

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: 154179

RQ: 2023-12-13-14

Project: REF STREAMS

- Notes: (1) Always wait for meter to stabilize before recording any readings.
 (2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 10/5/23

DO DEP SOP FT 1500	Name	Date	Time CT/ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	F Butler	12/18/23	7:55	19.7	762.0	9.2	9.16	100.3		1.165	(P) F	(L) F
ICV	↓	↓	8:00	19.8	762.0	9.2	9.18	100.6			(P) F	(L) F
CCV	F. Butler	↓	6:16	17.4	761.6	9.6	9.5	98.4			(P) F	(L) F
CCV											P / F	L / F

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 (Pro DSS 0.75 to 1.50); 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 μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	F Butler	12/18/23	8:03	2212213	01/24	1000	1000	(P) F	(L) F
ICV	F Butler	12/18/23	8:06	230627A	07/24	100	99.3	(P) F	(L) F
CCV	F Butler	12/18/23	10:08	230627A	07/24	100	100.1	(P) F	(L) F
CCV								P / F	L / F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT/ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	F Butler	12/18/23	8:12	240690	8/31/24	7.0	20.4	7.02	-32.4	(P) F	(L) F
Calibr.	↓	↓	8:14	240690	5/15/24	4.0	20.1	4.0	142.2	(P) F	(L) F
Calibr.	↓	↓	8:15	2450576	12/31/23	10.0	20.1	10.06	-145.1	(P) F	(L) F
ICV	↓	↓	8:17	240690	5/15/24	4.0	19.7	4.10	133.8	(P) F	(L) F
CCV	F. Butler	12/18/23	10:20	240690	8/31/24	7.0	19.6	7.11	-34.5	(P) F	(L) F
CCV										P / F	L / F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 162.7, slope from 4 to 7 174.6 (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: 10/05/2023

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT/ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air	F. Butler	12/18/23	8:19	0.00	0.00	(P) F	(L) F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:

Mitchell Creek, Field Blank 33020140

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CHAIN OF CUSTODY FORM

Date: 12/18/2023
Customer: NW-DIST
RQ: RQ-2023-12-18-10

Collected By: Frank Butera, Lauren McNally
Sampling Agency: FDEP
Project ID: SCIREF

PLEASE RETURN THE ORIGINAL OF THIS FORM WITH SAMPLE SUBMITTAL
FORMS AND THE COOLER PACKING WORKSHEET TO THE LAB

Number of Coolers Shipped: 3

Delivery Method: FedEx

FIELD ID (Labels) submitted under this RQ for this collection date.

Site Location	Field ID/WIN ID
MITCHELL CREEK HWY.29 ESCAMBIA CO.	 33020140
FB	 FB_12182023

RELINQUISHED BY(SIGNATURE):



DATE/TIME: 12/18/2023
1600CEN

THIS SECTION TO BE COMPLETED BY LABORATORY

Rec'd/Inspected By:

Rec'd/Inspected Date:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

REFERENCE STREAMS FIELD SHEET

January 2022

Meter Passed End

of Day CCV

Yes / No



WIN Station Name: MITCHELL CREEK HWY.29 ESCAMBIA CO.

Date: 12/18/2023

WIN/Field ID: 33020140

WBID: 71

ENR:

Latitude: 30.87303

County: Escambia

Org ID: 21FLPNS

Longitude: -87.32269

Receiving Body of Water: Escambia River

RQ: 2023-12-18-10

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Frank Butera	x	x	x	x	x
☒	Lauren McNally		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# 154179 (PRODSS)						
Photos: YES	Flow: FLOW			Tide:		Tide Times: High: Low:						
Biological Samples Collected: ☐ None ☒ HA ☒ SCI ☒ RPS ☐ Algae ID ☒ LVS ☐ LVI Other:												
SBIO ID Numbers: Visit ID: 88215 HA ID: 18755 RPS ID 10210 MACRO ID N/A						LIMS ID 2457793						
Notes: / SCI COLLECTION TIME: 1040												

