



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PLAN FIELD SHEET

January 2020

Meter Passed End
of Day CCV
Yes / **No**

WIN Station Name: Wekiva River 2km DS of Blackwater Creek

Date: 12/7/2021

WIN/Field ID: G2CE0244

WBID: 2956B

ENR:

Latitude: 28.86533599

County: LAKE

Org ID: 21FLCEN

Longitude: -81.378045

Receiving Body of Water: -

RQ- 2021-11-01-20

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

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

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# SHRIMP TRAP					
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: 83611 RPS 9832 MACROPHYTE 12034						LIMS 2293907					
Notes: CLOUDY DO did not pass CCV											

Duplicate Sample

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

Blank

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

LIMS EVENT ID: CEN-DIST-2021-12-08-01

WIN Import ID: 30704

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 12/8/21

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: VLS 12/28/21

(Initials/Date)

Scan/Save Field Sheets KWm 1/21/22

(Initials/Date)

Migrate Data to WIN: KWM 1/21/22

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2021-11-01-20

Customer: WQAP

Project ID: SMP

Collected By: Leif Boman, Victoria Schwartz

Field Report Prepared By: Leif Boman

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G2CE0244

Location: Wekiva River 2km DS of Blackwater Creek

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)		
	1224 EST	6.64	72.8	19.7	7.17	0.3	1.3 ☒ VOB (S)	1.3	762	0.37		
12/7/2021												
	EST											
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 #	SA1105060		Exp:	4/30/22						
Metals (P-500ML)		☐ W-ICPMS ☐ W-ICP ☐ W-HARD				☐ Ice ☐ HNO3*		☐ <2				
		Lot #			Exp:							
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A		
		Filter Lot #	17135566									
		Syringe Lot #	1112035									
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 Lot #			☐ Formalin						
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice						
Microbiology (Contract Lab Bottle)		☒ E Coli ☐ F Coli ☐ Enterococci				☒ Ice			1	A		
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3				☐ Ice						
		☐ 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	☐ Ice						
Phytoplankton/Periphyton		W-PCL-TQ-R	W-CARB-AA (5 ml of MCAA** Buffer Solution)			☐ Ice						
				DTY-QN-C		☐ Ice						
				PKD-QN-BV								
Name: Leif Boman Victoria Schwartz					Signature: Victoria Schwartz				Date: 12/7/21			

*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 _____ ORG ID _____ LATITUDE 28.86533579
 COUNTY Lake STORET # G2CE0244 LONGITUDE -81.378045
 DATE 12/07/2021 TIME 12:24 SAMPLING AGENCY 21PLCEN
 SITE NAME Wetiva River 2km DS of Blackwater Creek
 FIELD ID/NAME G2CE0244 RECEIVING BODY OF WATER _____

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) Trans: <u>20.5</u> m width <u>5.5</u> m/s <u>5.5</u> m/s <u>5.6</u> m/s <u>0.18</u> <u>0.18</u> <u>0.18</u>			
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) _____				Artificially Impounded ☐ Yes ☒ No	
High Water Mark: <u>1.2</u> + <u>1.3</u> = <u>2.5</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)	
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 % 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 (f) Top: <u>0.3</u> <u>19.7</u> <u>7.17</u> <u>6.64</u> <u>72.8</u> <u>762</u> <u>0.37</u> <u>1.3</u> Mid: _____ Bottom: _____ Meter ID: <u>Shrimp Trap</u>					
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			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>SA1105060</u> Exp: <u>4/30/22</u>			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 ☐		
			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐					
			AMBIENT FIELD CONDITIONS / NOTES: <u>Cloudy/Warm</u> <u>Bioassessments conducted from jon boat</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					

SAMPLING TEAM Leif Boman + Victoria Schwartz SIGNATURE: [Signature] DATE: 12/7/21

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

SAMPLING AGENCY: <u>21 FL CEN</u>		STORET STATION NUMBER: <u>GACE0244</u>	DATE (MM/DD/YY): <u>12/7/21</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Lake</u>	LOCATION: <u>Wekiva River</u>		FIELD ID/NAME: <u>Wekiva River 2 km DS of Blackwater Creek</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>10</u> <u>18 LB</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>10</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 <u>11</u>	6% to 15% major productive habitat <u>10</u> 9 8 7 6	Less than 5% major productive habitat 5 4 3 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 <u>5.5 sec.</u> 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>18</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 Artificial Channelization <u>20</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. 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 <u>10</u> Left Bank <u>10</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>10</u> Left Bank <u>10</u> Secondary Score <u>80</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

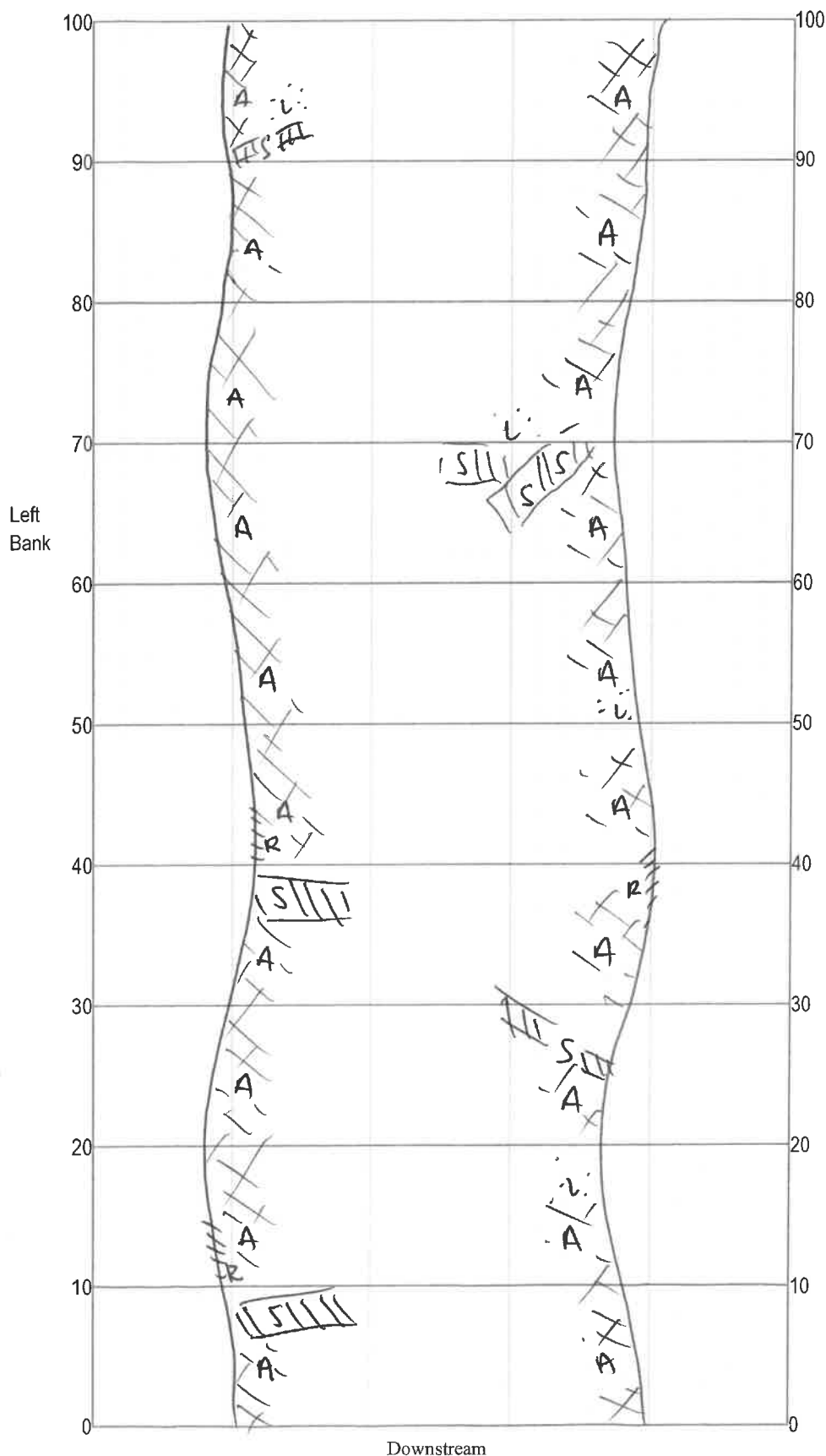
132

TOTAL SCORE

Date: <u>12/7/21</u>	Analyst: <u>Leif Boman</u>	Signature: 
----------------------	----------------------------	--

G2CE0244

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

Location: Wekiva RiverDate: 12/7/21Sampler: Leif Boman

100 m: Latitude _____

Longitude _____

0 m: Latitude 28.86533599Longitude -81.378045

Substrates: Code key, draw proportionate habitat abundance. %

	Snags ≈ 20	1.33
--	--------------------	------

	Roots/undercut banks ≈ 1.5	0.1
--	------------------------------------	-----

	Leaf Packs (or mats) ≈ 1	.00
--	----------------------------------	-----

	Aquatic Macrophytes ≈ 200	13.3
--	-----------------------------------	------

--	--	--

--	--	--

	Pools	total # observed = _____ # range expected = _____
--	-------	--

Average width 15 m

Average depth _____ m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ 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: 14.79TOTAL

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.

62-160,800, F.A.C.

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Wekiva River</u>					County: <u>Lake</u>		Date: <u>12/7/21</u>		Investigators: <u>Victoria Schwartz</u>	
									STORET Station Number: <u>GACE0244</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	N	✓	10	60	1	N	✓	0	
	2	N	✓							
	3	X								
	4	X								
	5	X								
	6	X								
	7	X								
	8	N	✓							
	9	N	✓							
10	1	N	✓	70	70	1	N	✓	0	
	2	N	✓							
	3	X								
	4	X								
	5	X								
	6	X								
	7	X								
	8	N	✓							
	9	N	✓							
20	1	N	✓	80	80	1	N	✓	0	
	2	N	✓							
	3	X								
	4	X								
	5	X								
	6	X								
	7	X								
	8	(3)	✓							
	9	N	✓							
30	1	N	✓	90	90	1	N	✓	0	
	2	N	✓							
	3	X								
	4	X								
	5	X								
	6	X								
	7	X								
	8	N	✓							
	9	N	✓							
40	1	N	✓	100	100	1	N	✓	8	
	2	N	✓							
	3	X								
	4	X								
	5	X								
	6	X								
	7	X								
	8	N	✓							
	9	(3)	✓							
50	1	N	✓	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	N	✓							
	3	X								
	4	X								
	5	X								
	6	X								
	7	X								
	8	N	✓							
	9	N	✓							

Secchi depth 1.3
Estimated?

points ranked 4-6 0
total points assessed 99
% points ranked 4-6 0%

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon
Water sample ☒
RQ- 2021-11-01-20

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 water
RPS conducted from jon boat