

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

SAMPLE ID 77361 ORG ID 21FWWASP LATITUDE 30° 29' 30.5"
 COUNTY CALHOUN STORET # CAL14 MAY 1 LONGITUDE 85° 12' 39.5"
 DATE 2-9-17 TIME 1035 SAMPLING AGENCY FDEP A-60A
 SITE NAME MAKO Mill branch
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Chipola River

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						Typical Width (m) Depth (m)/Velocity (m/sec) Transect (avg) <u>3</u> m wide <u>.5</u> m/s <u>.5</u> m/s <u>.4</u> m/s <u>.4</u> m deep <u>.3</u> m deep <u>.4</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718m</u> Right Bank: <u>718m</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>					
High Water Mark: <u>1.2</u> + <u>0.3</u> = <u>1.5</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): _____			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>0.2</u></td> <td><u>17.7</u></td> <td><u>3.89</u></td> <td><u>8.81</u></td> <td><u>92.4</u></td> <td><u>26.7</u></td> <td></td> <td></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></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>0.2</u>	<u>17.7</u>	<u>3.89</u>	<u>8.81</u>	<u>92.4</u>	<u>26.7</u>			Mid:								☒ VOB	Bottom:								
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Bottom:																																												
Woody Debris (Snags) <u>6</u> <u>5</u> <u></u> Undercut Banks / Roots <u>3</u> <u>5</u> <u></u> Leaf Packs or Mat <u>2.5</u> <u>5</u> <u></u> Aquatic Vegetation <u></u> <u></u> <u></u> Rock or Shell Rubble <u></u> <u></u> <u></u> Sand <u>88.5</u> <u>5</u> <u></u> Mud / Muck / Silt <u></u> <u></u> <u></u> Other <u></u> <u></u> <u></u> Other <u></u> <u></u> <u></u>			Meter ID: <u>YSI #1483</u>			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐																																						
			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>NA 62 53070</u> Exp: <u>9/9/17</u>			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ 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 ☐																																						
ABUNDANCE <table border="1"> <thead> <tr> <th></th> <th>Not Obs.</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Fish:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Aquatic Plants:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Iron/Sulfur Bacteria:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				Not Obs.	Rare	Common	Abundant	Periphyton:	☒	☐	☐	☐	Fish:	☒	☐	☐	☐	Aquatic Plants:	☒	☐	☐	☐	Iron/Sulfur Bacteria:	☒	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐																
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SAMPLING TEAM <u>JACKSON, SPANER, AONEAU</u>			SIGNATURE: <u>J. Jackson</u>			DATE: <u>2-9-17</u>																																						
			AMBIENT FIELD CONDITIONS / NOTES: <u>sun clear cool, windy</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																									

SITE NAME: Mayo Mill Branch DATE: 2-9-17 TIME 1035 (military) EST/CST DEPTH*: 4 ft @ FIELD ID: Mayo Mill

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
J Jackson		X			
S Panek			X	X	X
A O'Neal	X				

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other: _____
☐ Pump ID#: _____	☐ Other: _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>YSI # 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 ☒ NO _x ☒ NH ₃ ☒ TOC ☐ Total N ☐ Other: _____	S W	☒ Ice ☒ H ₂ SO ₄	8/29/17 SA-6242080	☒ <2	1
Filtered Nutrients	☐ oP ☐ Other: _____	W	☐ Ice ☐ 45 um Filter			
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color ☐ Other: _____	S W	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	S W	☒ Ice			1
BOD-APCR	☐ BOD-INHB ☐ BOD-UNIN	S W	☒ Ice			2
Microbiology	MF: ☐ E coli ☐ T Coli ☐ F Coli ☐ Enteroc ☐ F Strep	W	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	S W	☒ Formalin			3
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	S W	☒ HNO ₃	9/9/2017 NA 625300	☒ <2	1
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO ₃ ☐ 45 um Filter		☐ <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			
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			
Purgeables	☐ W-VOC-MS ☐ W-VOC-MS-A	W	☐ Ice ☐ H ₂ SO ₄			
Bioassay	Specify Test: <u>W-SUC-AA-R</u> <u>W-herb-AA</u>	S W	☒ Ice			1
OTHER IONS	<u>W-BR-IC, W-CL-IC, W-F, W-SO4-IC</u>	W	☐ Other: _____			

Notes:

↳ same bottles as physical/aggregate
ions: bromide, chloride, fluoride, sulfate

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)

[illegible]

