



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAGE ____ OF ____

FIELD SHEET

Field ID:

Date:

Time:



G1NE0856 09072016

STORET Station Name:

Tumblin abv. SW 14th

Storet:



G1NE0856

STORET Station ID: _____

WBID: 2718A RQ-2016-

ORG ID: 21 FLA

Latitude: 29.63901

29 38 20.43

Longitude: 82.33837

82 20 18.13

Receiving Body of Water: Biver Arm Lake

Field ID:

County: Alachua

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
N. Frederick		X	X			
D. Parrish			X	X	X	X

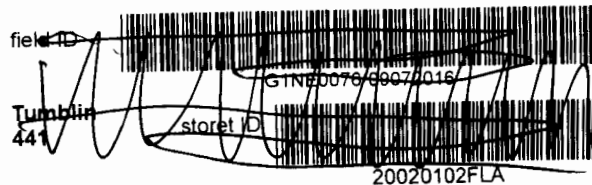
Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Equipment ID		
Collection Method		
☒ Wading From	Via Boat	
☐ Shore	☐ Canoe/Kayak	
☐ Other (note below)	☐ Electric	
	☐ Motor	

Water Level: Dry / <u>Low</u> / Normal / High / Flooded	Matrix: <u>Fresh</u> / Marine / DI
Meter ID# <u>Quanta</u> Photos: <u>Yes</u> / No	Tide Falling: Yes / No / <u>NA</u>

Time Zon	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
<u>EST</u>	<u>1250</u>	<u>0.1</u>	<u>0.2</u>	<u>7.02</u>	<u>87.6</u>	<u>6.50</u>	<u>0.18</u>	<u>0.25</u>	<u>374</u>	<u>25.60</u>
CEN										

Biological Samples Collected: None HA SCI LVS RPS LVI Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	<u>157449</u>	<u>12/19/16</u>	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO2			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
BOD	☐ BOD-UNIN	☒ Ice			
Physical/Aggregate (Kit A)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Kit B)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☒ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☐ 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			

Notes: HA/LVS/RPS done at siteTumblin
441

Storet ID

20020102FLA

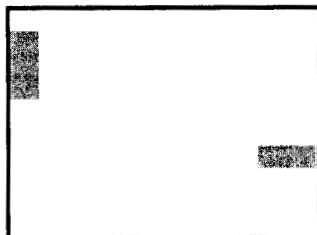
Signature: Jermy ParrishDate: 9/7/16Field Parameters Entered into LIMS: JP 9/16
(Initials/Date)Field Parameters QC in LIMS: _____
(Initials/Date)Date Migrated to STORET: _____
(Initials/Date)Field Sheets Scanned/Saved: _____
(Initials/Date)

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.

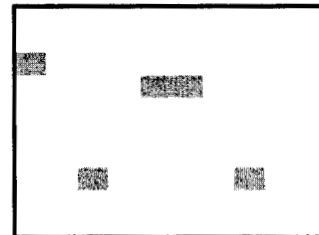
Plata

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

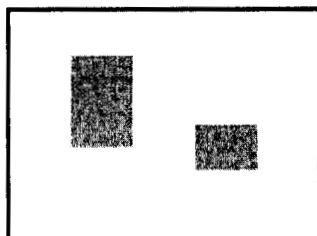
5% Macrophyte Coverage



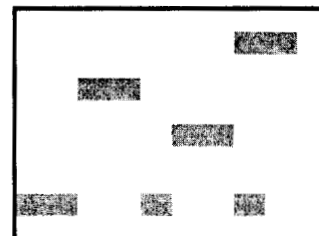
5% Macrophyte Coverage



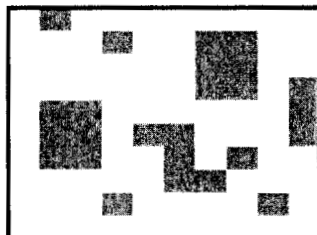
10% Macrophyte Coverage



10% Macrophyte Coverage



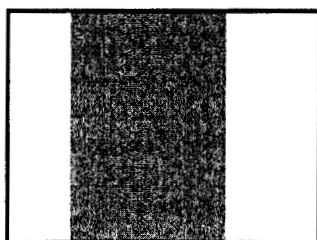
25% Macrophyte Coverage



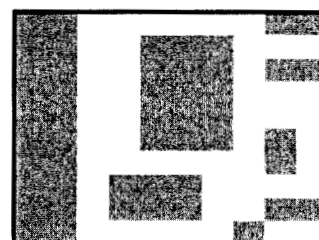
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



