

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

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY _____ STORET # _____ LONGITUDE _____
 DATE 5/20/21 TIME 12:25 12:19 SAMPLING AGENCY _____
 SITE NAME _____
 FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

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 Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>4.5</u> m wide _____ m/s _____ m/s _____ m/s _____ m deep <u>0.6</u> m deep _____ 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) _____				
High Water Mark: <u>1.5</u> + <u>0.6</u> = <u>2.1</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 INVERT PERI % # Times # Times Coverage Sampled Sampled Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble.. _____ Sand..... _____ Mud / Muck / Silt _____ 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: <u>0.3</u> <u>25.9</u> <u>6.93</u> <u>6.44</u> <u>84.2</u> <u>149.9</u> <u>0.07</u> <u>0.4</u> Mid: _____ Bottom: _____ Meter ID: <u>Shrimp Trap</u> TOTAL DEPTH <u>0.6</u>					
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			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) <u>Murky/Tannish</u>		
			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: <u>90's, pth cly. STATUS PROJECT BUT DATA WILL ALSO BE USED FOR SMP REQUIREMENTS.</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM <u>T. Riordan, Leif Boman</u>			SIGNATURE: <u>[Signature]</u>			DATE: <u>5/20/21</u>		

Waterbody:		Date:	County:	Storet Number:																					
Analyst:		Signature:																							
Comments:																									
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m 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.																									
		Meter Mark												Meter Mark											
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)	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		/		/	/	/		/	/	/	/		Micranthemum glomeratum												
Bacopa caroliniana													Micranthemum umbrosum												
Bacopa monnieri													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 sessiliflora													Typha												
Ludwigia leptocarpa													Vallisneria americana												
Ludwigia palustris													Zizania aquatica		/	/	/	/	/	/	/	/	/	/	
Ludwigia peruviana																									

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:					County:		Date: 05/20/21		Investigators: Leif Bowman, Terry Riordan	
									STORET Station Number:	
Transect t (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect t (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	
0	1	2			60	1	2			
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		0		5			50	
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				
10	1	2			70	1	2			
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		3		5			20	
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				
20	1	2			80	1	2			
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		0		5			0	
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				
30	1	2			90	1	2			
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		0		5			0	
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				
40	1	2			100	1	2			
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		0		5			15	
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				
50	1	2				1	2			
	2	2				2				
	3	2				3				
	4	2				4				
	5	2		20		5				
	6	2				6				
	7	2				7				
	8	2				8				
	9	2				9				

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%.

Secchi depth
Estimated?

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

Check accompanying data collected at same site/date.

Algal mat sample
Linear Veg Survey
Habitat Assessment
SCI/Biorecon
Water sample
RQ-

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 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>EDAP - CEROC (8030)</u>		STORET STATION NUMBER:	DATE (MM/DD/YY): <u>05/20/2021</u>	RECEIVING BODY OF WATER:
REMARKS: <u>STATUS + SMP</u>	COUNTY:	LOCATION: <u>WEDHIKAKA</u>	FIELD ID/NAME:	

