



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
PHYSICAL-CHEMICAL CHARACTERIZATION FIELD FORM

August 2016

Survey/Project: Reference Stream
STORET Station Name: see sticker Date: 08/30/16 Time: 1020
(mm/dd/yyyy) (EST/CST)
STORET Station ID: see sticker WBID: _____ Latitude: 30.252631
(Decimal Degrees)
County: La Fayette RQ: 2016-08-22-50 Agency ID: FDEP Longitude: -83.26654
(Decimal Degrees)
Receiving Body of Water: Suwannee River Field ID: Bethel @ Mil

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
J Jackson (H ₂ O)						X				☒ Sample Container	☐ Van Dorn	☐ Pole		
S Panek (H ₂ O)					X		X	X	X	☐ Carboy	☐ Syringe			
A O'Neal (SCI)										☐ Dipper	☐ Other			
										Equipment ID: <u>YSI 1483 AO</u>				
										Collection Method				
										☒ Wading	Via Boat			
										☐ From Shore	☐ Canoe/Kayak			
										☐ Other (note below)	☐ Electric Motor			
											☐ Gasoline Motor			
Water Level: Dry / Low / <u>Normal</u> / High / Flooded										Matrix: <u>Fresh</u> / Marine / DI				
Meter ID# <u>YSI 1483</u> Photos: <u>Yes</u> / No										Tide Falling: Yes / No / <u>NA</u>				
Sample Depth (m)	pH	Temp. (C°)	DO (mg/L)	DO (%SAT)	Sp COND (µmhos/cm)	Salinity (ppt)	Secchi Disk (m)	Total Depth (m)	Data Qualified (Y/N)					
Top	0.2	6.87	24.2	6.71	79.7	141 (J)	VOB	0.3 0.4 SP	Y	(Sp cond only)				
Mid														
Bottom														
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 ☒ H ₂ SO ₄			☒ <2					
Metals	☐ W-ICPMS ☒ W-ICP					☒ Ice ☒ HNO ₃	SA-6209120	7/27/17	☒ <2					
Filtered Nutrients	☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter					☐ Ice								
Chlorophyll	☒ CHL SUITE-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	☒ SCI ☐ Other: _____					☒ Formalin								
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☒ QPCR					☐ Ice								
Periphyton	☐ ALGAE-ID					☐ Ice								
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH					☐ Ice ☐ Other								
Other														
Notes/Observations: (weather / watershed alterations / erosion / odors) <u>low gds, light breeze, NO LVS, 22m² plants</u>						Location: Bethel Creek @ Mill Cr Rd Lat: 30.252631 Long: -83.26654 Date: _____ Time: _____ EST or CT Initials: _____		Bethel@Mil Field ID ↑ STORET ↓ 21020030						
Print Name: <u>J Jackson</u>			Signature: <u>[Signature]</u>			Date: <u>8/30/16</u>								

Field Parameters Entered into SBIO: _____

(Initials/Date)

Field Parameters QC in SBIO: _____

(Initials/Date)

Date Migrated to STORET: _____

(Initials/Date)

Field Sheets Scanned/Saved: _____

(Initials/Date)

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

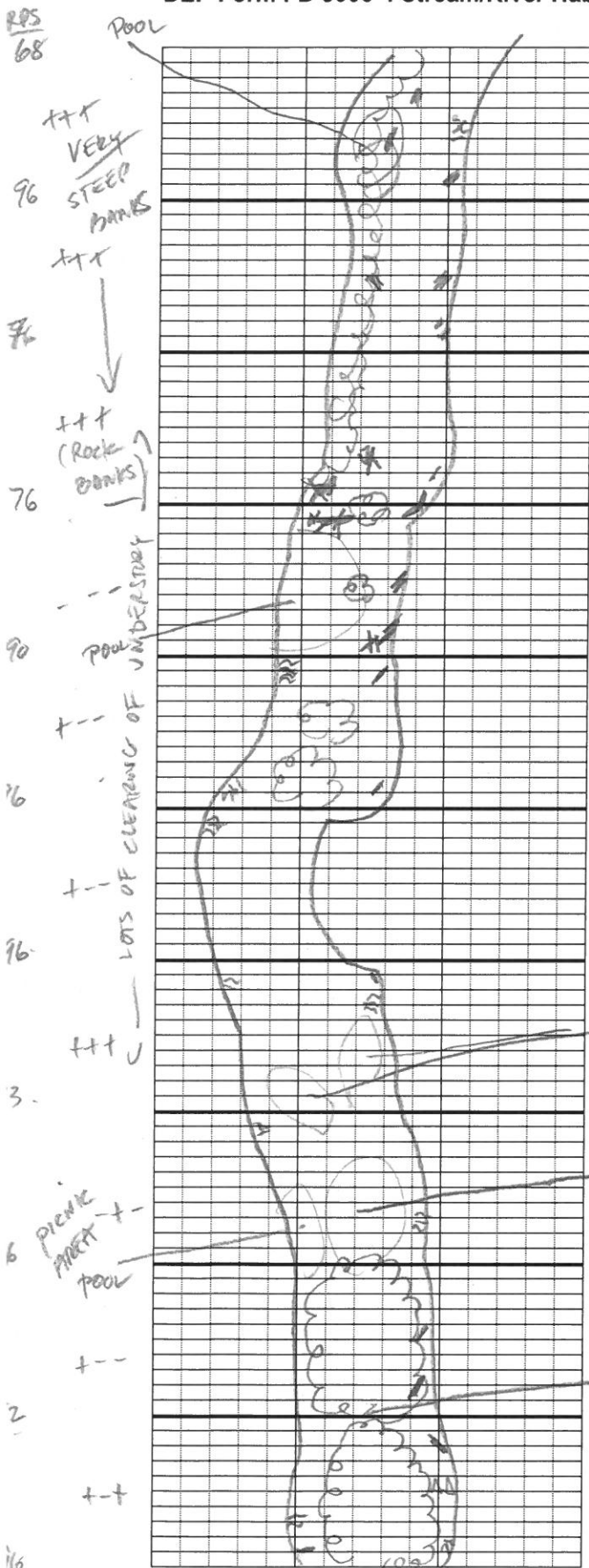
SAMPLING AGENCY: <u>FDEP/AEQA</u>		STORET STATION NUMBER: <u>21020030</u>	DATE (MM/DD/YY): <u>8/30/16</u>	RECEIVING BODY OF WATER: <u>Savanna River</u>
REMARKS: <u>EcoRef</u>	COUNTY: <u>Lafayette</u>	LOCATION: <u>Bethel Creek @ Mill</u>	FIELD ID/NAME: <u>Bethel @ Mill</u>	