76825
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 6INE0856	DATE (MM/DD/YY): 9/7/16	RECEIVING BODY OF WATER: Biven Ark Lake
REMARKS:	COUNTY: Alachua	LOCATION: Tumblina above SW 14th ave		FIELD ID/NAME:

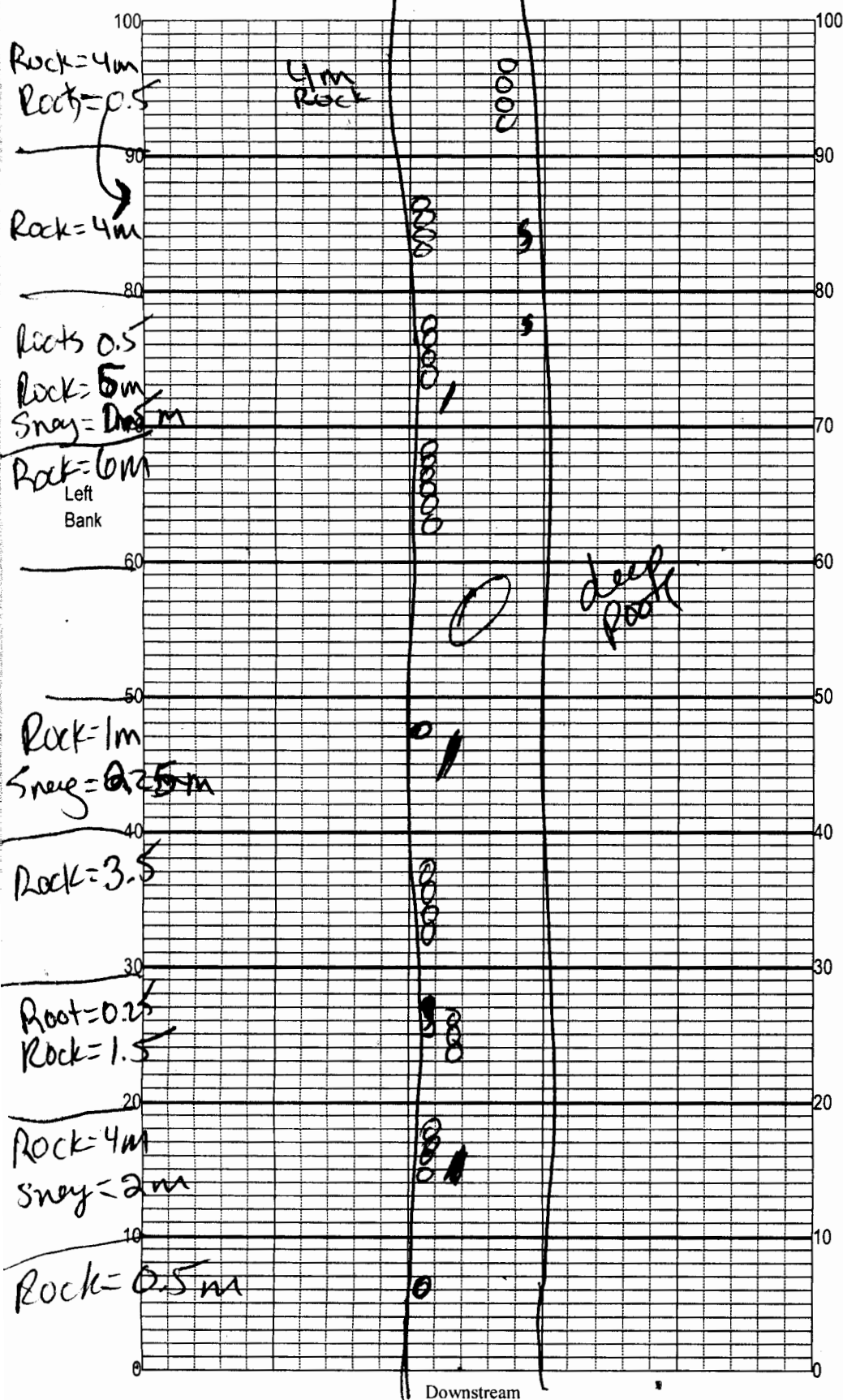
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>8</u>	20 19 18 17 16	15 14 13 12 11	10 9 <u>8</u> 7 6	5 4 3 2 1
Substrate Availability <u>8</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 <u>8</u> 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>15</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 <u>15</u> 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>13</u> Primary Score <u>44</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>18</u>	20 19 <u>18</u> 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>4</u>	10 9	8 7 6	5 <u>4</u>	<u>3</u> 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>4</u> Left Bank <u>4</u>	10 9	8 7 6	<u>4</u> 3 2 1	<u>4</u> 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>6</u> Left Bank <u>6</u> Secondary Score <u>45</u>	10 9	8 7 <u>6</u>	5 4	3 2 1

