

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

SAMPLE ID 77863 ORG ID 21FLWQSP LATITUDE 30.583196
 COUNTY Gadsden STORET # 31010050 LONGITUDE -84.880575
 DATE 8/15/2017 TIME 1300 SAMPLING AGENCY FDEP/AEQA
 SITE NAME Crooked Creek
 FIELD ID/NAME CRKREF RECEIVING BODY OF WATER Apalachicola R.

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>~50%</u> Silviculture <u>~50%</u> Field/Pasture <u> </u> Agricultural <u> </u> Residential <u> </u> Commercial <u> </u> Industry <u> </u> Other (Specify) <u> </u>						Landscape Development Intensity Index (LDI) <u>1.3</u>	
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 <u>6</u> m wide <u>0.25</u> m/s <u>0.25</u> m/s <u>0.2</u> m/s <u>0.1</u> m deep <u>0.2</u> m deep <u>0.2</u> m deep	
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18m</u> Right Bank: <u>>18m</u>				Hydrologic Modification Score (per FT 3101) <u>3-4/2</u>			
High Water Mark: <u>0.3m</u> <u>0.2m</u> ^{SP} <u>0.2m</u> = <u>0.5</u> (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%)			

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse			Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): <u> </u>			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			WATER QUALITY <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td><u>0.1</u></td> <td><u>24.7</u></td> <td><u>6.19</u></td> <td><u>9.90</u></td> <td><u>19.0</u></td> <td><u>20.0</u></td> <td></td> <td><u>0.2</u></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>0.2</u></td> </tr> </tbody> </table>							Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	<u>0.1</u>	<u>24.7</u>	<u>6.19</u>	<u>9.90</u>	<u>19.0</u>	<u>20.0</u>		<u>0.2</u>	Mid:								☒ VOB	Bottom:								<u>0.2</u>				
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			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u> </u> Exp: <u> </u>			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) <u>slightly tannic</u>																																										
			Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: <u> </u> Exp: <u> </u>			Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																										
ABUNDANCE Not Obs. Rare Common Abundant			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) <u> </u>																																													
Periphyton: ☒ ☐ ☐ ☐ Fish: ☒ ☐ ☐ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			AMBIENT FIELD CONDITIONS / NOTES: <u>site upstream of bridge</u> <u>DO not verified - I qualify</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																													

SAMPLING TEAM

N. Wellendorf, S. Panek, J. Storrs

SIGNATURE :

Sarah C. Panek

DATE :

8/15/2017

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

SAMPLING AGENCY: <u>FDEP/AEQA</u>		STORET STATION NUMBER: <u>31010050</u>	DATE (MM/DD/YY): <u>8/15/17</u>	RECEIVING BODY OF WATER: <u>Apalachicola R.</u>
REMARKS:	COUNTY: <u>Gadsden</u>	LOCATION: <u>Crooked Creek</u>	FIELD ID/NAME: <u>CRKREF</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>11</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 <u>11</u>	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>15</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 <u>15</u> 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>18</u> Primary Score <u>58</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 <u>18</u> 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	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>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 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>10</u> Left Bank <u>9</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	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>10</u> Left Bank <u>10</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>10</u> Left Bank <u>10</u> Secondary Score <u>79</u>	10 9	8 7 6	5 4	3 2 1

137

TOTAL SCORE

Date: <u>8/15/2017</u>	Analyst: <u>S. Panek, N. Wellendorf</u>	Signature: <u>[Signature]</u>
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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Crooked Creek</u>					County: <u>Gadsden</u>		Date: <u>8/15/17</u>		Investigators: <u>S. Parak</u>	
					STORET Station Number: <u>31010050</u>					

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					2				
	3					3				
	4					4				
	5			96		5			93	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			90		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			94	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			88		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			94	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			94		5				
	6					6				
	7					7				
	8					8				
	9					9				

Secchi depth	<u>0.2</u>	VOB
Estimated?	<u>N</u>	

# points ranked 4-6	<u>0</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>0</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	☒
RQ-2017-08-14-55	

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%.

