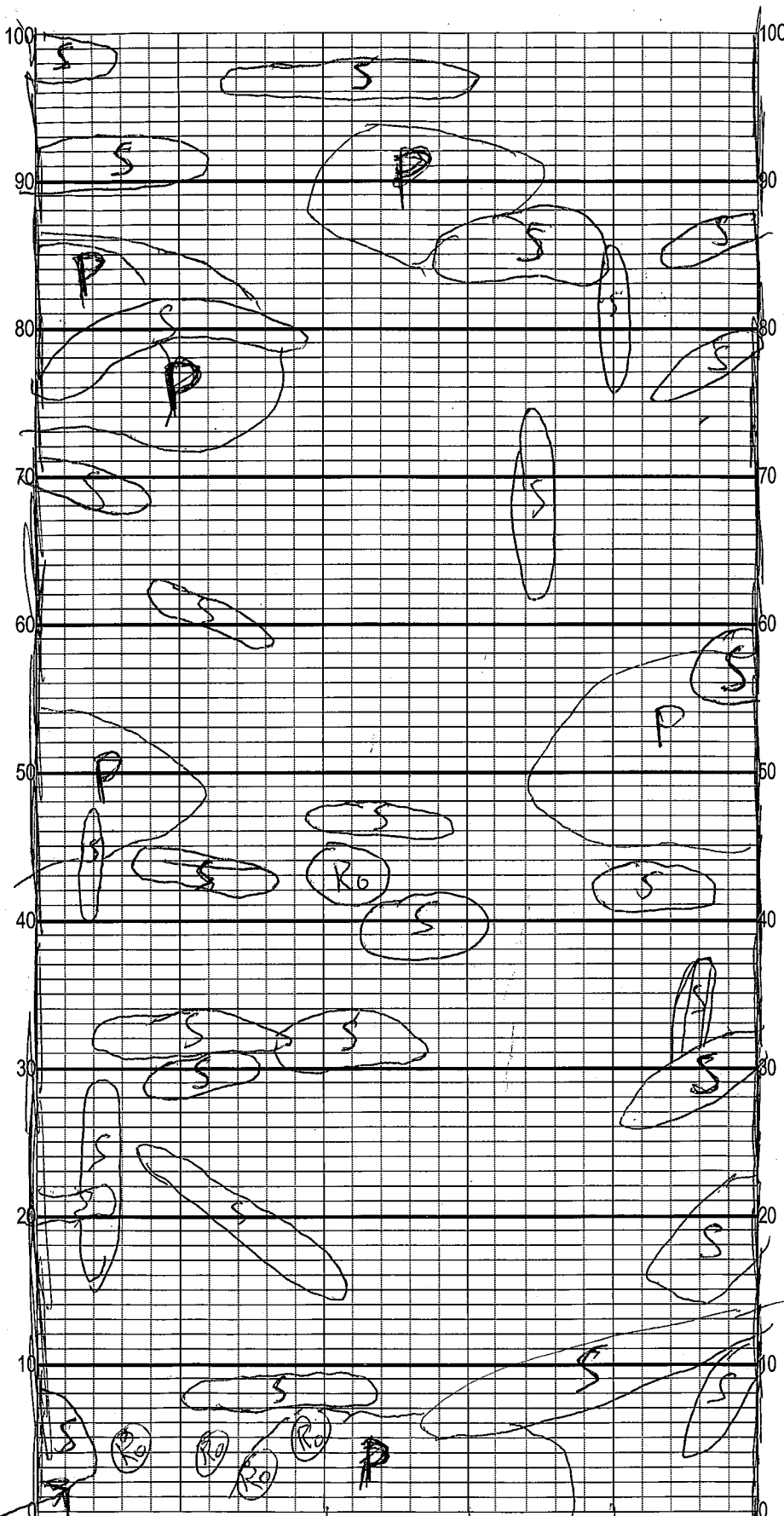
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:

Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

Very little
veg
just a few bits
of Hydrocotyle sp.



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