



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End

of Day CCV

Yes No

WIN Station Name: Bray Mill Creek North of Oil Plant Road

Date: 02/12/2020
(mm/dd/yyyy)

WIN/ Field ID: G4NW0066

WBID: 36

Latitude: 30.975410001

(Decimal Degrees)

County: SANTA ROSA

ORG ID: 21FLPNS

Longitude: 87.18221

(Decimal Degrees)

Receiving Body of Water: Escambia River

RQ-2020- 02-10-41

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Mike Leins	X	X	X	X	X
Frank Butler	X	X	X	X	X
Heather Schumki	X	X	X	X	X

Sampling Equipment	
☒ Sample Container	☐ Van Dorn
☒ Syringe	☐ Pole
☒ Dipper	☐ Other
Depth Measured with	
Equipment ID	

Collection Method	
☒ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Water Level: Dry/ Pooled/ Low / Normal / <u>High</u> / Flooded		Meter ID# 154179	
Photos: <u>Yes</u> No	Flow: No Flow / <u>Flowing</u> / NA	Tide: Rising/ Falling/ Slack/ <u>NA</u>	Tide Times: High Low
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> Algae ID <u>LVS</u> LVI Other:			
SBIO ID Numbers:	SBIO-ID: 80692	HA-ID: 16519	RPS-ID: 9539
Macrophyte-ID: —		LIMS#:	
Notes: < 2 m ² vegetation LVS not appropriate			

Duplicate Sample

Time Zone: EST CEN Time: _____	Field ID: _____ (WIN ID_DUP)
WIN DMT Activity ID: _____	

Blank

Time Zone: EST CEN Time: _____	Field ID: _____ (Blank Type_DDMMYYYY)
DI Source: _____	Location: _____
☐ Field Blank ☐ Equipment Blank ☐ Field Cleaned Equipment Blank	Equipment ID: _____

Signature: <u>[Signature]</u>	Date: 02/12/2020
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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)

Scan/Save Field Sheets FB 02/17/2020 (Initials/Date) Migrate Data to WIN: _____ (Initials/Date) Verify Data In WIN: _____ (Initials/Date)



RQ-2020-

Customer:

Project ID:

02-10-41
Northwest District
SMP

Collected By: M. King

Field Report Prepared By: F. Butler

Sampling Agency:

FL DEP - NWROC

Field/WIN ID →



G4NW0066

Location:

Bray Mill Creek North of Oil Plant Road

Comments:

Matrix: ☒ Fresh ☐ Marine

(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)
0930 2/12/20	0930 EST CST	8.72	94.5	19.6	5.35	0.10	0.5 ☒ VOB (S)	0.2	89.2	0.04

Cental Lab please use top row for login purposes

EST / CST										
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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		
	Lot #	Exp:			
Metals (P-500ML)	☒ W-ICPMS ☒ W-ICP ☒ W-HARD	☐ Ice ☐ HNO3*	☒ <2		
	Lot #	Exp:			
Filtered Nutrients (P125ML)	☒ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☒ Ice			
	Filter Lot #	Exp:			
	Syringe Lot #	Exp:			
Chlorophyll (BP-1L)	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh) (P-1L)	☐ Alkalinity / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY / ☐ W-CHC / ☐ W-COLOR / ☐ W-SO4-IC / ☐ W-TDS	☒ Ice			
Physical/Aggregate (Marine) (P-1L)	☐ Alkalinity / ☐ W-BR-IC / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY	☐ Ice			
Macroinvertebrates (PJ-2L)	☒ MI-FW-QLDC	☒ Formalin			
Periphyton (PT-50ML)	☐ ALGAE-ID	☐ Ice			
Microbiology (Contract Lab Bottle)	☒ E Coli ☐ F Coli ☐ Enterococci	☐ Ice			
	☐ Contract Lab				
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3	☐ Ice			
	☐ PCR-GULL2 ☐ PCR-GFD ☐				
Tracers (BG-500ML)	☒ W-E8321-DI ☒ W-E8321-MS	☒ Ice			
Pesticides (BG-500ML) (BG-1L)	☐ W-E8321-DI ☐ WE8321-MS ☒ W-PSNP-TQ ☐ W-CT-CL-R	☒ Ice			
	☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)	☐ Ice			

Relinquished By:

Date/Time

Shipping Method

Number of Coolers Shipped:

Received By:

Date/Time:

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Email Submittal form to : lab.receiving@floridadep.gov.

