

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: 154177

RQ: 2021-02-22-346

Project: SMP

- Notes: (1) Always wait for meter to stabilize before recording any readings.
 (2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 12-30-20

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	Paul Blair	3-3-21	7:40	21.1	756.2	8.45	8.47	99.5	/	1.07	P/F	D/F
ICV	"	"	7:41	21.0	756.3	8.85	8.87	99.5	/	"	P/F	D/F
CCV	"	"	1345	20.7	752.1	9.0	8.99	99.8	/	"	P/F	D/F
CCV											P/F	L/F

DO Acceptance criteria from Table ± 0.3 mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	Paul Blair	3-3-21	7:42	201209D	12-21	1000	1000	P/F	D/F
ICV	"	"	7:43	2905F63	5-21	100	100.0	P/F	D/F
CCV	"	"	1350	2905F63	05/21	100.0	101.9	P/F	D/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Paul Blair	3-3-21	7:45	200417C	10-21	7.01	20.2	7.02	-31.5	P/F	D/F
Calibr.	"	"	7:46	20112A	5-22	4.00	20.1	4.00	147.9	P/F	D/F
Calibr.	"	"	7:47	200407A	10-21	10.05	20.9	10.05	-193.3	P/F	D/F
ICV	"	"	7:48	"	"	10.06	20.0	10.00	-193.4	P/F	D/F
CCV	"	"	1352	20112A	05/22	4.00	19.3	4.08	139.9	P/F	D/F
CCV										P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 162.3, slope from 4 to 7 179.9 (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification:

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: 41, 51; Date of last verification: 12-30-21

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air						P/F	L/F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CHAIN OF CUSTODY FORM

Date: 3/3/2021
Customer: TLH-DIST
RQ: RQ-2021-02-22-38

Collected By: Ben Harden, Paul Blair
Sampling Agency: FDEP
Project ID: SMP

PLEASE RETURN THE ORIGINAL OF THIS FORM WITH SAMPLE SUBMITTAL
FORMS AND THE COOLER PACKING WORKSHEET TO THE LAB

Number of Coolers Shipped: 1

FIELD ID (Labels) submitted under this RQ for this collection date.

Site Location	Field ID/WIN ID
Gully Branch 80m north of Gully Branch Rd	 G2TLHR0006
Crooked River @ Post 46	 G2TLHR0038

RELINQUISHED BY(SIGNATURE):

DATE/TIME:

THIS SECTION TO BE COMPLETED BY LABORATORY

Rec'd/Inspected By:

Rec'd/Inspected Date:



03/03/21



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End
of Day CCV
Yes / No

WIN Station Name: Gully Branch 80m north of Gully Branch Rd **Date:** 3/3/2021
WIN/Field ID: G2TLHR0006 **WBID:** 1242 **ENR:** - **Latitude:** 29.96
County: FRANKLIN **Org ID:** 21FLTLHR **Longitude:** -84.7182
Receiving Body of Water: Apalachicola - Chipola **RQ:** 2021-02-22-38

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Ben Harden	x	x	x	x	x
☒	Paul Blair					
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☐ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: #1	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☒ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# 154177				
Photos: YES	Flow: FLOW		Tide:		Tide Times: High: Low:					
Biological Samples Collected: ☐ None ☒ HA ☐ SCI ☒ RPS ☐ Algae ID ☒ LVS ☐ LVI Other:										
SBIO ID Numbers:										
Notes:										

Duplicate Sample

Time Zone: EST	Time:	Field ID: N/A	(WIN ID_DUP)
WIN DMT Activity ID:			

Blank

Time Zone:	Time:	Field ID:	(Blank Type_DDDMMYYY)
DI Source:	Location:		
DI Type:	Equipment ID:		
DI Container (Name/ID):		DI Container Type:	

LIMS EVENT ID: WIN Import ID:
Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:
(Initials/Date) (Initials/Date)
Scan/Save Field Sheets Migrate Data to WIN: Verify Data In WIN:
(Initials/Date) (Initials/Date) (Initials/Date)



