FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN FIELD SHEET

January 2022

Meter Passed End of Day CCV Yes / No

WIN Station Name: Sixteen Mile Creek at Ashley St. **Date:** 4/19/2022

WIN/Field ID: 20030688 **WBID:** 2589 **ENR:** - **Latitude:** 29.67

County: ST. JOHNS **Org ID:** 21FLA **Longitude:** -81.46

Receiving Body of Water: Deep Creek **RQ-** 2022-04-18-15

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
[x] Jeremy Parrish		x		x	x
[x] Katrin Villinger	x		x		
[ ]					
[ ]					

Sampling Equipment

- [x] Sample Container
- [ ] Dipper
- [ ] Syringe
- [ ] Carboy
- [ ] Van Dorn
- [x] Pole

Depth measured with: Meter

Secchi Equipment ID:

Collection Method

- [ ] Wading
- [ ] From Shore
- [ ] Other _____
- [x] Canoe/Kayak
- [ ] Electric Motor
- [ ] Gasoline Motor

Water Level: [x] Normal [ ] Low [ ] High [ ] Dry [ ] Pooled [ ] Flooded

Meter ID# DESI

Photos: YES **Flow:** FLOW **Tide:**

Tide Times: High: Low:

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

SBIO ID Numbers:

Notes:

SUNNY / SCI COLLECTION TIME: 1145

Duplicate Sample

Time Zone: EST **Time:** **Field ID:** N/A (WIN ID_DUP)

WIN DMT Activity ID:

Blank

Time Zone: EST **Time:** 1150 **Field ID:** FB_04192022 (Blank Type_DDMMYYYY)

DI Source: NE ROC **Location:** Sixteen Mile Creek @ Ashley St.

DI Type: Field Blank **Equipment ID:**

DI Container (Name/ID): Car Man **DI Container Type:** Carboy

LIMS EVENT ID: **WIN Import ID:**

Enter Field Parameters, Verify Station ID In LIMS DMT: (Initials/Date) **QC Station ID, Field Parameters In LIMS DMT:** (Initials/Date)

Scan/Save Field Sheets (Initials/Date) **Migrate Data to WIN:** (Initials/Date) **Verify Data In WIN:** (Initials/Date)

RQ-2022-04-18-15
Customer: NE-DIST
Project ID: STRATEGIC MONITORING PLAN

Collected By: Jeremy Parrish, Katrin Villinger
Field Report Prepared By: Jeremy Parrish
Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID: 20030688

Location: Sixteen Mile Creek at Ashley St.

Comments:

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 (PPTh)
	1145 EST	6.3	73.9	23.2	7.27	0.3	0.65 ☐ VOB (S)	0.743	715	0.35
4/19/2022							Central Lab please use top row for login purposes			
	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 ☒ H_2SO_4*	☒ <2	1	A
	Lot # SA1105060 **Exp:**	4/30/22			
Metals (P-500ML)	☒ W-ICPMS ☒ W-ICP ☒ W-HARD	☒ Ice ☒ HNO_3*	☐ <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 # R1eb01329	**Syringe Lot#**			
Biochemical Oxygen Demand (BP-1L)	**BODTEST** OV-BODUNIN	ICE			
Chlorophyll (BP-1L)	☒ CHLSUITE-W	☒ Ice		1	A
Physical/Aggregate (Fresh) (P-1L)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-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 #** 8280122TR	☒ Formalin		2	B
Periphyton (PT-50ML)	☐ ALGAE-ID	☐ Ice			
Microbiology (Contract Lab Bottle)	☒ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab	☒ Ice		1	A
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers (BG-500ML)	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice	MCAA Exp. Date		
Pesticides (BG-500ML) (BG-1L)	☒ W-E8321-DI ☒ WE8321-MS ☒ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-PCL-TQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution) ☒ W-TR-SQ-R ☐ W-PCB-TQ-R	☒ Ice	MCAA Lot#	4	A
Phytoplankton/Periphyton	☐ DTY-QN-C ☐ PKD-QN-BV	☐ Ice			

Name:
Jeremy Parrish
Katrin Villinger

Signature: Jeremy Parrish

Date: 04/19/2022

*2.0 ml of Preservative used unless noted otherwise.
**MCAA: Monochloroacetic acid buffer solution

