

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: 2023-07-31-24

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 6/23

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.	M. Butler	8/1/23	7:40	22.9	762.0	8.6	8.62	100.4			P/F	L/F
ICV	↓	↓	7:42	22.9	762.1	8.6	8.66	100.8			P/F	L/F
CCV	↓	↓	13:47	22.4	761.7	8.7	8.86	102.1			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.	M. Butler	8/1/23	7:44	221221B	1/24	1000	1000	P/F	L/F
ICV	↓	↓	7:46	221221A	1/24	1000	101.1	P/F	L/F
CCV	↓	↓	13:49	221221A	1/24	100	101.0	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.	M. Butler	8/1/23	7:48	1LD0599	12/23	7.0	22.1	7.00	-37.2	P/F	L/F
Calibr.	↓	↓	7:49	1LJ0499	12/23	4.0	23.7	4.00	147.1	P/F	L/F
Calibr.	↓	↓	7:51	1LF0736	8/23	10.0	23.3	10.00	-193.0	P/F	L/F
ICV	↓	↓	7:52	1LJ0499	12/23	4.0	23.6	4.00	148.7	P/F	L/F
CCV	↓	↓	13:53	1LD0599	12/23	7.0	22.0	7.00	-37.2	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 10 165.8, slope from 4 to 7 174.3 (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: 6/23

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	M. Butler	8/1/23	7:55	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:

Boiling Creek @ Boat Ramp. 64NW0385



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

REFERENCE STREAMS Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes ☒ No ☐

WIN Station Name:		BOILING CREEK AT BOAT LAUNCH				Sample Date:		8/1/2023	
WIN / Field ID:	G4NW0385	ORG ID:	21FLPNS	ENR:		Latitude:	30.57895		
County:	SANTA ROSA	WBID:	517	STREAM	3F	Longitude:	-86.90017		
Receiving Body of Water:						-	RQ-	2023-07-31-24	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera	x		x		
Myranda Butler		x		x	x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
Syringe Lot# 136514		Filter Lot# 17460495	
Secchi Equipment ID:		Secchi - 2	
Collection Method			
x	Wading		Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With		Meter	

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	154179 (ProDSS)
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPT _h)
CEN	930	1.7	0.3	7.47	89.3	24.4	5	1.7	14.5	0.01
	0940		1.2	7.44	89	24.3	5.08	VOB (s)	14.5	0.01

Biological Samples Collected:

HA LVS RPS Algal ID SCI

SBIO Visit ID: 87491

HA ID: 18584

RPS ID: 10132

Macrophyte ID: 12520

LIMS Sample ID

In The Macrophyte Module: **2428103**

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation			
				Type	Lot#	Expiration Date	pH Check
Microbiology	E. coli	Contract Lab	UWF	ICE			
Chlorophyll	CHLSUITE-W			ICE			
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE			
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE			
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE	Syringe Lot#:136514; Filter Lot#:17460495		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA3013020	01/13/2024
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA2230040	09/01/2023
Organics (LC)	W-E8321-DI	W-E8321-MS					
Macroinvertebrates	MI-FW-QLDC			Formalin	9.70623WB		
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise		
Molecular							
Periphyton	Algal ID			Ice			
Phytoplankton							
BOD							
DOC							
Other(s)					SyringeLot#		FilterLot#
Field Comments:	Sunny, predicted 108 F heat index. Lot of clay added to roads. / SCI Collection Time: 1000 / Algal ID Collection Time: 1130						
Comments on COC:	Microbiology sample(s) submitted to contract laboratory.						
Relinquish Date:	08/01/2023	Signature:					

LIMS EVENT ID: _____ WIN Import ID: _____

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

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: _____

(Initials/Date)

Save Field Sheets on Network: _____

(Initials/Date)

Migrate Data to WIN: _____

(Initials/Date)

Site Name Boiling Creek at Boat Ramp

Date: 08/01/2023

WIN ID G4NW0385

Field ID G4NW0385

Project: Eco Reg Ref Streams

Visit ID 87491

RQ: 2023-07-31-24

RPS ID 10132

LIMS ID: 2428103

Macro ID 12520

WBID: 517

HA ID 18584

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem in SBIO Initial FB

☒ Date and Initial QA: 8/3/23 BO

☒ HA entered in SBIO Initial FB

☒ Date and Initial QA: 8/4/23 BO

☒ RPS entered in SBIO Initial FB

☒ Date and Initial QA: 8/7/23 BO

☒ LVS entered in SBIO Initial FB

☒ Date and Initial QA: 8/7/23 BO

☐ < 2 m² vegetation

☒ Plants getting verified

Date submitted: In House

☒ Plants verified

Date returned: In House

☒ RPS authorized in SBIO

☒ Date and Initial: FB 8/8/2023

☒ RPS score: 62.63

☒ Macro authorized in SBIO

☒ Date and Initial: FB 8/8/2023

☒ LVS Score: FEPPC Q. Avg LFC 4.65

☐ 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 87491 ORG ID 21FLPNS LATITUDE 30.57895
 COUNTY Santa Rosa (Holley / Eglin AFB) WIN ID/STORET # G4NW0385 LONGITUDE -86.90017
 DATE 08/01/2023 TIME 9:30 CTZ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Boiling Creek at Boat Ramp RQ- 2023-07-31-24
 FIELD ID/NAME G4NW0385 RECEIVING BODY OF WATER Yellow River WBID 517 Project: Eco Reg Ref Streams
 SCIREF

RIPARIAN ZONE / STREAM FEATURES

LIMS ID: 2428103

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☒ Silviculture ☒ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) <u>AFB</u>						Landscape Development Intensity Index (LDI) <u>N/A</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>10</u> m wide
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>720</u>			Hydrologic Modification Score (per FT 3101) <u>1-2</u>		Velocity: <u>0.33</u> m/s <u>0.23</u> m/s <u></u> m/s	
High Water Mark: <u>0.9</u> + <u>1.7</u> = <u>2.6</u> (m) (above present water level) (present depth) (above bed)			Artificially Impounded ☐ Yes ☒ No		Depth: <u>1.2</u> m deep <u>1.7</u> m deep <u></u> 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%)			

