



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified?
Yes / No

WIN Station Name: Pirate Canal @ Burnt Store Rd

Date: 10/18/2018
(mm/dd/yyyy)

WIN/ Field ID: G2SD0037

WBID: 2082A

Latitude: 26.802825

County: Charlotte

ORG ID: _____

Longitude: -82.033597
(Decimal Degrees)

Receiving Body of Water: Charlotte Harbor

RQ-2018- 10-08-59
(Decimal Degrees)

Sampling Team Members <u>STACEY CARROLL</u> <u>MARY ANN DUGAN</u>	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
	☒	☒	☒	☒	☒
	Sampling Equipment				
	☒ Sample Container ☐ Van Dorn ☐ Pole ☐ Carboy ☒ Syringe ☐ Dipper ☐ Other Depth Measured with <u>Secchi</u> Equipment ID <u>DOOR RIVER</u>				
Collection Method					
☒ Wading ☐ Canoe/Kayak ☐ From Shore ☐ Electric Motor ☐ Other ☐ Gasoline Motor					

Water Level: Dry / Pooled / Low / Normal / High / Flooded
Photos: Yes ☒ No ☐ Flow: No Flow / Intestinal / Flowing / NA
Meter ID# 2295 Matrix: Fresh Marine / DI
Tide: Rising / Falling / Slack / NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTH)	Sp COND (umhos/cm)	Temp. (C°)
EST	1350	0.4	0.2	0.4	5.86	74.8	7.48	0.12	263	27.84
CEN										

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

SBIO ID Numbers: SBIO-ID: 7-8951 HA-ID: 15427 RPS-ID: 9113 Macrophyte-ID: 1110 LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Exhalation	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4			☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHL-SUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-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-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ W-E8321-MS ☐ W-CARB-AA	☐ Ice ☐ Other			

Contains: 1:1 H2SO4
Lot No: SA8197090
Expires: 07/16/19
See Safety Data Sheet (SDS)

Notes: _____
Field ID/WIN ID: _____
Location: _____
Pirate Canal@BurntStore

Signature: _____ Date: 10/18/18

Enter Field Parameters, Verify Station ID in LIMS DMT: _____ QC Station ID, Field Parameters in LIMS DMT: _____
Scan/Save Field Sheets: _____ Migrate Data to WIN: _____ Verify Data in WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)

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

SAMPLING AGENCY: FL DEP - S ROC		STORET STATION NUMBER: 62SD0037	DATE (MM/DD/YYYY): 10/18/2018	RECEIVING BODY OF WATER: CHARLOTTE HARBOR
REMARKS:	COUNTY: CHARLOTTE	LOCATION: *	FIELD ID/NAME: PIRATE Canal (2) BURN STORE	

