

RQ-2019-04-01-41

Field Personnel processing steps

☐ New Field IDs created (when using a new station) Date: _____ initials: _____ ☒ NA

☐ Create entry in SMPStationCreationFile if new station is used

\\Fidep1\wqap\NW ROC\TMDL\WIN_Station Creation

☒ Date sampled Date: 06/10/2019 initials: FB

☒ Update MAT Date: 06/10/2019 initials: FB

☒ Update "SMP Tracker" Date: 06/10/2019 initials: FB

☒ Photos put into archive Date: 06/11/2019 initials: FB ☐ NA

☒ RQ Sheet – from LIMS (display/print request)

☒ Field Sheets initialed/dated @ "Scan/Save Field Sheets" then scanned and saved into:

Scans_ToBeProcessed Date: 06/11/2019 initials: FB

☒ Update "Data Tracker"

\\publicfiles\pubfds\DEAR\WQAPmonitoring\StrategicMonitoring\2019\21FLPNS

Ready for folder system (top)

LIMS processing (to be completed by LIMS data personnel) (MC)

☐ Field parameters entered into LIMS Date: _____ initials: _____

☐ Digital RQ packet put into

SMP 2019/Data/Scanned Field Sheets Date: _____ initials: _____

☐ Digital field Sheets put into archive Date: _____ initials: _____

☐ Date submitted for QA/QC Date: _____ initials: _____

☐ Update "Data Tracker"

Database processing (Cheryl)

☐ Field parameters QA/QC in LIMS Date: _____ initials: _____

☐ Lab results put into archive (CB) Date: _____ initials: _____

☐ Data migrated to WINS Date: _____ initials: _____

☐ Update "Data Tracker"

Notes: 1 of 2 samples collected for this RQ. Biology collected. 2nd sample for this event to be collected on later date.

This sample Storet G5NW0150, McDavid Creek upstream SR 99

Date of Request: 14-MAR-2019
 Created By: KING_M On: 14-MAR-2019
 Modified By: JASROTIA_P On: 14-MAR-2019
 Customer: NW-DIST
 Project: SCIREF
 Division: Division of Environmental Assessment and Restoration
 District: Northwest District
 Sampling Event: REFERENCE STREAMS NW

Send Coolers To:

Phone: 850-595-0605
 160 Government Center
 Suite 208
 Pensacola, FL 32502-5794
 Attn: Michael King

Program Module Number:
 Priority: 3
 Event Status: S
 Criminal Investigation: NO
 Chemistry Request Reviewed By: WATTS_J On: 14-MAR-2019
 Biology Request Reviewed By: JASROTIA_P On: 14-MAR-2019
 Sampling Kit Required: YES Ship on: 22-MAR-2019
 Sampling Kit Shipped: YES On: 19-MAR-2019
 Sampling Kit Packed By: REYNOLDS_T
 Preservatives Needed: NO
 Date to Receive Samples: 01-APR-2019
 Received By:

Send Final Report To:

160 Government Center
 Suite 208
 Pensacola, FL 32502-5794
 Attn: Cheryl Bunch

Report Type: Final Only
 FTP Data: NO
 QC Report: YES
 Date Log: NO
 Authorization Log: NO

Comments: Group A: Nutrients, Bacteria, PCR, Metals, Tracers, Q-PSNP-TQ
 Group B: SCI, Algae_ID

Bottle Group A (Water) With 2 Samples:

Bottle Type: P-1L	Number of Bottles: 2	Preserved With: ICE
ALKALINITY	Template: DEFAULT	(SM 2320 B-97) Alkalinity in aqueous matrices as mg CaCO ₃ /L
Total Alkalinity		
TURBIDITY	Template: DEFAULT	(EPA 180.1 Rev. 2.0) Turbidity in aqueous matrices
Turbidity		
W-CL-IC	Template: DEFAULT	(EPA 300.0 Rev. 2.1) Chloride in aqueous matrices
Chloride		
W-COLOR	Template: DEFAULT	(SM 2120 B) True Color measured at 450 nm
Color (true)		
W-F	Template: DEFAULT	(SM 4500 F-C-97) Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)
Fluoride		
W-SO4-IC	Template: DEFAULT	(EPA 300.0 Rev. 2.1) Sulfate in aqueous matrices
Sulfate		
W-TDS	Template: DEFAULT	(SM 2540 C-97) Total Dissolved Solids in aqueous matrices
TDS		
W-TSS	Template: DEFAULT	(SM 2540 D-97) Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample
TSS		
Bottle Type: BP-1L	Number of Bottles: 2	Preserved With: ICE
CHLSUITE-W	Template: DEFAULT	(SM 10200 H (mod.)) Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry
Chlorophyll-a, Corrected		
Chlorophyll-a, Uncorrected		

Bottle Group A (Water) With 2 Samples:

Bottle Type: BP-1L	Number of Bottles: 2	Preserved With: ICE
CHLSUITE-W	Template: DEFAULT	(SM 10200 H (mod.)) Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry
Phaeophytin-a		
Bottle Type: TEST HAS NO	Number of Bottles: 2	Preserved With: ICE
NW-UWF-ECQ	Template: DEFAULT	(SM 9223 B Quanti-Tray) E. coli by Colilert-18/QT by UWF in Pensacola
Escherichia Coli-Quanti-Tray		
Bottle Type: QPCR-P-500ML	Number of Bottles: 2	Preserved With: ICE
PCR-BACR	Template: DEFAULT	(SOP-PCR-1.4) Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction
*BacR-qPCR		
PCR-GFD	Template: DEFAULT	(SOP-PCR-1.3) Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction
*GFD-purified-qPCR		
PCR-GULL2	Template: DEFAULT	(SOP-PCR-1.2) Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction
*GULL2-qPCR		
PCR-HF183	Template: DEFAULT	(SOP-PCR-1.0) Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction
*HF183-qPCR		
Bottle Type: BG-500ML	Number of Bottles: 2	Preserved With: ICE
W-E8321-DI	Template: DEFAULT	(EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS
*Acesulfame K		
*AMPA		
*Endothall		
*Glufosinate		
*Glyphosate		
*Sucralose		
W-E8321-MS	Template:	(EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS
*Acetaminophen		
*Carbamazepine		
*Fluridone		
*Hydrocodone		
*Ibuprofen		
*Imazapyr		
*Naproxen		
*Primidone		
*Pyraclostrobin		
*Triclopyr		
2,4-D		
Bentazon		
Diuron		
Fenuron		
Imidacloprid		
Linuron		
MCP		
Bottle Type: P-500ML	Number of Bottles: 2	Preserved With: HNO3
W-ICP	Template:	(EPA 200.7 Rev. 4.4) Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects
Barium		
Calcium		
Iron		
Magnesium		
Potassium		
Sodium		
Zinc		
W-ICPMS	Template:	(EPA 200.8 Rev. 5.4) Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects
*Boron		
Aluminum		
Antimony		
Arsenic		

Bottle Group A (Water) With 2 Samples:

Bottle Type: P-500ML	Number of Bottles: 2	Preserved With: HNO3
W-ICPMS	Template:	(EPA 200.8 Rev. 5.4) Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

Cadmium
Chromium
Copper
Lead
Nickel
Selenium
Silver
Thallium

Bottle Type: P-500ML	Number of Bottles: 2	Preserved With: ICE And H2SO4
W-NH3	Template: DEFAULT	(EPA 350.1 Rev. 2.0) Ammonia in aqueous matrices as mg N/L
Ammonia-N		
W-NO2NO3	Template: DEFAULT	(EPA 353.2 Rev. 2.0) Nitrite/Nitrate in aqueous matrices as mg N/L
NO2NO3-N		
W-S-A-TP	Template: DEFAULT	(EPA 365.1 Rev. 2.0) Total Phosphorus in aqueous matrices as mg P/L
Total-P		
W-TKN	Template: DEFAULT	(EPA 351.2 Rev. 2.0) Total Kjeldahl Nitrogen in aqueous matrices
Kjeldahl Nitrogen		
W-TOC	Template: DEFAULT	(SM 5310 B-00) Nonpurgeable Organic Carbon in aqueous matrices
Organic Carbon		

