



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2018

Data Qualified?

Yes / No

WIN Station Name: Bruce Creek upstream of Hwy 81

Date: 5/22/18
(mm/dd/yyyy)

WIN/ Field ID: G3NW0160

WBID: 343

Latitude: 30.62462

County: Walton

ORG ID: 21FLPNS

Longitude: -85.94307

(Decimal Degrees)

Receiving Body of Water: Choctawhatchee River

RQ-2018- 05-21-46
(Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
MIKE KING									
Nathan Murney									

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with DIP NET		
Equipment ID		

Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled <u>Low</u> Normal / High / Flooded	Meter ID# 113529	Matrix: Fresh / Marine / DI
Photos: Yes / <u>No</u>	Flow: No Flow / Intestinal / <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 (umhos/cm)	Temp. (C°)
EST	1030	0.16	0.3	0.2	6.32	72.6	6.50	0.02	44	22.32
CEN										

Biological Samples Collected: None HA SCI RPS Algae ID LVS 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	NA 775010	10/2/18	☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um 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-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-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-UHERB-AA ☐ W-AHERB-AA ☐ W-CARB-AA ☐ W-PCL-SQ-R ☐ W-PYR-AA-R ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Place Preservative Sticker(s) Here
(If Available)

Ref:	Date: 08May18	SHIPPING:	0.00
Dep:	Wgt: 10.00 LBS	SPECIAL:	0.00
		HANDLING:	0.00
	DV:	TOTAL:	0.00

SVNO - PRIORITY OVERNIGHT Master 4385 5029 2477
TRCK: 4385 5029 2488

Field/WIN ID

G3NW0160

Location

Bruce Creek upstream of Hwy 81

Signature: [Signature]	Date: 5/22/18
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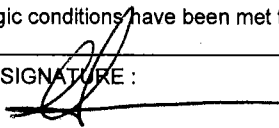
DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID 78419 ORG ID 21FLPNS LATITUDE 30.62462
 COUNTY WALTON STORET # G3NW0160 LONGITUDE 85.94307
 DATE 5/22/18 TIME 1030 SAMPLING AGENCY FDEP NW ROC
 SITE NAME BRUCE CREEK upstream of Hwy 81
 FIELD ID/NAME G3NW0160 RECEIVING BODY OF WATER Choptank Hatchee 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)
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 9 m wide
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>		0.3 m/s 0.25 m/s 0.3 m/s	
High Water Mark: <u>2.0</u> + <u>1.5</u> = <u>3.5</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No		0.3 m deep 0.9 m deep 0.8 m deep	
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 ☐ BioRecon ☒ < 2 m ² SAV Woody Debris (Snags)... <u>9</u> <u>5</u> Undercut Banks / Roots <u>5</u> <u>5</u> Leaf Packs or Mat <u>0.5</u> <u>5</u> Aquatic Vegetation Rock or Shell Rubble.. Sand..... <u>85</u> <u>5</u> Mud / Muck / Silt Other Other			WATER QUALITY <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td><u>0.3</u></td> <td><u>22.32</u></td> <td><u>6.50</u></td> <td><u>6.32</u></td> <td><u>72.6</u></td> <td><u>44</u></td> <td><u>0.02</u></td> <td><u>0.2</u></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>☐ VOB</td> </tr> <tr> <td>Bottom</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>TOTAL DEPTH</td> </tr> </tbody> </table> Meter ID: <u>113529</u> Meter verify? ☒ Yes ☐ No <u>1.2</u>							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>22.32</u>	<u>6.50</u>	<u>6.32</u>	<u>72.6</u>	<u>44</u>	<u>0.02</u>	<u>0.2</u>	Mid:								☐ VOB	Bottom								TOTAL DEPTH
	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)																																				
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Mid:								☐ VOB																																				
Bottom								TOTAL DEPTH																																				
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: <u>SA7163030</u> Exp: <u>04/12/18</u>			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 ☒																																						
			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐																																									
			AMBIENT FIELD CONDITIONS / NOTES: <u>Re. 2018 05-21-46</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																									
SAMPLING TEAM <u>Mike King</u>			SIGNATURE: 			DATE: <u>5/22/18</u>																																						

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Bruce Creek abv Hwy 81</u>					County: <u>Watson</u>		Date: <u>5/22/18</u>		Investigators: <u>MIKE KMS</u>		
STORET Station Number: <u>63NW0160</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	N			
	2					2	N				
	3					3	X				
	4					4					
	5		Y	88		5				72	
	6		Y			6					
	7		Y			7					
	8		Y			8					
	9					9					
10	1	N			70	1	N				
	2					2	N				
	3					3	X				
	4					4					
	5		Y	76		5				76	
	6		Y			6					
	7		Y			7					
	8					8					
	9					9					
20	1	N			80	1	N				
	2					2	N				
	3					3	X				
	4		Y	72		4	X				
	5		Y			5	X			68	
	6		Y			6	X				
	7		Y			7	N				
	8		Y			8	N				
	9					9	N				
30	1	N			90	1	N				
	2					2	X				
	3					3					
	4		Y	80		4					
	5		Y			5				80	
	6		Y			6					
	7		Y			7					
	8					8					
	9					9					
40	1	N			100	1	N				
	2					2	N				
	3					3	X				
	4		X			4					
	5			76		5				76	
	6					6					
	7					7					
	8					8					
	9					9					
50	1	N				1	N				
	2					2	N				
	3					3	X				
	4		X			4					
	5			68		5					
	6					6					
	7					7					
	8					8					
	9					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	Vol
Estimated?	Y

# points ranked 4-6	0
total points assessed	64
% 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-2018-05-21-46	

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

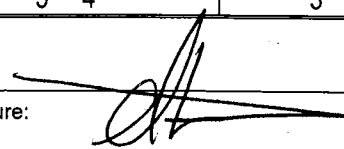
SB10
VISIT ID 78419
RPS ID 9425

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

SAMPLING AGENCY: FDEP NW ROC		STORET STATION NUMBER: G3NW0160	DATE (MM/DD/YY): 05/22/18	RECEIVING BODY OF WATER: Choctaw River
REMARKS: SB10 ID 78419	COUNTY: WALTON	LOCATION: BRUCE CREEK upstream Hwy 81	FIELD ID/NAME: G3NW0160	