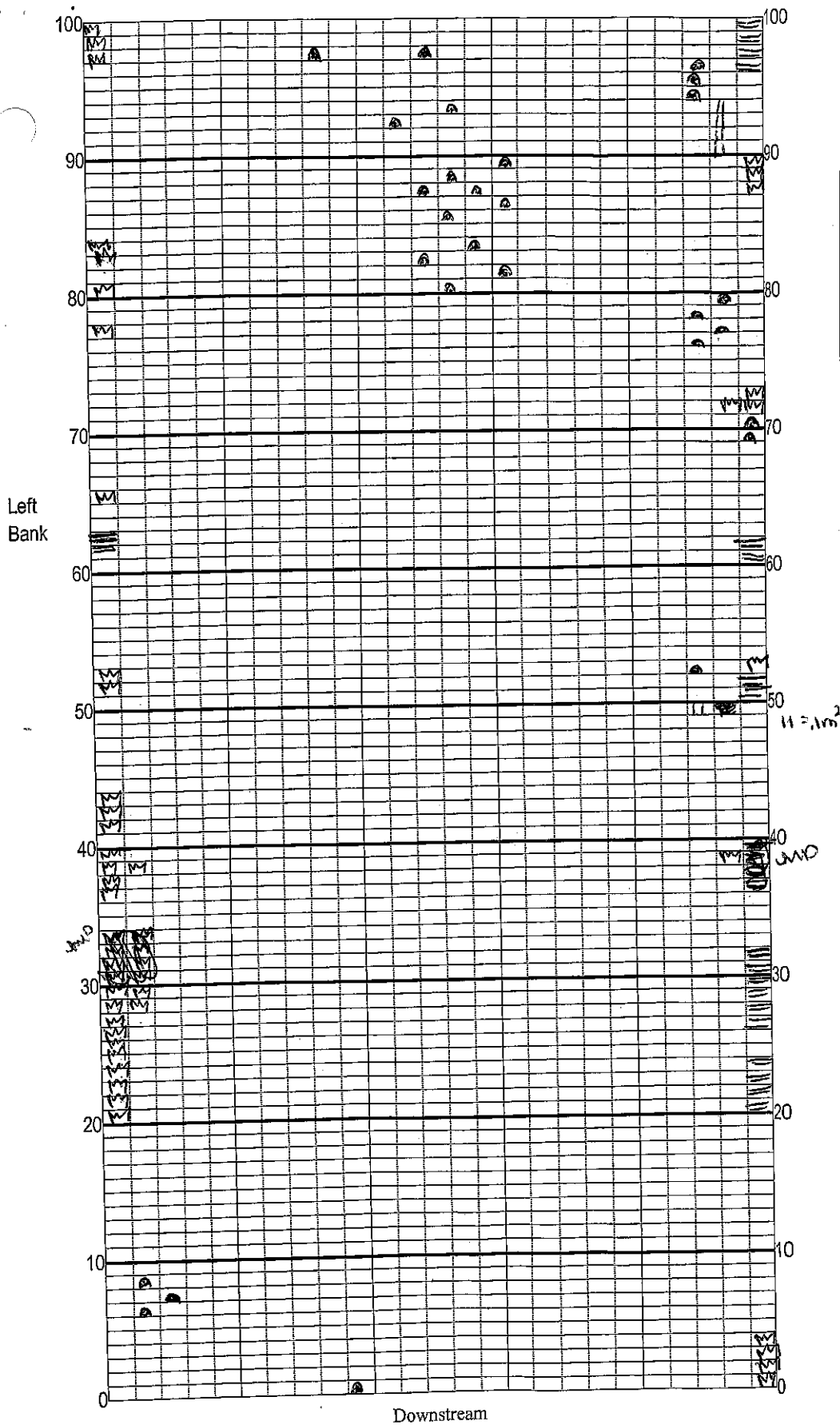
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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 14	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 4	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 16	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 6 ----- Primary Score 410	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 3	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 6 Left Bank 7	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull 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. 7 8 7 6 R	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 4 Left Bank 5	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 R	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 3 Left Bank 3 ----- Secondary Score 31	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). R/L 3 2 1

71

TOTAL SCORE

Date: 10/18/2018	Analyst: MARYANN DUGAN	Signature: <i>Maryann Dugan</i>
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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: Pirate Canal @ Buxent Store

Date: 10/18/2018

Sampler: MD

100 m: Latitude 26.802734
Longitude -82.033291

0 m: Latitude 26.802586
Longitude -82.034122

Substrates: Code key, draw proportionate habitat abundance.

	Snags	<u>0.21</u>	<u>1.25</u>
	Roots/undercut banks	<u>0.75</u>	<u>9.75</u>
	Leaf Packs (or mats)	<u>0</u>	<u>0</u>
	Aquatic Macrophytes	<u>1.75</u>	<u>10.5</u>
	ROCKS	<u>1.17</u>	<u>7.0</u>
	Pools	total # observed = <u>0</u> # range expected = <u>1-2</u>	

Average width 0.0 m
Average depth 0.5 m

Velocity measured at 0 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:

100% = .25 m²
1m / 3.845

velocity = 0.26 m/s

3.92% habitat

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

SAMPLE ID RD-208-10-08-59 ORG ID _____ LATITUDE 26.802825
 COUNTY CHARLOTTE STORET # _____ LONGITUDE -82.083597
 DATE 10/18/2018 TIME _____ SAMPLING AGENCY FL DEP-5 RDC
 SITE NAME PIRATE canal @ BURNT STORE Rd
 LD ID/NAME G2SD0037 RECEIVING BODY OF WATER CHARLOTTE HARBOR

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>90</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential <u>10</u> Commercial _____ Industry _____ Other (Specify) _____								Landscape Development Intensity Index (LDI) _____
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect _____ <u>6.0</u> m wide				
Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy								
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>11</u> Right Bank: <u>7</u>				Hydrologic Modification Score (per FT 3101) _____				
High Water Mark: <u>0.4</u> + <u>0.4</u> = <u>0.8</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							
			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>27.84</u>	<u>7.08</u>	<u>5.86</u>	<u>74.8</u>	<u>263</u>	<u>0.12</u>	<u>0.4</u>
			Mid: _____	_____	_____	_____	_____	_____	_____	☒ VOB
			Bottom: _____	_____	_____	_____	_____	_____	_____	TOTAL DEPTH <u>0.4</u>
Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble _____ Sand _____ Mud / Muck / Silt _____ Other _____ Other _____			Meter ID: <u>KEYS</u>							
			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: <u>SA 8197090</u> Exp: <u>07/10/14</u>			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 Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			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

MARYANN DUGAN, NICOLE REISTAD, STEVEN
 LOFONE,
 GARY SNOREK

SIGNATURE:

Maryann Dugan

DATE:

10/18/2018

Storet Number: ^ put sticker here

Date: 10/8/13

County: CHARLOTTE

Waterbody: PIRATE CANAL

Analyst: MARYANN DUGAN

Signature: Maryann Dugan

Comments:

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. **bold is exotic invasive**

HERBACEOUS SPECIES	Meter Mark										Specime n collected (check)	HERBACEOUS SPECIES	Meter Mark										Specime n collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides	X	X	X	X	X	X	X	X	X	X		Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri	X											Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara sp.												Panicum repens	X										
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontederia cordata											
Cyperus												Potamogeton illinoensis											
Diodia virginiana												Ruellia simplex											
Eichhornia crassipes												Sacciolepis striata											
Eleocharis (wispy viviparous)												Sagittaria kurziana											
Hydrilla verticillata												Sagittaria lancifolia											
Hydrocotyle sp.								X				Sagittaria latifolia											
Hygrophila polysperma												Salvinia minima											
Hymenachne amplexicaulis												Samolus parviflora											
Hymenocallis												Saururus cernuus											
Lachnanthes caroliniana												Sparganium americanum											
Landoltia punctata												Sphagneticola trilobata (Weddell)	X										
Lemna sp.												Typha sp.											
Limnophila sessiflora												Urochloa mutica (Brachiaria)											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana								X	X	X		Sacciolepis striata											
Ludwigia repens												Paspalum											
Luziola fluitans												Paspalum spp.											
												Echinochloa crus-galli	X										
												Acrostichum											
												danacifolium											
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																							

Form FD 9000-25

FDEP Rapid Periphyton Survey (DEP SOP FS 7230)

Revised 6/12/12

Site: Pirate Canal

County: Charlotte

Date: 10/18/2018

Investigator: MD, NR, GS, SC

Transsect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6)	Canopy Cover	Transsect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6)	Canopy Cover	Transsect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6)	Canopy Cover
0	1	2		40	1	2		80	1	2	
	2	2			2	2			2	2	
	3	2			3	2			3	2	
	4	2			4	2			4	2	
	5	2			5	2			5	2	
	6	2			6	2			6	2	
	7	2			7	2			7	2	
	8	2			8	2			8	2	
	9	2			9	2			9	2	
10	1	2		50	1	2		90	1	2	
	2	2			2	2			2	2	
	3	2			3	2			3	2	
	4	2			4	2			4	2	
	5	2			5	2			5	2	
	6	2			6	2			6	2	
	7	2			7	2			7	2	
	8	2			8	2			8	2	
	9	2			9	2			9	2	
20	1	2		60	1	2		100	1	2	
	2	2			2	2			2	2	
	3	2			3	2			3	2	
	4	2			4	2			4	2	
	5	2			5	2			5	2	
	6	2			6	2			6	2	
	7	2			7	2			7	2	
	8	2			8	2			8	2	
	9	2			9	2			9	2	
30	1	2		70	1	2			1	2	
	2	2			2	2			2	2	
	3	2			3	2			3	2	
	4	2			4	2			4	2	
	5	2			5	2			5	2	
	6	2			6	2			6	2	
	7	2			7	2			7	2	
	8	2			8	2			8	2	
	9	2			9	2			9	2	

points ranked 4-6

total points assessed

% points ranked 4-6

Secchi depth: 0.45

Check accompanying data collected at same site/date.

Algal mat sample

Habitat Assessment

Linear Veg. Survey

SCI/Biorecon (circle 1)

Water sample

RQ: 208-10-08-59

Algal Thickness Rank

N

3

4

5

6

rough, no algae; slimy; algae to 1 mm

>1mm - 6 mm

>6 - 20 mm

>20 mm - 10 cm

>10 cm

Record "N" for points deeper than the Secchi depth; algae are presumed absent. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. Note if thickness estimated for deep points which can be seen but not reached.

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 an 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%.

RG-2013-10-01-12

Date: 1/2/34

User Defined Space.

Location, directions, samplers, whatever...

Field ID

STORET

1234567890123456