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

SAMPLE ID 00692 ORG ID 21FLPNS LATITUDE 30.97541
 COUNTY Santa Rosa STORET # 64NW0066 LONGITUDE 87.18221
 DATE 02/12/2020 TIME 9:30 CTZ SAMPLING AGENCY FL DEP - NW RUC
 SITE NAME Bay Mill Creek
 FIELD ID/NAME 64NW0066 RECEIVING BODY OF WATER Escambia River

RIPARIAN ZONE / STREAM FEATURES WBDIII R2-2020-02-14-41

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>N/A</u>
Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy				Typical Width (m) <u>14m</u> Depth (m)/Velocity (m/sec) <u>6</u> 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>1-2</u>			
High Water Mark: <u>1.4</u> + <u>.5</u> = <u>1.9</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				WATER QUALITY							
				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Woody Debris (Snags)	<u>2.0</u>	<u>7</u>		Top:	<u>0.1</u>	<u>19.6</u>	<u>5.35</u>	<u>8.72</u>	<u>94.5</u>	<u>89.2</u>	<u>0.04</u>
Undercut Banks / Roots	<u>2.6</u>	<u>7</u>		Mid:							☒ VOB
Leaf Packs or Mat	<u>0.2</u>	<u>3</u>		Bottom:							
Aquatic Vegetation	<u>—</u>			Meter ID: <u>154179</u>							
Rock or Shell Rubble..				Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐				Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐			
Sand.....	<u>63.4</u>	<u>1</u>		Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No				Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐			
Mud / Muck / Silt				Lot Number: _____ Exp: _____				Clarity Clear ☒ Slightly Turbid ☐ Turbid ☒ Opaque ☐			
Other <u>Gravel</u>	<u>11.8</u>	<u>2</u>		Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No				Lot Number: _____ Exp: _____			
Other				System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐							

ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐	AMBIENT FIELD CONDITIONS / NOTES: <u>< 2m vegetation, LVS NOT Appropriate</u> <u>Water level up due to recent rain.</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.
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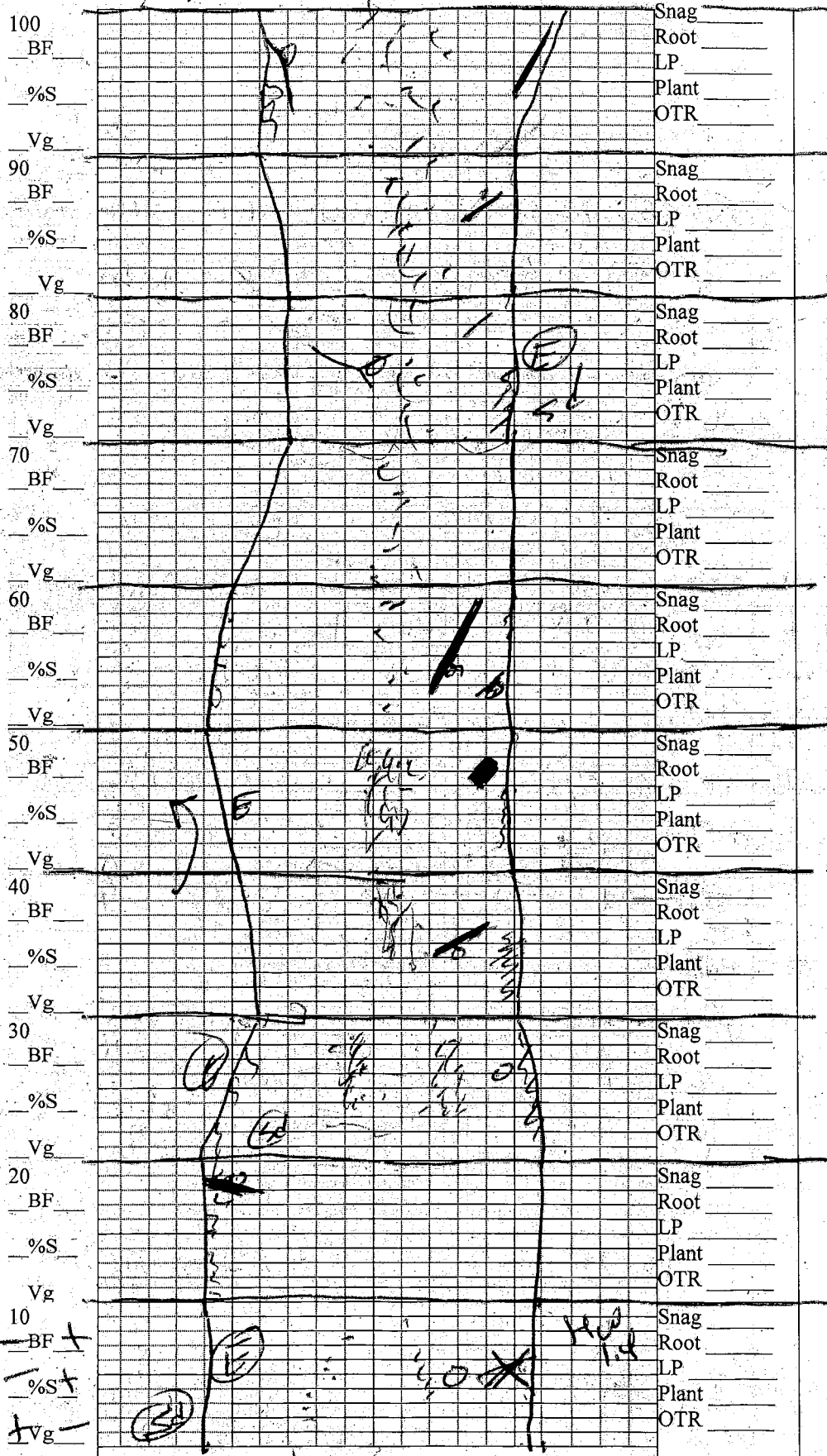
SAMPLING TEAM Mike King, Frank Butler, H. Schmutz SIGNATURE: [Signature] DATE: 02/12/2020

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).

Bray Mill Creek



Left Bank

Downstream

Substrates: Code key, draw proportionate habitat abundance.



Snags $\frac{10.2}{510} = 2\%$



Roots/undercut banks $\frac{13}{510} = 2.6\%$



Leaf Packs (or mats)



$\frac{1.1}{510} = 0.2\%$
Macrophytes



$\frac{68}{510} = 11.8\%$
Gravel



S = Sand
P = Pool

Velocity:

Note where velocity measures were taken. 10 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 $\frac{13}{510} = 5.1\%$

Average depth $\frac{0.2}{510} = 0.3\%$

WQ & chemistry taken @ 0 m

Hick's Ck. below E.R. 736

Storet. G4NW0466

Field ID. G4NW0066

Date: 02/12/2020

Sampled By. F.B. Baker, M. King

Plants observed/other notes:

10-20 meter [B]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.0	Bankfull	Bankfull
20m width 6	Root 1.0	—	—
	Leaf 0.25	Slope	Slope
Avg. Depth 0.2	Veg	—	+
Max Depth 0.3	Gravel 4.0	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other SC	Other	

30-40 meter [D]		Habitat Area (M)	Left Bank	Right Bank
		Snag 1.2	Bankfull	Bankfull
40m width	5	Root 1.0	—	—
		Leaf 0.1	Slope +	Slope —
Avg. Depth	2	Veg		
Max Depth	3	Gravel 1.0	Veg	Veg
Rip. Buff L	712	Rock	+	+
Rip. Buff R	718	Other 32.0	Other	

Bank Stability Score. Left Bank 4.3 Right Bank 4.3 Category Sub-Optimal
Add all plus signs (Max. 30 possible) and Divide by 10. Scoring. Poor
i.e. $24 / 10 = 2.4$ Sub-Optimal.

Notes.

