G2NE0688

Field ID: G2NE0685 05032017

OF ENVIRONMENTAL PROTECTION
RING PROGRAM FIELD SHEET

March 2017

PAGE 1 OF 1

Data Qualified? Yes / No

Mill Branch @ McCormick Rd STORET 20030681

Date: 05/03/17 (mm/dd/yyyy)

WBID: 2592 Latitude: 29.6513 (Decimal Degrees)

County: PUTNAM RQ - 2017-05-0189 ORG ID: 21FLA Longitude: 81.5828 (Decimal Degrees)

Receiving Body of Water: LSJR Field ID: See Label

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
T. O'Connor	✓	✓	✓	✓	✓
B. DAVIS	✓	✓	✓		

Sampling Equipment

- [x] Sample Container
- [ ] Carboy
- [ ] Dipper
- [ ] Van Dorn
- [ ] Syringe
- [ ] Other
- [ ] Pole

Equipment ID OrthoKit #

Collection Method

- [x] 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

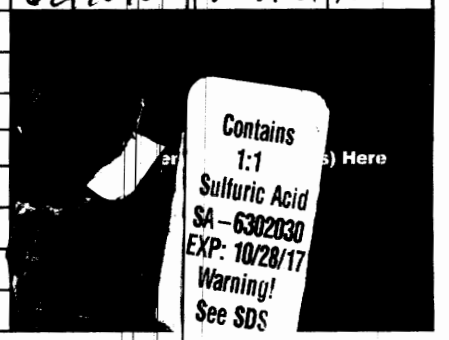
Tide Falling: Yes / No / (NA)

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	1215	0.1	0.15	8.52	98.9	7.07	2.17	0.155	4,120	21.9
CEN								VOB		

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	[x] W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	[x] Ice [x] H_2SO_4	6302050	10-28-17	[x] <2
Metals	[x] W-ICPMS [x] W-ICP	[x] Ice [x] HNO_3	6291010	10-17-17	[x] <2
Filtered Nutrients	[x] W-PO4-F [x] Field Filtered 0.45 µm Filter	[x] Ice			
Chlorophyll	[x] CHLSUITE-W	[x] Ice			
Physical/Aggregate (Fresh)	[x] Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	[x] Ice			
Physical/Aggregate (Marine)	[ ] Alkalinity / W-F / W-TSS / TURBIDITY	[ ] Ice			
Macroinvertebrates	[x] MI-FW-QLDC	[x] Formalin			
Periphyton	[ ] ALGAE-ID	[ ] Ice			
Microbiology	[ ] E Coli [ ] F Coli [ ] Enterococci [ ] qPCR	[ ] Ice			
Tracers	[ ] W-SUC-AA-R [ ] W-UHERB-AA [ ] W-AHERB-AA	[ ] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-AHERB-AA [ ] W-PYR-AA-R [ ] W-PCL-SQ-R [ ] W-UHERB-AA [ ] W-GLYPH [ ] W-SUC-AA-R	[ ] Ice [ ] Other			



Notes:

Place Label Here (If Available)

Signature: Date: 05-03-17

Field Parameters Entered into LIMS: 9/4/17 (Initials/Date) Field Parameters QC in LIMS: (Initials/Date)

Date Migrated to STORET: (Initials/Date) Field Sheets Scanned/Saved: (Initials/Date)

77592

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

20030681

Waterbody: Mill Br @ E. McCormick Rd | Date: 05-03-17 | County: Putnam | Storet Number: 20030556

Analyst: P O'Connor, B. Davis | Signature: Patricia Quinn

Comments:

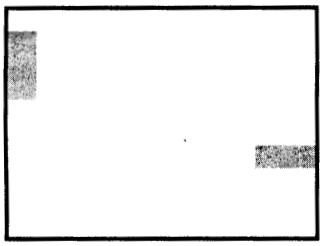
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides	√										
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Ceratophyllum demersum											
Chara											
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											
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											

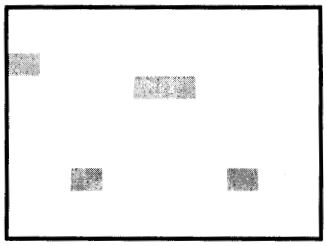
HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar luteum											
Orontium aquaticum											
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											

