



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PLAN FIELD SHEET

January 2020

Meter Passed End
of Day CCV
☒ Yes / ☐ No

WIN Station Name: Escambia River downstream of Cotton Lake **Date:** 12/15/2021
WIN/Field ID: G4NW0403 **WBID:** 10A **ENR:** **Latitude:** 30.78228
County: ESCAMBIA **Org ID:** 21FLPNS **Longitude:** -87.31055
Receiving Body of Water: - **RQ:** 2021-11-29-21

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Christopher Stopher Slade	x		x		
☒	Nathan Mulkey		x		x	x
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Meter	
Secchi Equipment ID:	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☒ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# 155077 (PRODSS)							
Photos: No		Flow: FLOW		Tide:		Tide Times: High: Low:							
Biological Samples Collected: ☐ None ☒ HA ☒ SCI ☒ RPS ☐ Algae ID ☒ LVS ☐ LVI Other:													
SBIO ID Numbers: SBIO Visit ID 83554. HA ID 17114. RPS ID 9819													
Notes: SUNNY AND BREEZY. SCI (QLDC) lost due to laboratory error (Sample combined with G4NW0404 Sample)													

Duplicate Sample

Time Zone: CEN	Time:	Field ID: N/A (WIN ID_DUP)
WIN DMT Activity ID:		

Blank

Time Zone:	Time:	Field ID: (Blank Type_DDDMMYYY)
DI Source:	Location:	
DI Type:	Equipment ID:	
DI Container (Name/ID):		DI Container Type:

LIMS EVENT ID: **WIN Import ID:**
Enter Field Parameters, Verify Station ID In LIMS DMT: **QC Station ID, Field Parameters In LIMS DMT:**
(Initials/Date) (Initials/Date)
Scan/Save Field Sheets **Migrate Data to WIN:** **Verify Data In WIN:**
(Initials/Date) (Initials/Date) (Initials/Date)



RQ-2021-11-29-21

Customer: WQAP

Project ID: SMP

Collected By: Christopher Stopher Slade, Nathan Mulkey

Field Report Prepared By: Christopher Stopher Slade

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G4NW0403

Location: Escambia River downstream of Cotton Lake

Comments: Microbiology sample(s) submitted to contract laboratory

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT _h)
	1130 CEN	8.93	87.8	15.1	6.85	0.3	0.7 ☐ VOB (S)	3.1	81.8	0.04
12/15/2021										
	1135 CEN	8.73	86	15.1	6.48	2.6			81.1	0.04
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4*		☒ <2	1	A
		Lot #	0353110	Exp:		1/11/22				
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A
		Lot #	0344060	Exp:		1/4/22				
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A
		Filter Lot #	17236199							
		Syringe Lot #	1005533							
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY				☐ Ice				
Macroinvertebrates (PJ-2L)		☒ MI-FW-QLDC	Formalin Lot #		-	☒ Formalin			1	B
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice				
Microbiology (Contract Lab Bottle)		☒ E Coli ☐ F Coli ☐ Enterococci				☒ Ice			1	A
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD ☐				☐ Ice				
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice				
Pesticides (BG-500ML) (BG-1L)		☒ W-E8321-DI	☒ WE8321-MS	☒ W-PSNP-TQ		☒ Ice			5	A
Phytoplankton/Periphyton		☐ W-PCL-TQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)								
		☐ PKD-QN-BV ☐ DTY-QN-C				☐ Ice				
Name: Christopher Stopher Slade Nathan Mulkey					Signature: Christopher Slade				Date: 12/15/2021	

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Site Name Escambia River (Cotton Lake)

Date: 12/15/2021

Field ID G4NW0403 Storet G3NW0403

Project: Smp

Visit ID 83554

RQ: 2021-11-29-21

RPS ID 9819

LIMS ID: N/A

Macro ID —

HA ID 17114

☒ ~~LVI~~ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial SS

☒ Date and Initial QA: 12/21/2021 FB

☒ RPS entered in SBIO Initial SS

☒ Date and Initial QA: 12/21/2021 FB

☒ LVI entered in SBIO Initial N/A

☐ Date and Initial QA: 12/21/2021 FB

☒ < 2 m² vegetation

☐ Plants getting verified

Date submitted: _____

☐ Plants verified

Date returned: _____

☒ RPS authorized in SBIO

☒ Date and Initial: 12/21/2021 FB

☒ RPS score: 0.0

☐ VPDB authorized in SBIO

☐ Date and Initial: _____

☐ VPDB score: _____

☐ SCI complete: N/A

SCI Score: N/A

* SCI Sample combined w/ G4NW0404 by Laboratory, SCI not processed

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

SAMPLE ID 83554 ORG ID 21FLPN3 LATITUDE 36.79168
 COUNTY Escombria STORET # 64NW0403 LONGITUDE 87.30943
 DATE 12/15/21 TIME 1130 SAMPLING AGENCY FDEP NWROC
 SITE NAME Escombria River COTTON Lake
 FIELD ID/NAME 64NW0403 RECEIVING BODY OF WATER Escombria Bay

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 ☐ m wide			
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>5-6</u>		☐ m/s <u>0.5</u> m/s ☐ m/s			
High Water Mark: <u>1.1</u> + <u>3.1</u> = <u>4.2</u> (m) (above present water level) (present depth) (above bed)		Artificially Impounded ☐ Yes ☒ No		☐ m deep <u>3.1</u> m deep ☐ m deep			
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 INVERT PERI % # Times # Times Coverage Sampled Sampled Woody Debris (Snags) <u>1.44</u> <u>7</u> Undercut Banks / Roots <u>1.06</u> <u>7</u> Leaf Packs or Mat <u>0</u> <u>18</u> Aquatic Vegetation Rock or Shell Rubble..... Sand..... <u>92.5</u> <u>25</u> Mud / Muck / Silt Other Other			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.3</u> <u>15.1</u> <u>6.85</u> <u>8.93</u> <u>87.8</u> <u>81.8</u> <u>0.04</u> <u>0.7</u> Mid: Bottom: <u>2.6</u> <u>15.1</u> <u>6.48</u> <u>8.73</u> <u>86</u> <u>81.1</u> <u>0.04</u> <u>3.1</u> Meter ID: <u>155077</u>		
Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			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 Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐		
AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM <u>S. Stole</u> <u>nmulkey</u>			SIGNATURE: <u>S. Stole</u>		DATE: <u>12/15/21</u>

Stream/River Habitat Sketch Sheet, Form FD 9000-4 (June 1, 2001)

Length of grid represents 100 m of stream (not linear meters).

(Horizontal scale is double vertical scale, draw proportionately).

STORET: 64NW0403
 Location: Escambia R.
(Cotton Lake)
 Project: SMP
 Sampled By: S. Stoddard
 Date: 12/15/21

100	± BF		Snag 0.4+10	Depth
	± %S		Root 1.1+7	Width
	± Vg		LP	
90	± BF		Plant	
	± %S		OTR	
	± Vg		Snag 0.4+10	Depth
80	± BF		Root 1.0+7	Width
	± %S		LP	
	± Vg		Plant	
70	± BF		OTR	
	± %S		Snag 0.4+10	Depth
	± Vg		Root 1.0+7	Width
60	± BF		LP	
	± %S		Plant	
	± Vg		OTR	
50	± BF		Snag 0.8+10	Depth
	± %S		Root 1.0+7	Width
	± Vg		LP	
40	± BF		Plant	
	± %S		OTR	
	± Vg		Snag 4.6+10	Depth
30	± BF		Root 1.5+7	Width
	± %S		LP 0.1	
	± Vg		Plant	
20	± BF		OTR	
	± %S		Snag 1.5+10	Depth
	± Vg		Root 0.7+7	Width
10	± BF		LP	
	± %S		Plant	
	± Vg		OTR	
	± BF		Snag 0.2+10	Depth
	± %S		Root 0.2+7	Width
	± Vg		LP	
	± BF		Plant	
	± %S		OTR	
	± Vg		Snag 0.4+10	Depth
	± BF		Root 0.3+7	Width
	± %S		LP	
	± Vg		Plant	
	± BF		OTR	
	± %S		Snag 1.0+10	Depth
	± Vg		Root 1.7+7	Width
	± BF		LP	
	± %S		Plant	
	± Vg		OTR	
	± BF		Snag 0.3+10	Depth
	± %S		Root 0.3+7	Width
	± Vg		LP	
	± BF		Plant	
	± %S		OTR	
	± Vg		Snag 0.3+10	Depth
	± BF		Root 0.3+7	Width
	± %S		LP	
	± Vg		Plant	
	± BF		OTR	
	± %S		Snag 0.3+10	Depth
	± Vg		Root 0.3+7	Width
	± BF		LP	
	± %S		Plant	
	± Vg		OTR	

Left Bank

Downstream

Substrates: Code key, draw proportionate habitat abundance.

- ☒ Snags 108.4 m² 1.44%
- ☒ Roots/undercut banks 79.3 m² 1.06%
- ☒ Leaf Packs (or mats) 0.1
- ☒ Macrophytes
- ☐
- ☐
- ☐ 7500 m²

Velocity:
 Note where velocity measures were taken: 60 m

Habitat Smothering:
 Note areas (on map) where sand or silt is something 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.

Average width 75 m
 Average depth m
 WQ & chemistry taken @ m
 0 m Latt. 30.78168
 0 m Long. -87.30943
 100 m Latt. 30.78198
 100 m Long. -87.31013

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

SAMPLING AGENCY: FDEP NWROC		STORET STATION NUMBER: G4NW0403	DATE (MM/DD/YY): 12/15/21	RECEIVING BODY OF WATER: Escambia Bay
REMARKS: 17114	COUNTY: Escambia	LOCATION: Escambia River	FIELD ID/NAME: G4NW0403	

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>9</u>	20 19 18 17 16	15 14 13 12 11	10 <u>9</u> 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 10 9 8 7 6	Less than 5% major productive habitat 5 4 <u>3</u> 2 1
Water Velocity <u>20</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥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>12</u> ----- Primary Score <u>44</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 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 <u>12</u> 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>10</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. <u>10</u> 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 Right Bank <u>10</u> Left Bank <u>10</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>75</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 <u>9</u>	>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

119

TOTAL SCORE

Date: <u>12/15/21</u>	Analyst: <u>S. Slade</u>	Signature: <u>[Signature]</u>
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SBIO ID 83554 HA ID 17114

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Escambia River (Cotton Lake)</u>	County: _____	Date: <u>12/15/21</u>	Investigator: <u>J. Hodge N. Mollkey</u>
STORET Station Number: <u>G4N W0403</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	Y		60	1	N	Y		
	2					2				
	3					3				
	4					4				
	5					5				0
	6					6				
	7					7				
	8					8				
	9	N	Y			9	N	Y		
10	1	N	Y		70	1	N	Y		
	2					2				
	3					3				
	4					4				
	5					5				0
	6					6				
	7					7				
	8					8				
	9	N	Y			9	N	Y		
20	1	N	Y		80	1	N	Y		
	2					2				
	3					3				
	4					4				
	5					5				0
	6					6				
	7					7				
	8					8				
	9	N	Y			9	N	Y		
30	1	N	Y		90	1	N	Y		
	2					2				
	3					3				
	4					4				
	5					5				0
	6					6				
	7					7				
	8					8				
	9	N	Y			9	N	Y		
40	1	N	Y		100	1	N	Y		
	2					2				
	3					3				
	4					4				
	5					5				0
	6					6				
	7					7				
	8					8				
	9	N	Y			9	N	Y		
50	1	N	Y			1	N	Y		
	2					2				
	3					3				
	4					4				
	5					5				0
	6					6				
	7					7				
	8					8				
	9	N	Y			9	N	Y		

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

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

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	<u>/</u>
Habitat Assessment	<u>/</u>
SCI/Biorecon	<u>/</u>
Water sample	<u>/</u>
RQ- <u>2021-11-21-21</u>	

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

SBIO : 9819
RPS ID

SBIO Visit ID 83554

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%.

[illegible]