



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE ____ OF ____

February 2016

Data Qualified?
Yes / No

STORET Station Name: Withlacoochee River @ 200m 300m S of Princess Lake

Date: 03/16/2016

(mm/dd/yyyy)

STORET Station ID: G4CE0105 MKL G4CE0106 G4CE0106

Latitude: 28.80253

(Decimal Degrees)

WBID: 1329D

RQ - 2016-03-07-53

ORG ID: 21FLCEN

Longitude: -82.17822

(Decimal Degrees)

Receiving Body of Water:

Field ID: G4CE0105

G4CE0106

County: Sumter

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
Mike Linger				/	/				☒ Sample Container	☐ Van Dorn	☐ Pole	
Terry Riddan									☐ Carboy	☐ Syringe		
Mike Drennan					/	/	/	/	☐ Dipper	☐ Other		
									Equipment ID			
									Collection Method			
									☐ Wading	Via Boat		
									☐ From Shore	☐ Canoe/Kayak		
									☐ Other (note below)	☐ Electric Motor		
										☒ Gasoline Motor		
Water Level: Dry / Low / Normal / High / Flooded									Matrix: Fresh / Marine / DI			
Meter ID# 11C / 11D				Photos: Yes / No				Tide Falling: Yes / No / NA				
Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)		
EST	11:51	0.3	2.0	3.8	45	7.1	0.13	0.5	268	23.9		
CEN		1.5		3.7	46	7.0	0.12		250	23.9		
Biological Samples Collected: None HA SCI LVS RPS LVI Other												
Parameter Suite		Parameter Methods					Preservation	Acid Lot#	Expiration	pH Check		
Preserved Nutrients		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP					☒ Ice ☒ H2SO4	5259020	9/16/16	☒ <2		
Metals		☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO2			☐ <2		
Filtered Nutrients		☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter					☐ Ice					
Chlorophyll		☒ CHLSUITE-W					☒ Ice					
BOD		☒ BOD-UNIN					☒ Ice					
Physical/Aggregate (Kit A/C)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CHC / W-COLOR / W-SO4-IC / W-TDS					☒ Ice					
Physical/Aggregate (Kit B/D)		☐ Alkalinity / W-F / W-TSS / TURBIDITY					☐ Ice					
Macroinvertebrates		☐ MI-FW-QLDC					☐ Formalin					
Microbiology		☐ E Coli ☐ F Coli ☐ Enteroc ☐ QPCR					☐ Ice					
Periphyton		☐ ALGAE-ID					☐ Ice					
Pesticides		☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R					☐ Ice					
		☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH					☐ Other					

Contains
1:1
Sulfuric Acid
SA-5259020
EXP: 09/16/16
Warning!
See MSDS

Notes: Boat Ramp: 28.8232, -82.18251

RQ-2016-03-07-53
Date: 03/16/16
Time:

G4CE0106
Field ID ↑
STORET ↓
G4CE0106

Signature:

Date:

3/16/16

Field Parameters Entered into LIMS: Natalie Ayala 4/4

Field Parameters QC in LIMS: MKL 4/5/16

Date Migrated to STORET: 7/2 4/14/16

Field Sheets Scanned/Saved:

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

SAMPLE ID _____ ORG ID 21 FLCEW LATITUDE _____
 COUNTY Suater STORET # 64CE0106 LONGITUDE _____
 DATE 3/16/16 TIME _____ SAMPLING AGENCY FDEP CE RAC
 SITE NAME Withlacoochee River @ 200m DS of Princess Lake
 FIELD ID/NAME 64CE0106 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) Transect _____ m wide _____ m/s <u>0.13</u> m/s _____ m/s _____ m deep <u>2.0</u> m deep _____ m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>				Hydrologic Modification Score (per FT 3101) <u>_____</u>					
High Water Mark: <u>0.3</u> + <u>2.0</u> = <u>2.3</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☒ Yes ☐ No					
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			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>23.9</u></td> <td><u>7.1</u></td> <td><u>3.8</u></td> <td><u>45</u></td> <td><u>268</u></td> <td><u>0.13</u></td> <td><u>0.5</u></td> </tr> <tr> <td>Mid:</td> <td><u>1.5</u></td> <td><u>23.9</u></td> <td><u>7.0</u></td> <td><u>3.9</u></td> <td><u>46</u></td> <td><u>250</u></td> <td><u>0.12</u></td> <td>☐ VOB</td> </tr> <tr> <td>Bottom:</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</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>23.9</u>	<u>7.1</u>	<u>3.8</u>	<u>45</u>	<u>268</u>	<u>0.13</u>	<u>0.5</u>	Mid:	<u>1.5</u>	<u>23.9</u>	<u>7.0</u>	<u>3.9</u>	<u>46</u>	<u>250</u>	<u>0.12</u>	☐ VOB	Bottom:	_____	_____	_____	_____	_____	_____	_____	_____
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Bottom:	_____	_____	_____	_____	_____	_____	_____	_____																																				
Woody Debris (Snags) <u>3</u> Undercut Banks / Roots <u>1.5</u> Leaf Packs or Mat <u>0</u> Aquatic Vegetation <u>1.9</u> Rock or Shell Rubble.. <u>1.1</u> 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) ☐																																						
			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) ☐																
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Iron/Sulfur Bacteria:	☒	☐	☐	☐																																								
AMBIENT FIELD CONDITIONS / NOTES: <u>80's</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																												
SAMPLING TEAM <u>Mike Linger</u> <u>Mike Drennan</u> <u>Terry Roradan</u>				SIGNATURE: 		DATE: <u>3/16/16</u>																																						

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

SAMPLING AGENCY: CEPOC - FDEP		STORET STATION NUMBER: G4CE0106	DATE (MM/DD/YY): 3/16/16	RECEIVING BODY OF WATER: G of M
REMARKS:	COUNTY: Sumter	LOCATION: Withlacoochee River	FIELD ID/NAME: G4CE0106	

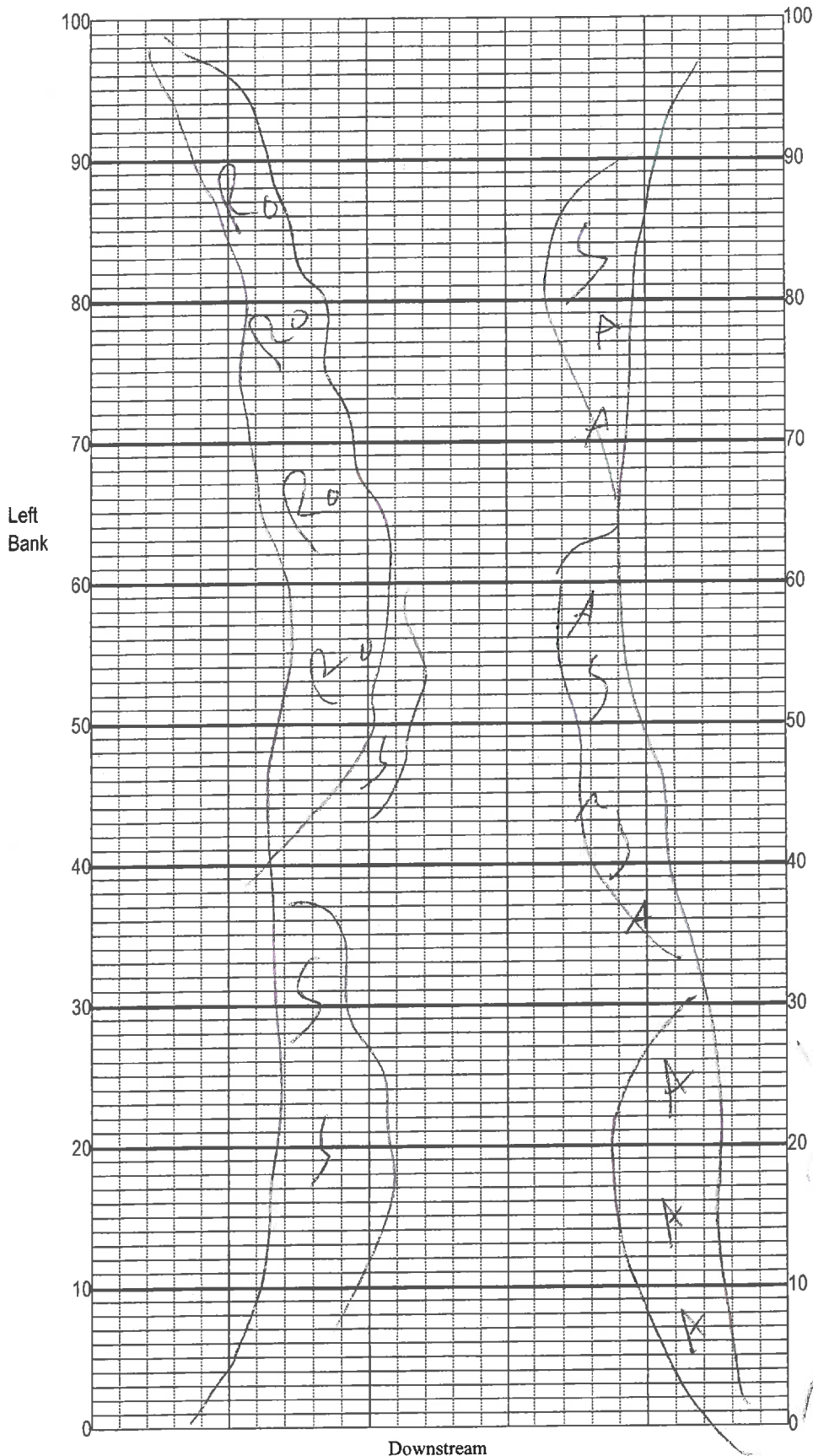
@ 200m DS of Princess Lake

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components <i>12</i>	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 <i>16</i> <i>ML</i>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <i>6</i>	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 <i>1.2</i>	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 <i>15</i> <i>12</i> <i>49</i> <i>42</i>	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 <i>19</i>	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 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 <i>10</i> Left Bank <i>10</i> <i>20</i>	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 <i>10</i> Left Bank <i>10</i> <i>20</i>	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 <i>8</i> Left Bank <i>10</i> <i>10</i> Secondary Score <i>77</i> <i>ML</i>	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

126 *119* **TOTAL SCORE**

Date: 3/16/16	Analyst: Mike Linger Mike Drennan Terry Risdan	Signature: <i>[Signature]</i>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Withlacoochee
 Date: 3/16/16
 Sampler: LMD, MKL, TR

100 m: Latitude _____	
Longitude _____	
0 m: Latitude _____	
Longitude _____	
Substrates: Code key, draw proportionate habitat abundance. %	
☐ S	Snags <u>3</u>
☐ R	Roots/undercut banks <u>1.5</u>
☐ L	Leaf Packs (or mats) _____
☐ A	Aquatic Macrophytes <u>1.4</u>
☐ RO	Rock <u>1.1</u>
☐	_____
☐	Pools total # observed = _____ # range expected = _____
Average width <u>35</u> m	
Average depth <u>2</u> 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:

A=30m²

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

62-160.800, F.A.C

A_T = 3500 m²

S = 100
R = 50
L = 0
A = 50
R = 40

290 m² = 6.8%

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Withalacoochee River 260m DS of Princess County: Sumter Date: 3/16/16 Investigators: Terry Riordan, Mike Biscoe, Mike Drennon

STORET Station Number:

64CE0106

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	4	✓	0	60	1	N	✓	0
	2	3	✓						
	3	3	✓						
	4	3	✓						
	5	3	✓						
	6	3	✓						
	7	3	✓						
	8	3	✓						
	9	3	✓						
10	1	2	✓	0	70	1	2	✓	0
	2	2	✓						
	3	2	✓						
	4	2	✓						
	5	2	✓						
	6	2	✓						
	7	2	✓						
	8	2	✓						
	9	2	✓						
20	1	2	✓	0	80	1	2	✓	0
	2	2	✓						
	3	2	✓						
	4	2	✓						
	5	2	✓						
	6	2	✓						
	7	2	✓						
	8	2	✓						
	9	2	✓						
30	1	2	✓	0	90	1	2	✓	0
	2	2	✓						
	3	2	✓						
	4	2	✓						
	5	2	✓						
	6	2	✓						
	7	2	✓						
	8	2	✓						
	9	2	✓						
40	1	2	✓	0	100	1	2	✓	0
	2	2	✓						
	3	2	✓						
	4	2	✓						
	5	2	✓						
	6	2	✓						
	7	2	✓						
	8	2	✓						
	9	2	✓						
50	1	2	✓	0		1	2	✓	
	2	2	✓						
	3	2	✓						
	4	2	✓						
	5	2	✓						
	6	2	✓						
	7	2	✓						
	8	2	✓						
	9	2	✓						

Secchi depth 0.5
Estimated?

points ranked 4-6 2
total points assessed 99
% points ranked 4-6 2.2

Check accompanying data collected at same site/date.

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

RQ-2016-03-07-53

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

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%.