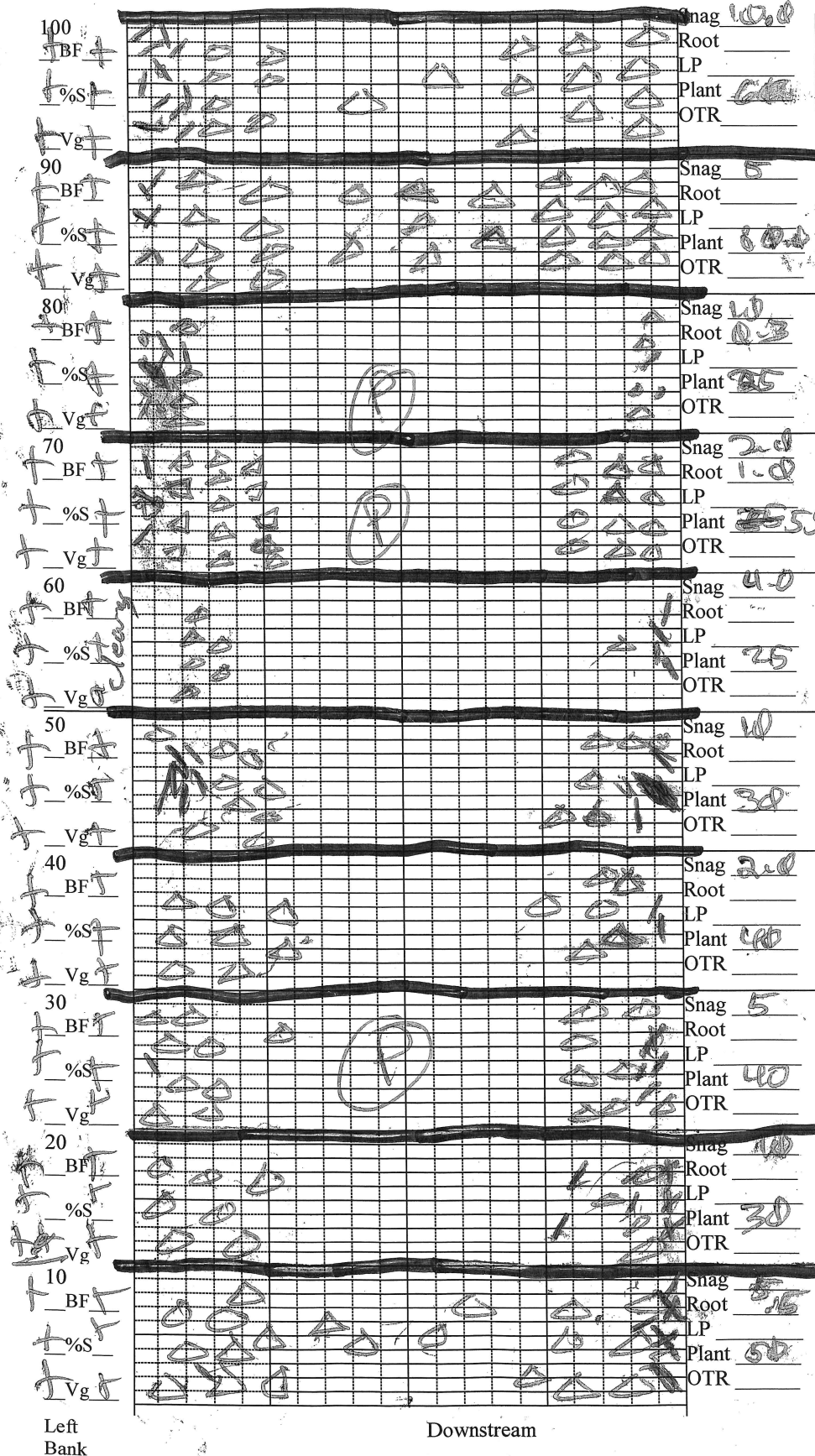
SEDIMENT / SUBSTRATE

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			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>0.3</u></td> <td><u>24.4</u></td> <td><u>5.0</u></td> <td><u>7.4</u></td> <td><u>89.3</u></td> <td><u>145</u></td> <td><u>0.0</u></td> <td><u>7.7</u></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td><u>1.2</u></td> <td><u>24.9</u></td> <td><u>5.08</u></td> <td><u>7.44</u></td> <td><u>89.0</u></td> <td><u>14.0</u></td> <td><u>0.01</u></td> <td><u>1.7</u></td> </tr> </tbody> </table> Meter ID: <u>154179</u>				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>24.4</u>	<u>5.0</u>	<u>7.4</u>	<u>89.3</u>	<u>145</u>	<u>0.0</u>	<u>7.7</u>	Mid:								☒ VOB	Bottom:	<u>1.2</u>	<u>24.9</u>	<u>5.08</u>	<u>7.44</u>	<u>89.0</u>	<u>14.0</u>	<u>0.01</u>	<u>1.7</u>
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Woody Debris (Snags) <u>3.8</u> <u>7</u> Undercut Banks / Roots <u>0.1</u> <u>03</u> Leaf Packs or Mat Aquatic Vegetation <u>26.5</u> <u>7</u> Rock or Shell Rubble..... Sand..... <u>69.5</u> <u>3</u> Mud / Muck / Silt Other Other			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: _____																																						
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:	☐	☒	☐	☐	Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐													
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Iron/Sulfur Bacteria:	☐	☒	☐	☐																																					
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			AMBIENT FIELD CONDITIONS / NOTES: <u>ALBAC-ID sample collected</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																						
SAMPLING TEAM: Frank Butera, <u>M. Butler</u>			SIGNATURE: <u>Frank Butera</u>																																						
DATE: <u>8/01/2023</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).



WIN ID G4NW0385

Substrates: Code key, draw proportionate habitat abundance.

- ☒ Snags $\frac{63}{1640} = 3.7\%$
- ☒ Roots/undercut banks $\frac{1.8}{1640} = 0.1\%$
- ☒ Leaf Packs (or mats)
- ☒ Macrophytes $\frac{435}{1640} = 26.5\%$
- ☐ $\frac{1140}{1640} = 69.5\%$

Velocity: 3.33
Note where velocity measures were taken 100m

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 16.4 m

Average depth 21.0 m

WQ & chemistry taken @ 1.2 m

Station Name:

Boiling Creek @ Boat Ramp

Project. Eco Reg Ref Streams

Sampled By/Date: 8/10/2022

0 m Latt. 30.57912

0 m Long. 86.89999

100 m Latt. 30.57899

100 m Long. 86.90015

0-10 meter [A]	Habitat Area (M)	Left Bank	Right Bank
	Snag 5	Bankfull	Bankfull
0m width (m) 20	Root 0.5	+	+
10m width 50	Leaf	Slope	Slope
Avg. Depth	Veg 50		
Max Depth	Gravel	Veg	Veg
Rip. Buff L 710	Rock		
Rip. Buff R 710	Si, Al	AL	

10-20 meter [B]	Habitat Area (M)	Left Bank	Right Bank
	Snag 10	Bankfull	Bankfull
20m width 20	Root	+	+
	Leaf 30	Slope	Slope
Avg. Depth	Veg 30		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

20-30 meter [C]	Habitat Area (M)	Left Bank	Right Bank
	Snag 5	Bankfull	Bankfull
30m width 20	Root 5	+	+
	Leaf 40	Slope	Slope
Avg. Depth	Veg 40		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

30-40 meter [D]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.0	Bankfull	Bankfull
40m width 20	Root	+	+
	Leaf 40	Slope	Slope
Avg. Depth	Veg 40		
Max Depth	Gravel	Veg	Veg
Rip. Buff L 710	Rock		
Rip. Buff R 710	Si, Al		

40 - 50 meter [E]	Habitat Area (M)	Left Bank	Right Bank
	Snag 10	Bankfull	Bankfull
50m width 15	Root	+	+
	Leaf 20	Slope	Slope
Avg. Depth 30	Veg 30		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

50-60 meter [F]	Habitat Area (M)	Left Bank	Right Bank
	Snag 4	Bankfull	Bankfull
60m width 15	Root 1.0	+	+
	Leaf 25	Slope	Slope
Avg. Depth	Veg		
Max Depth	Gravel	Veg	Veg
Rip. Buff L 710	Rock		
Rip. Buff R 710	Si, Al		

60-70 meter [G]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.0	Bankfull	Bankfull
70m width 15	Root 0.5	+	+
	Leaf 55	Slope	Slope
Avg. Depth	Veg 55		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

70-80 meter [H]	Habitat Area (M)	Left Bank	Right Bank
	Snag 10	Bankfull	Bankfull
80m width 15	Root	+	+
	Leaf 25	Slope	Slope
Avg. Depth	Veg		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

80-90 meter [I]	Habitat Area (M)	Left Bank	Right Bank
	Snag 5	Bankfull	Bankfull
90m width 10	Root	+	+
	Leaf 80	Slope	Slope
Avg. Depth	Veg 80		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

90 - 100 meter [J]	Habitat Area (M)	Left Bank	Right Bank
	Snag 10	Bankfull	Bankfull
100m width 10	Root	+	+
	Leaf 60	Slope	Slope
Avg. Depth	Veg 60		
Max Depth	Gravel	Veg	Veg
Rip. Buff L	Rock		
Rip. Buff R	Si, Al		

Station Name

Boiling Creek @ Boat Ramp

Storet: G4NW0385

Date 2/01/2023

0 meter (Dec Deg)

20.57911
86.81989

100 meter (Dec Deg)

20.57900
86.81015

Water Quality Measured at

100m

Stream Velocity and location.

33 m/s 100 meter mark

Number of Pools & Location

1 pool 100m

High Water: 0.2m 2/100

Silt smothering @

A-J

Sand Smothering @

#0 A-J

Algae Smothering @

A-J

Degraded Banks @

NO

Fe/Sulfur Bact. @

F

Total Habitat	Sq. Meters	Percent
Snags	63.0	3.8
Roots	1.8	0.1
Leaf		
Veg	435	26.5
Rock		
Gravel		
Sand	1100	69.5
Other		
Sum 1 st Habitat		30.5

Avg. Depth	Max. Depth	Avg. Width
2.0	7.0	16.4

Bank Stability Score. Left Bank 30 Right Bank 30 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: 2.1 +

Notes.