83956

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

Waterbody: Sixteen Mile Creek Ashley St Date: 11/19/22 County: St Johns Storet Number: 20030688

Analyst: Jerry Parks / K Kruse Signature: [signature]

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 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	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides	P	P	P	P	P	P	P	D	D	D	
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Commelina diffusa											
Commelina virginica											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes								P	P	P	
Eleocharis (wispy viviparous)											
Hydrilla verticillata											
Hydrocotle	P	P	P	P	P	P	P				
Hygrophila polysperma											
Hymenocallis											
Lachnanthes caroliniana											
Landoltia punctata	P										
Lemna	P	P	P	P	P	P	P	P	P	P	
Limnophila sessiflora											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage							P			P	
>5 and ≤10% Macrophyte Coverage								P	P		
>10 and ≤25% Macrophyte Coverage		P			P	P					
>25 and ≤50% Macrophyte Coverage	P		P	P							
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum	P								P	P	
Najas guadelupensis											
Nuphar luteum	D	D	P	P	D	D					
Orontium aquaticum											
Panicum hemitomon	P										
Panicum repens	P	P	P	P	P	P	P	P	P	P	
Panicum rigidulum											
Pistia stratioides	P				P	P		P	P	P	
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Ruellia simplex											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salvinia minima	P	P	P	P	P	P		P	P	P	
Samolus parviflora											
Saururus cernuus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Rumex Verticillatus	P	P	P	P	P	P	P	P	P	P	
Zizania miliacea	P		P	P	P		P	P	P		
Cyperus ~~alternifolius~~ distinctus	P					P	P				

83956

GPS 9911

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:	County:	Date:	Investigators:
S. Keendale @ Ashley St.	Escambia	4/19/22	J Pinn

STORET Station Number: 21FLA20030688

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
10	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
20	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
30	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
40	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
50	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N	✓	
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
70	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
80	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
90	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9			
100	1			
	2			
	3			
	4			
	5			0
	6			
	7			
	8			
	9	N	✓	

Secchi depth	0.65
Estimated?	

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	
Habitat Assessment	
SCI/Biorecon	
Water sample	

RQ- 2022-04-18-15

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 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%.

8456

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

SAMPLE ID _____ ORG ID 21FLA LATITUDE _____

COUNTY St Johns STORET # 20030688 LONGITUDE _____

DATE 4/19/22 TIME 1145 SAMPLING AGENCY _____

SITE NAME Sixteen Mile at Ashley St. RQ-2022-04-158 04-18-15

FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

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

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: 66 Right Bank: 66

Hydrologic Modification Score (per FT 3101)

High Water Mark: 0.5 (m) + 0.7 (above present water level) = 1.2 (present depth) (above bed)

Artificially Impounded ☒ Yes ☐ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

15 m wide

m/s	0.12 m/s	m/s
m deep	0.7 m deep	m deep

Artificially Channelized: ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☒ 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

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☒	☐	☐
Silt Smothering:	☐	☒	☐	☐
Algae Smothering:	☐	☒	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation	15	10	
Rock or Shell Rubble..			
Sand.....	15	4	
Mud / Muck / Silt	70	6	
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:								0.65
Mid:	0.3	23.2	7.27	6.3	73.9	715	0.35	TOTAL DEPTH
Bottom	0.6 0.74							

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

Water Odors ☒ Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other

Water Surface Oils ☒ Normal ☐ Sheen ☐ Globs ☐ 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:	☐	☒	☐	☐

AMBIENT FIELD CONDITIONS / NOTES:

Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10

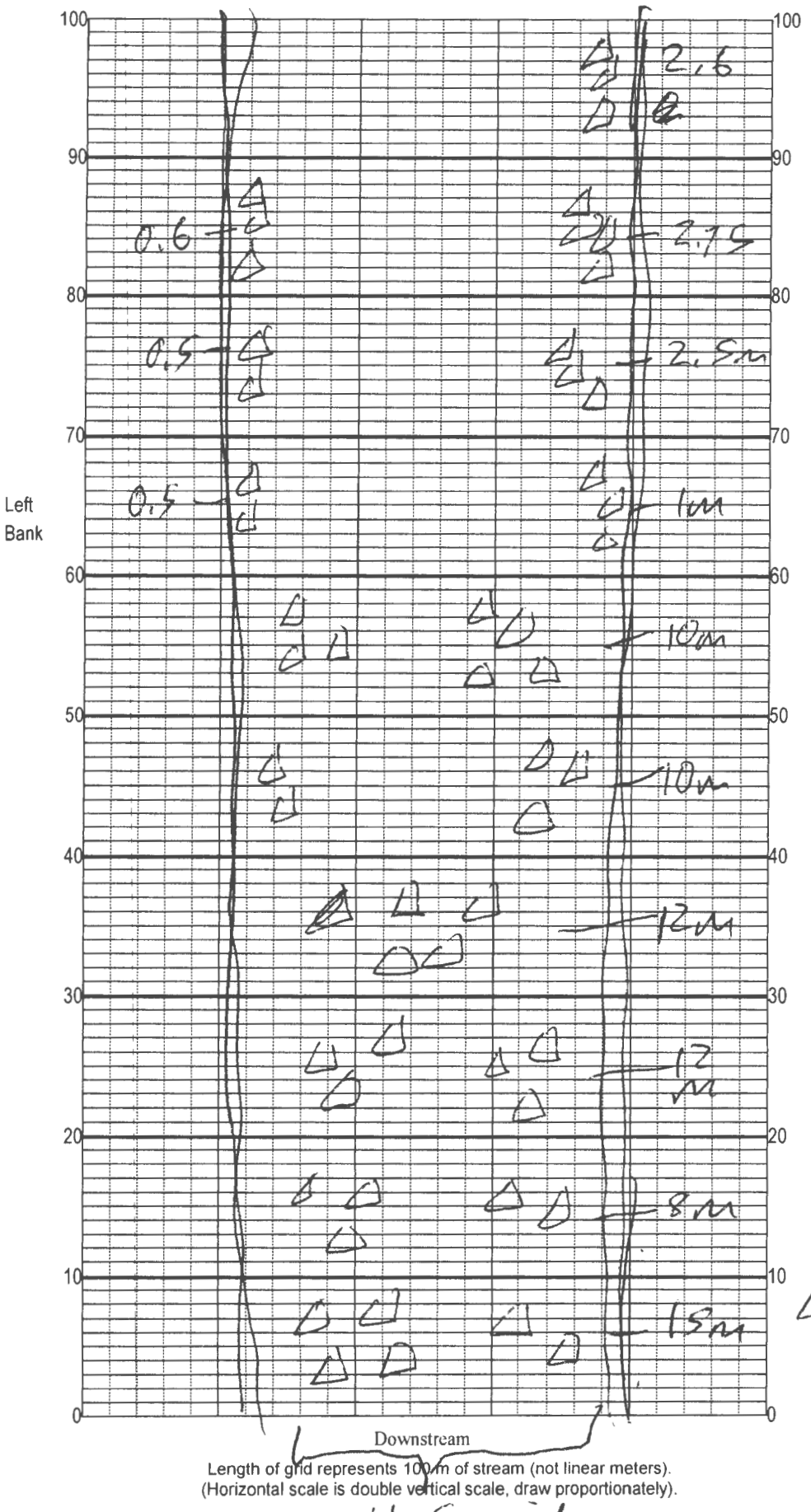
☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM John / K. Wilson SIGNATURE: _____ 4/19/22

62-160.800, F.A.C.

Revision Date: March 1, 2014

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).

4.5m wide

Location: Sixteen mile creek @ Ashley St.

Date: 4/19/22

Sampler: JF

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	16
Pools	total # observed = ___ # range expected = ___
Average width 4.5 m Average depth 0.7 m	
Velocity measured at 50m meter mark.	
WQ & chemistry taken at 90 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

$\Delta = 3.4 + 3.5 + 10 + 10 + 10 + 12 + 12 + 5 + 15 \approx 75m$

83956

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

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 21030688	DATE (MM/DD/YY): 4/19/22	RECEIVING BODY OF WATER: Deep creek
REMARKS:	COUNTY: St Johns Co.	LOCATION: Sixteen Mile creek Ashley St.		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 3	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	*One or less* major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 (3) 2 1
Substrate Availability 11	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 11	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 5 Primary Score 30	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 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 3 Left Bank 3	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 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 3 Left Bank 3	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	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 21	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). (3) 2 1

51 **TOTAL SCORE**

Date: 4/19/22	Analyst: Jerry Penn	Signature: Jerry Penn