



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

March 2017

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Data Qualified?
Yes / No

Location/STORET Station Name: Trib to Deep Creek @ George Miller Rd Date: 05/31/17
(mm/dd/yyyy)

STORET # 20030859 WBID: 2571 Latitude: 29.710269
(Decimal Degrees)

County: St Johns RQ - 2017-05-29-10 ORG ID: 21FLA Longitude: 81.484283
(Decimal Degrees)

Receiving Body of Water: LSJR Field ID: See Label

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
J Parrish			X	X		
P. O'Connor		X			X	X

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Equipment ID OrthoKit # <u>1</u>		

Collection Method	
☒ Wading	☐ As Boat
☐ From Shore	☐ Canoe/Kayak
☐ Other (note below)	☐ Electric Motor
	☐ Gasoline Motor

Water Level: Dry / Pooled / Low / Normal / High / Flooded Matrix: Fresh / Marine / DI

Meter ID# QUANTA #1 Photos: Yes / No Tide Falling: Yes / No / NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
EST	1205	0.15	0.3	3.55	44.0	7.5	1.58	0.35	3040	25.9
CEN				3.0	37.5					

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

SBIO ID Numbers: SBIO-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4			☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-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 ☐ qPCR	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Contains
1:1
Sulfuric Acid
SA-6302030
EXP: 10/28/17
Warning!
See SDS

Notes:

Field ID:

Deep trib George Miller
STORET:

20030859

Signature: [Signature] Date: 05-31-17

Field Parameters Entered into LIMS: (Initials/Date) Field Parameters QC in LIMS: (Initials/Date)

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

Waterbody: <u>Trub Deep cr. Georgia</u>	Date: <u>5/31/17</u>	County: <u></u>	Store Number: <u>20030854</u>
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Comments:	
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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																	

4259 meter

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

SAMPLING AGENCY: NE ROC	STORET STATION NUMBER: 20030859	DATE (MM/DD/YY): 05-31-17	RECEIVING BODY OF WATER: LS Deep Cr
REMARKS: High Conductance	COUNTY: St. Johns	LOCATION: Trib to Deep Cr @ George Miller Rd	FIELD ID/NAME:

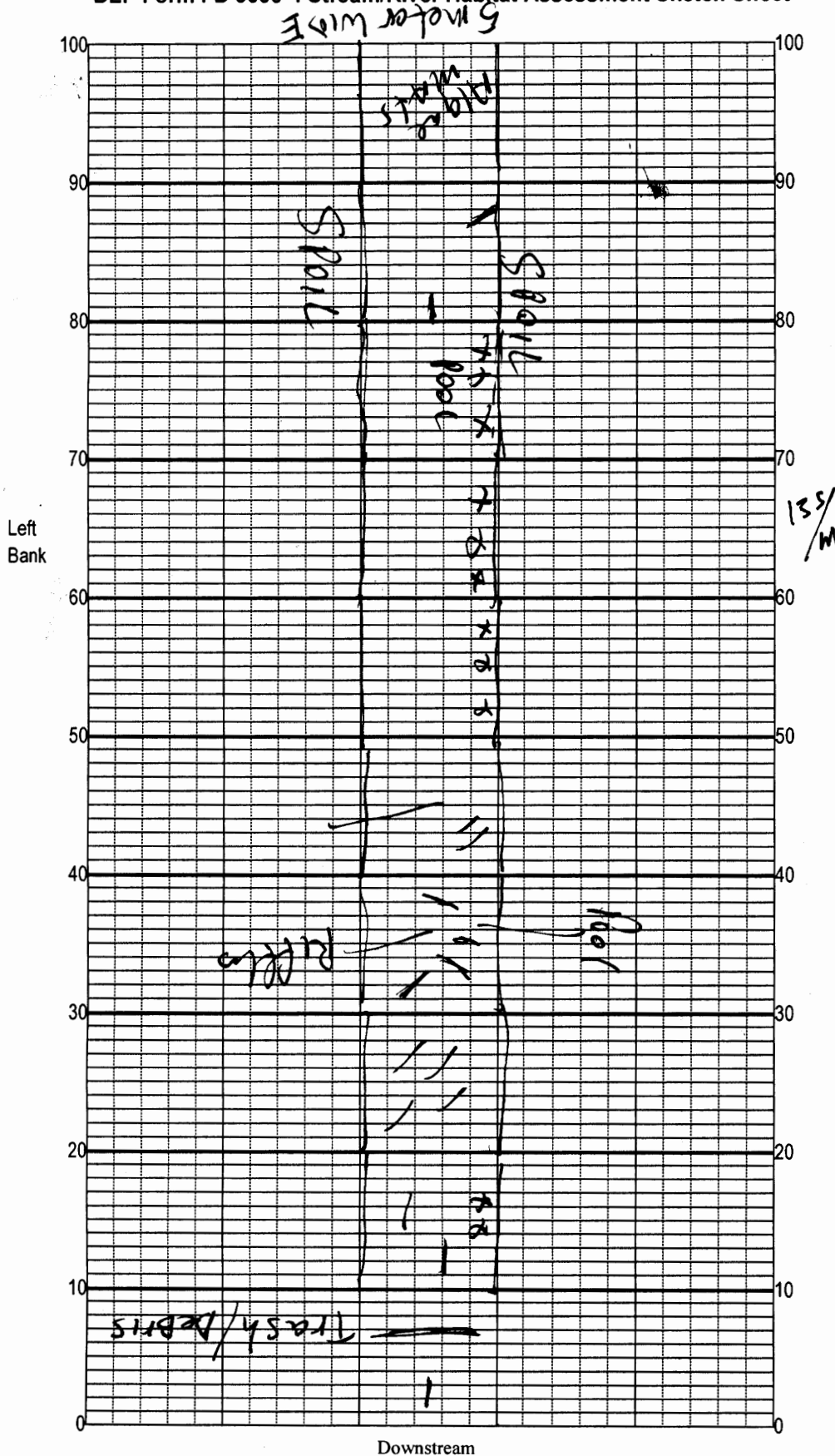
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>8</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>5</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 3 2 1
Water Velocity <u>8</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 6	Max. observed at typical transect: <0.05 m/sec; or space occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>11</u> Primary Score <u>32</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 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>8</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>5</u> Left Bank <u>5</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>10</u> Left Bank <u>10</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>8</u> Left Bank <u>8</u> Secondary Score <u>54</u>	10 9	8 7 6	5 4	3 2 1

86

TOTAL SCORE

Date: 05-31-17	Analyst: P. O'Connor	Signature: <i>Pat O'Connor</i>
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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: Trib to Deep cr @ GEORGE Miller RD
Date: 05-31-17
Sampler: Y. D. Com Acc 22.5 ft

100 m: Latitude 29.71105
Longitude 81.48355
0 m: Latitude 29.71133
Longitude 81.48250 39 ft

Substrates: Code key, draw proportionate habitat abundance. %
☒ Snags _____
☒ Roots/undercut banks _____
☐ Leaf Packs (or mats) _____
☒ Aquatic Macrophytes _____
☐ _____
☐ _____
Pools total # observed = _____
range expected = _____

Average width _____ m
Average depth _____ m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ 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

17 m² SNAGS ≈ 3%
9 m² Roots = 2%

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

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY St Johns STORET # 20030859 LONGITUDE _____
 DATE 05-31-17 TIME 1205 SAMPLING AGENCY 21 FIA
 SITE NAME Trib to DEEP Cr @ GEORGE Miller Rd.
 FIELD ID/NAME G2NE 0867 RECEIVING BODY OF WATER DEEP creek

RIPARIAN ZONE / STREAM FEATURES

Meter ID: QUANTA #1

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) : Forest/Natural <u>10</u> Silviculture <u>0</u> Field/Pasture <u>30</u> Agricultural <u>45</u> Residential <u>15</u> Commercial <u>0</u> Industry <u>0</u> Other (Specify) <u>0</u>								Landscape Development Intensity Index (LDI) <u>0</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>5</u> m wide <u>0.07</u> m/s <u>0.3</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank : <u>218</u> Right Bank : <u>218</u>						Hydrologic Modification Score (per FT 3101) <u>0</u>			
High Water Mark: <u>0.8</u> + <u>0.3</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			WATER QUALITY								
Invert PERI % Coverage # Times Sampled # Times Sampled			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)								
Woody Debris (Snags) <u>3</u>			Top: <u>0.15</u> <u>25.9</u> <u>7.5</u> <u>3.0</u> <u>37.5</u> <u>3040</u> <u>1.58</u> <u>0.35</u>								
Undercut Banks / Roots <u>2</u>			Mid: <u>0.15</u> <u>25.9</u> <u>7.5</u> <u>3.0</u> <u>37.5</u> <u>3040</u> <u>1.58</u> <u>0.3</u>								
Leaf Packs or Mat			Bottom:								
Aquatic Vegetation			System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>Ditch</u>								
Rock or Shell Rubble..			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐						Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐		
Sand			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: <u>6302030</u> Exp: <u>10-28-17</u>						Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐		
Mud / Muck / Silt <u>95</u>			Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☒ No Lot Number: <u>N/A</u> Exp: <u>—</u>						Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		
Other											
Other											

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☒	☐
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☒	☐	☐
Iron/Sulfur Bacteria:	☐	☐	☒	☐

AMBIENT FIELD CONDITIONS / NOTES:

High specific conductance
Due to agricultural irrigation

Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☒ 5-6 ☐ 7-8 ☐ 9-10

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

S. Parrish, P. O'Connor

SIGNATURE:

[Signature]

8701
RPS

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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Tab to Deep on George Miller</u>					County: <u>St. Johns</u>					Date: <u>5/31/17</u>					Investigators: <u>JP/PO</u>				
Transect (m)					Transect (m)					STORET Station Number: <u>20030844</u> <u>20030859</u>									
Point	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover		Point	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover											
1=right 9=left					1=right 9=left														
0	1	N	N		60	1	3	N											
	2					2	3												
	3					3	N												
	4					4			96										
	5			96		5													
	6					6													
	7					7	3												
	8					8	3												
	9					9	3												
10	1	N	N		70	1	5	N											
	2					2	5												
	3					3	N												
	4					4	X		96										
	5			96		5	X												
	6					6	X												
	7					7	N												
	8					8	5												
	9					9	N												
20	1	N	N		80	1	N	N											
	2					2													
	3					3													
	4					4			94										
	5			96		5													
	6					6													
	7					7													
	8					8													
	9					9													
30	1	N	N		90	1	5	N											
	2					2	5												
	3					3	6												
	4					4	5		92										
	5			92		5	5												
	6					6	6												
	7					7	5												
	8					8	5												
	9					9	6												
40	1	N	N		100	1	3	N											
	2	3				2	N												
	3	5				3													
	4	4				4	N		96										
	5	N		96		5	N												
	6	5				6	N												
	7	5				7	4												
	8	5				8													
	9	5				9	N												
50	1	N			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	4																	
	3	3																	
	4	4																	
	5	3		96															
	6	N																	
	7	N																	
	8	4																	
	9	4																	

Secchi depth	
Estimated?	

# points ranked 4-6	25
total points assessed	99
% points ranked 4-6	25%

Check accompanying data collected at same site/date.	
Algal mat sample	☒
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	☒
RQ-2017-05-	

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm = 4"
6	>10 cm > 4"