RQ-2021-02-22-38

Customer: WQAP

Project ID: SMP

Collected By: Ben Harden, Paul Blair

Field Report Prepared By: Ben Harden

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G2TLHR0006

Location: Gully Branch 80m north of Gully Branch Rd

Comments:

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT _h)
3/3/2021	1020 EST	8.04	78.6	14.4	4.1	0.3	0.3 ☐ VOB (S)	0.6	43.5	0.02
							Central Lab please use top row for login purposes			
	EST									

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4*	☒ <2	1	B
	Lot # SA0353110 Exp: 01/11/22				
Metals (P-500ML)	☒ W-ICPMS ☒ W-ICP ☒ W-HARD	☒ Ice ☒ HNO3*	☒ <2	1	B
	Lot # NA0344060 Exp: 01/04/22				
Filtered Nutrients (P125ML)	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice		1	B
	Filter Lot # 16968882				
	Syringe Lot # 0079900				
Chlorophyll (BP-1L)	☒ CHLSUITE-W	☒ Ice		1	B
Physical/Aggregate (Fresh) (P-1L)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice		1	B
Physical/Aggregate (Marine) (P-1L)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates (PJ-2L)	☐ MI-FW-QLDC	☐ Formalin			
Periphyton (PT-50ML)	☐ ALGAE-ID	☐ Ice			
Microbiology (Contract Lab Bottle)	☒ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab	☒ Ice		1	B
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD ☐	☐ Ice			
Tracers (BG-500ML)	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides (BG-500ML) (BG-1L)	☐ W-E8321-DI ☐ WE8321-MS ☐ W-PSNP-TQ ☐ W-CT-CL-R	☐ Ice			
	☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution) ☐ W-DIELDRIN				
Phytoplankton/Periphyton	DTM-QL-C ☐ PEN-QL-C ☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			
	DTM-QN-C ☐ PRN-QN-C ☐ PKD-QN-BV ☐				

Name:
Ben Harden
Paul Blair

Signature:

Date:

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End
of Day CCV
Yes / No

WIN Station Name: Crooked River @ Post 46 **Date:** 3/3/2021
WIN/Field ID: G2TLHR0038 **WBID:** 1251 **ENR:** - **Latitude:** 29.903
County: FRANKLIN **Org ID:** 21FLTLHR **Longitude:** -84.6515
Receiving Body of Water: Apalachicola - Chipola **RQ:** 2021-02-22-38

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Ben Harden	x	x	x	x	x
☒	Paul Blair					
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☐ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: #1	
Collection Method	
☒ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# 154177					
Photos: YES	Flow: FLOW			Tide:		Tide Times: High: Low:					
Biological Samples Collected: ☐ None ☒ HA ☐ SCI ☒ RPS ☐ Algae ID ☒ LVS ☐ LVI Other:											
SBIO ID Numbers:											
Notes:											

Duplicate Sample

Time Zone: EST	Time:	Field ID: N/A	(WIN ID_DUP)
WIN DMT Activity ID:			

Blank

Time Zone:	Time:	Field ID:	(Blank Type_DDDMMYY)
DI Source:	Location:		
DI Type:	Equipment ID:		
DI Container (Name/ID):		DI Container Type:	

LIMS EVENT ID: WIN Import ID:
Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:
(Initials/Date) (Initials/Date)
Scan/Save Field Sheets Migrate Data to WIN: Verify Data In WIN:
(Initials/Date) (Initials/Date) (Initials/Date)



RQ-2021-02-22-38

Customer: WQAP

Project ID: SMP

Collected By: Ben Harden, Paul Blair

Field Report Prepared By: Ben Harden

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G2TLHR0038

Location: Crooked River @ Post 46

Comments:

Matrix: Fresh

(Check one)

☒ GRAB☐ COMPOSITE

Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPT _h)
3/3/2021	1110 EST	5.05	53.7	18.3	5.72	0.3	0.3 ☐ VOB (S)	0.95	88.2	0.04
							Central Lab please use top row for login purposes			
	EST									

