



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End
of Day CCV
☒ Yes / ☐ No

WIN Station Name: Wakulla River at Boat Tram

Date: 1/23/2020
(mm/dd/yyyy)

WIN/ Field ID: 44059

WBID: 1006

Latitude: 30.23458

(Decimal Degrees)

County: Wakulla

ORG ID: 21FLWQA

Longitude: -84.29447

(Decimal Degrees)

Receiving Body of Water: St. Marks River

RQ-2020- 01-20-09

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Blake Spencer	☒	☒	☒	☒	☒
Avril Wood-McGrath	☒	☒	☒	☒	☒
Evelyn Becerra	☒	☒	☒	☒	☒

Sampling Equipment	
☒ Sample Container	☐ Van Dorn
☒ Syringe	☐ Pole
☐ Dipper	☐ Other
Depth Measured with <u>Sonar #1</u>	
Equipment ID	
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>Biology #2</u>	
Photos: Yes / <u>No</u>	Flow: No Flow / <u>Flowing</u> / NA	Tide: Rising/ Falling/ Slack/ NA	Tide Times: High _____ Low _____
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> <u>Algae ID</u> <u>LVS</u> LVI Other:			
SBIO ID Numbers:	SBIO-ID: <u>80658</u>	HA-ID: <u>16517</u>	RPS-ID: <u>9534</u>
Macrophyte-ID: <u>11569</u>		LIMS#: <u>2151434</u>	
Notes:			

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: _____

LIMS EVENT ID: WAS-SECT-2020-01-23-01

WIN Import ID: _____

Enter Field Parameters, Verify Station ID In LIMS DMT: SPR 1/27/20
(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: AMN 2/17/2020
(Initials/Date)

Scan/Save Field Sheets _____
(Initials/Date)

Migrate Data to WIN: _____
(Initials/Date)

Verify Data In WIN: _____
(Initials/Date)



RQ-2020- 01-20-09

Customer: WAS-SECT

Project ID: BMAP

Collected By: Blake Spencer, Anil Wood-McGrath

Field Report Prepared By: Anil Wood-McGrath

Sampling Agency: FDEP

WIN ID / Field ID: 44059 Location: Wakulla River at boat tram						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)
1/23/20	12:30	3.37	37.8	20.68	7.49	0.3		1.0	620	0.30
Cental Lab please use top row for login purposes										
EST / CST										
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	1	A
		Lot #		SA9129100		Exp:		5/9/2020		
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A
		Lot #		NA9189000		Exp:		7/8/20		
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A
		Filter Lot #		16803885						
		Syringe Lot #		309653						
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY / ☐ W-CHC / ☐ W-COLOR / ☐ W-S04-IC / ☐ W-TDS				☒ Ice			1	A
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / ☐ W-BR-IC / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY				☐ Ice				
Macroinvertebrates (PJ-2L)		☒ MI-FW-QLDC				☒ Formalin			2	B
Periphyton (PT-50ML)		☒ ALGAE-ID				☒ Ice			1	B
Microbiology (Contract Lab Bottle)		☒ E Coli ☐ F Coli ☐ Enterococci				☒ Ice			2	A
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD ☐ See Notes				☐ Ice				
Tracers (BG-500ML)		☒ W-E8321-DI ☒ W-E8321-M5				☒ Ice			1	A
Pesticides (BG-500ML) (BG-1L)		☐ W-E8321-DI ☐ WE8321-M5 ☒ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)				☒ Ice			4	A
Name: Anil Wood-McGrath						Signature:			Date: 1/23/2020	

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Entered by: *888 2/10/20*
QC by: AUM 2/17/20
In SBto cm 2-17-20

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

SBIO: 90659 HA: 16517

SAMPLING AGENCY: FDEP		STORET STATION NUMBER: 44059	DATE (MM/DD/YY): 1/23/2020	RECEIVING BODY OF WATER: St. Marks River
REMARKS: BMAP	COUNTY: Wakulla	LOCATION: Wakulla River @ Boat Tram	FIELD ID/NAME: 44059	

