

Field Sheets Scanned/Saved: DL 3/16/17
(Initials/Date) (Initials/Date)

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

SAMPLE ID 655E0043 ORG ID 21FLW03 LATITUDE 27.692884
 COUNTY Dade STORET # 655E0043 LONGITUDE -80.4187
 DATE 07/27/10 TIME 10:35 SAMPLING AGENCY 21FLW03
 SITE NAME North Canal US1
 FIELD ID/NAME 655E0043 RECEIVING BODY OF WATER JRL

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☒ Agricultural ☐ Residential ☐ 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 ☐ m wide ☐ m/s ☐ m/s ☐ m/s			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: ☐ Right Bank: ☐				Hydrologic Modification Score (per FT 3101) ☐				☐ m/s ☐ m/s ☐ m/s	
High Water Mark: ☐ + ☐ = ☐ (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☐ No				☐ m deep ☐ m deep ☐ m deep	
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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	☐	☐	☐
Undercut Banks / Roots	☐	☐	☐
Leaf Packs or Mat	☐	☐	☐
Aquatic Vegetation	☒	☐	☐
Rock or Shell Rubble..	☐	☐	☐
Sand.....	☐	☐	☐
Mud / Muck / Silt	☐	☐	☐
Other	☐	☐	☐
Other	☐	☐	☐

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	☐	☐	☐	☐	☐	☐	☐	☐
Mid:	☐	☐	☐	☐	☐	☐	☐	☐
Bottom:	☐	☐	☐	☐	☐	☐	☐	☐
Meter ID:	<u>AE3</u>							

Water Odors Normal ☐ Petroleum ☐
 Sewage ☐ Chemical ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
 Sample Preserved? ☒ Yes ☐ No
 Lot Number: 1576149 Exp: _____

Algae Sample Taken? ☐ Yes ☒ No
 Sample Preserved? ☐ Yes ☐ No
 Lot Number: _____ Exp: _____

Water Surface Oils Normal ☒ Sheen ☐
 Globbs ☐ Slick ☐ Other ☐

Color Tannic ☒ Green (Algae) ☐
 Clear ☐ Other (Specify) ☐

Clarity Clear ☐ Slightly Turbid ☒
 Turbid ☐ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☒	☐	☐
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☐	☒	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

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

AMBIENT FIELD CONDITIONS / NOTES:

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Sewell / Pitts / Brewster

SIGNATURE

[Signature]

DATE

7/27/10

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

SAMPLING AGENCY: <u>21 FL W P B</u>		STORET STATION NUMBER: <u>G5SE004307/27/10</u>	DATE (MM/DD/YY): <u>07/27/10</u>	RECEIVING BODY OF WATER: <u>JRL</u>
REMARKS:	COUNTY: <u>Indian River</u>	LOCATION: <u>North Canal US 1</u>	FIELD ID/NAME: <u>G5SE00213</u>	

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>5</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	(5) 4 3 2 1
Substrate Availability <u>2</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>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 (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>11</u> ----- Primary Score <u>32</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>1</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>1</u> Left Bank <u>4</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 (4)	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 (3)
Riparian Buffer Zone Width Right Bank <u>1</u> Left Bank <u>4</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 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>1</u> Left Bank <u>5</u> ----- Secondary Score <u>17</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. (3) 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

