



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

Site Name:

Buffalo Canal @ 44930

STORET STATION
NUMBER: see stickerDATE (MM/DD/YY): 11/22/22
see bottom of page

SAMPLING AGENCY:

FDEP SWROC

FIELD ID/NAME: see sticker ^

G1SW0134

LOCATION:

see sticker ^

COUNTY:

Manatee

RECEIVING BODY OF WATER:

Terra Ceia River

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>3</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 <u>3</u> 2 1
Substrate Availability <u>12</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 <u>12</u> 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 <u>14</u> 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>2</u> ----- Primary Score <u>31</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 <u>2</u> 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 <u>1</u>
Bank Stability Right Bank <u>5</u> Left Bank <u>5</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. <u>5</u> 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>4</u> Left Bank <u>1</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 <u>4</u>	Less than 6 m of buffer zone due to intensive human activities 3 2 <u>1</u>
Riparian Zone Vegetation Quality Right Bank <u>2</u> Left Bank <u>2</u> ----- Secondary Score <u>20</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. 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 <u>2</u> 1

51

TOTAL SCORE

Date: 11/22/22

Analyst: K. Grace

Signature:

Visit ID: 85939

HA: 18086

LVS: 12352

RPS: 10033

Site Name:



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

Buffalo Canal @ 44930

Location:

Buffalo Canal

Date:

11/22/22

Sampler:

K. Grace

100 m: Latitude

27.588748

Longitude

-82.46528

0 m: Latitude

27.588780

Longitude

-82.466430

Substrates: Code key, draw proportionate habitat abundance.

%



Snags

/



Roots/undercut banks

/



Leaf Packs (or mats)

/



Aquatic Macrophytes

16



ROCKS

/



Pools

total # observed = 0

range expected =

Average width

1.5 m

Average depth

0.4 m

Velocity measured at 120 meter mark.

WQ & chemistry taken at NA meter mark.

Habitat Smothering:

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

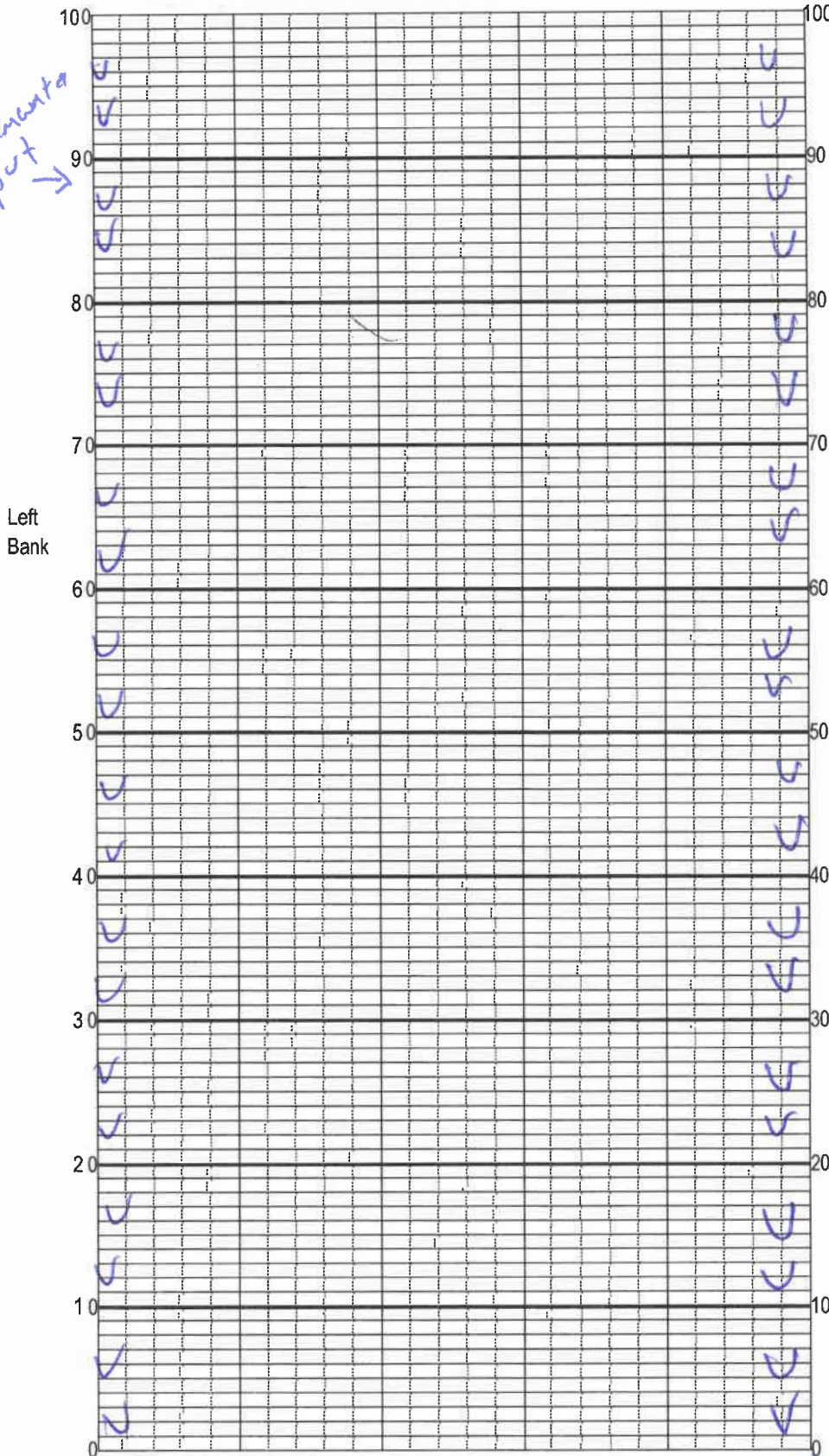
Bank Stability:

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).

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

Field ID/WIN

G1SW0134



TPA

LATITUDE 27.588748

LONGITUDE -82.46528

SAMPLING AGENCY FDEP SW ROC

Site Name:

Buffalo Canal @ 44930

RECEIVING BODY OF WATER Terra Ceia River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☒ 50 Agricultural ☐ Residential ☒ 50 Commercial ☐ Industry ☐ Other (Specify) ☐								Landscape Development Intensity Index (LDI)
Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☒ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect 1.5 m wide				
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy								
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: 1.5 Right Bank: +6				Hydrologic Modification Score (per FT 3101) 8				
High Water Mark: + = (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				
Artificially ☐ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%)				
Channelized: ☐ Some recovery ☒ Recent, severe				☐ 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																																																																																					
<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>16</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	16			Rock or Shell Rubble..				Sand.....				Mud / Muck / Silt				Other				Other				<table border="1"> <thead> <tr> <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></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.4</td> </tr> <tr> <td>Mid:</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>TOTAL DEPTH</td> </tr> <tr> <td colspan="7">Meter ID:</td> <td>0.4</td> </tr> </tbody> </table>						Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:							0.4	Mid:							☒ VOB	Bottom							TOTAL DEPTH	Meter ID:							0.4
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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: _____ Exp: _____			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			System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☒ Canal																																																																																					
Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☒ ☐ ☐ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			AMBIENT FIELD CONDITIONS / NOTES: Cool, partly cloudy ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																																					

SAMPLING TEAM

K. Grace D. Mathias

SIGNATURE:

K. Grace

DATE:

11/22/22

Site Name:



Buffalo Canal @ 44930

Rapid Periphyton Survey Field Sheet

Date:

11/22/22

Investigators:

K. Grace

STORET Station Number:

See sticker

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			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
10	1	N			70	1	N		
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
20	1	N			80	1	N		
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
30	1	N			90	1	N		
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
40	1	N			100	1	N		
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
50	1	N				1	N		
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			

Secchi depth	0.4
Estimated?	0

# 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- _____

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 a gal 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:



Buffalo Canal @ 44930

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

County: ManateeWaterbody: See StickerDate: 11/22/23Signature: [Signature]Analyst: K. Grace

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.	X	X	X	X	X	X	X	X	X	X		Salvinia minima											
Hygrophila polysperma												Samolus parviflora											
Hymenachne amplexicaulis												Saururus cernuus											
Hymenocallis												Sparganium americanum											
Lachnanthes caroliniana												Schoenoplectus americanus											
Landoltia punctata												Sphagnetocola trilobata (Wedelia)											
Lemna sp.												Typha sp.											
Limnophila sessiflora												Urochloa mutica (Brachiaria)	X	X	X	X	X	X	X	X	X		
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens	X	X	X	X	X	X	X	X	X	X													
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	X	X	X	X	X	X	X	X	X	X													
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							