



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

Site Name:

Buffalo Creek Canal @ 115th Ave

STORET STATION
NUMBER: see stickerDATE (MM/DD/YY): 10/03/2022
see bottom of page

SAMPLING AGENCY:

FDEP SWROC

FIELD ID/NAME: see sticker ^

Buffalo Canal

LOCATION:

see sticker ^

COUNTY:

Manatee

RECEIVING BODY OF WATER:

Frog Creek

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>6</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 <u>6</u>	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 <u>3</u> 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 <u>20</u> 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>9</u> ----- Primary Score <u>38</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 <u>9</u> 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>2</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 <u>2</u> 1
Bank Stability Right Bank <u>4</u> Left Bank <u>3</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. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 <u>4</u>	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. <u>3</u> 2 1
Riparian Buffer Zone Width Right Bank <u>8</u> Left Bank <u>9</u>	Width of vegetation greater than 18 m 10 <u>9</u>	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>2</u> Left Bank <u>5</u> ----- Secondary SM 02/23/2023 Score <u>36</u> 33	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. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. <u>5</u> 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 <u>2</u> 1

71

TOTAL SCORE

Date: 10/03/2022

Analyst: SMeyer & D Mathias

Signature:

Visit 85861

RPS 9997

Macro 12330

HA: 18045

Entered: SM

QC: MM 12/15/22



Site Name:

Buffalo Creek Canal @ 115th Ave

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

Location: Buffalo CanalDate: 10/03/2022Sampler: S Meyer & D Mathias100 m: Latitude 27.589025Longitude -82.4444560 m: Latitude 27.58902Longitude -82.44352

Substrates: Code key, draw proportionate habitat abundance.

Snags 3.92

Roots/undercut banks



Leaf Packs (or mats)



Aquatic Macrophytes



ROCKS

total # observed = 3
range expected = 4-8Average width 2 mAverage depth 0.2 mVelocity measured at 100 meter mark.WQ & chemistry taken at N/A meter mark.

Habitat Smothering:

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

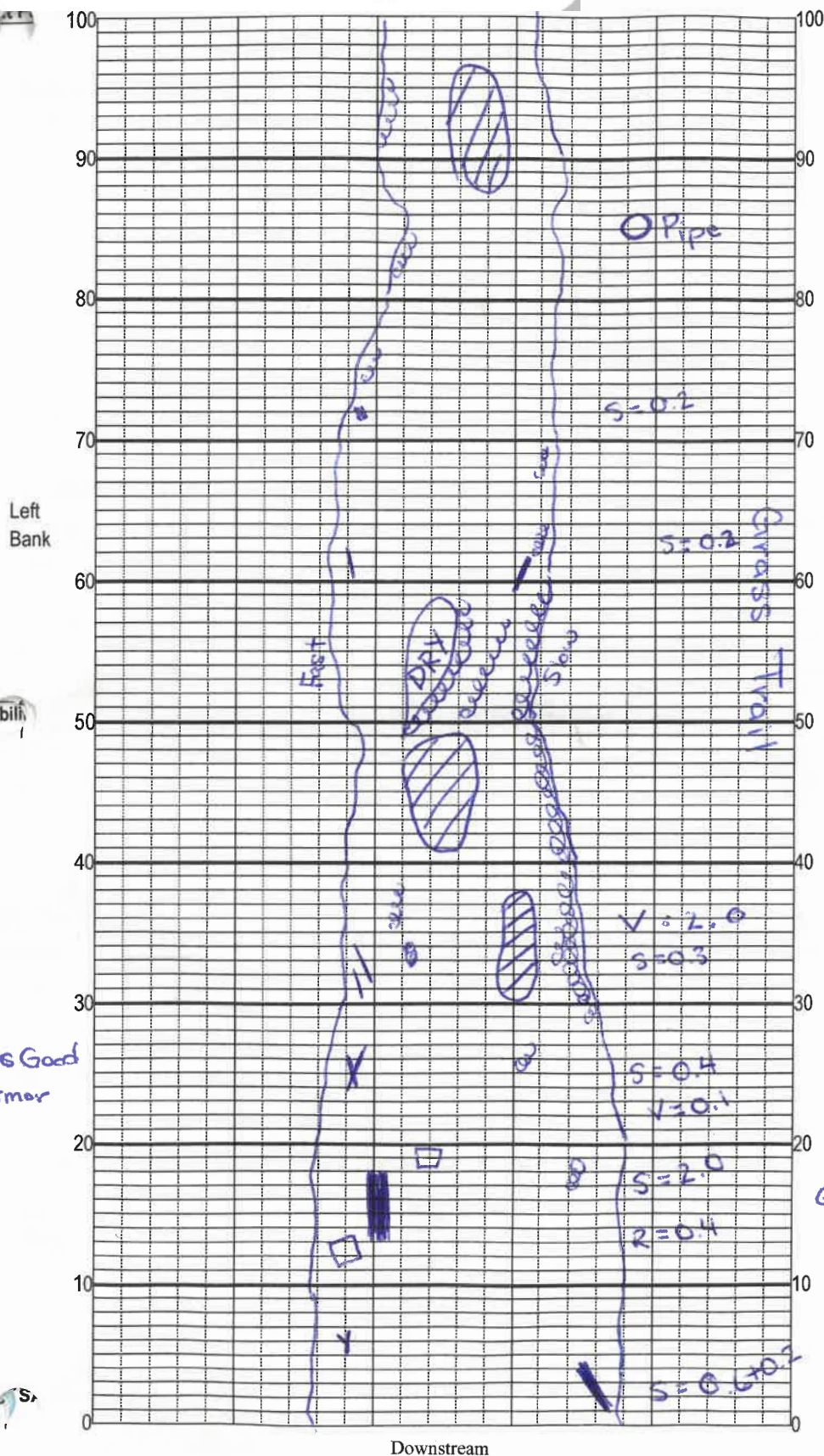
Bank Stability:

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:

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



Site Name:

Buffalo Creek Canal @ 115th Ave

21FLTPA

LATITUDE 27.58902

LONGITUDE -82.44352

SAMPLING AGENCY FDEP SW ROC

RECEIVING BODY OF WATER Frog Creek

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ 20 Agricultural ☐ 30 Residential ☐ 50 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 2.0 m wide 0.33 m/s 0.33 m/s 0.33 m/s 0.2 m deep 0.4 m deep 0.2 m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: 18 Right Bank: 16				Hydrologic Modification Score (per FT 3101) 6				
High Water Mark: ☐ + ☐ = ☐ (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 ☐
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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: ☐ ☐ ☐ ☐ ☐ ☐ ☐ 0.2 Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH 0.2 Meter ID: Not Collected
Woody Debris (Snags) ☐ 2 ☐ ☐ Undercut Banks / Roots ☐ ☐ ☐ Leaf Packs or Mat ☐ ☐ ☐ Aquatic Vegetation ☐ 1 ☐ ☐ Rock or Shell Rubble ☐ ☐ ☐ Sand ☐ ☐ ☐ Mud / Muck / Silt ☐ ☐ ☐ Other ☐ ☐ ☐ Other ☐ ☐ ☐	Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: see Water Datasheet Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: Exp:
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐	Water Surface Oils Normal ☐ Sheen ☒ Globs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ Canal

AMBIENT FIELD CONDITIONS / NOTES: High water mark not measured due to effects of Hurricane Ian. Homeowner noted canal flooded banks 5 days prior. ☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM S Meyer & D Mathias

SIGNATURE:

Sarah Meyer

DATE:

10/03/2022



DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

Site Name:

Buffalo Creek Canal @ 115th Ave

County: ManateeWaterbody: See StickerDate: 10/03/2022Signature: Sarah MeyerAnalyst: S Meyer + D Matthies

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	X	X	X	X	X	X	X	X	X	X		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	X	X	X	X	X	X	X	X	X	X													
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							



Site Name:

Buffalo Creek Canal @ 115th Ave

Mid Periphyton Survey Field Sheet

Date:

10/03/2022

Investigators:

S Meyer & D Mathias

STORET Station Number:

G1SW0123

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	3			60	1	3		
	2	2				2	3		
	3					3	N		
	4					4			
	5			96		5			30
	6					6			
	7					7			
	8					8	2		
	9					9	3		
10	1	2			70	1	3		
	2					2	3		
	3					3	N		
	4					4			
	5			94		5			92
	6					6			
	7					7			
	8					8			
	9					9	N		
20	1	2			80	1	N		
	2					2			
	3					3			
	4					4			
	5			90		5			94
	6					6			
	7					7			
	8					8			
	9					9	N		
30	1	2			90	1	3		
	2					2	N		
	3					3			
	4					4			
	5			95		5			18
	6					6			
	7					7			
	8					8	N		
	9					9	3		
40	1	2			100	1	N		
	2					2			
	3					3			
	4					4			
	5			90		5			83
	6					6			
	7					7			
	8					8	N		
	9					9	3		
50	1	3							
	2								
	3								
	4	3							
	5	N		95					
	6								
	7								
	8								
	9	N							

Secchi depth 0.2
Estimated? No

points ranked 4-6 1
total points assessed 99
% points ranked 4-6 1

Check accompanying data collected at same site/date.

Algal mat sample No
Linear Veg Survey ✓
Habitat Assessment ✓
SCI/Biorecon 26
Water sample 26

RQ- N/A

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%.