Duplicate Sample

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

Blank

Time Zone: CEN	Time: 1210	Field ID: FB_12182023	(Blank Type_DDMMYYYY)
DI Source: NWROC	Location: Pensacola Ice Room		
DI Type: Field Blank	Equipment ID:		
DI Container (Name/ID):		DI Container Type: Chum_Bucket	

LIMS EVENT ID: WIN Import ID:

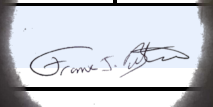
Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:

Scan/Save Field Sheets Migrate Data to WIN: Verify Data In WIN:



RQ-2023-12-18-10
Customer: NW-DIST
Project ID: REFERENCE STREAMS

Collected By: Frank Butera, Lauren McNally
Field Report Prepared By: Frank Butera
Sampling Agency: FDEP

Place Label Here WIN ID/Field ID:  33020140 Location: MITCHELL CREEK HWY.29 ESCAMBIA CO.						Comments: 1 CARB-AA Blank collected by itself. No CARB-AA for sample.				
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)
	1030 CEN	11.13	100.1	10.7	4.49	0.3	0.5 ☒ VOB (S)	0.5	19.5	0.01
12/18/2023							Central Lab please use top row for login purposes			
	CEN									
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 #	SA 3013020		Exp:	01/25/2024				
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☐ <2	1	A
		Lot #	NA 3123030		Exp:	05/10/2024				
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A
		Filter Lot #	17460495		Syringe Lot#	136514				
Biochemical Oxygen Demand (BP-1L)		BODTEST OV-BODUNIN				ICE				
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-F / W-TSS / TURBIDITY				☐ Ice				
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC		Formalin Lot #	9.28091819TQ		☒ Formalin		3	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		MCAA Exp. Date		
Pesticides (BG-500ML) (BG-1L)		☒ W-E8321-DI ☒ WE8321-MS		☒ W-PSNP-TQ	W-CT-Cl-R		☒ Ice	MCAA Lot#	5	A
		W-PCl-TQ-R		W-CARB-AA (5 ml of MCAA** Buffer Solution)		☒ W-TR-SQ-R				
Phytoplankton/Periphyton		W-PCB-TQ-R		PKD-QN-BV		☐ Ice				
Name: Frank Butera Lauren McNally		Signature: 				Date: 12/18/2023				

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution



RQ- 2023-12-18-10

Collected By: Frank Butera, Lauren McNally

Customer: WQAP

Field Report Prepared By: Frank Butera, Lauren McNally

Project ID: SMP

Sampling Agency: FDEP

BLANK



Field ID: FB 12182023

Comments:

Matrix: Field Blank

(Check one) ☐ COMPOSITE ☒ GRAB

Date

Time

DI Source: NWROC

12/18/2023

1210

CEN

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	C
	Lot # SA 3013020 Exp: 01/25/2024				
Metals (P-500ML)	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3	☐ <2		
	Lot # Exp:				
Filtered Nutrients (P125ML)	☒ W-PO4-F Filter ☒ Field Filtered 0.45 µm	☒ Ice		1	C
	Filter Lot # 136514				
	Syringe Lot # 17460495				
Physical/Aggregate (Fresh) (P-1L)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-IC / W-COLOR / W-SO4-IC / W-IC / TDS	☒ Ice		1	C
Physical/Aggregate (Marine) (P-1L)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Tracers (BG-500ML)	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice	MCAA Exp. Date 03/01/204		
Pesticides (BG-500ML) (BG-1L)	☒ W-E8321-DI ☒ WE8321-MS ☒ W-PSNP-TQ ☐ W-CT-CI-R	☒ Ice	MCAA Lot#	4	C
	☐ W-PCL-TQ-R ☒ W-CARB-AA (5 ml of MCAA** Buffer Solution) ☒ W-TR-SQ-R		139737		
Name: Frank Butera Lauren McNally		Signature:		Date: 12/18/2023	

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Site Name: Mitchell Creek Hwy.29 Escambia Co.

