



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN FIELD SHEET

January 2022

Meter Passed End

of Day CCV

Yes / No

WIN Station Name: Tributary Just US of Boggy Confluence

Date: 4/28/2022

WIN/Field ID: G4CE0230

WBID: 3168B

ENR:

Latitude: 28.372132

County: Orange

Org ID: 21FLCEN

Longitude: -81.31173

Receiving Body of Water: Kissimmee River

RQ: 2022-04-25-17

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Terry Riordan	☒	☐	☒	☐	☐
☒	Leif Boman	☐	☒	☐	☒	☒
☐		☐	☐	☐	☐	☐
☐		☐	☐	☐	☐	☐

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: Knothead	
Collection Method	
☐ Wading	☒ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# CRAW DADDY	
Photos: No	Flow: FLOW			Tide:		Tide Times: High: Low:	
Biological Samples Collected: ☐ None ☒ HA ☐ SCI ☒ RPS ☒ Algae ID ☒ LVS ☐ LVI Other:							
SBIO ID Numbers: SBIO 84182		MACROPHYTE 12164		RPS 9936		LIMS 2323149	
Notes: Type text here / ALGAL ID COLLECTION TIME: 1217							

Duplicate Sample

Time Zone: EST	Time:	Field ID: N/A	(WIN ID_DUP)
WIN DMT Activity ID:			

Blank

Time Zone:	Time:	Field ID:	(Blank Type_DDMMYYYY)
DI Source:	Location:		
DI Type:	Equipment ID:		
DI Container (Name/ID):		DI Container Type:	

LIMS EVENT ID: CEN-DIST-2022-04-29-01

WIN Import ID: 33496

Enter Field Parameters, Verify Station ID In LIMS DMT: EB 6/3/22

QC Station ID, Field Parameters In LIMS DMT: KWM 6/9/22

(Initials/Date)

(Initials/Date)

Scan/Save Field Sheets KWM 6/9/22

Migrate Data to WIN: KWM 6/9/22

Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)



RQ-2022-04-25-17
Customer: CEN-DIST
Project ID: STRATEGIC MONITORING PLAN

Collected By: Terry Riordan, Leif Boman
Field Report Prepared By: Terry Riordan
Sampling Agency: FDEP

Place Label Here WIN ID/Field ID: G4CE0230 Location: Tributary Just US of Boggy Confluence						Comments:				
Matrix: Fresh						(Check one) ☒ GRAB ☐ COMPOSITE				
Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT _h)
4/28/2022	1217 EST	7.47	86.4	22.6	6.86	0.3	1 ☒ VOB (S)	1	151	0.07
	EST						Central Lab please use top row for login purposes			
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4*		☒ <2	1	A
		Lot #	SA1308030		Exp:	12/01/22				
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A
		Lot #	NA1105100		Exp:	06/07/22				
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A
		Filter Lot #	17413308			Syringe Lot #	1335260			
BOD (BP-1L)		☐ OV-BODUNIN				☐ Ice				
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY				☐ Ice				
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC				☐ Formalin				
Periphyton (PT-50ML)		☒ ALGAE-ID				☒ Ice			1	B
Microbiology (Contract Lab Bottle)		☐ Coli ☐ Coli ☐ Enterococci ☐ Contract Lab				☐ Ice				
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD				☐ Ice				
Tracers (BG-500ML)		☒ W-E8321-DI ☒ W-E8321-MS				☒ Ice		MCAA Exp.	1	A
Pesticides (BG-500ML) (BG-1L)		W-E8321-DI		WE8321-MS		☒ W-PSNP-TQ		W-CT-CL-R		MCAA Lot#
		W-PCL-TQ-R		W-CARB-AA (5 ml of MCAA** Buffer Solution)		☒ W-TR-SQ-R				
		W-PCB-TQ-R								
Phytoplankton/Periphyton				DTY-QN-C		PKD-QN-C		☐ Ice		
Name: Terry Riordan Leif Boman						Signature:			Date: 04/28/2022	

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

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

SAMPLING AGENCY: <u>FDAP - CORON</u>		STORET STATION NUMBER: <u>G4CE0230</u>	DATE (MM/DD/YYYY): <u>04/28/22</u>	RECEIVING BODY OF WATER: <u>Kissimmee River</u>
REMARKS:	COUNTY: <u>ORANGE</u>	LOCATION: <u>Tributary just US of Boggy Confluence</u>		FIELD ID/NAME:

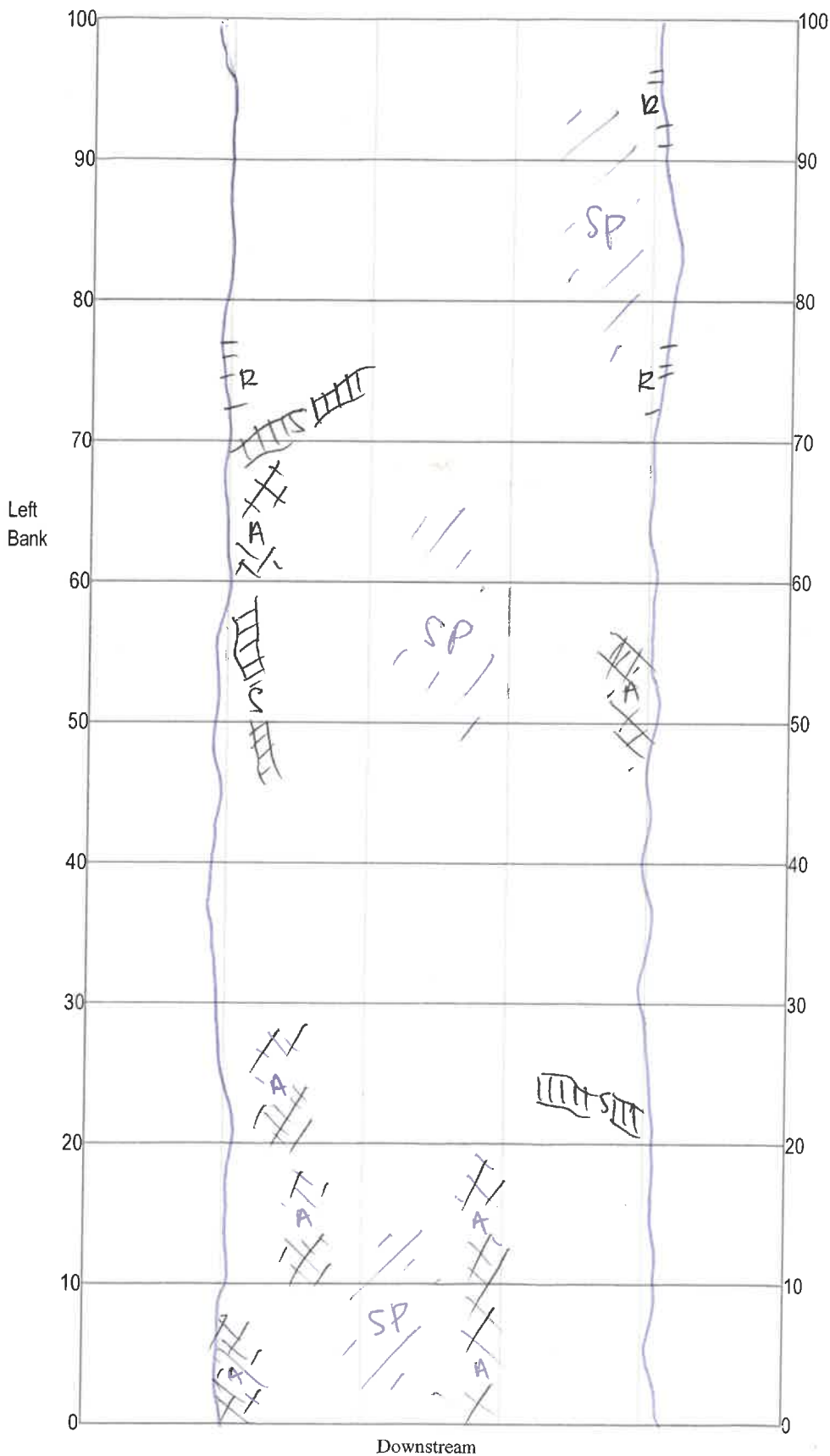
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>9</u>	20 19 18 17 16	15 14 13 12 11	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 3 2 1
Water Velocity <u>17</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>11</u> Primary Score <u>40</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>10</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. <u>10</u> 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>3</u> Left Bank <u>2</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>6</u> Left Bank <u>6</u> Secondary Score <u>47</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

87

TOTAL SCORE

Date: <u>04/28/2022</u>	Analyst: <u>Kief Bonan</u>	Signature: <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: G4CE0230

Date: 04/28/2022

Sampler: Luif Boman

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ S Snags .33

☒ R Roots/undercut banks 0.25

☐ Leaf Packs (or mats) _____

☒ A Aquatic Macrophytes 2.4167

☒ SP shallow pool _____

☐ _____

☒ 3 Pools total # observed = _____
range expected = _____

Average width 6 m

Average depth .7 m

Velocity measured at 0.50/0.7 meter mark.

WQ & chemistry taken at 0 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:

Confluence

CV, N

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.