Bottle Type: P-125ML	Number of Bottles: 2	Preserved With: FILTER-ICE
W-PO4-F	Template: DEFAULT	(EPA 365.1 Rev. 2.0) Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L
O-Phosphate-P		

Bottle Type: BG-1L	Number of Bottles: 6	Preserved With: ICE
W-PSNP-TQ	Template: DEFAULT	(EPA 8270E) Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS

*Dimethenamid
*Dithiopyr
*Fipronil Desulfinyl
*Oxadiazon
*Prodiamine
*Tebuconazole
Acetochlor
Alachlor
Ametryn
Atrazine
Atrazine Desethyl
Azinphos Methyl
Bromacil
Butylate
Chlorpyrifos Ethyl
Chlorpyrifos Methyl
Cyanazine
Demeton
Diazinon
Disulfoton
EPTC
Ethion
Ethoprop
Fenamiphos
Fipronil
Fipronil Sulfide
Fipronil Sulfone
Fonofos
Hexazinone
Malathion
Metalaxyl
Metolachlor
Metribuzin
Mevinphos

Bottle Group A (Water) With 2 Samples:

Bottle Type: BG-1L Number of Bottles: 6 Preserved With: ICE
W-PSNP-TQ Template: DEFAULT (EPA 8270E) Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS
Molinate
Norflurazon
Parathion Ethyl
Parathion Methyl
Pendimethalin
Phorate
Prometon
Prometryn
Simazine
Terbufos
Terbuthylazine

Bottle Group B (Biological) With 2 Samples:

Bottle Type: PT-50ML Number of Bottles: 2 Preserved With: ICE
ALGAL_ID Template: DEFAULT (SOP-AB05) Qualitative assessment of algal taxa present without counts
*Dominant sample taxon
Bottle Type: PJ-2L Number of Bottles: 4 Preserved With: Formalin
MI-FW-QLDC Template: DEFAULT (SOP-IZ06) No. Taxa of FW macroinverts, qual samp, 20 dipnets.
*Macroinvert-FW-Qual-DipnetX20-#Taxa-Rep2
*Stream Condition Index (SCI)

* - The laboratory is not NELAP certified for this analyte/method, or certification is not applicable.

Site Name McDavid Creek 100 m upstream SR99

Date: 06/10/2019

Field ID G5NW0150 Storet G5NW0150

Project: Eco Reg Ref Streams / SMP

Visit ID 79796

RQ: 2019-04-01-41

RPS ID 9366

LIMS ID: _____

VPDB ID N/A

WBID: 150

HA ID 16036

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial FB 6/11/19

☐ Date and Initial QA: _____

☒ RPS entered in SBIO Initial FB 6/11/19

☐ Date and Initial QA: _____

☐ LVS entered in SBIO Initial N/A

☐ 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: _____

☐ VPDB authorized in SBIO

☐ Date and Initial: _____

☐ VPDB score: _____

☐ SCI complete: _____

SCI Score: _____

☒ If SMP, scanned into database



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: McDavid Creek 100 m upstream SR99

Date: 06/10/2019
(mm/dd/yyyy)

WIN/Field ID: G5NW0150

WBID: 149

Latitude: -30.47423 30.13927
(Decimal Degrees)

County: Escambia

ORG ID: 21FLPNS

Longitude: -87.448057 87.44821
(Decimal Degrees)

Receiving Body of Water: Perdido River

RQ-2019-04-01-41

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera					☒	☒	☒	☒	☒
Jimmy Pitts					☒	☒	☒	☒	☒
Myranda Clark					☒	☒	☒	☒	☒

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>YSI</u>		
Equipment ID		
Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low / Normal / High / Flooded
Photos: Yes No Flow: No Flow / Intestinal / Flowing / NA
Meter ID# 154179 Matrix: Fresh / Marine / DI
Tide: Rising/ Falling/ Slack NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)
EST	09:50	0.6	0.3	0.6	7.25	83.1	4.93	0.01	22.3	22.4
CEN				"5"						