Date: 12/18/2023

WIN ID: 33020140

Field ID 33020140

Project: EcoRegRef Streams

Visit ID 88215

RQ: 2023-12-18-2023

RPS ID 10210

LIMS ID: 2457793

Macro ID N/A

WBID: 71

HA ID 18755

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem in SBIO Initial FB

☐ Date and Initial QA: _____

☒ HA entered in SBIO Initial FB

☐ Date and Initial QA: _____

☒ RPS entered in SBIO Initial FB

☐ Date and Initial QA: _____

☐ LVS entered in SBIO Initial _____

☐ Date and Initial QA: _____

☐ < 2 m² vegetation

☐ Plants getting verified

Date submitted: _____

☐ Plants verified

Date returned: _____

☐ RPS authorized in SBIO

☐ Date and Initial: _____

☐ RPS score: _____

☐ Macro authorized in SBIO

☐ Date and Initial: _____

☐ LVS Score: _____

☐ SCI complete: _____

SCI Score: _____

☐ Add SBIO-ID, HA-ID, RPS-ID, MACROPHYTE-ID and LIMS# to field sheet in database

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

SAMPLE ID 88215 ORG ID 21FLPNS LATITUDE N30.87343
 COUNTY Escambia WIN ID/STORET # 33020140 LONGITUDE -87.32269
 DATE 12/18/23 TIME 10:30 CTZ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Mitchell Creek RD 23-12+18-10
 FIELD ID/NAME 33020140 RECEIVING BODY OF WATER Escambia River WBID 71 Project: SCIRP

RIPARIAN ZONE / STREAM FEATURES

WBID: 71

LIMS ID: 2457793

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) <u>1.36</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>4 m</u> m wide <u>0.33</u> m/s <u>0.1</u> m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>713</u> Right Bank: <u>713</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>				
High Water Mark: <u>2.3</u> + <u>0.4</u> = <u>2.7</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>10.7</u></td> <td><u>10.7</u></td> <td><u>4.49</u></td> <td><u>11.13</u></td> <td><u>100.1</u></td> <td><u>19.5</u></td> <td><u>0.2</u></td> <td><u>0.5</u></td> </tr> <tr> <td>Mid:</td> <td><u>0.3</u></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>10.7</u>	<u>10.7</u>	<u>4.49</u>	<u>11.13</u>	<u>100.1</u>	<u>19.5</u>	<u>0.2</u>	<u>0.5</u>	Mid:	<u>0.3</u>							☒ VOB	Bottom:								
	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)																																				
Top:	<u>10.7</u>	<u>10.7</u>	<u>4.49</u>	<u>11.13</u>	<u>100.1</u>	<u>19.5</u>	<u>0.2</u>	<u>0.5</u>																																				
Mid:	<u>0.3</u>							☒ VOB																																				
Bottom:																																												
Woody Debris (Snags) <u>3.3</u> <u>95</u> Undercut Banks / Roots <u>0.9</u> <u>85</u> Leaf Packs or Mat <u>3.1</u> <u>95</u> Aquatic Vegetation Rock or Shell Rubble..... Sand..... <u>92.8</u> <u>5</u> Mud / Muck / Silt Other Other			Meter ID: <u>154179</u>			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____																																						
			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐			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) ☐			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.													
	Not Obs.	Rare	Common	Abundant																																								
Periphyton:	☐	☒	☐	☐																																								
Fish:	☐	☐	☐	☒																																								
Aquatic Plants:	☒	☒	☐	☐																																								
Iron/Sulfur Bacteria:	☐	☒	☐	☒																																								
SAMPLING TEAM: <u>L. McNally, F. Butera</u>			SIGNATURE: <u>L. McNally</u>			DATE: <u>12/18/23</u>																																						

Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

[illegible]

WIN ID 33020144
Substrates: Code key,
draw proportionate habitat
abundance.



Snags $\frac{13.2}{400} = 3.3\%$



Roots/undercut banks
 $\frac{3.6}{4.0} = 0.9\%$



Leaf Packs (or mats)
 $\frac{12.3}{400} = 3.1\%$



Macrophytes



☐ sand $\frac{371.1}{400} = 92.8$

Velocity:

Note where velocity
measures were taken. 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 4.0 m

Average depth 0.3 m

WQ & chemistry taken @ Ø m

Station Name:

Station Name: Mitchell Creek @ US 29

Project. LEFT STREAMS

Sampled By/Date: 12/18/2023

0 m Latt. 34.87280

0 m Long. 87.32294

100 m Latt 30 87324

100 m Long - 87.32358

19

0-10 meter [A]	Habitat Area (M)	Left Bank	Right Bank
	Snag 3.6	Bankfull	Bankfull
0m width (m) 4.0	Root 2.5		
10m width 3.0	Leaf 1.5	Slope	Slope
Avg. Depth .2	Veg		
Max Depth .7	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

10-20 meter [B]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
20m width 2.5	Root .1		
	Leaf 2.0	Slope	Slope
Avg. Depth .3	Veg		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

20-30 meter [C]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.5	Bankfull	Bankfull
30m width 3.5	Root .1		
	Leaf .7	Slope	Slope
Avg. Depth .5	Veg		
Max Depth .7	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

85
70
150

30-40 meter [D]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.6	Bankfull	Bankfull
40m width 5m	Root		
	Leaf 1.5	Slope +	Slope +
Avg. Depth .2	Veg		
Max Depth .6	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

40 - 50 meter [E]	Habitat Area (M)	Left Bank	Right Bank
	Snag .5	Bankfull	Bankfull
50m width 4.3	Root 1.0		
	Leaf 4.0	Slope	Slope
Avg. Depth .2	Veg		
Max Depth .3	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

50-60 meter [F]	Habitat Area (M)	Left Bank	Right Bank
	Snag .2	Bankfull	Bankfull
60m width 4m	Root .1		
	Leaf .2	Slope	Slope
Avg. Depth .3	Veg		
Max Depth .4	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

60-70 meter [G]	Habitat Area (M)	Left Bank	Right Bank
	Snag .3	Bankfull	Bankfull
70m width 5	Root		
	Leaf .2	Slope	Slope
Avg. Depth .2	Veg		
Max Depth .3	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

70-80 meter [H]	Habitat Area (M)	Left Bank	Right Bank
	Snag .4	Bankfull	Bankfull
80m width 6m	Root .2		
	Leaf 1.1	Slope	Slope
Avg. Depth .1	Veg		
Max Depth .3	Gravel	Veg	Veg
Rip. Buff L 718	Rock		
Rip. Buff R 718			

80-90 meter [I]	Habitat Area (M)	Left Bank	Right Bank
	Snag .8	Bankfull	Bankfull
90m width 5m	Root		
	Leaf .7	Slope	Slope
Avg. Depth .2	Veg		
Max Depth .5	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

90 - 100 meter [J]	Habitat Area (M)	Left Bank	Right Bank
	Snag .8	Bankfull	Bankfull
100m width 3	Root 1.0		
	Leaf 3	Slope	Slope
Avg. Depth .3	Veg		
Max Depth .7	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

Station Name Mitchell Ck. eff. 29

Storet: 33020140

Date 12/18/2023

0 meter (Dec Deg)

30.87280

87.32294

100 meter (Dec Deg)

30.87324

87.32358

Water Quality Measured at

0m

Stream Velocity and location.

