FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

June 2016

PAGE 1 OF ____

Data Qualified? Yes / (No)

STORET Station Name: Wakulla River at boat tram **Date:** 8/17/2016 (mm/dd/yyyy)

STORET Station ID: 44059 **WBID:** 1006 **Latitude:** 30.234581 (Decimal Degrees)

County: Wakulla **RQ -** 2016-08-15-75 **ORG ID:** 21FLWQA **Longitude:** -84.294477 (Decimal Degrees)

Receiving Body of Water: Wakulla River **Field ID:** 44059

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Curtis Musson		X		X	X
Ben Ralys	X				
Diana Turner			X		

Sampling Equipment

☐ Sample Container ☐ Van Dorn ☐ Pole
☐ Carboy ☒ Syringe
☐ Dipper ☐ Other _____

Equipment ID _____

Collection Method

☐ Wading
☐ From Shore
☐ Other (note below)

Via Boat
☐ Canoe/Kayak
☐ Electric Motor
☒ Gasoline Motor

Water Level: Dry / 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)	11:25	0.3	1.3	4.06	46.2	7.63	0.14	VOB	297	21.58
CEN										

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

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 ☑ H_2SO_4	6168040	06/16/17	☑ <2
Metals	☒ W-ICPMS ☒ W-ICP	☑ Ice ☑ HNO_3	5259030	09/16/16	☑ <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-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☐ QPCR	☐ Ice			
Periphyton	☒ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Contains 1:1 Nitric Acid NA – 5259030 EXP: 09/16/16 Warning! See MSDS

Contains 1:1 Sulfuric Acid SA – 6168040 EXP: 06/16/17 Warning! See SDS

Notes:

SBIo_ID: 76729

RPS_ID: 8299

Macrophyte_ID: 10032

44059 17 Aug 2016

Wakulla River at boat tram

Signature: [signature] **Date:** 8/17/2016

Field Parameters Entered into LIMS: CM 8-19-2016 (Initials/Date) **Field Parameters QC in LIMS:** _____ (Initials/Date)

Date Migrated to STORET: _____ (Initials/Date) **Field Sheets Scanned/Saved:** _____ (Initials/Date)

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/YY): 8/17/16	RECEIVING BODY OF WATER: St. Marks
REMARKS:	COUNTY: Wakulla	LOCATION: Wakulla River at Boat Ramp		FIELD ID/NAME: 44059

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components (Snag, Roots, Leaf, Rock, Aquatic Vegtation) **Substrate Diversity** 9	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 18 70 %	Greater than 30% major productive habitat present at site (100% 83% 66% 48% 30.5%) 20 19 (18) 17 16	16% to 30% major productive habitat, by aerial extent (30.4% 27% 23% 20% 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 20 0.35 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 ~~38~~ 58	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

138 **TOTAL SCORE**

Date: 8/17/16	Analyst: Curtis MWSSA Ben Ralls	Signature:

SBIO_ID: 76729

62-160.800, F.A.C.

Revision Date: March 1, 2014

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

SAMPLE ID 76729 | ORG ID 21flwqa | LATITUDE 30.234581
COUNTY Wakulla | STORET # 44059 | LONGITUDE -84.294477
DATE 08/17/2016 | TIME 1125 | SAMPLING AGENCY FDEP
SITE NAME Wakulla River at Boat Tram
FIELD ID/NAME 44059_08172016 | 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	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
78		2	0.9	17	0.7	0.9	0.5

Landscape Development Intensity Index (LDI): 1.17

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 : >18m | Right Bank : >18m

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

High Water Mark: 0.25 (m) + 1.3 (above present water level) = 1.55 (present depth) (above bed)

Artificially Impounded ☐ Yes ☒ No

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

— m/s	0.35 m/s	/ m/s
/ m deep	1.3 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
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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	10	7	
Undercut Banks / Roots	—	0	
Leaf Packs or Mat	—	0	
Aquatic Vegetation	60	7	
Rock or Shell Rubble..	—	0	
Sand.....	—	0	
Mud / Muck / Silt	30	6	
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 :	0.3	21.58	7.63	4.06	46.2	297	0.14	
Mid:								☒ VOB
Bottom	1.3							TOTAL DEPTH
								1.3

Meter ID: Biology #2

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: 6168040 Exp: 6-16-17

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

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

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 / Ben Ralls / Digna Turner
SIGNATURE : [signature]
DATE : 8/17/16

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Wakulla River at Boat Tram | County: Wakulla | Date: 8/17/16 | Investigators: Curtis Musson, Ben Ralys

STORET Station Number: 44059

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

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

Secchi depth	1.03
Estimated?	NO

# points ranked 4-6	68
total points assessed	99
% points ranked 4-6	68%

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-2016-08-15-75

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: 76729

RPS_ID: 8299

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 River at Boat Tram | Date: 8/17/16 | County: Wakulla | Storet Number: 44059

Analyst: Curtis Musson, Ben Ralys | Signature: [signature]

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											
Boehmeria cylindrica										X	
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata	X	X	X	X	X	X	X	X	X		
Cladium jamaicense									X	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					X						
Hygrophila polysperma											
Hymenocallis	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											

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							X				
Nuphar luteum	X										
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	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 CM	X	X	X	X	X	X	X	X	X	X	
Sacciolepis striata											
Sagittaria kurziana	X	X	X	X	X	X					
Sagittaria lancifolia	X	X	X	X	X	X	X	X	X		
Sagittaria latifolia											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus (schenoplectus) californicus	X	X			X	X	X	X	X		
Sparganium americanum											
Typha						X	X	X			
Vallisneria americana	D	D	D	D	D	D	D	D	D	D	
Zizania aquatica											
Conoclinium coelestinum			X	X			X				
Lobelia cardinalis			X	X	X	X					
~~Nisterium~~ CM → Nasturtium SP				X	X				X	X	

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											
> 50% Macrophyte Coverage	X	X	X	X	X	X	X	X	X	X	

SBTC ID: 76729

Macrophyte ID: 10032

Macrophyte QC Report

STORET: 44059
Visit ID: 76729
Macrophyte ID: 10032
LIMS ID:

Sample Date: 8/17/2016
Collector Name:
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
Boehmeria cylindrica										P
Cicuta maculata	P	P	P	P	P	P	P	P	P	
Cladium jamaicense									P	P
Conoclinium coelestinum				P	P			P		
Hydrilla verticillata	P	P	P	P	P	P	P	P	P	P
Hydrocotyle					P					
Hymenocallis	P									
Lemna	P	P	P	P	P	P	P	P	P	P
Lobelia cardinalis				P	P	P	P			
Mikania scandens	P	P	P	P	P	P	P	P	P	P
Najas guadalupensis							P			
Nasturtium					P	P			P	P
Nuphar luteum	P									
Polygonum glabrum	P	P	P	P	P	P	P	P	P	P
Polygonum hydropiperoides		P			P		P	P	P	P
Pontederia cordata	P	P	P	P	P	P	P	P	P	P
Rhynchospora inundata	P	P	P	P	P	P	P	P	P	P
Sagittaria kurziana	P	P	P	P	P	P				
Sagittaria lancifolia	P	P	P	P	P	P	P	P	P	
Scirpus californicus	P	P			P	P	P	P	P	
Typha						P	P	P		
Vallisneria americana	D	D	D	D	D	D	D	D	D	D

This data has not been fully approved at this time.

Pass

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

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

Meter: Biology #2 RQ- 2016-08-15-75 Project: SMP

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 06/03/2016

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	8/17/16	0706	22.45	8.660	8.67	100.0	—	—	P	L
ICV	Curtis Musson	8/17/16	0707	22.45	8.660	8.71	100.5	51.2	—	P	L
CCV	Ben Tabys	8/17/16	1515	23.4	8.51	9.33	109.6			F	L
CCV	Blake Spencer	8/18/16	0732	22.25	8.693	8.70	100.0	49.2	—	P	L

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.	Curtis Musson	8/17/16	0710	160330D	4/2017	1000	1000	P	L
ICV	Curtis Musson	8/17/16	0711	160330D	4/2017	1000	1001	P	L
CCV	Curtis Musson	8/17/16	1522	2601533	12/2017	100	99	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.	Curtis Musson	8/17/16	0713	160330B	10/2017	7.0	7.00	-20.0	P	L
Calibr.	Curtis Mssn	8-17-16	0716	160330A	4/2017	4.0	4.01	158.9	P	L
Calibr.	Curtis Musson	8-17-16	0718	160330C	10/2017	10.0	9.98	-188.6	P	L
ICV	Curtis Musson	8-17-16	0719	160330C	10/2017	10.0	9.98	-187.4	P	L
CCV	Curtis Musson	8/17/16	1525	160330B	10/2017	7.00	7.06	-20.1	P	L
CCV	~~Blake Spencer~~	8/18/16	0732	CM						

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-2016-08-15-75

Wakulla River

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Apr 7, 2016

Customer: WQAP

Project ID: BMAP

Requester: Benjamin Ralys

Collected By: Ben Ralys, Curtis Musson

Field Report Prepared By: Curtis Musson

Sampling Agency: FDEP

Location: Wakulla River at Boat Tram
Field ID: 44059-08172016
STORET #: 44059
Latitude: 30.234581 (☒ dd ☐ dms) **Longitude:** -84.294477 (☒ dd ☐ dms)

☐ Comp ☒ Grab | Collection (comp begin or grab) Date 8-17-16 Time 11:25 | Eastern / Central | Composite end Date — Time — | Bottle Group(s) (See pg 2): A, B, C

Matrix (type, e.g., Salt, Fresh, etc): Fresh | Diss. Oxygen: 4.06 ☒ mg/L ☐ % sat | Total Res. Chlorine (mg/L): —

Temp (C): 21.58 | pH: 7.63 | Sample Depth: 0.3 ☐ ft ☒ m | Sp. Conductance (umho/cm): 297

Salinity (ppt): 0.14 | Comments: Sonde Wakulla BMAP

Location: Wakulla River at CR 365 Bridge
Field ID: 34879-08172016
STORET #: 34879
Latitude: 30.213731 (☒ dd ☐ dms) **Longitude:** -84.261636 (☒ dd ☐ dms)

☐ Comp ☒ Grab | Collection (comp begin or grab) Date 8-17-16 Time 1400 | Eastern / Central | Composite end Date — Time — | Bottle Group(s): A, C

Matrix (type, e.g., Salt, Fresh, etc): Fresh | Diss. Oxygen: 6.51 ☒ mg/L ☐ % sat | Total Res. Chlorine (mg/L): —

Temp (C): 23.06 | pH: 7.69 | Sample Depth: 0.3 ☐ ft ☒ m | Sp. Conductance (umho/cm): 301

Salinity (ppt): 0.14 | Comments: Wakulla BMAP

Location:
Field ID:
STORET #:
Latitude: ☐ dd ☐ dms **Longitude:** ☐ dd ☐ dms

☐ Comp ☐ Grab | Collection (comp begin or grab) Date Time | Eastern / Central | Composite end Date Time | Bottle Group(s)

Matrix (type, e.g., Salt, Fresh, etc) | Diss. Oxygen ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

Temp (C) | pH | Sample Depth ☐ ft ☐ m | Sp. Conductance (umho/cm)

Salinity (ppt) | Comments

Location:
Field ID:
STORET #:
Latitude: ☐ dd ☐ dms **Longitude:** ☐ dd ☐ dms

☐ Comp ☐ Grab | Collection (comp begin or grab) Date Time | Eastern / Central | Composite end Date Time | Bottle Group(s)

Matrix (type, e.g., Salt, Fresh, etc) | Diss. Oxygen ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

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
Curtis Musson	8-17-16 / 15:01	Dropoff	1 Cooler / 2.5 Cf Jugs	ABB	08-17-16 / 15:01

Cooler Packing Worksheet for Request: RQ-2016-08-15-75
Wakulla River
Ship Cooler On: 8/12/2016 Requester: Benjamin Ralys
Customer/Project: WQAP/BMAP Priority: 3

850-245-8443
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400

Attn: Benjamin Ralys

Comments:
No preservatives needed.

Bottle Group A: freshwater kits including metals
Bottle Group B: Biology SCI
Bottle Group C: Biology Algal

Requested Analyses:

Bottle Group: A # of Sites: 2

Container ID: P-1L **Qty: 2** **Preservation: ICE** **Lot #** 00065181
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-TDS	Total Dissolved Solids in aqueous matrices
W-TSS	Total Suspended Solids in aqueous matrices

Container ID: BP-1L **Qty: 2** **Preservation: ICE** **Lot #** 1170333
Description: Brown Plastic Bottle 1L

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

Container ID: P-500ML **Qty: 2** **Preservation: HNO3** **Lot #** 00064947

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 #** 00064947

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: ICE-FLTR** **Lot #** 00065090

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: PJ-2L **Qty: 4** **Preservation: Formalin** **Lot #** BIO-WASH

Description: Plastic Jar 2 L

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

Bottle Group: C # of Sites: 2

Container ID: PT-50ML **Qty: 2** **Preservation: ICE** **Lot #** 03715003

Description: Plastic Tube 50 mL

Analysis	Description

Cooler Packed By: MR Date: 8/16/16

DEP Cooler ID #(s): 1 Redcooler

Kit must also include:

- ✓ Field Sheets
- ✓ Temperature Control Bottle (1 per cooler)
- N/A FedEx Bills, if applicable (1 per cooler)
- ✓ Plastic Bags
- ✓ Zip Ties

If Preservation Included:

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

PLEASE RETURN ALL COOLERS FOR RQ-2016-08-15-75