



Field Id:
Date:
Time:



G5NE0018 10122016

WATER PROTECTION
FIELD SHEET

PAGE ____ OF ____

Lake Vedra 0.25 above
Micklers Landing

Storet:



G5NE0018

Data Qualified?
Yes / No

Date: 10/12/2016
(mm/dd/yyyy)

STORET Station Name

STORET Station ID:

WBID: 2320B RQ-2016-10-03-29 ORG ID: 21 FLA

Latitude: 30.165839
(Decimal Degrees)

Longitude: 81.360071
(Decimal Degrees)

Receiving Body of Water: Guana River Field ID:

County: St. Johns Co.

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
N. Cole Frederick Pat O'Connor					X	X	X	X	X

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☒ Other ORTHO kit #1	
Equipment ID		
Collection Method		
☐ Wading From	☒ Via Boat	
☐ Shore	☒ Canoe/Kayak	
☐ Other (note below)	☐ Electric	
	☐ Motor	

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

Meter ID# Quanta Photos: Yes / No

Matrix: Fresh / Marine / DI

Tide Falling: Yes / No / ~~Yes~~

Time Zon	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk(m)	Sp COND (µmhos/cm)	Temp.(C°)
EST	1045	0.30	0.50	1.10	12.9	7.70	0.44	0.50	894	22.90
CEN								NOB		

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	6209120	07/27/17	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter <u>ORTHO #1</u>	☒ Ice	Place Preservative Sticker(s) Here (If Available)		
Chlorophyll	☒ CHL SUITE-W	☒ Ice			
BOD	☐ BOD-UNIN	☐ Ice			
Physical/Aggregate (Kit A)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-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 ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Notes: overcast - 5 days after Hurricane
windy Matthew. RPS/LVS/HA
Fast flow. High water level

Field Id:
Date:
Time:



G5NE0018 10122016

Lake Vedra 0.25 above
Micklers Landing

Storet:



G5NE0018

Signature: Nicole P.

Date: 10/12/16

Field Parameters Entered into LIMS: 10/12/16
(Initials/Date)

Field Parameters QC in LIMS: _____
(Initials/Date)

Date Migrated to STORET: _____
(Initials/Date)

Field Sheets Scanned/Saved: _____
(Initials/Date)

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

76974

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: G5NE0018	DATE (MM/DD/YY): 10/11/16	RECEIVING BODY OF WATER: GUANA River
REMARKS: <u>Flowing wetland</u>	COUNTY: St. Johns Co.	LOCATION: Lake Uedra of Duck Creek	FIELD ID/NAME: G5NE0018	