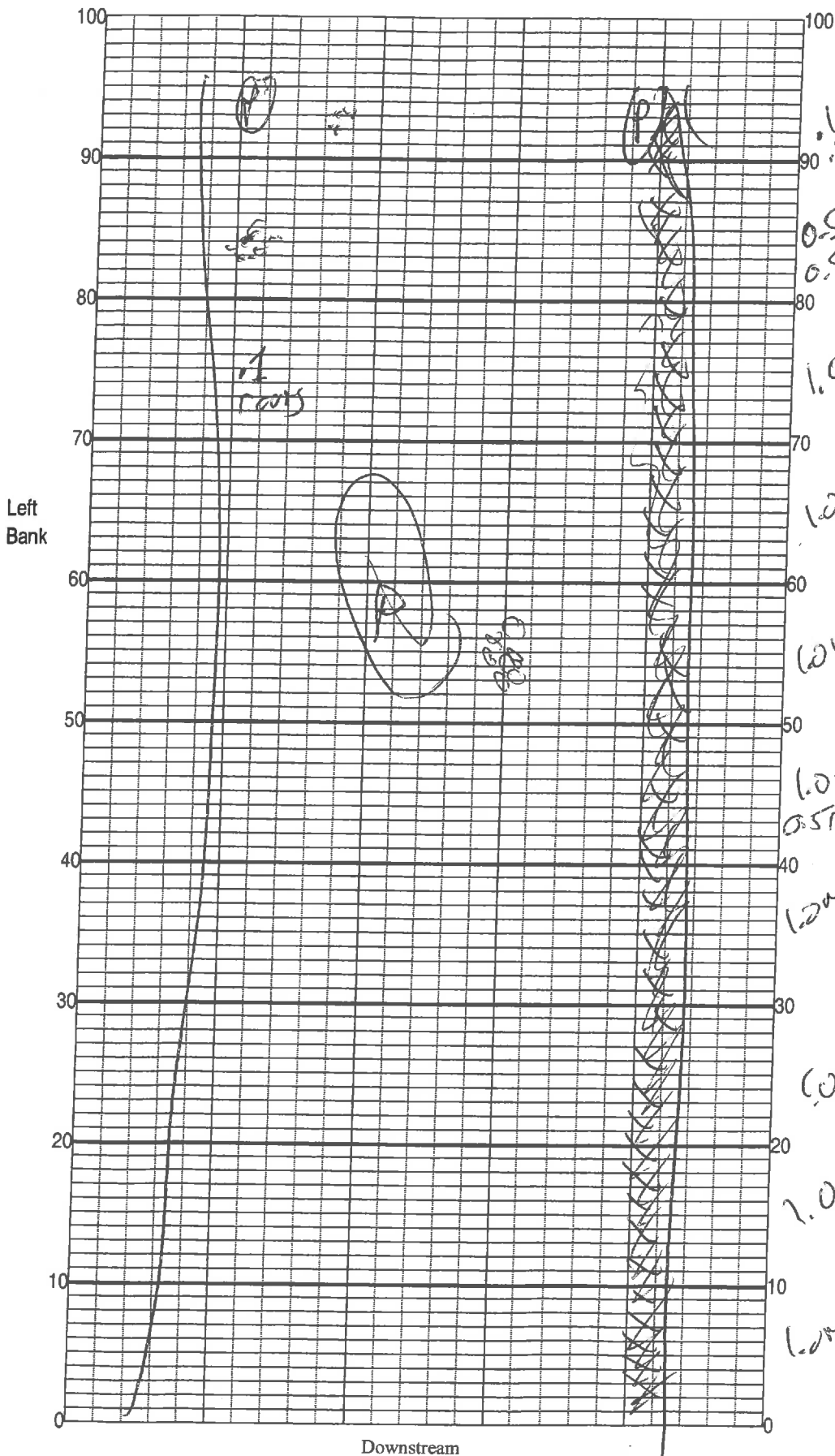
TOTAL SCORE

SB5000 77043

Date: <u>07/27/10</u>	Analyst: <u>M Senard</u>	Signature: <u>[Signature]</u>
-----------------------	--------------------------	-------------------------------

QL JP

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



Location: North Candler US 1
 Date: 7/27/16
 Sampler: M Sewell

100 m: Latitude	_____
Longitude	_____
0 m: Latitude	_____
Longitude	_____
Substrates: Code key, draw proportionate habitat abundance. %	
☐	Snags _____
☐	Roots/undercut banks _____
☐	Leaf Packs (or mats) _____
☒	Aquatic Macrophytes _____
☐	_____
☐	_____
☒	Pools total # observed = <u>1</u>
	# range expected = <u>1-2</u>
Average width <u>8</u> m	
Average depth <u>0.2</u> m	
Velocity measured at <u>50</u> meter mark.	
WQ & chemistry taken at <u>100</u> 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:

1.8 roots
1.0 veg

800

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

Waterbody: North Canal	Date: 7/27/11	County: Duchesne, R.Wr	Storet Number: G55E004
Analyst: M. Sewell + J Pitts	Signature: [Signature]		
Comments:			

Date: 7/27/10

County: Dillon, R.W.

Storet Number: G5SE004

Analyst: M. Sewell & J. Pitts

Signature: Matt Self

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.

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: North Canal US1

County:

Date: 7/27/16

Investigators: M. Sewell & J. Pitts

STORET Station Number: 65SE0043

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	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		4		5	N		14
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
10	1	N			70	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		8		5	N		12
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
20	1	N			80	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		28		5	N		16
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
30	1	N			90	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		32		5	N		2
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
40	1	N			100	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		40		5	N		2
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
50	1	N				1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		30		5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		

Secchi depth 00
Estimated?

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-2016-04-2019

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%.

QC: JP

SRIO 77058
77043