



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE ____ OF ____

February 2016

STORET Station Name: Main Canal @ US1

STORET Station ID: G5SE0045

Date: 07/27/16
(mm/dd/yyyy)

WBID: 3153A

RQ - 2016-

~~2510~~ - 06-20-19

ORG ID: 21FLWPB

Latitude: 27.649309°

(Decimal Degrees)

Longitude: -80.400267°

(Decimal Degrees)

Receiving Body of Water: Indian River Lagoon

Field ID: G5SE0045

County: Indian River

Sampling Team Members

R Brewton
M Sewell
J P: #3

WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
	X		X	X
X		X		

Sampling Equipment	
☐ Sample Container	☐ Van Dorn ☒ Pole
☐ Carboy	☐ Syringe
☐ Dipper	☐ Other
Equipment ID	
Collection Method	
☐ Wading	☐ Via Boat
☒ From Shore	☐ Canoe/Kayak
☐ Other (note below)	☐ Electric Motor
	☐ Gasoline Motor

Water Level: Dry / Low / Normal / High / Flooded

Meter ID# AE3

Photos: Yes / No

Matrix: Fresh Marine / DI

Tide Falling: Yes / No / NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
EST	11:25	0.3	1.0	4.6	61	7.4	0.72	1.0(5)	1447	29.8
CEN										

Biological Samples Collected:

None

HA

SCI

LVS

RPS

LVI

Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	157449	12/16	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
BOD	☐ BOD UNIN	☐ Ice			
Physical/Aggregate (Kit A/C)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CLIC / W-COLOR / W-SO4 IC / W-TDS	☒ Ice			
Physical/Aggregate (Kit B/D)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ QPCR	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R	☐ Ice			
	☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice			
		☐ Other			

Notes:

SRID V57 ID 77038

Place Label Here
(If Available)

Signature: *R. Brewton*

Date: 07/27/16

Field Parameters Entered into LIMS:

9/22/2016

(Initials/Date)

Field Parameters QC in LIMS:

Date Migrated to STORET:

20388

(Initials/Date)

Field Sheets Scanned/Saved:

DL

3/16/17

(Initials/Date)

Waterbody: <u>West main canal</u>	Date: <u>7/1/16</u>	County: <u>Indian River</u>	Storet Number: <u>6582000</u>
Analyst: <u>Matthew Sevel</u>	Signature: <u>Matthew Sevel</u>		
Comments: <u>monitored for veg</u>	SBID # <u>77038</u>		
Instructions: Note any vegetation changes			

[illegible]

SBTO # 77038

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Main Canals US1

County: Indian River

Date: 7/27/10

Investigators: M. Sevell

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

STORET Station Number: GSSE0045

Secchi depth 10
Estimated? N

points ranked 4-6 0
total points assessed 24
% 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-2016-06-20-19

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

0
1
2
3
4
5
6
7
8
9

60
1
2
3
4
5
6
7
8
9

10
1
2
3
4
5
6
7
8
9

70
1
2
3
4
5
6
7
8
9

20
1
2
3
4
5
6
7
8
9

80
1
2
3
4
5
6
7
8
9

30
1
2
3
4
5
6
7
8
9

90
1
2
3
4
5
6
7
8
9

40
1
2
3
4
5
6
7
8
9

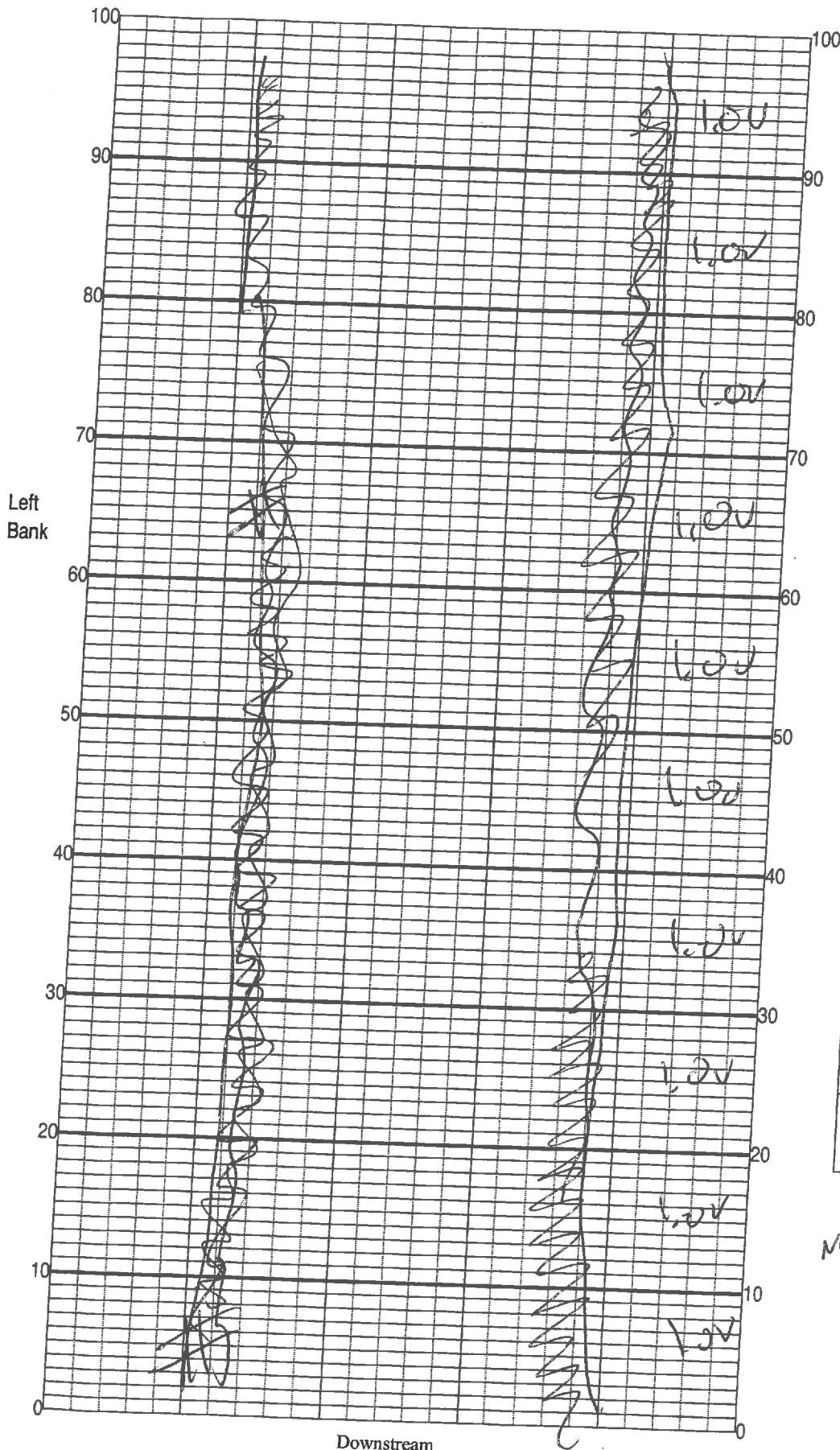
100
1
2
3
4
5
6
7
8
9

50
1
2
3
4
5
6
7
8
9

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%.

GL: JP

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



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

Location: Man canal @ us

Date: 07/27/10

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 = _____
range expected = _____

Average width 15 m

Average depth 1.0 m

Velocity measured at 100 meter mark.

WQ & chemistry taken at 100 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. XX

Riparian Buffer Width:
Note areas (on map) where natural vegetation
is altered or eliminated.

Plants observed / other notes:

NDFLOW

SBIO# 77038
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>21FLWPRB</u>		STORET STATION NUMBER: <u>655EWS</u>	DATE (MM/DD/YY): <u>7/27/16</u>	RECEIVING BODY OF WATER: <u>IRL</u>
REMARKS: <u>marked for veg</u>	COUNTY: <u>Indian River</u>	LOCATION: <u>Vero main canal</u>		FIELD ID/NAME: <u>Main Canal 655</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>2</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 <u>2</u> 1
Substrate Availability <u>1</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 <u>1</u>
Water Velocity <u>1</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 <u>1</u>
Habitat Smothering <u>2</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 <u>1</u>
Primary Score _____	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	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>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	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>2</u> Left Bank <u>2</u>	10 9	8 7 6	5 4	3 <u>2</u> 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation > 12 to 18 m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>1</u> Left Bank <u>2</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	> 50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>1</u> Left Bank <u>2</u>	10 9	8 7 6	5 4	3 2 1
Secondary Score _____	10 9	8 7 6	5 4	3 2 1

17 TOTAL SCORE

+10 for cut ditches as per Jimmy P.

Date: <u>7/27/16</u>	Analyst: <u>Matthew Severi</u>	Signature: <u>Matthew Severi</u>
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DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID G-SSC 0015 ORG ID 21F1WPB LATITUDE 27.649309
 COUNTY Indian River STORET # G-SSC 0015 LONGITUDE -80.400267
 DATE 7/27/16 TIME 11:25 SAMPLING AGENCY 21F1WPB
 SITE NAME Bro man canal @ US1
 FIELD ID/NAME G-SSC 0015 RECEIVING BODY OF WATER IRL

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)
				<u>60</u>	<u>40</u>			

Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy
 Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side
 Left Bank: 5 Right Bank: 0

Hydrologic Modification Score (per FT 3101)

High Water Mark: 0.5 + 1.0 = 1.5
 (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%)

Typical Width (m) Depth (m)/Velocity (m/sec) Transect
15 m wide
 m/s 0.0 m/s m/s
 m deep 1.0 m deep m deep

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation	<u>7</u>		
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:	<u>0.3</u>	<u>29.8</u>	<u>7.4</u>	<u>4.6</u>	<u>61</u>	<u>1447</u>	<u>0.78</u>	<u>1.0</u>
Mid:								☒ VOB
Bottom								

Meter ID: AP3 TOTAL DEPTH 1.0

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: 15249 Exp: 12/16

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

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:	☒	☐	☐	☐

SAMPLING TEAM

Sewell / P. Hs / Bents

SIGNATURE:

[Signature]

DATE:

7/27/16

AMBIENT FIELD CONDITIONS / NOTES:

SBU USIT 77058

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