



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End

of Day CCV

Yes / No

WIN Station Name: Livingston Creek @ Rucks Dairy Rd

Date: 12/14/2020

WIN/Field ID: G4CE0194

WBID: 1685B

ENR:

Latitude: 27.7099

County: POLK

Org ID: 21FLCEN

Longitude: -81.4445

Receiving Body of Water: Kissimmee River

RQ: 2020-12-14-10

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Elizabeth Bates	x		x		
☒	Leif Boman		x		x	x
☐						
☐						

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: YES		Flow: FLOW		Tide:		Tide Times: High: Low:					
Biological Samples Collected: ☐ None ☒ HA ☐ SCI ☒ RPS ☒ Algae ID ☒ LVS ☐ LVI Other:											
SBIO ID Numbers: Visit ID: 81827 Macrophyte ID: 11766 HA ID: 16744 RPS ID: 9654											
Notes: LIMS Sample ID: 2213254											

Duplicate Sample

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

Blank

Time Zone:	Time: N/A	Field ID: N/A	(Blank Type_DDMMYYYY)
DI Source: N/A		Location: N/A	
DI Type: N/A		Equipment ID: N/A	

CEN-DIST-2020-12-15-01

LIMS EVENT ID: WIN Import ID: 24023

Enter Field Parameters, Verify Station ID In LIMS DMT: LGB 02/05/2021

QC Station ID, Field Parameters In LIMS DMT: TR 2/16/2020

(Initials/Date)

(Initials/Date)

Scan/Save Field Sheets KWM 2/17/2021

Migrate Data to WIN: KWM 2/17/21

Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)



RQ-2020-12-14-10

Customer: WQAP

Project ID: SMP

Collected By: Elizabeth Bates, Leif Boman

Field Report Prepared By: Elizabeth Bates

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G4CE0194

Location: Livingston Creek @ Rucks Dairy Rd

Comments: Add algal ID to bottle group A

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 (PPTH)
12/14/2020	1206 EST	5.53	59.1	18.5	6.01	0.301	0.8 ☐ VOB (S)	1.9	176.7	0.08

Central Lab please use top row for login purposes

	EST	5.81	62.1	18.6	6.19	1.404			176.8	0.08
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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 Lot # 112544 Exp: 12/20/20	☒ Ice ☒ H2SO4*	☒ <2	1	A
Metals (P-500ML)	☐ W-ICPMS ☐ W-ICP ☐ W-HARD Lot # Exp:	☐ Ice ☐ HNO3* ☐ <2			
Filtered Nutrients (P125ML)	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter Filter Lot # 16930280 Syringe Lot # 9149785	☒ Ice		1	A
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	A
Microbiology (Contract Lab Bottle)	☐ E Coli ☐ F 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			
Pesticides (BG-500ML) (BG-1L)	☒ W-E8321-DI ☒ WE8321-MS ☒ W-PSNP-TQ ☒ W-CT-CL-R ☒ W-PCL-SQ-R ☒ W-CARB-AA (5 ml of MCAA** Buffer Solution)	☒ Ice		10	A
		☐ Ice			

Name:
Elizabeth Bates
Leif Boman

Signature:

Date:

12/14/2020

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

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

SAMPLE ID GYCED0194 ORG ID 21FLCEN LATITUDE 27.7099
 COUNTY Polk STORET # _____ LONGITUDE -81.4445
 DATE 12/14/2020 TIME 12:06 SAMPLING AGENCY CEROC-21FLCEN
 SITE NAME Livingston Creek @ Rocks Dairy Rd
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Kissimmee River

RIPARIAN ZONE / STREAM FEATURES

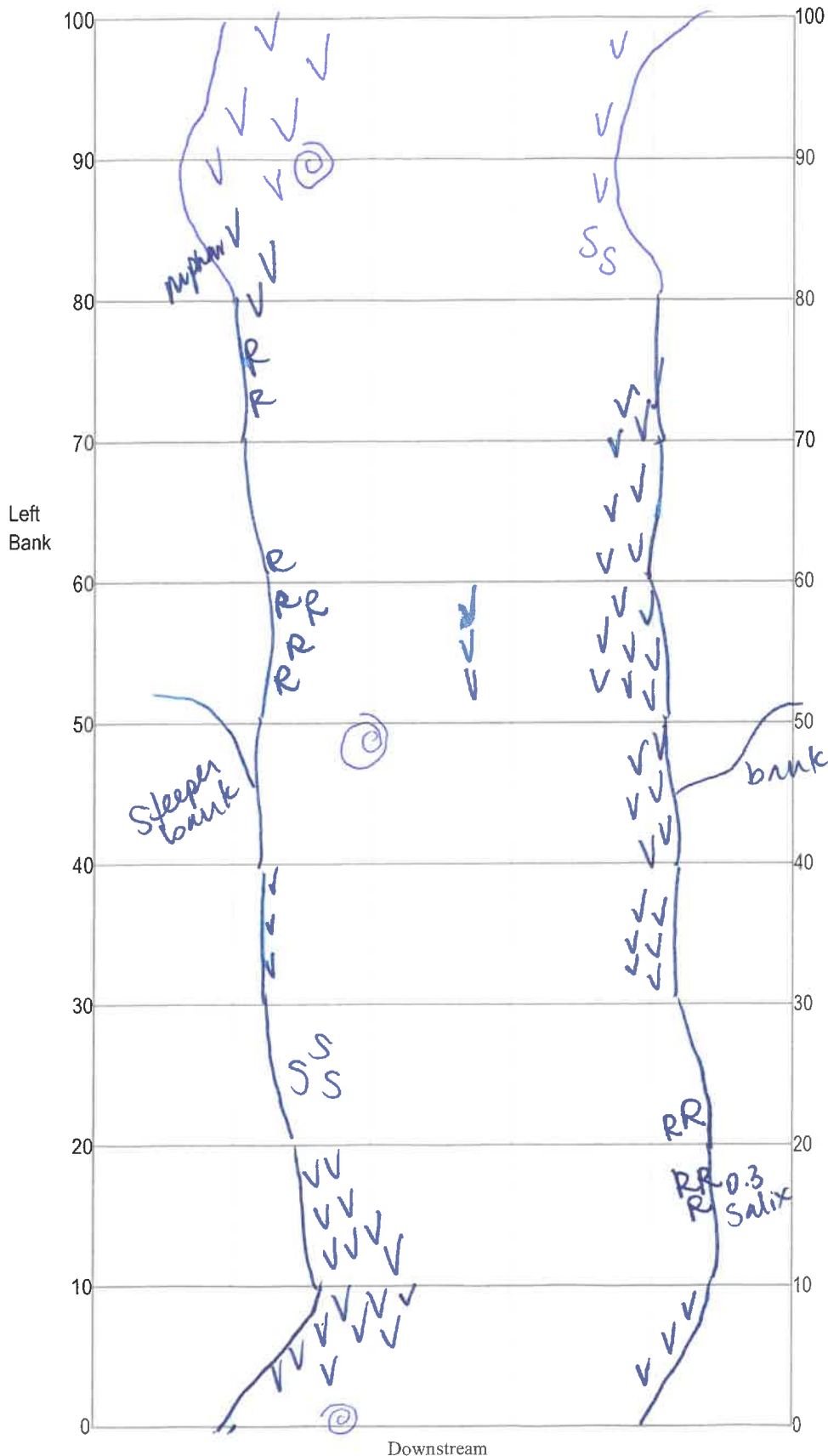
RQ 2020-12-14-10

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐ <u>100%</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>>18</u>				Hydrologic Modification Score (per FT 3101) _____		_____ m/s _____ m/s _____ m/s		
High Water Mark: <u>.7</u> + <u>1.9</u> = <u>2.6</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 <u>N/A</u>			Sediment Odors ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): <u>N/A</u>			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 % Coverage ☐ INVERT # Times Sampled ☐ PERI # Times Sampled			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.301</u> <u>18.5</u> <u>6.01</u> <u>5.53</u> <u>59.1</u> <u>176.7</u> <u>0.08</u> <u>0.8</u> Mid: _____ _____ _____ _____ _____ _____ _____ _____ Bottom: <u>1.404</u> <u>18.6</u> <u>6.19</u> <u>5.81</u> <u>62.1</u> <u>176.8</u> <u>0.08</u> <u>1.9</u> Meter ID: <u>Crow Daddy</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 Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐		
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			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: ☒ The antecedent hydrologic conditions have been met to my best knowledge.								
SAMPLING TEAM <u>Leif Boman / Elizabeth Bates</u>				SIGNATURE: <u>Leif Boman</u>		DATE: <u>12/14/2020</u>		

RQ-2020-12-14-10



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Location: Livingston creek @ rocks falls
Date: 12/14/2020
Sampler: Liz Bates/Leif Boman

100 m: Latitude		
Longitude		
0 m: Latitude	<u>27.7099</u>	
Longitude	<u>-81.4445</u>	
Substrates: Code key, draw proportionate habitat abundance.		
☒ SS	Snags	<u>.2</u>
☒ RR	Roots/undercut banks	<u>.3</u>
☐	Leaf Packs (or mats)	
☒ VV	Aquatic Macrophytes	<u>3.6</u>
☐		
☐		
☒ P	Pools	total # observed = <u>3</u> # range expected =
Average width <u>7</u> m		
Average depth <u>1.2</u> m		
Velocity measured at <u>50</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:

3 Sec/M

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

RQ-2020-12-14-10

SAMPLING AGENCY: <u>CEROC-21 FL CEN</u>		STORET STATION NUMBER:	DATE (MM/DD/YYYY): <u>12/14/2020</u>	RECEIVING BODY OF WATER: <u>Kissimmee River</u>
REMARKS:	COUNTY: <u>Polk</u>	LOCATION: <u>Livingston Creek @ Ruck's Dairy</u>	FIELD ID/NAME: <u>64CED194</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>11</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>5</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 <u>5</u> 4 3 2 1
Water Velocity <u>20</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>16</u> ----- Primary Score <u>52</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.	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>8</u>	20 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>5</u> Left Bank <u>5</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>10</u> Left Bank <u>10</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>10</u> Left Bank <u>10</u> ----- Secondary Score <u>58</u>	10 9	8 7 6	5 4	3 2 1

110

TOTAL SCORE

Date: <u>12/14/2020</u>	Analyst: <u>Elizabeth Bates / Leif Boman</u>	Signature: <u>Cutler / LBJ</u>
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20-2020-12-14-10

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Livingston Creek @ Bucks Dairy Rd. Polk County: Date: 12/14/2020 Investigators: Dr. Abigail Bates/Leif Boman

STORET Station Number:

Transect t (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect t (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	3			60	1	2		
	2	4				2	2		
	3	2	✓			3	2	✓	
	4	2	✓			4	2	✓	
	5	2	✓	34		5	2	✓	47
	6	2	✓			6	2	✓	
	7	2	✓			7	2	✓	
	8	2				8	4		
	9	5				9	4		
10	1	4			70	1	4		
	2	4				2	4		
	3	2	✓			3	2	✓	
	4	2	✓			4	2	✓	55
	5	2	✓	0		5	2	✓	
	6	2	✓			6	2	✓	
	7	2	✓			7	2	✓	
	8	5				8	4		
	9	5				9	4		
20	1	2			80	1	2		
	2	2				2	2	✓	
	3	2	✓			3	2		
	4	2	✓			4	2	✓	
	5	2	✓	8		5	2	✓	0
	6	2	✓			6	2	✓	
	7	2	✓			7	2	✓	
	8	2				8	2		
	9	3				9	2		
30	1	2			90	1	2		
	2	2				2	4		
	3	2	✓			3	2	✓	
	4	2	✓			4	2	✓	
	5	2	✓	65		5	2	✓	0
	6	2	✓			6	2	✓	
	7	2	✓			7	2	✓	
	8	2	✓			8	4		
	9	3				9	4		
40	1	2			100	1	2		
	2	4				2	2		
	3	2	✓			3	2	✓	
	4	2	✓			4	2	✓	
	5	2	✓	71		5	2	✓	16
	6	2	✓			6	2	✓	
	7	2	✓			7	2	✓	
	8	2				8	3		
	9	2				9	3		

Secchi depth 0.8
Estimated? 54

points ranked 4-6 17
total points assessed 77
% 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

1.2 av.
center depth
x x x

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

Waterbody: <u>Livingston Creek @</u>	Date: <u>12/14/20</u>	County: <u>polk</u>	Storet Number:
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Analyst: Leif Bohan ARKS Dairy RD 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.

[illegible]