

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: **PRO DSS**

RQ- **2019-06-10-21**

Project: **LSJR Palatka**

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 **6/2019**

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.	C. Ruben	6-12-19	0731	23.6	756	8.4	8.43	99.9	—	—	P/F	L/F
ICV	↓	↓	0733	23.6	756	8.4	8.43	99.5	—	—	P/F	L/F
CCV	J. Parnish	6-12-19	1355	20.8	756	8.8	8.94	99.9	—	—	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 (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.	C. Ruben	6-12-19	0735	190430A	5/2020	1000	1000	P/F	L/F
ICV	↓	↓	0737	190319B	3/2020	100	104	P/F	L/F
CCV	J. Parnish	6-12-19	1400	10141318	6/9/19	1413	1445	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.	C. Ruben	6-12-19	0739	2811E61	11/2020	7.	24.3	6.97	-54.9	P/F	L/F
Calibr.	↓	↓	0740	2904B00	3/2021	4.	24.6	3.89	125.7	P/F	L/F
Calibr.	↓	↓	0743	2901B51	7/2020	10.	24.6	9.94	-228.4	P/F	L/F
ICV	↓	↓	0745	2904B00	3/2021	4.0	24.4	4.03	123.2	P/F	L/F
CCV	J. Parnish	6-12-19	1405	2904B51	7/20	10.0	24.5	10.1	235	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)

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: **6/2019**

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

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	C. Ruben	6-12-19	0747	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:

LIMS EVENT ID: _____ WIN Import ID: _____
 Enter Field Parameters, Verify Station ID In LIMS DMT: _____ QC Station ID, Field Parameters In LIMS DMT: _____
 (Initials/Date) (Initials/Date)
 Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data in WIN: _____
 (Initials/Date) (Initials/Date) (Initials/Date)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Bull Creek Canal 0.5M Upstr of Dead Lake

Date: 06/12/2019

WIN/ Field ID: G2NE1192 CR

WBID: 2615

Latitude: 29.42792 29.43072

County: Putnam

ORG ID: 21FLA

Longitude: -81.48647 -81.436519

Receiving Body of Water: BJR

RQ-2019- 01-07-44 06-10-21

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
C. Ruben		X	X			
J. Parrish		X	X	X	X	X

Sampling Equipment		
☐ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>meter</u>		
Equipment ID		
Collection Method		
☐ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded		Meter ID# <u>PRO DSS</u>		Matrix: Fresh / Marine / DI						
Photos: <u>Yes</u> No		Flow: No Flow / Intestinal / <u>Flowing</u> / NA		Tide: Rising/ Falling/ Slack/ NA						
Tide Times: High Low										
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)
EST	930	<u>0.6</u>	<u>0.3</u>	<u>0.6</u>	<u>3.25</u>	<u>41</u>	<u>6.96</u>	<u>0.93</u>	<u>1829</u>	<u>27.3</u>
CEN		<u>0.7</u>								

Biological Samples Collected: None <u>HA</u> SCI <u>RPS</u> Algae ID LVS LVI Other:					
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:					
Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice <u>H2SO4</u>	<u>SA9010030</u>	<u>4/2020</u>	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice <u>HNO3</u>	<u>NA9099030</u>	<u>4/2020</u>	☒ X
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice	<u>R9BA86875</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-BR-IC / 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-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides	☒ W-PSNP-TQ ☐ W-CT-CL-R ☒ W-E8321-DI ☐ W-PCL-SQ-R ☒ WE8321-MS ☐ W-CARB-AA	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes:

Manatees in water

WIN ID/Field ID:



G2NE1194

Bull Creek Ditch 1 mile Upstream of Dead Lake

Signature: Clyde R

Date:

6/12/19

LIMS EVENT ID:

WIN Import ID:

Enter Field Parameters, Verify Station ID in LIMS DMT:

QC Station ID, Field Parameters in LIMS DMT:

Scan/Save Field Sheets

Migrate Data to WIN:

Verify Data in WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: MOCCASSIN BRANCH AT WINFORD MASTERS RD

Date: 6/12/19

(mm/dd/yyyy)

WIN/ Field ID: 20030557

WBID: 2540

Latitude: 29.77147

(Decimal Degrees)

County: Putnam

ORG ID: 21FLA

Longitude: 81.47035

(Decimal Degrees)

Receiving Body of Water: SJR

RQ-2019- 010744 06-10-21

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
									☐ Sample Container	☐ Van Dorn	☒ Pole	
									☐ Carboy	☐ Syringe		
									☐ Dipper	☐ Other		
									Depth Measured with			
									Equipment ID			
									Collection Method			
									☐ Wading	☐ Canoe/Kayak		
									☒ From Shore	☐ Electric Motor		
									☐ Other	☐ Gasoline Motor		
Water Level: <u>Dry</u> / Pooled / Low / <u>Normal</u> / High / Flooded				Meter ID# <u>64755</u>				Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / <u>No</u>				Flow: No Flow / Intestinal / <u>Flowing</u> / NA				Tide: Rising / Falling / Slack / NA				
Tide Times: High Low												
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Sacchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTH)	Sp COND (umhos/cm)	Temp. (C°)		
EST	<u>1225</u>	<u>0.8</u>	<u>0.3</u>	<u>0.3</u>	<u>4.8</u>	<u>58</u>	<u>7.03</u>	<u>0.48</u>	<u>972</u>	<u>24.7</u>		
CEN												
Biological Samples Collected: <u>None</u> HA SCI RPS Algae ID LVS LVI Other:												
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:												
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				☐ <2			
Metals	☒ W-ICPMS ☒ W-ICP				☒ Ice ☒ HNO3				☐ <2			
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter				☒ Ice		<u>R9BA868</u>					
Chlorophyll	☒ CHLSUTE-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-BR-IC / 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-BacR ☐ PCR-GULL2				☐ Ice							
	☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD											
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											
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C				☐ Ice							

Notes:

WIN ID/Field ID:



20030557

MOCCASSIN BRANCH AT WINFORD MASTERS RD

Signature: Jim Carr

Date: 6/12/19

LIMS EVENT ID:

WIN Import ID:

Enter Field Parameters, Verify Station ID in LIMS DMT:

QC Station ID, Field Parameters in LIMS DMT:

Scan/Save Field Sheets

Migrate Data to WIN:

Verify Data in WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / ☒ No

WIN Station Name: MILL BR. @ OLD SAN MATEO RD

Date: 01/12/2019

(mm/dd/yyyy)

WIN/ Field ID: 20030577

WBID: 2592

Latitude: 29.64872

(Decimal Degrees)

County: Putnam

ORG ID: 21FLA

Longitude: -81.5930

(Decimal Degrees)

Receiving Body of Water: SJR

RQ-2019- ~~01-07-44~~ 06-10-21

Sampling Team Members						WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
<u>C. Ruben</u> <u>J. Parrish</u>						☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☒ Pole		
											☐ Carboy	☐ Syringe			
											☐ Dipper	☐ Other			
											Depth Measured with <u>meter</u>				
											Equipment ID <u>07110 # 44</u>				
											Collection Method				
											☐ Wading	☐ Canoe/Kayak			
											☐ From Shore	☐ Electric Motor			
											☒ Other <u>Bridge</u>	☐ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded						Meter ID# <u>PP0 DSS</u>			Matrix: <u>Fresh</u> Marine / DI						
Photos: Yes / <u>No</u> Flow: No Flow / Intestinal / <u>Flowing</u> / NA						Tide: <u>Rising</u> / Falling / Slack / NA			Tide Times: High Low						
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	<u>1155</u>	<u>0.3</u>	<u>0.15</u>	<u>0.3</u>	<u>5.66</u>	<u>69.3</u>	<u>6.96</u>	<u>0.72</u>	<u>1441</u>	<u>25.5</u>					
CEN															
Biological Samples Collected: <u>None</u> HA SCI RPS Algae ID LVS LVI Other:															
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:															
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>SA909030</u>		<u>4/2020</u>		☐ <2		
Metals		☒ W-ICPMS ☒ W-ICP					☒ Ice ☒ HNO3		<u>NA909030</u>		<u>4/2020</u>		☒ <2		
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice		<u>K98A86875</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-BR-IC / 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-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD					☐ Ice								
Tracers		☐ W-E8321-DI ☐ W-E8321-MS					☐ Ice								
Pesticides		☐ W-PSNP-TQ ☐ W-GT-CL-R ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA					☐ Ice								
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice								

Notes:

WIN ID/Field ID:



20030577

MILL BR. @ OLD SAN MATEO RD.