[illegible]

Indicate % cover macrophytes per section

[illegible]

Macrophyte Coverage		Percent of Area		Percent of Area		Percent of Area		Percent of Area		Percent of Area	
>5 and ≤10% Macrophyte Coverage	>10 and ≤20% Macrophyte Coverage	>20 and ≤30% Macrophyte Coverage	>30 and ≤40% Macrophyte Coverage	>40 and ≤50% Macrophyte Coverage	>50 and ≤60% Macrophyte Coverage	>60 and ≤70% Macrophyte Coverage	>70 and ≤80% Macrophyte Coverage	>80 and ≤90% Macrophyte Coverage	>90 and ≤100% Macrophyte Coverage	>100 and ≤110% Macrophyte Coverage	>110 and ≤120% Macrophyte Coverage
1	2	3	4	5	6	7	8	9	10	11	12

>10 and ≤25% Macrophyte Coverage

[illegible][illegible]

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: G4CE0230 tributary just
US of Boggy confluence

County: ORANGE

Date: 04/28/2022

Investigators:

STORET Station Number:

G4CE0230

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	3		
	2	2				2	2		
	3	2	✓			3	2	✓	
	4	2	✓			4	2	✓	
	5	2	✓	0		5	2	✓	16
	6	2	✓			6	2	✓	
	7	2	✓			7	2	✓	
	8	2				8	2		
	9	2				9	2		
10	1	2			70	1	2		
	2	2				2	2		
	3	2	✓			3	2	✓	
	4	2	✓			4	2	✓	
	5	2	✓	0		5	2	✓	0
	6	2	✓			6	2		
	7	2	✓			7	2		
	8	2				8	2		
	9	2				9	2		
20	1	2			80	1	2		
	2	2				2	2		
	3	2	✓			3	2		
	4	2	✓			4	2	✓	16844
	5	2	✓	0		5	2		
	6	2	✓			6	2		
	7	2	✓			7	2		
	8	2				8	2		
	9	2				9	2		
30	1	2			90	1	2		
	2	2				2	2		
	3	2	✓			3	2		
	4	2	✓			4	2	✓	12096
	5	2	✓	0		5	2		
	6	2	✓			6	2		
	7	2	✓			7	2		
	8	2				8	2		
	9	2				9	2		
40	1	2			100	1	2		
	2	2				2	2		
	3	2	✓			3	2		
	4	2	✓			4	2		
	5	2	✓	0		5	2		12096
	6	2	✓			6	2		
	7	2	✓			7	2		
	8	2				8	2		
	9	2				9	2		
50	1	2				1	2		
	2	2				2	2		
	3	2	✓			3	2		
	4	2	✓			4	2		
	5	2	✓	4		5	2		
	6	2	✓			6	2		
	7	2	✓			7	2		
	8	2				8	2		
	9	2				9	2		

Secchi depth
Estimated? 1

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-

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

Algae still collected as long strands of algae were common along edges.

N estimated ranks are not deeper than secchi, but indicate areas where bottom could be seen and algae was estimated to be absent.

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%.

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

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY ORANGE STORET # G4UE0230 LONGITUDE _____
 DATE 04/28/2022 TIME _____ SAMPLING AGENCY FDAP - color
 SITE NAME Tributary just US of Boggy Confluence
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Kissimmee River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>70</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential _____ Commercial <u>10</u> 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: <u>>18</u> Right Bank: <u>9</u>				Hydrologic Modification Score (per FT 3101) _____				_____ m/s _____ m/s _____ m/s	
High Water Mark: <u>.4</u> + <u>1</u> = <u>1.4</u> (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 <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>.3</u></td> <td><u>22.6</u></td> <td><u>6.86</u></td> <td><u>7.47</u></td> <td><u>86.4</u></td> <td><u>151</u></td> <td><u>0.07</u></td> <td><u>1.0</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></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></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>.3</u>	<u>22.6</u>	<u>6.86</u>	<u>7.47</u>	<u>86.4</u>	<u>151</u>	<u>0.07</u>	<u>1.0</u>	Mid:								☒ VOB	Bottom:								
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Mid:								☒ VOB																																							
Bottom:																																															
Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble.. _____ Sand..... _____ Mud / Muck / Silt _____ Other _____ Other _____			Meter ID: <u>CRAW DADDY</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>SA1308030</u> Exp: <u>12/01/22</u>			Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) _____																																									
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:	☒	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) _____																			
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Aquatic Plants:	☐	☐	☒	☐																																											
Iron/Sulfur Bacteria:	☒	☐	☐	☐																																											
AMBIENT FIELD CONDITIONS / NOTES: <u>Area adjacent to stream is highly disturbed by recreational off roading vehicles</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																															

SAMPLING TEAM

SIGNATURE:

DATE: