



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Apalachicola River .8 miles upstream Owl Creek

Date: 8-8-19

WIN/ Field ID: G2TLHR0042

WBID: 375D

Latitude: 29.9822

(mm/dd/yyyy)

County: Liberty/Gulf

ORG ID: 21FTLHR

Longitude: 85.0272

(Decimal Degrees)

Receiving Body of Water: Inter-coastal/Gulf of Mexico

RQ: 2019-07-01-51

(Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
<u>Jade Bertchett</u> <u>Chris Green</u>					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☐ Syringe			
										☐ Dipper	☐ Other			
										Depth Measured with <u>Pro DSS</u>				
										Equipment ID <u>153484</u>				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☒ Gasoline Motor			
Water Level: Dry / Pooled / Low / <u>Normal</u> / High / Flooded					Meter ID# <u>153484</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: <u>Yes</u> / No		Flow: No Flow / Intertidal / <u>Flowing</u> / NA			Tide: Rising / Falling / Slack / <u>NA</u>					Tide Times: High / Low				
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)				
EST	<u>1130</u>	<u>12.1</u>	<u>6.3</u>	<u>1.0</u>	<u>6.16</u>	<u>81.6</u>	<u>6.97</u>	<u>0.06</u>	<u>133.1</u>	<u>30.0</u>				
CEN	<u>1130</u>		<u>10.0</u>		<u>6.14</u>	<u>81.3</u>	<u>6.88</u>	<u>0.06</u>	<u>131.2</u>	<u>30.0</u>				
Biological Samples Collected: None <u>NA</u> SCI <u>RPS</u> Algae ID <u>LVS</u> LVI Other:														
SBIO ID Numbers:		SBIO-ID:		HA-ID:		RPS-ID:		Macrophyte-ID:		LIMS#:				
Parameter Suite		Parameter Methods				Preservation		Lot#	Expiration	pH Check				
Preserved Nutrients		☐ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP				☒ Ice ☒ H2SO4		<u>SA 9010030</u>	<u>4-10-20</u>	☒ <2				
Metals		☐ W-ICPMS ☐ W-ICP				☒ Ice ☒ HNO3		<u>NA 9099030</u>	<u>4-9-20</u>	☒ <2				
Filtered Nutrients		☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter				☒ Ice								
Chlorophyll		☐ CHLSUITE-W				☒ Ice								
Physical/Aggregate (Fresh)		☐ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS				☒ Ice								
Physical/Aggregate (Marine)		☐ Alkalinity / W-BR-IC / 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-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ 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 ☐ WE8321-MS ☐ W-CARB-AA				☐ Ice								
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C				☐ Ice								
Notes: <u>Pro DSS cord 10 meters</u>														
Place Label Here														
Signature: <u>[Signature]</u>										Date: <u>8-8-19</u>				

LIMS EVENT ID:

WIN Import ID:

Enter Field Parameters, Verify Station ID in LIMS DMT:

QC Station ID, Field Parameters in LIMS DMT:

Scan/Save Field Sheets CB 8-9-2019

Migrate Data to WIN: (Initials/Date)

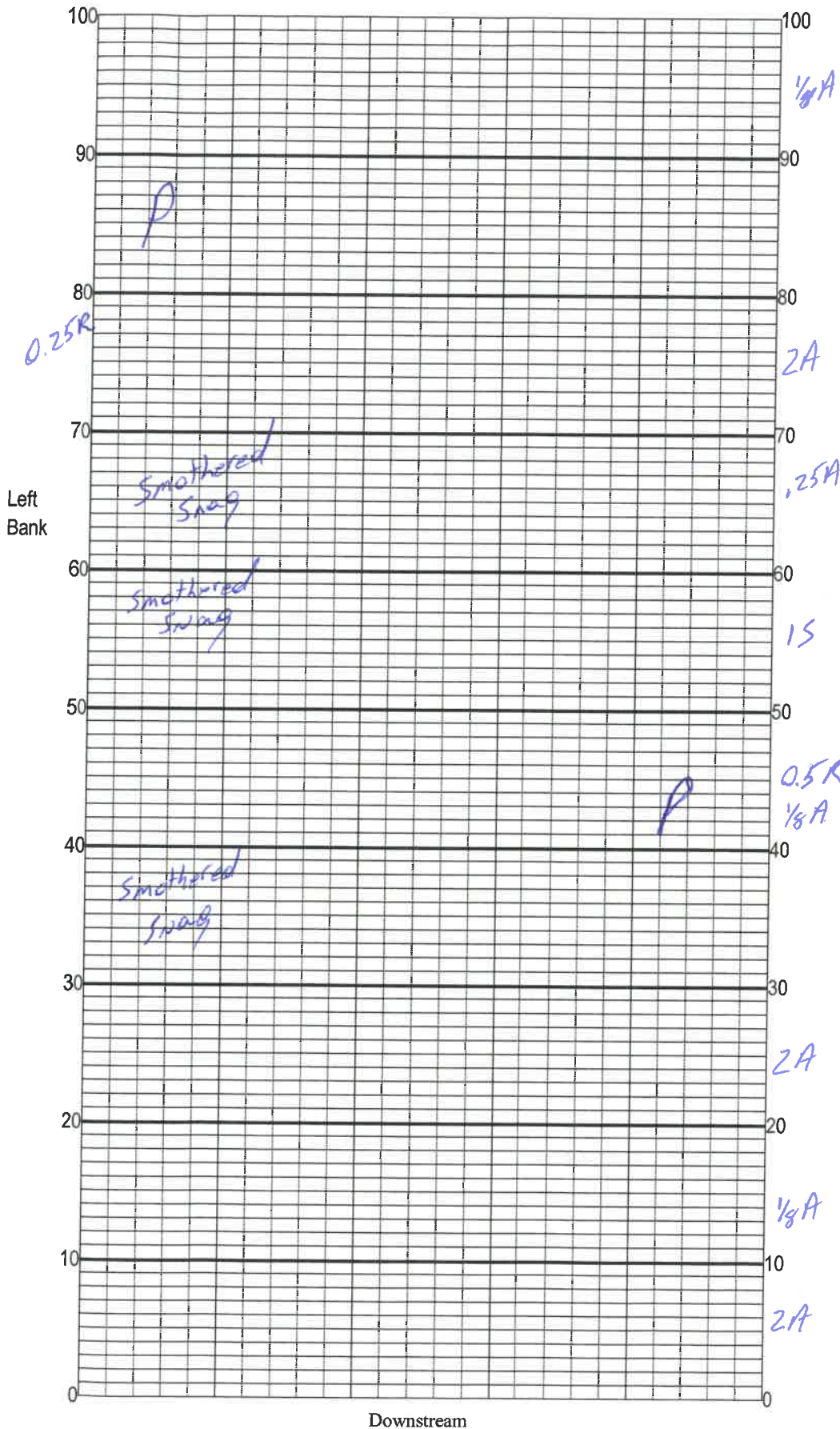
Verify Data in WIN: (Initials/Date)

(Initials/Date)

(Initials/Date)

(Initials/Date)

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: Apalachicola River
G2TLHR0042
Date: 8-8-2019
Sampler: Chris Green

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	
Substrates: Code key, draw proportionate habitat abundance. %	
<u>S</u> Snags	<u>0.001</u>
<u>R</u> Roots/undercut banks	<u>0.00075</u>
<u>L</u> Leaf Packs (or mats)	<u>0.007</u>
<u>A</u> Aquatic Macrophytes	<u>0.007</u>
<u>Q</u> <u>rock</u>	<u>0</u>
<u>P</u> Pools	total # observed = <u> </u> # range expected = <u> </u>
Average width <u>100</u> m	
Average depth <u>12.1</u> m	
Velocity measured at <u>0.5</u> meter mark.	
WQ & chemistry taken at <u>50</u> meter mark.	
Habitat Smothering: <u>sand</u> Note areas (on map) where sand or silt is smothering substrates, limiting habitability.	
Bank Stability: <u>++</u> Note areas (on map) with unstable, eroding banks.	
Riparian Buffer Width: <u>>18m</u> Note areas (on map) where natural vegetation is altered or eliminated.	

Plants observed / other notes:

S - 0.001
R - 0.00075
L - 0
A - 0.007

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

SAMPLE ID _____ ORG ID 21FTLHR LATITUDE _____
COUNTY Liberty/Gulf STORET # 62TLHR0042 LONGITUDE _____
DATE 8-8-2019 TIME 11:00 SAMPLING AGENCY FDEP 8034/21FTLHR
SITE NAME Apalachicola River 0.8 miles upstream Owl Creek
FIELD ID/NAME 62TLHR0042 RECEIVING BODY OF WATER Gulf of Mexico

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>100</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential _____ 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>100</u> m wide				
Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy								
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>3.5</u> + <u>12.1</u> = <u>15.6</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) <u>0.3</u> Temp. (°C) <u>30.0</u> pH (SU) <u>6.97</u> D.O. (MG/L) <u>6.16</u> D.O. Sat (%) <u>81.6</u> Cond. (UMHO/CM) <u>133.1</u> Salinity (PPT) <u>0.06</u> SECCHI (M) <u>1.0</u>		
Woody Debris (Snags) <u>0.001</u> ☐ ☐			Mid: _____		
Undercut Banks / Roots <u>0.0008</u> ☐ ☐			Bottom <u>10.0</u> <u>30.0</u> <u>6.88</u> <u>6.14</u> <u>81.3</u> <u>131.2</u> <u>0.06</u> TOTAL DEPTH <u>12.1</u>		
Leaf Packs or Mat <u>0</u> ☐ ☐			Meter ID: <u>153484</u>		
Aquatic Vegetation <u>0.007</u> ☐ ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		
Rock or Shell Rubble _____ ☐ ☐			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐		
Sand <u>99.99</u> ☐ ☐			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____		
Mud / Muck / Silt _____ ☐ ☐			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) _____		
Other _____ ☐ ☐			Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐		
Other _____ ☐ ☐			System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>River</u>		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☐ ☒ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.		
SAMPLING TEAM <u>Chris Green / Jade Burtchett</u>			SIGNATURE: <u>Chris</u>		
DATE: <u>8-8-2019</u>			DATE: <u>8-8-2019</u>		

Apalachicola River

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>G2TLHR0042</u>	County: <u>Liberty/Gulf</u>	Date: <u>8-8-2019</u>	Investigators: <u>Chris Green</u>
STORET Station Number: <u>G2TLHR0042</u>			

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	✓		60	1	N	✓	
	2	N	✓			2	N	✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7		✓			7		✓	
	8	N	✓			8	N	✓	
	9	3	✓			9	3	✓	
10	1	N	✓		70	1	N	✓	
	2	N	✓			2	N	✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7		✓			7		✓	
	8	N	✓			8	N	✓	
	9	3	✓			9	3	✓	
20	1	N	✓		80	1	N	✓	
	2	N	✓			2	N	✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7		✓			7		✓	
	8	N	✓			8	N	✓	
	9	3	✓			9	3	✓	
30	1	N	✓		90	1	N	✓	
	2	N	✓			2	N	✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7		✓			7		✓	
	8	N	✓			8	N	✓	
	9	3	✓			9	3	✓	
40	1	N	✓		100	1	N	✓	
	2	N	✓			2	N	✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7		✓			7		✓	
	8	N	✓			8	N	✓	
	9	3	✓			9	3	✓	
50	1	N	✓		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	N	✓						
	3		✓						
	4		✓						
	5		✓	0					
	6		✓						
	7		✓						
	8	N	✓						
	9	3	✓						

Secchi depth	<u>1.0</u>
Estimated?	<u>NO</u>

# points ranked 4-6	<u>0</u>
total points assessed	<u>23</u>
% points ranked 4-6	<u>0</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓
RQ-2019-07-01-51	

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

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

Waterbody: *Apalachicola River*

Date: 8-8-19

County: Liberty Gulf

Storet Number: 6272HRC047

Analyst: Chris Green

Signature: [Signature]

Comments: $> 2m^2$

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² 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									Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark									Specimen 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												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monneri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
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											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens																							
Luziola fluitans																							

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

SAMPLING AGENCY: <u>21FLTLHR/8034</u>		STORET STATION NUMBER: <u>62TLHR0042</u>	DATE (MM/DD/YY): <u>8-8-19</u>	RECEIVING BODY OF WATER: <u>Gulf of Mexico</u>
REMARKS:	COUNTY: <u>Liberty/Gulf</u>	LOCATION: <u>Apalachicola River (middle)</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>1</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>1</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>20</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>16</u> ----- Primary Score <u>38</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>20</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>10</u> Left Bank <u>10</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>10</u> Left Bank <u>10</u> ----- Secondary Score <u>80</u>	10 9	8 7 6	5 4	3 2 1

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TOTAL SCORE

Date: <u>8-8-2019</u>	Analyst: <u>Chris Green</u>	Signature: <u>[Signature]</u>
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