

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

SAMPLING AGENCY: 21FLWPB		STORET STATION NUMBER:	DATE (MM/DD/YY): 7/18/23	RECEIVING BODY OF WATER: North Fork
REMARKS:	COUNTY: St. Lucie	LOCATION: Ten mile		FIELD ID/NAME: G2SE0079

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity 6	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 2	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 9	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 1 ----- Primary Score 18	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 3	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 or straightening 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 1 Left Bank 1	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody 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 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	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 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 3 Left Bank 3 ----- Secondary Score 31	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 2 1

TOTAL SCORE

Date: 7/18	Analyst: AL / JS	Signature: 
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

Date: 7/18/23

100 m: Latitude 27.398327

Longitude - 80.42599

Longitude -80.425102

5 Snags 3 dSn² 4

☒	Roots/undercut banks	17
☒	26	

☒ Aquatic Macrophytes

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P Pools total # observed = 4

Average width 15.0 m

Average depth 0.58 m

Velocity measured at 0 meter mark.

WQ & chemistry taken at 0 meter mark

Habitat Smothering:
Note areas (or more) where sand or "l" is

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

Bank Stability:
Note areas (on map) with unstable, eroding

Riparian Buffer Width:

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

Habitats	1	2	3	4
Barro Colorado	10	7	3	1

Sweeps Minor	10	6	5	4

1	1	10	0
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3	0.33	12	0.0
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4	0.25	13	0.07
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5	0.2	14	0.07
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6	0.16	15	0.06
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6	0.10	15	0.00
7	0.14 ^{2a}	16	0.00

7	0.14	10	0.00
8	0.13	17	0.01

6	0.12	17	0.05
8	0.11	18	0.05

Revision Date: January 2017

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet 27,3988

SAMPLE ID _____ ORG ID 21FLWPB LATITUDE 27.427348327
 COUNTY St. Lucie STORET # _____ LONGITUDE -80.42508
 DATE 7/18/2023 TIME _____ SAMPLING AGENCY 21 FLWPB SEROC
 SITE NAME Ten mile Creek
 FIELD ID/NAME G2SE0079 RECEIVING BODY OF WATER North Fork

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):							Landscape Development Intensity Index (LDI)
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	
<u>75</u>		<u>25</u>					
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy							Typical Width (m) Depth (m)/Velocity (m/sec) Transect
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy							
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)			
Left Bank: <u>18</u>		Right Bank: <u>>18</u>					
High Water Mark: <u>0.5</u> + <u>0.58</u> = <u>1.08</u>				Artificially Impounded			
(m) (above present water level) (present depth) (above bed)				☒ 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		Sediment Odors		Smothering of Substrates	
☒ Absent ☐ Slight		☐ Normal ☐ Sewage ☐ Petroleum		Sand Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐	
☐ Moderate ☐ Profuse		☐ Chemical ☒ Anaerobic		Silt Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☒	
		☐ Other (Specify): _____		Algae Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐	
SUBSTRATE TYPE			WATER QUALITY		
Assessment Tool: ☒ SCI ☒ RPS ☒ LVS			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)		
☐ LCI ☐ BioRecon			Top: <u>0.2</u> <u>29.3</u> <u>7.4</u> <u>334</u> <u>44.3</u> <u>2078</u> <u>1.05</u> <u>0.58</u>		
% Coverage INVERT # Times Sampled PERI # Times Sampled			Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB		
Woody Debris (Snags) ☐ <u>8</u> ☐			Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH		
Undercut Banks / Roots ☐ <u>12</u> ☐			Meter ID: <u>Hodor</u> <u>0.58</u>		
Leaf Packs or Mat ☐ ☐ ☐			Water Odors Normal ☒ Petroleum ☐		
Aquatic Vegetation ☐ ☐ ☐			Sewage ☐ Chemical ☐ Other ☐		
Rock or Shell Rubble.. ☐ ☐ ☐			Water Sample Taken? ☒ Yes ☐ No		
Sand..... ☐ ☐ ☐			Sample Preserved? ☒ Yes ☐ No		
Mud / Muck / Silt ☐ ☐ ☐			Lot Number: _____ Exp: _____		
Other ☐ ☐ ☐			Algae Sample Taken? ☐ Yes ☒ No		
Other ☐ ☐ ☐			Sample Preserved? ☐ Yes ☐ No		
			Lot Number: _____ Exp: _____		
ABUNDANCE			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐		
Not Obs. Rare Common Abundant			AMBIENT FIELD CONDITIONS / NOTES:		
Periphyton: ☐ ☒ ☐ ☐			☐ The antecedent hydrologic conditions have been met to my best knowledge.		
Fish: ☐ ☐ ☒ ☐					
Aquatic Plants: ☐ ☐ ☐ ☒					
Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐					

SAMPLING TEAM

Andrew Luering / Jordan Skaggs

SIGNATURE:

adluer

DATE:

7/18/23

Waterbody: <u>Tenmile Creek</u>	Date: <u>7/18/23</u>	County: <u>St. Lucie</u>	Storet Number:
Analyst: <u>Andrew Lucring / Jordan Skaggs</u>		Signature: <u>[Signature]</u>	
Comments:			

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	X	X	X	X	X	X	X	X	X	X		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	X	X	X	X	X	X	X	X	X	X	
Chara												Panicum repens	X	X	X	X	X	X	X	X	X	X	
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides	D	D	D	D	D	D	D	D	D	D	
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	X	X	X	X	X	X	X	X	X	X		Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata	X	X	X	X	X	X	X	X	X	X		Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana												Sp.											
Ludwigia repens																							
Luziola fluitans																							

GZSE0079

07/18/2023

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: GZSE0079 Tenmile at Powerlines County: St. Lucie Date: 07/18/2023 Investigators: Jordan Skaggs, Andrew Luning

STORET Station Number:

GZSE0079 (WIN)

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

 Secchi depth 0.58m
 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 NO
 Linear Veg Survey ✓
 Habitat Assessment ✓
 SCI/Biorecon ✓
 Water sample ✓

RQ- 2023-07-17-56

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%.