



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PLAN FIELD SHEET

January 2020

Meter Passed End
of Day CCV
☒ Yes / ☐ No

WIN Station Name: Soldier Creek @ 150m Upstream of SR Hwy 419

Date: 11/30/2021

WIN/Field ID: G2CE0071

WBID: 2986

ENR: -

Latitude: 28.719

County: SEMINOLE

Org ID: 21FLCEN

Longitude: -81.31

Receiving Body of Water: Middle St. Johns

RQ- 2021-11-08-07

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Elizabeth Bates	x	x	x	x	x
☒	Leif Boman	x	x	x	x	x
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: Knothead	
Collection Method	
☒ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# CRAW DADDY					
Photos: YES		Flow: FLOW		Tide:		Tide Times: High: Low:					
Biological Samples Collected: ☐ None ☒ HA ☒ SCI ☒ RPS ☐ Algae ID ☐ LVS ☐ LVI Other:											
SBIO ID Numbers: SBIO Visit ID: 83610 RPS 9831						LIMS 2291877					
Notes:											

Duplicate Sample

Time Zone: EST	Time: _____	Field ID: _____ (WIN ID_DUP)
WIN DMT Activity ID: _____		

Blank

Time Zone: _____	Time: _____	Field ID: _____ (Blank Type_DDDMMYYY)
DI Source: _____	Location: _____	
DI Type: _____	Equipment ID: _____	
DI Container (Name/ID):		DI Container Type:

LIMS EVENT ID: CEN-DIST-2021-12-01-01

WIN Import ID: 31296

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 12/8/21

QC Station ID, Field Parameters In LIMS DMT: EB 12/9/21

(Initials/Date)

(Initials/Date)

Scan/Save Field Sheets KWM 3/1/22

Migrate Data to WIN: KWM 3/1/22

Verify Data In WIN: _____

(Initials/Date)

(Initials/Date)

(Initials/Date)



RQ-2021-11-08-07

Customer: WQAP

Project ID: SMP

Collected By: Elizabeth Bates, Leif Boman

Field Report Prepared By: Elizabeth Bates

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G2CE0071

Location: Soldier Creek @ 150m Upstream of SR Hwy 419

Comments: MCAA BUFFER SOL. 118437 EXP 2/9/22

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT)		
	1100 EST	8.69	85.8	14.8	7.15	0.2	0.4 ☒ VOB (S)	0.4	236.9	0.11		
11/30/2021												
	EST											
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group		
Preserved Nutrients (P-500ML)		☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4*		☒ <2	1	A		
		Lot #	SA1105060		Exp:	4/30/22						
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☒ HNO3*		☒ <2	1	A		
		Lot #	NA1105100		Exp:	6/7/22						
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A		
		Filter Lot #	17135566									
		Syringe Lot #	1112035									
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A		
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice			1	A		
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY				☐ Ice						
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC	Formalin Lot #	10.50911HN		☒ Formalin			2	B		
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice						
Microbiology (Contract Lab Bottle)		☒ E Coli ☐ F Coli ☐ Enterococci				☒ Ice			1	A		
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3				☐ Ice						
		☐ PCR-GULL2 ☐ PCR-GFD ☐				☐ Ice						
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice						
Pesticides (BG-500ML) (BG-1L)		☒ W-E8321-DI	☒ W-E8321-MS	☒ W-PSNP-TQ	☒ W-CT-CL-R	☒ Ice			10	A		
Phytoplankton/Periphyton		☒ W-PCL-TQ-R ☒ W-CARB-AA (5 ml of MCAA** Buffer Solution)				☐ Ice						
		☐ DTY-QN-C ☐ PKD-QN-BV				☐ Ice						
Name: Elizabeth Bates Leif Boman					Signature:				Date: 11/30/21			

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

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

SAMPLE ID 2021-11-08-07 ORG ID _____ LATITUDE 28.719
 COUNTY Seminole STORET # GRCE0071 LONGITUDE -81.31
 DATE 11/30/21 TIME 11:00 SAMPLING AGENCY 21PLCEN
 SITE NAME Soldier Creek @ 150m Upstream of SR Hwy 419
 FIELD ID/NAME GRCE0071 RECEIVING BODY OF WATER Middle St Johns

