



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified?

Yes / No

WIN Station Name: Wakulla At Boat Tram

Date: 10/30/2018

WIN/ Field ID: 44059

WBID: 1006

Latitude: 30.23458

County: Wakulla

ORG ID: 21FLWQA

Longitude: -84.29447

Receiving Body of Water: St. Marks River

RQ-2018- 10-15-18

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Ben Ralys						X		X	X	☒ Sample Container	☐ Van Dorn	☐ Pole		
Blake Spencer					X	X	X			☐ Carboy	☒ Syringe			
Jason Storrs					X	X				☐ Dipper	☐ Other			
										Depth Measured with <u>Sonar #1</u>				
										Equipment ID				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☒ Gasoline Motor			
Water Level: Dry/ Pooled/ <u>Low</u> / Normal / High / Flooded					Meter ID# Biology #2					Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / <u>No</u>					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising/ Falling/ Slack/ <u>NA</u>				
Tide Times: High <u>NA</u> Low <u>NA</u>														
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)				
EST	1010	1.3	0.3	108	3.44	38.5	7.67	0.15	319	20.86				
CEN														
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> <u>Algae ID</u> <u>LVS</u> LVI Other:														
SBIO ID Numbers: SBIO-ID: <u>78997</u> HA-ID: <u>15476</u> RPS-ID: <u>9131</u> Macrophyte-ID: <u>11118</u> LIMS#: <u>2037435</u>														
Parameter Suite	Parameter Methods					Preservation	Lot#	Expiration	pH Check					
Preserved Nutrients	☒ W-NH3 / ☒ W-NO2NO3 / ☒ W-TKN / ☒ W-TOC / ☒ W-S-A-TP					☒ Ice ☒ H2SO4	<u>SA8085170</u>	<u>3/26/19</u>	☒ <2					
Metals	☒ W-ICPMS ☒ W-ICP					☒ Ice ☒ HNO3	<u>NA 7341010</u>	<u>12/7/18</u>	☒ <2					
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice	<u>10827054</u>							
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								
Periphyton	☒ ALGAE-ID					☒ Ice								
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococci					☐ Ice								
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD					☐ Ice								
Tracers	☒ W-E8321-DI ☒ W-E8321-MS					☒ Ice								
Pesticides	☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI					☐ Ice								
	☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA					☐ Other								

Notes:

Kit-C
Tracers
SCI, Algal ID

↓ Location ↓

Wakulla River Boat Tram

← WIN ID/Field ID

44059

Signature:

Date:

Enter Field Parameters, Verify Station ID In LIMS DMT: 11/6/18

QC Station ID, Field Parameters In LIMS DMT: CN 11-27-18

Scan/Save Field Sheets CM 11-27-18

Migrate Data to WIN: 11/6/18

Verify Data In WIN: 11/6/18

(Initials/Date)

Entered by: BBB 11/6/18
 Q&by: CM 11/27/18

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

SRIID: 78997 HA: 15476

SAMPLING AGENCY: Florida Department of Environmental Protection		STORET STATION NUMBER: <u>44059</u>	DATE (MM/DD/YY): <u>10/30/18</u>	RECEIVING BODY OF WATER: <u>St. Marks River</u>
REMARKS:	COUNTY: <u>Wakulla</u>	LOCATION: <u>Wakulla @ Boat Tram</u>	FIELD ID/NAME: <u>44059</u>	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Snag Leaf Root Rock Aquatic Vegetation Substrate Diversity <u>11</u>	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 <u>11</u>	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 <u>20</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>0.33</u> 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 <u>20</u> 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>4</u> Primary Score <u>55</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 <u>4</u> 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. <u>20</u> 19 18 17 16	Good sinuosity within old channelized 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 <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. (+,+,+) <u>10</u> 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>9</u>	Width of vegetation greater than 18 m <u>10</u> <u>9</u>	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>79</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. <u>10</u> 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

134

TOTAL SCORE

Date: <u>10/30/18</u>	Analyst: <u>Blake Spencer</u>	Signature: <u>Blake Spencer</u>
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Entered by: ~~602~~ 11/6/18
 Qcby: Cm 11-27-18

SRT0: 28997 RPS: 9131 LIMS: 2037435

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Wakulla @ Boat Tram County: Wakulla Date: 10/30/18 Investigators: Blake Spencer & Jason Starks

STORET Station Number: 44059

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0 1	1	X			60 5	1	X		
	2	3				2	X		
	3	3				3	6		
	4	N				4	6		
	5	4		0		5	N		0
	6	N				6	6		
	7	N				7	N		
	8	N				8	4		
	9	X				9	X		
10 3	1	X			70 5	1	X		
	2	6				2	6		
	3	3				3	6		
	4	6				4	6		
	5	N		0		5	6		0
	6	N				6	6		
	7	N				7	3		
	8	6				8	3		
	9	X				9	X		
20 7	1	X			80 7	1	X		
	2	6				2	6		
	3	6				3	6		
	4	6				4	6		
	5	4		0		5	4		0
	6	4				6	6		
	7	4				7	6		
	8	4				8	6		
	9	X				9	X		
30 3	1	X			90 4	1	X		
	2	6				2	6		
	3	6				3	6		
	4	6				4	N		
	5	N		0		5	N		0
	6	4				6	6		
	7	N				7	N		
	8	N				8	6		
	9	X				9	X		
40 4	1	X			100 5	1	X		
	2	6				2	4		
	3	6				3	6		
	4	6				4	N		
	5	N		0		5	4		0
	6	6				6	6		
	7	N				7	N		
	8	N				8	6		
	9	X				9	N		
50 5	1	X			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%.				
	2	6							
	3	6							
	4	4							
	5	4		0					
	6	3							
	7	N							
	8	6							
	9	N							

Secchi depth	<u>VOR</u>
Estimated?	<u>N</u>
# points ranked 4-6	<u>49</u>
total points assessed	<u>80</u>
% points ranked 4-6	<u>61</u>

Check accompanying data collected at same site/date.	
Algal mat sample	☒
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	☒
RQ- <u>2018-10-15-18</u>	

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



SRT0: 78997 Macrophyte: 11118 LIMS: 2037435

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

Waterbody: Wakulla @ Boat Tram Date: 10/30/18 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 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	X	X	X	X	X	X	X	X	X	X		Pistia stratioides											
Cladium jamaicense	X	X	X	X	X	X	X	X	X	X		Polygonum glabra	X	X	X	X	X	X	X	X	X	X	
Colocasia esculenta												Polygonum hydropiperoides											
Commelina diffusa												Polygonum punctatum	X	X	X	X	X	X	X	X	X	X	
Commelina virginica												Pontedaria cordata	X	X	X	X	X	X	X	X	X	X	
Crinum americanum												Potamogeton illinoensis											
Diodia virginiana												Rhynchospora inundata											
Eichhornia crassipes												Rosa palustris											
Eleocharis (wispy viviparous)												Ruellia simplex											
Hydrilla verticillata	X	X	X	X	X	X	X	X	X	X		Rumex verticillatus											
Hydrocotyle												Sacciolepis striata											
Hygrophila polysperma												Sagittaria kurziana	X	X	X	X	X	X	X	X	X	X	
Hymenocallis												Sagittaria lancifolia	X	X	X	X	X	X	X	X	X	X	
Lachnanthes caroliniana												Sagittaria latifolia											
Landoltia punctata												Salvinia minima											
Lemna	X	X	X	X	X	X	X	X	X	X		Samolus parviflora											
Limnophila sessiflora												Saururus cernuus											
Ludwigia leptocarpa												Scirpus (schenoplectus) californicus	X	X	X	X	X	X	X	X	X	X	
Ludwigia palustris												Sparganium americanum											
Ludwigia peruviana												Typha											
Ludwigia repens	X	X	X	X	X	X	X	X	X	X		Vallisneria americana	X	X	X	X	X	X	X	X	X	X	
Luziola fluitans												Zizania aquatica											
Micranthemum glomeratum												Taxodium Taxodium	X	X	X	X	X	X	X	X	X	X	
Micranthemum umbrosum												Nyssa	X	X	X	X	X	X	X	X	X	X	
Mikania scandens	X	X	X	X	X	X	X	X	X	X		Myrica carifolia		X	X	X	X	X	X	X	X	X	
Myriophyllum aquaticum												Salix caroliniana											
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section												Notes:											
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																							

