



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes / No

WIN Station Name:	LITTLE WEKIVA RIVER AT 100M US OF EDGEWATER DR				Sample Date:	12/5/2023	
WIN / Field ID:	G2CE0170	ORG ID:	21FLCEN	ENR:	-	Latitude:	28.61313
County:	ORANGE	WBID:	3004	STREAM		Longitude:	-81.42145
Receiving Body of Water:	Wekiva River				RQ-	2023-12-04-24	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Matt Bearden		x		x	x
Leif Boman					x
Jessie Atchison	x		x		

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
x	Syringe		Pole
	Syringe Lot#	2327923	Filter Lot#
			17769663
	Secchi Equipment ID:	Knothead	
Collection Method			
x	Wading		Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
	Depth Measured With	Secchi	

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	No
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 (PPTth)
EST	1418	0.8	0.3	7.69	87.8	21.9	6.88	0.8	166.5	0.08
								VOB (s)		

Biological Samples Collected:	HA	
SBIO Visit ID:	88224	HA ID:
RPS ID:	10207	Macrophyte ID:
12632	LIMS Sample ID	2454834
	In The Macrophyte Module:	

Parameter Suite	Parameter Methods (LIMS Test Codes)	Preservation			
		Type	Lot#	Expiration Date	pH Check
Microbiology					
Chlorophyll	CHLSUITE-W	ICE			
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS	ICE			
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE			
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter	ICE	Syringe Lot#:2327923 ; Filter Lot#:17769663	
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	SA3193140	07/31/2024
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**
Organics (LC)	W-E8321-DI	W-E8321-MS		MCAA***	
Macroinvertebrates					
Organics (GC)	W-PSNP-TQ			Ice	
Molecular					
Periphyton					
Phytoplankton					
BOD					
DOC					
Other(s)					
Field Comments:	Sunny, clear				
Comments on COC:					
Relinquish Date:	12/05/2023	Signature:			

LIMS EVENT ID:	CEN-DIST-2023-12-06-01	WIN Import ID:	45031
Enter Field Parameters, Verify Station ID In LIMS DMT:	KWM 12/21/23	QC Station ID, Field Parameters In LIMS DMT:	VLS 12/28/23
Save Field Sheets on Network:	KWM 1/17/24	Migrate Data to WIN:	KWM 1/17/24
	(Initials/Date)		(Initials/Date)

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

SAMPLE ID _____ ORG ID 21FLCEV LATITUDE _____
 COUNTY ORANGE STORET # G2CE0170 LONGITUDE _____
 DATE 12/15/23 TIME _____ SAMPLING AGENCY CEM ROC
 SITE NAME Little Wekiva River at 100m US of Edgewater Dr
 FIELD ID/NAME G2CE0170 RECEIVING BODY OF WATER Wekiva River