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>50</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential <u>20</u> Commercial _____ Industry _____ Other (Specify) <u>road/park/bike trails</u> <u>30</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 _____ m wide <u>3</u> m wide _____ m/s <u>0.21</u> m/s _____ m/s _____ m deep <u>0.4</u> m deep _____ m deep				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18</u> Right Bank: <u>>18</u>				Hydrologic Modification Score (per FT 3101) _____				
High Water Mark: <u>.4</u> + <u>.4</u> = <u>.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): <u>N/A</u>			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>14.8</u> <u>7.15</u> <u>8.69</u> <u>85.8</u> <u>236.9</u> <u>0.11</u> <u>0.4</u> Mid: _____ Bottom: _____ Meter ID: <u>Crow Daddy</u>					
Woody Debris (Snags) <u>10</u> <u>7</u> _____ Undercut Banks / Roots <u>3.3</u> <u>7</u> _____ Leaf Packs or Mat <u>2.6</u> <u>6</u> _____ Aquatic Vegetation _____ Rock or Shell Rubble.. _____ Sand..... _____ Mud / Muck / Silt _____ Other _____ Other _____			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐		
Other _____ Other _____			Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		
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 <u>h2Bates, Leif Boman</u>			SIGNATURE: <u>[Signature]</u>			DATE: <u>11/3</u>		

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Soldiers Creek @ 150m Upstream of SR HWY					County: Seminole		Date: 11/30/2021		Investigators: Elizabeth Bates, Leif Boman	
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	STORET Station Number: G2CE0071
0	1	3	NO	96	60	1	4	NO	96	
	2	N	NO			2	3	NO		
	3	4	NO			3	N	NO		
	4	5	NO			4	N	NO		
	5	5	NO			5	N	NO		
	6	5	NO			6	N	NO		
	7	5	NO			7	N	NO		
	8	4	NO			8	3	NO		
	9	3	NO			9	4	NO		
10	1	3	NO	96	70	1	3	NO	95	
	2	3	NO			2	3	NO		
	3	N	NO			3	4	NO		
	4	N	NO			4	3	NO		
	5	N	NO			5	3	NO		
	6	N	NO			6	3	NO		
	7	N	NO			7	3	NO		
	8	3	NO			8	N	NO		
	9	3	NO			9	N	NO		
20	1	3	NO	95	80	1	3	NO	96	
	2	3	NO			2	3	NO		
	3	N	NO			3	N	NO		
	4	N	NO			4	N	NO		
	5	N	NO			5	N	NO		
	6	N	NO			6	N	NO		
	7	N	NO			7	3	NO		
	8	N	NO			8	4	NO		
	9	N	NO			9	4	NO		
30	1	3	NO	96	90	1	3	NO	96	
	2	3	NO			2	3	NO		
	3	N	NO			3	N	NO		
	4	N	NO			4	N	NO		
	5	N	NO			5	N	NO		
	6	N	NO			6	N	NO		
	7	N	NO			7	N	NO		
	8	3	NO			8	N	NO		
	9	N	NO			9	3	NO		
40	1	3	NO	96	100	1	3	NO	96	
	2	3	NO			2	3	NO		
	3	N	NO			3	N	NO		
	4	N	NO			4	N	NO		
	5	N	NO			5	4	NO		
	6	N	NO			6	4	NO		
	7	3	NO			7	N	NO		
	8	3	NO			8	3	NO		
	9	3	NO			9	3	NO		
50	1	3	NO	96		1	3	NO		
	2	3	NO			2	3	NO		
	3	N	NO			3	N	NO		
	4	N	NO			4	N	NO		
	5	N	NO			5	N	NO		
	6	N	NO			6	N	NO		
	7	3	NO			7	N	NO		
	8	N	NO			8	3	NO		
	9	3	NO			9	3	NO		

Secchi depth 0.4

Estimated? NO

points ranked 4-6 13

total points assessed 99

% points ranked 4-6 13

Check accompanying data collected at same site/date.

Algal mat sample

Linear Veg Survey

Habitat Assessment X

SCI/Biorecon X

Water sample X

RQ-2021-11-08-07

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 densimeter 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%.