Biological Samples Collected: None HA SCI RPS LVS LVI Other:

SBIO ID Numbers: SBIO-ID: 79796 HA-ID: 16036 RPS-ID: 9366 Macrophyte-ID: N/A LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	<u>NA8274050</u>	<u>10/01/19</u>	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	<u>NA8274055</u>	<u>12/10/19</u>	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice	<u>6570048</u>		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CHC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☒ ALGAE-ID	☒ Ice			
Microbiology	☒ E Coll ☐ F Coll ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HFL83 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☒ W-E8321-DI ☒ W-E8321-MS	☒ Ice			
Pesticides	☒ W-PSNP-TQ	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes: NA-8344050 Exp. 12/10/2019
Survey Ecology Ref

Field/WIN ID →



G5NW0150

Location:
McDavid Creek 100 m upstream SR 99

Signature: Myranda Clark

Date: 6/10/19

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 (Initials/Date) Migrate Data to WIN: (Initials/Date) Verify Data in WIN: (Initials/Date)

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

SAMPLE ID 79796 ORG ID 21FLPNS LATITUDE ~~30.73927~~ 30.73927
 COUNTY Escambia WIN ID/STORET # G5NW0150 LONGITUDE ~~74.4867~~ -87.44821
 DATE 06/10/2019 TIME 9:50 CTZ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME McDavid Creek 100 m upstream SR99 RQ-2019-04-01-41
 FIELD ID/NAME G5NW0150 RECEIVING BODY OF WATER Perdido River WBID 149 Project: Ecolog Ref Streams

RIPARIAN ZONE / STREAM FEATURES

LIMS ID:

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>Not Available</u>	
Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy						Typical Width (m) <u>70</u> Depth (m)/Velocity (m/sec) Transect <u>6</u> m wide <u>70</u> m/s <u>25</u> m/s <u>33</u> m/s <u>8</u> m deep <u>8</u> m deep <u>8</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>					
High Water Mark: <u>1.8</u> + <u>1.5</u> = <u>3.3</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 ☐	
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SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☒ LVS
☐ LCI ☐ BioRecon

	% Coverage	# Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>22</u>	<u>5</u>	
Undercut Banks / Roots	<u>13.6</u>	<u>5</u>	<u>3.4</u>
Leaf Packs or Mat	<u>0.5</u>	<u>5</u>	
Aquatic Vegetation			
Rock or Shell Rubble..			
Sand.....	<u>74.1</u>	<u>4</u>	
Mud / Muck / Silt			
Other <u>Gravel</u>	<u>0.2</u>	<u>1</u>	
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>22.4</u>	<u>4.93</u>	<u>7.25</u>	<u>83.1</u>	<u>22.3</u>	<u>0.01</u>	<u>0.6</u>
Mid:								☒ VOB
Bottom								
Meter ID:	<u>154179</u>							
								TOTAL DEPTH <u>4.6</u>

Water Odors Normal ☒ Petroleum ☐
 Sewage ☐ Chemical ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
 Sample Preserved? ☐ Yes ☐ No
 Lot Number: _____ Exp: _____

Algae 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 ☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:

<2m² Vegetation
Yellow Flies!
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM: Frank Butera, Jimmy Pitts, Myranda Clark

SIGNATURE:

DATE:

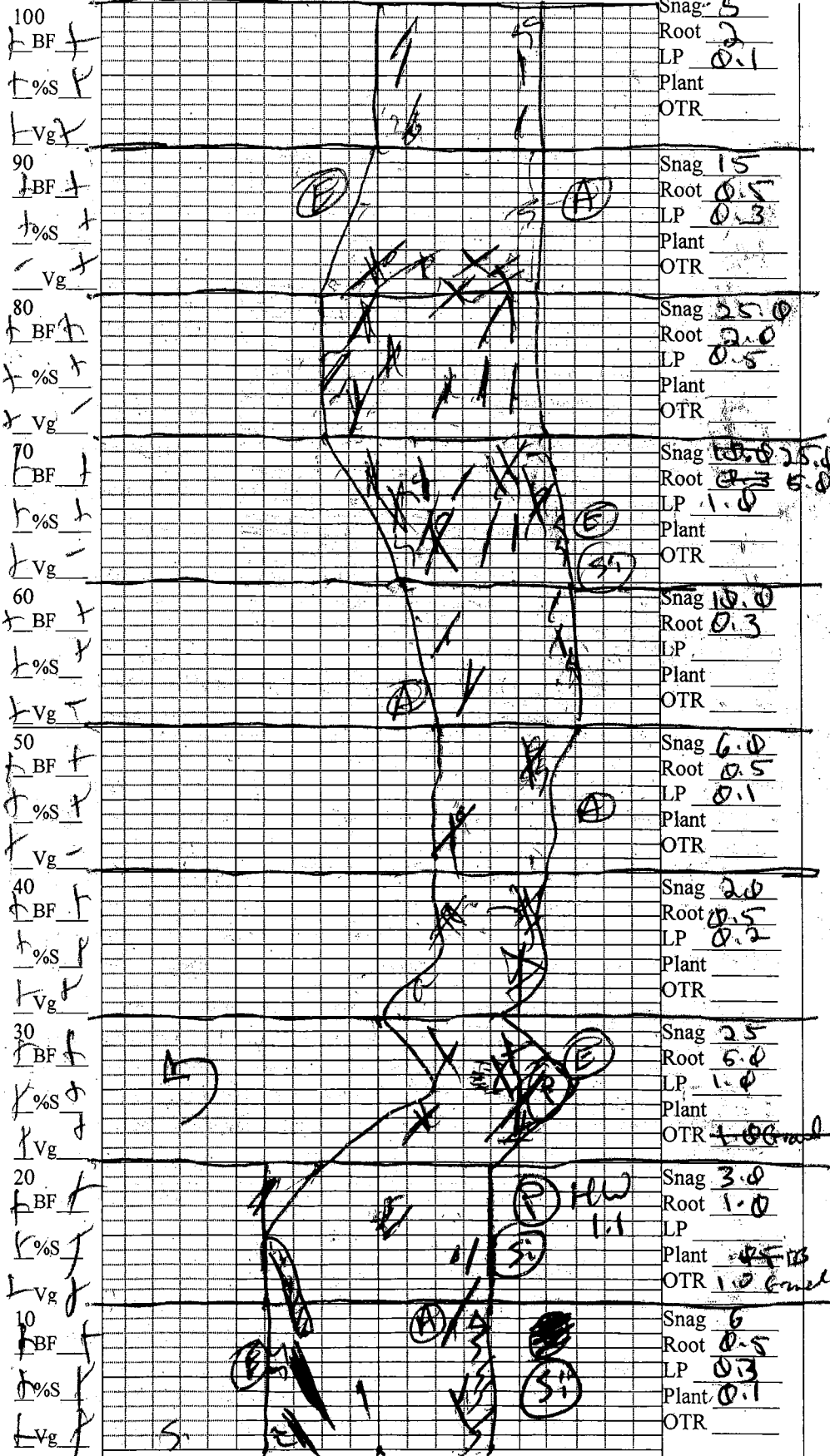
06/10/2019

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).

SB10 ZD 79796



WIN ID G5NW0150

Substrates: Code key, draw proportionate habitat abundance.

- ☒ Snags $\frac{144}{650} = 22.3\%$
- ☒ Roots/undercut banks $\frac{198}{650} = 3.0\%$
- ☒ Leaf Packs (or mats) $\frac{3.5}{650} = 0.5\%$
- ☒ Macrophytes
- ☒ Sand Bar
- ☒ Pool
- ☒ Erosion
- ☒ Gravel

Velocity:

Note where velocity measures were taken. 74m

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 6.5 m

Average depth 0.5 m

WQ & chemistry taken @ 0 m

Black Creek @ SR 20 West of Bruce McDonald Ck SE 99
Project. Reference Streams
Sampled By/Date: 6/10/2019
F.B. M. Clark

