



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

March 2017

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Data Qualified?

Yes / No

Location/STORET Station Name: Little Wekiva (West) @ 50m US of Northwestern Ave. Date: 08/23/2017
(mm/dd/yyyy)

STORET # G2CE0099 WBID: 2987B Latitude: 28.65405
(Decimal Degrees)

County: Seminole RQ - 2017-08-21-41 ORG ID: 21FLCEN Longitude: -81.41123
(Decimal Degrees)

Receiving Body of Water: St. Johns River Field ID: G2CE0099

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Mike Linger						
Leif Boman						
Katie Williams						

Sampling Equipment	
☒ Sample Container	☐ Van Dorn ☐ Pole
☐ Carboy	☒ Syringe
☐ Dipper	☐ Other
Equipment ID	

Collection Method	
☒ Wading	☐ Via Boat
☐ From Shore	☐ Canoe/Kayak
☐ Other (note below)	☐ Electric Motor
	☐ Gasoline Motor

Water Level:	
Dry / Pooled / Low / Normal / High / Flooded	

Meter ID#	Photos:	Matrix:	Tide Falling:
<u>Boop-Non</u>	Yes / <u>No</u>	<u>Fresh</u> / Marine / DI	Yes / No / <u>NA</u>

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°)
<u>EST</u>	<u>1150</u>	<u>0.3</u>	<u>0.8</u>	<u>2.4</u>	<u>31</u>	<u>6.7</u>	<u>0.1</u>	<u>0.8(5)</u>	<u>200</u>	<u>29.2</u>
<u>CEN</u>										

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

SBIO ID Numbers: SBIO-ID: 77876 RPS-ID: 8770 Macrophyte-ID: N/A LIMS#: 1924263

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	<u>1630300</u>	<u>6/12/18</u>	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CH-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 ☐ qPCR	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R	☐ Ice			
	☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH ☐ W-SUC-AA R	☐ Other			

Contains 1:1 Sulfuric Acid
Lot No.: SA7163030
Expires: 06/12/18
See Safety Data Sheet (SDS)

THOMAS SCIENTIFIC
500 NORTH MAIN STREET
ANN ARBOR MI 48106-1500
1-800-451-2711

Caution: 1:1 Sulfuric Acid
May be corrosive to skin. Causes severe eye irritation and damage. Do not breathe dusts or vapors. Avoid contact with clothing and skin. Wash immediately with copious amounts of water. If swallowed, drink water. If inhaled, move to fresh air. If in contact with eyes, flush with water for 15 minutes. If in contact with skin, wash with soap and water for 15 minutes. Dispose of waste in accordance with local, state, and federal regulations.

Notes: Little Wekiva (West) @ 50m US of Northwestern Ave

Date: 08/23/2017
RQ-2017-08-21-41

Signature: [Signature] Date: 8/23/17

Field Parameters Entered into LIMS: MKL 8/28/17 Field Parameters QC in LIMS: KMW 8/29/17

Date Migrated to STORET: [Signature] Field Sheets Scanned/Saved: [Signature]

G2CE0099
Field ID ↑
STORET ↓
G2CE0099

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

SAMPLE ID 77876 ORG ID 21FLCEN LATITUDE 28.65405
 COUNTY Seminole STORET # 62CE0099 LONGITUDE -81.41123
 DATE 08/23/2017 TIME 1150 SAMPLING AGENCY FDEP CE-ROC
 SITE NAME Little Wepika (west) @ 50m W of Northwestern Ave.
 FIELD ID/NAME 62CE0099 RECEIVING BODY OF WATER St Johns River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ 100 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 <u>6</u> m wide ☐ m/s <u>0.25</u> m/s ☐ m/s ☐ m deep <u>0.8</u> m deep ☐ m deep		
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>6</u> Right Bank: <u>5</u>				Hydrologic Modification Score (per FT 3101) ☐				
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 ☐ 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 Type: Sand

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 ☐
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SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☐ LVS

☐ LCI ☐ BioRecon

% Coverage **INVERT** # Times Sampled **PERI** # Times Sampled

Woody Debris (Snags)	<u>2.3</u>	<u>8</u>	
Undercut Banks / Roots	<u>0.1</u>	<u>3</u>	
Leaf Packs or Mat	<u>0.1</u>	<u>2</u>	
Aquatic Vegetation	<u>0.2</u>	<u>3</u>	
Rock or Shell Rubble	<u>0.8</u>	<u>43</u>	
Sand		<u>2</u>	
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>0.3</u>	<u>29.2</u>	<u>6.7</u>	<u>2.4</u>	<u>31</u>	<u>200</u>	<u>0.1</u>	<u>0.8</u>
Mid:							☒ VOB
Bottom:							
Meter ID: <u>Boop / Non</u>							<u>0.8</u>

Water Odors Normal ☒ Petroleum ☐
 Sewage ☐ Chemical ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
 Sample Preserved? ☐ Yes ☐ No
 Lot Number: Exp:

Algae Sample Taken? ☐ Yes ☒ No
 Sample Preserved? ☐ Yes ☐ No
 Lot Number: Exp:

Water Surface Oils Normal ☒ Sheen ☐
 Globbs ☐ Slick ☐ Other ☐

Color Tannic ☐ Green (Algae) ☐
 Clear ☒ Other (Specify) ☐

Clarity Clear ☒ Slightly Turbid ☐
 Turbid ☐ Opaque ☐

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

AMBIENT FIELD CONDITIONS / NOTES:

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

SAMPLING TEAM

Mike Linger / Leif Boman / Katie Williams

SIGNATURE:

Mike Linger

DATE:

08/23/2017

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

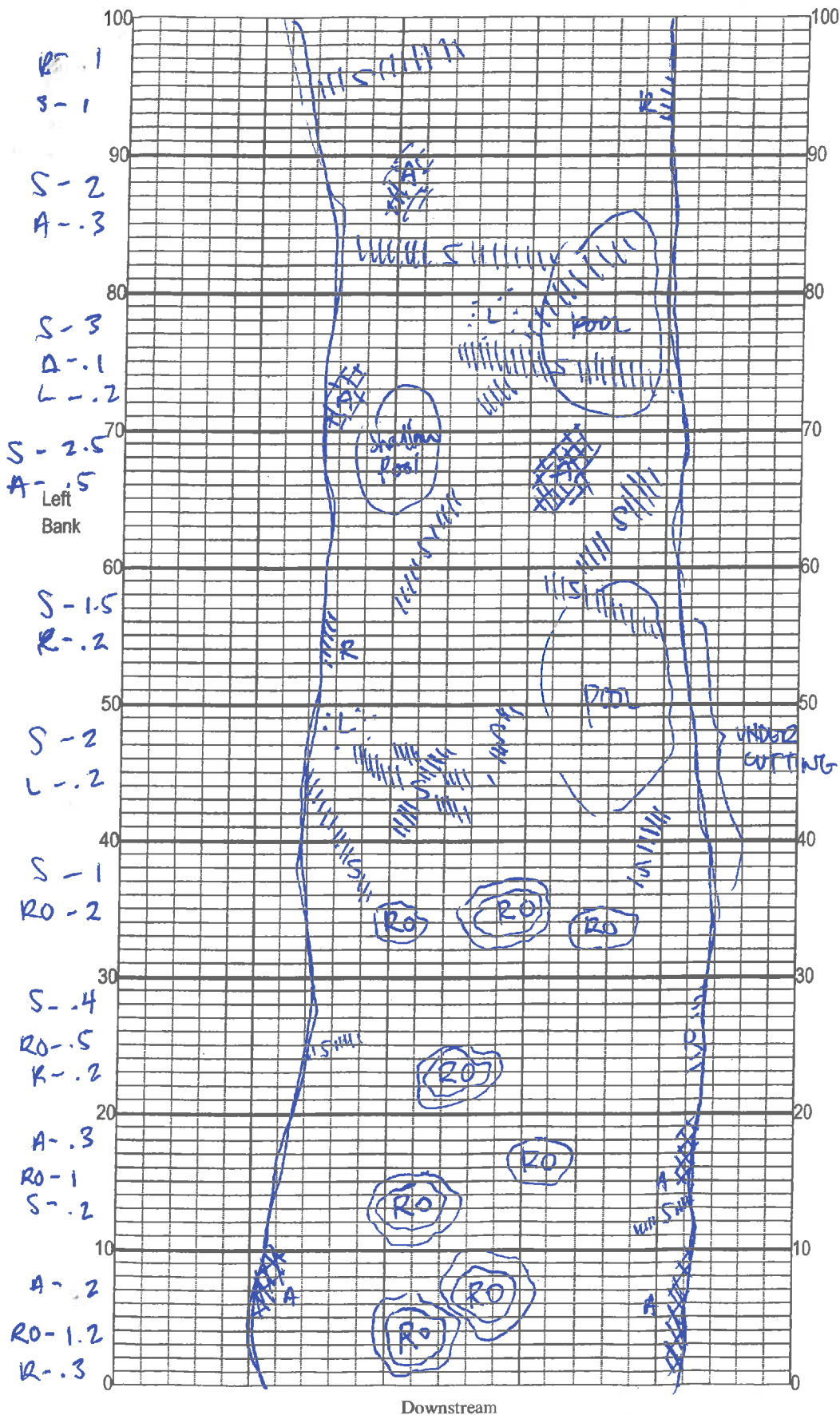
SAMPLING AGENCY: <u>Little Wekiva (West) FDEP CE-Roc</u>		STORET STATION NUMBER: <u>G2CE0099</u>	DATE (MM/DD/YY): <u>08/23/17</u>	RECEIVING BODY OF WATER: <u>St Johns River</u>
REMARKS:	COUNTY: <u>Seminole</u>	LOCATION: <u>Little Wekiva (West) @ 50 m US...</u>		FIELD ID/NAME: <u>G2CE0099</u>