Alternative scoring for Bank Stability
Add all plus signs (Max. 30 possible) and Divide by 3. This will give
Scoring. Poor: 0.0 - 3.7 pts, Marginal: 3.8-5.7 pts. Suboptimal: 5.8 - 8.0
i.e. $24/3 = 8.0$ Category Sub-Optimal

60-70 meter [G]	Habitat Area (M)	Left Bank	Right Bank
	Snag 4	Bankfull	Bankfull
70m width 4	Root 4	—	—
	Leaf 0	Slope	Slope
Avg. Depth 0.3	Veg	—	+
Max Depth 0.4	Gravel 3	Veg +	Veg +
Rip. Buff L 710	Rock		
Rip. Buff R 715	Other (F)(S)	Other	

80-90 meter [I]	Habitat Area (M)	Left Bank	Right Bank
	Snag 0.5	Bankfull	Bankfull
90m width 4.0	Root 2.0		
	Leaf 2	Slope 7	Slope
Avg. Depth 0.4	Veg		
Max Depth 0.5	Gravel 6.0	Veg 7	Veg 7
Rip. Buff L 718	Rock		
Rip. Buff R 718	Other (SD)	Other	

Left Bk Poor Right Bk Poor
 0 - 0.9 pts. **Marginal:** 1.0-1.9 pts, **Suboptimal:** 2.0 - 2.6 **Optimal:** 2.7 +
 An exact score for the Habitat Assessment Sheet.
 Optimal: 8.7 +

Stream Velocity and location.
0.5 m/s 10 meter mark

Number of Pools & Location

High Water:

Silt smothering @

Sand Smothering @

Algae Smothering @

Degraded Banks @

Fe/Sulfur Bact. @

Avg. Depth	Max. Depth	Avg. Width
0.3	0.5	5.1

Bank Stability Score. Left Bank 4.3 Right Bank 4.3 Category Left Bk Poor Right Bk Poor
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 - 2.6 **Optimal:** 2.7 +
i.e. $24 / 10 = 2.4$ Sub-Optimal.

Notes.

Alternative scoring for Bank Stability
Add all plus signs (Max. 30 possible) and Divide by 3. This will give an exact score for the Habitat Assessment Sheet.
Scoring: Poor: 0.0 - 3.7 pts, Marginal: 3.8-5.7 pts, Suboptimal: 5.8 - 8.6 Optimal: 8.7 +

i.e. $24/3 = 8.0$ Category Sub-Optimal

~~2.4~~
~~2.4~~

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

SAMPLING AGENCY: 21FLPNS		STORET STATION NUMBER: G4NW0066	DATE (MM/DD/YY): 2/12/20	RECEIVING BODY OF WATER: Escambia R
REMARKS: WBID 36	COUNTY: Santa Rosa	FIELD ID/NAME: Bray Mill Creek		G4NW0066

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 6	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 5	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 24	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec 20 19 18 17 16	Max. observed at typical transect: > 0.1 to 0.25 m/sec 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 10 9 8 7 6	Max. observed at typical transect: < 0.05 m/sec; or spate occurring: > 1 m/sec 5 4 3 2 1
Habitat Smothering 5 ----- Primary Score 36	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	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 15	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank 4 Left Bank 4	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 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 10 Left Bank 10	Width of vegetation greater than 18 m 10 9	Width of vegetation > 12 to 18 m 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 9 Left Bank 9 ----- Secondary Score 61	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

97

TOTAL SCORE

Date: 02/12/2020	Analyst: F. Butera, M. King, H. Schank	Signature: Frank Butera
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SBIO ID: 80692

HA ID: 16519

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Bray Mill County: Santa Rosa Date: 2/12/20 Investigators: MIKE KINS

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		60	1	N	N		
	2					2				
	3					3				
	4					4				
	5					5				88
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5					5				56
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5					5				64
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5					5				44
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5					5				68
	6					6				
	7					7				
	8					8				
	9					9				
50	1	3			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 densimeter 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	N								
	3									
	4									
	5									
	6									
	7									
	8									
	9									

STORET Station Number: 54NW0066

Secchi depth
Estimated? ☒

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	☒
SOT/Biorecon	☒
Water sample	☒

RG 2019 02 11 20 ES

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:

RPS ID: 9539
SBIO ID: 80692

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

Waterbody: <u>Brag Mill cke</u>	Date: <u>2/12/20</u>	County: <u>Sauz Rus A</u>	Storet Number: <u>64NW0066</u>
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Analyst: F. B. Wern 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 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.

[illegible]

Field ID QYH0066

RPS ID 9539

SBIO ID 80692

VPDB ID N/A

LIMS ID ~~62-160-800, F.A.O.~~