



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 1

Data Qualified?

Yes / No

October 2017

Location/STORE Station Name: Bugg Spring Run @ 475m Upstream Date: 11/21/17
of Helena Run STORE # G1CE0037 WBID: 1362 Latitude: 28.760959
(mm/dd/yyyy)

County: Lake RQ - 2017-09-04-45 ORG ID: 2IFUEN Longitude: -81.897361
(Decimal Degrees)

Receiving Body of Water: _____ Field ID: G1CE0037

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Lif Bonan									
Kate Williams									

Sampling Equipment				
☒ Sample Container	☐ Van Dorn	☐ Pole		
☐ Carboy	☒ Syringe			
☐ Dipper	☐ Other			

Equipment ID _____

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

Water Level: Dry / Low / <u>Normal</u> / Above Normal / Flooded					Meter ID# <u>Betty 67</u>	Matrix: <u>Fresh</u> / Marine / DI	
Photos: Yes / No					Flow: <u>No Flow</u> / Intestinal / Flowing / NA	Tide: Rising / Falling / Slack / NA	Tide Times: High / Low

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTH)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
EST	1200	0.3	1.1	2.4	26	7.2	0.16	1.1 (s)	343	20.0
CEN										

Biological Samples Collected: None / <u>HA</u> / SCI / <u>RPS</u> / Algae ID / <u>LVS</u> / LVI / Other				
SBIO ID Numbers: SBIO-ID: <u>78128</u> HA-ID: <u>14932</u> RPS-ID: <u>8849</u> Macrophyte-ID: <u>10782</u> LIMS#: <u>1948311</u>				

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	<u>SA7275010</u>	<u>10/18</u>	☒ <2
Metals	☐ W ICPMS ☐ W ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W PO4 F ☒ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHL SUITE W	☒ Ice			
Physical/Aggregate (Fresh)	☐ Alkalinity / W F / W TSS / TURBIDITY / W-CLIC / W COLOR / W SO4-IC / W TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W F / W TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW Q/LDC	☐ 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	☐ Ice			
	☐ W-PCL SQ R ☐ W-PYR AA R ☐ W GLYPH ☐ W-SUC AA R	☐ Other			

Notes: Algal-ID

Signature: K Williams

Field Parameters Entered into LIMS: kmw 12/6/17

Date Migrated to STORET: _____

Bugg Spring Run @ 475m Upstream of Helena Run
G1CE0037
Field ID
STORET
RQ-2017-09-04-45
Date: 11/21/2017
G1CE0037

Field Parameters QC in LIMS: _____

Field Sheets Scanned/Saved: _____

(Initials/Date)

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

SAMPLE ID _____ ORG ID 21 Filed LATITUDE 28.760959
 COUNTY Lake STORET # 6160037 LONGITUDE -81.897361
 DATE 11/21/17 TIME _____ SAMPLING AGENCY _____
 SITE NAME Buggy Spring Run @ 475 m upstream of Helena Run
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Helena Run

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>60</u> Silviculture _____ Field/Pasture <u>15</u> Agricultural _____ Residential <u>25</u> 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>10</u> m wide <u>0.00</u> m/s <u>0.00</u> m/s <u>0.00</u> m/s			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>19</u> Right Bank: <u>>19</u>				Hydrologic Modification Score (per FT 3101) _____				<u>0.00</u> m/s <u>0.00</u> m/s <u>0.00</u> m/s	
High Water Mark: <u>0.1</u> + <u>1.1</u> = <u>1.2</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				<u>1.1</u> m deep <u>1.1</u> m deep <u>1.1</u> 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 ☐ LCI ☐ BioRecon % Coverage INVERT # Times Sampled PERI # Times Sampled Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ 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>20.0</u> <u>7.2</u> <u>2.4</u> <u>26</u> <u>343</u> <u>0.14</u> _____ Mid: _____ Bottom: _____ Meter ID: <u>Betty 67</u> Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☒ No Lot Number: _____ Exp: _____					
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☐ ☒ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			Water Surface Oils Normal ☒ Sheen ☒ Globs ☐ Slick ☐ Other ☐ <u>in areas</u> Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐					
System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>Spring run</u>			AMBIENT FIELD CONDITIONS / NOTES: <u>Cool & overcast. More surface algae seen than last year. Otherwise looks very similar.</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					

SAMPLING TEAM Katie Williams, Leif Boman SIGNATURE Kullman DATE: 11/21/17

Also bright green algae noted on bottom, not noted before. Collected for 10.

