



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes ☒ No ☐

WIN Station Name:	Pond Creek West of Headwaters of Blackwater Bay				Sample Date:	12/20/2022	
WIN / Field ID:	G4NW0277	ORG ID:	21FLPNS	ENR:			
County:	Santa Rosa	WBID:	176	STREAM	3F		
Receiving Body of Water:	Blackwater Bay North Segment				RQ-	2022-12-19-18	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera		x	x	x	x
Lauren McNally	x		x		

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
	Syringe Lot# 1363514		Filter Lot# 17460495
	Secchi Equipment ID:	Aerial	
Collection Method			
	Wading	x	Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
	Depth Measured With	Meter	

Water Level:	Low
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 (PPTth)
CEN	1130	1	0.3	9.74	92.3	13.3	5.08	1	28.3	0.01
								VOB (s)		

Biological Samples Collected:	HA LVS RPS SCI		
SBIO Visit ID: 85891	HA ID: 18061	RPS ID: 10007	Macrophyte ID: 12339
LIMS Sample ID Entered Into The Macrophyte Module:			2377091

Parameter Suite	Parameter Methods (LIMS Test Codes)	Type	Lot#	Expiration Date	pH Check	
Microbiology	E. coli	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	ICE	Syring Lot#:1363514; Filter Lot#:17460495			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	2145160	6/2/23	H2SO4 pH<2
Metals	W-ICPMS	ICE	HNO3**	NA2126030	6/7/23	HNO3 pH<2
Organics (LC)	W-E8321-DI					
Macroinvertebrates	MI-FW-QLDC	Formalin	NA			
Organics (GC)	W-PSNP-TQ	Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular	W-TR-SQ-R					
Periphyton						
Phytoplankton						
BOD						
DOC			SyringLot#		FilterLot#	
Other(s)						
Field Comments:	Rainy and overcast / SCI Collection Time: 1140					
Comments on COC:						
Relinquish Date:	12/20/2022	Signature:				

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)

Save Field Sheets on Network: _____ Migrate Data to WIN: _____

(Initials/Date)

(Initials/Date)

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

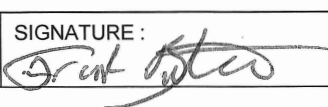
SAMPLE ID 85891 ORG ID 21FLPNS LATITUDE N 30.60671
 COUNTY Santa Rosa WIN ID/STORET # G4NW0277 LONGITUDE W 87.05839
 DATE 12/20/2022 TIME 11:30 CTZ _____ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Pond Creek West of Headwaters of Blackwater Bay RQ- 2022-12-19-18
 FIELD ID/NAME G4NW0277 RECEIVING BODY OF WATER Blackwater Bay WBID 176 Project: SMP / TMDL studies

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) 2.2 (SBIO 2015)	
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 100 15 m wide	
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>3-4</u> <u>21-2</u>		m/s <u>0.11</u> m/s ☐ m/s	
High Water Mark: <u>2.0</u> + <u>1.0</u> = <u>3.0</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No		m deep <u>1.0</u> m deep ☐ m deep	
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Canopy Cover % ☒ Open <u>8%</u> ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)			

