



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Gum Creek

Date: 8/1/19

WIN/ Field ID: G4NW0382

WBID: 167A

Latitude: 30.78473

County: Walton

ORG ID: 21FLPNS

Longitude: -86.23354

Receiving Body of Water: Shoal River

RQ-2019- 08-05-89

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
MIKE KING Nathan Miley					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☐ Syringe			
										☐ Dipper	☐ Other			
										Depth Measured with				
										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# <u>154179</u>					Matrix: Fresh / Marine / DI				
Photos: <u>Yes</u> No					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 (µmhos/cm)	Temp. (C°)				
EST	1345	0.6	0.3	VOB	8.11	98.3	5.47	0.01	25.8	25.1				
CEN														
Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> - Algae ID LVS LVI Other:														
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: <u>2m²</u> 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 ☐ H ₂ SO ₄	SA 9010030	4/10/20	☒ <2					
Metals	☒ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO ₃	NA 8344050	12/10/19	☒ <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 Coll ☐ F Coll ☐ 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 ☐ W-E8321-MS ☐ W-CARB-AA					☐ Ice								
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice								

Notes:	Field/WIN ID
<u>2941</u>	G4NW0382
	Location:
Signature:	Date: <u>8/1/19</u>

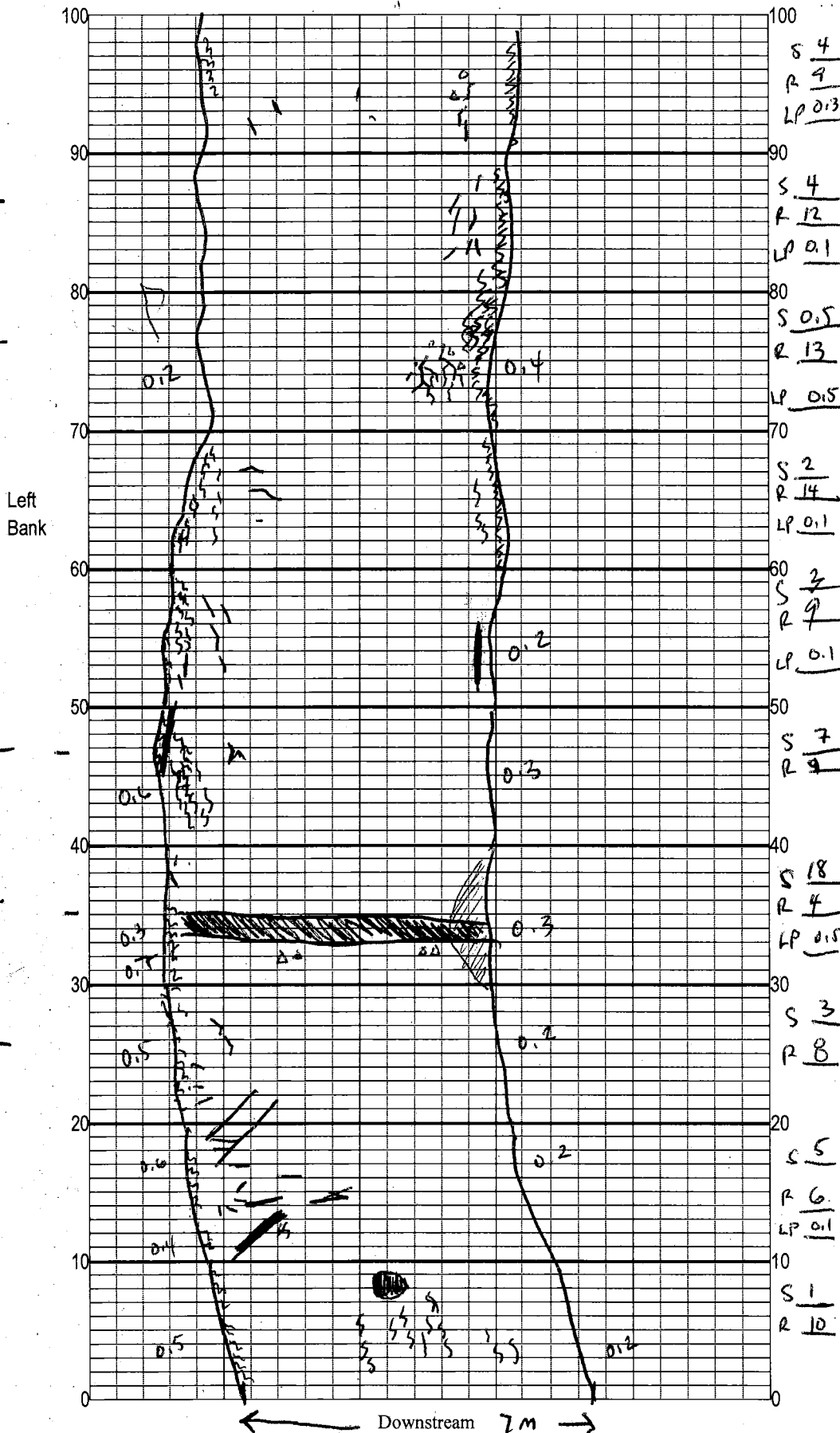
LIMS EVENT ID: _____ WIN Import ID: _____

Enter Field Parameters, Verify Station ID in LIMS DMT: _____ QC Station ID, Field Parameters in LIMS DMT: _____

Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data in WIN: _____

(Initials/Date) (Initials/Date) (Initials/Date) (Initials/Date)

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



Location: Gum Creek
 Date: 8/7/19
 Sampler: M. King

100 m: Latitude 30.18467
 Longitude 86.23251

0 m: Latitude 30.18467
 Longitude 86.23339

Substrates: Code key, draw proportionate habitat abundance. 204%

☒	Snags	<u>47.5</u>	<u>6.8</u>
☒	Roots/undercut banks	<u>94.1</u>	<u>13.4</u>
☒	Leaf Packs (or mats)	<u>1.7</u>	<u>0.2</u>
☒	Aquatic Macrophytes		
☐			
☐			
☒	Pools	total # observed = <u>1</u>	# range expected = <u>1-2</u>

Average width 7 m
 Average depth 0.4 m

Velocity measured at 20 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:

Xyris	Red maple
Red root	Carex
Holly	Dicranthodium
Nyssa	Hypericum (broad leaf)
Black titi	
Moss	
Red titi	

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

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>GUM Creek</u>					County: <u>Walton</u>		Date: <u>8/7/19</u>		Investigators: <u>MIKE KING N. MULKEY</u>		
STORET Station Number: <u>G4NW0382</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	N		60	1	N	N		
	2					2				
	3					3				
	4					4				
	5			44		5			36	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			32		5			40	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			32		5			48	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			24		5			40	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			20		5			80	
	6					6				
	7					7				
	8					8				
	9					9				
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 densimeter 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									
	3									
	4									
	5			48						
	6									
	7									
	8									
	9									

Secchi depth	0.7
Estimated?	Y

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	<2m ²
Habitat Assessment	✓
SC/Biorecon	✓
Water sample	✓
RQ- 2019-08-05-89	

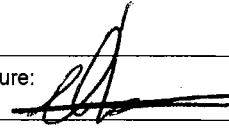
Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

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

SAMPLING AGENCY: <u>DEP NW RDC</u>		STORET STATION NUMBER: <u>G4NW0382</u>	DATE (MM/DD/YY): <u>08/07/19</u>	RECEIVING BODY OF WATER: <u>Shoal River</u>
REMARKS:	COUNTY: <u>Walton</u>	LOCATION: <u>Gum Creek</u>	FIELD ID/NAME: <u>G4NW0382</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>10</u>	20 19 18 17 16	15 14 13 12 11	<u>10</u> 9 8 7 6	5 4 3 2 1
Substrate Availability <u>13</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 <u>13</u> 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 <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>12</u> ----- Primary Score <u>55</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 <u>12</u> 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>	<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>9</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 woody root zone with few raw, eroded areas. 10 <u>9</u>	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 woody 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 10 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>77</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

132 TOTAL SCORE

Date: <u>8/7/19</u>	Analyst: <u>MIKE KING</u>	Signature: 
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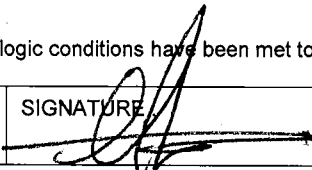
DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.78467
 COUNTY WALTON STORET # G4NW0382 LONGITUDE 86.23339
 DATE 8/7/19 TIME 1345 SAMPLING AGENCY FDEP NW REC
 SITE NAME GUM CREEK
 FIELD ID/NAME G4NW0382 RECEIVING BODY OF WATER SHORT 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 7 m wide 0.33 m/s 0.33 m/s 0.33 m/s 0.4 m deep 0.3 m deep 0.2 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)				
High Water Mark: <u>3.0</u> + <u>0.5</u> = <u>3.5</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 <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>0.3</td> <td>25.1</td> <td>5.47</td> <td>8.11</td> <td>98.3</td> <td>25.8</td> <td>0.01</td> <td>0.76</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></td> </tr> </tbody> </table>							Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	0.3	25.1	5.47	8.11	98.3	25.8	0.01	0.76	Mid:								☒ VOB	Bottom:												
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			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ 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: _____			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐																																										
			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐																																										
ABUNDANCE <table border="1"> <thead> <tr> <th></th> <th>Not Obs.</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton:</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Fish:</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Aquatic Plants:</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Iron/Sulfur Bacteria:</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				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.																				
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SAMPLING TEAM <u>M. King</u> <u>N. Muirney</u>			SIGNATURE 			DATE: <u>8/8/19</u>																																										