Boldly "X" this box if there is qualified data on this page.

☐

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Meter QUANTA #1 RQ- 2017-03-27-08 Project Itchetucknee

Notes: (1) Numbers ≤4, are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
(2) Always wait for meter to stabilize before recording any readings.
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: [✓ Lab Calibration] or Calibration/Verification on Site

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification ~~03/04/2016~~ 02/2017

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	PO com	03/29/17	0720	22.6	8.64	8.61	99.9	—	—	Pass	LAB
ICV	↓	↓	0723	22.6	8.64	8.60	99.8	—	—	Pass	LAB
CCV	PO com	03/29/17	1555	24.2	8.38	8.22	98.3	—	—	Pass	LAB
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.
DO Acceptance criteria from Table ±0.3 mg/L. **Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.
Optical: DO gain range 0.85 to 1.15; DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard µmhos/cm	Meter Reading µmhos/cm	Pass / Fail	Lab / Field
Calibr.	PO com	03/29/17	0725	161101A	11/2017	1000	1000	Pass	LAB
ICV	↓	↓	0727	161101B	05/2017	100	101	Pass	LAB
CCV	PO com	03/29/17	1608	161101B	05/2017	100	100	Pass	LAB
CCV									

Report specific conductance as a whole number with no decimal figure. Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	PO com	03/29/17	0728	2608904	~~08~~ 07/2018	7.0	7.00	—	Pass	LAB
Calibr.	↓	↓	0730	2608G26	08/2018	4.0	4.00	—	Pass	LAB
~~Calibr.~~ ICV			0740	2608E35	02/2018	10.0	9.80	—	Pass	LAB
~~ICV~~ CCV			1605	2608904	07/2018	7.00	6.98	—	Pass	LAB
CCV										
CCV										

Report pH with one decimal place; pH Acceptance criteria ±0.2 SU; mV pH7 Range 0±50; mV pH 4 Range +180±50;
mV pH 10 Range -180±50; Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

Depth (Quarterly) Date of Last Depth Verification N/A

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
~~Pressure mode in air~~				~~0.000~~			

ICV acceptance criteria ±5 % or ±0.05m, whichever is greater

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2017

PAGE 1 OF 1

Data Qualified? Yes / No

STORET Station Name: Itchetucknee R. @ US27 **Date:** 03-29- 2017 (mm/dd/yyyy)

STORET Station ID: 21030050 **WBID:** 3519 **Latitude:** @0 29.95380 (Decimal Degrees)

County: Columbia RQ - 2017-03-27-08 **ORG ID:** 21 FLA **Longitude:** 82.78556 (Decimal Degrees)

Receiving Body of Water: ____ **Field ID:** ~~G10~~ G1NE0531 03 29 2017

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
J PARRISH		x	x	x	x
P. O'Connor	x		x		

Sampling Equipment

☒ **Sample Container** ☐ **Van Dorn** ☐ **Pole**
☐ **Carboy** ☐ **Syringe**
☐ **Dipper** ☐ **Other** ____
Equipment ID Ortho Kit # #Z

Collection Method

☐ **Wading**
☐ **From Shore**
☐ **Other** (note below)

Via Boat
☒ **Canoe/Kayak**
☐ **Electric Motor**
☐ **Gasoline Motor**

Water Level: Dry / Pooled / Low / [✓ Normal] / High / Flooded **Matrix:** [✓ Fresh] / Marine / DI

Meter ID# QUANTA #1 **Photos:** [✓ Yes] / No **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	1140	0.3	~~0.170~~ 1.4	6.1	69.3	7.9	0.16	VOB 1.45	335	21.7
CEN										

Biological Samples Collected: None [✓ HA] [✓ SCI] [✓ RPS] Algae ID [✓ LVS] LVI Other ____

SBIO ID Numbers: SBIO-ID: RPS-ID: Macrophyte-ID: LIMS#:

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 ☒ H_2SO_4	6302030	10-28-17	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO_2			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☐ E Coli ☐ F-Coli ☐ Entero ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-LCMS-DIJ ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Place … e Sticker(s) Here
… able)

