



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SURFACE WATER FIELD SHEET
Watershed Monitoring Section
October 2017

Visit ID: 80014
Entered by: Jade Burtch
QC'd by: Paul Blair

STATION INFORMATION

Station Name (Random ID for Status): S266 Date: 07/17/2019
(MM/DD/YYYY)
Waterbody Name: Wakulla @ 365 All Times Are: (circle one)
(if known) ETZ or CTZ or EST (daylight savings time never observed)
Waterbody Type: Small Lake (≥ 4 and < 10 hectares) / Large Lake (≥ 10 hectares)
(Circle One) (collect samples in middle of open water) (collect samples at selected location point)
Stream (collect samples in representative area) / Canal (collect samples in representative area) / River (collect samples in representative area)
Field Sheet Completed by: J. Burtch WQ Sample Collected by: P. Blair

WATER CHARACTERISTICS

Total Water Depth: 1.2 (meters) Secchi Depth: 1.2 (meters) ☐ Check if Secchi Visible on Bottom
(Average of 2 measurements) (from SHADED side) ("S" qualifier needed)
Stream/River/Canal Flow: N/A / No Flow, Water within Banks / Flowing within Banks / Flow Above Banks
(Circle One) (waterbody not stream / river / canal) (comment if avg. velocity < 0.05 m/s) (For Status sites, DO NOT sample if flooded above banks.)
Water Level: (Circle One) Low / Normal / High
Water Sample Collection Device: Direct Grab / Van Dorn: _____ # of grabs & Equipment ID _____
(Circle One) (with Sample Bottle)

FIELD MEASUREMENTS		Meter ID#	Read by: <u>J. Burtch</u>			
Time (24 hr.)	Surface Depth Collected (meters)	Temperature ($^{\circ}\text{C}$)	Specific Conductance ($\mu\text{mhos/cm}$)	D.O. (%)	D.O. (mg/L)	pH (SU)
<u>1215</u>	<u>0.3</u>	<u>22.3</u>	<u>319.3</u>	<u>81.6</u>	<u>7.08</u>	<u>7.62</u>
Time (24 hr.)	Bottom Depth Collected (meters)	Temperature ($^{\circ}\text{C}$)	Specific Conductance ($\mu\text{mhos/cm}$)	D.O. (%)	D.O. (mg/L)	pH (SU)

☐ Check here if bottom measurements not collected because total depth < 1.5 m.
DATA COLLECTION DEPTHS: Total depth < 0.1 m $\rightarrow$ no data collection. Total depth ≥ 0.1 m and < 0.6 m $\rightarrow$ surf. meas. & sample at mid-depth.
Total depth ≥ 0.6 m and < 1.5 m $\rightarrow$ surface meas. & sample at 0.3m. Total depth ≥ 1.5 m $\rightarrow$ surface meas. & sample at 0.3m, bottom meas. 0.5 m above bottom.

PRESERVATION INFORMATION

☐ N/A (No samples collected; please state why in comments.)
Were all samples (including QA/QC blanks) properly preserved within 15 minutes of collection? Yes / No
1 vial sulfuric acid added to nutrients sample(s)? Yes / No Sulfuric acid info: (circle one) Chem ID / Lot # 9010030
1 vial nitric acid added to metals sample(s)? Yes / No Nitric acid info: (circle one) Chem ID / Lot # 9129070
pH of all acidified samples verified to be < 2 ? Yes / No
All water & sediment samples submerged in wet ice ($\leq 6^{\circ}\text{C}$)? Yes / No
SCI samples preserved with buffered formalin? Yes / No / NA
Preserved By: P. Blair
(Please describe any variations to this preservation protocol in the comments section below.)

QA/QC SAMPLE INFORMATION

QA/QC Sample: NA / Field Blank Equipment Blank Time: 1250 (24 hr.)
(Circle One) (Field-cleaned) or (Lab-cleaned)
Van Dorn Equipment ID: _____ Collected by: P. Blair

Photos Taken? Yes / No / Not Due (Required for all Status sites. Required annually for Trend sites.)

Fuel Powered Equipment Used? (e.g. boat motor) Yes / No

Access Method for Sample Collection (circle one):

Wading / Bank or Structure (e.g. bridge, dock) / Motorized Boat /

Non-Motorized Boat (e.g. canoe, kayak) / Air Boat / Other _____

Weather Conditions: Clear
(comment on back if weather may affect water quality parameter values)

Personnel/Visitors On Site: J. Burtch
P. Blair



S266

TRST1907 WAKULLA RIVER AT COUNTY ROAD 365 BRIDGE

PLACE QA/QC LABEL HERE
(if blank collected at this site)

QA/QC L1
TRST1907 QA/QC Blank SW4

Station Name (Random ID for Status):

5266

Date:

07/17/19

SEDIMENT INFORMATION (for Lakes only)☒ N/A (Site not a lake or no samples collected. If no samples collected, please state why in comments.)Collection Depth: _____ (meters)
(Total Water Depth)Collection Time: _____ (24 hr.)
(Different than surface and bottom time in Field Measurements section)Collection Interval: (Circle) Top 3-5 cm Other: _____ (cm)
(If top 3-5 is too flocculent)General Sample Collection Area: _____
(Describe-- near shore, central, north side near dock, etc.)

Sample Collection Device: (Circle One) Corer Ekman Petite Ponar Equipment ID: _____

Sediment Type: (Circle All That Apply) Clay/Silt Sand Gravel/Shell Rubble *Organic Muck
*(very fine-grained flocculent organic material)Sediment Odors: (Circle One) Normal Sewage Petroleum
Hydrogen Sulfide Other: _____

Sediment Color: _____

Number of Grabs Collected (3 minimum): _____

Collected by: P. Blais**BIOASSESSMENT INFORMATION****Stream Condition Index Information** (Appropriate Trend sites)Was the SCI sample collected? (Circle One) Yes / No / Not Due / NA (not an appropriate Trend site)
(Circle One)Collection Time: _____ (24 hr.)
(Different than surface and bottom time in Field Measurements section)If site was an appropriate Trend stream or river but "NO" was selected, why was the SCI not collected (flooded, < 0.05 m/s velocity, etc.)?

_____Collected by: P. Blais**Habitat Assessment Information** (All Status Streams, Rivers, & Canals; Trend sites appropriate for SCI)

Was the HA performed? (Circle One) Yes / No / Not Due / NA (site not a Status Stream/River/Canal or appropriate Trend site)

If site was a stream, river or canal but "NO" was selected, why was the HA not performed (dangerous site conditions, etc.)?

_____Performed by: P. Blais**Rapid Periphyton Survey Information** (Trend sites appropriate for SCI)

Was the RPS performed? (Circle One) Yes / No / Not Due / NA (not an appropriate Trend site)

ALGAL-ID sample collected? (circle one) Yes No

If site was an appropriate Trend stream or river but "NO" was selected, why was the RPS not performed (dangerous site conditions, etc.)?

_____Performed by: P. Blais**Linear Vegetation Survey Information** (Trend sites appropriate for SCI) / **Lake Vegetation Index Information** (Status Lakes)

Was the LVS performed? (Circle One) Yes / No / Not Due / NA (not an appropriate Trend site)

Number of Plant ID specimens collected: _____

Was the LVI performed? (Circle One) Yes / No / Not Due (LVI performed previous year) / NA (not a Status Lake)

If site was an appropriate Trend stream or river but "NO" was selected, why was LVS not performed (< 2 m² aquatic vegetation, dangerous site conditions, etc.)?If site was a Status Lake but "NO" was selected, why was LVI not performed (LVI will be performed at later date, dangerous site conditions, etc.)?

_____Performed by: **Comments:** Include information such as: estimated level of impact to the system (ex. obvious pollution, etc.), any variations from normal preservation protocols (ex. adding more than 1 vial acid, etc.), any problems experienced with collecting samples (ex. sediment grab 1 lost due to fall-out, etc.), any site specifics (ex. dense submerged vegetation, etc.), any site conditions (ex. recent heavy rains, etc.), description of any photos taken, etc., any qualifiers needed (ex. "J" for failed calibration verification, etc.), etc.

Sampler Names:

J. Burtchett

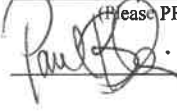
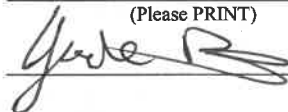
(Please PRINT)

P. Blais

(Please PRINT)

(Please PRINT)

Sampler Signatures:

**OFFICE USE ONLY**

Reviewed for completion by:

Date:

Station Name (Random ID for Status):

5266

Date:

07/17/19

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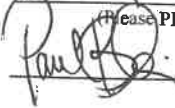
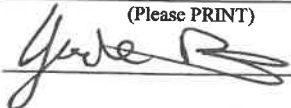
(Please PRINT)

P. Blais

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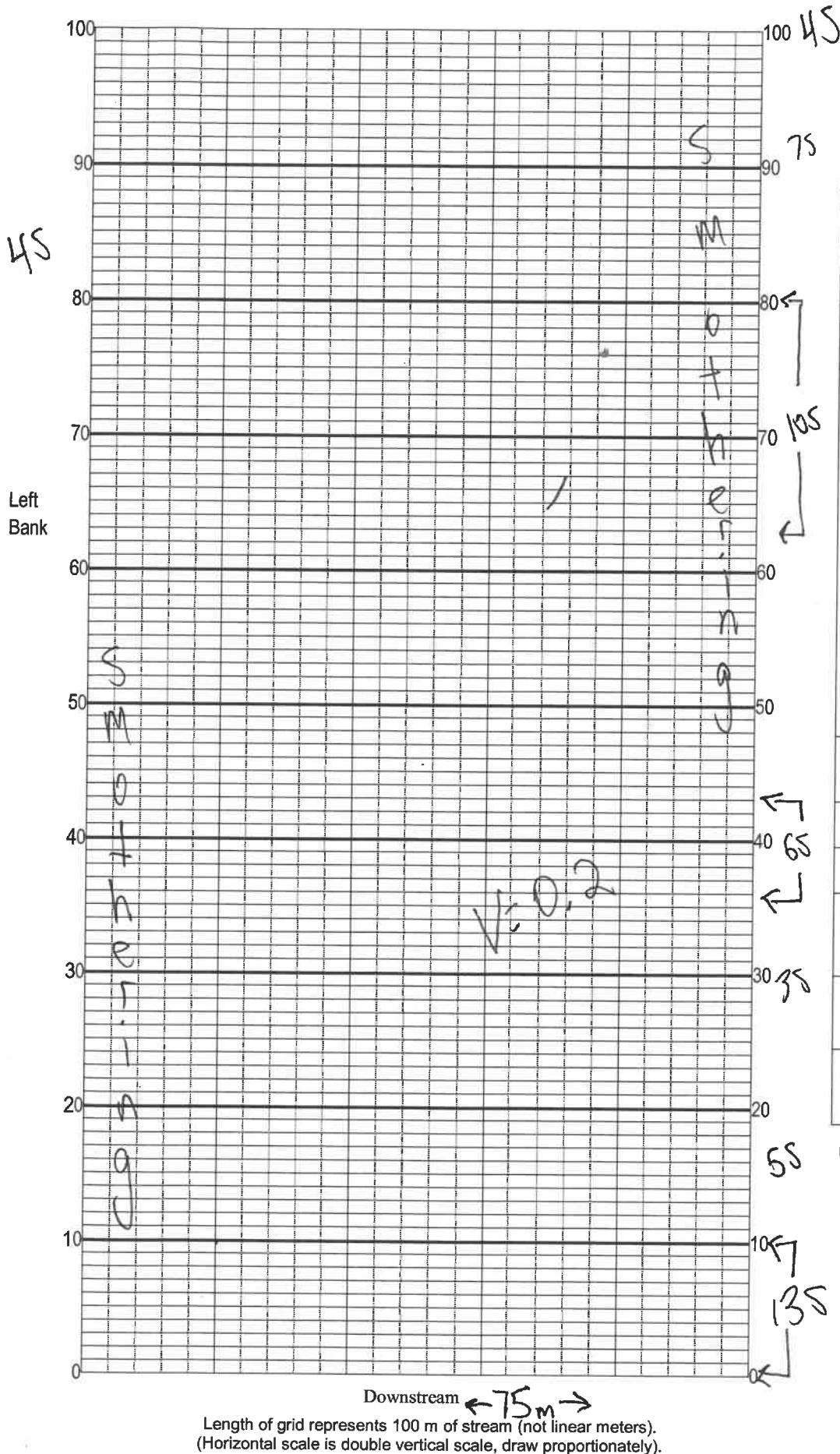
Sampler Signatures:

**OFFICE USE ONLY**

Reviewed for completion by:

Date:

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



Location: S266

Date: 07/17/19

Sampler: Burtchett, Blair

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ S	Snags	<u>0.69</u>
☐ R	Roots/undercut banks	_____
☐ V	Leaf Packs (or mats)	_____
☐ V	Aquatic Macrophytes	<u>75%</u>
☐ K	<u>rock</u>	_____
☐	_____	_____
☐	Pools	total # observed = _____ # range expected = _____

Average width 75 m
Average depth 1.2 m

Velocity measured at 30 meter mark.

WQ & chemistry taken at 30 meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

S = 52m

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

SAMPLING AGENCY: <u>8034</u>		STORET STATION NUMBER: <u>34879</u>	DATE (MM/DD/YY): <u>7-17-19</u>	RECEIVING BODY OF WATER: <u>Gulf of Mexico</u>
REMARKS:	COUNTY: <u>Wakulla</u>	LOCATION: <u>Wakulla River @ 365 Bridge</u>	FIELD ID/NAME: <u>5266</u>	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	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>10</u>	20 19 18 17 16	15 14 13 12 11	<u>10</u> 9 8 7 6	5 4 3 2 1
Substrate Availability <u>20</u>	Greater than 30% major productive habitat present at site <u>20</u> 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>14</u>	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 <u>14</u> 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>13</u> ----- Primary Score <u>57</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. <u>PB</u> 15 14 <u>13</u> 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	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>20</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>10</u> Left Bank <u>10</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>9</u> Left Bank <u>5</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>10</u> Left Bank <u>7</u> ----- Secondary Score <u>61</u> <u>71</u>	10 9	8 7 6	5 4	3 2 1

128

TOTAL SCORE

Date: <u>7-17-19</u>	Analyst: <u>Paul Blair</u>	Signature: <u>Paul Blair</u>
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45

— 45

— 75

—

— 105

—

—

65

→ 35

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55

—

135

—

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

SAMPLE ID S266 ORG ID 21FLTLHR LATITUDE _____
 COUNTY Wakulla STORET # 34879 LONGITUDE _____
 DATE 07/17/19 TIME 1230 SAMPLING AGENCY 8034
 SITE NAME Wakulla River @ 365 bridge
 FIELD ID/NAME 34879 RECEIVING BODY OF WATER Gulf