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

SAMPLING AGENCY: 21FLPNS. DEAR NWROC		STORET STATION NUMBER: G4NW0385	DATE (MM/DD/YY): 8/1/2023	RECEIVING BODY OF WATER: Yellow River
REMARKS: WBID 517	COUNTY: Santa Rosa (Holley)	LOCATION: East of SR87, Eglin AFB	FIELD ID/NAME: G4NW0385	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>14</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>15</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 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 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 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>56</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. <u>Algae, s. 1</u> 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>19</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>10</u> Left Bank <u>10</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>10</u> Left Bank <u>9</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>78</u>	10 9	8 7 6	5 4	3 2 1

134

TOTAL SCORE

Date: 8/01/2023	Analyst: Frank Butera	Signature: 
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SBIO ID: 87491

HA ID: 18584

62-160.800, F.A.C.

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Boiling Creek @ Boat Ramp County: Santa Rosa Date: 08/01/2023 Investigators: Frank Butera

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	6	2		60	1	6	2	
	2	6	2			2	6	2	
	3	6	2			3	6	2	
	4	6	2			4	6	2	
	5	6	2	0		5	6	2	0
	6	6	2			6	6	2	
	7	6	2			7	6	2	
	8	6	2			8	6	2	
	9	6	2			9	6	2	
10	1	6	2		70	1	6	2	
	2	6	2			2	6	2	
	3	6	2			3	6	2	
	4	6	2			4	6	2	
	5	6	2	0		5	6	2	0
	6	6	2			6	6	2	
	7	6	2			7	6	2	
	8	6	2			8	6	2	
	9	6	2			9	6	2	
20	1	6	2		80	1	6	2	
	2	6	2			2	6	2	
	3	6	2			3	6	2	
	4	6	2			4	6	2	
	5	6	2	0		5	6	2	0
	6	6	2			6	6	2	
	7	6	2			7	6	2	
	8	6	2			8	6	2	
	9	6	2			9	6	2	
30	1	6	2		90	1	6	2	
	2	6	2			2	6	2	
	3	6	2			3	6	2	
	4	6	2			4	6	2	
	5	6	2	0		5	6	2	0
	6	6	2			6	6	2	
	7	6	2			7	6	2	
	8	6	2			8	6	2	
	9	6	2			9	6	2	
40	1	6	2		100	1	6	2	
	2	6	2			2	6	2	
	3	6	2			3	6	2	
	4	6	2			4	6	2	
	5	6	2	0		5	6	2	0
	6	6	2			6	6	2	
	7	6	2			7	6	2	
	8	6	2			8	6	2	
	9	6	2			9	6	2	
50	1	6	2			1	6	2	
	2	6	2			2	6	2	
	3	6	2			3	6	2	
	4	6	2			4	6	2	
	5	6	2	0		5	6	2	0
	6	6	2			6	6	2	
	7	6	2			7	6	2	
	8	6	2			8	6	2	
	9	6	2			9	6	2	

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: G4NW0385

Secchi depth: 7.5
 Estimated?: N

points ranked 4-6: 62
 total points assessed: 99
 % points ranked 4-6: 62

Check accompanying data collected at same site/date.

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

RQ-2023-07-31-24

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: 87491

RPS ID: 10132

RPS score

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: Boiling Creek @ Boat Ramp Date: 8/01/2023 County: Santa Rosa Storet Number: G4NW0385
Analyst: F. Butera Signature: [Signature]

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
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											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria 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												Nymphaea											
Ludwigia repens												Peltandra											
Luziola fluitans												Lycis											
Belseria												Taxodium											
Cephalanthus																							
Hypericum																							
Cytisus																							
Cynila																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

Field ID: G4NW0385

RPS ID 10132

SBIO ID 87491

Macro ID 12520

LIMS ID 2428103

Photo Log

StoretG4NW0385

Station Name: Boiling Creek @ Boat Ramp

Date:

Samplers.

- 1 N
- 2 E
- 3 S
- 4 W
- 5 Upstream
- 6 Downstream
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Notes.