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>14</u>	20 19 18 17 16	15 <u>14</u> 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>17</u>	Greater than 30% major productive habitat present at site 20 19 18 <u>17</u> 16	16% to 30% major productive habitat, by aerial extent <u>14-17 12-24-27 18-20 16-18</u> 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>12</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>17</u> Primary Score <u>60</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 <u>17</u> 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	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>20</u>	<u>20</u> 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>8</u> Left Bank <u>7</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 <u>7</u> 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 <u>lots of clearing on L bank</u> Right Bank <u>10</u> Left Bank <u>7</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>10</u> Left Bank <u>9</u> Secondary Score <u>72 70</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. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

130 130 TOTAL SCORE

Date: <u>8/30/16</u>	Analyst: <u>Joy Jackson</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Left bank
0.2 (5) m/s
1.3 m deep

Downstream
0.13 (8) m/s
0.6 m deep

Right bank
0.11 (9) m/s
0.3 m deep

Length represents 100 m of stream (not linear meters).
(Horizontal scale is 2x vertical scale).

Station Name: Bethel 011

Station ID: 21020030

Waterbody: Bethel Creek

Latitude: _____ Longitude: _____

Sampler: Harker

Date: 8/30/16 Hydrologic Modification Score: 1-2

Major Habitats	Code	# Squares	% Cover	# Sweeps
Snags	<u>#</u>	<u>25</u>	<u>5</u>	<u> </u>
Roots	<u>SS</u>	<u>10</u>	<u>2</u>	<u> </u>
Leaves	<u>AA</u>	<u>1-2</u>	<u>41</u>	<u>1</u>
Aquatic Vegetation				
Rock	<u>EB</u>	<u>125</u>	<u>25</u>	<u> </u>
Minor Habitats				
Sand			<u>77</u>	<u> </u>
Other				
Total		<u>162</u>	<u>500</u>	<u>322</u>

Substrate Smothering (check all that apply)				
	None	Slight	Moderate	Severe
Sand	☐	☐	☒	☐
Silt	☐	☒	☐	☐
Algae	☒	☐	☐	☐

Canopy Cover (check box)			
Open (<10%)	Lightly Shaded (11-45%)	Moderately Shaded (46-80%)	Heavily Shaded (>80%)
☐	☐	☒	☐

Average width: 5 m Average depth: 0.4 m

Total # pools: |||| 11 Expected range: 2-4

Velocity measured at: 90 m mark

Meter reading & water chemistry taken at 0 m

Note areas of bank instability / riparian disturbance.

Notes/Plants Observed:

MYRICA

WATER OAK

SABAL PALM

CYPRESS

PUYAL FERN

JAPANESE CLIMBING FERN (small one)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Behel Creek @ Mill Rd County: Lafayette Date: 8-30-16 Investigators: J Jackson

STORET Station Number: 21020030

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				
	2					2				
	3					3				
	4					4				
	5			96		5			90	
	6					6				
	7					7				
	8					8				
	9					9				
10	1				70	1				
	2					2				
	3					3				
	4					4				
	5			52		5			76	
	6					6				
	7					7				
	8					8				
	9					9				
20	1				80	1				
	2					2				
	3					3				
	4					4				
	5			96		5			76	
	6					6				
	7					7				
	8					8				
	9					9				
30	1				90	1				
	2					2				
	3					3				
	4					4				
	5			93		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
40	1				100	1				
	2					2				
	3					3				
	4					4				
	5			96		5			68	
	6					6				
	7					7				
	8					8				
	9					9				
50	1					1				
	2					2				
	3					3				
	4					4				
	5			96		5				
	6					6				
	7					7				
	8					8				
	9					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%.

Secchi depth 0.4 / lob
Estimated? N

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- 2016-08-22-50

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

Page 1 of 2
last revised Apr 7 2016

O'Nea
FDLP

[illegible]

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Andrew Chao	8/31/16 1050	hand delivery		SK	8-31-16 / 10:50