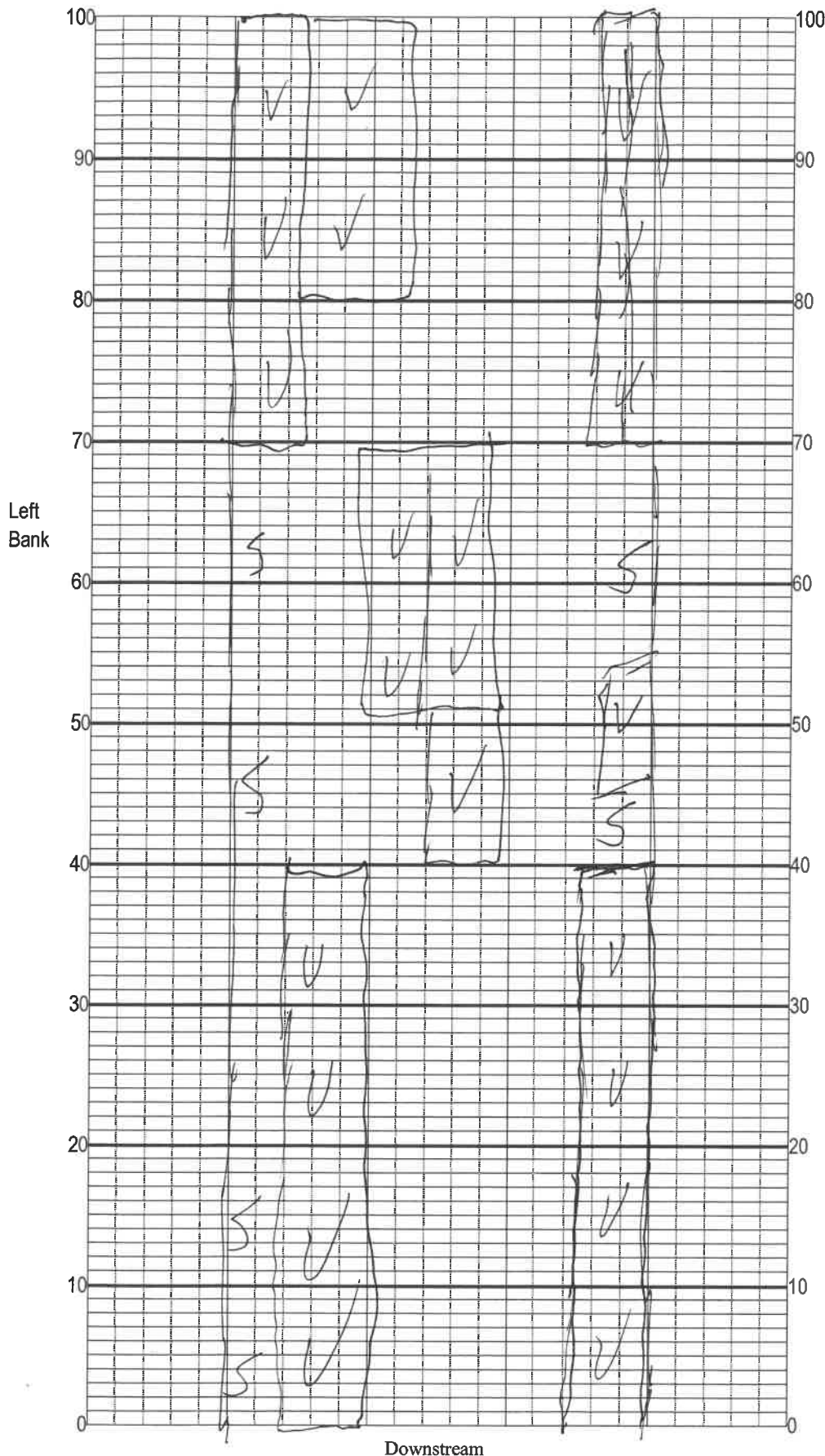
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>10</u> ✓	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>20</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>11</u> ✓ ----- Primary Score <u>61</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	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 or straightening 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>20</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 woody 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 woody 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>10</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>80</u> ✓	10 9	8 7 6	5 4	3 2 1

141 ✓

TOTAL SCORE

Date: <u>1/23/20</u>	Analyst: <u>Blake Spencer</u>	Signature: <u>[Signature]</u>
----------------------	-------------------------------	-------------------------------

