FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

October 2017

PAGE 1 OF ____

Data Qualified? Yes / (No)

Location/STORET Station Name: Wakulla At Boat Tram **Date:** 10/19/2017 (mm/dd/yyyy)

STORET # 44059 **WBID:** 1006 **Latitude:** 30.23458 (Decimal Degrees)

County: Wakulla **RQ -** 2017-10-16-26 **ORG ID:** 21FLWQA **Longitude:** -84.29447 (Decimal Degrees)

Receiving Body of Water: St. Marks R, GOM **Field ID:** 44059 10192017

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Jade Burtchett	X	X	X	X	X
Curtis Musson		X	X		

Sampling Equipment

- [x] Sample Container [ ] Van Dorn [ ] Pole
- [ ] Carboy [x] Syringe
- [ ] Dipper [ ] Other _____

Equipment ID _____

Collection Method

- [ ] Wading [ ] Canoe/Kayak
- [ ] From Shore [ ] Electric Motor
- [ ] Other _____ [x] Gasoline Motor

Water Level: Dry / Low / (Normal) / Above Normal / Flooded **Meter ID#** 18157 **Matrix:** (Fresh) / Marine / DI

Photos: Yes / (No) **Flow:** No Flow / Intestital / (Flowing) / NA **Tide:** Rising/ Falling/ Slack/ (NA) **Tide Times:** High NA Low NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTh)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
EST	950	0.45	0.9	3.8	42	7.6	0.15	VOB	311	20.8
CEN										

Biological Samples Collected: None (HA) (SCI) (RPS) Algae ID (LVS) LVI Other _____

SBIO ID Numbers: SBIO-ID: 78062 HA-ID: 14957 RPS-ID: 8873 Macrophyte-ID: 10788 LIMS#: 1938705

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	[x] W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	[x] Ice [x] H_2SO_4			[ ] <2
Metals	[x] W-ICPMS [x] W-ICP	[ ] Ice [ ] HNO_3			[ ] <2
Filtered Nutrients	[x] W-PO4-F [x] Field Filtered 0.45 µm Filter	[x] Ice			
Chlorophyll	[x] CHLSUITE-W	[x] Ice			
Physical/Aggregate (Fresh)	[x] Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	[x] Ice			
Physical/Aggregate (Marine)	[ ] Alkalinity / 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-HF183 [ ] PCR-BacR [ ] PCR-GULL2 [ ] PCR-GFD	[ ] Ice			
Tracers	[x] W-SUC-AA-R [x] W-UHERB-AA [x] W-AHERB-AA	[x] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-UHERB-AA [ ] W-AHERB-AA [ ] W-PCL-SQ-R [ ] W-PYR-AA-R [ ] W-GLYPH [ ] W-SUC-AA-R	[ ] Ice [ ] Other			

Place Preservative Sticker(s) Here (If Available)

Notes:

Field ID → Wakulla at Boat Tram Oct 19, 2017

44059_10192017

Wakulla at Boat Tram

STORET ↓ 44059

Signature: Jade D **Date:** 10/19/17

Field Parameters Entered into LIMS: EM 10/20/17 (Initials/Date) Field Parameters QC in LIMS: 3/23/18 (Initials/Date)

Date Migrated to STORET: _____ (Initials/Date) Field Sheets Scanned/Saved: 3-29-2018 (Initials/Date)

SBIO: 76062 RPS-ID: 8873

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Wakulla at Boat TRAm | County: Wakulla | Date: 10/19/2017 | Investigators: Curtis Mussey

STORET Station Number: 44059

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
7	1	X	Y	
	2	6		
	3	6		
	4	6		
0	5	6		0
	6	6		
	7	6		
	8	6		
	9	X		
6	1	X	Yes	
	2	N		
	3	6		
	4	6		
10	5	6		0
	6	6		
	7	6		
	8	6		
	9	X		
7	1	X	Yes	
	2	6		
	3	6		
	4	6		
20	5	6		0
	6	6		
	7	6		
	8	6		
	9	X		
4	1	X	Yes	
	2	N		
	3	6		
	4	6		
30	5	N		0
	6	6		
	7	6		
	8	N		
	9	X		
5	1	X	Yes	
	2	6		
	3	6		
	4	6		
40	5	N		0
	6	6		
	7	N		
	8	6		
	9	X		
6	1	X	Yes	
	2	6		
	3	6		
	4	6		
50	5	6		0
	6	N		
	7	6		
	8	6		
	9	X		

