

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
Yes / No

WIN Station Name:	Arbuckle Branch				Sample Date:	12/8/2022	
WIN / Field ID:	G4SD0172	ORG ID:	21FLFTM	ENR:	-		
County:	Highlands	WBID:	1761C	STREAM	3F		
Receiving Body of Water:	Lake Istokpoga				RQ-	2022-12-05-36	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Gary Snorek		x		x	x
William Mullen	x		x		

Sampling Equipment			
x	Sample Container	Carboy	
	Dipper	Van Dorn	
	Syringe	Pole	
Syringe Lot#		Filter Lot#	
Secchi Equipment ID:		3312A	
Collection Method			
x	Wading	Canoe/Kayak	
	From Shore	Electric Motor	
		Gasoline Motor	
Depth Measured With Secchi			

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	President Camacho
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	1030	0.1	0.05	7.11	80.9	21.7	6.18	0.1	199.4	0.09
								VOB (s)		

Biological Samples Collected: HA LVS RPS Algal ID SCI

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	Contract Lab	Benchmark	ICE			
Chlorophyll	CHLSUITE-W			ICE			
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE			
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE			
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE	Syringe Lot#; Filter Lot#:		
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA2229010	08/30/23
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA1286110	11/16/23
Organics (LC)	W-E8321-DI	W-E8321-MS					
Macroinvertebrates	MI-FW-QLDC				1234		
Organics (GC)	W-PSNP-TQ			Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise		
Molecular	PCR-HF183	PCR-BacR	PCR-DG3	Ice			
Periphyton	Algal ID			Ice			
Phytoplankton							
BOD							
DOC							
Other(s)					SyringeLot#		FilterLot#
Field Comments:	/ SCI Collection Time: 1050 / Algal ID Collection Time: 1050						
Comments on COC:	Microbiology sample(s) submitted to contract laboratory.						
Relinquish Date:	12/08/2022	Signature:					

LIMS EVENT ID: WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT:

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT:

(Initials/Date)

Save Field Sheets on Network:

(Initials/Date)

Migrate Data to WIN:

(Initials/Date)

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).

Bridge

6 sec = 1 Meter = 0.17 m/s

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

SAMPLING AGENCY: <u>FRP Soroc</u>		STORET STATION NUMBER <u>G4500172</u>	DATE (MM/DD/YY) <u>12/6/22</u>	RECEIVING BODY OF WATER <u>Laake Istokpoga</u>
REMARKS:	COUNTY <u>Highlands</u>	LOCATION <u>Arbuckle Branch</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>4</u>	20 19 18 17 16	15 14 13 12 <u>11</u>	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 <u>3</u> 2 1
Water Velocity <u>13</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 <u>13</u> 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>11</u> ----- Primary Score <u>38</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 <u>11</u>	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 or straightening 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>16</u>	20 19 18 17 <u>16</u>	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 woody 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 woody root zone with raw, eroded areas.
Right Bank <u>4</u> Left Bank <u>2</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>9</u> Left Bank <u>5</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>7</u> Left Bank <u>4</u> ----- Secondary Score <u>47</u>	10 9	8 7 6	5 4	3 2 1

85

TOTAL SCORE

Date: <u>12/6/22</u>	Analyst: <u>William Miller</u>	Signature: 
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DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 0152FTM LATITUDE 22.49000631
 COUNTY Hillsdale STORET # 04500192 LONGITUDE -81.3076737
 DATE 12/6/22 TIME 1055 SAMPLING AGENCY DEP SORCE
 SITE NAME Arbuckle Branch
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Lake Istokoge

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) <u>20%</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 ☐ m/s ☐ m/s ☐ m/s
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: ☐ Right Bank: ☐				Hydrologic Modification Score (per FT 3101) ☐				☐ m/s ☐ m/s ☐ m/s
High Water Mark: ☐ + ☐ = ☐ (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				☐ m deep ☐ 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		WATER QUALITY			
% Coverage Woody Debris (Snags) ☐ 0.76 ☐ 5 ☐ Undercut Banks / Roots ☐ 0.74 ☐ 5 ☐ Leaf Packs or Mat ☐ 0 ☐ ☐ Aquatic Vegetation ☐ 2.32 ☐ 5 ☐ Rock or Shell Rubble... ☐ 0 ☐ ☐ Sand..... ☐ 5 ☐ Mud / Muck / Silt ☐ ☐ ☐ Other ☐ ☐ ☐ Other ☐ ☐ ☐		Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: ☐ 21.7 ☐ 6.18 ☐ 7.11 ☐ 80.9 ☐ 1094.4 ☐ 0.09 ☐ 0.1 Mid: ☐ 0.05 ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ 02/21/2023 NR ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH ☐ 0.1 Meter ID: <u>Resident Canachio</u>			
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐		Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>SA7229016</u> Exp: <u>06/30/23</u> Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			
SAMPLING TEAM <u>William Miller</u> <u>Gary Snorek</u>		System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.			
SIGNATURE: _____ DATE: <u>12/6/22</u>		Revision Date: January 2017			

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:					County:		Date:		Investigators:	
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	STORET Station Number:
0	1			89	60	1			0	Secchi depth Estimated?
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
10	1			86	70	1			0	# points ranked 4-6 total points assessed % points ranked 4-6
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
20	1			D	80	1			D	Check accompanying data collected at same site/date. Algal mat sample Linear Veg Survey Habitat Assessment SCI/Biorecon Water sample RQ-
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
30	1			D	90	1			D	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
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
40	1			D	100	1			D	
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
50	1			D		1				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 densimeter 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									
	3									
	4									
	5									
	6									
	7									
	8									
	9									

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: AEBUCKLE BRANCH

Date 12/2/22

County Highland S

Storet Number

Analyst:

Signature _____

Comments

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.

[illegible]