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>70</u> Silviculture <u>20</u> Field/Pasture <u>10</u> Agricultural <u>10</u> Residential <u>10</u> Commercial <u>10</u> Industry <u>10</u> Other (Specify) <u>10</u>							Landscape Development Intensity Index (LDI) <u>10</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>7.5</u> m wide <u>0.5</u> m/s <u>0.5</u> m/s <u>0.5</u> m/s <u>1.0</u> m deep <u>1.2</u> m deep <u>0.8</u> m deep	
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>6.12</u> Right Bank: <u>7.18</u>				Hydrologic Modification Score (per FT 3101) <u>1.2</u>				
High Water Mark: <u>7.8</u> + <u>1.2</u> = <u>2.0</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☐ No				
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ 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 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>22.3</u></td> <td><u>7.62</u></td> <td><u>7.08</u></td> <td><u>81.6</u></td> <td><u>319.3</u></td> <td><u>1.2</u></td> <td><u>1.2</u></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>22.3</u>	<u>7.62</u>	<u>7.08</u>	<u>81.6</u>	<u>319.3</u>	<u>1.2</u>	<u>1.2</u>	Mid:								☒ VOB	Bottom:								<u>1.2</u>
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Woody Debris (Snags) <u>0.69</u> <u>7</u> <u>7</u> Undercut Banks / Roots <u>75</u> <u>7</u> <u>7</u> Leaf Packs or Mat <u>24.21</u> <u>6</u> <u>6</u> Aquatic Vegetation <u>75</u> <u>7</u> <u>7</u> Rock or Shell Rubble <u>24.21</u> <u>6</u> <u>6</u> Sand <u>24.21</u> <u>6</u> <u>6</u> Mud / Muck / Silt <u>24.21</u> <u>6</u> <u>6</u> Other <u>24.21</u> <u>6</u> <u>6</u> Other <u>24.21</u> <u>6</u> <u>6</u>			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																						
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:	☒	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐ AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																
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Periphyton:	☐	☐	☒	☒																																								
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Aquatic Plants:	☐	☐	☐	☒																																								
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SAMPLING TEAM

Burkett, Blair

SIGNATURE:

Gale R

DATE:

07/17/19

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Wahulla @ 365 County: Wahulla Date: 07/17/19 Investigators: Burckett Blair

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 X 2 X 3 3 4 3 5 3 6 3 7 X 8 X 9 X

10 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

20 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

30 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

40 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

50 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

60 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

70 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

80 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

90 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

100 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

110 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

120 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

130 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

140 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

150 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

160 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

170 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

180 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

190 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

200 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

210 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

220 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

230 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

240 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

250 1 X 2 X 3 X 4 3 5 3 6 3 7 X 8 X 9 X

Secchi depth Estimated?

points ranked 4-6 total points assessed % points ranked 4-6

Check accompanying data collected at same site/date.

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

RQ-

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

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.

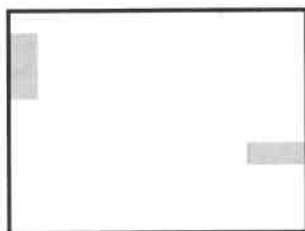
Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

[illegible]

FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

5% Macrophyte Coverage



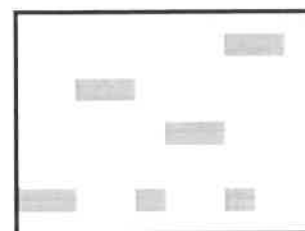
5% Macrophyte Coverage



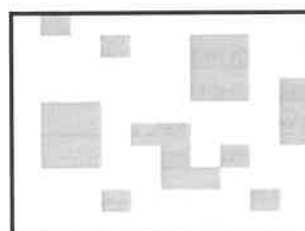
10% Macrophyte Coverage



10% Macrophyte Coverage



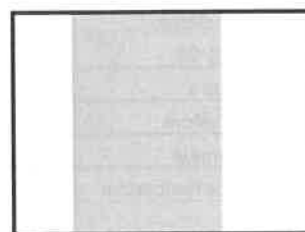
25% Macrophyte Coverage



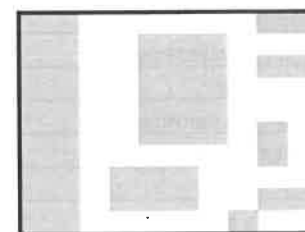
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



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

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

Meter ID: 153482

RQ: 2019-07-15-17

Project: TRST1907

- 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.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 7/12/19

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	J. Burtchett	7/17/19	8:04	21.0	760.2	8.92	8.93	100.1	—	1.02	P/F	L/F
ICV	Paul Blair	"	8:14	20.9	760.1	8.92	8.93	100.0	—	1.02	P/F	L/F
CCV	"	"	14:34	23.1	759.3	8.56	8.53	99.5	—	"	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 (Pro DSS 0.75 to 1.50); 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.	J. Burtchett	7/17/19	8:06	190618f	06/20	1000	1000	P/F	L/F
ICV	Paul Blair	"	8:16	2808884	07/20	100	101	P/F	L/F
CCV	"	"	14:38	190618f	6-20	1000	998	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	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	J. Burtchett	7/17/19	8:08	180621E	01/20	7.01	21.8	7.0	-58.6	P/F	L/F
Calibr.	Paul Blair	"	8:10	180618A	12/20	4.0	22.6	4.0	-123.9	P/F	L/F
Calibr.	"	"	8:12	180621F	01/20	10.03	23.0	10.0	-215.9	P/F	L/F
ICV	"	"	8:18	180621F	01/20	10.0	21.9	10.0	-216.3	P/F	L/F
CCV	Paul Blair	7-17-19	14:39	190618A	12-20	4.0	22.9	4.1	-116.7	P/F	L/F
CCV										P/F	L/F

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

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

mV pH 10 Range -180 $\pm$ 50;

If mV are recorded: slope from 7 to 10 157.3, slope from 4 to 7 182.5 (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: 7/12/19

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: _____; Date of last verification: 7-19

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	J. Burtchett	7/17/19	8:00	0.000	0.000	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:

Sampling Agency:

Requisitioned By: 	Date/Time 7-17-19 18:30	Shipping Method	Number of Coolers Shipped:	Received By: 	Date/Time 7/17/19 1430
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Group: A	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ALKALINITY						
	TURBIDITY						
	W-CL-IC						
	W-COLOR						
	W-COND						
	W-F						
	W-SO4-IC						
	W-TDS						
	W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	CHLSUTE-W						
Group: A	Bottle Type:	P-250ML-WO-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ECOLL-18QT						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	W-E8321-DI						
	W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	1
	W-HARD						
	W-ICP						
	W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative: ICE And H2SO4		Enter Number of Bottles Sent to Lab	1
	W-NH3						
	W-NO2NO3						
	W-S-A-TP						
	W-TKN						
	W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 1	Preservative: FILTER-ICE		Enter Number of Bottles Sent to Lab	1
	W-PO4-F						
Group: A	Bottle Type:	BG-1L	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	W-PSNP-TQ						
Group: B	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ALKALINITY						

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Group: A	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	ALKALINITY					
	TURBIDITY					
	W-CL-IC					
	W-COLOR					
	W-COND					
	W-F					
	W-SO4-IC					
	W-TDS					
	W-TSS					
Group: A	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	CHLSUITE-W					
Group: A	Bottle Type:	P-250ML-WO-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	ECOLI-18QT					
Group: A	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	W-E8321-DI					
	W-E8321-MS					
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO3	Enter Number of Bottles Sent to Lab
	W-HARD					
	W-ICP					
	W-ICPMS					
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	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: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab
	W-PO4-F					
Group: A	Bottle Type:	BG-1L	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	W-PSNP-TQ					
Group: B	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	ALKALINITY					

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Group: B	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
TURBIDITY						
	W-CL-IC					
	W-COLOR					
	W-COND					
	W-F					
	W-SO4-IC					
	W-TDS					
	W-TSS					
Group: B	Bottle Type:	P-250ML-WO-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
ECOLI-18QT						
Group: B	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	W-E8321-DI					
	W-E8321-MS					
Group: B	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO3	Enter Number of Bottles Sent to Lab
	W-HARD					
	W-ICP					
	W-ICPMS					
Group: B	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab
	W-NH3					
	W-NO2NO3					
	W-S-A-TP					
	W-TKN					
	W-TOC					
Group: B	Bottle Type:	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab
	W-PO4-F					
Group: B	Bottle Type:	BG-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	W-PSNP-TQ					
Group: C	Bottle Type:	PT-50ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	ALGAL_ID					
Group: C	Bottle Type:	PJ-2L	# of Bottles: 2	Preservative:	Formalin	Enter Number of Bottles Sent to Lab
	MI-FW-QLDC					