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



Location: Wakulla River @ Boat Tran

Date: 1/23/2020

Sampler: _____

100 m: Latitude 30.234248
Longitude -84.294304

0 m: Latitude 30.23458
Longitude -84.29447

Substrates: Code key, draw proportionate habitat abundance. %

S Snags 1%

R Roots/undercut banks _____

L Leaf Packs (or mats) _____

M Aquatic Macrophytes >30%

P Pools total # observed = _____
range expected = _____

Average width 85 m

Average depth 1.5 m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ 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:

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

Entered by: ~~AMM~~ 1/28/20

QC by AMM 2/17/20

Authorize CA 2-17-20

SRIO: 80658 RPS: 9534

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Wakulla River at Boat Tram</u>					County: <u>Wakulla</u>		Date: <u>1/23/2020</u>		Investigators: <u>Blake Spencer, Ami Wood-McGath</u>	
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	X			60	1	X			
	2					2				
	3					3				
	4					4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
10	1	X			70	1	X			
	2					2				
	3					3				
	4					4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
20	1	X			80	1	X			
	2					2				
	3					3				
	4					4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
30	1	X			90	1	X			
	2					2				
	3					3				
	4					4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
40	1	X			100	1	X			
	2					2				
	3					3				
	4					4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
50	1	X				1	X			
	2					2				
	3					3				
	4					4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				

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:

44059

Secchi depth

Estimated?

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-2020-01-20-09

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

62-160.800, F.A.C.

WIN ID /
Field ID →

44059

Location



Wakulla River at boat tram

Revision Date: January 2017

QC by: ARM 2/17/20
Authorized CA 2-17-20

Authorized CM 2-17-20

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.

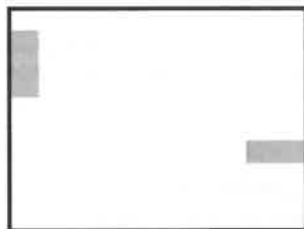
44059

Location

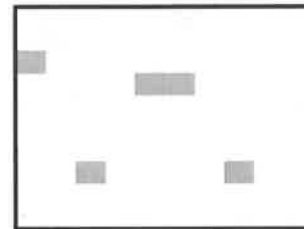
Revision Date: January 2017

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

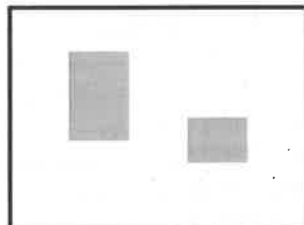
5% Macrophyte Coverage



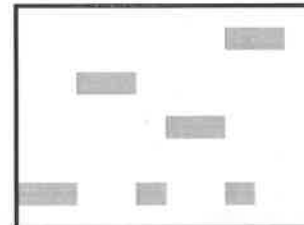
5% Macrophyte Coverage



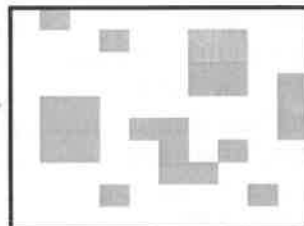
10% Macrophyte Coverage



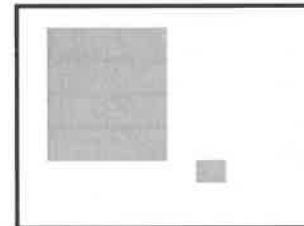
10% Macrophyte Coverage



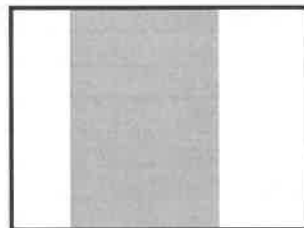
25% Macrophyte Coverage



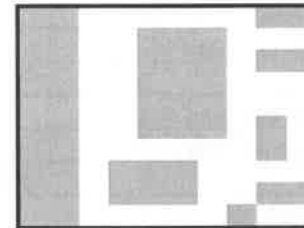
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