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4*	☒ <2	1	A
	Lot # SA0353110 Exp: 01/11/22				
Metals (P-500ML)	☐ W-ICPMS ☐ W-ICP ☐ W-HARD	☐ Ice ☐ HNO3*	☐ <2		
	Lot # Exp:				
Filtered Nutrients (P125ML)	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice		1	A
	Filter Lot # 16968882				
	Syringe Lot # 0079900				
Chlorophyll (BP-1L)	☒ CHLSUITE-W	☒ Ice		1	A
Physical/Aggregate (Fresh) (P-1L)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice		1	A
Physical/Aggregate (Marine) (P-1L)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates (PJ-2L)	☐ MI-FW-QLDC	☐ Formalin			
Periphyton (PT-50ML)	☐ ALGAE-ID	☐ Ice			
Microbiology (Contract Lab Bottle)	☒ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab	☒ Ice		1	A
Molecular (QPCR-P-500ML)	☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers (BG-500ML)	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides (BG-500ML) (BG-1L)	☐ W-E8321-DI ☐ WE8321-MS ☐ W-PSNP-TQ ☐ W-CT-CL-R	☐ Ice			
	☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution) ☐ W-DIELDRIN				
Phytoplankton/Periphyton	☐ DTM-QL-C ☐ PEN-QL-C ☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			
	☐ DTM-QN-C ☐ PRN-QN-C ☐ PKD-QN-BV				

Name:
Ben Harden
Paul Blair

Signature:

Date:

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

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

SAMPLE ID G2TLHR0038 ORG ID _____ LATITUDE _____
 COUNTY Franklin STORET # _____ LONGITUDE _____
 DATE 3-3-21 TIME 11:10 SAMPLING AGENCY 8034/G2TLHR0038
 SITE NAME Crooked River
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Apalachicola

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>30</u> m wide <u>0.25</u> m/s <u>0.25</u> m/s <u>0.25</u> m/s <u>0.2</u> m deep <u>1.4</u> m deep <u>0.4</u> 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>—</u> + <u>1.4</u> = <u>1.4</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 ☐
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SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon				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>18.2</u>	<u>5.72</u>	<u>5.05</u>	<u>53.7</u>	<u>88.2</u>	<u>0.04</u>	<u>0.3</u>			
Mid:									☐ VOB		
Bottom:									TOTAL DEPTH <u>0.95</u>		
Meter ID: <u>154177</u>											
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) ☐							
Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: <u>0358110</u> Exp: <u>1/11/22</u>				Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐							

ABUNDANCE	Not Obs.	Rare	Common	Abundant
Periphyton:	☒	☐	☐	☐
Fish:	☐	☒	☐	☐
Aquatic Plants:	☐	☐	☐	☒
Iron/Sulfur Bacteria:	☒	☐	☐	☐

SAMPLING TEAM

Blair/Harden

SIGNATURE:

Paul Bk

DATE:

3-3-21

AMBIENT FIELD CONDITIONS / NOTES:

☒ The antecedent hydrologic conditions have been met to my best knowledge.

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

SAMPLING AGENCY: <u>8034/21 FL TLHR</u>	STORET STATION NUMBER:	DATE (MM/DD/YY): <u>3-3-21</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Franklin</u>	LOCATION: <u>Crooked River</u>	FIELD ID/NAME: <u>G2TLHR0038</u>