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

SAMPLING AGENCY:		STORET STATION NUMBER: <u>G1CE0037</u>	DATE (MM/DD/YY): <u>11/21/17</u>	RECEIVING BODY OF WATER: <u>Helena Run</u>
REMARKS:	COUNTY: <u>Lake</u>	LOCATION: <u>Buggy Spring Run</u>	FIELD ID/NAME:	

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>3</u>	20 19 18 17 16	15 14 13 12 11	10 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 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>1</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>3</u> ----- Primary Score <u>14</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 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>	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 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 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>9</u> Left Bank <u>9</u> ----- Secondary Score <u>78</u>	10 9	8 7 6	5 4	3 2 1

92 TOTAL SCORE

Date: <u>11/21/17</u>	Analyst: <u>Kate Williams, Leif Boman</u>	Signature: <u>Kullthana</u>
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[illegible]

*much more aerial coverage of *Salvinia* & *Lemna* than last visit,
but not much under 2

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Bugg Spring Run County: Lake Date: 11/21/17 Investigators: Katie Williams, Leif Boman

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

STORET Station Number: 6160037

Secchi depth 1.1
Estimated?
points ranked 4-6 24
total points assessed 91
% points ranked 4-6 24

(Exclude X's)

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey ✓
Habitat Assessment ✓
SCI/Biorecon
Water sample ✓
RQ- 2017-09-04-45

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

(> 3 considered smothered)

(N to 1 mm)

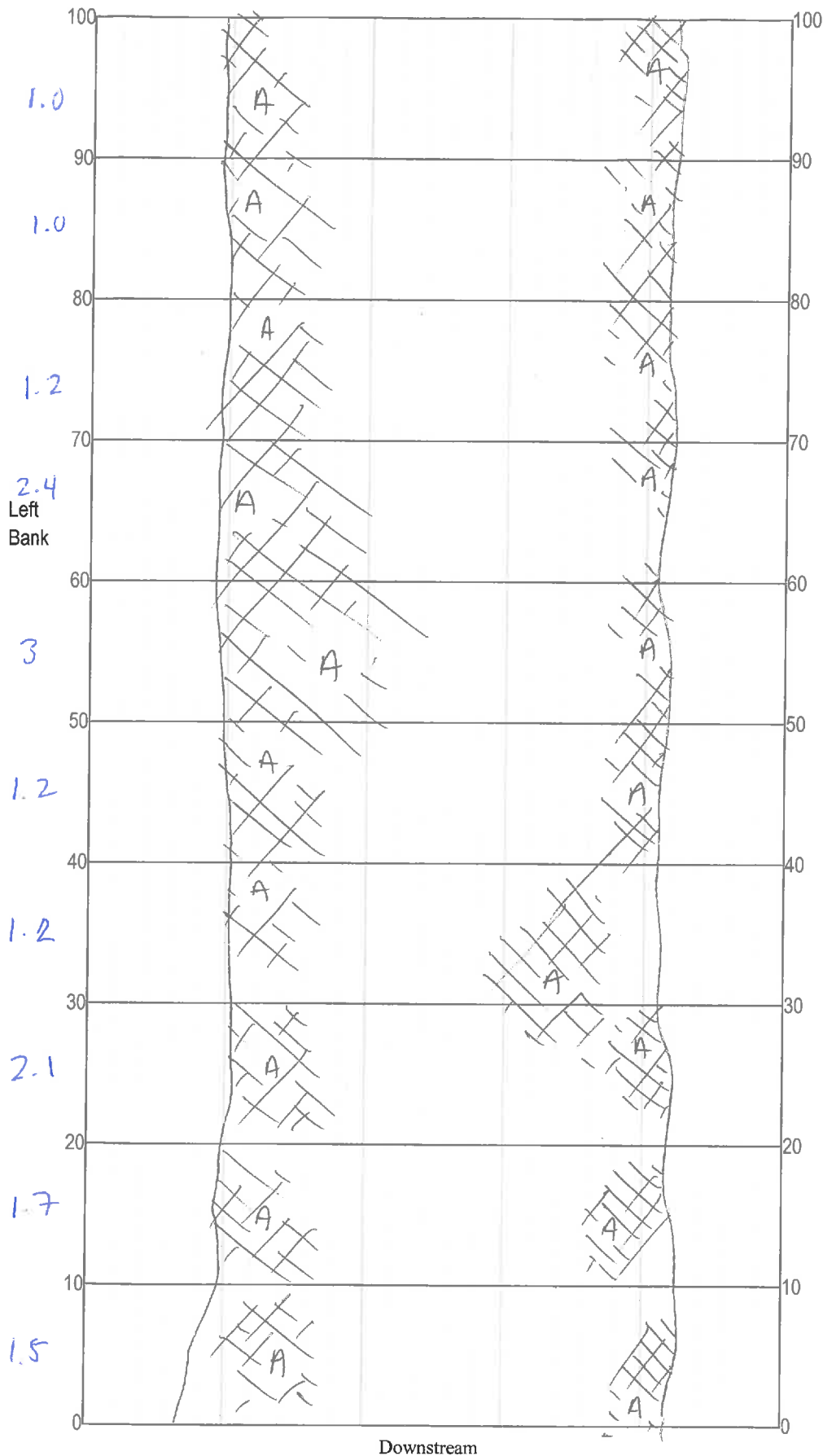
(3) 6mm

(4) 20mm

(5) 10cm

(6)

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



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

Location: BUGG SPRING

Date: 11/21/17

Sampler: _____

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	<u>16.3</u>
☐	_____	_____
☐	_____	_____
☐	Pools	total # observed = _____ # range expected = _____

Average width 10 m

Average depth _____ m

Velocity measured at 0 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:

16.3