Entered by: [Signature] 11/6/18

Macrophyte QC Report

STORET: 44059

Visit ID: 78997

Macrophyte ID: 11118

LIMS ID: 2037435

Sample Date: 10/30/2018

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	
<i>Cicuta maculata</i>	CM	P	P	P	P	P	P	P	P	P	P	✓
<i>Cladium jamaicense</i>	CM	P	P	P	P	P	P	P	P	P	P	✓
<i>Hydrilla verticillata</i>	CM	P	P		P	P	P				P	✓
<i>Hydrocotyle</i>	CM				P							✓
<i>Hymenocallis</i>	CM								P			✓
<i>Lemna</i>	CM	P	P	P	P	P	P	P	P	P	P	✓
<i>Ludwigia repens</i>	CM	P	P				P	P	P	P	P	✓
<i>Mikania scandens</i>	CM	P	P	P	P	P	P	P	P	P	P	✓
<i>Myrica cerifera</i>	CM			P	P					P	P	✓
<i>Nyssa sylvatica biflora</i>	CM		P									✓
<i>Polygonum glabrum</i>	CM	P	P	P	P	P	P	P	P	P	P	✓
<i>Polygonum punctatum</i>	CM	P	P	P		P	P	P				✓
<i>Pontederia cordata</i>	CM	P	P	P	P	P	P	P	P	P	P	✓
<i>Sagittaria kurziana</i>	CM	D	D	D	D	D	D	D	D	D	D	✓
<i>Sagittaria lancifolia</i>	CM	P	P	P	P	P		P				✓
<i>Salix caroliniana</i>	CM						P		P	P		✓
<i>Schoenoplectus californicus</i>	CM			P			P	P	P			✓
<i>Taxodium</i>	CM	P			P				P		P	✓
<i>Vallisneria americana</i>	CM	P	P	P	P	P	P	P	P	P	P	✓

QC by CM: 11-27-18

5810: 78997

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

SAMPLE ID 78997 ORG ID 21FLWQA LATITUDE 30.23458
 COUNTY Wakulla STORET # 44059 LONGITUDE -84.29447
 DATE 10/30/18 TIME 1010 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):								Landscape Development Intensity Index (LDI)	
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)		
<u>78</u>		<u>2</u>	<u>0.9</u>	<u>17</u>	<u>0.7</u>	<u>0.9</u>	<u>0.5</u>	<u>1.2</u>	
Local Watershed Erosion (select one): ☒ None ☐ Slight ☐ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect	
Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy								<u>85</u> m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>>18</u>		Right Bank: <u>>18</u>		<u>3-4</u>					
High Water Mark: <u>0.1</u> + <u>1.3</u> = <u>1.4</u>				Artificially Impounded					
(m) (above present water level) (present depth) (above bed)				☐ Yes ☒ No					
Artificially ☒ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%)					
Channelized: ☐ Some recovery ☐ Recent, severe				☐ Heavily Shaded ☐ Moderate Shaded (46-80%)					