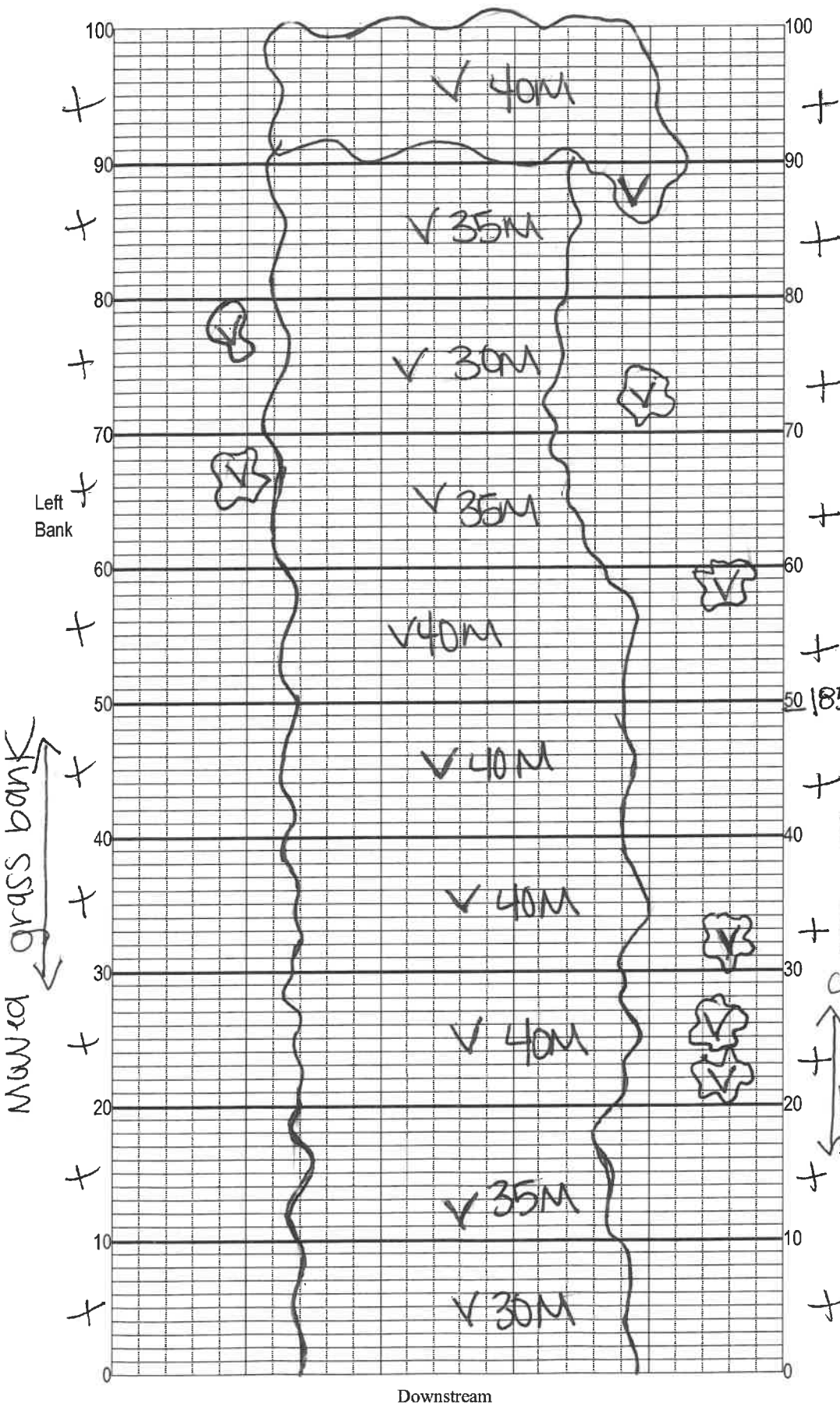
RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐ <u>10</u> <u>1</u> <u>1</u> <u>1</u> <u>50</u> <u>30</u> <u>10</u> <u>1</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 <u>4</u> m wide <u>1</u> m/s <u>0.20</u> m/s <u>1</u> m/s <u>1</u> m deep <u>0.8</u> m deep <u>1</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>76.26</u> Right Bank: <u>76.26</u>				Hydrologic Modification Score (per FT 3101) <u>1</u>					
High Water Mark: <u>0.5</u> + <u>0.8</u> = <u>1.3</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☒ Yes ☐ No					
Artificially Channelized: ☐ No ☐ Mostly recovered, more sinuous ☒ 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>0.3</u></td> <td><u>21.9</u></td> <td><u>6.88</u></td> <td><u>7.69</u></td> <td><u>87.8</u></td> <td><u>166.5</u></td> <td><u>0.08</u></td> <td><u>0.8</u></td> </tr> <tr> <td>Mid:</td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>1</u></td> <td><u>0.8</u></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>0.3</u>	<u>21.9</u>	<u>6.88</u>	<u>7.69</u>	<u>87.8</u>	<u>166.5</u>	<u>0.08</u>	<u>0.8</u>	Mid:	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	☒ VOB	Bottom:	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0.8</u>
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Woody Debris (Snags) Undercut Banks / Roots Leaf Packs or Mat Aquatic Vegetation <u>91</u> Rock or Shell Rubble.. Sand..... Mud / Muck / Silt Other Other			Meter ID: <u>Graw 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: _____ 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 <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) ☒ <u>Canal</u>																			
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AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																															
SAMPLING TEAM <u>M. Bearden, L. Bonar, J. Atchison</u>						SIGNATURE: <u>M. Bearden</u>			DATE: <u>12/15/23</u>																																						

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



365W/400M 91

Location: C2CED70

Date: 12/5/23

Sampler: MB, LB, & JA

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. 91 %

☒ S Snags 11

☒ R SSS Roots/undercut banks

☒ M Leaf Packs (or mats)

☒ V Aquatic Macrophytes

☐ _____

☐ _____

☒ P Pools total # observed = 0
range expected = _____

Average width 4 m 40m²

Average depth 0.8 m

Velocity measured at 0.20 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:

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

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

SAMPLING AGENCY: FDEP		STORET STATION NUMBER: G2CE0170	DATE (MM/DD/YY): 12/5/23	RECEIVING BODY OF WATER: Nekiva River
REMARKS:	COUNTY: Orange	LOCATION: 28.6313, -81.4245	FIELD ID/NAME: Little Nekiva	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity 5	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 19	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 14 0.20	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 41	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 9 Left Bank 8	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 2 Left Bank 3	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 2 Left Bank 1 ----- Secondary Score 27	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

68

TOTAL SCORE

Date: 12/5/23	Analyst: M. Bearden / S. Atchison	Signature: Atchison
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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: 62CE0170 / Little Wekiva River at 100 US OF EDGEWATER DR County: Orange Date: 12/5/23 Investigators: L. Boman / M. Bearden / J. Atchison

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			60	1	N		
	2	N				2	3		
	3	3				3	N		
	4	N				4			
	5	N		0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
10	1	N			70	1	N		
	2	3				2			
	3	N				3			
	4			0		4			
	5					5			0
	6					6			
	7	3				7	3		
	8	3				8	N		
	9	N				9			
20	1	N			80	1	N		
	2	N				2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
30	1	N			90	1	N		
	2					2			
	3					3			
	4					4			
	5	3		0		5			0
	6	N				6			
	7					7			
	8					8			
	9					9			
40	1	N			100	1	N		
	2					2			
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
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								
	3								
	4								
	5			0					
	6								
	7								
	8								
	9								

Secchi depth 0.8
Estimated? N

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

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey X
Habitat Assessment X
SCI/Biorecon
Water sample X
RQ-2023-12-04-24

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

