FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End of Day CCV
Yes / No

WIN Station Name: Unnamed Ditch @ 100m Us Of Madeline Ave **Date:** 12/21/2020

WIN/Field ID: G5CE0092 **WBID:** 2666 **ENR:** **Latitude:** 29.1426

County: VOLUSIA **Org ID:** 21FLCEN **Longitude:** -81.045

Receiving Body of Water: Upper East Coast **RQ-** 2020-12-21-39

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
[x] Leif Boman	x	x	x	x	x
[ ]					
[ ]					
[ ]					

Sampling Equipment

- [x] Sample Container
- [ ] Dipper
- [x] Syringe
- [ ] Carboy
- [ ] Van Dorn
- [ ] Pole

Depth measured with: Secchi
Secchi Equipment ID: Crusty

Collection Method

- [x] **Wading**
- [ ] **From Shore**
- [ ] **Other** _____
- [ ] **Canoe/Kayak**
- [ ] **Electric Motor**
- [ ] **Gasoline Motor**

Water Level: [x] Normal [ ] Low [ ] High [ ] Dry [ ] Pooled [ ] Flooded

Meter ID# SCUD BUCKET

Photos: YES **Flow:** FLOW **Tide:** **Tide Times:** High: Low:

Biological Samples Collected: [ ] None [x] HA [ ] SCI [x] RPS [ ] Algae ID [x] LVS [ ] LVI Other:

SBIO ID Numbers: SBIO 81975 RPS 9682 MACROPHYTE 11779 LIMS 2215415

Notes:

Duplicate Sample

Time Zone: EST **Time:** N/A **Field ID:** N/A (WIN ID_DUP)

WIN DMT Activity ID: _____

Blank

Time Zone: _____ **Time:** N/A **Field ID:** N/A (Blank Type_DDMMYYYY)

DI Source: N/A **Location:** N/A

DI Type: N/A **Equipment ID:** N/A

LIMS EVENT ID: CEN-DIST-2020-12-22-02 **WIN Import ID:** 24838

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 4/5/21 (Initials/Date) **QC Station ID, Field Parameters In LIMS DMT:** TR 4/8/21? (Initials/Date)

Scan/Save Field Sheets KWM 4/12/21 (Initials/Date) **Migrate Data to WIN:** KWM 4/12/21 (Initials/Date) **Verify Data In WIN:** _____ (Initials/Date)

RQ-2020-12-21-39
Customer: WQAP
Project ID: SMP

Collected By: Leif Boman,
Field Report Prepared By: Leif Boman
Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID: G5CE0092

Location: Unnamed Ditch @ 100m Us Of Madeline Ave

Comments: Carbamate bottle had minimal preservative in bottle. Half of kit shipped with 2020-12-07-25

Matrix: Fresh

(Check one) ☒ GRAB ☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C⁰)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPTh)
12/21/2020	1229 EST	3.89	42	19	7.07	0.3	0.5 ☒ VOB (S)	0.5	520	0.25
	Central Lab please use top row for login purposes									
	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 ☒ H_2SO_4*	☒ <2	1	A
	Lot #	115296	Exp:	04/03/21			
Metals (P-500ML)	☒ W-ICPMS ☒ W-ICP ☒ W-HARD			☒ Ice ☒ HNO_3*	☒ <2	1	A
	Lot #	NA0038050	Exp:	02/07/21			
Filtered Nutrients (P125ML)	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter			☒ Ice		1	A
	Filter Lot #	16930280					
	Syringe Lot #	9149785					
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			
Periphyton (PT-50ML)	☐ ALGAE-ID			☐ Ice			
Microbiology (Contract Lab Bottle)	☒ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab			☒ Ice		1	A
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ 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 ☒ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)			☒ Ice		10	A
				☐ Ice			

Name: Leif Boman

Signature:

Date: 12/21/2020

*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 21FLCEN LATITUDE 29.1426
COUNTY Volusia STORET # GSCE0092 LONGITUDE -81.045
DATE 12/21/2020 TIME _____ SAMPLING AGENCY FDEP - CEROL 21FLCEN
SITE NAME UNNAMED DITCH @ 100m Us Of Madeline Avenue
FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