Signature: Chyane R

Date: 6/12/19

LIMS EVENT ID:

WIN Import ID:

Enter Field Parameters, Verify Station ID in LIMS DMT:

QC Station ID, Field Parameters in LIMS DMT:

Scan/Save Field Sheets

Migrate Data to WIN:

Verify Data in WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

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

SAMPLE ID WBID 2615 ORG ID 21FLA LATITUDE 29.43072
 COUNTY Putnam Flagler STORET # G2NE1194 LONGITUDE -81.436519
 DATE 6/12/19 TIME _____ SAMPLING AGENCY FDEP DEAR NE ROC
 SITE NAME Bull Creek Ditch 1 mile Upstream of Dead Lake
 FIELD ID/NAME G2NE1194 RECEIVING BODY OF WATER Dead Lake

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) ☐							Landscape Development Intensity Index (LDI) ☐
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 _____ m wide _____ m/s _____ m/s _____ m/s _____ m deep _____ m deep _____ m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18'</u> Right Bank: <u>>18'</u>				Hydrologic Modification Score (per FT 3101) ☐			
High Water Mark: <u>0.4</u> + <u>0.7</u> = <u>1.1</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 <table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT # Times Sampled</th> <th>PERI # Times Sampled</th> </tr> </thead> <tbody> <tr> <td>Woody Debris (Snags)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Undercut Banks / Roots</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Leaf Packs or Mat</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Aquatic Vegetation</td> <td><u>3</u></td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Rock or Shell Rubble..</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Sand.....</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Mud / Muck / Silt</td> <td><u>97</u></td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Other</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Other</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				% Coverage	INVERT # Times Sampled	PERI # Times Sampled	Woody Debris (Snags)	☐	☐	☐	Undercut Banks / Roots	☐	☐	☐	Leaf Packs or Mat	☐	☐	☐	Aquatic Vegetation	<u>3</u>	☐	☐	Rock or Shell Rubble..	☐	☐	☐	Sand.....	☐	☐	☐	Mud / Muck / Silt	<u>97</u>	☐	☐	Other	☐	☐	☐	Other	☐	☐	☐	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>24.2</u></td> <td><u>7.50</u></td> <td><u>4.34</u></td> <td><u>57</u></td> <td><u>751</u></td> <td><u>0.36</u></td> <td><u>0.6</u></td> </tr> <tr> <td>Mid:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Bottom:</td> <td><u>0.7</u></td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table> Meter ID: _____ 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: _____				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>24.2</u>	<u>7.50</u>	<u>4.34</u>	<u>57</u>	<u>751</u>	<u>0.36</u>	<u>0.6</u>	Mid:	☐	☐	☐	☐	☐	☐	☐	☐	Bottom:	<u>0.7</u>	☐	☐	☐	☐	☐	☐	☐
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Other	☐	☐	☐																																																																														
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Mid:	☐	☐	☐	☐	☐	☐	☐	☐																																																																									
Bottom:	<u>0.7</u>	☐	☐	☐	☐	☐	☐	☐																																																																									
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:	☐	☒	☐	☐	Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ Clarity Clear ☐ Slightly Turbid ☒ Turbid ☒ Opaque ☐																																																					
	Not Obs.	Rare	Common	Abundant																																																																													
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Iron/Sulfur Bacteria:	☐	☒	☐	☐																																																																													
System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐ _____			AMBIENT FIELD CONDITIONS / NOTES: <u>monotrees observed</u> <u>blue bloom sample downstream</u> ☐ The antecedent hydrologic conditions have been met to my best knowledge.																																																																														
SAMPLING TEAM <u>Jeremy Garsh / Cleveanne Fisher</u>			SIGNATURE: <u>Jeremy Garsh</u>		DATE: <u>6/12/19</u>																																																																												

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Bull Creek Ditch 1 mile upstream of Dead Lake

County: Flagler

Date: 6/12/19

Investigators: C Ruben, J Parrish

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	N	X		60	1	N	X	
	2		X			2		X	
	3		X			3		X	
	4		X			4		X	
	5		X	0		5		X	0
	6		X			6		X	
	7		X			7		X	
	8		X			8		X	
	9		X			9		X	
10	1	N	X		70	1	N	X	
	2		X			2		X	
	3		X			3		X	
	4		X			4		X	
	5		X	0		5		X	0
	6		X			6		X	
	7		X			7		X	
	8		X			8		X	
	9		X			9		X	
20	1	N	X		80	1	N	X	
	2		X			2		X	
	3		X			3		X	
	4		X			4		X	
	5		X	0		5		X	0
	6		X			6		X	
	7		X			7		X	
	8		X			8		X	
	9		X			9		X	
30	1	N	X		90	1	N	X	
	2		X			2		X	
	3		X			3		X	
	4		X			4		X	
	5		X	0		5		X	0
	6		X			6		X	
	7		X			7		X	
	8		X			8		X	
	9		X			9		X	
40	1	N	X		100	1	N	X	
	2		X			2		X	
	3		X			3		X	
	4		X			4		X	
	5		X	0		5		X	0
	6		X			6		X	
	7		X			7		X	
	8		X			8		X	
	9		X			9		X	
50	1	N	X						
	2		X						
	3		X						
	4		X						
	5		X	0					
	6		X						
	7		X						
	8		X						
	9		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%.

STORET Station Number: G2NE1194

Secchi depth 0.6
Estimated? N

points ranked 4-6 0
total points assessed 0
% points ranked 4-6 0

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon
Water sample ☒
RQ- 2019-06-21-10

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

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

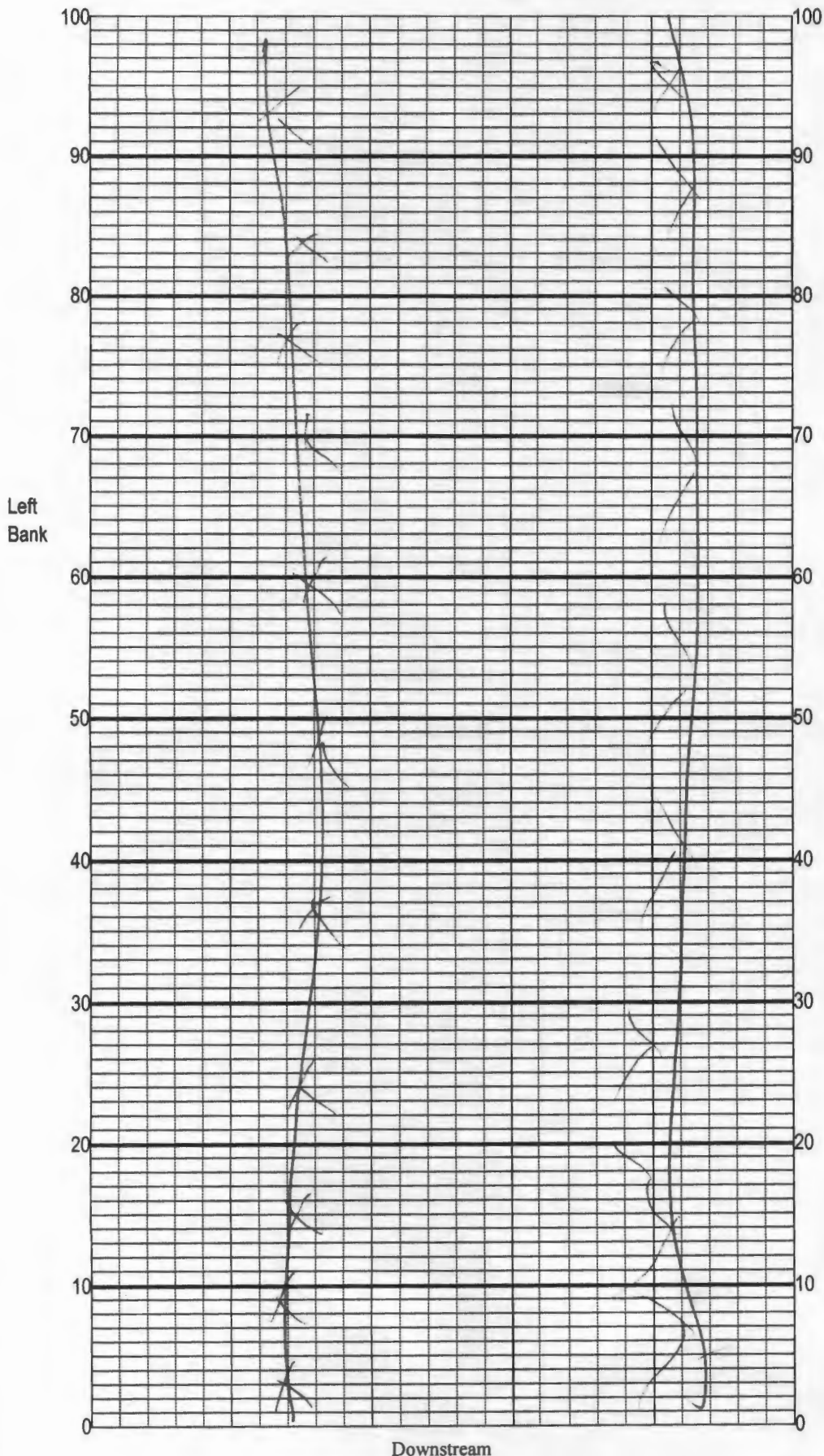
SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: G2NE1194	DATE (MM/DD/YY): 6/12/19	RECEIVING BODY OF WATER: Dead Lake
REMARKS:	COUNTY: Flagler	LOCATION: Bull Creek Ditch 1 mile above road		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>4</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 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 <u>3</u> 2 1
Substrate Availability <u>3</u>	Greater than 30% major productive habitat present at site 20 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 <u>3</u> 2 1
Water Velocity <u>6</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 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 <u>6</u>	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>5</u> Primary Score <u>17</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. <u>5</u> 4 3 2 1
Secondary Habitat Components Artificial Channelization <u>15</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank <u>4</u> Left Bank <u>4</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 <u>4</u>	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>9</u> Left Bank <u>0</u>	Width of vegetation greater than 18 m 10 <u>9</u>	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>5</u> Left Bank <u>4</u> Secondary Score <u>52</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. <u>5</u> <u>4</u>	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

69 **TOTAL SCORE**

Date: 6/12/19	Analyst: Jeremy Smith	Signature: Jeremy Smith
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Location: Bull Creek Ditch

Date: 6/12/19

Sampler: J Parrish/C Ruben

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ Snags _____

☐ Roots/undercut banks _____

☐ Leaf Packs (or mats) _____

☒ Aquatic Macrophytes 3

☐ _____

☐ _____

☐ Pools total # observed = _____
range expected = _____

Average width 30 m

Average depth 0.7 m

Velocity measured at 0.5 meter mark.

WQ & chemistry taken at 0 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:

<2 M of Macrophytes was observed while doing the LVS? YES or NO

3000
30m wide

Waterbody: Bull Creek Ditch ^{1 mile above} Dead Lake	Date: 6/12/19	County: Flagler	Storet Number: G2NE1194
Analyst: J Parrish / C. Ruben	Signature:		

Comments:

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.

