



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

Data Qualified?

Yes / No

January 2018

WIN Station Name: Deep Creek Downstream of Cowpen Branch Rd Date: 08/23/2018WIN/Field ID: G2NE1173 WBID: 257549 Latitude: 29.6799 (mm/dd/yyyy)County: St Johns ORG ID: 21FLA Longitude: 81.4563 (Decimal Degrees)Receiving Body of Water: LSSR RQ-2018- 08-20-42 (Decimal Degrees)

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

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>NEP #159181</u>		
Equipment ID <u>CRFHS #44</u>		

Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low / Normal / High / Flooded Meter ID# P70 DSS DEF #15481 Matrix: (Fresh / Marine / DI)

Photos: Yes/ No Flow: No Flow / Interstitial / Flowing / 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	1120	0.5	0.25	0.3	5.73	70.8	6.12	0.07	153.4	25.1
CEN										

Biological Samples Collected: None 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	SA8085170	03-26-19	<2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			<2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice	R7KA12512		
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	☐ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-UHERB-AA ☐ W-AHERB-AA ☐ W-CARB-AA ☐ W-PCL-SQ-R ☐ W-PYR-AA-R ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Notes: L/L @ WOODEN Bridge
29.67994, 81.45634
L/L @ 100 m. 29.679319 81.45519

WIN / Field ID:



G2NE1173

Deep creek downstream of Cowpen branch rd.

Signature: PO'Connor Date: 08-23-18Enter Field Parameters, Verify Station ID In LIMS DMT: JP 8/23/18 QC Station ID, Field Parameters In LIMS DMT: BP 8/28/18Scan/Save Field Sheets BP 8/28/18 Migrate Data to WIN: JP 8/23/18 Verify Data In WIN: BP 8/28/18

(Initials/Date)

(Initials/Date)

(Initials/Date)

Request Number: RQ-2018-08-20-42

Deep Creek and Trib SCI / RPS

Florida Department of Environmental Protection
Central Laboratory Submittal FormPage 1 of 2
last revised Jan 25, 2018

Customer: NE-DIST

Requester: Jeremy M. Parrish

Field Report Prepared By:

Project ID: SMP

Collected By:

J. Parrish, P. O'Connor

Sampling Agency:

DEAR NED ROC

WIN / Field ID:

G2NE1173

WINSTORET # Deep creek downstream of Cowpen branch rd.

Location	☐ dd ☐ dms		Latitude	☐ dd ☐ dms		Longitude	☐ dd ☐ dms		Salinity (ppt)	0.01		Comments	D% 70.8		Temp (C)	25.1		pH	6.12		Sample Depth	0.25 m		Sp. Conductance (umho/cm)	153.4		Bottle Group(s)	A+B				
Field ID			Temp (C)			pH			Sample Depth			Sp. Conductance (umho/cm)			Bottle Group(s)			Temp (C)			pH			Sample Depth			Sp. Conductance (umho/cm)			Bottle Group(s)		
WINSTORET #			Temp (C)			pH			Sample Depth			Sp. Conductance (umho/cm)			Bottle Group(s)			Temp (C)			pH			Sample Depth			Sp. Conductance (umho/cm)			Bottle Group(s)		
Location	☐ dd ☐ dms		Latitude	☐ dd ☐ dms		Longitude	☐ dd ☐ dms		Salinity (ppt)			Comments			Temp (C)			pH			Sample Depth			Sp. Conductance (umho/cm)			Bottle Group(s)					
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WINSTORET #			Temp (C)			pH																										

Group: A	Bottle Type: P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-SO4-IC W-TDS W-TSS						
Group: A	Bottle Type: BP-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
CHLSUITE-W						
Group: A	Bottle Type: P-250ML-WI-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	0
NE-ALS-ECQ						
Group: A	Bottle Type: P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	1
W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC						
Group: A	Bottle Type: P-125ML	# of Bottles: 2	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	1
W-PO4-F						
Group: B	Bottle Type: PJ-2L	# of Bottles: 2	Preservative:	Formalin	Enter Number of Bottles Sent to Lab	2
MI-FW-QLDC						

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

SAMPLE ID _____ ORG ID 21F1A LATITUDE _____
 COUNTY St. Johns STORET # G2NE1173 LONGITUDE _____
 DATE 08-23-18 TIME 1120 SAMPLING AGENCY DEAR NEA POC
 SITE NAME Deep Cr Down Stream of Cooper Br. Rd.
 FIELD ID/NAME G2NE1173 RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

Meter ID: YSI Pro DEP#154181

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) ☐
☐ ☐ ☐ 35 5 ☐ ☐ ☐ ☐

Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ HeavyLocal Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: >18 Right Bank: >18

Hydrologic Modification Score (per FT 3101)

High Water Mark: 0.7 + 0.5 = 1.2
 (m) (above present water level) (present depth) (above bed)

Artificially Impounded

☐ Yes ☒ NoArtificially ☐ No ☒ Mostly recovered, more sinuousChannelized: ☐ Some recovery ☐ Recent, severeCanopy Cover % ☐ Open☐ Lightly Shaded (11-45%)☒ Heavily Shaded☐ Moderate Shaded (46-80%)

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

0.21 0.21 3.0 m wide
0.75 m/s 0.25 m/s 0.75 m/s

☐ m deep 0.5 m deep ☐ m deep

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

INVERT PERI
 % # Times # Times
 Coverage Sampled Sampled

Woody Debris (Snags) 4.5 7 ☐Undercut Banks / Roots 2.0 7 ☐Leaf Packs or Mat ☐ ☐ ☐Aquatic Vegetation ☐ ☐ ☐Rock or Shell Rubble.. ☐ ☐ ☐Sand..... 30 3 ☐Mud / Muck / Silt 60+ 3 ☐Other veg 21 ☐Other ☐ ☐ ☐

WATER QUALITY

Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)
 Top: ☐ ☐ ☐ ☐ ☐ ☐ ☐ 0.3
 Mid: 0.75 25.1 6.12 5.73 70.8 153.4 0.07 TOTAL DEPTH
 Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐Water Odors Normal ☒ Petroleum ☐Sewage ☐ Chemical ☐ Other ☐Water Surface Oils Normal ☐ Sheen ☐Globs ☐ Slick ☐ Other ☐Water Sample Taken? ☒ Yes ☐ NoSample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Color Tannic ☒ Green (Algae) ☐Clear ☐ Other (Specify) ☐Algae Sample Taken? ☐ Yes ☒ NoSample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐Turbid ☒ Opaque ☐

ABUNDANCE

Not Obs. Rare Common Abundant

Periphyton: ☐ ☒ ☐ ☐Fish: ☐ ☒ ☐ ☐Aquatic Plants: ☐ ☒ ☐ ☐Iron/Sulfur Bacteria: ☐ ☐ ☒ ☐

AMBIENT FIELD CONDITIONS / NOTES:

1/L @ 29.67962, 81.45602 41.8
@ 100 29.67931 - 81.45519 41.8
 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

Parrish, O'Connor

SIGNATURE:

Parrish08-23-18

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(AK)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Deep Creek DS of Cowpens Rd					County: St. Johns		Date: 08-23-18		Investigators: Parrish, O'Connor		
										STORET Station Number: G2NE1173	
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	N		60	1	N	N		96	
	2					2					
	3					3					
	4					4					
	5					5					
	6					6					
	7					7					
	8					8					
	9					9					
10	1	N			70	1	N			96	
	2					2					
	3					3					
	4					4					
	5					5					
	6					6					
	7					7					
	8					8					
	9					9					
20	1	N			80	1	N			96	
	2					2					
	3					3					
	4					4					
	5					5					
	6					6					
	7					7					
	8					8					
	9					9					
30	1				90	1				96	
	2					2					
	3					3					
	4					4					
	5					5					
	6					6					
	7					7					
	8					8					
	9					9					
40	1				100	1				96	
	2					2					
	3					3					
	4					4					
	5					5					
	6					6					
	7					7					
	8					8					
	9					9					
50	1	N			110	1	N			96	
	2					2					
	3					3					
	4					4					
	5					5					
	6					6					
	7					7					
	8					8					
	9					9					

* Please correct mistake
I put all N's

— Add the 4
— Add two X's

JP

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%.

Secchi depth 0.3
Estimated?

points ranked 4-6 1
total points assessed 97
% points ranked 4-6 1

Check accompanying data collected at same site/date.

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

RQ-2018-08-20-42

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

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SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: G2NE 1173	DATE (MM/DD/YY): 08-23-18	RECEIVING BODY OF WATER: LSSR
REMARKS:	COUNTY: St. Johns	LOCATION: Deep Cr. DS of Cowpen Br. rd	FIELD ID/NAME: G2NE 1173	

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 <u>11</u>	10 9 <u>8</u> 7 6	5 4 3 2 1
Substrate Availability <u>7</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 <u>7</u> 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 <u>15</u> 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>13</u> Primary Score <u>44</u> <u>42</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 <u>12</u> 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>18</u>	20 <u>19</u> 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability <u>6</u> <u>6</u> Right Bank <u>6</u> Left Bank <u>6</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 <u>7</u> <u>6</u>	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 <u>10</u> <u>10</u> Right Bank <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 9	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 <u>9</u> <u>9</u> Right Bank <u>9</u> Left Bank <u>9</u> Secondary Score <u>68</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 <u>9</u>	>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

TOTAL SCORE

Date: <u>8/23/18</u>	Analyst: <u>John Brown</u>	Signature: <u>JB</u>
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