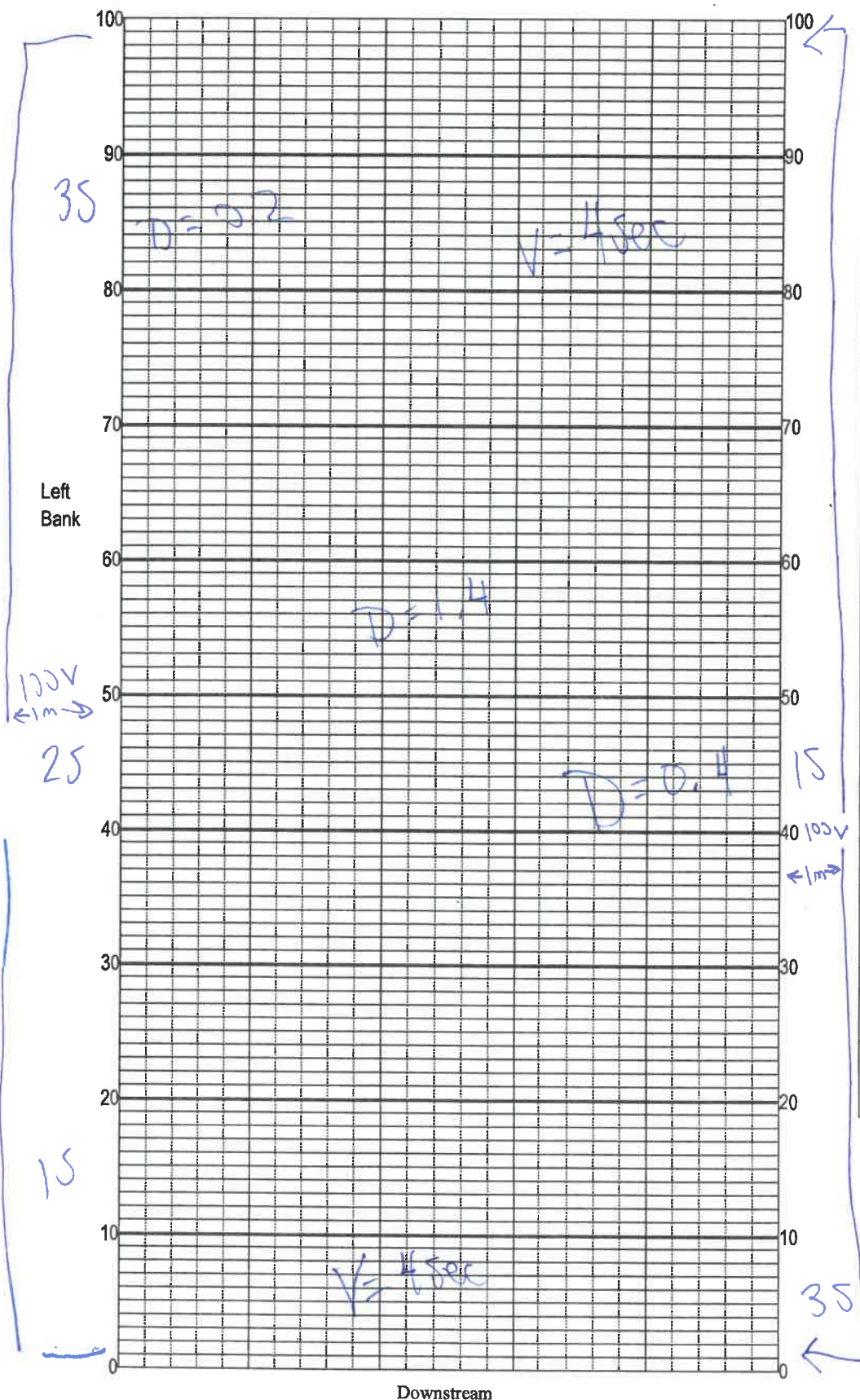
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>7</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 <u>7</u> 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>15</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>16</u> ----- Primary Score <u>48</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 <u>16</u>	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 <u>20</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>26</u> Left Bank <u>10</u> <u>10</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 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 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>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

128

TOTAL SCORE

Date:	Analyst:	Signature:
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Crooked River
 Date: 3.3.21
 Sampler: Paul Blair

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	
Substrates: Code key, draw proportionate habitat abundance. %	
☒ S	Snags <u>6.33</u>
☒ R	Roots/undercut banks
☒ L	Leaf Packs (or mats)
☒ V	Aquatic Macrophytes <u>6-6</u>
☒ K	<u>rock</u>
☐	
☐	
Pools	total # observed = # range expected =

Average width 30 m
 Average depth 0.73 m

Velocity measured at 5 meter mark.

WQ & chemistry taken at 1 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:

V = 200
S = 10

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

28 m
30

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: B2TLH0038 County: Franklin Date: 3-3-21 Investigators: Blair/Harden

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 2 3 4 5 6 7 8 9 60 1 2 3 4 5 6 7 8 9

10 1 2 3 4 5 6 7 8 9 70 1 2 3 4 5 6 7 8 9

20 1 2 3 4 5 6 7 8 9 80 1 2 3 4 5 6 7 8 9

30 1 2 3 4 5 6 7 8 9 90 1 2 3 4 5 6 7 8 9

40 1 2 3 4 5 6 7 8 9 100 1 2 3 4 5 6 7 8 9

50 1 2 3 4 5 6 7 8 9

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-2021-62-22-38

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 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%.

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

[illegible]

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

SAMPLE ID G2TLHR0006 ORG ID _____ LATITUDE _____
 COUNTY Franklin STORET # _____ LONGITUDE _____
 DATE 3-3-21 TIME 10:20 SAMPLING AGENCY 8034/2JTLHROC
 SITE NAME Gully Branch
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Apalachicola

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)		
<u>100</u>									
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								<u>2</u> m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>>18m</u>		Right Bank: <u>>18m</u>							
High Water Mark: <u>0.3</u> + <u>0.6</u> = <u>0.9</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	☐ Moderate ☐ Profuse	☒ Normal ☐ Sewage ☐ Petroleum	☐ Chemical ☐ Anaerobic	☐ Other (Specify):	
				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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>6.75</u>		
Undercut Banks / Roots			
Leaf Packs or Mat	<u>3.5</u>		
Aquatic Vegetation	<u>1.5</u>		
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>14.4</u>	<u>4.1</u>	<u>8.04</u>	<u>78.6</u>	<u>43.5</u>	<u>0.02</u>	<u>0.3</u>
Mid:								☐ VOB
Bottom								
Meter ID:	<u>154177</u>							<u>0.6</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: 5353119/0344060 Exp: 1/1/22 - 1/4/22

Water Surface Oils Normal ☒ Sheen ☐
 Globs ☐ Slick ☐ Other ☐

Color Tannic ☒ Green (Algae) ☐
 Clear ☐ Other (Specify) ☐

Clarity Clear ☒ Slightly Turbid ☐
 Turbid ☐ Opaque ☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:

☒ The antecedent hydrologic conditions have been met to my best knowledge.

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☒	☐	☐	☐
Fish:	☒	☐	☐	☐
Aquatic Plants:	☐	☒	☐	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

SAMPLING TEAM

Blair/Harden

SIGNATURE

Paul

DATE:

3-3-21

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: G2TLHR0006 County: Franklin Date: 3-3-21 Investigators: Blair/Harden

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	N		
	3	N				3	N		
	4	N				4	N		
	5			90		5			90
	6					6			
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
10	1	N			70	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5			84		5			88
	6					6			
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
20	1	N			80	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5			74		5			90
	6					6			
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
30	1	N			90	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5			78		5			80
	6					6			
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
40	1	N			100	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5			82		5			86
	6					6			
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
50	1	N							
	2	N							
	3	N							
	4	N							
	5			80					
	6								
	7	N							
	8	N							
	9	N							

STORET Station Number:

Secchi depth 0.3
Estimated? N

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 ☒
Habitat Assessment ☒
SCI/Biorecon ☒
Water sample ☒
RQ- 2021-02-22-38

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%.

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

SAMPLING AGENCY: <u>8034/21FLTLHR</u>		STORET STATION NUMBER:	DATE (MM/DD/YY): <u>3-3-21</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Franklin</u>	LOCATION: <u>Gully Branch</u>		FIELD ID/NAME: <u>G2TLHR0006</u>

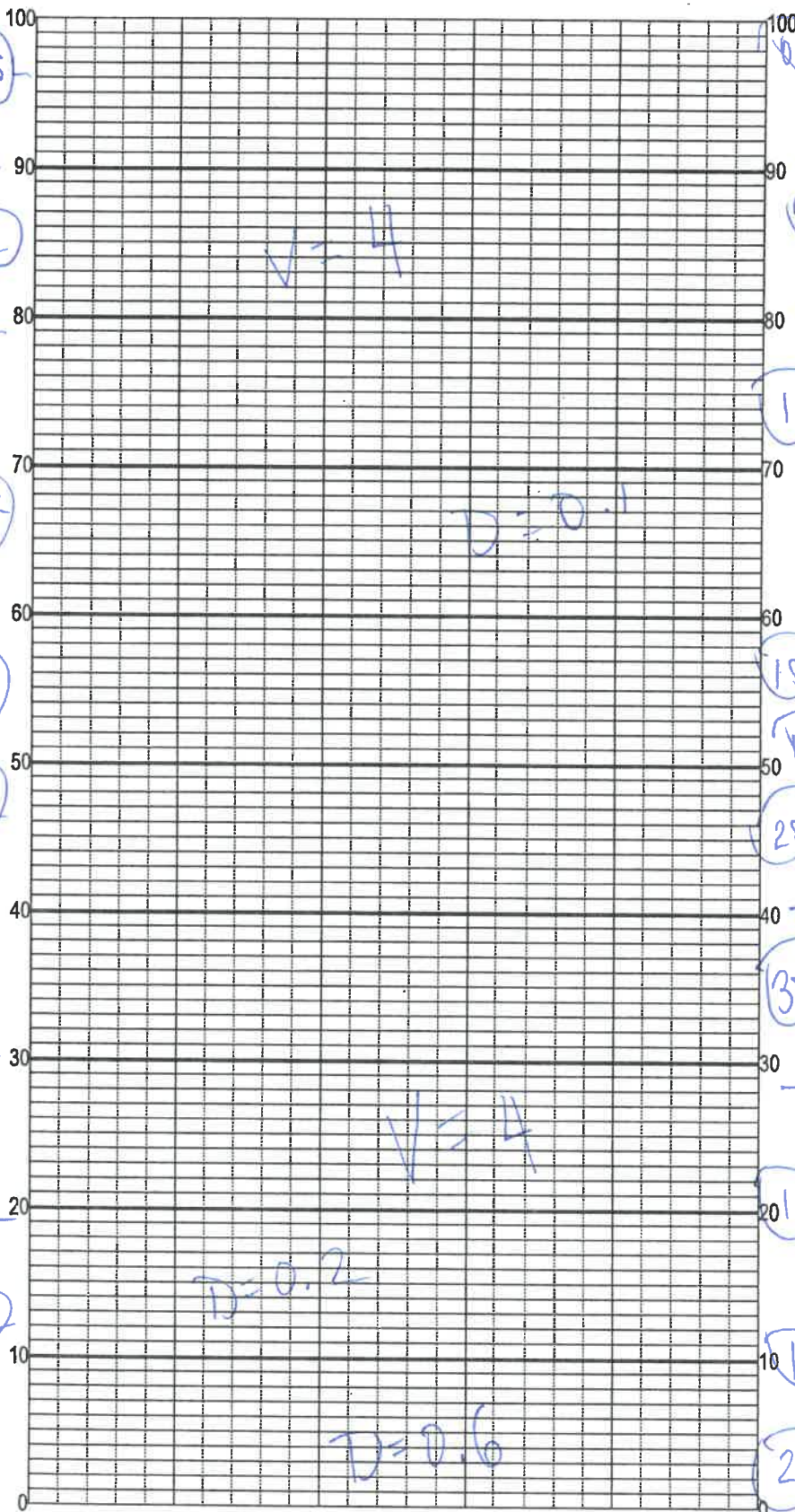
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>13</u>	20 19 18 17 16	15 14 <u>13</u> 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>12</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 <u>12</u> 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>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 <u>16</u>	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>20</u> ----- Primary Score <u>20</u> <u>61</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. <u>20</u> 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 <u>20</u>	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 <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

TOTAL SCORE

140

Date: <u>3-3-21</u>	Analyst: <u>Paul Blair/Ben Horden</u>	Signature: <u>Paul Blair</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Gully Branch
 Date: 3-3-21
 Sampler: Blair/Harden

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

Substrates: Code key, draw proportionate habitat abundance.		%
☐ S	Snags	6.75
☐ R	Roots/undercut banks	
☐ L	Leaf Packs (or mats)	3.5
☐ V	Aquatic Macrophytes	1.5
☐ K	rock	
☐		
☐		
Pools		total # observed = _____ # range expected = _____

Average width 2 m
 Average depth 0.15 m

Velocity measured at 25 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:

L = 7
 S = 13.5
 V = 3

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

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: Gully Branch

Date: 3-3-21

County: Franklin

Storet Number:

Analyst: Paul Blair

Signature: 

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² 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.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
<i>Alternanthera philoxeroides</i>												<i>Micranthemum glomeratum</i>											
<i>Bacopa caroliniana</i>												<i>Micranthemum umbrosum</i>											
<i>Bacopa monnieri</i>												<i>Myriophyllum aquaticum</i>											
<i>Bidens mitis</i>												<i>Najas guadelupensis</i>											
<i>Boehmeria cylindrica</i>												<i>Nuphar luteum</i>											
<i>Centella asiatica</i>												<i>Orontium aquaticum</i>											
<i>Ceratophyllum demersum</i>												<i>Panicum hemitomon</i>											
<i>Chara</i>												<i>Panicum repens</i>											
<i>Cicuta maculata</i>												<i>Panicum rigidulum</i>											
<i>Cladium jamaicense</i>												<i>Pistia stratioides</i>											
<i>Colocasia esculenta</i>												<i>Polygonum glabra</i>											
<i>Commelina diffusa</i>												<i>Polygonum hydropiperoides</i>											
<i>Commelina virginica</i>												<i>Polygonum punctatum</i>											
<i>Crinum americanum</i>												<i>Pontedaria cordata</i>											
<i>Diodia virginiana</i>												<i>Potamogeton illinoensis</i>											
<i>Eichhornia crassipes</i>												<i>Ruellia simplex</i>											
<i>Eleocharis (wispy viviparous)</i>												<i>Sacciolepis striata</i>											
<i>Hydrilla verticillata</i>												<i>Sagittaria kurziana</i>											
<i>Hydrocotyle</i>												<i>Sagittaria lancifolia</i>											
<i>Hygrophila polysperma</i>												<i>Sagittaria latifolia</i>											
<i>Hymenocallis</i>												<i>Salvinia minima</i>											
<i>Lachnanthes caroliniana</i>												<i>Samolus parviflora</i>											
<i>Landoltia punctata</i>												<i>Saururus cernuus</i>											
<i>Lemna</i>												<i>Sparganium americanum</i>											
<i>Limnophila sessiflora</i>												<i>Typha</i>											
<i>Ludwigia leptocarpa</i>												<i>Vallisneria americana</i>											
<i>Ludwigia palustris</i>												<i>Zizania aquatica</i>											
<i>Ludwigia peruviana</i>																							
<i>Ludwigia repens</i>												<i>Woodwardia Virginica</i>											
<i>Luziola fluitans</i>																							

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

SAMPLE ID G2TLHR0038 ORG ID _____ LATITUDE _____
COUNTY Franklin STORET # _____ LONGITUDE _____
DATE 3-3-21 TIME 11:10 SAMPLING AGENCY 8034/G2TLHR0038
SITE NAME Crooked River
FIELD ID/NAME _____ RECEIVING BODY OF WATER Apalachicola

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				Typical Width (m) Depth (m) Velocity (m/sec) Transect <u>30</u> m wide				
Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy								
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>—</u> + <u>1.4</u> = <u>1.4</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				
Artificially ☒ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%)				
Channelized: ☐ Some recovery ☐ Recent, severe				☐ 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 ☐
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SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☒ RPS ☒ LVS

☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>0.33</u>		
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation	<u>6.6</u>		
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>18.2</u>	<u>5.72</u>	<u>5.05</u>	<u>53.7</u>	<u>88.2</u>	<u>0.04</u>	<u>0.3</u>
Mid:								
Bottom:								
Meter ID:	<u>154177</u>							<u>0.95</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: 0358110 Exp: 1/11/22

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:

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Blair/Harden

SIGNATURE:

Paul Bk

DATE:

3-3-21

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

SAMPLING AGENCY: <u>8034/21 FL TLHR</u>	STORET STATION NUMBER:	DATE (MM/DD/YY): <u>3-3-21</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Franklin</u>	LOCATION: <u>Crooked River</u>	FIELD ID/NAME: <u>G2TLHR0038</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>7</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 <u>7</u> 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>15</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>16</u> ----- Primary Score <u>48</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 <u>16</u>	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 <u>20</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>26</u> Left Bank <u>10</u> <u>10</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 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 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>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