0 m Latt. 30.73927

0 m Long. 87.44821

100 m Latt 30.73963

100 m Long 87.44767

0-10 meter [A]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.8	Bankfull	Bankfull
0m width (m) 8	Root 2.0	+	+
10m width 8	Leaf .3	Slope	Slope
Avg. Depth 0.4	Veg .01		+
Max Depth 0.8	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718	(S) (E)		

10-20 meter [B]	Habitat Area (M)	Left Bank	Right Bank
	Snag 3.8	Bankfull	Bankfull
20m width 5	Root 1.8	+	+
	Leaf -	Slope	Slope
Avg. Depth 0.4	Veg -	+	+
Max Depth 1.1	Gravel 1.0	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718	(S) (E)		

20-30 meter [C]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
30m width 6.4	Root 5	+	+
	Leaf 1.0	Slope	Slope
Avg. Depth 0.8	Veg -		
Max Depth 1.1	Gravel -	Veg +	Veg +
Rip. Buff L 718	Rock -		
Rip. Buff R 718	(E) HW 1.8		

30-40 meter [D]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.4	Bankfull	Bankfull
40m width 6	Root 0.6	+	+
	Leaf .2	Slope	Slope
Avg. Depth .4	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 6	Bankfull	Bankfull
50m width 8.0	Root 0.5	+	+
	Leaf 0.1	Slope	Slope
Avg. Depth 0.4	Veg	+	+
Max Depth 1.1	Gravel	Veg +	Veg -
Rip. Buff L 718	Rock		
Rip. Buff R 718	(E) (M)		

50-60 meter [F]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.0	Bankfull	Bankfull
60m width 6	Root 0.3	+	+
	Leaf	Slope	Slope
Avg. Depth 0.4	Veg	+	+
Max Depth 1.1	Gravel	Veg +	Veg -
Rip. Buff L 718	Rock		
Rip. Buff R 718	(E) (A)		

60-70 meter [G]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
70m width 6	Root 5	+	+
	Leaf 1	Slope	Slope
Avg. Depth 0.3	Veg .5	+	+
Max Depth 1.0	Gravel	Veg +	Veg -
Rip. Buff L 718	Rock		
Rip. Buff R 718			

70-80 meter [H]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
80m width 8	Root 2	+	+
	Leaf 0.5	Slope	Slope
Avg. Depth 0.4	Veg	+	+
Max Depth 1.0	Gravel	Veg +	Veg -
Rip. Buff L 718	Rock		
Rip. Buff R 718	(E) (S)		

80-90 meter [I]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.5	Bankfull	Bankfull
90m width 6	Root 0.3	+	+
	Leaf 0.3	Slope	Slope
Avg. Depth 0.6	Veg	+	+
Max Depth 1.1	Gravel	Veg -	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718	(A) (E)		

90-100 meter [J]	Habitat Area (M)	Left Bank	Right Bank
	Snag 5	Bankfull	Bankfull
100m width 6	Root 2	+	+
	Leaf 0.1	Slope	Slope
Avg. Depth 0.8	Veg	+	+
Max Depth 1.3	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

McDavid Creek 100 m upstream SR99

Storet: G5NW0150

Date 6/10/2019

0 meter (Dec Deg)

30.73927

87.44021

100 meter (Dec Deg)

30.73963

87.44767

Water Quality Measured at 25,

Stream Velocity and location.

33/s 7.0 meter mark

Number of Pools & Location

High Water: 1.8

Silt smothering @

A, H

Sand Smothering @

Algae Smothering @

A, E, F

Degraded Banks @

A, E, F, H, I

Fe/Sulfur Bact. @

Total Habitat	Sq. Meters	Percent
Snags	144	22.0
Roots	19.8	3.0
Leaf	3.5	0.5
Veg	0.05	-
Rock		
Gravel	1.0	0.2
Sand	491.7	74.1
Other		
Sum 1° Habitat		25.7

Avg. Depth	Max. Depth	Avg. Width
0.5	1.5	6.5

Bank Stability Score. Left Bank 2.7 Right Bank 2.9 Category Left Bk Optimal Right Bk Optimal

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: 3.0 - 3.9

Notes. SR10 ID 79796

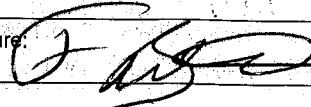
2.6+

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

SAMPLING AGENCY: 21FLPNS		STORET STATION NUMBER: G5NW0150	DATE (MM/DD/YY): <u>06/10/19</u>	RECEIVING BODY OF WATER: Perdido River
REMARKS: WBID 149	COUNTY: Escambia	LOCATION: Black Ck Upstream of Hwy 20		FIELD ID/NAME: G5NW0150

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>12</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) 15 14 13 <u>12</u> 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>13</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 <u>13</u> 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>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>19</u> Primary Score <u>64</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 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>10</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. <u>10</u> <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>79</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

143 **TOTAL SCORE**

Date: <u>06/10/2019</u>	Analyst: <u>F. Butera</u>	Signature: 
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SBIO ID: 79796 HA ID: 16036

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: McDavid Creek 100 m upstream SR99

County:
Escambia

Date:
06/10/2019

Investigators: F. Butera, M. Clark

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	N	96	60	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
10	1	N	N	95	70	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
20	1	N	N	96	80	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
30	1	N	N	63	90	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
40	1	N	N	80	100	1	N	N	96
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
50	1	N	N	96		1	N	N	
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

STORET Station Number:
G5NW0150

Secchi depth 0.6
Estimated? No

points ranked 4-6 4
total points assessed 99
% points ranked 4-6

Check accompanying data collected at same site/date.

Algal mat sample ☐
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon ☒
Water sample ☒

RQ-2019-04-01-41

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. 79796

RPS ID. 9366

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%.

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET																									
Waterbody: McDavid Creek 100 m upstream SR99						Date: 6/10/2019			County: Escambia				Storet Number: G5NW0150												
Analyst: F. Butera M. Clark						Signature: [Signature]																			
Comments: < 2m ² vegetation																									
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m ² 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.																									
		Meter Mark											MACRO ID: N/A		Meter Mark										
HERBACEOUS SPECIES		0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)	HERBACEOUS SPECIES		0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides													Micranthemum glomeratum												
Bacopa caroliniana													Micranthemum umbrosum												
Bacopa monnieri													Myriophyllum aquaticum												
Bidens mitis													Najas guadelupensis												
Boehmeria cylindrica													Nuphar luteum												
Centella asiatica													Orontium aquaticum												
Ceratophyllum demersum													Panicum hemitomon												
Chara													Panicum repens												
Cicutula maculata													Panicum rigidulum												
Cladium jamaicense													Pistia stratioides												
Colocasia esculenta													Polygonum glabra												
Commelina diffusa													Polygonum hydropiperoides												
Commelina virginica													Polygonum punctatum												
Crinum americanum													Potamogeton cordata												
Diodia virginiana													Potamogeton illinoensis												
Eichhornia crassipes													Ruellia simplex												
Eleocharis (wispy viviparous)													Sacciolepis striata												
Hydrilla verticillata													Sagittaria kurziana												
Hydrocotyle													Sagittaria lancifolia												
Hygrophila polysperma													Sagittaria latifolia												
Hymenocallis													Salvinia minima												
Lachnanthes caroliniana													Samolus parviflora												
Landoltia punctata													Saururus cernuus												
Lemna													Sparganium americanum												
Limnophila sessiflora													Typha												
Ludwigia leptocarpa													Vallisneria americana												
Ludwigia palustris													Zizania aquatica												
Ludwigia peruviana																									
Ludwigia repens																									
Luziola fluitans																									

Photo Log

Storet G5NW0150

Station Name: McDavid Creek 100 m upstream SR99

Date:

Samplers. F. Butera,

- 1 G5NW0150 - Upstream - 0 meter
- 2 Downstream
- 3 North
- 4 ~~So~~ East
- 5 South
- 6 West
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Notes.