FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter Passed End of Day CCV: Yes / No

WIN Station Name:	JACKSON CANAL AT 1400 METERS DOWNSTREAM OF CONTROL STRUCTURE					**Sample Date:**	12/7/2023
WIN / Field ID:	G4CE0246	**ORG ID:**	21FLCEN	**ENR:**	-	**Latitude:**	27.879
County:	OSCEOLA	**WBID:**	3183F	STREAM		**Longitude:**	-81.1812
Receiving Body of Water:	Lake Kissimmee					**RQ-**	2023-11-20-10

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

Sampling Equipment					
x	Sample Container			Carboy	
	Dipper			Van Dorn	
x	Syringe			Pole	
Syringe Lot#	*3066762*		**Filter Lot#**	*17769663*	
Secchi Equipment ID:	*Knothead*				

Collection Method			
	Wading		Canoe/Kayak
	From Shore	x	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:	*Craw Daddy*
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 (PPTh)
EST	1052	1.4	0.3	1.38	14.5	17.5	5.88	0.4	124.1	0.06

Biological Samples Collected: HA LVS RPS

SBIO Visit ID: 88226 **HA ID:** **RPS ID:** 10208 **Macrophyte ID:** 12633 **LIMS Sample ID In The Macrophyte Module:** 2455593

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation Type		Lot#	Expiration Date	pH Check
Microbiology								
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**		Syring Lot#:3066762; Filter Lot#:17769663		
Acid Preserved Nutrients	**W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP**			**ICE**	**H2SO4***	*SA3193140*	*07/31/2024*	*H2SO4 pH<2*
Metals	**W-ICPMS**	**W-ICP**	**W-HARD**	**ICE**	**HNO3****	NA3193130	07/27/2024	HNO3 pH<2
Organics (LC)	**W-E8321-DI**	**W-E8321-MS**			**MCAA*****			
Macroinvertebrates								
Organics (GC)				**Ice**				
	W-PSNP-TQ	**W-TR-SQ-R**						
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
					SyringLot#		**FilterLot#**	
Other(s)								

*2.0 ml of H2SO4 Used Unless Noted Otherwise
**2.0 ml of HNO3 Used Unless Noted Otherwise

Field Comments:	Sunny with a breeze. Cold morning temps. Site not SCI appropriate
Comments on COC:	
Relinquish Date:	12/07/2023 **Signature:**

LIMS EVENT ID: CEN-DIST-2023-12-08-01 **WIN Import ID:** 45032

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 12/21/23 (Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: VLS 12/28/23 (Initials/Date)

Save Field Sheets on Network: KWM 1/17/24 (Initials/Date)

Migrate Data to WIN: KWM 1/17/24 (Initials/Date)

RQ-2023-11-20-10

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

WBID: 3183F

SAMPLE ID ____ ORG ID ____ LATITUDE 27.879

COUNTY Osceola STORET # G4CE0246 LONGITUDE -81.1812

DATE 12/7/23 TIME 10:52 SAMPLING AGENCY 21FLCEN

SITE NAME G4CE0246

FIELD ID/NAME Jackson (canal) at 1400 meters downstream of control structure RECEIVING BODY OF WATER Lake Kissimmee

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)
100							

Landscape Development Intensity Index (LDI): ____

Local Watershed Erosion (select one): ☐ None ☑ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☑ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side: Left Bank: >18 Right Bank: >18

Hydrologic Modification Score (per FT 3101): ____

High Water Mark: .4 (m) + 1.4 (present depth) = 1.8 (above bed)

Artificially Impounded: ☑ Yes ☐ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

1215 m wide		
m/s	0.07 m/s	m/s
m deep	1.4 m deep	m deep

Artificially Channelized: ☐ No ☐ Mostly recovered, more sinuous ☑ 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

	None	Slight	Moderate	Severe
Sand Smothering:	☑	☐	☐	☐
Silt Smothering:	☐	☑	☐	☐
Algae Smothering:	☐	☑	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☑ RPS ☑ LVS ☐ LCI ☐ BioRecon

	% 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

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.3	17.5	5.88	1.38	14.5	124.1	0.06	0.4
Mid:								☐ VOB
Bottom								TOTAL DEPTH 1.4

Meter ID: Crow Daddy

Water Odors Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot Number: ____ Exp: ____

Color Tannic ☑ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: ____ Exp: ____

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:

Site not SCI appropriate
Assessments conducted via jon boat

☑ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Leif Bomm, Victoria Schwartz & Denver Bowassa

SIGNATURE: ____

DATE: 12/7/23

62-160.800, F.A.C.

Revision Date: January 2017

WBID: 3183F

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

SAMPLING AGENCY:		~~STORET~~ STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
21FLCEN		G4CE0246	12/7/23	Lake Kissimmee
REMARKS:	COUNTY: Osceola	LOCATION: Jackson Canal		FIELD ID/NAME: G4CE0246

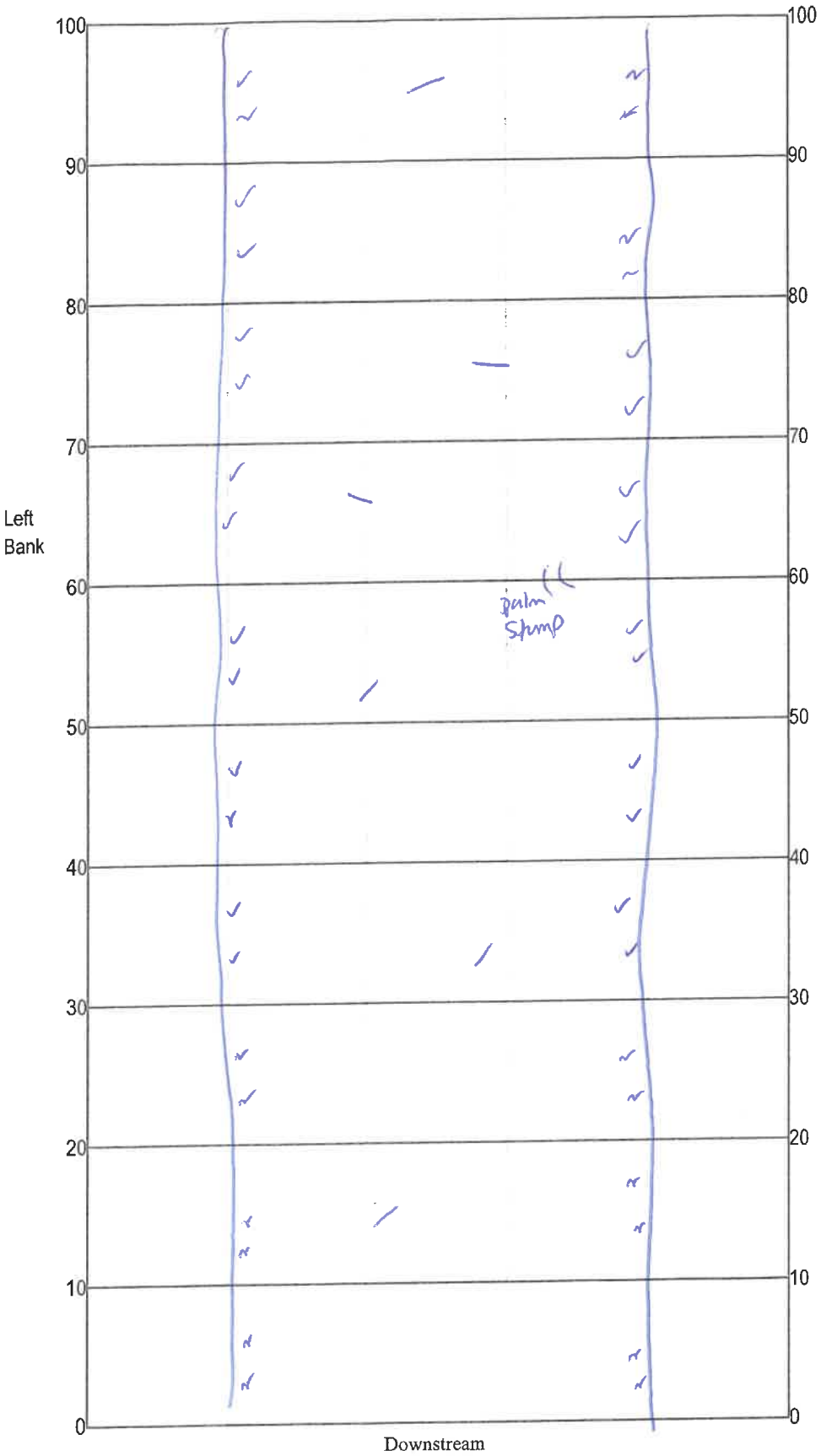
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 6	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability 1	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 8	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 3 Primary Score ~~18~~ 18	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** 2	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 3 (+/-) Left Bank 2 (+/-)	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 10 Left Bank 10	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 9 Left Bank 10 Secondary Score 46	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

64 **TOTAL SCORE**

Date:	Analyst:	Signature:
12/7/23	Leif Boman / Victoria Schwark / Denver Bourassa	

3183F/G4CE0246

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: Jackson Canal

Date: 12/7/23

Sampler: Victoria Schwartz

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance. %

☑	Snags (some assumed)	
☐	Roots/undercut banks	
☐	Leaf Packs (or mats)	
☑	Aquatic Macrophytes	
☐		
☐		
☐	Pools	total # observed = ____ # range expected = ____

Average width 13-15 m

Average depth 1.4 m

Velocity measured at ____ 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:

- Site not SCI Appropriate
- Sparse veg scattered near shoreline
- Snags assumed to be present (many trees + soon to be fallen trees along shoreline) throughout Canal → can't be seen/ reached
- conducted via jon boat

62-160.800, F.A.C

Revision Date: March 1, 2014

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

Waterbody: Jackson Canal | Date: 12/7/23 | County: Osceola | ~~Storet~~ WIN Number: G4CE0246

Analyst: Denver Bourassa, Leif Bowman | Signature: DB

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m^2 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.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides	/	/	/			/	/		/	/	
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Commelina diffusa											
Commelina virginica											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata											
Hydrocotle		/									
Hygrophila polysperma											
Hymenocallis											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
Eleocharis elongata		/									
Ludwigia								/			
Azolla											
									/		
If no Dominant or Co-Dominant were selected, indicate with "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage	/	/	/	/	/	/	/	/	/	/	
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum								/			
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar luteum											
Orontium aquaticum								DB			
Panicum hemitomon	C	C	/				/	D	/	/	
Panicum repens	C	C	/			/	D	D	/	/	
Panicum rigidulum											
Pistia stratioides	/	/		/	/			/	/	/	
Polygonum glabra	/	/	/								X DB
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Ruellia simplex											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salvinia minima	/	/		/	/		/	/	/	/	
Samolus parviflora											
Saururus cernuus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Polygonum punctatum		/									X
Utricularia gibba		/									

3183F/ G4CE0246

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Jackson Canal | County: Osceola | Date: 12/7/23 | Investigators: Victoria Schwartz

STORET Station Number: G4CE0246

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2	N	✓	
	3	N	✓	
	4	N	✓	
	5	N	✓	0
	6	N	✓	
	7	N	✓	
	8	N	✓	
	9	3		
10	1	N		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	3		
20	1	3		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	3		
30	1	N		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8	(VS)		
	9	N X 3		
40 trees	1	N		
	2			
	3			
	4			
	5	N	✓	92
	6			
	7			
	8			
	9	(VS) X 3		
50	1	(VS) X X	✓	(VS)
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	3		
60	1	N		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	4		
70	1	N		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	3		
80	1	N		
	2			
	3			
	4			
	5	N	✓	4
	6			
	7			
	8			
	9	4		
90	1	(VS) X N		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	N		
100	1	N		
	2			
	3			
	4			
	5	N	✓	0
	6			
	7			
	8			
	9	N		

Secchi depth	0.4
Estimated?	

# points ranked 4-6	2
total points assessed	98
% points ranked 4-6	2%

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓

RQ- 2023-11-20-10

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

Dark, tannic water

Conducted via jonboat

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%.