.33 m/s 0 meter mark

Number of Pools & Location

High Water: 2.3

Silt smothering @

Sand Smothering @

Algae Smothering @

Degraded Banks @

Fe/Sulfur Bact. @

Total Habitat	Sq. Meters	Percent
Snags	13.2	3.3
Roots	3.35	.9
Leaf	12.2	3.1
Veg		
Rock		
Gravel		
Sand	371.1	92.8%
Other		
Sum 1 st Habitat	37.2	

Avg. Depth	Max. Depth	Avg. Width
.4	6m	4

Bank Stability Score. Left Bank _____ Right Bank _____ Category Left Bk Marginal Right Bk Marginal

Add all plus signs (Max. 30 possible) and Divide by 10. Scoring. Poor: 0.0 - 0.9 pts. Marginal: 1.0 - 1.9 pts. Suboptimal: 2.0 - 2.9 Optimal: 2.1 +

Notes: SBW visit ID 88245

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

SAMPLING AGENCY: DEAR-NWROC. 21FLPNS		STORET STATION NUMBER: <u>33020140</u>	DATE (MM/DD/YY): <u>12/18/23</u>	RECEIVING BODY OF WATER: <u>Escambia R.</u>
REMARKS:	COUNTY: <u>Escambia</u>	LOCATION: <u>Mitchell Creek</u>	FIELD ID/NAME: <u>33020140</u>	
WBID <u>71</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>15</u>	20 19 18 17 16	<u>15</u> 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>7</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 <u>7</u> 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 ≥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>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 <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>18</u>	20 19 <u>18</u> 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>5</u> Left Bank <u>4</u>	10 9	8 7 6	<u>5</u> <u>4</u>	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>	<u>10</u> 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	Over 80% of riparian surface 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>67</u>	<u>10</u> 9	8 7 6	5 4	3 2 1

127

TOTAL SCORE

Date: <u>12/18/2023</u>	Analyst: <u>L. M. Nally, F. Butera</u>	Signature: <u>L. M. Nally</u>
-------------------------	--	-------------------------------

SBIO ID: 88215
62-160.800, F.A.C.

HA ID: 18755

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Mitchell Creek</u>					County: <u>Escambia</u>		Date: <u>12/18/23</u>		Investigators: <u>L. M. Nally, F. Butera</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			55		5				92
	6					6				
	7					7				
	8					8				
	9					9				
10	1	2			70	1	N			
	2					2				
	3					3				
	4					4				
	5			47		5				83
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			72		5				45
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			93		5				54
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			89		5				21
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			19		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%.

STORET Station Number:
3302040

Secchi depth 2.5
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- 2023-12-18-10

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 Visit ID. 88215

RPS ID. 10210

RPS score

[illegible]

VPDB ID 214

Mitchell Creek Hwy.29 Escambia Co.

Field ID: G4NW0043

WIN ID: 33020140

Project: EcoRegRef Streams

Sample Date: 12/18/2023

Sampled by: F. Butera, L. McNally

Stream Reach Map

Habitat Type

Meter Mark	Snag	Root	Leaf Pack	Veg.	Gravel	Sand
0-10	3.6	0.3	1.5			
10-20	2.5	0.1	2.0			
20-30	1.5	0.1	0.7			
30-40	2.6	0.0	1.5			
40-50	0.5	1.6	4.0			
50-60	0.2	0.3	0.2			
60-70	0.3	0.0	0.2			
70-80	0.4	0.2	1.1			
80-90	0.8	0.0	0.7			
90-100	0.8	1.0	0.3			
Total	13.2	3.6	12.2	0.00	0.0	371.1
Percent	3.3	0.9	3.1	0.0	0.0	92.8
Primary Habitat Percent	7.2					

HA Scoring

Parameter	Score	Max		
Substrate Diversity	15	20	60	Primary Score
Substrate Availabilty	7	20		
Water Velocity	20	20		
Habitat Smothering	18	20		
Artificial Channelization	18	20	67	Secondary Score
Bank Stability (Right)	5	10		
Bank Stability (Left)	4	10		
Riparian Buffer Zone (R)	10	10		
Rip. Buffer Zone (Left)	10	10		
Rip. Veg. Qual. (Right)	10	10		
Rip. Veg. Qual. (Left)	10	10		
Total	127	160	127	
Total Percent	79.4	100.0	79.4	

Stream Size	Meters	Depth		Riparian Buffer Zone (M)	
Meter Mark	Width	Avg. Depth	Max Depth	Right	Left
0	4.0	-	-	> 18	> 18
10	3.0	0.2	0.9	> 18	> 18
20	2.5	0.3		> 18	> 18
30	3.5	0.5	0.7	> 18	> 18
40	5.0	0.2	0.6	> 18	> 18
50	3.0	0.2	0.3	> 18	> 18
60	4.0	0.3	0.4	> 18	> 18
70	5.0	0.2	0.3	> 18	> 18
80	6.0	0.1	0.3	> 18	> 18
90	5.0	0.2	0.8	> 18	> 18
100	3.0	0.3	0.7	> 18	> 18
AVG.	4.0	0.3	3 pools	> 18	> 18
Pool Frequency. 100-(Avg. Width*12)				52 meters	
Expected Number of Pools				1.92	

Bank Stability

Meter Mark	Right Bank	Left Bank
0-10	1	1
10-20	1	1
20-30	1	1
30-40	2	2
40-50	1	1
50-60	1	2
60-70	1	2
70-80	0	0
80-90	1	1
90-100	1	2
Avg	1.0	1.3

Canopy Cover	
Location (m)	Score
0-10	53
10-20	47
20-30	72
30-40	93
40-50	89
50-60	19
50-60	92
60-70	83
70-80	45
80-90	54
90-100	21
Average	61
Percent	63

REF STREAM - MITCHELL CREEK	WBID	Kit	Qty	Bottle Group	Bottles
MITCHELL CREEK HWY.29 ESCAMBIA CO. 33020140	71	SCI Kit	1	A	
		Nutrients			3
		Ortho-Phosphate			1
		Metals			1
		Tracers: E8321-MS/DI			1
		PNSP-TQ-R, TR-SQ-R			4
		Escherichia coli	1		1
		SCI	1	B	2
		Periphyton	1		1
		HA	1		-
		RPS	1		-
		LVS	1		-
Field Blank	N/A	Nutrients w/o Chlorophyll	1	C	2
		Ortho-Phosphate	1		1
		Carb-AA	1		1
		Tracers: E8321-MI/DS	1		1
		W-PNSP-TQ/W-TR-SQ-R (2 Bottles)	1		2
RQ-2023-12-18-10 NEED PICS					

Field ID	WBID	WIN Description	County	Lat Long
33020140	71	MITCHELL CREEK HWY.29 ESCAMBIA CO.	Escambia	30.873028, 87.322694

Test	Lot #	Expiration date:
UWF Bottle	L21347#....350	1/13/2025
Sulfuric Acid	SA3013020	1/25/2024
Nitric Acid	NA3123030	5/10/2024
MCAA BUFFER Solution (CARB-AA)	139737	3/1/2024
Syringe	136514	-
PO4 Filter	17460495	-

Notes (access, boat ramp, etc.)
Needs Pics

REF STREAM - MITCHELL CREEK				
Field ID	TIME	Conductivity	pH	DO mg-L / Temp.
33020140	10:30	19.5	7.49	11.13
RQ-2023-12-18-10				



Field/WIN ID

Location:
MITCHELL CREEK HWY.29 ESCAMBIA CO.



2023-12-18-10

RQ:

Location:

SCIREF



HNO3 Acid
NA 3123030



H2SO4 Acid
SA 3013020

Ref: Date: 08Aug23
Dep: Wgt: 28.00 LBS
DV: 0.00

SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT Master 6484 8457 3931
TRCK: 6484 8457 3931



Ref: Date: 11Oct23
Dep: Wgt: 45.00 LBS
DV: 0.00

SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT Master 6484 8459 2948
TRCK: 6484 8459 2959



Ref: Date: 08Aug23
Dep: Wgt: 28.00 LBS
DV: 0.00

SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT Master 6484 8457 3931
TRCK: 6484 8457 3931



HNO3 Acid
Expiration Date
05/10/2024



H2SO4 Acid
Expiration Date
01/25/2024