



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 13

Data Qualified?
Yes / No

February 2017

STORET Station Name: Wakulla at Boat Tram

Date: 03/08/2017

(mm/dd/yyyy)

STORET Station ID: 44059

WBID: 1006

Latitude: 30.23458

(Decimal Degrees)

County: Wakulla RQ - RQ-2017-02-13-63

ORG ID: 21FLWQA

Longitude: -84.29447

(Decimal Degrees)

Receiving Body of Water: St. Marks, Gulf of Mex.

Field ID: 44059-03082017

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Curtis Musson									
Ben Ralys						X		X	X
SARAH PANEK					X		X		

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Equipment ID		

Collection Method	
☐ Wading	☐ Via Boat
☐ From Shore	☐ Canoe/Kayak
☐ Other (note below)	☐ Electric Motor
	☒ Gasoline Motor

Water Level: Dry / Pooled / Low / Normal / High / Flooded					Matrix: Fresh / Marine / DI					
Meter ID# Biology #2			Photos: Yes / No			Tide Falling: Yes / No / NA				
Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1030	0.3	1.2	3.39	37.6	7.63	0.15	VOB	319	20.75
CEN										

Biological Samples Collected:	None	HA	SCI	RPS	Algae ID	LVS	LVI	Other
SBIO ID Numbers:	SBIO-ID: 77386	RPS-ID: 8587	Macrophyte-ID: 10364	LIMS#: 1878632				

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	SA 6302030	10/28/2017	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO2	NA 6218060	08/05/2017	☒ <2
Filtered Nutrients	☒ W-P04-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	Contains 1:1 Sulfuric Acid SA-6302030 EXP: 10/28/17 Warning! See SDS Contains 1:1 Nitric Acid NA-6218060 EXP: 08/05/17 Warning! See SDS		
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-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☒ ALGAE-ID	☒ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-LCMS-DU (1/4 vial fill) ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-LCMS-DU (1/4 vial fill) ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Notes:

Kit C
SCI
RPS
LVS

Wakulla at
Boat Tram



Field ID →

Wakulla at Boat Tram

March 08, 2017



44059-03082017

Signature:

Date:

3/8/2017

Field Parameters Entered into LIMS:

Field Parameters QC in LIMS:

Date Migrated to STORET:

Field Sheets Scanned/Saved:

SBFO FD 77386

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

SAMPLING AGENCY: Florida Department of Environmental Protection		STORET STATION NUMBER: 44059	DATE (MM/DD/YYYY): 03/08/2017	RECEIVING BODY OF WATER: St. Marks R., Gulf of Mexico
REMARKS: Wakulla BMAP	COUNTY: Wakulla	LOCATION: Wakulla at boat tram		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Snag Leaf Aquatic Roots Rock Vegetation	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>7</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 <u>7</u> 6	5 4 3 2 1
Substrate Availability <u>20</u> <u>730</u> %	Major productive habitat present at site (>30% 27.2% 25.8% 24.4% 26.6%) <u>20</u> 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 <u>20</u> <u>0.5</u> m/s	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec <u>20</u> 19 18 17 16 ≥0.33 0.31 0.29 0.27 >0.25	Max. observed at typical transect: >0.1 to 0.25 m/sec 15 14 13 12 11 0.25 0.21 0.17 0.13 >0.1	Max. observed at typical transect: 0.05 to 0.1 m/sec 10 9 8 7 6 0.1 0.09 0.07 0.06 0.05	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec 5 4 3 2 1 <0.05 0.04 0.03 0.01 <0.01
Habitat Smothering <u>11</u> ----- Primary Score <u>58</u> ⁵⁹	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 <u>11</u>	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 <u>20</u>	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 <u>10</u> Left Bank <u>10</u> If Banks are PipeClay, BedRock or Concrete at Bank full: Optimal	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 <u>10</u> Left Bank <u>10</u>	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 <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>80</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

138

TOTAL SCORE

Date: <u>3/8/17</u>	Analyst: <u>Curtis Musson</u> <u>Sarah Panielc</u>	Signature: <u>Curtis Musson</u>
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Revision Date: March 1, 2014

$$\left(\frac{100}{12 * \underline{\hspace{1cm}} W'} \right) * 2 =$$

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

SAMPLE ID 77386 ORG ID 21FLWAQ LATITUDE 30.23458
 COUNTY Wakulla STORET # 44059 LONGITUDE -84.29447
 DATE 03/08/2017 TIME 10:00 SAMPLING AGENCY FDEP
 SITE NAME Wakulla At Boat Tram
 FIELD ID/NAME 44059-03082017 RECEIVING BODY OF WATER St. Marks River, Gulf Of Mexico