89

TOTAL SCORE

Date: <u>9/7/16</u>	Analyst: <u>J. Harris</u>	Signature: <u>Jeremy Harris</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: Tumblin
Date: 9/7/16
Sampler: J. Parrish / N. Frederik

100 m: Latitude _____
Longitude _____
0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance.		%
	Snags	<u>1</u>
	Roots/undercut banks	<u>< 1</u>
	Leaf Packs (or mats)	_____
	Aquatic Macrophytes	_____
	<u>Rock</u>	<u>10</u>
	<u>SAND</u>	<u>89</u>
	Pools	total # observed = _____ # range expected = _____

Average width 3 m
Average depth 0.10 m

Velocity measured at 0.25 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:

< 2 M of Macrophytes was observed while doing the LVS YES or NO

3m wide
Rock = 29.5m
Snag = 2m
Root = 1.25m

76825

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

SAMPLE ID _____ ORG ID 21 FLA LATITUDE _____
 COUNTY Alachua STORET # 61NE0856 LONGITUDE _____
 DATE 9/7/2016 TIME 1250 SAMPLING AGENCY FL DEP NE
 SITE NAME TUMBLIN above SW 14th ave
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Biven arm Lake

RIPARIAN ZONE / STREAM FEATURES

Meter ID: _____

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ 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>0.25</u> m/s _____ m/s _____ m deep <u>0.2</u> m deep _____ m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>6-12</u> Right Bank: <u>6-12</u>				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: <u>0.5</u> + <u>0.2</u> = <u>0.7</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 % Coverage INVERT # Times Sampled PERI # Times Sampled			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.1</u> <u>25.6</u> <u>6.5</u> <u>7.0</u> <u>87.6</u> <u>374</u> <u>0.18</u> <u>100</u> Mid: _____ _____ _____ _____ _____ _____ _____ Bottom: <u>0.2</u> _____ _____ _____ _____ _____ _____ System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) _____		
Woody Debris (Snags) <u>1</u> <u>N/A</u> Undercut Banks / Roots <u><1</u> <u>N/A</u> Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble.. <u>10</u> <u>N/A</u> Sand _____ Mud / Muck / Silt _____ Other _____ Other _____			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: _____		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☒ ☒ ☐ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) _____ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		

AMBIENT FIELD CONDITIONS / NOTES:

Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☒ 7-8 ☐ 9-10☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

SIGNATURE:

9/7/16

76825

6RNE0856 DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet										
Site: <u>Tumblin Creek SW 1/4 Sec 4</u>					County: <u>Alachua</u>		Date: <u>9/7/16</u>		Investigators: <u>J. Parrish / N. Frederick</u>	
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	2	NO		60	1	N	NO		
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		96		5				96
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				
10	1	2			70	1	N	NO		
	2					2				
	3					3				
	4					4				
	5			96		5				96
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N	NO		
	2					2				
	3					3				
	4					4				
	5			96		5				96
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N	NO		90	1	N	NO		
	2					2				
	3					3				
	4					4				
	5			92		5				95
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N	NO		100	1	N	NO		
	2					2				
	3					3				
	4					4				
	5			95		5				96
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N	NO		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			96						
	6									
	7									
	8									
	9									

STORET Station Number:

6RNE0856

Secchi depth

Estimated?

points ranked 4-6

total points assessed

% points ranked 4-6

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