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TOTAL SCORE

Date:	Analyst:	Signature:
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Handwritten annotations on the graph:

- $D = 0.2$ (at approx. x=10, y=85)
- $V = \frac{1}{4} \text{ sec}$ (at approx. x=70, y=85)
- $D = 1.4$ (at approx. x=35, y=55)
- $D = 0.4$ (at approx. x=70, y=45)
- $V = \frac{1}{4} \text{ sec}$ (at approx. x=35, y=5)

Sampler: Paul Blair

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance.	%
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90
10	100

5	Snags	6.33
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R Roots/undercut banks

L Leaf Packs (or mats)

☒ Aquatic Macrophytes 6-6

K rock

☐ Pools total # observed = _____
range expected = _____

Average width 30 m

Average depth 0.73 m

Velocity measured at 5 meter mark.

WQ & chemistry taken at 1 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:

$$V = 200$$
$$S = 10$$

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: B2TLH0038 County: Franklin Date: 3-3-21 Investigators: Blair/Harden

STORET Station Number:

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		✓			2		✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7	✓	✓			7	✓	✓	
	8	✓	✓			8	✓	✓	
	9	✓	✓			9	✓	✓	
10	1	N			70	1	N		
	2		✓			2		✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7	✓	✓			7	✓	✓	
	8	✓	✓			8	✓	✓	
	9	✓	✓			9	✓	✓	
20	1	N			80	1	N		
	2		✓			2		✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7	✓	✓			7	✓	✓	
	8	✓	✓			8	✓	✓	
	9	✓	✓			9	✓	✓	
30	1	N			90	1	N		
	2		✓			2		✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7	✓	✓			7	✓	✓	
	8	✓	✓			8	✓	✓	
	9	✓	✓			9	✓	✓	
40	1	N			100	1	N		
	2		✓			2		✓	
	3		✓			3		✓	
	4		✓			4		✓	
	5		✓	0		5		✓	0
	6		✓			6		✓	
	7	✓	✓			7	✓	✓	
	8	✓	✓			8	✓	✓	
	9	✓	✓			9	✓	✓	
50	1	N							
	2		✓						
	3		✓						
	4		✓						
	5		✓	0					
	6		✓						
	7	✓	✓						
	8	✓	✓						
	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 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%.

Secchi depth 0.3
Estimated? N

points ranked 4-6 0
total points assessed 19
% 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-2021-62-22-38

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 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody:		Date:	County:	Storet Number:																								
<u>Crooked River / G2ILHR0038</u>		<u>3-3-21</u>	<u>Franklin</u>																									
Analist:	<u>Paul Blair</u>	Signature: _____ <u>[Handwritten Signature]</u>																										
Comments:																												
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² 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.																												
HERBACEOUS SPECIES	Meter Mark									Specimen collected (check)		HERBACEOUS SPECIES	Meter Mark									Specimen collected (check)						
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90				90-100	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80		80-90	90-100				
Alternanthera philoxeroides	✓									✓		Micranthemum glomeratum																
Bacopa caroliniana												Micranthemum umbrosus																
Bacopa monnieri												Myriophyllum aquaticum																
Bidens mitis												Najas guadelupensis																
Boehmeria cylindrica												Nuphar luteum																
Centella asiatica												Oryzopsis aquatilis																
Ceratophyllum demersum												Panicum hemitomon																
Chara												Panicum repens																
Cicuta maculata												Panicum rigidulum																
Cladium jamaicense												Pistia stratiotes																
Colocasia esculenta												Polygonum glabra																
Commelina diffusa												Polygonum hydropiperoides																
Commelina virginica												Polygonum punctatum																
Crinum americanum												Pontederia cordata																
Diodia virginiana												Potamogeton illinoensis																
Eichhornia crassipes												Ruellia simplex																
Eleocharis (wispy viviparous)												Sagittaria 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 sessiflora												Typha																
Ludwigia leptocarpa												Vallisneria spiralis																
Ludwigia palustris												Zizania aquatica																
Ludwigia peruviana																												