Revision Date: March 1, 2014

Revision Date: March 1, 2014

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

SAMPLING AGENCY: <i>FDEP</i>		STORET STATION NUMBER: <i>CAL14 May 1</i>	DATE (MM/DD/YY): <i>2/9/2017</i>	RECEIVING BODY OF WATER: <i>Chipola River</i>
REMARKS:	COUNTY: <i>Calhoun</i>	LOCATION: <i>Mayo Mill</i>	FIELD ID/NAME:	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>15</u>	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) <u>15</u> 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 <u>9</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 <i>~12%</i> 10 <u>9</u> 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>20</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec <i>.5</i> ≥0.33 0.31 0.29 0.27 >0.25 <u>20</u> 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>18</u> ----- Primary Score <u>62</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. <i>some silt, light sand, smother.</i> 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 Artificial Channelization <u>20</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. <u>20</u> 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 <u>9</u> Left Bank <u>9</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 <u>9</u>	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 <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 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>10</u> ----- Secondary Score <u>78</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. <u>10</u> 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

140

TOTAL SCORE

Date: <i>2/9/2017</i>	Analyst: <i>A.O'Neal</i>	Signature: <i>Ashley O'Neal</i>
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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Mayo Mill</u>					County:		Date: <u>2/9/2017</u>		Investigators: <u>AO Neal J Jackson S Frank</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	STORET Station Number: <u>CAL14MAY1</u>
0	1				60	1				Secchi depth <u>VOB</u> Estimated? ☒ # points ranked 4-6 <u>—</u> total points assessed <u>all</u> % points ranked 4-6 <u>—</u>
	2					2				
	3					3				
	4					4				
	5			76		5			88	
	6					6				
	7					7				
	8					8				
	9					9				
10	1				70	1				Check accompanying data collected at same site/date. Algal mat sample ☐ Linear Veg Survey <u>no plants</u> Habitat Assessment ☒ SCI/Biorecon ☒ Water sample ☒ RQ- <u>2017-02-06-68</u>
	2					2				
	3					3				
	4					4				
	5			91		5			93	
	6					6				
	7					7				
	8					8				
	9					9				
20	1				80	1				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
	2					2				
	3					3				
	4					4				
	5			74		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
30	1				90	1				
	2					2				
	3					3				
	4					4				
	5			80		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
40	1				100	1				
	2					2				
	3					3				
	4					4				
	5			92		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
50	1					1				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%.
	2					2				
	3					3				
	4					4				
	5			96		5				
	6					6				
	7					7				
	8					8				
	9					9				

2017-02-06-68

Request Number: RQ-2017-04-09-29

Florida Department of Environmental Protection

Reference Stream Sampling

Central Laboratory Submittal Form

Page 1 of 2

last revised Apr 7, 2016

Customer: BSSP

Requester: Sarah Panek

Field Report Prepared By:

Ashley O'Neal

Project ID: SCIREF

Collected By:

Spanek, TJ Jackson AO'Neal FDEP A-EQA

Sampling Agency:

FDEP A-EQA

Location		Mayo Mill Branch		Collection (comp begin or grab)		Time 1035		Composite end		Bottle Group(s)	
Field ID	MayoMill	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
STORET #	CAL14 MAY 1	Temp (C) 17.7		pH 3.89		Sample Depth 0.2		Sp. Conductance (umho/cm) 26.7		A, B	
Latitude	30 29 30.5"	dd dms	Longitude	85 01 2 39.5"	dd dms						
Location		Econfin Creek @ Scott Bridge Rd.		Collection (comp begin or grab)		Time 1340		Composite end		Bottle Group(s)	
Field ID	LEONSCIREF	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
STORET #	32030023	Temp (C) 16.9		pH 4.46		Sample Depth 0.2		Sp. Conductance (umho/cm)		A, B	
Latitude	30.55536	dd dms	Longitude	-85.43519	dd dms						
Location		Collection (comp begin or grab)		Time		Composite end				Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
STORET #		Temp (C)		pH		Sample Depth		Sp. Conductance (umho/cm)			
Latitude		dd dms	Longitude		dd dms						
Location		Collection (comp begin or grab)		Time		Composite end				Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
STORET #		Temp (C)		pH		Sample Depth		Sp. Conductance (umho/cm)			
Latitude		dd dms	Longitude		dd dms						
Location		Collection (comp begin or grab)		Time		Composite end				Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
STORET #		Temp (C)		pH		Sample Depth		Sp. Conductance (umho/cm)			
Latitude		dd dms	Longitude		dd dms						

Relinquished By:	Ashley O'Neal	Date/Time	2/10/2017 10:22
Shipping Method	hand delivery	Number of Coolers Shipped:	1
Received By:	AFB	Date/Time	2-10-17 10:22