

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

SAMPLE ID _____ ORG ID 2FLWRSP LATITUDE 30.583196
COUNTY Madison STORET # 31010050 LONGITUDE -84.880575
DATE 1/21/2020 TIME 1350 SAMPLING AGENCY FD&P/MSA
SITE NAME Crooked Creek Reference
FIELD ID/NAME CRKREF RECEIVING BODY OF WATER Appalachian River

RIPARIAN ZONE / STREAM FEATURES

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) <u>1.3</u>
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>6</u> m wide <u>.2</u> m/s <u>.25</u> m/s <u>.2</u> m/s <u>.1</u> m deep <u>.2</u> m deep <u>.1</u> 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) <u>1-2</u>				High Water Mark: <u>.5</u> + <u>.2</u> = <u>.7</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 % Coverage # Times Sampled # Times Sampled Woody Debris (Snags) <u>3.3</u> <u>5</u> <u>5</u> Undercut Banks / Roots <u>1</u> <u>5</u> <u>5</u> Leaf Packs or Mat <u>2</u> <u>5</u> <u>5</u> Aquatic Vegetation <u>94</u> <u>5</u> <u>5</u> Rock or Shell Rubble..... <u>94</u> <u>5</u> <u>5</u> Sand..... <u>94</u> <u>5</u> <u>5</u> Mud / Muck / Silt <u>94</u> <u>5</u> <u>5</u> Other <u>94</u> <u>5</u> <u>5</u> Other <u>94</u> <u>5</u> <u>5</u>			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>.1</u> <u>9.9</u> <u>6.75</u> <u>11.35</u> <u>100H</u> <u>29.1</u> <u>-</u> <u>0.2</u> Mid: <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> Bottom: <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> <u>154185</u> Meter ID: <u>154185</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: _____ Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐ AMBIENT FIELD CONDITIONS / NOTES: <u>less than 2 m² of plants</u> <u>- cold, approx temp = 45°F, clear skies, slight breeze</u> <u>- obvious hurricane damage, access difficult</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.		
SAMPLING TEAM <u>J. Jackson, A. O'Neal, J. Piacente</u>			SIGNATURE: <u>J. Piacente</u> DATE: <u>1/21/2020</u>		

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

SAMPLING AGENCY:		STORET STATION NUMBER: 31010050	DATE (MM/DD/YY): 1/21/2020	RECEIVING BODY OF WATER: Hopedachula River
REMARKS:	COUNTY: Gadsden	LOCATION: Crooked Creek	FIELD ID/NAME: CRKREF	

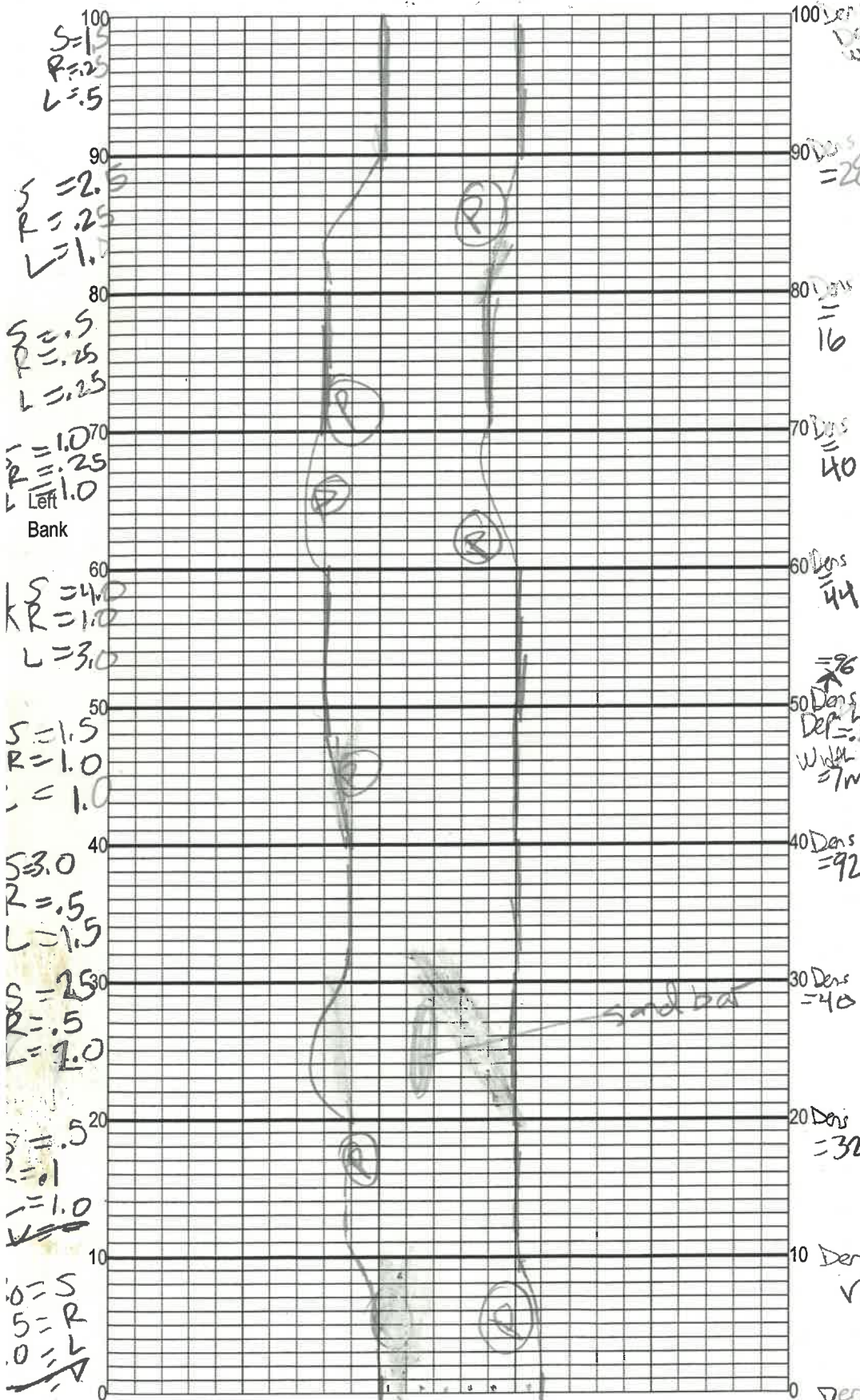
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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 14	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 7	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 15	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 17 ----- Primary Score 53	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 20	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 10 Left Bank 10	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 10 Left Bank 10	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 10 Left Bank 10 ----- Secondary Score 80	10 9	8 7 6	5 4	3 2 1

133

TOTAL SCORE

Date: 1/21/2020	Analyst: Jennifer Piacente	Signature: Jennifer Piacente
-----------------	----------------------------	------------------------------

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: Crooked Creek

Date: 1/21/2020

Sampler: J. Piacente, A. O'Neal, J. T. J.

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ S Snags 3.3

☒ R Roots/undercut banks 1

☒ L Leaf Packs (or mats) 2

☒ V Aquatic Macrophytes X

☐ _____

☐ _____

☒ P Pools total # observed = 7
range expected =

Average width 6 m

Average depth 0.2 m

Velocity measured at 70 meter mark.

WQ & chemistry taken at _____ 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:

Diameter = 16
velocity
1.5, 1.5

Diameter = 16
depth = 0.2 m
width = 6 m

Diameter
big bower x 4
max = 96

50-60
stretch
difficult
to reach
so
estimated

Reference Stream Sampling

Customer: BSSP

Project ID: SCIREF

Requester: Joy Jackson

Collected By:

Field Report Prepared By:

Sampling Agency: FDEP AEA

Location	Field ID		Latitude		Longitude		Comp		Collection (comp begin or grab)		Composite end		Bottle Group(s)	
			dd	dms	dd	dms	Grab	Date	Date	Time	Date	Time		
FLAT CREEK	FLT * REF						☒	1-21-2020	1100		mg/L	Total Res. Chlorine	A, B	
WIN/STORET #	31010142										% sat			
Latitude	30.627192		☒				Temp (C)	7.7	pH	7.04	ft	Sp. Conductance (umho/cm)	50.4	
Location	CROOKED CREEK						Salinity (ppt)		Comments					
Field ID	CRK * REF						☒	1-21-2020			mg/L	Total Res. Chlorine	A, B	
WIN/STORET #	31010050										% sat			
Latitude	30.583196		☒				Temp (C)	9.9	pH	6.75	ft	Sp. Conductance (umho/cm)	29.1	
Location	W - P04-F NOT COLLECTED						Salinity (ppt)		Comments					
Field ID							☒	1-21-2020			mg/L	Total Res. Chlorine		
WIN/STORET #											% sat			
Latitude							Temp (C)		pH		ft	Sp. Conductance (umho/cm)		
Location							Salinity (ppt)		Comments					
Field ID							☒	1-21-2020			mg/L	Total Res. Chlorine		
WIN/STORET #											% sat			
Latitude							Temp (C)		pH		ft	Sp. Conductance (umho/cm)		
Location							Salinity (ppt)		Comments					
Field ID							☒	1-21-2020			mg/L	Total Res. Chlorine		
WIN/STORET #											% sat			
Latitude							Temp (C)		pH		ft	Sp. Conductance (umho/cm)		
Location							Salinity (ppt)		Comments					
Field ID							☒	1-21-2020			mg/L	Total Res. Chlorine		
WIN/STORET #											% sat			
Latitude							Temp (C)		pH		ft	Sp. Conductance (umho/cm)		
Location							Salinity (ppt)		Comments					

Relinquished By: <i>[Signature]</i>	Date/Time 1/22/2020 10:52 AM	Shipping Method Priority	Number of Coolers Shipped: 3	Received By: <i>[Signature]</i>	Date/Time 1/22/2020 652
--	---------------------------------	-----------------------------	---------------------------------	------------------------------------	----------------------------