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)
35				90	5		

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: .9 (m) + .5 (above present water level) = 1.4 (present depth) (above bed)

Artificially Impounded ☐ Yes ☑ No

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

7 m/s	7 m/s	7 m/s
.5 m deep	.5 m deep	.5 m deep

Artificially Channelized : ☐ NO ☐ Some recovery ☐ 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

	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			

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☑	☐	☐
Fish:	☐	☑	☐	☐
Aquatic Plants:	☐	☐	☐	☑
Iron/Sulfur Bacteria:	☑	☐	☐	☐

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	19.0	7.07	3.89	42.0	520	0.25	.5
Mid:								☑ VOB
Bottom								TOTAL DEPTH .5

Meter ID: SWD BUCKET

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 ☐

System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

AMBIENT FIELD CONDITIONS / NOTES:

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

SAMPLING TEAM Leif Bowman

SIGNATURE : [signature]

DATE : 12/21/2020

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

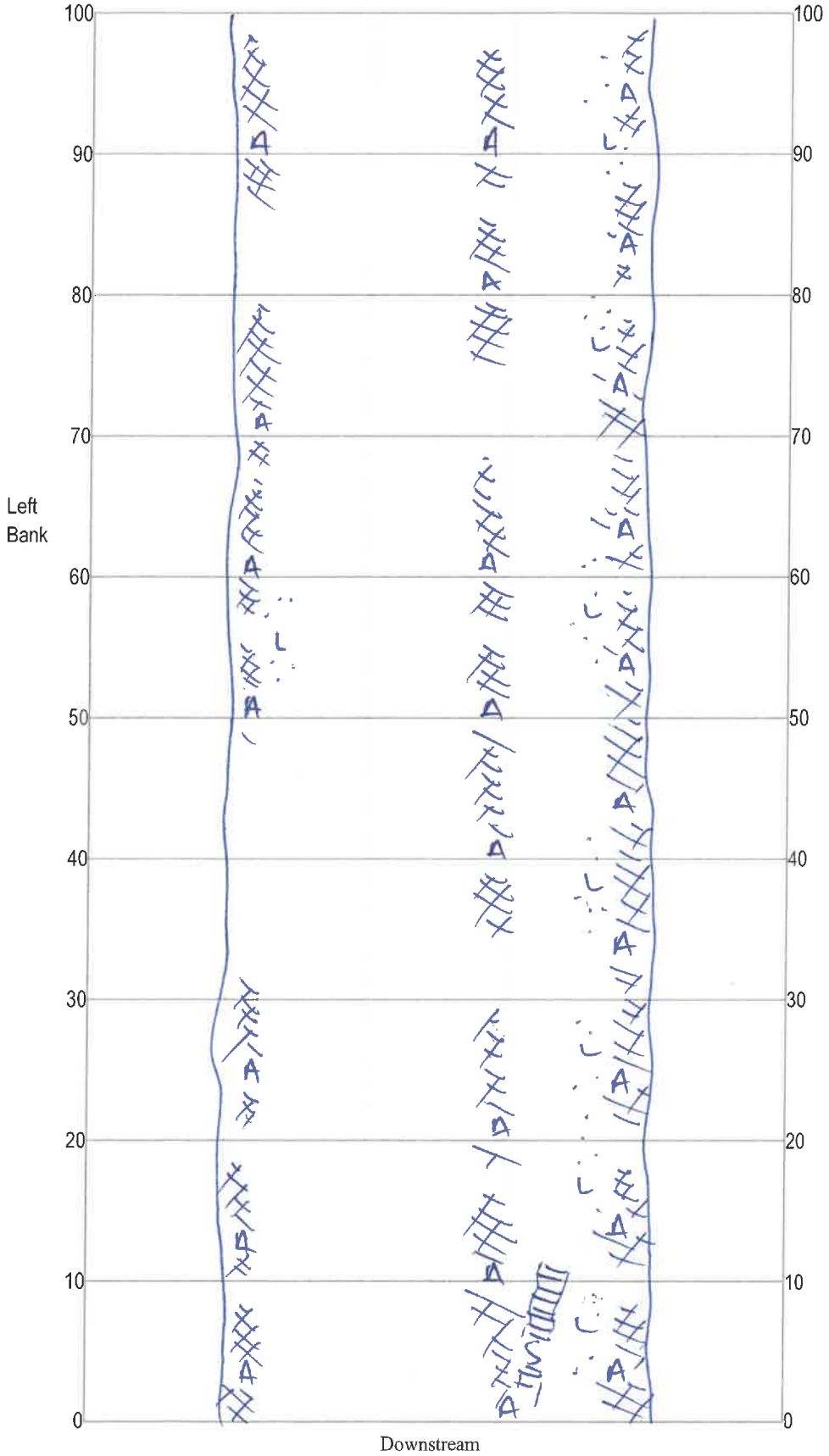
SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
FDEP- CEROL		G5CE0092	12/21/2020	
REMARKS:	COUNTY: Volusia	LOCATION: B-19 canal		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 10	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 12	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 13 7 sec.	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 10 Primary Score 45	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** 4	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 5	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 6	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 ~~8~~ 4 Left Bank 8 Secondary Score 40	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

85 **TOTAL SCORE**

Date:	Analyst:	Signature:
12/21/2020	Leif Boman	

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: B-19 Canal

Date: 12/21/2020

Sampler: Leif Bowman

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance.	%
S — Snags	.2
Roots/undercut banks	
L — Leaf Packs (or mats)	.8
A — Aquatic Macrophytes	9.5
Pools — total # observed =	
Pools — # range expected =	

Average width 5 m

Average depth .4 m

Velocity measured at 0, 50, 100 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:

Najas, Hydrilla, Salvinia, Lemna, Alternanthera, Eleocharis submerged

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

Waterbody: B-19 canal	Date: 12/21/20	County: Volusia	Storet Number: G5CE0092
Analyst: Leif Bowman		Signature:	

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											
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	D	D	D	D	D	D	D	D	D	D	
Nuphar luteum											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
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											

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: B-19 CANAL | County: Volusia | Date: 12/21/2020 | Investigators: Leif Boman

STORET Station Number: G5CE0092

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	2		
	2	2		
	3	2		
	4	2		
	5	2		94
	6	2		
	7	2		
	8	2		
	9	2		
10	1	2		
	2	2		
	3	2		
	4	2		
	5	2		89
	6	2		
	7	2		
	8	2		
	9	2		
20	1	2		
	2	2		
	3	2		
	4	2		
	5	2		83
	6	2		
	7	2		
	8	2		
	9	2		
30	1	2		
	2	2		
	3	2		
	4	2		
	5	2		94
	6	2		
	7	2		
	8	2		
	9	2		
40	1	2		
	2	2		
	3	2		
	4	2		
	5	2		94
	6	2		
	7	2		
	8	2		
	9	2		
50	1	2		
	2	2		
	3	3		
	4	2		
	5	2		96
	6	2		
	7	2		
	8	2		
	9	2		

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	2		
	2	2		
	3	2		
	4	2		
	5	2		78
	6	2		
	7	2		
	8	2		
	9	2		
70	1	2		
	2	2		
	3	2		
	4	2		
	5	2		90
	6	2		
	7	2		
	8	2		
	9	2		
80	1	2		
	2	2		
	3	2		
	4	2		
	5	2		88
	6	2		
	7	2		
	8	2		
	9	2		
90	1	2		
	2	2		
	3	2		
	4	2		
	5	2		86
	6	2		
	7	2		
	8	2		
	9	2		
100	1	2		
	2	2		
	3	2		
	4	2		
	5	2		67
	6	2		
	7	2		
	8	2		
	9	2		

Secchi depth	0.5
Estimated?	99

# 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-	

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%.