

136

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

Flat Creek then
Apalachicola River

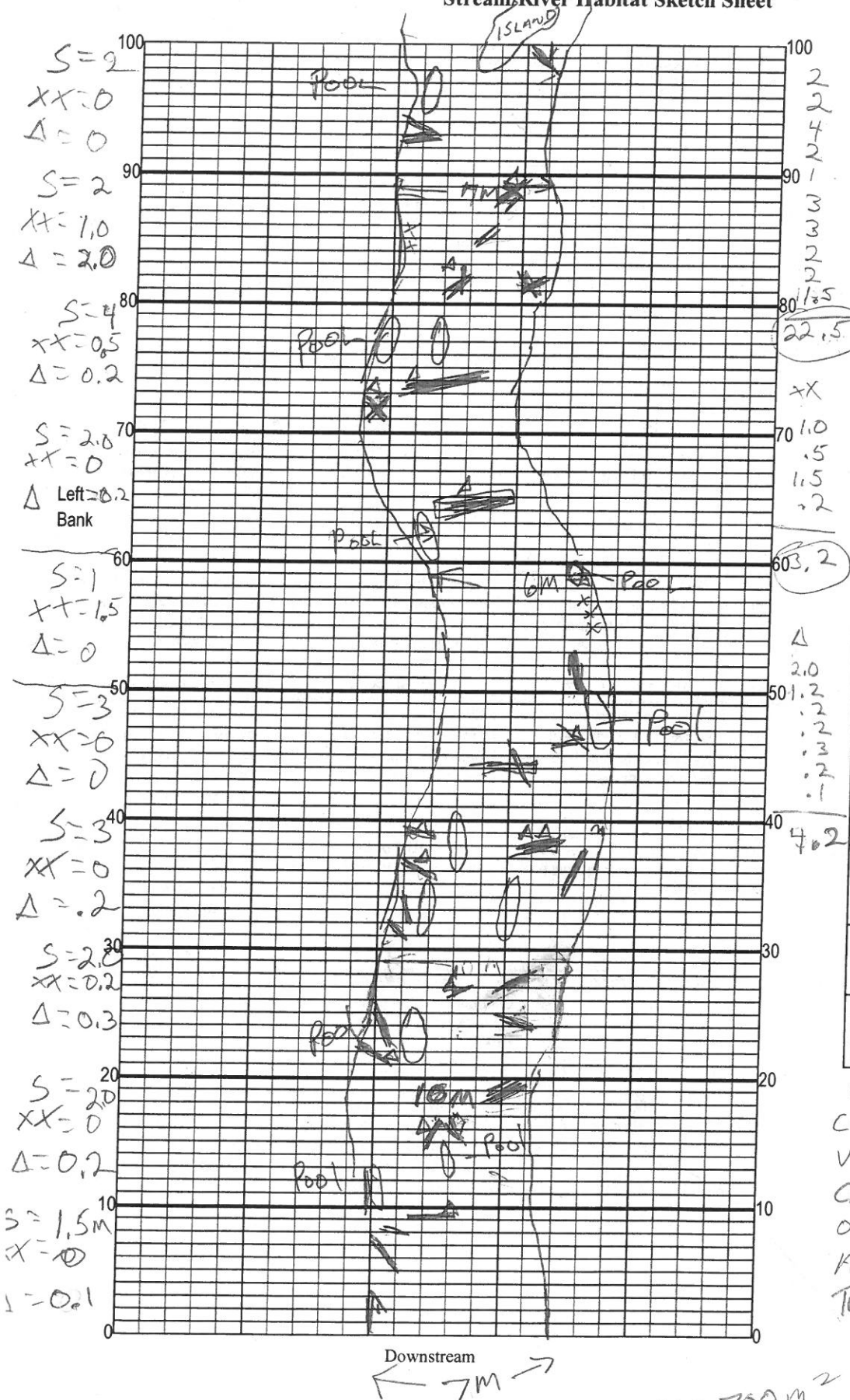
SUBMITTING AGENCY CODE: _____	STORET STATION NUMBER: <u>31010050</u>	DATE (MM/DD/YY): <u>9/25/14</u>	RECEIVING BODY OF WATER: <u>Apalachicola River</u>
SUBMITTING AGENCY NAME: _____			
REMARKS: _____	COUNTY: <u>Gadsden</u>	LOCATION: <u>CROOKED CREEK</u>	FIELD ID/NAME: <u>CRK REF</u>

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>14</u>	20 19 18 17 16	15 <u>14</u> 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>5</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 <u>5</u> 4 3 2 1
Water Velocity <u>20</u> <u>0.5</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 <u>20</u> 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>56</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 <u>17</u> 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 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 Right Bank <u>10</u> Left Bank <u>10</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. <u>10</u> 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 <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 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 <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>80</u>	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

136 **TOTAL SCORE**

Date: <u>9/25/14</u>	Analyst: <u>L.O., NW, AO</u>	Signature: 
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DEP-SOP-001/01 Form FD 9000-4
Stream/River Habitat Sketch Sheet



Location: CROOKED CREEK
Date: 9/25/14
Sampler: NW, AG, LO, RW, R, C

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 _____
☐ _____
☐ _____
☐ Pools total # observed = _____
range expected = _____

Average width 7 m

Average depth .4 m

Velocity measured at 50 meter mark.

WQ & chemistry taken at 10 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:

CYRKAC ITS VIR
VIB DEN
CARCAR
Onoclea
ARUNGL
Trumpet Creeper
ALNUS SER
3.

FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID _____ LATITUDE 30.583196
 COUNTY Gadsden STORET # 31010050 LONGITUDE -84.880575
 DATE 9/25/14 TIME 14:30 SAMPLING AGENCY FDEP
 SITE NAME CROOKED CREEK FIELD ID/NAME crkRef RECEIVING BODY OF WATER Flat creek / APACHE CREEK RIVER

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):								Landscape Development Intensity Index (LDI)	
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)		
☒	☒	☐	☐	☐	☐	☐	☐		
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect	
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy								7 m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>15</u>		Right Bank: <u>15</u>							
High Water Mark: <u>0.5</u> + <u>0.2</u> = <u>0.7</u>				Artificially Impounded					
(m) (above present water level) (present depth) (above bed)				☐ Yes ☒ No					
Artificially ☒ No ☐ Mostly recovered, more sinuous				Canopy Cover %					
Channelized: ☐ Some recovery ☐ Recent, severe				☐ Open ☐ Lightly Shaded (11-45%)					
				☒ Heavily Shaded ☐ Moderate Shaded (46-80%)					

SEDIMENT / SUBSTRATE

Sediment Oils			Sediment Odors			Smothering of Substrates					
☒ Absent ☐ Slight			☒ Normal ☐ Sewage ☐ Petroleum			Sand Smothering: None ☐ Slight ☒ Moderate ☒ Severe ☐					
☐ Moderate ☐ Profuse			☐ Chemical ☐ Anaerobic			Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
			☐ Other (Specify):			Algae Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐					
SUBSTRATE TYPE			WATER QUALITY								
Assessment Tool: ☒ SCI ☐ RPS ☐ LVS			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)								
☐ LCI ☐ BioRecon			Top: <u>0.1</u> <u>19.67</u> <u>6.24</u> <u>9.77</u> <u>106.8</u> <u>32</u> <u>0.01</u> <u>0.4</u>								
% Coverage			Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB								
# Times Sampled			Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH								
# Times Sampled			Meter ID: <u>#7</u> <u>0.4</u>								
Woody Debris (Snags) <u>3-</u> <u>5</u>			Water Odors Normal ☒ Petroleum ☐			Water Surface Oils Normal ☒ Sheen ☐					
Undercut Banks / Roots <u>1</u> <u>5</u>			Sewage ☐ Chemical ☐ Other ☐			Globs ☐ Slick ☐ Other ☐					
Leaf Packs or Mat <u>1</u> <u>5</u>			Water Sample Taken? ☒ Yes ☐ No			Color Tannic ☐ Green (Algae) ☐					
Aquatic Vegetation <u>0</u>			Sample Preserved? ☒ Yes ☒ No <u>LO</u>			Clear ☒ Other (Specify) ☐					
Rock or Shell Rubble... <u>0</u>			Lot Number: <u>13511</u> Exp: <u>11/13/14</u>								
Sand..... <u>95</u> <u>5</u>			Algae Sample Taken? ☐ Yes ☒ No			Clarity Clear ☐ Slightly Turbid ☒					
Mud / Muck / Silt ☐			Sample Preserved? ☐ Yes ☒ No <u>LO</u>			Turbid ☐ Opaque ☐					
Other ☐			Lot Number: <u>13511</u> Exp: <u>11/13/14</u>								
Other ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐								
ABUNDANCE			AMBIENT FIELD CONDITIONS / NOTES:								
Not Obs. Rare Common Abundant			<u>OVERCAST, 70°</u>								
Periphyton: ☒ ☐ ☐ ☐			☒ The antecedent hydrologic conditions have been met to my best knowledge.								
Fish: ☐ ☐ ☒ ☐											
Aquatic Plants: ☒ ☐ ☐ ☐											
Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐											
SAMPLING TEAM			SIGNATURE: <u>[Signature]</u>			DATE: <u>9/25/14</u>					
<u>NW, AD, LO,</u>											

SITE NAME: Crooked CreekDATE: 9/25/14TIME 1300
(military)

EST CST

DEPTH: 4 ft (m)FIELD ID: Cirk Ref

total? Sample depth = 1m

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Wellendorf			X	X	X
Wiwi			X	X	
Olney	X				