Contains
1:1
Sulfuric Acid
-6302030
…28/17

Notes:

Field ID: G1NE0531 03292017

Ichetucknee R
@US Hwy 27

STORET 21030050

Signature: PO'Connor

Date: 03-29-

Field Parameters Entered into LIMS: JP 3/31/17 (Initials/Date)

Field Parameters QC in LIMS: ____ (Initials

Date Migrated to STORET: ____ (Initials/Date)

Field Sheets Scanned/Saved: ____ (Initials/Date)

Fiel

Date

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2017

PAGE 1 OF 1

Data Qualified?
Yes / No

STORET Station Name: ______ **Date:** 2017 (mm/dd/yyyy)

STORET Station ID: ______ **WBID:** ______ **Latitude:** ______ (Decimal Degrees)

County: ______ **RQ -** ______ **ORG ID:** 21 FLA **Longitude:** ______ (Decimal Degrees)

Receiving Body of Water: ______ **Field ID:** ______

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check

Sampling Equipment

☐ **Sample Container** ☐ **Van Dorn** ☐ **Pole**
☐ **Carboy** ☐ **Syringe**
☐ **Dipper** ☐ **Other** ______
Equipment ID Ortho Kit #

Collection Method

☐ **Wading**
☐ **From Shore**
☐ **Other** (note below)

Via Boat
☐ **Canoe/Kayak**
☐ **Electric Motor**
☐ **Gasoline Motor**

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

Matrix: Fresh / Marine / DI

Meter ID#

Photos: Yes / No

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										
CEN										

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other ______

SBIO ID Numbers: SBIO-ID: RPS-ID: Macrophyte-ID: LIMS#:

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 ☐ H_2SO_4			☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO_2			☐ <2
Filtered Nutrients	☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☐ Ice	**Place Preservative Sticker(s) Here** (If Available)		
Chlorophyll	☐ CHLSUITE-W	☐ Ice			
Physical/Aggregate (Fresh)	☐ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-LCMS-DIJ ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Notes:

Place Label Here
(If Available)

Signature: **Date:** 2017

Parameters Entered into LIMS: ______ (Initials/Date)

Field Parameters QC in LIMS: ______ (Initials/Date)

Migrated to STORET: ______ (Initials/Date)

Field Sheets Scanned/Saved: ______ (Initials/Date)

77460 JP 4/6/17

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: Itchetucknee @ US27
Date: 03/29/17
County: Columbia
Storet Number: 21030050
Analyst: P O'Conn, J. Parris
Signature:
Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 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.

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	
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens ~~mitis~~ LAEVIS	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Boehmeria cylindrica											
Centella asiatica											
Ceratophyllum demersum							✓				
Chara	D	D	D	D	D	D	D	D	D	D	
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Commelina diffusa											
Commelina virginica											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata											
Hydrocotle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Hygrophila polysperma											
Hymenocallis											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Limnophila sessiflora											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Luziola fluitans											
Hymenocallis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage								✓	✓	✓	
> 50% Macrophyte Coverage	✓	✓	✓	✓	✓	✓	✓	~~✓~~	~~✓~~		

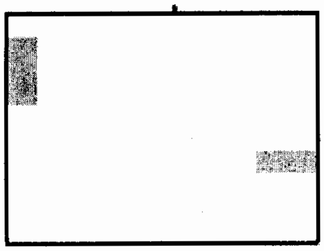
PB PO

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	
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis			✓	✓	✓	✓	✓	✓			
Nuphar luteum											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Ruellia simplex											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Sparganium americanum											
Typha											
Vallisneria americana	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Zizania aquatica											

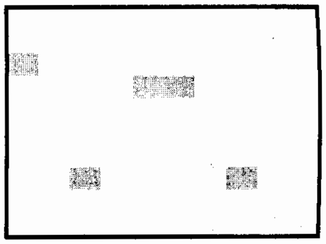
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