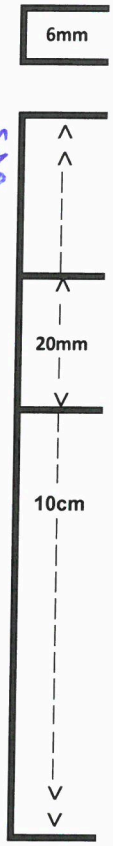
Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
6	1	X	Yes	
	2	6		
	3	6		
	4	N		
60	5	6		0
	6	6		
	7	6		
	8	6		
	9	X		
4	1	X	Yes	
	2	N		
	3	6		
	4	N		
70	5	6		0
	6	6		
	7	N		
	8	6		
	9	X		
6	1	X	Yes	
	2	6		
	3	6		
	4	6		
80	5	N		0
	6	6		
	7	6		
	8	6		
	9	X		
6	1	X	Yes	
	2	6		
	3	6		
	4	6		
90	5	6		0
	6	N		
	7	6		
	8	6		
	9	X		
7	1	X	Yes	
	2	6		
	3	6		
	4	6		
100	5	6		0
	6	6		
	7	6		
	8	6		
	9	X	Yes	

Secchi depth	100
Estimated?	NO
64 # points ranked 4-6	64
77 total points assessed	77
% points ranked 4-6	83%

Check accompanying data collected at same site/date.	
Algal mat sample	X
Linear Veg Survey	X
Habitat Assessment	X
SCI/~~Biorecon~~	X
Water sample	X
RQ-2017-10-16-26	

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

Hydrilla
0-10 Yes
10-20 Yes
20-30 Yes
30-40 Yes
40/50 Yes
50/60 Yes
60/70 Yes
70/80 Yes
80/90 Yes 90/100 Yes



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%.

Entered by: Blake S.

QC by: CM 3-29-2018

Entered by: [illegible] 3/23/18
QC'd: CM 3-29-2018

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

SBIO: 78062 HA: 14957

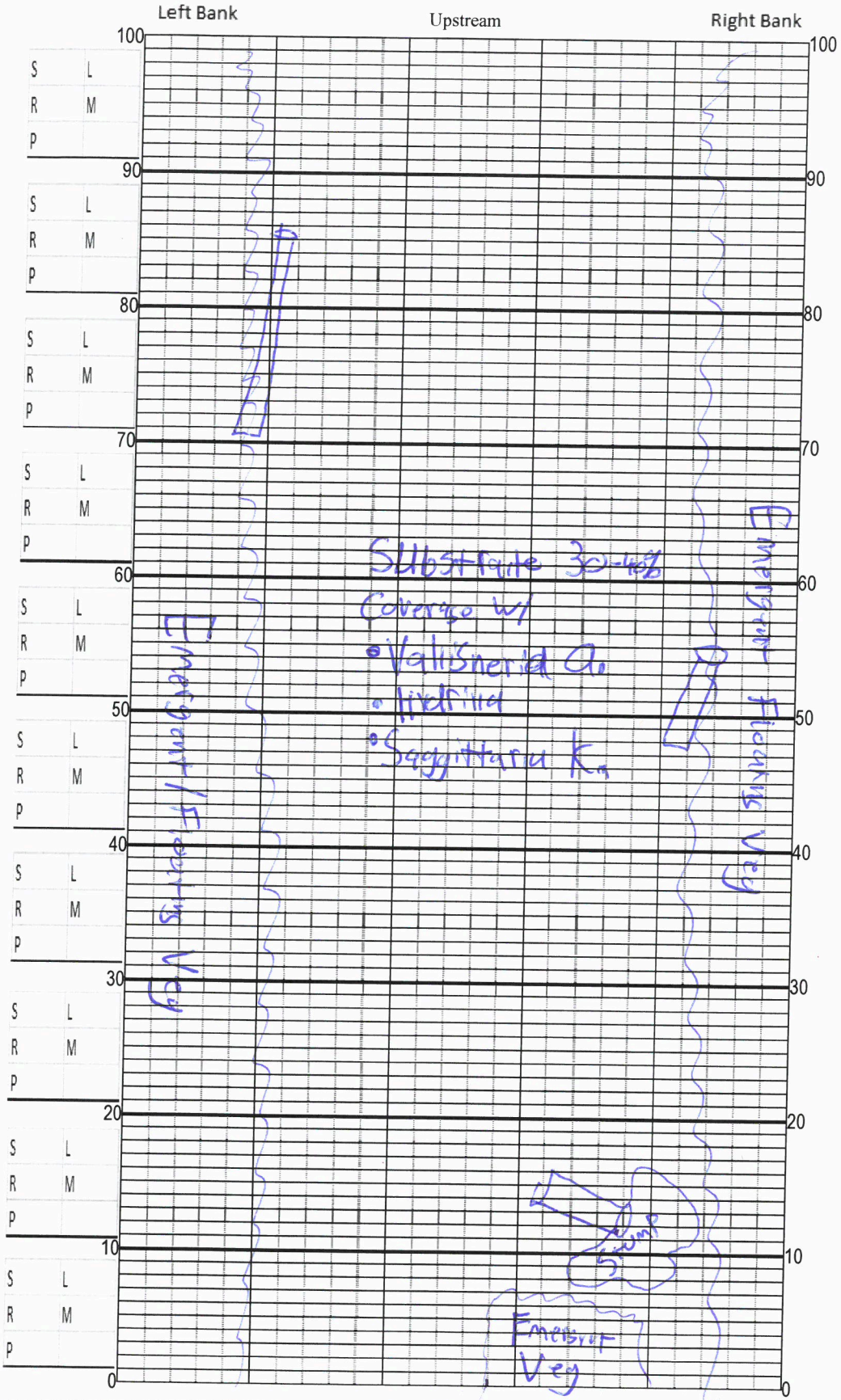
SAMPLING AGENCY: Florida Department of Environmental Protection	STORET STATION NUMBER: 44059	DATE (MM/DD/YY): 10/19/17	RECEIVING BODY OF WATER: St Marks / GoM
REMARKS: BMAP	COUNTY: Wakulla	LOCATION: Wakulla at boat tram	FIELD ID/NAME: 44059_10192017

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components (Snag, Roots, Leaf, Rock, Aquatic Vegtation) **Substrate Diversity** 7	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 12 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 20 30 %	Major productive habitat present at site (>30% 27.2% 25.8% 24.4% 26.6%) 20 19 18 17 16	Major productive habitat, by aerial extent (21.6% 20.2% 18.8% 17.4% 16%) 15 14 13 12 11	6% to 15% major productive habitat (15% 13% 11% 9% 6%) 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity 14 .2 m/s	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 11 ---------- Primary Score 52	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 **Artificial Channelization** 20	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 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 10 Left Bank 10 If Banks are PipeClay, BedRock or Concrete at Bank full: Optimal	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 18m 8 7 6 (18m 15m 12m)	Width of vegetation 6 to 12 m. human activities close to system 5 4 (9m)	Less than 6 m of buffer zone due to intensive human activities 3 2 1 (6-5m) (4-3m) (<2m)
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 ---------- Secondary Score 80	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

132 **TOTAL SCORE**

Date: 10/19/2017	Analyst: Curtis Musson	Signature: [signature]

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



Location: Way to old cut boat Tram - 44059

Date: 10/19/2017

Sampler: Curtis Musson

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance. %

S	Snags	<1
R	Roots/undercut banks	—
L	Leaf Packs (or mats)	—
M	Aquatic Macrophytes	>30%
Rc	Rock	—
P	Pools — total # observed = ____ # range expected = ____	

Average width ____ m

Average depth .9 m

Velocity measured at 10 meter mark.

Velocity 0.2 m/s

WQ & chemistry taken at 10 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.

Notes/Plants Observed:
$2m^2$ = 16 Sweeps

Meter Mark	Depth (m)	Width (m)	Velocity Measurement (Sec)
Avg.			

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

Expected Number of Pools

$$\left(\frac{100}{12 * ____W}\right) * 1 =$$

$$\left(\frac{100}{12 * ____W}\right) * 2 =$$

# of Sweeps	Conversion	m^2	%
Snag	÷ 8	m^2	
Root	÷ 8	m^2	
Leaf	÷ 8	m^2	
Macrophyte	÷ 8	m^2	
Rock	÷ 8	m^2	
Total Available Habitat		m^2	
Total Area		m^2	
Total Unavailable Habitat		m^2	

SBIO: 78062 Macrophyte ID: 10788 Entered by: Blake Sp 2/20/18 QC cm 3/24/18

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

Waterbody: Wakulla at Boat TRAM | Date: 10/19/17 | County: Wakulla | Storet Number: 44059

Analyst: Curtis Mussen | Signature: Curtis Mussen

Comments: SMP Sampling

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 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 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens ~~mitis~~		X									
Boehmeria cylindrica		X									
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata	X	X	X	X	X	X	X	O	X	X	
Cladium jamaicense								X			
Colocasia esculenta											
Commelina diffusa											
Commelina virginica											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata	X	X	X	X	X	X	X	X	X	X	
Hydrocotle											
Hygrophila polysperma											
Hymenocallis	X				X			X			
Lachnanthes caroliniana											
Landoltia punctata											
Lemna	X	X	X	X	X	X	X	X	X	X	
Limnophila sessiflora											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
Micranthemum glomeratum											
Micranthemum umbrosum											
Mikania scandens	X	X	X	X	X	X	X	X	X	X	
Myriophyllum aquaticum											
If no Dominant or Co-Dominant were selected, indicate with "X"											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Myriophyllum heterophyllum											
Najas guadelupensis											
Nuphar luteum											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Peltandra virginica											
Pistia stratioides											
Polygonum glabra	X	X	X	X	X	X	X	X	X	X	
Polygonum hydropiperoides		X	X	X	X	X					
Polygonum punctatum											
Pontedaria cordata	X	X	X	X	X	X	X	X	X	X	
Potamogeton illinoensis											
Rhynchospora inundata	X	X	X	X	X	X	X	X	X	X	
Rosa palustris											
Ruellia simplex											
Rumex verticillatus											
Sacciolepis striata											
Sagittaria kurziana	X	X	X	X	X	X	X	X	X	X	
Sagittaria lancifolia	X	X	X	X	X	O	O	X	X		
Sagittaria latifolia											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus (schenoplectus) californicus	X		X		X					X	
Sparganium americanum											
Typha				X	X						
Vallisneria americana	X	X	X	X	X	X	X	X	X	X	
Zizania aquatica											
~~Riccia~~ ca	~~X~~										
* Liver wort (Riccia sp)	X	X				X					
Lobelia Card		X	X		X		X				
Conocliniun coelestinum		X			X						
* Nasturtium Nasturtiumse		X	X			X	X	X	X	X	
Azolla Caroliniana	X	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	X	X	X	X	X	X	X	X	X	X	
> 50% Macrophyte Coverage											

Notes:

~~□ < 2m2~~ cm

62-160.800, F.A.C.

0-10 10-20 20-30 30-40 40-50 50-60 60/70 70-80 80-90

Revision Date: March 1, 2014

Macrophyte QC Report

STORET: 44059
Visit ID: 78062
Macrophyte ID: 10788
LIMS ID:

Sample Date: 10/19/2017
Collector Name: Musson, Curtis
Identifier Name: Musson, Curtis

Macrophyte Sample Comments:

Taxa Name:	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Azolla caroliniana	P	P									CM
Bidens		P									CM
Boehmeria cylindrica		P									CM
Cicuta maculata	P	P	P	P	P	P	P		P	P	CM
Cladium jamaicense								P			CM
Conoclinium coelestinum		P			P						CM
Hydrilla verticillata	P	P	P	P	P	P	P	P	P	P	CM
Hymenocallis	P					P			P		CM
Lemna	P	P	P	P	P	P	P	P	P	P	CM
Lobelia cardinalis		P	P		P		P				CM
Mikania scandens	P	P	P	P	P	P	P	P	P	P	CM
Nasturtium		P	P		P	P	P	P	P		CM
Polygonum glabrum	P	P	P	P	P	P	P	P	P	P	CM
Polygonum hydropiperoides		P	P	P	P	P					CM
Pontederia cordata	P	P	P	P	P	P	P	P	P	P	CM
Rhynchospora inundata	P	P	P	P	P	P	P	P	P	P	CM
Riccia	P	P					P				CM
Sagittaria kurziana	P	P	P	P	P	P	P	P	P	P	CM
Sagittaria lancifolia	P	P	P	P	P			P	P		CM
Schoenoplectus californicus	P		P		P					P	CM
Typha				P	P						CM
Vallisneria americana	P	P	P	P	P	P	P	P	P	P	CM

QC
CM
3-29-2018

This data has not been fully approved at this time.

FDEP Plant Sampling Review

Entered by: [illegible] 3/23/18

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

SAMPLE ID 78060 78062 | ORG ID 21FLWQA | LATITUDE 30.23458
COUNTY Wakulla | STORET # 44059 | LONGITUDE -84.29447
DATE 10/19/2017 | TIME 0950 | SAMPLING AGENCY FDEP
SITE NAME Wakulla at Boat Ramp
FIELD ID/NAME 44059-10192017 | RECEIVING BODY OF WATER St. Marks River/GOM

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) :

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
78	—	2	0.9	17	0.7	0.9	water 0.5

Landscape Development Intensity Index (LDI): 1.2

Local Watershed Erosion (select one) : ☐ None ☑ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☑ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side: Left Bank : >18 | Right Bank : >18

Hydrologic Modification Score (per FT 3101): 3-4

High Water Mark: 0.1 (m) + 0.9 (above present water level) = 1.0 (present depth) (above bed)

Artificially Impounded ☐ Yes ☒ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

85 m wide

/ m/s	0.2 m/s	/ m/s
/ m deep	0.9 m deep	/ m deep

Artificially Channelized : ☒ NO ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ 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

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☒	☐	☐
Silt Smothering:	☐	☒	☐	☐
Algae Smothering:	☐	☐	☐	☒

SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	1	7	
Undercut Banks / Roots	0	—	
Leaf Packs or Mat	0	—	
Aquatic Vegetation	>30	7	
Rock or Shell Rubble..	>50	6	
Sand.....	—	—	
Mud / Muck / Silt	—	—	
Other	—	—	
Other	—	—	

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :								
Mid:	0.45	20.8	7.6	3.8	42	311	0.15	☒ VOB
Bottom	0.9							TOTAL DEPTH

Meter ID: 118157 — TOTAL DEPTH: 0.9

Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☒ Yes ☐ No
Lot Number:_____ Exp:_____

Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐

Algae Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☒ Yes ☐ No
Lot Number: Ice Exp:_____

Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☒
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☐	☐	☒
Iron/Sulfur Bacteria:	☒	☐	☐	☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☒ Spring Run

AMBIENT FIELD CONDITIONS / NOTES:

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM: Curtis Musson / Jade Burtchett

SIGNATURE : [signature]

DATE : 10/19/2017

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this page.

Meter ID: 11s157 **Project:** BMAP

Notes: (1) Numbers ≤4, are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
(2) Always wait for meter to stabilize before recording any readings.
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: (Lab Calibration) or Calibration/Verification on Site _____

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 7/17

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	J Burtchett	10/19/17	630	22.1	8.7	8.7	100	–	1.0	P	L
ICV	↓	↓	641	22.1	8.7	8.8	100	–	1.0	P	L
CCV	↓	↓	1423	23.7	8.5	8.6	101	–	1.0	P	L
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.
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; 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 µmhos/cm	Meter Reading µmhos/cm	Pass / Fail	Lab / Field
Calibr.	J. Burtchett	10/19/17	632	270999	09/14	1000	1000	P	L
ICV	↓	↓	643	2707D43	07/19	100	101	P	L
CCV	↓	↓	1425	2207D83	07/19	100	101	P	L
CCV									

Report specific conductance as a whole number with no decimal figure. Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	J Burtchett	10/19/17	634	170822C	03/19	7.0	7.0	-41.9	P	L
Calibr.	↓	↓	636	170926A	10/18	4.0	4.0	131.4	P	L
Calibr.	↓	↓	639	170822D	03/19	10.0	10.0	-211.7	P	L
ICV	↓	↓	645	170822D	03/19	10.0	10.0	-211.9	P	L
CCV	↓	↓	1427	170926A	10/18	4.0	4.0	130.0	P	L
CCV										

Report pH with one decimal place; pH Acceptance criteria ±0.2 SU; mV pH7 Range 0±50; mV pH 4 Range +180±50;
mV pH 10 Range -180±50; Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

Depth (Quarterly) Date of Last Depth Verification _____

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
Pressure mode in air				0.000			

ICV acceptance criteria ±5 % or ±0.05m, whichever is greater

Request Number: RQ-2017-10-16-26
Wakulla BMAP
Customer: WAS-SECT
Project ID: BMAP

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Lab Sample Submittal Form

Requester: Curtis Musson
Collected By: J. Burtchett
Field Report Prepared By: J. Burtchett
Sampling Agency: FDEP
Page ___ of ___

Location: Wakulla at Boat Tram
STORET 44059
Field ID: Wakulla at Boat Tram
Oct 19, 2017
44059_10192017

☐ Comp ☑ Grab	Collection (comp begin or grab) Date 10/19/17 Time 950 (Eastern / Central)
Collection (comp begin or grab) Date — Time —	Bottle Group(s): A, B
Matrix (Salt, Fresh): Fresh	Diss. Oxygen (mg/L): 3.8
Temp (C): 20.8	pH: 7.6
Sample Depts (m): 0.45	Sp. Conductance (umho/cm): 311
Salinity (ppt): 0.15	Comments:
Latitude (Decimal Degrees): 30.23458	Longitude (Decimal Degrees): -84.29447

Location:
Field ID:
STORET #:

☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time (Eastern / Central)
Collection (comp begin or grab) Date Time	Bottle Group(s)
Matrix (Salt, Fresh)	Diss. Oxygen (mg/L)
Temp (C)	pH
Sample Depts (m)	Sp. Conductance (umho/cm)
Salinity (ppt)	Comments
Latitude (Decimal Degrees)	Longitude (Decimal Degrees)

Location:
Field ID:
STORET #:

☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time (Eastern / Central)
Collection (comp begin or grab) Date Time	Bottle Group(s)
Matrix (Salt, Fresh)	Diss. Oxygen (mg/L)
Temp (C)	pH
Sample Depts (m)	Sp. Conductance (umho/cm)
Salinity (ppt)	Comments
Latitude (Decimal Degrees)	Longitude (Decimal Degrees)

Relinquished By:	Date/Time	Number of Coolers	Received By:	Date/Time
Ben Rabys	10/19/17			

Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-SO4-IC W-TDS W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	CHLSUITE-W						
Group: A	Bottle Type:	BG-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	W-AHERB-AA W-SUC-AA-R W-UHERB-AA						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	HNO3	**Enter Number of Bottles Sent to Lab**	2
	W-ICP W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	**Enter Number of Bottles Sent to Lab**	2
	W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 2	Preservative:	FILTER-ICE	**Enter Number of Bottles Sent to Lab**	2
	W-PO4-F						
Group: B	Bottle Type:	PT-50ML	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	ALGAL_ID						
Group: B	Bottle Type:	PJ-2L	# of Bottles: 4	Preservative:	Formalin	**Enter Number of Bottles Sent to Lab**	4
	MI-FW-QLDC						

Cooler Packing Worksheet for Request: RQ-2017-10-16-26
Wakulla BMAP
Ship Cooler On: 10/11/2017
Customer/Project: WAS-SECT/BMAP

Assigned To: REAVES_S
Requester: Curtis Musson
Priority: 3

850-245-8453
2600 Blair Stone Rd

Tallahassee, FL 32399

Attn: Curtis Musson

Comments:
No preservatives needed.

Group A: Freshwater Kit With Metals
Group B: SCI, Algae_ID

Packing Notes
No FedEx labems needed

Requested Analyses:

Bottle Group: A

# of Sites: 2

Container ID: P-1L **Qty: 2** **Preservation: ICE** **Lot #** 0006912 2

Description: Plastic Bottle 1L

Analysis	Description
ALKALINITY	Alkalinity in aqueous matrices as mg CaCO3/L
TURBIDITY	Turbidity in aqueous matrices
W-CL-IC	Chloride in aqueous matrices
W-COLOR	True Color measured at 450 nm
W-F	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)
W-SO4-IC	Sulfate in aqueous matrices
W-TDS	Total Dissolved Solids in aqueous matrices
W-TSS	Total Suspended Solids in aqueous matrices

Container ID: BP-1L **Qty: 2** **Preservation: ICE** **Lot #** 1208913

Description: Brown Plastic Bottle 1L

Analysis	Description
CHLSUITE-W	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry

Container ID: BG-1L **Qty: 2** **Preservation: ICE** **Lot #** 00068849

Description: Brown Glass Bottle 1L Affix BLUE dot to container.

Analysis	Description
W-AHERB-AA	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS
W-SUC-AA-R	Analysis of sucralose in water matrices by HPLC/MS/MS
W-UHERB-AA	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS

Container ID: P-500ML **Qty: 2** **Preservation: HNO3** **Lot #** 00068654

Description: Plastic Bottle 500 mL Affix RED nitric acid dot to container.

Analysis	Description
W-ICP	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects
W-ICPMS	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

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Container ID: P-500ML **Qty: 2** **Preservation: ICE And H2SO4** **Lot #** 00068654

Description: Plastic Bottle 500 mL Affix YELLOW sulfuric acid dot to container.

Analysis	Description
W-NH3	Ammonia in aqueous matrices as mg N/L
W-NO2NO3	Nitrite/Nitrate in aqueous matrices as mg N/L
W-S-A-TP	Total Phosphorus in aqueous matrices as mg P/L
W-TKN	Total Kjeldahl Nitrogen in aqueous matrices
W-TOC	Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML **Qty: 2** **Preservation: FILTER-ICE** **Lot #** 00068347

Description: Plastic Bottle 125 mL

Analysis	Description
W-PO4-F	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Bottle Group: B **# of Sites: 2**

Container ID: PT-50ML **Qty: 2** **Preservation: ICE** **Lot #** 430897

Description: Plastic Tube 50 mL

Analysis	Description

ALGAL_ID — Qualitative assessment of algal taxa present without counts

Container ID: PJ-2L **Qty: 4** **Preservation: Formalin** **Lot #** BIOWASH

Description: Plastic Jar 2 L

Analysis	**Description**
MI-FW-QLDC	No. Taxa of FW macroinverts, qual samp, 20 dipnets.

Cooler Packed By: SR Number of Coolers: 2 Date: 10-11-17

Kit must also include:
- ✓ Field Sheets
- ✓ Temperature Control Bottle
- ___ FedEx Bills, if applicable
- ✓ Plastic Bags
- ___ Zip Ties

If Preservation Included:

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

PLEASE RETURN ALL COOLERS FOR RQ-2017-10-16-26