SEDIMENT / SUBSTRATE

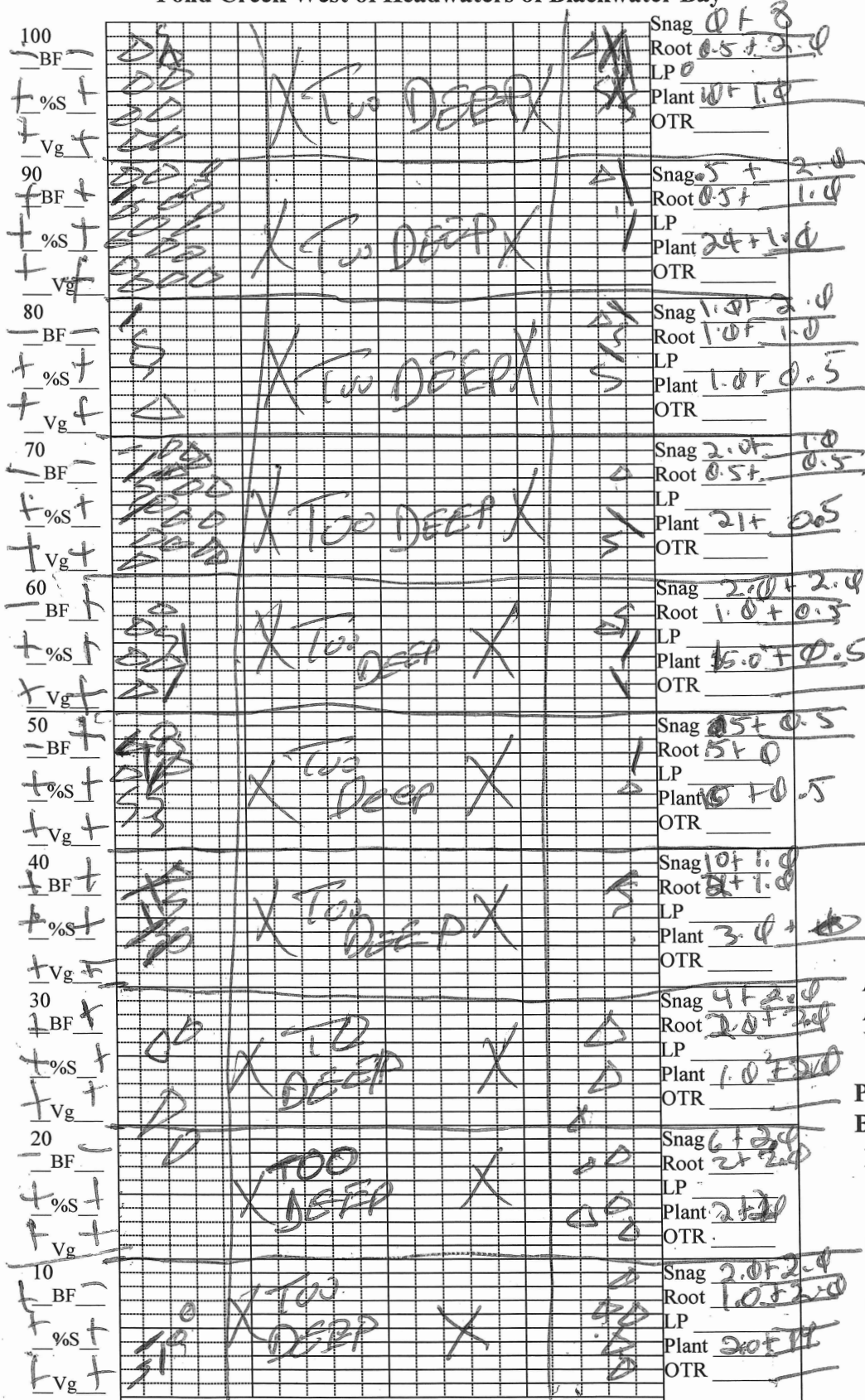
Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse			Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):			Smothering of Substrates Sand Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐ Silt Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☒ Algae Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐		
SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon			WATER QUALITY			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		
Woody Debris (Snags) <u>1.3</u> <u>5</u> <u></u> Undercut Banks / Roots <u>1.50</u> <u>5</u> <u>0.9%</u> Leaf Packs or Mat <u></u> <u></u> <u></u> Aquatic Vegetation <u>5.3</u> <u>5</u> <u>5.7</u> Rock or Shell Rubble.. <u></u> <u></u> <u></u> Sand..... <u>93.4</u> <u>5</u> <u>94.6</u> Mud / Muck / Silt <u></u> <u></u> <u></u> Other <u></u> <u></u> <u></u> Other <u></u> <u></u> <u></u>			Top: <u>0.3</u> <u>13.3</u> <u>5.08</u> <u>9.74</u> <u>912.3</u> <u>28.3</u> <u>0.01</u> <u>1.0</u> Mid: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Bottom: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> Meter ID: <u>155077</u>			Water Surface Oils Normal ☐ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☒ Clear ☐ Other (Specify) ☐		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			Water Sample Taken? ☐ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐		
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			AMBIENT FIELD CONDITIONS / NOTES: SCI Sampled Sept. 2015 ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM: Frank Butera, Lauren McNally			SIGNATURE: 			DATE: <u>12/20/2022</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).

Pond Creek West of Headwaters of Blackwater Bay



WIN ID G4NW0277

Substrates: Code key, draw proportionate habitat abundance.

☒ Snags $\frac{55}{100} = 5.5\%$

☒ Roots/undercut banks $\frac{26.5 + 4.5}{1500} = 1.5\%$

☒ Leaf Packs (or mats) N/A

☒ Macrophytes $\frac{172}{1500} = 11.5\%$
 $\frac{160}{1500} = 10.7\%$

☒ Too Deep to Sample

Velocity: 0.1 m/s
Note where velocity measures were taken. 100 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 15 m

Average depth 1.0 m

WQ & chemistry taken @ 100 m

Station Name:

Pond Creek West of Headwaters of Blackwater Bay

Project. SMP / TMDL Studies

Sampled By/Date: 12/20/2022

0 m Latt. 30.60614

0 m Long. 87.45766

100 m Latt. 30.60673

100 m Long. 87.05840

Left Bank

SB10 20 85891

Downstream

0-10 meter [A]	Habitat Area (M)	Left Bank	Right Bank
	Snag 4.0	Bankfull	Bankfull
0m width (m) 15	Root 3.0	+	-
10m width 15	Leaf	Slope +	Slope +
Avg. Depth	Veg 34		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

10-20 meter [B]	Habitat Area (M)	Left Bank	Right Bank
	Snag 8.0	Bankfull	Bankfull
20m width 15	Root 4.0	-	-
	Leaf	Slope +	Slope +
Avg. Depth	Veg 22		
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 6.0	Bankfull	Bankfull
30m width 15	Root 4.0	+	+
	Leaf	Slope +	Slope +
Avg. Depth	Veg 21.0		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

30-40 meter [D]	Habitat Area (M)	Left Bank	Right Bank
	Snag 11	Bankfull	Bankfull
40m width 15	Root 3.0	+	+
	Leaf	Slope +	Slope +
Avg. Depth	Veg 3.0		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

40 - 50 meter [E]	Habitat Area (M)	Left Bank	Right Bank
	Snag 5.5	Bankfull	Bankfull
50m width 15	Root 4.0	-	+
	Leaf	Slope +	Slope +
Avg. Depth	Veg 15.5		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

50-60 meter [F]	Habitat Area (M)	Left Bank	Right Bank
	Snag 4.0	Bankfull	Bankfull
60m width 15	Root 1.5	-	+
	Leaf	Slope +	Slope +
Avg. Depth	Veg 15.5		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

60-70 meter [G]	Habitat Area (M)	Left Bank	Right Bank
	Snag 3.0	Bankfull	Bankfull
70m width 15	Root 1.0	-	-
	Leaf	Slope +	Slope +
Avg. Depth	Veg 21.5		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

70-80 meter [H]	Habitat Area (M)	Left Bank	Right Bank
	Snag 3.4	Bankfull	Bankfull
80m width 15	Root 2.0	-	-
	Leaf	Slope +	Slope +
Avg. Depth	Veg 1.5		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

80-90 meter [I]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
90m width 15	Root 1.5	+	+
	Leaf	Slope +	Slope +
Avg. Depth	Veg 25.0		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

90 - 100 meter [J]	Habitat Area (M)	Left Bank	Right Bank
	Snag 8.0	Bankfull	Bankfull
100m width 15	Root 2.5	-	-
	Leaf	Slope +	Slope +
Avg. Depth	Veg 11.0		
Max Depth	Gravel	Veg +	Veg +
Rip. Buff L 718	Rock		
Rip. Buff R 718			

Station Name **Pond Creek West of Blackwater Bay**

Storet: **G4NW0277**

Date **12/20/2022**

0 meter (Dec Deg)

30.60614

87.05766

100 meter (Dec Deg)

30.60673

87.05840

Water Quality Measured at

100m

Stream Velocity and location.

0.11 m/s 100 meter mark

Number of Pools & Location

High Water: **2.0**

Silt smothering @

A-J

Sand Smothering @

A-J

Algae Smothering @

Degraded Banks @

Fe/Sulfur Bact. @

Total Habitat	Sq. Meters	Percent
Snags	55	1.8
Roots	26.5	0.9
Leaf		
Veg	170	5.7
Rock		
Gravel	1418.5	
Sand	94.6	94.6
Other		
Sum 1° Habitat		8.4

Avg. Depth	Max. Depth	Avg. Width
1.0	X	15

Bank Stability Score. Left Bank **2.4** Right Bank **2.5** Category Left Bk **Suboptimal** Right Bk **Suboptimal**
 Add all plus signs (Max. 30 possible) and Divide by 10. Scoring. **Poor:** 0.0 - 0.9 pts. **Marginal:** 1.0-1.9pts. **Suboptimal:** 2.0 - 2.9 **Optimal:** 2.1 +

Notes.

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

SAMPLING AGENCY: FL DEP NWROC. Org Code 21FLPNS		STORET STATION NUMBER: G4NW0277	DATE (MM/DD/YY): 12/20/22	RECEIVING BODY OF WATER: Blackwater Bay
REMARKS: WBID 176	COUNTY: Santa Rosa	LOCATION: Pond Creek West of Headwaters of Blackwater Bay		FIELD ID/NAME: G4NW0277

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>9</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 <u>9</u> 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>11</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 <u>>0.1</u> 15 14 13 12 <u>11</u>	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>10</u> ----- Primary Score <u>42</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). <u>10</u> 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>6</u> Left Bank <u>8</u> <u>6</u> <u>8</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 <u>6</u>	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>9</u> Left Bank <u>9</u> ----- Secondary Score <u>70</u> <u>70</u> <u>72</u> <u>70</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 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

FB 116/160 **TOTAL SCORE** 116/160 FB

Date: <u>12/20/22</u>	Analyst: <u>F. Butler</u>	Signature: <u>[Signature]</u>
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SBIO ID: 85891
62-160.800, F.A.C.

HA ID: 18061

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Pond Creek West of Headwaters of Blackwater Bay County: Santa Rosa Date: 12/20/2022 Investigators: F. B. Smith

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

STORET Station Number: G4NW0277

Secchi depth
Estimated? N

points ranked 4-6
total points assessed
% 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- 2022-12-19-18

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. 85891

RPS ID. 10007

Photo Log

Storet G4NW0277

Station Name: Pond Creek West of Headwaters of Blackwater Bay

Date: 12/20/2022

Samplers: F. Butera, L. McNally

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

Notes.