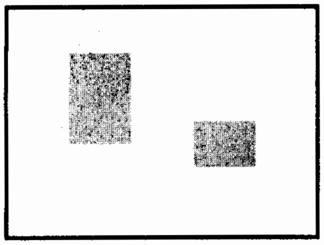
5% Macrophyte Coverage



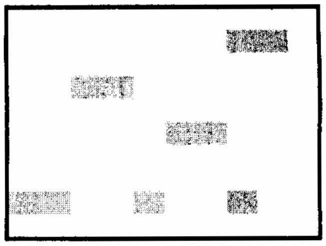
5% Macrophyte Coverage



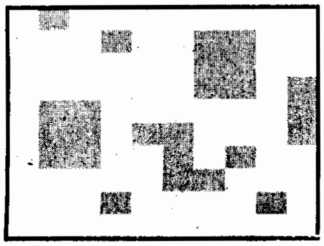
10% Macrophyte Coverage



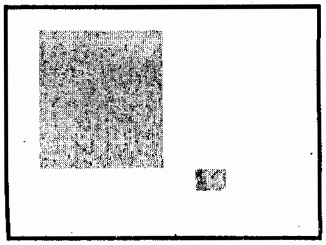
10% Macrophyte Coverage



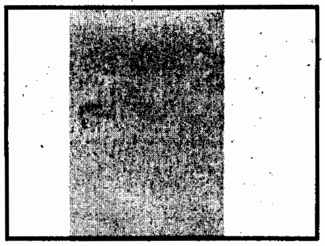
25% Macrophyte Coverage



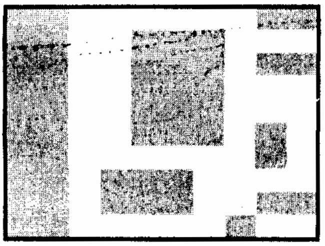
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



SbD 77460 4/16/17

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

SAMPLE ID ____
ORG ID 21FLA
LATITUDE @0 29.95380
COUNTY Columbia
STORET # 2105C0 [illegible]
LONGITUDE 82.785 ~~94~~ 56
DATE 03-29-17
TIME 1140
SAMPLING AGENCY DEAR NED Reg
SITE NAME Ichetucknee River @ US 27
FIELD ID/NAME ____
RECEIVING BODY OF WATER SAnta Fe River

RIPARIAN ZONE / STREAM FEATURES

Meter ID: Quanta #1

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) : State Park

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
							100

Landscape Development Intensity Index (LDI) ____

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 : >18 Right Bank : >18

Hydrologic Modification Score (per FT 3101) ____

Typical Width (m) Depth (m)/Velocity (m/sec) Transect 10-12 m wide

m/s	0.25 m/s	m/s
m deep	1.4 m deep	m deep

High Water Mark: 1.0 + 1.4 = 2.4
(m) (above present water level) (present depth) (above bed)

Artificially Impounded ☐ Yes ☒ No

Artificially Channelized : ☒ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover % ☐ Open ☐ Heavily Shaded ☐ Lightly Shaded (11-45%) ☐ 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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	3.0	5	
Undercut Banks / Roots	2.5	5	
Leaf Packs or Mat			
Aquatic Vegetation	30	5	
Rock or Shell Rubble	<1		
Sand	50	5	
Mud / Muck / Silt	≥15		
Other			
Other			

ABUNDANCE

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

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)
Top :							
Mid:	0.3	21.7	7.9	6.1	69.3	335	0.16
Bottom							

SECCHI (M) 1.~~[illegible]~~5 VOB
TOTAL DEPTH 1.5

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

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

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

Water Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☐ Yes ☐ No
Lot Number: 6302030 Exp: 10/28/17

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

Algae Sample Taken? ☐ Yes ☒ No
Sample Preserved? ☒ Yes ☐ No
Lot Number: ~~6302030~~ Exp: ~~10/28/17~~

Clarity Clear ☒ Turbid ☐ Slightly Turbid ☐ Opaque ☐

AMBIENT FIELD CONDITIONS / NOTES: LARge Percentage of SAV and Rock are NOt Available to sample Due to Depth

Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10

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

SAMPLING TEAM J Parrish D O'Connor

SIGNATURE :

62-160.800, F.A.C.

Revision Date: March 1, 2014

Sb10 77460 RPS ID 8649

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: ItchR @ US27

County: Columbia

Date: 03/29/17

Investigators: J. Parrish, P O'Connor

STORET Station Number: 21030056

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5		✓	80
	6		✓	
	7		✓	
	8		✓	
	9	↓		
10	1	N		
	2	N		
	3	N		
	4	N	✓	
	5	N	✓	0
	6	5	✓	
	7	3	✓	
	8	N		
	9	4		
20	1	N		
	2	N	✓	
	3	6	✓	
	4	N	✓	
	5	N	✓	54
	6	6	✓	
	7	N		
	8	N		
	9	N		
30	1	N		
	2	N	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	57
	6	N	✓	
	7	N	✓	
	8	N	✓	
	9	4		
40	1	N	✓	
	2	N	✓	
	3	3	✓	
	4	N	✓	
	5	N	✓	0
	6	N	✓	
	7	N	✓	
	8	3		
	9	N		
50	1	N		
	2	N	✓	
	3	4	✓	
	4	N	✓	
	5	N	✓	16
	6	N	✓	
	7	4	✓	
	8	N	✓	
	9	5		

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N		
	2	3	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	84
	6	N	✓	
	7	N	✓	
	8	N	✓	
	9	N		
70	1	N		
	2	N	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	36
	6	4	✓	
	7	4	✓	
	8	N	✓	
	9	N		
80	1	N		
	2	4		
	3	N	✓	
	4	3	✓	
	5	N	✓	60
	6	N	✓	
	7	N	✓	
	8	N	✓	
	9	6		
90	1	N		
	2	N	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	80
	6	N	✓	
	7	N	✓	
	8	N	✓	
	9	5		
100	1	~~N~~ 5	✓	
	2	~~N~~ 5	✓	
	3	~~N~~ N	✓	
	4	N	✓	
	5	N	✓	60
	6	3	✓	
	7	N	✓	
	8	N	✓	
	9	5'4		

1.45

Secchi depth	VOB
Estimated?	

# points ranked 4-6	~~13~~ 15
total points assessed	99
% points ranked 4-6	~~13~~ 15

Check accompanying data collected at same site/date.	
Algal mat sample	✓
Linear Veg Survey	✓
Habitat Assessment	✓
[✓ SCI]/Biorecon	✓
Water sample	✓
RQ-2017-03-27-08	

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

15/99

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%.

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

Sb/u 77460

SUBMITTING AGENCY CODE: SUBMITTING AGENCY NAME:	STORET STATION NUMBER: 21030050	DATE (MM/DD/YY): 3/29/17	RECEIVING BODY OF WATER: SAnta Fe River
REMARKS:	COUNTY: Columbia	LOCATION: Ichetucknee @ SR 27	FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 13	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 16	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 16	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 13 Primary Score 58	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** 20	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 10 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 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 10 Left Bank 9 Secondary Score ~~80~~ 79	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