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>7</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 4 3 2 1
Water Velocity <u>16</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 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>12</u> -----	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae.	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae.	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth).	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation.
Primary Score <u>38</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	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>8</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>3</u> Left Bank <u>3</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>3</u> Left Bank <u>4</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>3</u> Left Bank <u>3</u>	10 9	8 7 6	5 4	3 2 1
----- Secondary Score <u>27</u>				

65 TOTAL SCORE

Date: <u>08/23/2017</u>	Analyst: <u>Mike Linger (Leif Boman)</u>	Signature: <u>[Signature]</u>
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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: Little Wekiva (west)

Date: 8/23/17

Sampler: L. Bannan / M. Kinger / K. Williams

100 m: Latitude	
Longitude	
0 m: Latitude	<u>28.654108</u>
Longitude	<u>-81.411038</u>
Substrates: Code key, draw proportionate habitat abundance.	
	Snags <u>2.28</u> <u>78</u>
	Roots/undercut banks <u>.13</u>
	Leaf Packs (or mats) <u>.07</u>
	Aquatic Macrophytes <u>.23</u>
	<u>ROCKS</u> <u>78</u>
	Pools
total # observed = <u> </u> # range expected = <u> </u>	
Average width <u>6</u> m	
Average depth <u>0.8</u> m	
Velocity measured at <u>50</u> meter mark.	
WQ & chemistry taken at <u>0</u> 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:

Alternanthera philoxeroides
Colocasia *Lemna*
Eichhornia *Nuphar*
Salvinia

R-4.7

A-1.4

S-13.7

R-8

L-4

Revision Date: March 1, 2014

Waterbody: Little Wekiva (West)

Date: 8/23/17

County: Seminole

Store Number: 62LE0099

Analyst: Mike Linac

Signature: Drinkel

Comments: No LVS conducted $< 2m^2$ veg

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² 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.

[illegible]

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

ID: 8770

Site: Little Wokiva (west)

County: Seminole

Date: 08/23/2017

Investigators: Mike Ling

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		52	60	1	3		84
	2	3							
	3	N							
	4	N							
	5	3							
	6	N							
	7	5							
	8	4							
	9	N							
10	1	N		84	70	1	N		76
	2	3							
	3	5							
	4	3							
	5	N							
	6	4							
	7	N							
	8	N							
	9	3							
20	1	3		80	80	1	N		88
	2	N							
	3	3							
	4	5							
	5	N							
	6	N							
	7	N							
	8	3							
	9	N							
30	1	N		88	90	1	4		72
	2	N							
	3	3							
	4	5							
	5	N							
	6	N							
	7	N							
	8	N							
	9	N							
40	1	N		92	100	1	N		92
	2	N							
	3	N							
	4	N							
	5	N							
	6	N							
	7	N							
	8	N							
	9	N							
50	1	N		80		1	N		
	2	N							
	3	N							
	4	N							
	5	N							
	6	N							
	7	N							
	8	N							
	9	N							

STORET Station Number:

62CE0099

Secchi depth 0.8 (5)
Estimated?

points ranked 4-6 8
total points assessed 99
% points ranked 4-6 8

Check accompanying data collected at same site/date.

Algal mat sample
Linear Veg Survey
Habitat Assessment
SC/Biorecon
Water sample

RQ- 2017-08-21-41

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%.