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

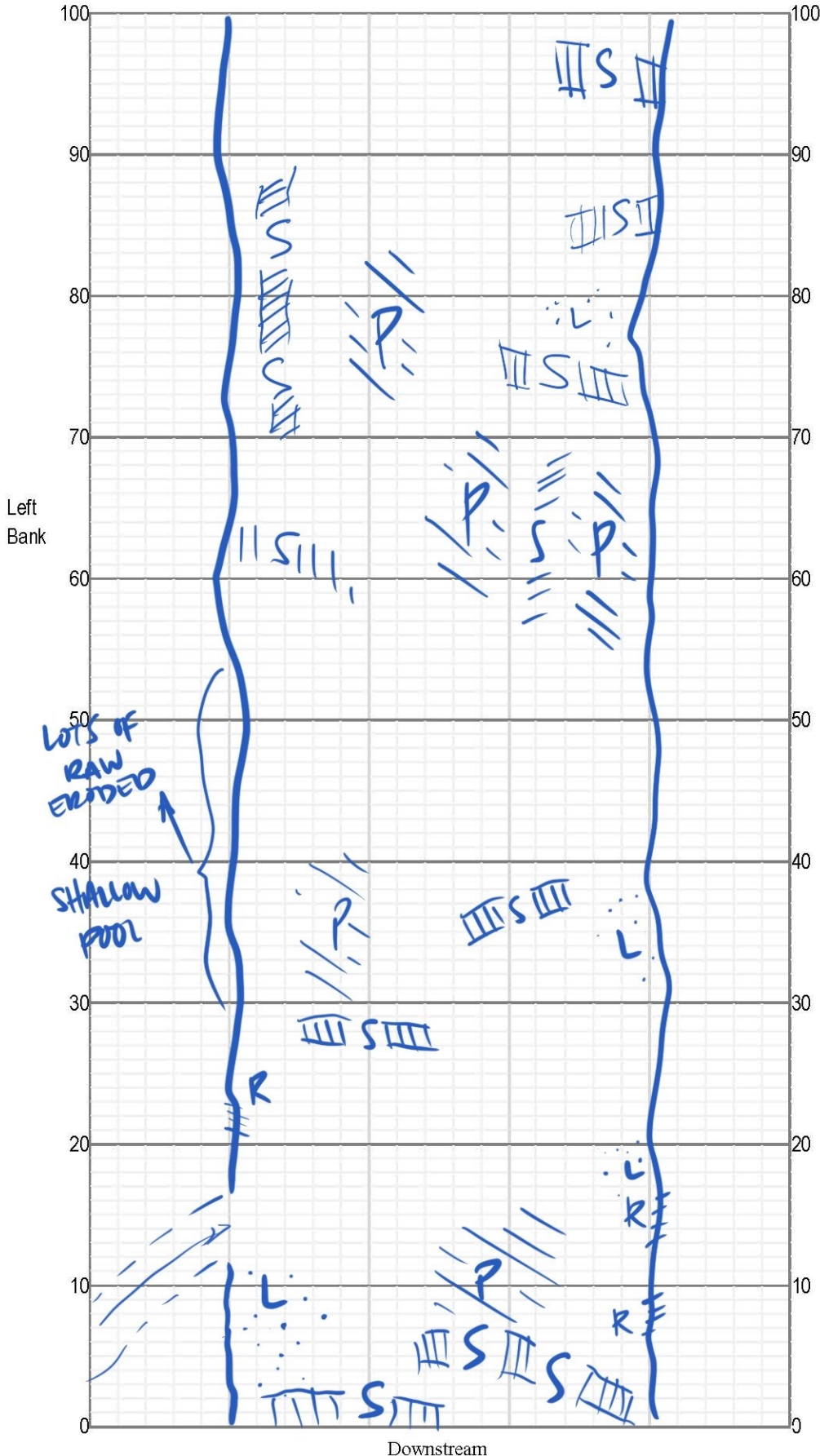
SAMPLING AGENCY: <u>FDAP - WROC</u>		STORET STATION NUMBER:	DATE (MM/DD/YY): <u>11/30/21</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Seminole</u>	LOCATION: <u>SOLDIER CREEK</u>	FIELD ID/NAME:	

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>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>11</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>14</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>17</u> Primary Score <u>49</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 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 or straightening 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>9</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 woody 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 woody root zone with raw, eroded areas.
Right Bank <u>5</u> Left Bank <u>5</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>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>5</u> Left Bank <u>5</u> Secondary Score <u>49</u>	10 9	8 7 6	5 4	3 2 1

98 TOTAL SCORE

Date: <u>11/30/2021</u>	Analyst: <u>Leif Boman, Liz Bates</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: Soldier Creek
Date: 11/30/2021
Sampler: Lief Boman, Liz Bates

100 m: Latitude _____	Longitude _____
0 m: Latitude _____	Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %	
Snags	<u>10</u>
Roots/undercut banks	<u>3.3</u>
Leaf Packs (or mats)	<u>2.6</u>
Aquatic Macrophytes	_____
<u>pools</u>	_____
_____	_____
Pools	total # observed = <u>4-5</u> # range expected = _____
Average width <u>3</u> m	
Average depth <u>.4</u> m	
Velocity measured at <u>0.50</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:

[illegible]