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) : Forest/Natural <u>78</u> Silviculture <u>2</u> Field/Pasture <u>0.9</u> Agricultural <u>17</u> Residential <u>0.7</u> Commercial <u>0.9</u> Industry <u>0.5</u> Other (Specify) <u>1.17</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 <u>0.5</u> m/s <u>1.2</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>3-4</u>			
High Water Mark: <u>1.29</u> + <u>1.2</u> = <u>1.3</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No			
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 Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Algae Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☒																																						
SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon			WATER QUALITY <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>20.75</u></td> <td><u>7.63</u></td> <td><u>3.39</u></td> <td><u>37.6</u></td> <td><u>319</u></td> <td><u>0.15</u></td> <td></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>1.2</u></td> </tr> </tbody> </table>							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>20.75</u>	<u>7.63</u>	<u>3.39</u>	<u>37.6</u>	<u>319</u>	<u>0.15</u>		Mid:								☒ VOB	Bottom								<u>1.2</u>
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Mid:								☒ VOB																																				
Bottom								<u>1.2</u>																																				
Woody Debris (Snags) <u>41</u> <u>7</u> Undercut Banks / Roots <u>730</u> <u>7</u> Leaf Packs or Mat <u>750</u> <u>6</u> Aquatic Vegetation Rock or Shell Rubble..... Sand..... Mud / Muck / Silt Other Other			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>See Field Sheet</u> Exp:			Water Surface Oils Normal ☐ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐																																						
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:	☒	☐	☐	☐	Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>Ice</u> Exp: <u>hy</u>			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐													
	Not Obs.	Rare	Common	Abundant																																								
Periphyton:	☐	☐	☐	☒																																								
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Aquatic Plants:	☐	☐	☒	☐																																								
Iron/Sulfur Bacteria:	☒	☐	☐	☐																																								
SAMPLING TEAM <u>Curtis Mussen, Ben Ralys, Sarah Panels</u>			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) <u>Spring Run</u>			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																						
SIGNATURE : <u>Curtis Mussen</u>			DATE : <u>3/8/17</u>																																									

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Wakulla At Boat Tram

County: Wakulla

Date: 03/08/2017

Investigators: Curtis Musson, Ben Ralys

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
>3 = 5	1	6	Y		7	1	6	Y	
	2	6				2	6		
	3	N				3	6		
	4	6				4	6		
	5	N		0		5	N		0
	6	N				6	6		
	7	N				7	6		
	8	6				8	6		
	9	6				9	X		
5	1	6			6	1	N		
	2	6				2	6		
	3	N				3	6		
	4	N		0		4	6		0
	5	N				5	6		
	6	N				6	6		
	7	6				7	N		
	8	6				8	6		
	9	6				9	X		
7	1	6			7	1	6		
	2	6				2	6		
	3	N				3	6		
	4	N		0		4	6		0
	5	6				5	6		
	6	6				6	6		
	7	6				7	N		
	8	6				8	6		
	9	6				9	X		
20	1	6			80	1	6		
	2	6				2	6		
	3	N				3	6		
	4	N		0		4	6		0
	5	6				5	6		
	6	6				6	6		
	7	6				7	6		
	8	6				8	N		
	9	6				9	X		
8	1	6			6	1	6		
	2	6				2	6		
	3	6				3	6		
	4	N		0		4	6		0
	5	6				5	N		
	6	6				6	6		
	7	6				7	N		
	8	6				8	6		
	9	6				9	X		
6	1	N			6	1	X		
	2	6				2	6		
	3	6				3	6		
	4	6		0		4	6		0
	5	N				5	N		
	6	N				6	6		
	7	6				7	6		
	8	6				8	6		
	9	6				9	X		
40	1	N			100	1	X		
	2	6				2	6		
	3	6				3	6		
	4	6		0		4	6		0
	5	N				5	N		
	6	N				6	6		
	7	6				7	6		
	8	6				8	6		
	9	6				9	X		
6	1	N			50	1	N		
	2	6				2	6		
	3	6				3	6		
	4	N		0		4	N		
	5	6				5	6		
	6	6				6	6		
	7	6				7	6		
	8	N				8	N		
	9	6				9	6		

STORET Station Number:
44059

Secchi depth VOB
Estimated? NO

points ranked 4-6 69
total points assessed 93
% points ranked 4-6 74

Check accompanying data
collected at same site/date.

Algal mat sample Yes
Linear Veg Survey Yes
Habitat Assessment Yes
SCI/Biorecon Yes
Water sample Yes

RQ-2017-02-13-63

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

SBI ID 77386
RPS-ID 8587

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

Waterbody: Wakulla at Boat Tram Date: 03/08/201 County: Wakulla Storet Number: 44059

Analyst: Curtis Musson

Signature: *Curtis Musson*

Comments: Wakulla BMAP

LIMS ID 1878632

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.

