



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
Yes / No

WIN Station Name:	SILVER RUN AT 250M UPSTREAM OF CONFLUENCE W BOAT RAMP CANAL				Sample Date:	5/8/2023	
WIN / Field ID:	G1CE0125	ORG ID:	21FLCEN	ENR:	-	Latitude:	29.20992
County:	MARION	WBID:	2772D	STREAM	3F	Longitude:	-81.99333
Receiving Body of Water:	Ocklawaha River				RQ-	2023-04-17-21	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Matt Bearden		x		x	x
Katie March		x		x	x
Jessie Atchison	x		x		
Leif Boman		x		x	x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
Syringe Lot#	2298556	Filter Lot#	17769663
Secchi Equipment ID:	Light		
Collection Method			
	Wading		Canoe/Kayak
	From Shore		Electric Motor
		x	Gasoline Motor
Depth Measured With	Secchi		

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	Shrimp Trap
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTth)
EST	1328	6	0.3	6.7	79.1	23.7	7.47	6	474.9	0.23
	1338		5.5	6.88	81.2	23.7	7.47		474.5	0.23

Biological Samples Collected: HA LVS RPS

SBIO Visit ID: HA ID: RPS ID: Macrophyte ID: LIMS Sample ID Entered Into The Macrophyte Module:

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation				
				Type		Lot#	Expiration Date	pH Check
Microbiology	E. coli			ICE				
Chlorophyll	CHLSUITE-W			ICE				
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE				
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE				
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE		Syring Lot#:2298556; Filter Lot#:17769663		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA3013020	1/25/24	H2SO4 pH<2
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA2230040	9/01/23	HNO3 pH<2
Organics (LC)	W-E8321-DI	W-E8321-MS		Ice				
Macroinvertebrates								
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
					SyringLot#		FilterLot#	
Other(s)								

Field Comments: 85 and sunny. Periphyton sample same as site upriver G1CE0059

Comments on COC:

Relinquish Date:	05/08/2023	Signature:	
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LIMS EVENT ID: WIN Import ID: 41939

Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:

Save Field Sheets on Network: KWM 8/3/23 (Initials/Date) Migrate Data to WIN: KWM 8/3/23 (Initials/Date)

(Initials/Date) (Initials/Date)

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

SAMPLING AGENCY:		STORET STATION NUMBER: <u>G1CE0125</u>	DATE (MM/DD/YY): <u>5/8/23</u>	RECEIVING BODY OF WATER: <u>Ocklawaha River</u>
REMARKS:	COUNTY: <u>Marion</u>	LOCATION: <u>Silver River</u>	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>10</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>18</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>19</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 spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>12</u> Primary Score <u>65</u> <u>59</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. 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>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 woody 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 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>10</u> Left Bank <u>10</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>10</u> Left Bank <u>10</u> Secondary Score <u>80</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

TOTAL SCORE

Date: <u>5/8/23</u>	Analyst: <u>K. March, M. Bearden, L. Roman, J. Atkinson</u>	Signature: <u>KMarch</u>
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Waterbody: Silver River	Date: 5/8/23	County: Marion	Storet Number: 61000125
Analyst: Kate March	Signature: K March		

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: January 2017

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

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY _____ STORET # 61CE0125 LONGITUDE _____
 DATE 5/8/23 TIME _____ SAMPLING AGENCY _____
 SITE NAME _____
 FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>100</u> 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 <u>25</u> m/s <u>0.3</u> m/s _____ m/s
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>				Hydrologic Modification Score (per FT 3101) _____				_____ m/s _____ m/s _____ m/s
High Water Mark: <u>0.9</u> + <u>6</u> = <u>6.9</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				_____ m deep <u>6</u> m deep _____ m deep
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></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></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				Rock or Shell Rubble..				Sand.....				Mud / Muck / Silt				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>23.7</u></td> <td><u>7.47</u></td> <td><u>6.7</u></td> <td><u>79.1</u></td> <td><u>474.9</u></td> <td><u>0.23</u></td> <td><u>6</u></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td><u>5.5</u></td> <td><u>23.7</u></td> <td><u>7.47</u></td> <td><u>6.88</u></td> <td><u>81.2</u></td> <td><u>474.5</u></td> <td><u>0.23</u></td> <td><u>6</u></td> </tr> </tbody> </table> Meter ID: _____							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>23.7</u>	<u>7.47</u>	<u>6.7</u>	<u>79.1</u>	<u>474.9</u>	<u>0.23</u>	<u>6</u>	Mid:								☒ VOB	Bottom:	<u>5.5</u>	<u>23.7</u>	<u>7.47</u>	<u>6.88</u>	<u>81.2</u>	<u>474.5</u>	<u>0.23</u>	<u>6</u>
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Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐																																																																														
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐																																																																														
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AMBIENT FIELD CONDITIONS / NOTES: _____ _____ ☐ The antecedent hydrologic conditions have been met to my best knowledge.																																																																																				

SAMPLING TEAM

M. Bearden, L. Bonan, K. March,

SIGNATURE:

K. March

DATE:

5/8/23

J. Atchinson

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Silver River</u>	County: <u>Marion</u>	Date: <u>5/8/23</u>	Investigators: <u>Leif Boman</u>
			STORET Station Number: <u>61CE0125</u>

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
2	6		2	5					
3	6	✓	3	5	✓				
4	6	✓	4	6	✓				
5	6	✓	5	6	✓				
6	6	✓	6	6	✓				
7	6	✓	7	6	✓				
8	6		8	6					
9	6		9	6					
10	1	6		15	70	1	6		0
	2	6				2	6		
	3	6	✓			3	6	✓	
	4	6	✓			4	6	✓	
	5	6	✓			5	6	✓	
	6	6	✓			6	6	✓	
	7	6	✓			7	6	✓	
	8	6				8	6		
	9	6				9	6		
20	1	6		15	80	1	6		0
	2	6				2	6		
	3	6	✓			3	6	✓	
	4	6	✓			4	6	✓	
	5	6	✓			5	6	✓	
	6	6	✓			6	6	✓	
	7	6				7	6		
	8	6				8	6		
	9	6				9	6		
30	1	6		0	90	1	6		0
	2	6				2	6		
	3	6	✓			3	6	✓	
	4	6	✓			4	6	✓	
	5	6	✓			5	6	✓	
	6	6				6	6		
	7	6				7	6		
	8	6				8	6		
	9	6				9	6		
40	1	6		0	100	1	6		0
	2	6				2	6		
	3	6	✓			3	6		
	4	6	✓			4	6	✓	
	5	6	✓			5	6	✓	
	6	6	✓			6	6	✓	
	7	6				7	6		
	8	6				8	6		
	9	6				9	6		
50	1	6		0		1	6		
	2	6				2	6		
	3	6				3	6		
	4	6	✓			4	6	✓	
	5	6	✓			5	6	✓	
	6	6	✓			6	6	✓	
	7	6				7	6		
	8	6				8	6		
	9	6				9	6		

Secchi depth	<u>6</u>
Estimated?	

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

Check accompanying data collected at same site/date.	
Algal mat sample	✓
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓
RQ- <u>2023-04-17-21</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

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%.