SAMPLE ID 80658 ORG ID WAKWA LATITUDE 30.23458
 COUNTY Wakulla STORET # 44059 LONGITUDE -84.29447
 DATE 1/23/2020 TIME _____ SAMPLING AGENCY FDEP
 SITE NAME Wakulla River at Boat Tram
 FIELD ID/NAME 44059 RECEIVING BODY OF WATER St. Marks River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>78</u> Silviculture <u>—</u> Field/Pasture <u>2</u> Agricultural <u>0.9</u> Residential <u>17</u> Commercial <u>0.7</u> Industry <u>0.9</u> Other (Specify) <u>water</u>							Landscape Development Intensity Index (LDI) <u>1.17</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>85</u> m wide _____ m/s <u>0.5</u> m/s _____ m/s _____ m deep <u>1.0</u> m deep _____ 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>3-4</u>			
High Water Mark: <u>0.6</u> + <u>1.0</u> = <u>1.6</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 ☒																																																																														
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>10%</u></td> <td></td> <td></td> </tr> <tr> <td>Undercut Banks / Roots</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Leaf Packs or Mat</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aquatic Vegetation</td> <td><u>730%</u></td> <td><u>10</u></td> <td></td> </tr> <tr> <td>Rock or Shell Rubble..</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sand.....</td> <td></td> <td><u>10</u></td> <td></td> </tr> <tr> <td>Mud / Muck / Silt</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other</td> <td></td> <td></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>10%</u>			Undercut Banks / Roots				Leaf Packs or Mat				Aquatic Vegetation	<u>730%</u>	<u>10</u>		Rock or Shell Rubble..				Sand.....		<u>10</u>		Mud / Muck / Silt				Other				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>0.3</u></td> <td><u>20.68</u></td> <td><u>7.49</u></td> <td><u>3.37</u></td> <td><u>37.88</u></td> <td><u>620</u></td> <td><u>0.30</u></td> <td><u>1.0m</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></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>1.0m</u></td> </tr> </tbody> </table> Meter ID: <u>Biology #2</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>20.68</u>	<u>7.49</u>	<u>3.37</u>	<u>37.88</u>	<u>620</u>	<u>0.30</u>	<u>1.0m</u>	Mid:								☒ VOB	Bottom								<u>1.0m</u>
	% Coverage	INVERT # Times Sampled	PERI # Times Sampled																																																																																	
Woody Debris (Snags)	<u>10%</u>																																																																																			
Undercut Banks / Roots																																																																																				
Leaf Packs or Mat																																																																																				
Aquatic Vegetation	<u>730%</u>	<u>10</u>																																																																																		
Rock or Shell Rubble..																																																																																				
Sand.....		<u>10</u>																																																																																		
Mud / Muck / Silt																																																																																				
Other																																																																																				
Other																																																																																				
	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>20.68</u>	<u>7.49</u>	<u>3.37</u>	<u>37.88</u>	<u>620</u>	<u>0.30</u>	<u>1.0m</u>																																																																												
Mid:								☒ VOB																																																																												
Bottom								<u>1.0m</u>																																																																												
Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐																																																																																	
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: <u>See Field St</u> Exp: _____			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐																																																																																	
Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>Ice</u> Exp: _____			Clarity Clear ☐ Slightly Turbid ☐ Turbid ☐ Opaque ☐																																																																																	
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:	☒	☐	☐	☐	System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>Spring Run</u>																																																								
	Not Obs.	Rare	Common	Abundant																																																																																
Periphyton:	☐	☐	☐	☒																																																																																
Fish:	☐	☐	☐	☒																																																																																
Aquatic Plants:	☐	☐	☐	☒																																																																																
Iron/Sulfur Bacteria:	☒	☐	☐	☐																																																																																
AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																																				
SAMPLING TEAM <u>Blake Spencer + Avril Wood-McGrath</u>			SIGNATURE: <u>[Signature]</u>			DATE: <u>1/23/20</u>																																																																														

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: Biology #2

RQ- 2020-01-20-09

Project: Waikuli BMAP

- 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 _____

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.	Blake Spencer	1/23/20	0755	18.69	760	9.383	9.36	100.3	54.3	—	P/F	L/F
ICV	Blake Spencer	1/23/20	0756	18.74	760	9.337	9.35	100.3	54.3	—	P/F	L/F
CCV	Blake Spencer	1/23/20	1436	17.56	760	9.545	9.83	103.1	55.3	—	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.	Ami Wood-McGath	1/23/20	8:00	190618B	6/2020	1000	1000	P/F	L/F
ICV			8:05	2908(B)	8/2021	100	101	P/F	L/F
CCV	Blake Spencer	1/23/20	1435	190618F	6/2020	1000	1008	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.	Ami Wood-McGath	1/23/20	8:11	190618B	12/2020	7.02	18.58	7.02	—	P/F	L/F
Calibr.			8:16	191120A	06/2021	4.01	18.50	3.94	127.0	P/F	L/F
Calibr.			8:24	190618C	12/2020	10.01	18.62	10.00	-213.2	P/F	L/F
ICV			8:30	11920A	06/2021	4.01	18.73	3.95	127.2	P/F	L/F
CCV	Blake Spencer	1/23/20	1441	190618C	12/2020	10.06	19.00	9.95	-210.7	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 _____, slope from 4 to 7 _____ (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: _____

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						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:

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Customer: WAS-SECT

Project ID: BMAP

Requester: Curtis Musson

Field Report Prepared By:

Ami Wood-McGrath

Collected By:

Ami Wood-McGrath, Blake Spencer

Sampling Agency:

FDEP

Location		WIN ID / Field ID →  44059		☐ Comp	Collection (comp begin or grab)		Eastern	Composite end		Bottle Group(s) (See pg 2) A
Field ID				☒ Grab	Date	Time	Central	Date	Time	
WIN/STORET #		Location  Wakulla River at boat tram		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine		
				Fresh		37.8		(mg/L)		
Latitude		☐ dd ☐ dms	Longitude		☐ dd ☐ dms	Temp (C)	pH	Sample Depth	☐ ft ☒ m	Sp. Conductance (umho/cm)
				Salinity (ppt)		Comments				
Location		WIN ID / Field ID →  44059		☐ Comp	Collection (comp begin or grab)		Eastern	Composite end		Bottle Group(s) B
Field ID				☒ Grab	Date	Time	Central	Date	Time	
WIN/STORET #		Location  Wakulla River at boat tram		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine		
				biological				(mg/L)		
Latitude		☐ dd ☐ dms	Longitude		☐ dd ☐ dms	Temp (C)	pH	Sample Depth	☐ ft ☒ m	Sp. Conductance (umho/cm)
				Salinity (ppt)		Comments				
Location				☐ Comp	Collection (comp begin or grab)		Eastern	Composite end		Bottle Group(s)
Field ID				☐ Grab	Date	Time	Central	Date	Time	
WIN/STORET #				Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine		
								(mg/L)		
Latitude		☐ dd ☐ dms	Longitude		☐ dd ☐ dms	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)
				Salinity (ppt)		Comments				
Location				☐ Comp	Collection (comp begin or grab)		Eastern	Composite end		Bottle Group(s)
Field ID				☐ Grab	Date	Time	Central	Date	Time	
WIN/STORET #				Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine		
								(mg/L)		
Latitude		☐ dd ☐ dms	Longitude		☐ dd ☐ dms	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)
				Salinity (ppt)		Comments				

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Ami Wood-McGrath	1/23/2020 14:26	Hand Delivered	1		1-23-20/14:26

Group: A	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ALKALINITY						
	TURBIDITY						
	W-CL-IC						
	W-COLOR						
	W-F						
	W-SO4-IC						
	W-TDS						
	W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	CHLSUITE-W						
Group: A	Bottle Type:	P-120ML-WC-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	ECOLI-18QT						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	W-E8321-DI						
	W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	1
	W-HARD						
	W-ICP						
	W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	1
	W-NH3						
	W-NO2NO3						
	W-S-A-TP						
	W-TKN						
	W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	1
	W-PO4-F						
Group: A	Bottle Type:	BG-1L	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab	4
	W-PSNP-TQ						
Group: B	Bottle Type:	PT-50ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ALGAL_ID						

Group: B

Bottle Type:
MI-FW-QLDC

PJ-2L

of Bottles: 2

Preservative: Formalin

Enter Number of Bottles Sent to Lab

2

Cooler Packing Worksheet for Request: RQ-2020-01-20-09

Wakulla BMAP

Ship Cooler On: 1/17/2020

Customer/Project: WAS-SECT/BMAP

Assigned To: MCCOY_I

Requester: Curtis Musson

Priority: 3

850-245-8453

2600 Blair Stone Rd

Tallahassee, FL 32399

Attn: Curtis Musson

Comments:

No preservatives needed.