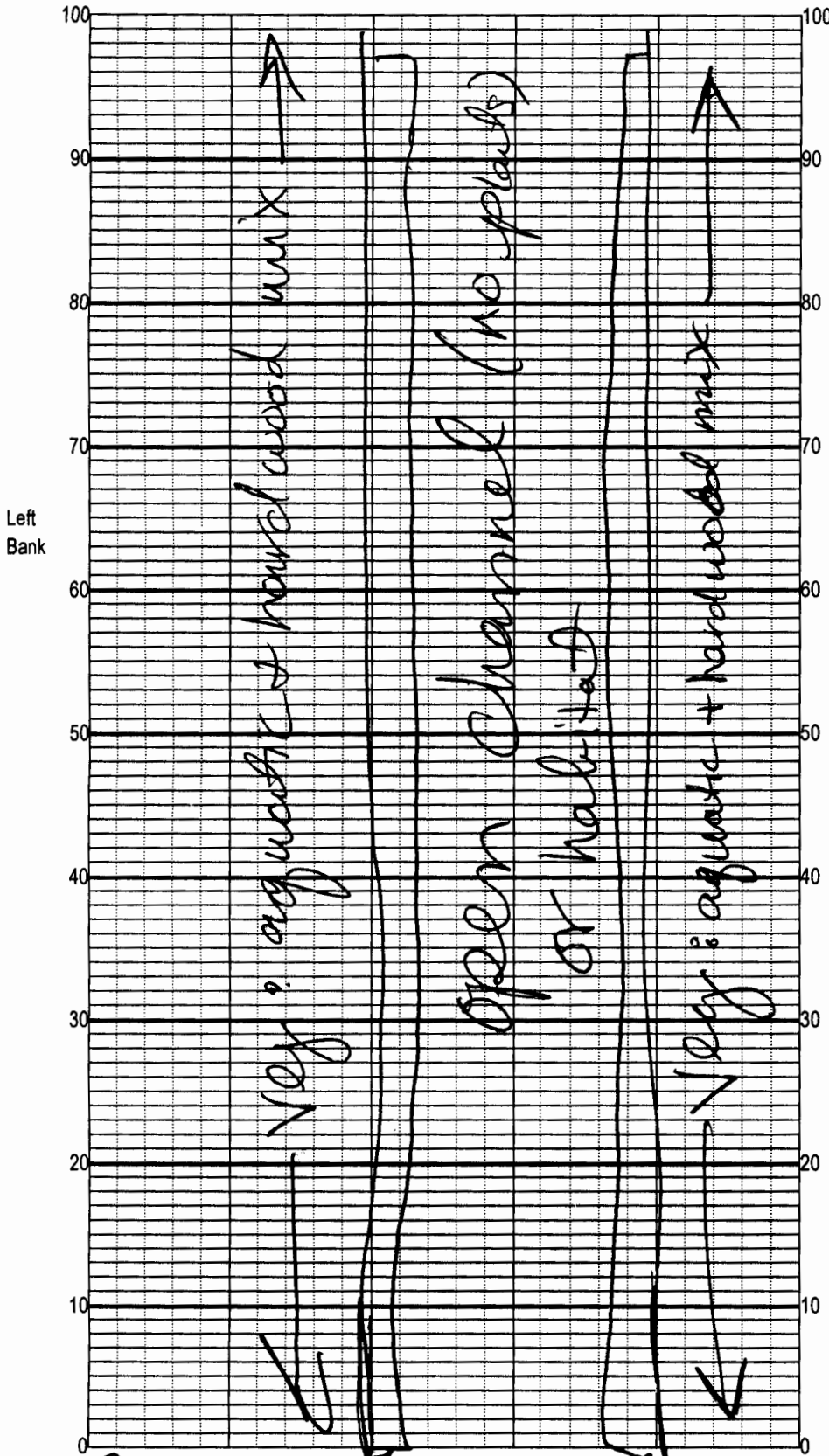
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>3</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 <u>3</u> 2 <u>1</u>
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>10</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 <u>10</u> 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>3</u> Primary Score <u>24</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 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 <u>3</u> 2 1
Secondary Habitat Components Artificial Channelization <u>3</u>	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 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 <u>3</u> 2 1
Bank Stability Right Bank <u>10</u> Left Bank <u>10</u>	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. <u>10</u> 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 root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 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 <u>8</u> Left Bank <u>8</u> Secondary Score <u>56</u> <u>59</u>	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. <u>8</u> 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

83 80 TOTAL SCORE

Date: <u>10/12/16</u>	Analyst: <u>D. Gomer, Fredrick</u>	Signature: <u>[Signature]</u>
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STREET: G5NE0018

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



Location: Lake Vedra ^{0.25 mi} above
Date: 10/11/16 ^{michers}
Sampler: NF/PO

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ Snags _____
☐ Roots/undercut banks _____
☐ Leaf Packs (or mats) _____
☒ Aquatic Macrophytes _____
☐ _____
☐ _____
☐ Pools total # observed = _____
range expected = _____

Average width 10-15 m
Average depth 0.5 m

Velocity measured at 90 meter mark.

WQ & chemistry taken at 100 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

2m of veg. along side
Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

62-160.800, F.A.C

2m of veg. along side
(100%) 6% - 15%
Veg coverage

Revision Date: March 1, 2014

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

G5NE0018

Waterbody: Lake Vadera 0.25m above Date: 10/11/14 County: St. John CO Storet Number:
Analyst: Pat O'Connor Micklers Signature: Patrick Micklers

Comments:

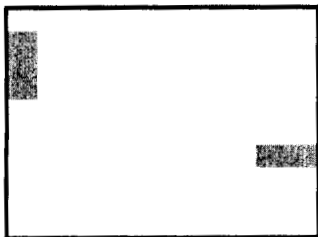
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

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												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum (D)	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD		Panicum hemitomon											
Chara												Panicum repens	X	X	X	X	X	X	X	X	X	X	
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense					X							Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hybridum (Hydrocotyle sp.)	X	X	X	X	X	X	X	X	X	X	
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle												Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha	X	X	X	X	X	X	X	X	X	X	
Ludwigia linearis octovalvis												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana												Mallin sp. H. coccineus	X	X	X	X	X	X	X	X	X	X	
Ludwigia repens												Salix sp.											
Luziola fluitans												polyrhizum sp. (Himno)	X	X	X	X	X	X	X	X	X	X	
Spartan Backer												Crusgali											
Nymphaea alata												Scheuchzeria palustris	X	X	X	X	X	X	X	X	X	X	
Nymphaea aquatica												Scirpus fluitans											
Water hyacinth												Cyperus fluitans	X	X	X	X	X	X	X	X	X	X	
→ AMARANTHIS sp												Hydrocotyle fluitans	X	X	X	X	X	X	X	X	X	X	
If no Dominant or Co-Dominant were selected, indicate with "X"												FLUITANS											
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage												Aster caroliniana	X	X									
>5 and ≤10% Macrophyte Coverage												Eleocharis fluitans											
>10 and ≤25% Macrophyte Coverage												Hydrocotyle fluitans											
>25 and ≤50% Macrophyte Coverage												Hydrocotyle fluitans											
>50% Macrophyte Coverage												Hydrocotyle fluitans											

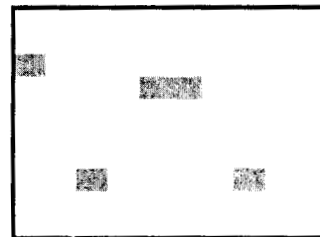
Snail: planorbella

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

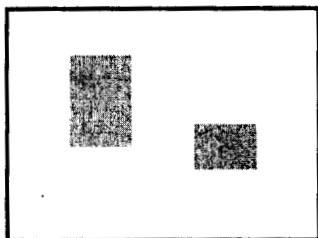
5% Macrophyte Coverage



5% Macrophyte Coverage



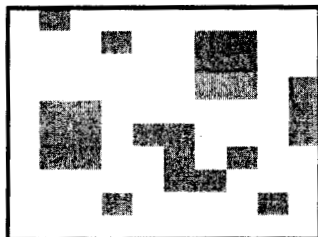
10% Macrophyte Coverage



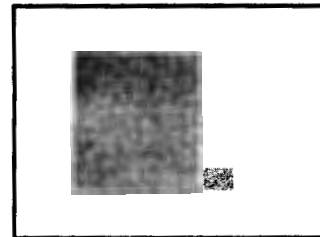
10% Macrophyte Coverage



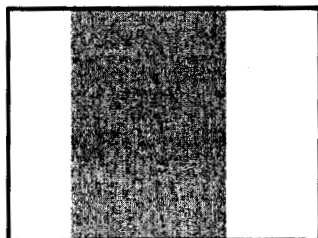
25% Macrophyte Coverage



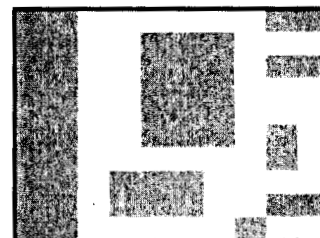
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



76974

PLS 8379

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:					County:		Date:		Investigators:	
Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	STORET Station Number:
0	1	2	N		60	1	2	N		Secchi depth Estimated?
	2	2				2	2			
	3	2				3	X			
	4	X				4	X			
	5	X		0		5	X		0	
	6	X				6	X			
	7	X				7	X			
	8	X				8	2			
	9	2				9	2			
10	1	2			70	1	2			# points ranked 4-6 total points assessed % points ranked 4-6
	2	2				2	2			
	3	X				3	X			
	4	X		0		4	X		0	
	5	X				5	X			
	6	X				6	X			
	7	2				7	X			
	8	2				8	2			
	9	2				9	2			
20	1	2			80	1	2			Check accompanying data collected at same site/date. Algal mat sample Linear Veg Survey Habitat Assessment SCI/Biorecon Water sample RQ-
	2	2				2	2			
	3	2				3	X			
	4	X		0		4	X		0	
	5	X				5	X			
	6	X				6	X			
	7	2				7	X			
	8	2				8	2			
	9	2				9	2			
30	1	2			90	1	2			Algal Thickness Rank
	2	2				2	2			
	3	2				3	X			
	4	X		0		4	X		0	
	5	X				5	X			
	6	X				6	X			
	7	2				7	X			
	8	2				8	2			
	9	2				9	2			
40	1	2			100	1	2			N rough, no algae, slimy, algae up to 1mm 3 >1mm - 6mm 4 >6mm - 20mm 5 >20mm - 10 cm 6 >10 cm
	2	2				2	2			
	3	2				3	X			
	4	X		0		4	X		0	
	5	X				5	X			
	6	X				6	X			
	7	2				7	X			
	8	2				8	2			
	9	2				9	2			
50	1	2			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	2								
	3	2								
	4	X		0						
	5	X								
	6	X								
	7	2								
	8	2								
	9	2								

76974 DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21 FLA LATITUDE 30.165839
 COUNTY St. Johns Co. STORET # G5NE0018 LONGITUDE 81.361071
 DATE 10/11/16 TIME 1045 SAMPLING AGENCY NE ROC
 SITE NAME Lake Uebbia 0.25m above mucklers
 FIELD ID/NAME G5NE0018 RECEIVING BODY OF WATER Guana River

RIPARIAN ZONE / STREAM FEATURES

Meter ID: DEP# 143734

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☒ <u>golf course 10%</u>								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>10-15</u> m wide <u>0.10</u> m/s <u>0.10</u> m/s <u>0.10</u> m/s <u>0.5</u> m deep <u>0.5</u> m deep <u>0.5</u> m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718m</u> Right Bank: <u>718m</u>				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: <u>0.5</u> + <u>0.2</u> = <u>0.70</u> <u>0.10</u> Artificially Impounded (m) (above present water level) (present depth) (above bed) ☒ 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 <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>0.35</u></td> </tr> <tr> <td>Mid:</td> <td><u>0.50</u></td> <td><u>22.90</u></td> <td><u>7.70</u></td> <td><u>1.10</u></td> <td><u>12.9</u></td> <td><u>894</u></td> <td><u>0.44</u></td> <td><u>0.50</u></td> </tr> <tr> <td>Bottom:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:								<u>0.35</u>	Mid:	<u>0.50</u>	<u>22.90</u>	<u>7.70</u>	<u>1.10</u>	<u>12.9</u>	<u>894</u>	<u>0.44</u>	<u>0.50</u>	Bottom:								
	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)																																	
Top:								<u>0.35</u>																																	
Mid:	<u>0.50</u>	<u>22.90</u>	<u>7.70</u>	<u>1.10</u>	<u>12.9</u>	<u>894</u>	<u>0.44</u>	<u>0.50</u>																																	
Bottom:																																									
Woody Debris (Snags) ☐ <u>N/A</u> <u>N/A</u> Undercut Banks / Roots ☐ <u>N/A</u> <u>N/A</u> Leaf Packs or Mat ☐ <u>N/A</u> <u>N/A</u> Aquatic Vegetation ☐ <u>10</u> <u>N/A</u> <u>N/A</u> Rock or Shell Rubble ☐ <u>N/A</u> <u>N/A</u> Sand ☐ <u>N/A</u> <u>N/A</u> Mud / Muck / Silt ☐ <u>N/A</u> <u>N/A</u> Other ☐ <u>N/A</u> <u>N/A</u> Other ☐ <u>N/A</u> <u>N/A</u>		System Type: ☒ Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐ <u>Flowing wetland</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: _____																																							
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☐ ☐ ☐ ☒		Water Surface Oils Normal ☐ Sheen ☐ Globbs ☐ Slick ☐ Other ☒ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐																																							
		AMBIENT FIELD CONDITIONS / NOTES: <u>Flowing wetland</u> 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 <u>N Fredrick, P O'Connor</u>		SIGNATURE: <u>[Signature]</u>																																							