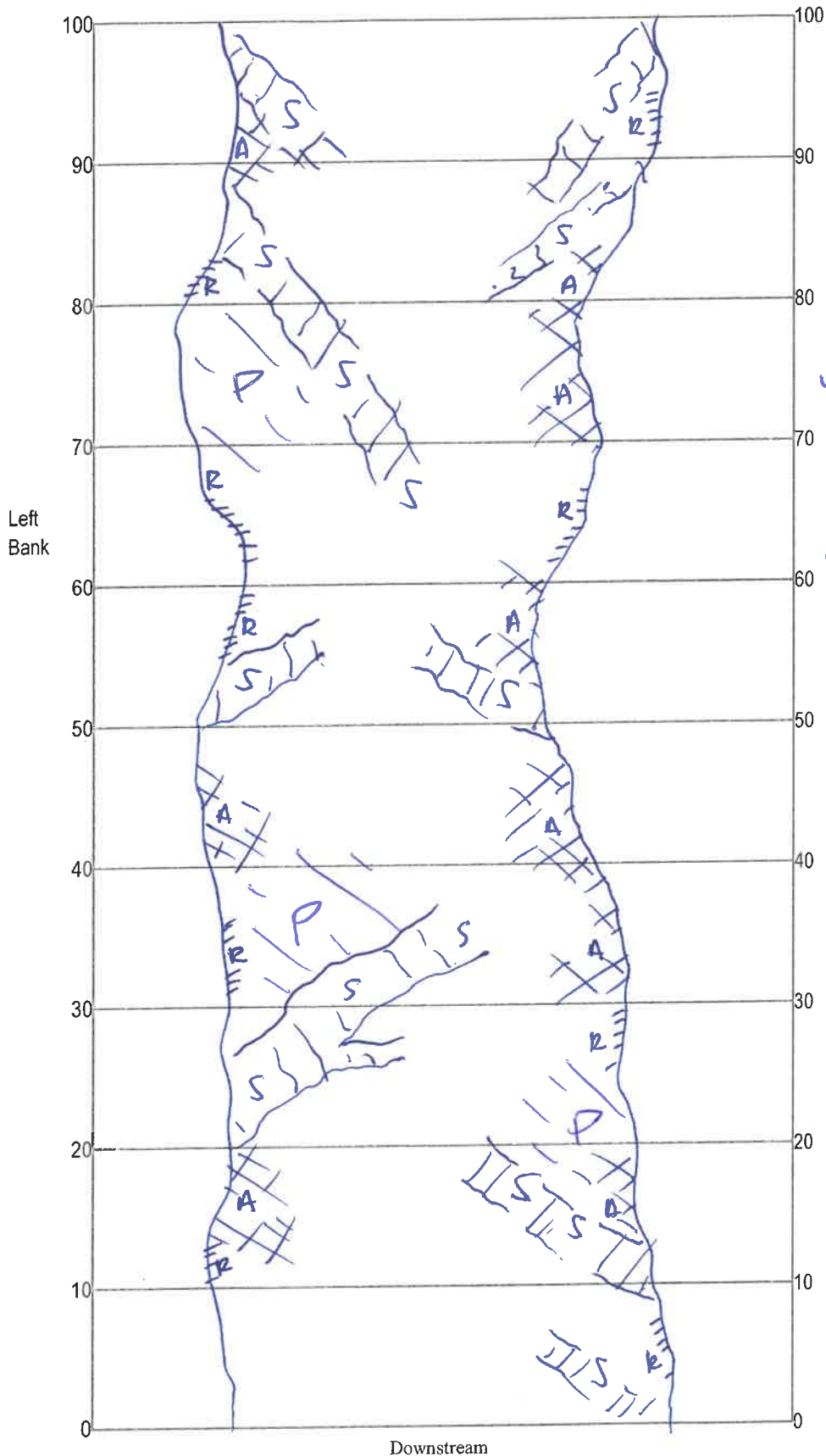
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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 <u>7</u> 6	5 4 3 2 1
Substrate Availability <u>9</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 <u>9</u> 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>16</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>14</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 <u>14</u> 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
Primary Score <u>46</u>				
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>	<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 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

126

TOTAL SCORE

Date: <u>05/20/2021</u>	Analyst: <u>Luif Boman</u>	Signature: 
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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: WEOHYAKAPKA

Date: 05/20/2021

Sampler: Leif Boman
Terry Jordan

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	
Substrates: Code key, draw proportionate habitat abundance. %	
☒ S	Snags 4.33
☒ R	Roots/undercut banks .33
☐	Leaf Packs (or mats) _____
☒ A	Aquatic Macrophytes 1.44
☐	_____
☐	_____
☒ P	Pools total # observed = 3 # range expected = 2-4
Average width <u>4.5</u> m	
Average depth <u>.6</u> m	
Velocity measured at <u>0.50</u> meter mark.	
WQ & chemistry taken at <u>50</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: