FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified? Yes / (No)

WIN Station Name: Wakulla at Boat Tram **Date:** 07/17/2018 (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-2018-** 07-16-16

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Ben Ralys	X	X		X	X
Blake Spencer		X	X		

Sampling Equipment
- [x] Sample Container [ ] Van Dorn [ ] Pole
- [ ] Carboy [x] Syringe
- [ ] Dipper [ ] Other ______
- Depth Measured with: Meter Stick
- Equipment ID: ______

Collection Method
- [ ] Wading [ ] Canoe/Kayak
- [ ] From Shore [ ] Electric Motor
- [ ] Other ______ [x] Gasoline Motor

Water Level: Dry/ Pooled/ Low / (Normal) / High / Flooded **Meter ID#** Biology #2 **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	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTh)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1000	0.9	0.3	VOB	4.33	48.7	7.13	.15	324	21.18
CEN										

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

SBIO ID Numbers: SBIO-ID: 78673 HA-ID: 15312 RPS-ID: 9070 Macrophyte-ID: 11008 LIMS#: 2008095

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	SA8101020	4/11/19	[x] <2
Metals	[x] W-ICPMS [x] W-ICP	[x] Ice [x] HNO_3	NA7261120	9/18/18	[x] <2
Filtered Nutrients	[x] W-PO4-F [x] Field Filtered 0.45 µm Filter	[x] Ice	10827054		
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	[x] MI-FW-QLDC	[x] Formalin			
Periphyton	[ ] ALGAE-ID	[ ] Ice			
Microbiology	[x] E Coli [ ] F Coli [ ] Enterococci	[x] Ice			
Molecular	[ ] PCR-FILTER [ ] PCR-HF183 [ ] PCR-BacR [ ] PCR-GULL2 [ ] PCR-GFD	[ ] Ice			
Tracers	[x] W-E8321-DI [x] W-E8321-MS	[x] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-CT-CL-R [ ] W-E8321-DI [ ] W-PCL-SQ-R [ ] WE8321-MS [ ] W-CARB-AA	[ ] Ice [ ] Other			

Contains 1:1 Nitric Acid NA – 7261120 EXP: 09/18/18 See SDS

Contains: 1:1 H2SO4
Lot No.: SA8101020
Expires: 04/11/19
See Safety Data Sheet (SDS)

SULFURIC ACID <51%
DANGER 7664-93-9 7732-18-5
THERMO FISHER SCIENTIFIC 520 NORTH MAIN STREET MIAMI, OK 74354 1-828-858-2711
Contains: 1:1 H2S04

May be corrosive to metals. Causes severe skin burns and eye damage. Do not breathe fume/mist/vapours. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Store in corrosive resistant container with a resistant inner liner.

Notes:

Kit-C
FW BACT, TRACERS
SCI, RPS, LVS, HA

↓ Location ↓

WIN ID/Field ID
44059
Wakulla River Boat Tram

Signature: [signature] **Date:** 7/17/18

Enter Field Parameters, Verify Station ID In LIMS DMT: [initials] 8/6/2018 (Initials/Date) QC Station ID, Field Parameters In LIMS DMT: Cy 8-10-18 (Initials/Date)

Scan/Save Field Sheets: 8-10-18 (Initials/Date) Migrate Data to WIN: ______ (Initials/Date) Verify Data In WIN: ______ (Initials/Date)

Entered by: ~~KRS~~ 8/6/18
QcBy: CM 8-10-18

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

SBIO: 79673 HA: 15312

SAMPLING AGENCY: Florida Department of Environmental Protection		STORET STATION NUMBER: 44059	DATE (MM/DD/YY): 7/17/18	RECEIVING BODY OF WATER: St. Marks River
REMARKS:	COUNTY: Wakulla	LOCATION: Wakulla @ Boat Tram		FIELD ID/NAME: 44059

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components (Snag, Roots, Leaf, Rock, Aquatic Vegtation) **Substrate Diversity** 11	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 %	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 20 0.33 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 5 ---------- Primary Score 56	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 straight-ening. No spoil banks. 20 19 18 17 16	Good sinuosity within old chan-nelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. May have spoil banks. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. May have spoil banks. 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 9	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 19	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

135 **TOTAL SCORE**

Date: 7/17/18	Analyst: Blake Spencer	Signature:

Entered by: [redacted] 8/6/18

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

SAMPLE ID 78673 | ORG ID 21FLWQA | LATITUDE 30.23458
COUNTY Wakulla | STORET # 44059 | LONGITUDE -84.29447
DATE 7/17/18 | TIME 1000 | SAMPLING AGENCY FDEP
SITE NAME Wakulla @ Boat Tram
FIELD ID/NAME Wakulla @ Boat Tram | RECEIVING BODY OF WATER St. Marks River

