

Site Name Mitchell Creek above US 29

Date 08/21/2017

Field ID 32020140

Storet 32020140

Visit ID 77879

RQ: 2017-06-05-47

RPS ID 8797

VPDB ID

HA ID 14774

☒ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/chem entered in SBIO

☒ HA entered in SBIO Initial FB

☐ Date and Initial QA:

☒ RPS entered in SBIO Initial FB

☐ Date and Initial QA:

☐ LVS entered in SBIO Initial

☐ Date and Initial QA:

☒ < 2 m² vegetation

☐ Plants getting verified

Date submitted:

☐ Plants verified

Date returned:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

March 2017

PAGE 1 OF 1

Data Qualified?
Yes ☒ No ☐

Location/STORET Station Name: Mitchell Creek @ US 29

Date: 8/20/2017
(mm/dd/yyyy)

STORET # 32020140-33020140

WBID: 71

Latitude: 30.873028

County: Escambia RQ - 2017-06-05-47

ORG ID: 21FLPNS

Longitude: -87.322694

(Decimal Degrees)

Receiving Body of Water: Escamiba R.

Field ID: 32020140

(Decimal Degrees)

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
FRANK BUTERA				☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole	
Stephen SLAND				☒	☒	☒	☒	☒	☐ Carboy	☒ Syringe	☐ Other	
				☐	☐	☐	☐	☐	☐ Dipper	☐	☐	
				☐	☐	☐	☐	☐	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	Matrix:	Fresh / Marine / DI
Meter ID# 132234	Photos: Yes ☒ No ☐	Tide Falling: <td>Yes ☐ No ☐ NA ☒</td>	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 (umhos/cm)	Temp. (C°)
EST	10:20	0.2	0.4	8.0	94	5.0	0.0	UOB	19	23.3
CEN										

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

SBIO ID Numbers: SBIO-ID: ~~77879~~ RPS-ID: ☐ Macrophyte-ID: ☐ LIMS#: ☐

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	SA-6302030	10/28/17	☐ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	NA-0253870	9/09/17	☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☐ Ice	Place Preservative Sticker(s) Here (If Available)		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / ☒ W-F / ☒ W-TSS / ☒ TURBIDITY / ☒ W-C-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 ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Notes: 2m Veg. No LVS
SBIO ID 77879

Signature: *[Signature]*

Location: Mitchell Creek
@ US 29
RQ-2017-06-05-47 (WBID 71)
Date:
Time: CST

32020140
Field ID ☒
STORET ☒
32020140

Date: 8/21/2017

Field Parameters Entered into LIMS:

Field Parameters QC in LIMS:

Date Migrated to STORET:

Field Sheets Scanned/Saved:

(Initials/Date)

(Initials/Date)

(Initials/Date)

(Initials/Date)

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

SAMPLE ID 77877 (FB) ORG ID 21FLPNS LATITUDE 30.873028
 COUNTY Escambia STORET # 33020140 LONGITUDE -87.322694
 DATE 8/21/2017 TIME _____ SAMPLING AGENCY FL DEP - NWROC
 SITE NAME Mitchell Creek @ US 29 SB10 VISIT TO 77879
 FIELD ID/NAME 33020140 RECEIVING BODY OF WATER Escambia River

RIPARIAN ZONE / STREAM FEATURES

SB10 ID 77879

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 <u>1.25</u> m wide <u>1.33</u> m/s <u>0.25</u> m/s <u>4 sec</u> m deep <u>1.5</u> m deep <u>1.7</u> 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>1-2</u>				
High Water Mark: <u>2.5</u> + <u>1.5</u> = <u>4.0</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 ☐
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SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☐ LVS

☐ BioRecon

☒ < 2 m² SAV Coverage % INVERT # Times Sampled PERI # Times Sampled

Woody Debris (Snags)...	<u>7.3</u>	<u>5</u>	
Undercut Banks / Roots	<u>1.4</u>	<u>5</u>	
Leaf Packs or Mat	<u>0.5</u>	<u>5</u>	
Aquatic Vegetation	<u>0.2</u>	<u>1</u>	
Rock or Shell Rubble..			
Sand.....	<u>88.2</u>	<u>1</u>	
Mud / Muck / Silt			
Other <u>GRAVEL</u>	<u>2.4</u>	<u>23</u>	
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>0.2</u>	<u>23.3</u>	<u>5.0</u>	<u>8.0</u>	<u>94</u>	<u>14</u>	<u>0.0</u>	
Mid:							☒ VOB
Bottom: <u>0.4</u>							
Meter ID: <u>132237</u> Meter verify? ☒ Yes ☐ No							TOTAL DEPTH <u>0.4</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: _____ 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

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

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

AMBIENT FIELD CONDITIONS / NOTES: RQ-2017-06-05-47.

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

SAMPLING TEAM

F. Butera, S. Slagter

SIGNATURE:

F. Butera

DATE:

8/21/2017

DEP-SOP-001 Form FD 9000-4
Stream/River Habitat Sketch Sheet

Location: Mitchell Creek @ US 29

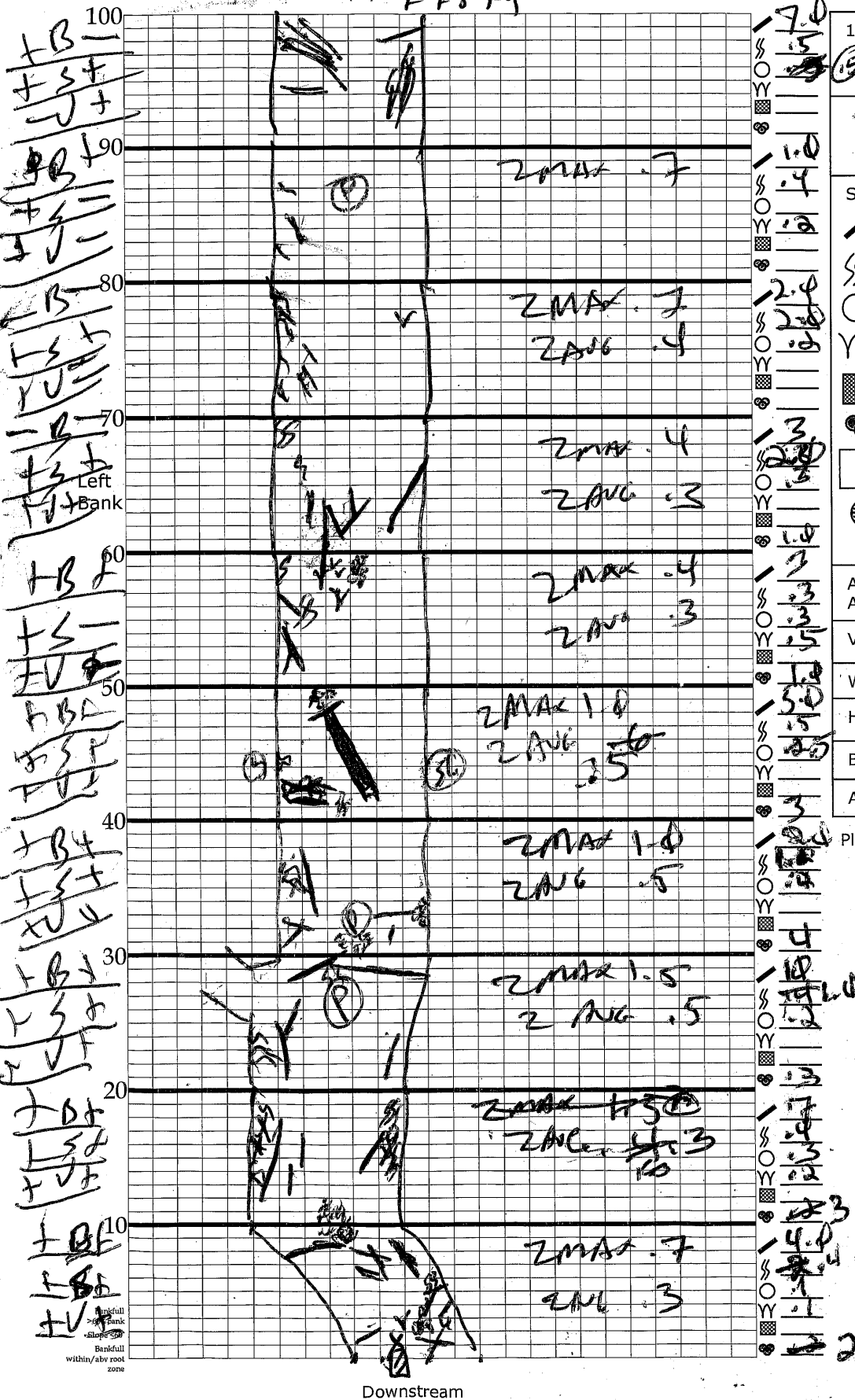
Date:

Sampler:

Storet: 3320140

SBIO ID:

~~77878~~ FB
77879



100m: Latitude	30.87321
Longitude	87.32346
50m: Latitude	30.87285
Longitude	-87.32284
Substrates:	Total 9.4%
 Snags	7.3
 Roots/undercut banks	1.4
 Leaf Packs (or mats)	0.5
 Aquatic Macrophytes	0.2
 Rock	
 Gravel	2.4
 Other	
 Pools observed/expected	3 / 2
Average width:	6 m
Average depth:	1.3 m
Velocity measured at:	40 meter mark
WQ & chemistry taken at	0 meter mark
Habitat smothering:	
Bank stability:	
Altered Riparian Buffer Width:	

Plants observed & notes:

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

SAMPLING AGENCY: 21FLPNS		STORET STATION NUMBER: 33020140	DATE (MM/DD/YY): 8/21/17	RECEIVING BODY OF WATER: Escambia River
REMARKS: SBIO ID: <u>77878</u> (FB)	COUNTY: Escambia	LOCATION: Mitchell Creek @ US 29	FIELD ID/NAME: 33020140	

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>14</u>	20 19 18 17 16	15 <u>14</u> <u>13</u> 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>B</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>2.0</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥ 0.33 0.31 0.29 0.27 > 0.25 <u>20</u> 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>18</u> ----- Primary Score <u>64</u>	Adequate number of stable pools (1-2 per 12 times width) and < 25% of habitats affected by sand, silt, or algae. 20 19 <u>18</u> 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	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>20</u>	<u>20</u> 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>9</u> Left Bank <u>9</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 18 m	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>10</u> Left Bank <u>10</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>10</u> Left Bank <u>10</u> ----- Secondary Score <u>78</u>	10 9	8 7 6	5 4	3 2 1

138 TOTAL SCORE $\frac{138}{160} = 86\%$

Date: <u>8/21/17</u>	Analyst: <u>[Signature]</u>	Signature: <u>F. Burton</u>
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Habitat Assmt. ID. 14778

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Mitchell Creek @ US 29

County: Escambia

Date: 8/21/17

Investigators: S. Stale / E. Botera

STORET Station Number: 33020140

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	N	N		60	1	N	N	
	2	N	N			2	N	N	
	3	N	N			3	N	N	
	4	N	N			4	N	N	
	5	N	N	29		5	N	N	96
	6	N	N			6	N	N	
	7	N	N			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
10	1	N	N		70	1	N	N	
	2	N	N			2	N	N	
	3	N	N			3	N	N	
	4	N	N			4	N	N	
	5	N	N	96		5	N	N	60
	6	N	N			6	N	N	
	7	N	N			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
20	1	N	N		80	1	N	N	
	2	N	N			2	N	N	
	3	N	N			3	N	N	
	4	N	N			4	N	N	
	5	N	N	94		5	N	N	96
	6	N	N			6	N	N	
	7	N	N			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
30	1	N	N		90	1	N	N	
	2	N	N			2	N	N	
	3	N	N			3	N	N	
	4	N	N			4	N	N	
	5	N	N	80		5	N	N	90
	6	N	N			6	N	N	
	7	N	N			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
40	1	N	N		100	1	N	N	
	2	N	N			2	N	N	
	3	N	N			3	N	N	
	4	N	N			4	N	N	
	5	N	N	90		5	N	N	96
	6	N	N			6	N	N	
	7	N	N			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
50	1	N	N			1	N	N	
	2	N	N			2	N	N	
	3	N	N			3	N	N	
	4	N	N			4	N	N	
	5	N	N	96		5	N	N	
	6	N	N			6	N	N	
	7	N	N			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	

Secchi depth 100
Estimated? N

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

Check accompanying data collected at same site/date.
Algal mat sample ☒
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon ☒
Water sample ☒
RQ-2017-06-05-47

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

SBIO ID: 77879

RPS ID: 8797

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%.

Storet Number: 33020140

Signature: _____

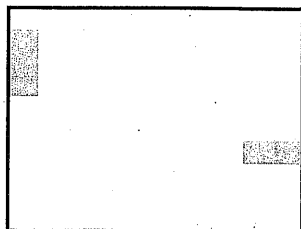
$22m^2 \text{ kg} \rightarrow 110 \text{ LHS}$

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.

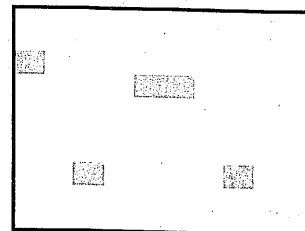
SBIO ID: <u>77879</u>		Meter Mark										Specimen collected (check)	Macro ID: <u>NA</u>		Meter Mark										Specimen collected (check)
HERBACEOUS SPECIES		0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100		HERBACEOUS SPECIES												
Alternanthera philoxeroides												Micranthemum glomeratum													
Bacopa caroliniana												Micranthemum umbrosum													
Bacopa monneri												Myriophyllum aquaticum													
Bidens mitis												Najas guadelupensis													
Boehmeria cylindrica												Nuphar													
Centella asiatica												Orontium aquaticum													
Cephalanthus occidentalis												Panicum hemitomon													
Ceratophyllum demersum												Panicum repens													
Chara												Panicum rigidulum													
Cicuta maculata												Pistia stratioides													
Cladium jamaicense												Polygonum glabra													
Colocasia esculenta												Polygonum hydropiperoides													
Crinum americanum												Polygonum punctatum													
Diodia virginiana												Pontedaria cordata													
Eichhornia crassipes												Potamogeton illinoensis													
Eleocharis (wispy viviparous)												Sacciolepis striata													
Fontinalis												Sagittaria kurziana													
Hydrilla verticillata												Sagittaria lancifolia													
Hydrocotyle												Sagittaria latifolia													
Hygrophila polysperma												Salix caroliniana													
Hymenocallis												Salvinia minima													
Itea virginica												Samolus parviflora													
Lachnanthes caroliniana												Saururus cernuus													
Landoltia punctata												Scirpus													
Lemna												Sparganium americanum													
Limnophila sessiflora												Typha													
Lobelia cardinalis												Vallisneria americana													
Ludwigia leptocarpa												Zizania aquatica													
Ludwigia palustris												Zizaniopsis milacea													
Ludwigia peruviana																									
Ludwigia repens																									
Luziola fluitans																									
				</																					

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

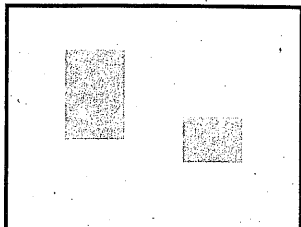
5% Macrophyte Coverage



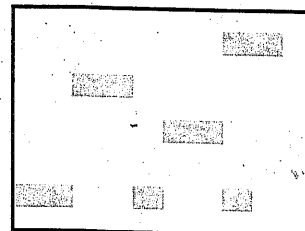
5% Macrophyte Coverage



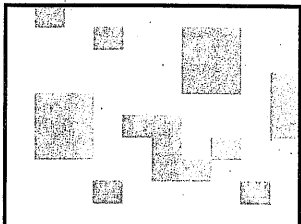
10% Macrophyte Coverage



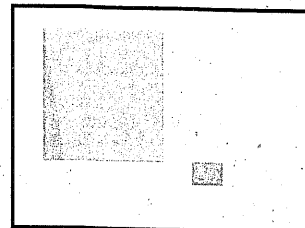
10% Macrophyte Coverage



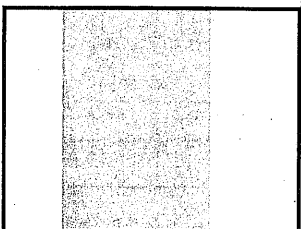
25% Macrophyte Coverage



25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage