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other: _____
☐ Pump ID#: _____	☐ Other: _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>YSI #7</u>	
COLLECTION MODE	
☒ Wading	☐ Via Boat
☐ Diving	☐ Canoe
☐ From Shore	☐ Electric Motor
☐ Other: _____	☐ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ...
Preserved Nutrients	☒ TKN ☒ TP ☒ NOx ☒ NH3 ☒ TOC ☐ Total N ☐ Other: _____	S W	☒ Ice ☒ H ₂ SO ₄	135111	☒ <2	1
Filtered Nutrients	☐ oP ☐ Other: _____	W	☐ Ice ☐ .45 um Filter			
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color ☐ Other: _____	SW	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	SW	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☒ E coli ☐ T Coli ☒ F Coli ☐ Enteroc ☐ F Strep	SW	☒ Ice			3
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	SW	☒ Formalin			3
Phytoplankton	☐ PKD-QN-C ☐ DTY-QN-C	W	☐ Lugol's			
Periphyton	☐ PRN-QL-C ☐ DTM-QL-C ☐ PRN-QN-C ☐ DTM-QN-C	W	☐ Formalin			
AGP	☐ AA-AGP ☐ AA-LIM-NUT	W	☐ Ice			
Metals	☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	W	☐ HNO ₃		☐ <2	
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO ₃ ☐ .45 um Filter		☐ <2	
Mercury	☐ W-HG-AF	W				
Base/Neutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH	W	☐ Ice			
	☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice ☐ H ₂ SO ₄		☐ <2	
	☐ W-PEST-CL ☐ W-PCB ☐ W-PEST-NP ☐ W-PSCL-PCB	W	☐ Ice			
Pesticides	☐ W-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP ☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____	W	☐ Ice			
	☐ W-ACIDHERB	W	☐ Ice ☐ H ₂ SO ₄			
	☐ W-CARB	W	☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS	W	☐ Ice			
	☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER		W	☐ Other: _____			

Notes: → overcast, 60s

→ lat/long (d/d)

30.583196 / -84.880575

→ long gloves used for micro sampling

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): SW = Surface Water GW = Groundwater DW = Drinking Water WW = Wastewater O = Other: _____

**PRESERVATIVES: 1 ml added unless otherwise noted

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2014-08-04-10
SCI reference sites

Event ID *

Requester: Larry Olney

Customer: BSSP
Project ID: SCIREF
PMAS:

Collected By: Ashley O'Neal

Sampling Agency: FDEP

Field Report Prepared By: Ashley O'Neal

Send Final Report To: Joy Jackson

Lab ID *	Location Sweetwater Branch									
Field ID	Sweetwater Branch									
Matrix (include type e.g. Salt, Fresh, etc)	Fresh									
Latitude	30.524 N	dd dms	Temp (C)	19.46	pH	6.11	Sample Depth	0.65 m	ft	34
Longitude	84.9735 W	dd dms	Collection (comp begin or grab)		Eastern Central		Date		Time	
			Tot Res Chlorine (mg/L)		9.55		Storet Station Number		31010051	
			Salinity (PPT)		34		NPDES Number		A, B	
Lab ID *	Location Crooked Creek									
Field ID	Crooked Creek									
Matrix (include type e.g. Salt, Fresh, etc)	Fresh									
Latitude	30.583196 N	dd dms	Temp (C)	19.67	pH	6.24	Sample Depth	0.1 m	ft	32
Longitude	84.880575 W	dd dms	Collection (comp begin or grab)		Eastern Central		Date		Time	
			Tot Res Chlorine (mg/L)		9.77		Storet Station Number		31010050	
			Salinity (PPT)		32		NPDES Number		A, B	
Lab ID *	Location									
Field ID										
Matrix (include type e.g. Salt, Fresh, etc)										
Latitude		dd dms	Temp (C)		pH		Sample Depth		m	ft
Longitude		dd dms	Collection (comp begin or grab)		Eastern Central		Date		Time	
			Tot Res Chlorine (mg/L)				Storet Station Number			
			Salinity (PPT)				NPDES Number			
Lab ID *	Location									
Field ID										
Matrix (include type e.g. Salt, Fresh, etc)										
Latitude		dd dms	Temp (C)		pH		Sample Depth		m	ft
Longitude		dd dms	Collection (comp begin or grab)		Eastern Central		Date		Time	
			Tot Res Chlorine (mg/L)				Storet Station Number			
			Salinity (PPT)				NPDES Number			
Relinquished By:	Date/Time		Shipping Method:		Received By:		Date/Time		Received By:	
Ashley O'Neal	7/25/14		hand delivered		JLW		9/25/14		JLW	

* Shaded Areas for Lab use only. 11634

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Group: A	Bottle Type: MI-FW-QLDC	PJ-2L	# of Bottles: 4	Preservative:	Formalin	Enter Number of Bottles Sent to Lab	6
Group: B	Bottle Type: CHLSUITE-W	BP-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
Group: B	Bottle Type: TURBIDITY W-ALK W-COLOR W-TDS W-TSS	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
Group: B	Bottle Type: W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	2
Group: B	Bottle Type: W-SUC-AA-R	BG-1L	# of Bottles: 3	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3

W - Fecal Coliforms } ~~# of bottles~~
 W - E Coli } # of bottles 6
 W - QPCR } # of bottles 2

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: CROOKED CREEK County: GARSON Date: 9/25/14 Investigators: N.W. / L.O.

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				
	3	N				3				
	4	N				4				
	5			85		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			92		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			88		5			87	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			74		5			86	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			78		5			86	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			91		5				
	6					6				
	7					7				
	8					8				
	9					9				

STORET Station Number:

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

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%.