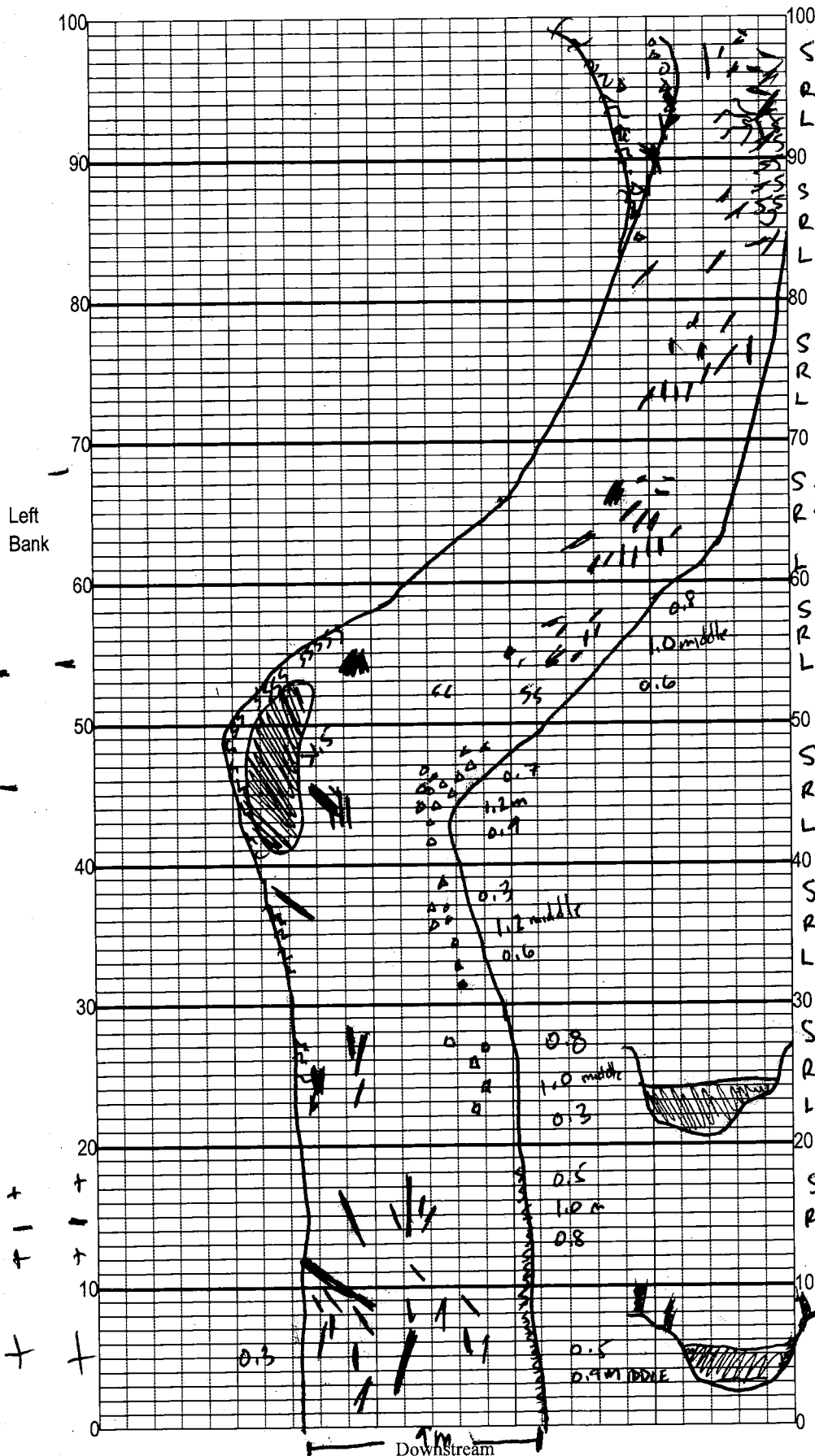
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>11</u>	20 19 18 17 16	15 14 13 12 <u>11</u>	10 9 8 7 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>19</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 <u>19</u> 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> ----- Primary Score <u>53</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
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>8</u> Left Bank <u>8</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. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. <u>8</u> 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>9</u> Left Bank <u>9</u> ----- Secondary Score <u>74</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 <u>9</u>	>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

127 128 FD TOTAL SCORE

Date: 5/22/18	Analyst: MAKE KING	Signature: 
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HA ID 15175

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: BRUCE CREEK
 Date: 5/22/18
 Sampler: MIKE KING / Nathan Mulvey

100 m: Latitude _____
 Longitude _____
 0 m: Latitude _____
 Longitude _____

Substrates: Code key, draw proportionate habitat abundance.

	Snags	$\frac{80}{900} = 9$	%
	Roots/undercut banks	$\frac{44}{9} = 5$	%
	Leaf Packs (or mats)	$\frac{3.9}{9} = 0.5$	%
	Aquatic Macrophytes	$\frac{3.9}{9} = 0.5$	%
	gravel		
	Pools	total # observed = <u>12</u> # range expected = <u>1</u>	

Average width 9 m
 Average depth 0.8 m

Velocity measured at 90 meter mark.

WQ & chemistry taken at 0 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:

Red titi
 Laurel oak
 water oak
 ludwigia sp
 Liquid amber
 Hydrocotyl
 Centella

Length of grid represents 100 m of stream (not linear meters).
 (Horizontal scale is double vertical scale, draw proportionately).