

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV☒ Yes ☐ No

WIN Station Name:	Dead River @ 1250 m north of Lake Hatchineha				Sample Date:	8/16/2022	
WIN / Field ID:	G4CE0167	ORG ID:	21FLCEN	ENR:	-	Latitude:	28.03906
County:	Polk	WBID:	1472C	STREAM		Longitude:	-81.36335
Receiving Body of Water:	Lake Hatchineha					RQ-	2022-08-15-22

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Leif Boman		x		x	x
Victoria Schwartz	x		x		

Sampling Equipment			
x	Sample Container	Carboy	
	Dipper	Van Dorn	
x	Syringe	Pole	
Syringe Lot# 2090604		Filter Lot# 17413308	
Secchi Equipment ID:		Light	
Collection Method			
	Wading	Canoe/Kayak	
	From Shore	Electric Motor	
x	FWC Airboat	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

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	1013	0.7	0.3	2.89	36	26.5	6.58	0.5	159.2	0.07

Biological Samples Collected:	HA LVS RPS Algal ID									
SBIO Visit ID:	85471	HA ID:		RPS ID:	9976	Macrophyte ID:	12282	LIMS ID:	2350223	

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation				
				Type	Lot#	Expiration Date	pH Check	
Microbiology	E. coli			ICE				
Chlorophyll	CHLSUITE-W			ICE				
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE				
Filtered Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE				
Acid Preserved Nutrients	W-PO4-F			ICE				
Metals	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	132683	12/18/22	H2SO4 pH<2
Organics (LC)	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA1105100	6/7/23	HNO3 pH<2
Macroinvertebrates	W-E8321-DI	W-E8321-MS		Ice				
Organics (GC)								
Molecular	PCR-HF183	PCR-BacR	PCR-DG3	Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Periphyton				Ice				
Phytoplankton								
BOD								
Other(s)								
Field Comments:	Sunny / Algal ID Collection Time: 1020							
Comments on COC:								
Relinquish Date:	08/16/2022	Signature:						

LIMS EVENT ID: CEN-DIST-2022-08-17-01

WIN Import ID: 36072

Enter Field Parameters, Verify Station ID in LIMS DMT: KWM 8/29/22

QC Station ID, Field Parameters in LIMS DMT: VLS 10/13/22

Save Field Sheets on Network: KWM 10/14/22 (Initials/Date)

Migrate Data to WIN: KWM 10/14/22 (Initials/Date)

(Initials/Date)

(Initials/Date)

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

SAMPLE ID _____ ORG ID _____ LATITUDE 28.03906
COUNTY Polk STORET # G4CE0167 LONGITUDE -81.36335
DATE 8/16/22 TIME 10:13 SAMPLING AGENCY 21 FL CEN
SITE NAME Dead River @ 1250 m north of Lake Hatchineha
FIELD ID/NAME G4CE0167 RECEIVING BODY OF WATER Lake Hatchineha

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 <u>4.5 sec</u> <u>17</u> m wide
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) _____				<u>0.32</u> m/s
High Water Mark: <u>0.2</u> + <u>0.7</u> = <u>0.9</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				<u>0.7</u> 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 ☒ Anaerobic ☐ Chemical ☐ 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 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>26.5</u> <u>6.58</u> <u>2.89</u> <u>36</u> <u>159.2</u> <u>0.07</u> <u>0.5</u> Mid: _____ Bottom: _____ Meter ID: <u>Shrimp Trap</u>					
Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble _____ Sand _____ Mud / Muck / Silt _____ Other _____ Other _____			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>132683</u> Exp: <u>12/18/22</u> RPS ALGAL-ID Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>ICE</u> Exp: _____			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ 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>Sunny. Sampled from Airboat</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM <u>Leif Boman / Victoria Schwartz</u>			SIGNATURE: <u>[Signature]</u>			DATE: <u>8/16/22</u>		

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

SAMPLING AGENCY: <u>2IFLCEN</u>		STORE STATION NUMBER: <u>G4CE0167</u>	DATE (MM/DD/YY): <u>8/16/22</u>	RECEIVING BODY OF WATER: <u>Lake Hatchineha</u>
REMARKS: <u>Via Airboat</u>	COUNTY: <u>Polk</u>	LOCATION: <u>Dead River</u>	FIELD ID/NAME: <u>G4CE0167</u>	

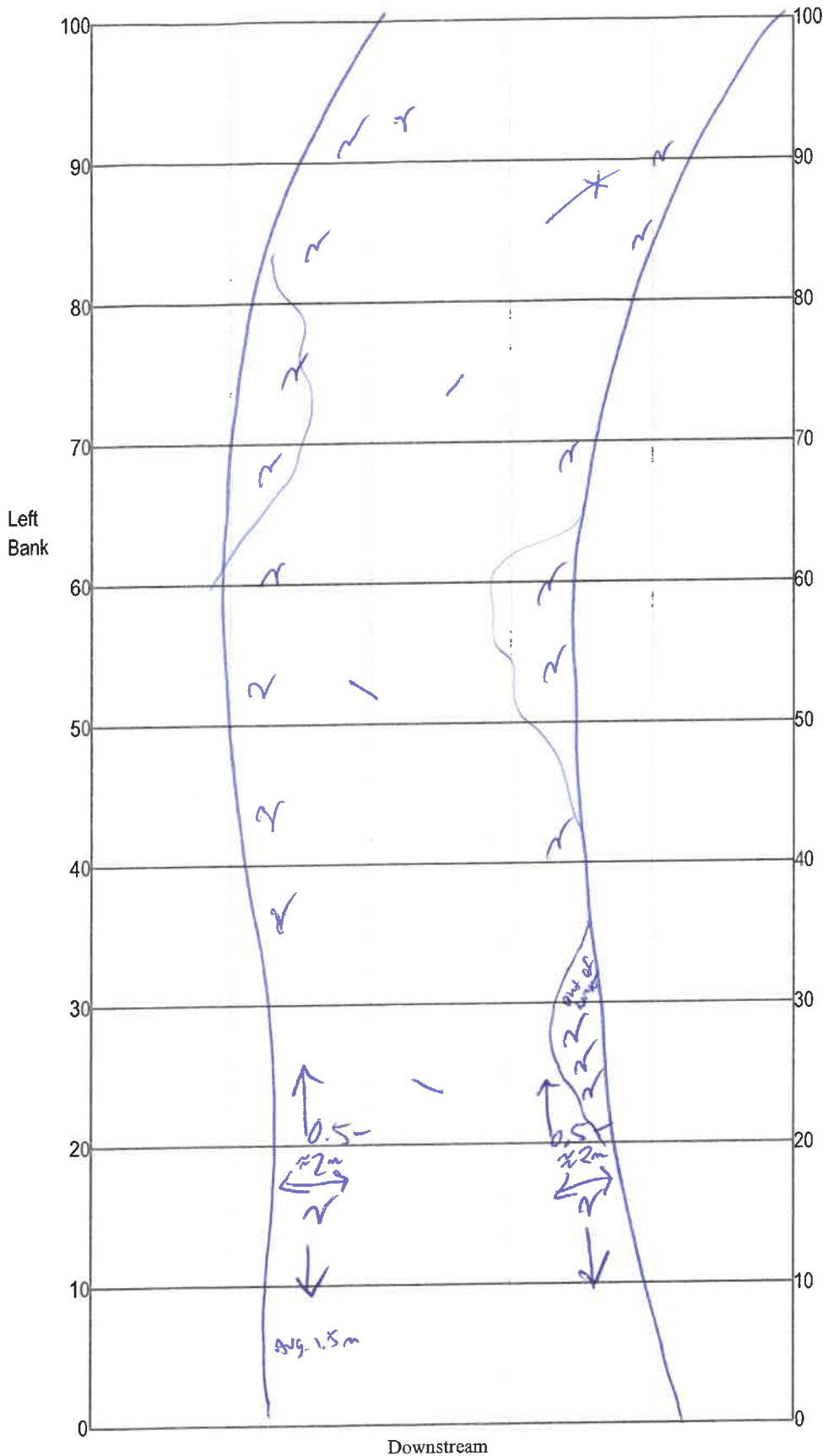
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>9</u>	20 19 18 17 16	15 14 13 12 11	10 <u>9</u> 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>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 15 <u>14</u> 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>2</u> Primary Score <u>28</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 <u>2</u> 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>20</u>	<u>20</u> 19 18 17 16	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>10</u> Left Bank <u>10</u>	<u>10</u> 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>10</u> Left Bank <u>10</u>	<u>10</u> 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>9</u> Left Bank <u>9</u> Secondary Score <u>78</u>	10 <u>9</u>	8 7 6	5 4	3 2 1

106

TOTAL SCORE

Date: <u>8/16/22</u>	Analyst: <u>Leif Boman / Victoria Schwab</u>	Signature: <u>[Signature]</u> / <u>[Signature]</u>
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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).

Location: Dead River
Date: 8/16/22
Sampler: Leif Boman/Victoria Schuch

100 m: Latitude _____	Longitude _____
0 m: Latitude _____	Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %	
☒ Snags	<u>0.588</u>
☐ Roots/undercut banks	_____
☐ Leaf Packs (or mats)	_____
☒ Aquatic Macrophytes	<u>1.76</u>
☐ _____	_____
☐ _____	_____
☐ Pools	total # observed = _____ # range expected = _____
Average width <u>~17</u> m	
Average depth _____ m	
Velocity measured at <u>0.5</u> meter mark.	
WQ & chemistry taken at <u>0</u> 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:

Dark tannic water

Waterbody: <u>Dead River</u>	Date: <u>8/16/22</u>	County: <u>Polk</u>	Store Number: <u>64CE0167</u>
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Analyst: Leif Boman / Victoria Schwartz Signature: [Signature] / [Signature]

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² 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 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Dead River</u>					County: <u>Polk</u>		Date: <u>8/16/22</u>		Investigators: <u>Leif Boman/Victoria Schwartz</u>		
										STORET Station Number: <u>JIN 64CE0167</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
0	1	3			60	1	N		
	2	(4)				2	N		
	3	N	✓			3	N	✓	
	4	N	✓			4	N	✓	
	5	N	✓	0		5	N	✓	0
	6	N	✓			6	N	✓	
	7	N	✓			7	N	✓	
	8	(4)				8	3		
	9	(5)				9	N		
10	1	(4)			70	1	(4)		
	2	(4)				2	N		
	3	N	✓			3	N	✓	
	4	N	✓			4	N	✓	
	5	N	✓	0		5	N	✓	0
	6	N	✓			6	N	✓	
	7	N	✓			7	N	✓	
	8	(3)				8	3		
	9	(6)				9	N		
20	1	3			80	1	3		
	2	(4)				2	N		
	3	N	✓			3	N	✓	
	4	N	✓			4	N	✓	
	5	N	✓	0		5	N	✓	0
	6	N	✓			6	N	✓	
	7	N	✓			7	N	✓	
	8	3				8	N	✓	
	9	3				9	N		
30	1	(4)			90	1	(4)		
	2	(5)				2	(4)		
	3	N	✓			3	N	✓	
	4	N	✓			4	N	✓	
	5	N	✓	0		5	N	✓	0
	6	N	✓			6	N	✓	
	7	N	✓			7	N	✓	
	8	(3)				8	3		
	9	(6)				9	N		
40	1	(4)			100	1	(4)		
	2	3				2	N		
	3	N	✓			3	N	✓	
	4	N	✓			4	N	✓	
	5	N	✓	0		5	N	✓	0
	6	N	✓			6	N	✓	
	7	N	✓			7	N	✓	
	8	3				8	(5)		
	9	(4)				9	(6)		
50	1	3			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%.				
	2	3							
	3	N	✓						
	4	N	✓						
	5	N	✓	0					
	6	N	✓						
	7	N	✓						
	8	(4)							
	9	(4)							

Secchi depth	<u>0.5</u>
Estimated?	

# points ranked 4-6	<u>22</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>22%</u>

Check accompanying data collected at same site/date.	
Algal mat sample	✓
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓
RQ- <u>2022-08-15-22</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

10R shoreline - 4/5/6
81L shoreline - 5/6

Tannic water

ALGAL ID
COLLECTED