Revision Date: March 1, 2014

Florida Department of Environmental Protection

Central Laboratory Submittal Form

LSJR Palatka

Customer: NE-DIST

Project ID: SMP

Requester: Jeremy M. ParrishField Report Prepared By: C. RubenCollected By: C. Ruben J. ParrishSampling Agency: FDEP DEAR NE ROC

Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>6/12/19</u> Time <u>0930</u>	<u>Eastern</u> Central	Composite end Date <u>—</u> Time <u>—</u>	Bottle Group(s) (See pg 2)
Field	WIN ID/Field ID:  G2NE1194	Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>3.25</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) <u>—</u>
WIN	Bull Creek Ditch 1 mile Upstream of Dead Lake	Temp (C) <u>27.3</u>	pH <u>6.96</u>	Sample Depth <u>0.3</u>	☐ ft ☒ m	Sp. Conductance (umho/cm) <u>1829</u>
Latitude	☐ dms	☐ dd ☐ dms	Salinity (ppt) <u>0.93</u>	Comments		<u>B</u>
Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>6/12/19</u> Time <u>1135</u>	<u>Eastern</u> Central	Composite end Date <u>—</u> Time <u>—</u>	Bottle Group(s)
Field	WIN ID/Field ID:  G2NE1187	Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>4.34</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) <u>—</u>
WIN	Dunns Creek 0.4miles upstream of US-17	Temp (C) <u>29.2</u>	pH <u>7.56</u>	Sample Depth <u>0.3</u>	☐ ft ☒ m	Sp. Conductance (umho/cm) <u>751</u>
Latitude	☐ dms	☐ dd ☐ dms	Salinity (ppt) <u>0.36</u>	Comments		<u>A</u>
Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>6/12/19</u> Time <u>1155</u>	<u>Eastern</u> Central	Composite end Date <u>—</u> Time <u>—</u>	Bottle Group(s)
Field	WIN ID/Field ID:  20030577	Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>5.66</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) <u>—</u>
WIN	MILL BR. @ OLD SAN MATEO RD.	Temp (C) <u>25.5</u>	pH <u>6.96</u>	Sample Depth <u>0.15</u>	☐ ft ☒ m	Sp. Conductance (umho/cm) <u>1441</u>
Latitude	☐ dms	☐ dd ☐ dms	Salinity (ppt) <u>0.72</u>	Comments		<u>A</u>
Location		☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>6/12/19</u> Time <u>1225</u>	<u>Eastern</u> Central	Composite end Date <u>—</u> Time <u>—</u>	Bottle Group(s)
Field	WIN ID/Field ID:  20030557	Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>4.8</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) <u>—</u>
WIN	MOCCASSIN BRANCH AT WINFORD MASTERS RD	Temp (C) <u>24.7</u>	pH <u>7.03</u>	Sample Depth <u>0.3</u>	☐ ft ☒ m	Sp. Conductance (umho/cm) <u>972</u>
Latitude	☐ dd ☐ dms	☐ dd ☐ dms	Salinity (ppt) <u>0.48</u>	Comments		<u>A</u>

Relinquished By: <u>Chapman</u>	Date/Time: <u>6/12/19 1345</u>	Shipping Method: <u>Fed-ex</u>	Number of Coolers Shipped: <u>2</u>	Received By: <u>ce</u>	Date/Time: <u>—</u>
---------------------------------	--------------------------------	--------------------------------	-------------------------------------	------------------------	---------------------

Group: A	Bottle Type:	P-1L	# of Bottles: 3	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3
	ALKALINITY						
	TURBIDITY						
	W-CL-IC						
	W-COLOR						
	W-F						
	W-SO4-IC						
	W-TDS						
	W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 3	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3
	CHLSUITE-W						
Group: A	Bottle Type:	P-500ML	# of Bottles: 3	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	3
	W-ICP						
	W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 3	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	3
	W-NH3						
	W-NO2NO3						
	W-S-A-TP						
	W-TKN						
	W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 3	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	3
	W-PO4-F						
Group: B	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-F						
	W-SO4-IC						
	W-TDS						
	W-TSS						
Group: B	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	CHLSUITE-W						

Group: B	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	W-E8321-DI						
	W-E8321-MS						
Group: B	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	1
	W-ICP						
	W-ICPMS						
Group: B	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: B	Bottle Type:	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	1
	W-PO4-F						
Group: B	Bottle Type:	BG-1L	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab	4
	W-PSNP-TQ						