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): 1.2

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 : >18m Right Bank : >18m

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

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

Artificially Impounded ☐ Yes ☒ No

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

m/s	0.33 m/s	m/s
m deep	0.9 m deep	m deep

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

	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)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation	>30%	10	
Rock or Shell Rubble..			
Sand.....		10	
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)
Top :	0.9	21.18	7.13	4.33	48.7	324	0.15
Mid:							
Bottom							

SECCHI (M): ☒ VOB
TOTAL DEPTH: 0.9
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: SA8101020 Exp: 4/11/18

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

Algae Sample Taken? ☐ Yes ☐ No
Sample Preserved? ☐ Yes ☐ No
Lot Number:_____ 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: Blake Spencer + Ben Ralys
SIGNATURE : [signature]
DATE : 7/17/18

Entered by: [illegible] 8/6/18
QC'd: CM 8-10-18

SRIO: 24673 RPS: 9070

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:	County:	Date:	Investigators:
Wakulla @ Boat Tram	Wakulla	7/17/18	

STORET Station Number: 44059

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	X	Yes	
	2	6		
	3	6		
	4	N		
	5	N		96
	6	N		
	7	N		
	8	N		
	9	X		
10	1	X		
	2	6		
	3	6		
	4	6		
	5	6		96
	6	6		
	7	4		
	8	6		
	9	X		
20	1	X		
	2	6		
	3	6		
	4	N		
	5	6		96
	6	N		
	7	3		
	8	3		
	9	X		
30	1	X		
	2	6		
	3	N		
	4	N		
	5	N		96
	6	4		
	7	4		
	8	6		
	9	X		
40	1	X		
	2	6		
	3	6		
	4	N		
	5	N		96
	6	6		
	7	6		
	8	N		
	9	X		
50	1	X		
	2	6		
	3	6		
	4	N		
	5	6		96
	6	6		
	7	N		
	8	N		
	9	X	Yes	

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	X	Yes	
	2	6		
	3	6		
	4	6		
	5	6		96
	6	4		
	7	6		
	8	6		
	9	X		
70	1	N		
	2	6		
	3	4		
	4	N		
	5	4		96
	6	N		
	7	4		
	8	6		
	9	X		
80	1	X		
	2	6		
	3	6		
	4	N		
	5	6		96
	6	6		
	7	N		
	8	6		
	9	X		
90	1	X		
	2	6		
	3	4		
	4	6		
	5	6		96
	6	6		
	7	N		
	8	N		
	9	X		
100	1	X		
	2	4		
	3	6		
	4	N		
	5	6		96
	6	6		
	7	4		
	8	6		
	9	X	Yes	

Secchi depth	VOB
Estimated?	N
# points ranked 4-6	53
total points assessed	77
% points ranked 4-6	69%

(Exclude X's)

Check accompanying data collected at same site/date.	
Algal mat sample	✓
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	✓
Water sample	✓

RQ- 2018-07-16-16

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

(> 3 considered smothered)

(N to 1 mm)
(3) 6mm
(4) 20mm
(5) 10cm
(6)

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%.

SAIO: 78673 Macrophyte: 11008 LIMS: 2008095 Entered by: [illegible] 8/6/18

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET QC'd by: CM 8-10-18

Waterbody: **Wakulla River @ Boat Tram**	**Date: 7/17/2018**	County: **Wakulla**	Storet Number: **44059**
Analyst: Blake Spencer		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											
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata	X	X	X	X	X	X	X	X	X	X	
Cladium jamaicense	X	X	X	X	X	X	X	X	X	X	
Colocasia esculenta											
Commelina diffusa											
Commelina virginica											
Crinum americanum						X					
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata	X	X	X	X	X	X	X	X	X	X	
Hydrocotle			X				X				
Hygrophila polysperma											
Hymenocallis											
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	X	X			X	X	X	X	X		
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	
Polygonum hydropiperoides											
Polygonum punctatum											
Pontederia cordata	X	X	X	X	X	X	X	X	X	X	
Potamogeton illinoensis											
Rhynchospora inundata											
Rosa palustris											
Ruellia simplex											
Rumex verticillatus											
Sacciolepis striata											
Sagittaria kurziana	D	D	D	D	D	D	D	D	D	D	
Sagittaria lancifolia	X	X	X	X	X	X	X	X	X	X	
Sagittaria latifolia											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus (schenoplectus) californicus							X	X	X		
Sparganium americanum											
Typha				X	X						
Vallisneria americana	X	X	X	X	X	X	X	X	X	X	
Zizania aquatica											
Salix Caroliniana		X			X		X	X		X	
Myrica cerifera	X						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

Macrophyte QC Report

STORET: 44059
Visit ID: 78673
Macrophyte ID: 11008
LIMS ID: 2008095

Sample Date: 7/17/2018
Collector Name: Spencer, Blake
Identifier Name: Spencer, Blake

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
Cicuta maculata	X	P	P	P	P	P	P	P	P	P	P
Cladium jamaicense	X	P	P	P	P	P	P	P	P	P	P
Crinum americanum	X						P				
Hydrilla verticillata	X	P	P	P	P	P	P	P	P	P	P
Hydrocotyle	Y			P				P			
Lemna	Y	P	P	P	P	P	P	P	P	P	P
Ludwigia repens	X	P	P			P	P	P	P	P	
Mikania scandens	X	P	P	P	P	P	P	P	P	P	P
Myrica cerifera	X	P						P		P	
Polygonum glabrum	X	P	P	P	P	P	P	P			P
Pontederia cordata	Y	P	P	P	P	P	P	P	P	P	P
Sagittaria kurziana	X	D	D	D	D	D	D	D	D	D	D
Sagittaria lancifolia	X	P	P	P	P	P	P	P	P	P	P
Salix caroliniana	X		P			P		P	P		P
Schoenoplectus californicus	X							P	P	P	
Typha	X				P	P					
Vallisneria americana	X	P	P	P	P	P	P	P	P	P	P

QC by: CM 8-10-18

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 page.

Meter ID: Biology #2 RQ- 2018-07-16-16 Project: Wekiva 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.

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

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 6/25/18

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.	Blake Spencer	7/17/18	0705	22.41	8.677	8.68	100.1	36.9	—	(P) / F	(L) / F
ICV	Blake Spencer	7/17/18	0707	22.41	8.677	8.69	100.2	36.9	—	(P) / F	(L) / F
CCV	Blake Spencer	7/17/18	1214	24.36	8.356	8.57	102.5	39.0	—	(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; 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.	Blake Spencer	7/17/18	714	180403A	04/2019	1000	1000	(P) / F	(L) / F
ICV	Blake Spencer	7/17/18	0715	180403A	04/2019	1000	1000	(P) / F	(L) / F
CCV	Blake Spencer	7/17/18	1217	2802833	01/2020	100	102	(P) / F	(L) / F
CCV								P / F	L / F

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.	Blake Spencer	7/17/18	721	171121A	06/2019	7.0	7.00	15.9	(P) / F	(L) / F
Calibr.	Blake Spencer	7/17/18	725	180116A	01/2019	4.0	4.00	187.2	(P) / F	(L) / F
Calibr.	Blake Spencer	7/17/18	730	180221E	09/2019	10.0	9.99	-153.3	(P) / F	(L) / F
ICV	Blake Spencer	7/17/18	731	180221E	09/2019	10.0	9.99	-153.2	(P) / F	(L) / F
CCV	Blake Spencer	7/17/18	1219	180116A	01/2019	4.0	3.99	188.4	(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 ± 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)

Is meter equipped with depth sensor? (Yes) / **No** If yes, list date of last quarterly depth verification 6/26/18

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	Blake Spencer	7/17/18	0732	0.00	0.00	(P) / F	(L) / F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria ± 5 % or ± 0.05m, whichever is greater.

COMMENTS:

Request Number: RQ-2018-07-16-16
Wakulla BMAP

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: WAS-SECT
Project ID: BMAP

Requester: Curtis Musson
Collected By: Ben Radys + Blake Spencer
Field Report Prepared By: Blake Spencer
Sampling Agency: FDEP

Location / Field ID / WIN/STORET #	Sample Data	
Location: ↓ Location ↓ Wakulla River Boat Tram Field ID: WIN ID/Field ID WIN/STORET #: 44059	☐ Comp ☒ Grab; Collection (comp begin or grab) Date 7/17/18 Time 1000 (Eastern) Central; Composite end Date Time	Bottle Group(s) (See pg 2): A+B
	Matrix (type, e.g., Salt, Fresh, etc): Fresh; Diss. Oxygen: 48.7 ☐ mg/L ☒ % sat; Total Res. Chlorine (mg/L): —	
	Temp (C): 21.18; pH: 7.13; Sample Depth: 0.3 ☐ ft ☒ m; Sp. Conductance (umho/cm): 324	
Latitude: 30.23458 ☒ dd ☐ dms; Longitude: -84.29447 ☐ dd ☐ dms	Salinity (ppt): 0.15; Comments:	
Location: Field ID: WIN/STORET #:	☐ 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)	
Latitude ☐ dd ☐ dms; Longitude ☐ dd ☐ dms	Salinity (ppt); Comments	
Location: Field ID: WIN/STORET #:	☐ 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)	
Latitude ☐ dd ☐ dms; Longitude ☐ dd ☐ dms	Salinity (ppt); Comments	
Location: Field ID: WIN/STORET #:	☐ 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)	
Latitude ☐ dd ☐ dms; Longitude ☐ dd ☐ dms	Salinity (ppt); Comments	