31010050

Storet Number:

Signature: Must C. Pano

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

SITE NAME: Crooked CreekDATE: 8/15/17TIME 1300

EST CST

DEPTH: 0.1 ft (m)FIELD ID: CRKREF

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
<u>S. Park</u>	X	X			
<u>N. Wellendorf</u>	X		X		
<u>J. Storrs</u>			X	X	X

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>1483</u>	
COLLECTION MODE	
☒ Wading	☒ Via Boat
☐ Diving	☐ Canoe
☐ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	☒ TKN ☒ TP ☒ NOx ☒ NH3 ☒ TOC ☐ Total N ☐ Other: _____	<u>S</u> W	☒ Ice ☒ H2SO4	<u>7163030</u>	☒ <2	<u>1</u>
Filtered Nutrients	☐ OP ☐ Other: _____	W	☐ Ice ☐ .45 um Filter	<u>6/12/18</u>		
Unpreserved Nutrients	☐ NO2 ☐ NO3 ☐ SO4 ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color ☒ Other: <u>BR, CL, F, SO4</u>	<u>S</u> W	☒ Ice			<u>1</u>
Chlorophyll	☒ CHL-PPTN-W	<u>S</u> W	☒ Ice			<u>1</u>
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☐ E coli ☐ T Coli ☐ F Coli ☐ Entero ☐ F Strep	W	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	<u>S</u> W	☒ Formalin			<u>3</u>
Phytoplankton	☐ PKD-QN-C ☐ DTY-QN-C	W	☐ Lugol's			
Periphyton	☐ PRN-QL-C ☐ DTM-QL-C ☐ PRN-QN-C ☐ DTM-QN-C	W	☐ Formalin			
AGP	☐ AA-AGP ☐ AA-LIM-NUT	W	☐ Ice			
Metals	☒ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	<u>S</u> W	☒ HNO3	<u>7086060</u>	☒ <2	<u>1</u>
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO3 ☐ .45 um Filter	<u>3/27/18</u>	☐ <2	
Mercury	☐ W-HG-AF	W				
Base/Neutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH ☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice ☐ H2SO4		☐ <2	
Pesticides	☐ W-PEST-CL ☐ W-PCB ☐ W-PEST-NP ☐ W-PSCL-PCB ☐ W-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP ☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____ ☐ W-ACIDHERB ☐ W-CARB	W	☐ Ice ☐ H2SO4 ☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS ☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER		W	☐ Other: _____			

Notes: ions collected physical/aggregate bromide, chloride, fluoride, sulfide

PCR-HF183 SW ICE 2 bottles

W-AHERB-AA, W-SUC-AA-R, W-UHERB-AA SW ICE 1 bottle

RQ-2017-08-14-55

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): SW = Surface Water GW = Groundwater DW = Drinking Water WW = Wastewater O = Other: _____

**PRESERVATIVES: 1 ml added unless otherwise noted

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

**Florida Department of Environmental Protection
Central Laboratory Submittal Form**

Customer: BSSP

Project ID: SCIREF

Requester: Sarah Panak

Collected By: FD P / AEC

Field Report Prepared By:

Sampling Agency: FDEP/AECOA

[illegible]

Relinquished By: <i>Sarah Pank</i>	Date/Time <i>8/15/17, 1000</i>	Shipping Method <i>HAND DELIVERED</i>	Number of Coolers Shipped:	Received By: 	Date/Time <i>8/15/17 14:00</i>
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Cooler Packing Worksheet for Request: RQ-2017-08-14-55

Reference Stream Sampling

Ship Cooler On: 8/2/2017

Customer/Project: BSSP/SCIREF

Assigned To: REYNOLDS_T

Requester: Sarah Panek

Priority: 3

850-245-8533
2600 Blair Stone Rd.

Tallahassee, FL 32399-2400

Attn: Sarah Panek

Comments:

No preservatives needed.

Requested Analyses:

Bottle Group: A

of Sites: 2

Container ID: P-1L

Qty: 2 Preservation: ICE

Lot # 00068657

Description: Plastic Bottle 1L

Analysis

ALKALINITY

TURBIDITY

W-BR-IC

W-CL-IC

W-COLOR

W-F

W-SO4-IC

W-TDS

W-TSS

Description

Alkalinity in aqueous matrices as mg CaCO₃/L

Turbidity in aqueous matrices

Bromide in aqueous matrices

Chloride in aqueous matrices

True Color measured at 450 nm

Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)

Sulfate in aqueous matrices

Total Dissolved Solids in aqueous matrices

Total Suspended Solids in aqueous matrices

Container ID: BP-1L

Qty: 2 Preservation: ICE

Lot # 1199138

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry

Cooler Packed By: Tyler K. Number of Coolers: 2 Date: coolers

Kit must also include:

- ☒ Field Sheets
- ☒ Temperature Control Bottle
- ☒ FedEx Bills, if applicable
- ☒ Plastic Bags
- ☒ Zip Ties

If Preservation Included:

ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____

PLEASE RETURN ALL COOLERS FOR RQ-2017-08-14-55