

Site Name Robert's Branch @ Curryville rd Sample Date 11/12/19WBID 3006 WIN ID 20010333 RQ-2019-11-11-47

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS LMD <u>11</u> LMD	LMD 11/27/19	MKL 12/23/19
Create SBIO station visit 80493	LMD 11/22/19	n/a
Phys/Chem entry	LMD 12/16/19	MKL 12/23/19
Habitat Assessment entry 16418	LMD 12/16/19	MKL 12/23/19
Vascular entry (add LIMS ID to entry)	NA	NA
RPS entry 9505	LMD 12/16/19	MKL 12/23/19
Authorize SBIO data	MKL 12/23/19	n/a
Scan all sheets to 21FLCEN folder		n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

- < 2m² Mac's
- Entered for Ref Project but also serves to cover SMP(63CE001)

REF SCI (+SMP)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

Data Qualified?

Yes / No

January 2019

WIN Station Name: Roberts Branch @ Curryville RdDate: 11/12/2019WIN/ Field ID: G3EE0044 20010333WBID: 3006Latitude: 28.62292019 28.62369County: SeminoleORG ID: 21FLCENLongitude: -81.06677062 -81.06711

Receiving Body of Water: _____

RQ-2019- 11-11-47

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Mike Linger										☒ Sample Container	☐ Van Dorn	☐ Pole		
Terry Riordan										☐ Carboy	☒ Syringe			
Liz Bates, Mike Drennan										☐ Dipper	☐ Other			
										Depth Measured with <u>Secchi Disk Line / Meter</u>				
										Equipment ID <u>Leadfoot, Knothead, Crusty/Bucket, /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#					Matrix: <u>Fresh</u> / Marine / DI				
Photos: <u>Yes</u> / No					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising/ Falling/ Slack/ <u>NA</u>				
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	1015		0.2		6.04	66.4	4.51	0.04	92.4	20.0				
CEN		0.4		0.4 (cs)										
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> Algae ID LVS LVI Other:														
SBIO ID Numbers: SBIO-ID: <u>80493</u> HA-ID: <u>16418</u> RPS-ID: <u>9505</u> Macrophyte-ID: <u>N/A</u> LIMS#: <u>2135495</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	<u>SA9010030</u>	<u>4/10/20</u>	☒ <2					
Metals	☐ W-ICPMS ☐ W-ICP					☒ Ice ☐ HNO3	<u>NA9129070</u>	<u>5/9/20</u>	☒ <2					
Filtered Nutrients	☒ W-PO4 F ☒ Field Filtered 0.45 µm Filter					☒ Ice	<u>13615055</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-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					☐ Ice								
Tracers	☐ W-E8321-D1 ☐ W-E8321-MS					☐ Ice								
Pesticides	☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-D1					☐ Ice								
	☐ W-PCL-SQ-R ☐ W-E8321-MS ☐ W-CARB-AA					☐ Other								
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice								

H2SO4
LOT# SA9010030
EXP: 04/10/2020

Place Alternative Sticker(s) Here
(If Available)

HNO3
LOT# NA9129070
EXP: 05/09/20

WIN ID / Field ID →

Robert's Brnch @ Curryville rd



20010333

Signature: _____

Date: 11/12/19

LIMS EVENT ID: _____

Enter Field Parameters, Verify Station ID In LIMS DMT: LMO 11/27/19QC Station ID, Field Parameters In LIMS DMT: MLL 12/23/19Scan/Save Field Sheets _____
(Initials/Date)Migrate Data to WIN: _____
(Initials/Date)Verify Data In WIN: _____
(Initials/Date)

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

SAMPLE ID 80493 ORG ID 21FLCEN LATITUDE 28.62369
 COUNTY Seminole STORET # 20010333 LONGITUDE -81.06711
 DATE 11/12/19 TIME 1015 SAMPLING AGENCY FDEP CE-ROC
 SITE NAME Robert's Branch @ Curryville Rd
 FIELD ID/NAME 20010333 RECEIVING BODY OF WATER SSR

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>40</u> Silviculture <u>50</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> </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>3.33</u> m wide <u>0.12</u> m/s <u>0.12</u> m/s <u>0.12</u> m/s			
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) <u> </u>				High Water Mark: <u>0.2</u> + <u>0.48</u> = <u>0.68</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): <u> </u>		Smothering of Substrates Sand Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐ Silt Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐ Algae Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐	
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SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☐ LVS ☐ LCI ☐ BioRecon				WATER QUALITY											
% Coverage Woody Debris (Snags) <u>9.9</u> Undercut Banks / Roots <u>9.1</u> Leaf Packs or Mat <u>1.8</u> Aquatic Vegetation <u>1.9</u> Rock or Shell Rubble <u> </u> Sand <u> </u> Mud / Muck / Silt <u> </u> Other <u> </u> Other <u> </u>				Invert # Times Sampled <u>7</u> <u>7</u> <u>2</u> <u>3</u> <u> </u> <u>1</u> <u> </u> <u> </u>				Peri # Times Sampled <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>				Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.2</u> <u>20.0</u> <u>4.51</u> <u>6.04</u> <u>66.4</u> <u>92.4</u> <u>0.04</u> <u>0.4</u> Mid: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Bottom: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Meter ID: <u> </u>			
Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐				Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐				Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u> </u> Exp: <u> </u>							
Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☒ No Lot Number: <u> </u> Exp: <u> </u>				Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐				Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐							

ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐				System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐			
AMBIENT FIELD CONDITIONS / NOTES: <u>70's clear</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.				*W.Q. values are from sampling point; Stream feature values are averages from >1 measure			

SAMPLING TEAM Mike Linger, Mike Drennan, Terry Riordan, Liz Bates **SIGNATURE:** **DATE:** 11/12/19

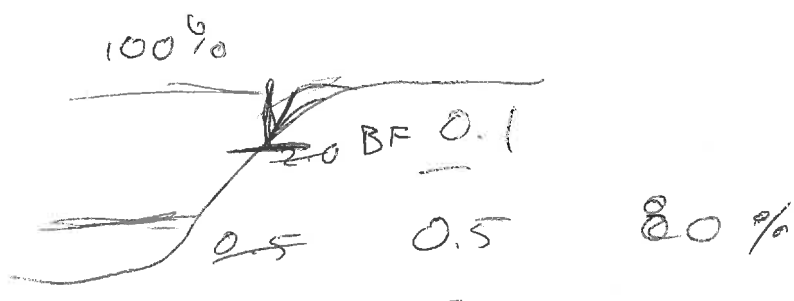
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

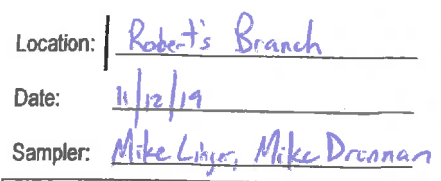
SAMPLING AGENCY: <u>Robert's Branch FDEP CE-R00</u>		STORET STATION NUMBER: <u>20010333</u>	DATE (MM/DD/YY): <u>11/12/19</u>	RECEIVING BODY OF WATER: <u>Leon</u>
REMARKS:	COUNTY: <u>Seminole</u>	LOCATION: <u>Robert's Branch</u>	FIELD ID/NAME: <u>20010333</u>	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>10</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 <u>10</u> 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 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>12</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 <u>12</u> 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>17</u> Primary Score <u>46</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 Artificial Channelization <u>18</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 or straightening 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>9</u> Left Bank <u>9</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. 10 <u>9</u>	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 woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>9</u> Left Bank <u>9</u>	Width of vegetation greater than 18 m 10 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>7</u> Left Bank <u>8</u> Secondary Score <u>69</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

115 TOTAL SCORE

Date: <u>11/12/19</u>	Analyst: <u>Mike Linger, Mike Drennon, Terry Fiordan, Liz Bates</u>	Signature: <u>[Signature]</u>
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- *Nyssa* dominated canopy; good understory
- FW type stream
- minimal urban dev. w/in riparian zone/watershed
- minimal periphyton/Mac's

3 m - *Ardisia crenata* observed
 48m
 Revision Date: March 1, 2014 (Cat 1 FLEPC)

62-160.800, F.A.C

$$BF = WL + 2m$$
$$BH = BF + 1m$$

59.9

R 9.1

21-8

A-19

$$22.7 / 333.33 = 6.8\% \quad \bar{u} = 1.2 \text{ m/s}$$

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Robert's Branch</u>					County: <u>Seminole</u>		Date: <u>11/12/19</u>		Investigators: <u>Mike Linger</u>	
					STORET Station Number: <u>20010333</u>					

(m)	1=right 9=left	Rank (N-6, X)	Estim	Cover	(m)	1=right 9=left	Rank (N-6, X)	Estim	Cover
0	1	2		88	60	1	2		88
	2	2				2	2		
	3	2				3	2		
	4	2				4	3		
	5	2				5	3		
	6	2				6	2		
	7	2				7	2		
	8	2				8	2		
	9	2				9	4		
10	1	2		80	70	1	4		84
	2	3				2	N		
	3	2				3	N		
	4	2				4	N		
	5	2				5	N		
	6	2				6	N		
	7	2				7	N		
	8	2				8	N		
	9	2				9	N		
20	1	3		92	80	1	N		88
	2	2				2	N		
	3	2				3	N		
	4	2				4	N		
	5	3				5	N		
	6	2				6	N		
	7	2				7	N		
	8	2				8	N		
	9	2				9	4		
30	1	2		92	90	1	N		92
	2	2				2	N		
	3	2				3	N		
	4	2				4	N		
	5	2				5	N		
	6	2				6	N		
	7	2				7	N		
	8	2				8	3		
	9	2				9	2		
40	1	2		84	100	1	3		60
	2	2				2	5		
	3	2				3	N		
	4	2				4	N		
	5	2				5	N		
	6	2				6	N		
	7	2				7	3		
	8	2				8	N		
	9	2				9	4		
50	1	2		76	Record "N" and check "Estimated" for points deeper than the presumed Secchi depth. Check "Estimated" if thickness estimated for points seen but not reached.				
	2	2			Record "X" for points shallower than Secchi depth for which no algal mat was reached with the hand. No estimated rank.				
	3	2			Record canopy cover as the number of small densiometer quadrants that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.				
	4	2			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%.				
	5	2							
	6	2							
	7	2							
	8	2							
	9	3							

Secchi depth	<u>0.4</u> (s)
Estimated?	

# points ranked 4-6	<u>6</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>6</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	☒
RQ- <u>2019-11-11-47</u>	

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

Waterbody: Robert's Branch	Date: 11/12/19	County:	Storet Number:
Analyst:	Signature:		

Comments: $< 2m^2$ Veg

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