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

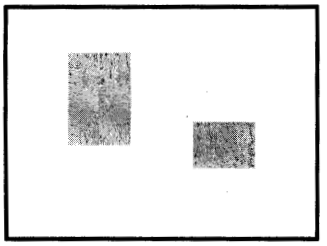
5% Macrophyte Coverage



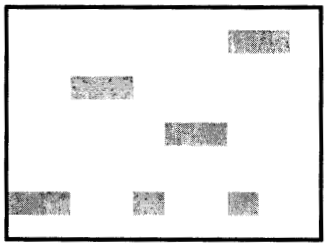
5% Macrophyte Coverage



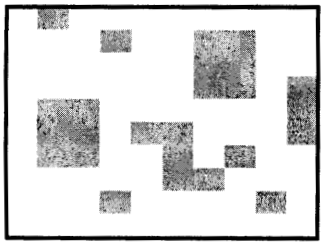
10% Macrophyte Coverage



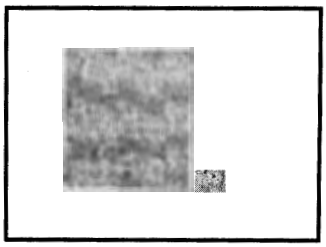
10% Macrophyte Coverage



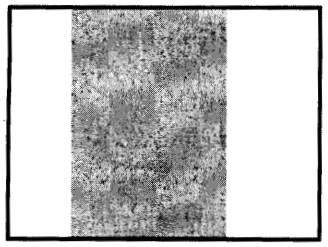
25% Macrophyte Coverage



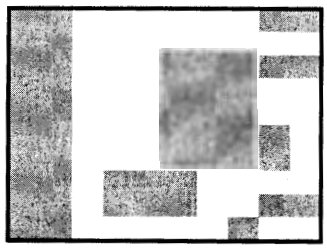
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



77592 RRS 8657 20030681

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Millbr @ E McCormick Rd | County: Putnam | Date: 05-03-17 | Investigators: O'Connor, B. Davis

STORET Station Number:

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
10	1	N		
	2			
	3			
	4			
	5			92
	6			
	7			
	8			
	9			
20	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
30	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
40	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
50	1	N		
	2			
	3			
	4			
	5			84
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N		
	2			
	3			
	4			
	5			~~84~~
	6			96
	7			
	8			
	9			
70	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
80	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
90	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
100	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			

Secchi depth	
Estimated?	

# points ranked 4-6	
total points assessed	
% points ranked 4-6	

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 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 Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID 77592 ORG ID 21 FLA LATITUDE

COUNTY PUTNAM STORET # ~~20030577~~ 20030681 LONGITUDE

DATE 05-03-17 TIME 1215 SAMPLING AGENCY NE ROC

SITE NAME Mill Br @ E. McCormick Rd

FIELD ID/NAME G2NE0584 RECEIVING BODY OF WATER

Meter ID: QUANTA #1

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

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

1.5 m wide

m/s	0.25 m/s	m/s
m deep	0.1 m deep	m deep

High Water Mark: 1.0 (m) + 0.1 (above present water level) = 1.1 (present depth) (above bed)

Artificially Impounded ☐ Yes ☒ No

Artificially Channelized : ☐ No ☐ Mostly recovered, more sinuous ☒ 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

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☐	☒	☐
Silt Smothering:	☐	☐	☒	☐
Algae Smothering:	☒	☐	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<1		
Undercut Banks / Roots	1.6	7	
Leaf Packs or Mat	<1		
Aquatic Vegetation	1.3	7	
Rock or Shell Rubble..			
Sand.....	96	6	
Mud / Muck / Silt			
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)	SECCHI (M)
Top :					98.9			0.155
Mid:	0.1	21.9	7.7	8.52	99.5	4120	2.17	TOTAL DEPTH
Bottom								0.15

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

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:_____ 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 ☐

AMBIENT FIELD CONDITIONS / NOTES:

Storet # 20030681

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 B DAVIS, P O'Connor

SIGNATURE :

Shio 17542

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

20030681

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 20030681	DATE (MM/DD/YY): 5/3/17	RECEIVING BODY OF WATER: SJR
REMARKS:	COUNTY: Putnam	LOCATION: Mill Branch @ McConnell		FIELD ID/NAME:

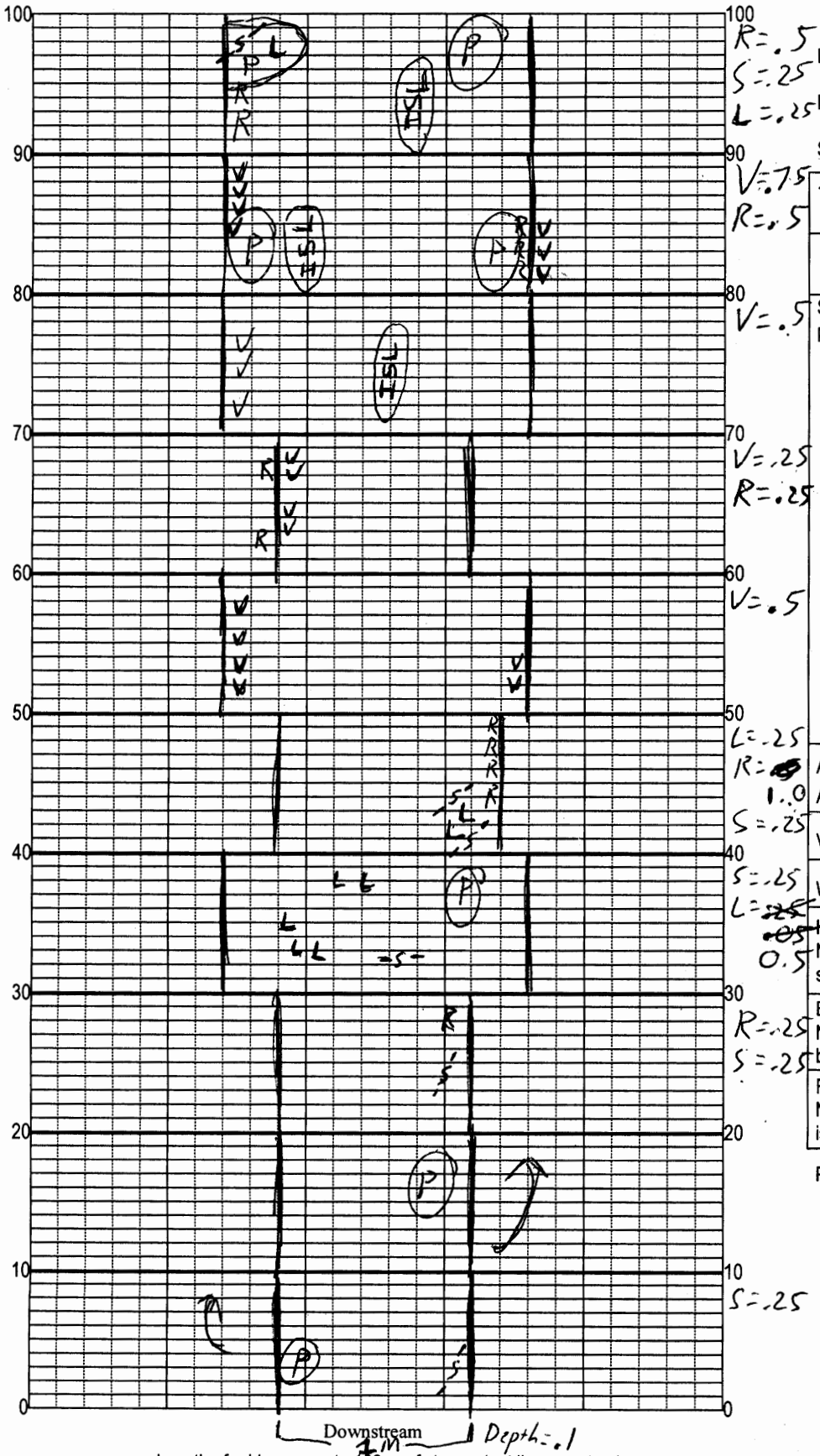
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 7	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. 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 4	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 15	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 12 Primary Score 38	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** 9	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 5 Left Bank 5	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 8 Left Bank 8 Secondary Score 57	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

95 93 **TOTAL SCORE**

Date: 5/3/17	Analyst: Brian Dan	Signature: Brian Dan

20030681

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: Mill Branch @ McCormick

Date: 5/3/17

Sampler: _____

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance.		%
S	Snags	<1
R	Roots/undercut banks	1.6
L	Leaf Packs (or mats)	<1
V	Aquatic Macrophytes	1.3
P	Pools — total # observed = 7; # range expected = 5	

Average width 1.5 m

Average depth 0.1 m

Velocity measured at 100 meter mark. 0.25

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.

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

Plants observed / other notes:

<2 M of Macrophytes was observed while doing the LVS? YES or NO

S = 1.25/150 = .83

R = 2.5 = 1.6

L = 1.0 = .6

V = 2.0 = 1.3

Total ~ 4%

62-160.800, F.A.C

Revision Date: March 1, 2014

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- 2017-05-01-89 Project SMP

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 02-09-2017

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'Conn	05-03-17	0712	23.1	8.56	8.50	99.7	—	—	P	L
ICV	↓	↓	732	23.2	8.54	8.70	102.1	—	—	P	L
CCV	PO'Conn	05-03-17	1700	24.9	8.27	8.06	97.8	—	—	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'Conn	05-03-17	745	160119A	11/2017	1000	1000	P	L
ICV	↓	↓	758	129811	12/17	12900	13,320	P	L
CCV	PO'Conn	05-03-17	1705	129811	12/17	12900	13,520	Pass	LAB
CCV	↓	↓	1716	1703158	03/2018	1000	1003	Pass	LAB

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.	BVC	5/3/17	857			7.0	7.0	—	P	L
Calibr.			802			4.0	4.0	—	P	L
~~Calibr~~ ICV	PO'Conn	05-03-17	0815	2411998	05-2018	10.0	9.80	—	Pass	LAB
~~ICV~~ CCV	PO'Conn	05-03-17	1720	2702647	02-2019	7.0	7.05	—	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

NF 5/11/17

05-03-17

1325 Mill Br @ TURNer 3690 umohs 21.0°C

1400 Ditch @ N SIDE TURNer RD 30m EAST of Mill Br
4,880

1330 Rim Ditch @ 13A (EAST SIDE) @ Horse Crossing Sign
2,750 umohs LAT 29.80527
LONG -81.48435

1345 UN-Named trib @ 13A
2,540

1350 MAIN Canal @ 13A
2930 umohs

1550 13 @ McCullough
2800