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												Myriophyllum heterophyllum											
Bacopa caroliniana												Najas guadelupensis											
Bacopa monnieri												Nuphar luteum											
Bidens mitis												Orontium aquaticum											
Boehmeria cylindrica												Panicum hemitomon											
Centella asiatica												Panicum repens											
Ceratophyllum demersum												Panicum rigidulum											
Chara												Peltandra virginica											
Cicuta maculata												Pistia stratioides											
Cladium jamaicense												Polygonum glabra											
Colocasia esculenta												Polygonum hydropiperoides											
Commelina diffusa												Polygonum punctatum											
Commelina virginica												Pontedaria cordata											
Crinum americanum												Potamogeton illinoensis											
Diodia virginiana												Rhynchospora inundata											
Eichhornia crassipes												Rosa palustris											
Eleocharis (wispy viviparous)												Ruellia simplex											
Hydrilla verticillata												Rumex verticillatus											
Hydrocotyle												Sacciolepis striata											
Hygrophila polysperma												Sagittaria kurziana											
Hymenocallis												Sagittaria lancifolia											
Lachnanthes caroliniana												Sagittaria latifolia											
Landoltia punctata												Salvinia minima											
Lemna												Samolus parviflora											
Limnophila sessiflora												Saururus cernuus											
Ludwigia leptocarpa												Scirpus (schenoplectus) californicus											
Ludwigia palustris - <i>repens</i>												Sparganium americanum											
Ludwigia peruviana												Typha											
Ludwigia repens												Vallisneria americana											
Luziola fluitans												Zizania aquatica											
Micranthemum glomeratum												edge sp											
Micranthemum umbrosum												canister sp											
Mikania scandens												Nasturtium sp											
Myriophyllum aquaticum																							

If no Dominant or Co-Dominant were selected, indicate with "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	X	X	X	X	X	X	X	X	X	X	X	X	X
> 50% Macrophyte Coverage																							

Notes:

SBFD-ID 77386

Macro-ID 10364

Curtis Musson & Sarah Pencil

□ 2m2

Macrophyte QC Report

STORET: 44059

Visit ID: 77386

Macrophyte ID: 10364

LIMS ID: 1878632

Sample Date: 3/8/2017

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
<i>Ceratophyllum demersum</i>					P				P	
<i>Cicuta maculata</i>	P	P	P	P	P		P	P	P	P
<i>Cladium jamaicense</i>		P				P				
<i>Hydrilla verticillata</i>	P	P	P	P	P	P	P	P	P	P
<i>Hymenocallis</i>					P		P			
<i>Lemna</i>	P	P	P	P	P	P	P	P	P	P
<i>Ludwigia repens</i>			P		P	P	P	P	P	P
<i>Mikania scandens</i>	P	P	P	P	P		P	P	P	P
<i>Najas guadalupensis</i>	P					P				
<i>Nasturtium</i>		P								
<i>Polygonum glabrum</i>	P	P	P	P	P	P	P	P	P	P
<i>Pontederia cordata</i>	P	P	P	P	P	P	P	P	P	P
<i>Rhynchospora inundata</i>			P			P		P		
<i>Rumex verticillatus</i>			P	P					P	P
<i>Sagittaria kurziana</i>	D	D	D	D	D	D	D	D	D	D
<i>Sagittaria lancifolia</i>	P	P	P	P	P		P		P	
<i>Scirpus californicus</i>	P		P	P	P			P	P	P
<i>Typha</i>			P	P						
<i>Vallisneria americana</i>			P							

This data has not been fully approved at this time.

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 name.

Meter Biology 2

RQ- 2017-02-13-63

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 09/23/2016

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.	Curtis Musson	3/8/17	7:02	21.85	8.761	8.77	100.0	12	—	P	LAB
ICV	Curtis Musson	3/8/17	7:04	21.85	8.761	8.77	100.0	12	—	P	LAB
CCV	Curtis Musson	3/8/17	15:20	23.0	8.578	8.68	106.1	52	—	P	LAB
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 μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	3/8/17	7:05	161111 E	5/17	1000	1000	P	LAB
ICV	Curtis Musson	3/8/17	7:08	161111 D	11/17	1000	1000	P	LAB
CCV	Curtis Musson	3/8/17	15:22	161111 E	5/17	1000	102	P	LAB
CCV									

Report specific conductance as a whole number with no decimal figure.

Conductivity Acceptance criteria $\pm 5\%$

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.	Curtis Musson	3/8/17	7:09	161111 B	5/18	7.0	7.00	-14	P	LAB
Calibr.	Curtis Musson	3/8/17	7:11	161111 A	11/17	4.01	4.01	165	P	LAB
Calibr.	Curtis Musson	3/8/17	7:12	161111 C	5/18	10.01	9.96	-177	P	LAB
ICV	Curtis Musson	3/8/17	7:13	161111 C	5/18	10.01	9.95	-176	P	LAB
CCV	Curtis Musson	3/8/17	15:24	161111 D	5/18	7.0	7.14	-16	P	LAB
CCV										

Report pH with one decimal place; pH Acceptance criteria ± 0.2 SU; mV pH7 Range 0 $\pm$ 50;

mV pH 4 Range +180 $\pm$ 50;

mV pH 10 Range -180 $\pm$ 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 $\pm 5\%$ or ± 0.05 m, whichever is greater

Request Number: RQ-2017-02-13-63

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Lab Sample Submittal Form

Page 1 of 2

Wakulla BMAP

Customer: WQ-ASSESS

Project ID: BMAP

Requester: Curtis Musson

Sarah Panek

Field Report Prepared By: Curtis Musson

Sampling Agency: FDEP

Location

Collected By: Curtis Musson, Ben Ralls

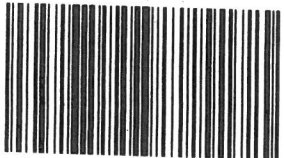
Wakulla at
Boat Tram

STORET ↓



44059

Field ID →



44059-03082017

Wakulla at Boat Tram

March 08, 2017

☐ Comp
☒ Grab

Collection (comp begin or grab)

Date 3/8/17

Time 10:00

Eastern
Central

Collection (comp begin or grab)

Date

Time

Bottle
Group(s)

Matrix (Salt, Fresh)

FRESH

Diss. Oxygen
(mg/L)

3.39

Temp
(C)

20.75

pH

7.63

Sample Depts
(m)

0.3

Sp. Conductance
(umho/cm)

319

A, B

Salinity
(ppt)

0.15

Comments

Wakulla BMAP

Latitude (Decimal Degrees)

30.23458

Longitude (Decimal Degrees)

-84.29447

☐ Comp
☒ Grab

Collection (comp begin or grab)

Date 3-8-17

Time 14:06

Eastern
Central

Collection (comp begin or grab)

Date

Time

Bottle
Group(s)

Matrix (Salt, Fresh)

Fresh

Diss. Oxygen
(mg/L)

7.12

Temp
(C)

21.27

pH

7.90

Sample Depts
(m)

0.3

Sp. Conductance
(umho/cm)

318

A, B

Salinity
(ppt)

0.15

Comments

Wakulla BMAP

Latitude (Decimal Degrees)

30.21373

Longitude (Decimal Degrees)

-84.26163

☐ 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:

Curtis Musson

Date/Time

3-8-17 / 15:02

Number of Coolers

2

Received By:

AJS

Date/Time

03-08-17 / 15:02

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:	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:	ICE-FLTR	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-2017-02-13-63

Wakulla BMAP

Ship Cooler On: 2/14/2017

Customer/Project: WQ-ASSESS/BMAP

Assigned To: GREENWOO_J

Requester: Curtis Musson

Priority: 3

850-245-8453
Division Of Water Facilities, FL DEP
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
Attn: Curtis Musson

Comments:

Group A: Freshwater Kit With Metals

Group B: SCI, Algae_ID

2 - cases of sulfuric acid

Requested Analyses:

Bottle Group: A

of Sites: 2

Container ID: P-1L

Qty: 2 Preservation: ICE

Lot # 00066873

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

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

Container ID: BP-1L

Qty: 2 Preservation: ICE

Lot # 1188407

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

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

Container ID: P-500ML

Qty: 2 Preservation: HNO3

Lot # 00066885

Description: Plastic Bottle 500 mL

Affix RED nitric acid dot to container.

Analysis

W-ICP

W-ICPMS

Description

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: 2 Preservation: ICE And H2SO4

Lot # 00066045

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: 2 Preservation: ICE-FLTR

Lot # 00064520

Description: Plastic Bottle 125 mL

Analysis

W-PO4-F

Description

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 # 0371503

Description: Plastic Tube 50 mL

Analysis

ALGAL_ID

Description

Qualitative assessment of algal taxa present without counts

Container ID: PJ-2L

Qty: 4 Preservation: Formalin

Lot # L185930

Description: Plastic Jar 2 L

Analysis

MI-FW-QLDC

Description

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

Cooler Packed By: JD Date: 2/13/17
DEP Cooler ID #(s): 2

Kit must also include:

- ☒ Field Sheets
- ☒ Temperature Control Bottle (1 per cooler)
- ☐ FedEx Bills, if applicable (1 per cooler)
- ☒ Plastic Bags
- ☒ Zip Ties

If Preservation Included:

ID Sulfuric Acid Exp. 10/30/17 Lot # SA 6302030
ID Sulfuric Acid Exp. 10/30/17 Lot # SA 6302030
ID _____ Lot # _____
ID _____ Lot # _____
ID _____ Lot # _____

PLEASE RETURN ALL COOLERS FOR RQ-2017-02-13-63