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
[signature]	7/17/18 1152	Hand Delivered	1	SR	7-17-18/1153

Group: A	Bottle Type: P-1L	# of Bottles: 2	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: 2	Preservative: ICE		Enter Number of Bottles Sent to Lab	1
	CHLSUITE-W					
Group: A	Bottle Type: P-250ML-WO-THI	# of Bottles: 2	Preservative: ICE		Enter Number of Bottles Sent to Lab	1
	ECOLI-18QT					
Group: A	Bottle Type: BG-500ML	# of Bottles: 2	Preservative: ICE		Enter Number of Bottles Sent to Lab	1
	W-E8321-DI W-E8321-MS					
Group: A	Bottle Type: P-500ML	# of Bottles: 2	Preservative: HNO3		Enter Number of Bottles Sent to Lab	1
	W-ICP W-ICPMS		Lot# 7261120 Exp. 9/18/18			
Group: A	Bottle Type: P-500ML	# of Bottles: 2	Preservative: ICE And H2SO4		Enter Number of Bottles Sent to Lab	1
	W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC		H2SO4 LOT# SA8101020 EXP: 04/11/2019			
Group: A	Bottle Type: P-125ML	# of Bottles: 2	Preservative: FILTER-ICE		Enter Number of Bottles Sent to Lab	1
	W-PO4-F		Lot# 10827054			
Group: B	Bottle Type: PT-50ML	# of Bottles: 2	Preservative: ICE		Enter Number of Bottles Sent to Lab	1
	ALGAL_ID					
Group: B	Bottle Type: PJ-2L	# of Bottles: 4	Preservative: Formalin		Enter Number of Bottles Sent to Lab	2
	MI-FW-QLDC					

Cooler Packing Worksheet for Request: RQ-2018-07-16-16
Wakulla BMAP
Ship Cooler On: 7/12/2018
Customer/Project: WAS-SECT/BMAP

Assigned To: GREENWOO_J
Requester: Curtis Musson
Priority: 3

850-245-8453
2600 Blair Stone Rd

Tallahassee, FL 32399

Attn: Curtis Musson

Please return packing list with sample submittal forms.

Comments:
Group A: Nutrients, Metals, E. coli, Tracers
Group B: SCI, Algal ID

1 - case of sulfuric acid ✓
1 - case of nitric acid ✓
2 - sets of sulfuric acid labels
2 - sets of nitric acid labels

Adding extra bottles to E8321 test for QC

Requested Analyses:

Bottle Group: A # of Sites: 2

Container ID: P-1L **Qty: 2** **Preservation: ICE** **Lot #** 00071233

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 using a maximum of 250 mL of sample

Container ID: BP-1L **Qty: 2** **Preservation: ICE** **Lot #** L223623

Description: Brown Plastic Bottle 1L

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

Container ID: P-250ML-WO-THI **Qty: 2** **Preservation: ICE** **Lot #** L18038

Description: 250 ml Sterilized no tablet

Analysis	Description
ECOLI-18QT	Escherichia coli by Colilert 18 Quanti-Tray method - non-chlorinated water systems

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Container ID: BG-500ML **Qty: 2** **Preservation: ICE** **Lot #** 00070815

Description: Brown Glass Bottle 500ML Affix BLUE dot to container.

Analysis	Description
W-E8321-DI	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS
W-E8321-MS	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

Container ID: P-500ML **Qty: 2** **Preservation: HNO3** **Lot #** 00070684

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 #** 00070684

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 #** 00070627

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 #** 03775003

Description: Plastic Tube 50 mL

Analysis	Description
ALGAL_ID	Qualitative assessment of algal taxa present without counts

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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: J.Z Number of Coolers: 2 Date: 7/9/18

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 Nitric Acid	Exp 3/21/19	Lot # HA 0080070
ID Sulfuric Acid	Exp 3/26/19	Lot # SA 0085170
ID ___	Exp ___	Lot # ___
ID ___	Exp ___	Lot # ___
ID ___	Exp ___	Lot # ___

PLEASE RETURN ALL COOLERS FOR RQ-2018-07-16-16