SEDIMENT / SUBSTRATE

Sediment Oils			Sediment Odors			Smothering of Substrates					
☒ Absent ☐ Slight			☒ Normal ☐ Sewage ☐ Petroleum			Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
☐ Moderate ☐ Profuse			☐ Chemical ☐ Anaerobic			Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
			☐ Other (Specify):			Algae Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☒					
SUBSTRATE TYPE						WATER QUALITY					
Assessment Tool: ☒ SCI ☒ RPS ☒ LVS						Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)					
☐ LCI ☐ BioRecon						Top: <u>0.3</u> <u>20.86</u> <u>7.87</u> <u>3.44</u> <u>38.5</u> <u>319</u> <u>0.15</u>					
% Coverage # Times Sampled # Times Sampled						Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB					
Woody Debris (Snags)						Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH					
Undercut Banks / Roots						<u>1.3</u>					
Leaf Packs or Mat						Meter ID: <u>Biology #2</u>					
Aquatic Vegetation						Water Odors Normal ☒ Petroleum ☐					
<u>>30%</u> <u>10</u> <u>111111</u>						Sewage ☐ Chemical ☐ Other ☐					
Rock or Shell Rubble						Water Surface Oils Normal ☒ Sheen ☐					
Sand						Globs ☐ Slick ☐ Other ☐					
Mud / Muck / Silt						Color Tannic ☐ Green (Algae) ☐					
Other						Clear ☒ Other (Specify) ☐					
Other						Clarity Clear ☒ Slightly Turbid ☐					
						Turbid ☐ Opaque ☐					
ABUNDANCE						System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>Spring Run</u>					
Not Obs. Rare Common Abundant						AMBIENT FIELD CONDITIONS / NOTES:					
Periphyton: ☐ ☐ ☐ ☒						☒ The antecedent hydrologic conditions have been met to my best knowledge.					
Fish: ☐ ☐ ☐ ☒											
Aquatic Plants: ☐ ☐ ☐ ☒											
Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐											
SAMPLING TEAM						SIGNATURE					
<u>Blake Spencer, Ben Ralys, Jason Storrs</u>						<u>[Signature]</u>					
						DATE: <u>10/30/18</u>					

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 ID: Biology #2 RQ- 2018-10-15-18 Project: Wakulla 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 6/25/18

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 6/26/18

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	10/30/18	0741	20.60	8.985	8.98	100	81.9	-	P/F	L/F
ICV	Blake Spencer	10/30/18	0742	20.59	8.985	8.99	100	81.9	-	P/F	L/F
CCV	Blake Spencer	10/30/18	1236	19.43	9.202	9.11	99.1	85.9	-	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 μ hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	Blake Spencer	10/30/18	0714	180621C	07/2019	1000	1000	P/F	L/F
ICV	Blake Spencer	10/30/18	0715	180621C	07/2019	1000	1001	P/F	L/F
CCV	Blake Spencer	10/30/18	1239	1805F81	05/2020	100	102	P/F	L/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Blake Spencer	10/30/18	0723	180621E	01/2020	7.0	7.00	3.0	P/F	L/F
Calibr.	Blake Spencer	10/30/18	0730	180510B	05/2019	4.0	4.00	176.8	P/F	L/F
Calibr.	Blake Spencer	10/30/18	0736	180403D	10/2019	10.0	10.0	-158.0	P/F	L/F
ICV	Blake Spencer	10/30/18	0737	180403D	10/2019	10.0	10.0	-158.1	P/F	L/F
CCV	Blake Spencer	10/30/18		180621E	01/2020	7.0	7.17	-0.2	P/F	L/F
CCV									P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

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

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

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	10/30/18	0745	0.00	0.00	P/F	L/F

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

COMMENTS:

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Customer: WAS-SECT

Requester: Curtis Musson

Field Report Prepared By: Blake Spencer

Project ID: BMAP

Collected By: Blake Spencer, Ben Ralys, & Jason StorrsSampling Agency: FDEP

Location		↓ Location ↓		☐ Comp ☒ Grab		Collection (comp begin or grab)		☒ Eastern ☐ Central		Composite end		Bottle Group(s) (See pg 2) A, B
Field ID		 Wakulla River Boat Tram		Date 10/30/18		Time 1010		Date		Time		
WIN/STORET #		 44059		Matrix (type, e.g., Salt, <u>Fresh</u> etc)		Diss. Oxygen		☐ mg/L ☒ % sat		Total Res. Chlorine (mg/L)		
Latitude 30.23458		☒ dd ☐ dms		Longitude -84.29447		☒ dd ☐ dms		Temp (C) 20.86		pH 7.87		
				Salinity (ppt) 0.15		Sample Depth 0.3		☐ ft ☒ m		Sp. Conductance (umho/cm) 319		
Location				☐ Comp ☐ Grab		Collection (comp begin or grab)		☐ Eastern ☐ Central		Composite end		Bottle Group(s)
Field ID				Date		Time		Date		Time		
WIN/STORET #				Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		☐ mg/L ☐ % sat		Total Res. Chlorine (mg/L)		
Latitude		☐ dd ☐ dms		Longitude		☐ dd ☐ dms		Temp (C)		pH		
				Salinity (ppt)		Sample Depth		☐ ft ☐ m		Sp. Conductance (umho/cm)		
Location				☐ Comp ☐ Grab		Collection (comp begin or grab)		☐ Eastern ☐ Central		Composite end		Bottle Group(s)
Field ID				Date		Time		Date		Time		
WIN/STORET #				Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		☐ mg/L ☐ % sat		Total Res. Chlorine (mg/L)		
Latitude		☐ dd ☐ dms		Longitude		☐ dd ☐ dms		Temp (C)		pH		
				Salinity (ppt)		Sample Depth		☐ ft ☐ m		Sp. Conductance (umho/cm)		
Location				☐ Comp ☐ Grab		Collection (comp begin or grab)		☐ Eastern ☐ Central		Composite end		Bottle Group(s)
Field ID				Date		Time		Date		Time		
WIN/STORET #				Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		☐ mg/L ☐ % sat		Total Res. Chlorine (mg/L)		
Latitude		☐ dd ☐ dms		Longitude		☐ dd ☐ dms		Temp (C)		pH		
				Salinity (ppt)		Sample Depth		☐ ft ☐ m		Sp. Conductance (umho/cm)		

Relinquished By: <u>Blake</u>	Date/Time 10/30/18 1222	Shipping Method <u>Hand Delivered</u>	Number of Coolers Shipped: <u>1</u>	Received By: <u>SK</u>	Date/Time 10-30-18/12:24
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Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	
	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	
	CHLSUITE-W						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	
	W-E8321-DI						
	W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	
	W-ICP						
	W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	
	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	
	W-PO4-F						
Group: B	Bottle Type:	PT-50ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	
	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-2018-10-15-18

Wakulla BMAP

Ship Cooler On: 10/11/2018

Customer/Project: WAS-SECT/BMAP

Assigned To: SHAIK_A

Requester: Curtis Musson

Priority: 3

850-245-8453

2600 Blair Stone Rd

Tallahassee, FL 32399

Attn: Curtis Musson

Comments:

No preservatives needed.

Group A: Nutrients, Metals, Tracers

Group B: SCI, Algae_ID

Packing Notes

No FedEx labels needed

No Trash Bags

Adding QC bottle to Group A

Requested Analyses:

Bottle Group: A

of Sites: 2

Container ID: P-1L

Qty: 2 Preservation: ICE

Lot # 05071233

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 using a maximum of 250 mL of sample

Container ID: BP-1L

Qty: 2 Preservation: ICE

Lot # 1227219

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

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

Container ID: BG-500ML Qty: 2 Preservation: ICE Lot # 00071185
Description: Brown Glass Bottle 500ML Affix BLUE dot to container.

Analysis

W-E8321-DI
W-E8321-MS

Description

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

Container ID: P-500ML Qty: 2 Preservation: HNO3 Lot # 00071864
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 # 00071864
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: FILTER-ICE Lot # 00068347
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 # 03775003
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 # Browder

Description: Plastic Jar 2 L

Analysis

MI-FW-QLDC

Description

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

Cooler Packed By: AR

Number of Coolers: 2

Date: 10-15-18

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

PLEASE RETURN ALL COOLERS FOR RQ-2018-10-15-18