

Site Name Bray Mill Creek North of Oil Plant Road

Date: 02/11/2019

Field ID G4NW0066 Storet G4NW0066

Project: SMP. TMDL Studies

Visit ID 79216

RQ: 2019-02-11-25

RPS ID 9232

LIMS ID: ~~2061850~~ 2061870

VPDB ID N/A

WBID: 36

HA ID 15646

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO Initial FB 2/11/2019

☐ Date and Initial QA: _____

☒ RPS entered in SBIO Initial FB 2/11/2019

☐ 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: _____

☐ 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: Bray Mill Creek North of Oil Plant Road

Date: 02/11/2019
(mm/dd/yyyy)

WIN/ Field ID: G4NW0066

WBID: 36

Latitude: 30.97541

County: Escambia Santa Rosa FL

ORG ID: 21FLPNS

Longitude: 87.18221
(Decimal Degrees)

Receiving Body of Water: Escambia River

RQ-2019- 02-11-25
(Decimal Degrees)

Sampling Team Members						WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment					
Frank Butler Mike King						☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole			
											☐ Carboy	☒ Syringe				
											☐ Dipper	☐ Other				
Depth Measured with <u>PRO-DSS YSK</u>						Equipment ID <u>154179</u>					Collection Method					
						☒	☐	☐	☐	☐	☒ Wading	☐ Canoe/Kayak				
											☐ From Shore	☐ Electric Motor				
											☐ Other	☐ Gasoline Motor				
Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded						Meter ID# <u>154179</u>					Matrix: <u>Fresh</u> / Marine / DI					
Photos: Yes / No						Flow: No Flow / Intestinal / <u>Flowing</u> NA					Tide: Rising/ Falling/ Slack <u>NA</u>			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 (µmhos/cm)	Temp. (C°)						
EST	11:45	0.15	0.1	0.5	8.90	96.0	5.46	0.03	75.3	19.0						
CEN				15"												
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> Algae ID: LVS LVI Other: <u>2061890</u>																
SBIO ID Numbers: SBIO-ID: <u>79216</u> HA-ID: <u>15646</u> RPS-ID: <u>9232</u> Macrophyte-ID: <u>N/A</u> 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>SA8101030</u>	<u>4/11/19</u>	☒ <2					
Metals		☒ W-ICPMS ☒ W-ICP					☒ Ice ☒ HNO3		<u>W1-8099110</u>	<u>4/09/19</u>	☒ <2					
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice									
Chlorophyll		☒ CHLSUITE-W					☒ Ice									
Physical/Aggregate (Fresh)		☒ Alkalinity / ☒ W-F / ☒ W-TSS / ☒ TURBIDITY / ☒ W-CI-IC / ☒ 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 Coli ☐ F Coli ☐ Enterococci					☐ Ice									
Molecular		☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ 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:

No E. coli collected.
No LVS conducted.

Field/WIN ID



G4NW0066

Location:

Bray Mill Creek North of Oil Plant Road

Signature:

Frank Butler

Date: 02/11/2019

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:

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

SAMPLE ID 79216 ORG ID 21FLPNS LATITUDE 30.97541
 COUNTY Santa Rosa STORET # 64NW0066 LONGITUDE 87.18221
 DATE 02/11/2019 TIME 11:45 CTZ SAMPLING AGENCY FL DEP-NWROC
 SITE NAME BRAY Mill ck. N. of Oil Plant Rd
 FIELD ID/NAME 64NW0066 RECEIVING BODY OF WATER Escambia River

RIPARIAN ZONE / STREAM FEATURES

LIMS ID 2061890

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) Depth (m)/Velocity (m/sec) Transect <u>20 m</u> <u>5</u> m wide <u>0.5</u> m/s <u>0.5</u> m/s <u>.33</u> m/s <u>0.3</u> m deep <u>0.25</u> m deep <u>0.1</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>3.4</u> + <u>0.5</u> = <u>3.5</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 % <u>99%</u> ☐ 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 <table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT # Times Sampled</th> <th>PERI # Times Sampled</th> </tr> </thead> <tbody> <tr> <td>Woody Debris (Snags)</td> <td><u>6.8</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Undercut Banks / Roots</td> <td><u>1.8</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Leaf Packs or Mat</td> <td><u>0.5</u></td> <td><u>5</u></td> <td></td> </tr> <tr> <td>Aquatic Vegetation</td> <td><u>0.1</u></td> <td><u>2</u></td> <td></td> </tr> <tr> <td>Rock or Shell Rubble..</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sand.....</td> <td><u>57.5</u></td> <td><u>1</u></td> <td></td> </tr> <tr> <td>Mud / Muck / Silt</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other <u>Gravel</u></td> <td><u>33.3</u></td> <td><u>2</u></td> <td></td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				% Coverage	INVERT # Times Sampled	PERI # Times Sampled	Woody Debris (Snags)	<u>6.8</u>	<u>5</u>		Undercut Banks / Roots	<u>1.8</u>	<u>5</u>		Leaf Packs or Mat	<u>0.5</u>	<u>5</u>		Aquatic Vegetation	<u>0.1</u>	<u>2</u>		Rock or Shell Rubble..				Sand.....	<u>57.5</u>	<u>1</u>		Mud / Muck / Silt				Other <u>Gravel</u>	<u>33.3</u>	<u>2</u>		Other				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>0.1</u></td> <td><u>19.0</u></td> <td><u>5.46</u></td> <td><u>8.90</u></td> <td><u>96.4</u></td> <td><u>75.3</u></td> <td><u>0.03</u></td> <td><u>0.5</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>0.5</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Meter ID: <u>154179</u> TOTAL DEPTH <u>0.15</u>				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	<u>0.1</u>	<u>19.0</u>	<u>5.46</u>	<u>8.90</u>	<u>96.4</u>	<u>75.3</u>	<u>0.03</u>	<u>0.5</u>	Mid:								☒ VOB	Bottom	<u>0.5</u>							
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System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																														

SAMPLING TEAM

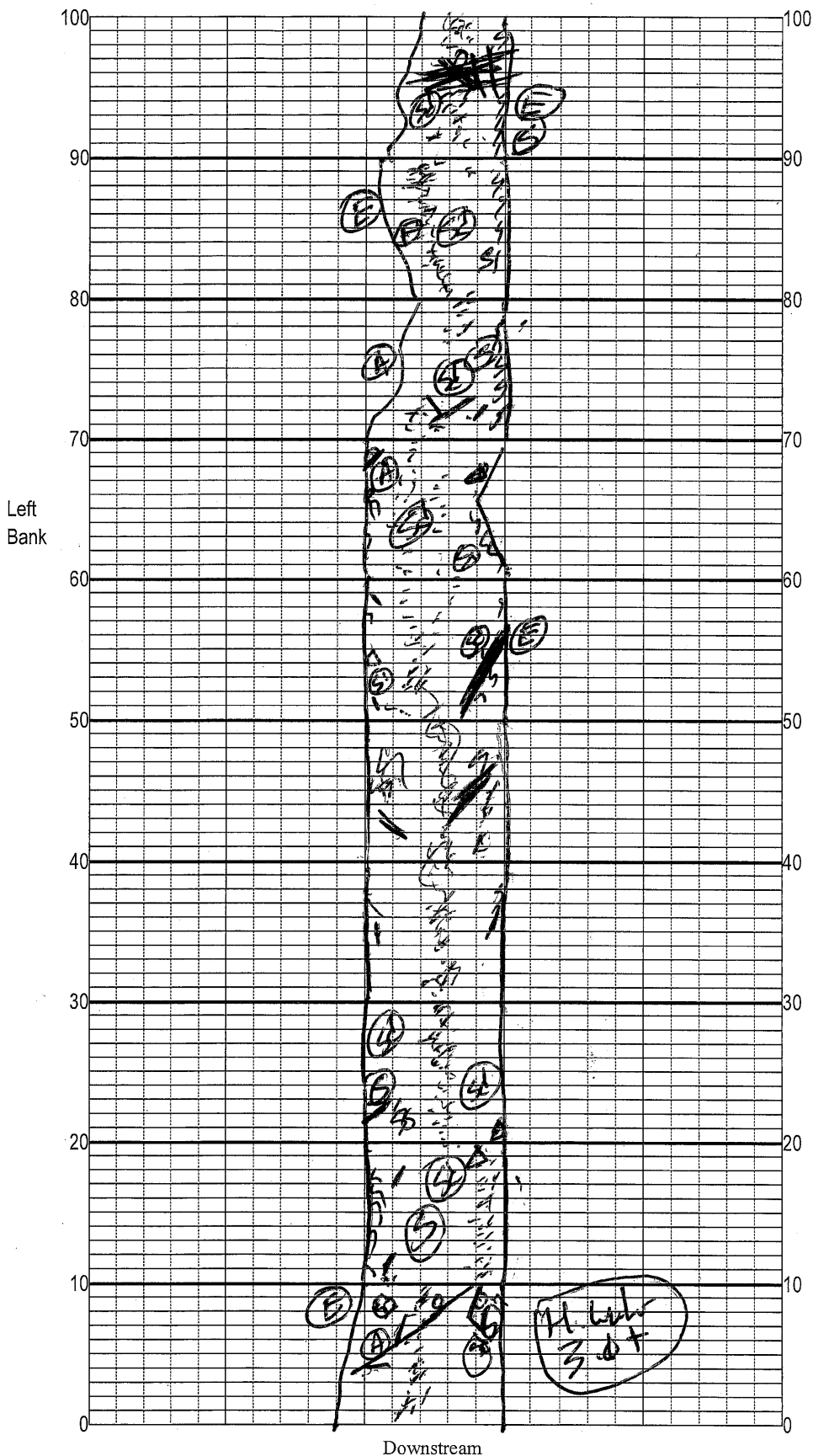
Frank Butera, Mike King

SIGNATURE:

[Signature] 02/11/2019

DATE:

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



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

Location: Bear Mill Rd
N. Oil Plant Rd
 Date: 12/11/2019
 Sampler: F. Butler, M. King

100 m: Latitude _____	
Longitude _____	
0 m: Latitude _____	
Longitude _____	
Substrates: Code key, draw proportionate habitat abundance. %	
	Snags 6.8
	Roots/undercut banks 1.8
	Leaf Packs (or mats) 0.5
	Aquatic Macrophytes 0.1
	Gravel 33.2
	Sand 57.5
	Pools total # observed = 0 # range expected = 1-2
Average width <u>4.8</u> m	
Average depth <u>0.3</u> m	
Velocity measured at <u>20</u> meter mark.	
WQ & chemistry taken at <u>0</u> meter mark.	
Habitat Smothering: Note areas (on map) where sand or silt is smothering 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.	

Plants observed / other notes:

SB10 ID 79216

0-10 meter [A]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
0m width (m) 6.0	Root 0.1	+	-
10m width 5.0	Leaf 0.2	Slope	Slope
Max Depth 0.4	Veg	+	-
Avg. Depth 0.3	Gravel 15	Veg	Veg
Rip. Buff L 718	Rock	-	+
Rip. Buff R 20	Other (A) (S) (S) (E)		

10-20 meter [B]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.0	Bankfull	Bankfull
20m width 5.4	Root 1.0	-	+
	Leaf	Slope	Slope
Max Depth 0.3	Veg 0.1	-	+
Avg. Depth 0.3	Gravel 15	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S)		

20-30 meter [C]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.0	Bankfull	Bankfull
30m width 5.0	Root 0.5	-	-
	Leaf 0.2	Slope	Slope
Max Depth 3	Veg 0.1	-	+
Avg. Depth 1.2	Gravel 15	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S) (A)		

30-40 meter [D]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.5	Bankfull	Bankfull
40m width 6.0	Root 0.8	-	-
	Leaf	Slope	Slope
Max Depth 1.3	Veg	+	-
Avg. Depth 1.2	Gravel 15	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S)		

40 - 50 meter [E]	Habitat Area (M)	Left Bank	Right Bank
	Snag 4.0	Bankfull	Bankfull
50m width 6.0	Root 0.5	-	-
	Leaf 0.6	Slope	Slope
Max Depth 1.3	Veg	+	-
Avg. Depth 1.2	Gravel 20	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S) (A) (F)		

50-60 meter [F]	Habitat Area (M)	Left Bank	Right Bank
	Snag 7.5	Bankfull	Bankfull
60m width 5m	Root 2.0	-	-
	Leaf 0.3	Slope	Slope
Max Depth 1.3	Veg 0.1	+	+
Avg. Depth 1.2	Gravel 15	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S) (A) (E)		

60-70 meter [G]	Habitat Area (M)	Left Bank	Right Bank
	Snag 0.2	Bankfull	Bankfull
70m width 5.0	Root 2.0	-	+
	Leaf 0.1	Slope	Slope
Max Depth 0.5	Veg 0.1	-	+
Avg. Depth 0.3	Gravel 10	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S)		

70-80 meter [H]	Habitat Area (M)	Left Bank	Right Bank
	Snag 1.5	Bankfull	Bankfull
80m width 3.0	Root 1.3	-	-
	Leaf 1.3	Slope	Slope
Max Depth 1.3	Veg	+	+
Avg. Depth 0.2	Gravel 20	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S) (A) (E)		

80-90 meter [I]	Habitat Area (M)	Left Bank	Right Bank
	Snag 2.5	Bankfull	Bankfull
90m width 4.5	Root 0.3	+	-
	Leaf 0.1	Slope	Slope
Max Depth 0.4	Veg	+	-
Avg. Depth 0.3	Gravel 15	Veg	Veg
Rip. Buff L 718	Rock	+	+
Rip. Buff R 718	Other (S) (S) (A) (S) (S)		

90 - 100 meter [J]	Habitat Area (M)	Left Bank	Right Bank
	Snag 10.0	Bankfull	Bankfull
100m width 3.0	Root 1.0	+	-
	Leaf 0.5	Slope	Slope
Max Depth 0.5	Veg	+	+
Avg. Depth 0.3	Gravel 20	Veg	Veg
Rip. Buff L 718	Rock	+	-
Rip. Buff R 718	Other (S) (S) (S) (A)		

Station Name: Bray Mill Ck.

N. of Oil Plant Rd.

Storet: G4NW0066

Date 2/11/2019

GPS Coordinates

0 meter 30.97537
87.18194

100 meter

30.97527
87.18087
Water Quality Measured at 0m

Stream Velocity and location.

0.5 m/s 24 meter mark

Number of Pools & Location

0
Silt smothering @
A, B, F, H, J.

Sand Smothering @

A-J

Algae Smothering @

A, E, F, H, I, J

Degraded Banks @

A, C, E, F, H, J

Total Habitat	Sq. Meters	Percent
Snags	32.7	6.8
Roots	8.5	1.8
Leaf	2.3	0.5
Veg	0.6	0.1
Rock		
Gravel	160	33.3
Sand	278.9	57.5
Other		
Other		
Sum, 1° Habitat		9.2

Notes:

HW 3rd Fontinalis counted as
Veg. @ B, C, G
SAB 10 20 79216

Fe Sulfur Bacteria
(E) @ E, I
Avg. Width = 4.8

Avg Depth 0.3
MAX Depth 0.5

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

SAMPLING AGENCY: <u>21FLPNS</u>		STORET STATION NUMBER: <u>G4NW0066</u>	DATE (MM/DD/YY): <u>02/11/2019</u>	RECEIVING BODY OF WATER: <u>Escambia R.</u>
REMARKS:	COUNTY: <u>Santa Rosa</u>	LOCATION: <u>Bray Mill ck. oil plant</u>	FIELD ID/NAME: <u>G4NW0066</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>11</u>	20 19 18 17 16	15 14 13 12 <u>11</u>	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>8</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 <u>8</u> 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>24</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>5</u> ----- Primary Score <u>44</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. <u>5</u> 4 3 2 1
Secondary Habitat Components	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging or straightening in the past (>25 yrs) but mostly recovered. <u>15</u> 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>6</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody 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 woody 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>67</u> <u>1065</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 <u>9</u>	>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

111 TOTAL SCORE

Date: <u>02/11/2019</u>	Analyst: <u>F. Butler</u>	Signature: <u>[Signature]</u>
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SB10 ID 79216 HA ID: 15646

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>BRAV Mill Creek Pilot Rd</u>					County: <u>S. ROSA</u>		Date: <u>2/14/2019</u>		Investigators: <u>Forrest M. King</u>		
Transect (m)					Transect (m)					STORET Station Number: <u>24NW0066</u>	

Point	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Point	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
1	N	NO		1	N	NO	
2	N	NO		2	N	NO	
3	N	NO		3	N	NO	
4	N	NO	96	4	N	NO	96
5	N	NO		5	N	NO	
6	N	NO		6	N	NO	
7	N	NO		7	N	NO	
8	N	NO		8	N	NO	
9	N	NO		9	N	NO	
1	N	NO		1	N	NO	
2	N	NO		2	N	NO	
3	N	NO		3	N	NO	
4	N	NO	96	4	N	NO	96
5	N	NO		5	N	NO	
6	N	NO		6	N	NO	
7	N	NO		7	N	NO	
8	N	NO		8	N	NO	
9	N	NO		9	N	NO	
1	N	NO		1	N	NO	
2	N	NO		2	N	NO	
3	N	NO		3	N	NO	
4	N	NO	96	4	N	NO	96
5	N	NO		5	N	NO	
6	N	NO		6	N	NO	
7	N	NO		7	N	NO	
8	N	NO		8	N	NO	
9	N	NO		9	N	NO	
1	N	NO		1	N	NO	
2	N	NO		2	N	NO	
3	N	NO		3	N	NO	
4	N	NO	96	4	N	NO	96
5	N	NO		5	N	NO	
6	N	NO		6	N	NO	
7	N	NO		7	N	NO	
8	N	NO		8	N	NO	
9	N	NO		9	N	NO	
1	N	NO		1	N	NO	
2	N	NO		2	N	NO	
3	N	NO		3	N	NO	
4	N	NO	96	4	N	NO	96
5	N	NO		5	N	NO	
6	N	NO		6	N	NO	
7	N	NO		7	N	NO	
8	N	NO		8	N	NO	
9	N	NO		9	N	NO	

Secchi depth	<u>0.25</u>
Estimated?	<u>NO</u>

# points ranked 4-6	<u>1</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>1%</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	☒
RQ-2019-02-11-25	

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 ID 79216
RPS ID 9232

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

GYNW0066

Waterbody: Bray Mill Creek oil plot Date: 2/11/19 County: Santa Rosa Storet Number: GYNW0066
 Analyst: F. Buten Signature: [Signature]
 Comments: No WT. Less than 2m² Veg.

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² 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																							
Ludwigia repens																							
Luziola fluitans																							
Fontinalis																							
If no Dominant or Co-Dominant were selected, indicate with "X"	X	X	X	X	X	X	X	X	X	X													
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage	X	X	X	X	X	X	X	X	X	X													
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

ELMS ID 2061890