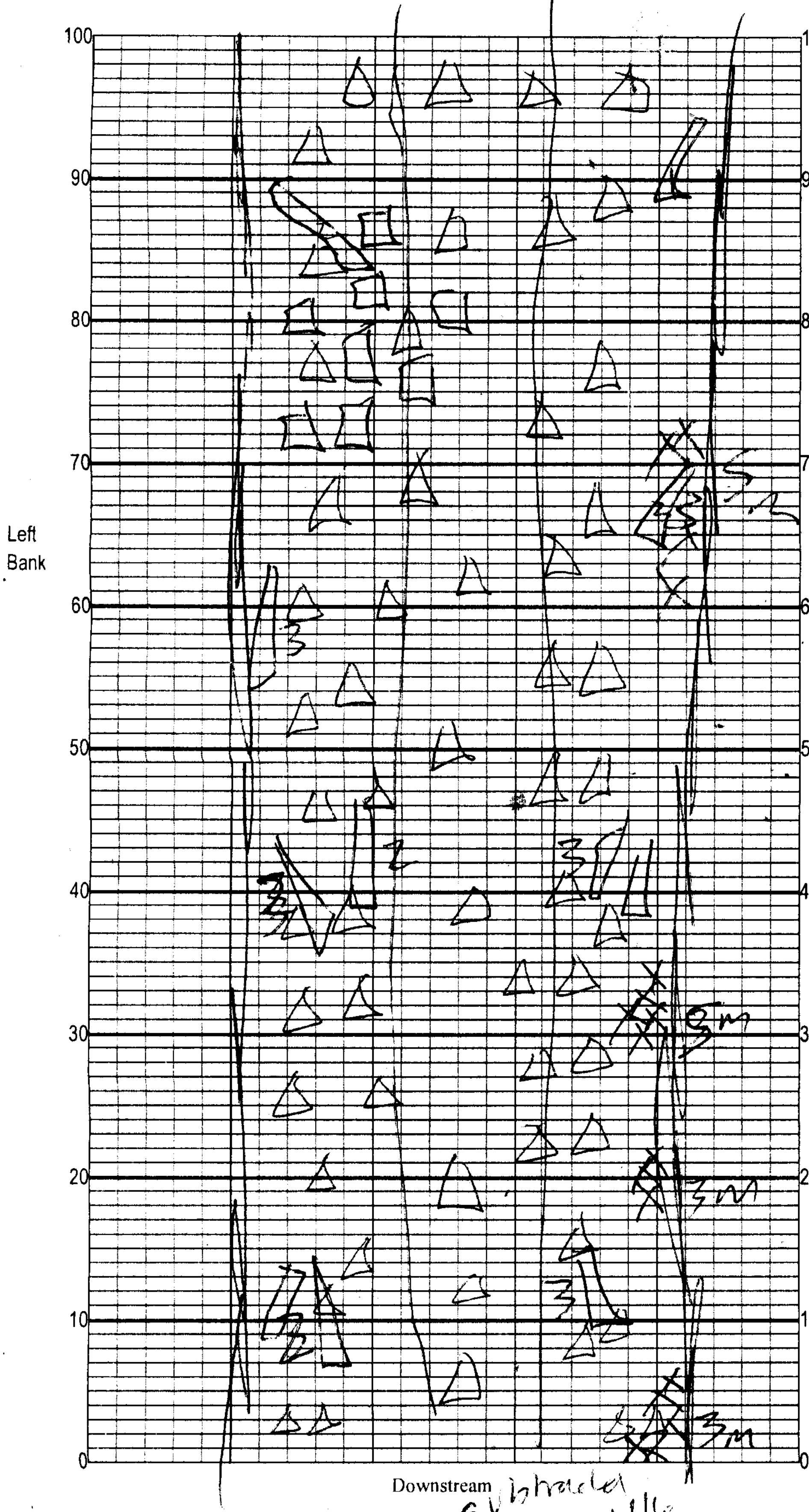
26
32
58

1
58
79
137

~~138~~ 137 **TOTAL SCORE**

Date: 3/29/17	Analyst: Jeremy Parr / Patoland	Signature: Jeremy Parr

DEP-SOP-001/01 Form FD 9000-4
Stream/River Habitat Sketch Sheet



Downstream

Substrate
5m middle
too deep
sample

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

Location: Istokpoga 27

Date: 3/29/17

Sampler: SP/PO

100 m:	Latitude	
	Longitude	
0 m:	Latitude	
	Longitude	

Substrates: Code key, draw proportionate ha t abundance. %

	Snags	% 3%
	Roots/undercut banks	2.5%
	~~Leaf Packs (~~or mats)	
	Aquatic Macrophytes	30 %
	Rock Conf 1% [illegible]	
	Pools	total # observed = # range expected =

Average width _________ m
Average depth _________ m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ meter mark.

Habitat Smother
Note areas (on m) 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:

1800 15m = 1%

Snags 60m = 3%

Roots 50m 2.5%

Veg.

Rock 1%