Group A: Nutrients, Metals, Tracers, Q-PSNP-TQ

Group B: SCI, Algae_ID

Packing Notes:

No FedEx Labels

No Trash Bag

Requested Analyses:

Bottle Group: A

of Sites: 1

Container ID: P-1L

Qty: 1

Preservation: ICE

Lot # 00075290

Description: Plastic Bottle 1L

Analysis

ALKALINITY

TURBIDITY

W-CL-IC

W-COLOR

W-F

W-SO4-IC

W-TDS

W-TSS

Description

Alkalinity in aqueous matrices as mg CaCO3/L

Turbidity in aqueous matrices

Chloride in aqueous matrices

True Color measured at 450 nm (not valid for NPDES monitoring)

Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)

Sulfate in aqueous matrices

Total Dissolved Solids in aqueous matrices

Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample

Container ID: BP-1L

Qty: 1

Preservation: ICE

Lot # 1263740

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry

Container ID: P-120ML-WC-THI

Qty: 2

Preservation: ICE

Lot # 8LOS

Description: 120 ml Sterilized White Cap with tablet

Analysis

ECOLI-18QT

Description

Escherichia coli by Colilert 18 Quanti-Tray method - non-chlorinated water systems

Container ID: BG-500ML

Qty: 1

Preservation: ICE

Lot # 00076029

Description: Brown Glass Bottle 500ML

Affix BLUE dot to container.

Analysis

W-E8321-DI

W-E8321-MS

Description

Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

Container ID: P-500ML

Qty: 1

Preservation: HNO3

Lot # 00074433

Description: Plastic Bottle 500 mL

Affix RED nitric acid dot to container.

Analysis

W-HARD

W-ICP

W-ICPMS

Description

Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3

Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects

Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

Container ID: P-500ML

Qty: 1

Preservation: ICE And H2SO4

Lot # 00074433

Description: Plastic Bottle 500 mL

Affix YELLOW sulfuric acid dot to container.

Analysis

W-NH3

W-NO2NO3

W-S-A-TP

W-TKN

W-TOC

Description

Ammonia in aqueous matrices as mg N/L

Nitrite/Nitrate in aqueous matrices as mg N/L

Total Phosphorus in aqueous matrices as mg P/L

Total Kjeldahl Nitrogen in aqueous matrices

Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML

Qty: 1

Preservation: FILTER-ICE

Lot # 00079961

Description: Plastic Bottle 125 mL

Analysis

W-PO4-F

Description

Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Container ID: BG-1L

Qty: 4 Preservation: ICE

Lot # 00074930

Description: Brown Glass Bottle 1L

Affix BLUE dot to container.

Analysis

W-PSNP-TQ

Description

Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS

Bottle Group: B

of Sites: 1

Container ID: PT-50ML

Qty: 1 Preservation: ICE

Lot # 48097

Description: Plastic Tube 50 mL

Analysis

ALGAL_ID

Description

Qualitative assessment of algal taxa present without counts

Container ID: PJ-2L

Qty: 2 Preservation: Formalin

Lot # BioWash

Description: Plastic Jar 2 L

Analysis

MI-FW-QLDC

Description

No. Taxa of FW macroinverts, qual samp, 20 dipnets.

Cooler Packed By: IM

Number of Coolers: 2

Date: 1/13/2020

Kit must also include:

- ☒ Field Sheets
- ☒ Temperature Control Bottle
- ☐ FedEx Bills, if applicable
- ☐ Plastic Bags/Zip Ties
- ☐ Acid Labels (sets of 24)

If Preservation Included:

ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____
ID _____	Exp _____	Lot # _____

PLEASE RETURN ALL COOLERS FOR RQ-2020-01-20-09