

HA/RPS/LVS

Site Name Jane Green Creek @1000m DS of Control Structure Sample Date 10/15/2019WBID 3084 WIN ID G3CE 0028 RQ -2018-12-03-54

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	NA 11/26/19	JK 1/22/2020
Create SBIO station visit	NA 11/26/19	n/a
Phys/Chem entry	NA 1/16/20	JK 1/21/20
Habitat Assessment entry	NA 11/26/19	JK 1/21/20
Vascular entry (add LIMS ID to entry)	NA 11/26/19 ?	NA <2m2
RPS entry	NA 11/26/19	JK 1/21/20
Authorize SBIO data	JK 1/21/20	n/a
Scan all sheets to 21FLCEN folder	JK 1/27/20	n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

SAMPLE ID _____ ORG ID 21FCEN LATITUDE 28.0780
 COUNTY Oswego STORET # G3CE0028 LONGITUDE -80.8991
 DATE 10/15/2019 TIME _____ SAMPLING AGENCY FDGP
 SITE NAME Jane Green Creek
 FIELD ID/NAME G3CE0028 RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>25</u> Silviculture _____ Field/Pasture <u>60</u> Agricultural _____ Residential <u>5</u> Commercial _____ Industry _____ Other (Specify) _____ <u>IMPROVED PASTURE</u>								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 <u>9</u> _____ m/s <u>0.09</u> m/s _____ m/s _____ m deep <u>1.5</u> m deep _____ m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18</u> Right Bank: <u>>18m</u>				Hydrologic Modification Score (per FT 3101) _____					
High Water Mark: <u>1</u> + <u>1.5</u> = <u>2.5</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: ☒ NSCI ☒ 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>25.0</u></td> <td><u>6.08</u></td> <td><u>2.12</u></td> <td><u>26.0</u></td> <td><u>167.0</u></td> <td><u>0.08</u></td> <td><u>0.5</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>1.0</u></td> <td><u>24.2</u></td> <td><u>5.95</u></td> <td><u>0.69</u></td> <td><u>8.3</u></td> <td><u>165.0</u></td> <td><u>0.08</u></td> <td>_____</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>25.0</u>	<u>6.08</u>	<u>2.12</u>	<u>26.0</u>	<u>167.0</u>	<u>0.08</u>	<u>0.5</u>	Mid:	_____	_____	_____	_____	_____	_____	_____	_____	Bottom:	<u>1.0</u>	<u>24.2</u>	<u>5.95</u>	<u>0.69</u>	<u>8.3</u>	<u>165.0</u>	<u>0.08</u>	_____
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Woody Debris (Snags) <u>1.5</u> <u>10</u> <u>_____</u> Undercut Banks / Roots _____ Leaf Packs or Mat <u>0.1</u> _____ Aquatic Vegetation _____ Rock or Shell Rubble.. _____ Sand..... _____ Mud / Muck / Silt _____ Other _____ Other _____		Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐																																					
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 Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____		Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐												
	Not Obs.	Rare	Common	Abundant																																					
Periphyton:	☐	☒	☐	☐																																					
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Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) _____		CLARITY Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐																																					
AMBIENT FIELD CONDITIONS / NOTES: ☐ The antecedent hydrologic conditions have been met to my best knowledge.																																									
SAMPLING TEAM <u>Natalie Ayala / Terry Riordan</u>			SIGNATURE: <u>[Signature]</u>		DATE: <u>10/15/2019</u>																																				

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

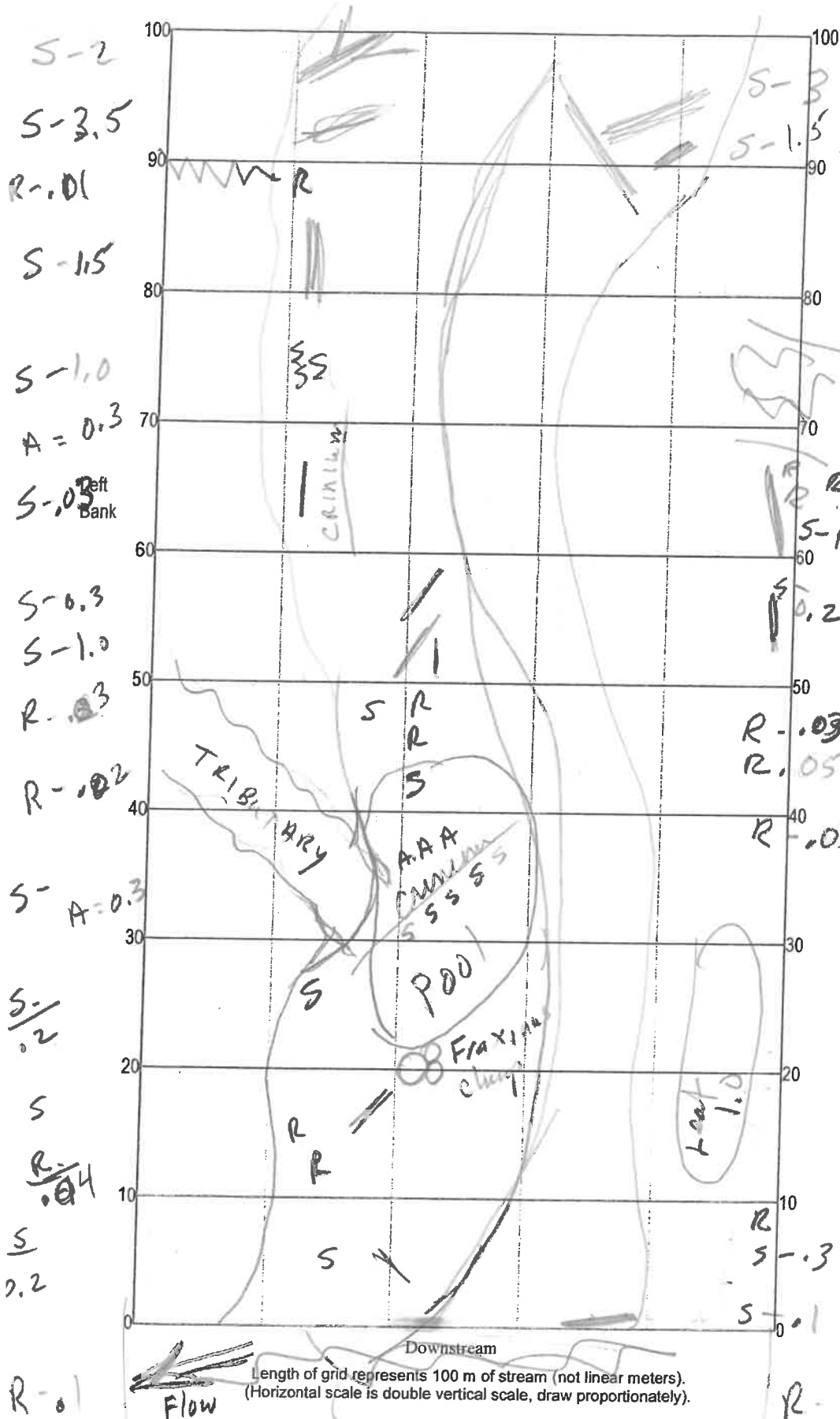
SAMPLING AGENCY: <u>CE ROC</u>		STORET STATION NUMBER: <u>63CE0028</u>	DATE (MM/DD/YY): <u>10/15/19</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Osceola/Brevard</u>	LOCATION: <u>Jane Green Creek</u>	FIELD ID/NAME: <u>63CE0028</u>	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>5</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 <u>5</u> 4 3 2 1
Substrate Availability <u>2</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 <u>2</u> 1
Water Velocity <u>9</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 <u>0.09</u> 0.07 0.06 0.05 10 <u>9</u> 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>20</u> ----- Primary Score <u>36</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. <u>20</u> 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 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. <u>15</u> 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>10</u> Left Bank <u>10</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. <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>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 Right Bank <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>111</u> <u>NA</u> <u>75</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. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

111 TOTAL SCORE

Date: <u>10/15/19</u>	Analyst: <u>Terry Riordan, Natalie Ayala</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Jane Green Creek

Date: 10/15/19

Sampler: Terry Riverson, Natalie Ayala

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ S	Snags	1.5
☒ R	Roots/undercut banks	.0
☒ LP	Leaf Packs (or mats)	.1
☒ A	Aquatic Macrophytes	.0
☐		
☐		
☒ P	Pools	total # observed = 1 # range expected = 1-2

Average width 9 m
Average depth 1.0 m

Velocity measured at 10 meter mark.

WQ & chemistry taken at 50 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:

Alternanthera
Crinum Amer.
Fraxinus
Salvinia

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

Revision Date: March 1, 2014



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Jane Green Creek @ 1000 m DS of Control Structure Date: 10/15/2019

WIN/ Field ID: G3CE0028 WBID: 3084/3084A Latitude: 28.0780 (mm/dd/yyyy)

County: Osceola/Brevard ORG ID: 21FLCEN Longitude: -80.8991 (Decimal Degrees)

Receiving Body of Water: _____ RQ-2019- 12-03-54

Sampling Team Members						WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment					
Terry Riordan							X					☒ Sample Container	☐ Van Dorn	☐ Pole		
Natalie Ayala						X		X				☐ Carboy	☒ Syringe			
												☐ Dipper	☐ Other			
												Depth Measured with <u>Secchi Disk Line</u> / Meter				
												Equipment ID <u>Leadfoot, Knothead, Crusty/ Bucket, Mucky/Trap</u>				
												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>Craw / Daddy</u>			Matrix: <u>Fresh</u> / Marine / DI							
Photos: <u>Yes</u> / No		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 (umhos/cm)	Temp. (C°)						
<u>EST</u>	<u>12/7</u>		<u>0.3</u>		<u>2.12</u>	<u>26.0</u>	<u>6.08</u>	<u>0.08</u>	<u>167.0</u>	<u>25.0</u>						
<u>GEN</u>		<u>1.5</u>	<u>1.0</u>	<u>0.5</u>	<u>0.69</u>	<u>8.3</u>	<u>5.95</u>	<u>0.08</u>	<u>165.9</u>	<u>24.2</u>						
Biological Samples Collected: None HA <u>SCI</u> RPS Algae ID LVS LVI Other:																
SBIO ID Numbers: SBIO-ID: <u>80492</u> HA-ID: RPS-ID: <u>9495</u> Macrophyte-ID: LIMS#: <u>2128567</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				☒ <2					
Metals		☒ W-ICPMS ☒ W-ICP					☒ Ice ☒ HNO3				☒ <2					
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 um Filter					☒ Ice		<u>16930280</u>							
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		☒ ML-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 ☐ WEB321-MS ☐ W-CARB-AA					☒ Ice ☐ Other									
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice									
Notes: Boat Ramp @ 28.078526 -80.907266																
Signature: <u>[Signature]</u>						Date: <u>10/15/19</u>						WIN ID / Field ID → JG Creek @ 1000m DS of control structure				

LIMS EVENT ID: CENT-DIST-2019-10-16-01

Enter Field Parameters, Verify Station ID in LIMS DMT: [Signature] 11/26/19 QC Station ID, Field Parameters in LIMS DMT: 7R 1/22/2020

Scan/Save Field Sheets (Initials/Date) Migrate Data to WIN: (Initials/Date) Verify Data in WIN: (Initials/Date)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Jane Green Creek

County: OSC/Brevard

Date: 10/15/19

Investigators: T. Roudal, N. Ayala

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	Y		60	1	N	Y	
	2		Y			2		Y	
	3		Y			3		Y	
	4		Y			4		Y	
	5		Y			5		Y	96
	6		Y			6		Y	
	7		Y			7		Y	
	8		Y			8		Y	
	9		Y			9		Y	
10	1		Y		70	1		Y	
	2		Y			2		Y	
	3		Y			3		Y	
	4		Y			4		Y	
	5		Y			5		Y	96
	6		Y			6		Y	
	7		Y			7		Y	
	8		Y			8		Y	
	9		Y			9		Y	
20	1		Y		80	1		Y	
	2		Y			2		Y	
	3		Y			3		Y	
	4		Y			4		Y	
	5		Y			5		Y	94
	6		Y			6		Y	
	7		Y			7		Y	
	8		Y			8		Y	
	9		Y			9		Y	
30	1		Y		90	1		Y	
	2		Y			2		Y	
	3		Y			3		Y	
	4		Y			4		Y	
	5		Y			5		Y	96
	6		Y			6		Y	
	7		Y			7		Y	
	8		Y			8		Y	
	9		Y			9		Y	
40	1		Y		100	1		Y	
	2		Y			2		Y	
	3		Y			3		Y	
	4		Y			4		Y	
	5		Y			5		Y	96
	6		Y			6		Y	
	7		Y			7		Y	
	8		Y			8		Y	
	9		Y			9		Y	
50	1		Y			1		Y	
	2		Y			2		Y	
	3		Y			3		Y	
	4		Y			4		Y	
	5		Y			5		Y	
	6		Y			6		Y	
	7		Y			7		Y	
	8		Y			8		Y	
	9		Y			9		Y	

STORET Station Number: WIN

Secchi depth 0.5
Estimated? N

points ranked 4-6 0
total points assessed 99
% 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- 12-03-54

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

NO LVS < 2sq m veg.

1st
-28
68

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%.