

HA/RPS/LVS

Site Name Bird Lake Ditches Sample Date 10/9/19WBID 3029 WIN ID G3CE0014 RQ -2019-10-14-43

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 11/7/19	MKL 11/13/19
Create SBIO station visit 80462	LMD 11/8/19	n/a
Phys/Chem entry	LMD 11/8/19	MKL 11/13/19
Habitat Assessment entry 16372	LMD 11/8/19	MKL 11/13/19
Vascular entry (add LIMS ID to entry) <u><2m²</u>		
RPS entry 9477	LMD 11/8/19	MKL 11/13/19
Authorize SBIO data	MKL 11/13/19	n/a
Scan all sheets to 21FLCEN folder		n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

* Includes WQ at G3CE0013

<2m² Macs



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Bird Lake Ditches @ 75m east of FL 407

Date: 10/09/2019

(mm/dd/yyyy)

WIN/ Field ID: G3CE0014

WBID: 3029

Latitude: 28.523197

(Decimal Degrees)

County: Brevard

ORG ID: 21FLCEN

Longitude: -80.823095

(Decimal Degrees)

Receiving Body of Water:

RQ-2019- 10-14-43

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Mike Linger										☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☒ Syringe			
										☐ Dipper	☐ Other			
Mike Drennan										Depth Measured with <u>Secchi Disk Line / Meter</u>				
										Equipment ID <u>Leadfoot, Knochhead, Crusty/Bucket, /Trap</u>				
										Collection Method				
										☒ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☐ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded					Meter ID# <u>Swd Bucket</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / <u>No</u>					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising/ Falling/ Slack/ <u>NA</u>				
					Tide Times: High					Low				
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)				
EST	1106		0.2		1.97	23.8	6.99	0.37	762	24.8				
		0.3	0.3	0.3(15)										
CEN														
Biological Samples Collected: None <u>HA</u> SCI <u>RPS</u> Algae ID LVS LVI Other:														
SBIO ID Numbers: SBIO-ID: <u>80462</u> HA-ID: RPS-ID: <u>9477</u> Macrophyte-ID: LIMIS#: <u>2126771</u>														
Parameter Suite	Parameter Methods					Preservation	Lot#	Expiration	pH Check					
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP					☒ Ice ☒ H2SO4	<u>SA7163030</u>	<u>10/30/19</u>	☒ <2					
Metals	☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO3			☐ <2					
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter					☒ Ice	<u>13615055</u>							
Chlorophyll	☒ CHLSUITE-W					☒ Ice								
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS					☒ Ice								
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY					☐ Ice								
Macroinvertebrates	☐ MI-FW-QLDC					☐ Formalin								
Periphyton	☐ ALGAE-ID					☐ Ice								
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci					☒ Ice								
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2					☐ Ice								
	☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD													
Tracers	☐ W-E8321-D1 ☐ W-E8321-MS					☐ Ice								
Pesticides	☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-D1					☐ Ice								
	☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA					☐ Other								
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice								

Notes:

Park on side of FL407 at 28.523261, -80.823704. Walk ~75m on dirt road along stream to sample point.

WIN ID / Field ID →

Bird Lake Ditches @ 75m
east of FL 407

G3CE0014

Signature: ChickDate: 10/9/19

LIMS EVENT ID: CEN-DIST-2019-10-10-01

Enter Field Parameters, Verify Station ID In LIMS DMT: LM 11/7/19QC Station ID, Field Parameters In LIMS DMT: MKL 11/13/19

Scan/Save Field Sheets

(Initials/Date)

Migrate Data to WIN:

(Initials/Date)

Verify Data In WIN:

(Initials/Date)

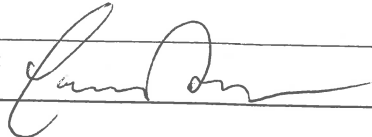
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>FDEP-CEROC</u>		STORET STATION NUMBER: <u>63CE0014</u>	DATE (MM/DD/YY): <u>10/9/19</u>	RECEIVING BODY OF WATER: <u>SJR</u>
REMARKS:	COUNTY: <u>Brevard</u>	LOCATION: <u>Bird Lake ditches @ 75m east of FL 407</u>	FIELD ID/NAME: <u>63CE0014</u>	

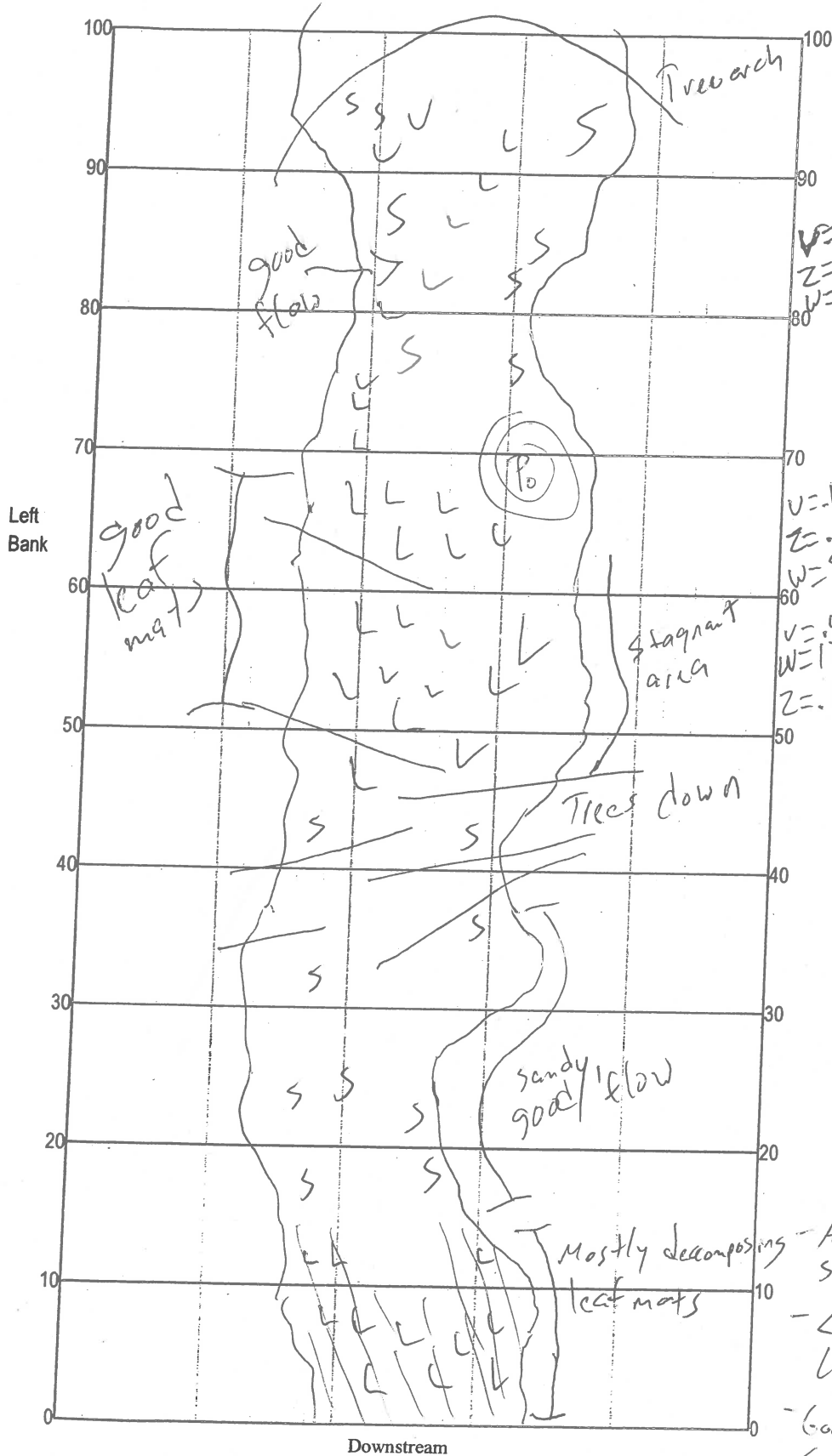
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>9</u>	20 19 18 17 16	15 14 13 12 11	10 <u>9</u> 8 7 6	5 4 3 2 1
Substrate Availability <u>4</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 <u>4</u> 3 2 1
Water Velocity <u>12</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 <u>12</u> 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>13</u> ----- Primary Score <u>38</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 <u>13</u> 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 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>14</u>	20 19 18 17 16	15 <u>14</u> 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>7</u> Left Bank <u>6</u> <u>13</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the 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 root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>108</u> Left Bank <u>86</u> <u>14</u>	Width of vegetation greater than 18 m <u>10</u> 9	Width of vegetation >12 to 18m <u>8</u> 7 <u>6</u>	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>8</u> Left Bank <u>6</u> <u>14</u> ----- Secondary Score <u>55</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. <u>8</u> 7 <u>6</u>	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

93

TOTAL SCORE

Date: <u>10/9/19</u>	Analyst: <u>Mike Linger, Mike Drennan</u>	Signature: 
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Bird Lake Ditches
 Date: 10/9/19
 Sampler: M. Linger / M. Drennon

100 m: Latitude 28.52282
 Longitude -80.82206
 0 m: Latitude 28.52319
 Longitude -80.82309

Substrates: Code key, draw proportionate habitat abundance. %

☒ S	Snags	<u>1.1</u>
☐	Roots/undercut banks	<u> </u>
☒ L	Leaf Packs (or mats)	<u>3.3</u>
☐	Aquatic Macrophytes	<u> </u>
☐		<u> </u>
☐		<u> </u>
☒ P	Pools	total # observed = <u>1</u> # range expected = <u>1-2</u>

Average width 9.3 m
 Average depth 0.15 m

Velocity measured at 55, 65, 85 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:

- Alternating widening & narrowing, slow moving & fast
- < 2m² veg but chara, B. monnieri, Ludwigia repens observed.
- Good mature canopy dom by Sabal palmetto

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

Revision Date: March 1, 2014

62-160.800, F.A.C

BF = WL + 3m

BH = BF + 8m

S = 10

L = 30

40/930m² = 4.3%

V = 0.14 m/s

Z = 0.15m

W = 9.3 m

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

SAMPLE ID 80462 ORG ID 21 FL CEN LATITUDE 28.523197
COUNTY Brevard STORET # G3CE0014 LONGITUDE -80.823095
DATE 10/9/19 TIME 1106 SAMPLING AGENCY FDEP CE-ROL
SITE NAME Bird Lake Ditches
FIELD ID/NAME G3CE0014 RECEIVING BODY OF WATER SJR

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):								Landscape Development Intensity Index (LDI)	
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)		
<u>60</u>					<u>40</u>				
Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect	
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy								<u>9.3</u> m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>10¹²</u>		Right Bank: <u>18</u>							
High Water Mark: <u>0.3</u> + <u>0.3</u> = <u>0.6</u>				Artificially Impounded					
(m) (above present water level) (present depth) (above bed)				☐ Yes ☒ No					
Artificially ☐ No ☒ Mostly recovered, more sinuous				Canopy Cover %					
Channelized: ☐ Some recovery ☐ Recent, severe				☐ Open ☐ Lightly Shaded (11-45%)					
				☐ Heavily Shaded ☒ Moderate Shaded (46-80%)					

SEDIMENT / SUBSTRATE

Sediment Oils		Sediment Odors		Smothering of Substrates	
☒ Absent ☐ Slight	☐ Moderate ☐ Profuse	☐ Normal ☐ Sewage ☐ Petroleum	☐ Chemical ☒ Anaerobic	Sand Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐	Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐
		☐ Other (Specify):		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)	<u>1.1</u>		
Undercut Banks / Roots			
Leaf Packs or Mat	<u>3.3</u>		
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:	<u>0.2</u>	<u>24.8</u>	<u>6.99</u>	<u>1.97</u>	<u>6.99</u>	<u>762</u>	<u>0.37</u>	<u>0.3</u>
Mid:					<u>23.8</u>			☒ VOB
Bottom								

Meter ID: Scud BucketWater Odors Normal ☒ Petroleum ☐
Sewage ☐ Chemical ☐ Other ☐Water Sample Taken? ☒ Yes ☐ NoSample Preserved? ☐ Yes ☒ No

Lot Number: _____ Exp: _____

Algae Sample Taken? ☐ Yes ☒ NoSample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Water Surface Oils Normal ☒ Sheen ☐Globs ☐ Slick ☐ Other ☐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:

80's raining
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Mike Linger / Mike Drennan

SIGNATURE:

[Signature]

DATE:

10/9/19

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Bird Lake Ditches @ 75m east of FL407 County: Brevard Date: 10/9/19 Investigators: Mike Linger

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	3		
	2	N				2	4		
	3	N				3	2		
	4	N				4	2		
	5	N		72		5	2		30
	6	N				6	2		
	7	N				7	2		
	8	N				8	2		
	9	N				9	2		
10	1	N			70	1	4		
	2	N				2	4		
	3	N				3	2		
	4	N				4	2		
	5	N		76		5	2		49
	6	N				6	2		
	7	N				7	2		
	8	N				8	2		
	9	N				9	2		
20	1	N			80	1	3		
	2	N				2	3		
	3	N				3	2		
	4	N				4	2		
	5	N		84		5	2		76
	6	N				6	2		
	7	N				7	2		
	8	N				8	2		
	9	N				9	2		
30	1	N			90	1	2		
	2	N				2	2		
	3	N				3	2		
	4	N				4	2		
	5	N		68		5	2		72
	6	N				6	2		
	7	N				7	2		
	8	N				8	2		
	9	N				9	2		
40	1	N			100	1	2		
	2	N				2	2		
	3	N				3	2		
	4	N				4	2		
	5	N		64		5	2		80
	6	N				6	2		
	7	N				7	2		
	8	N				8	3		
	9	N				9	2		
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	N							
	4	N							
	5	N		72					
	6	N							
	7	N							
	8	N							
	9	N							

STORET Station Number: 63CE0014

Secchi depth 0.3 (s)
Estimated?

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

Check accompanying data collected at same site/date.

Algal mat sample	
Linear Veg Survey	
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓

RQ- 2019-10-14-43

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