



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 1

Data Qualified?

Yes / No

October 2016

STORET Station Name: Bugg Spring Run @ 475m upstream

Date: 11/16/16

STORET Station ID: 20020254

WBID: 1362

Latitude: 28.740959

County: Lake

RQ: 2016-02-29-49

ORG ID: 21FCEN

Longitude: -81.847361

Receiving Body of Water: Helena Run

Field ID: G1CE0037

Sampling Team Members

Leif Bowman
Katie Williams

Sampling Equipment

- ☒ Sample Container ☐ Van Dorn ☐ Pole
☐ Carboy ☒ Syringe
☐ Dipper ☐ Other

Equipment ID

Collection Method

- ☐ Wading ☐ Via Boat
☐ From Shore ☐ Canoe/Kayak
☐ Other (note below) ☐ Electric Motor
☒ Gasoline Motor

Water Level: Dry / Low / Normal / High / Flooded

Matrix: Fresh / Marine / DI

Meter ID# Betty/67

Photos: Yes / No

Tide Falling: Yes / No / NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
<u>EST</u>	<u>1230</u>	<u>0.3</u>	<u>12</u>	<u>4.6</u>	<u>51</u>	<u>6.6</u>	<u>0.16</u>	<u>1.2(s)</u>	<u>336</u>	<u>19.7</u>
CEN										

Biological Samples Collected: None HA SCI LVS RPS LVI Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4			☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO2			☐ <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-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Enteroc ☐ QPCR	☐ Ice			
Periphyton	☐ ALGAE ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Contains
1:1
Sulfuric Acid
SA-6209120
EXP: 07/27/17
Warning!
See SDS

Sticker(s) Here
(available)

Notes:

Bugg Spring Run @ 475m
upstream from Helena Run

G1CE0037
Field ID ↑
STORET ↓
20020254

RQ-2016-02-29-49
Date: 11/16/16

Signature:

K Williams

Date:

11/16/16

Field Parameters Entered into LIMS:

KMW 11/21/16

Field Parameters QC in LIMS:

(Initials/Date)

Date Migrated to STORET:

(Initials/Date)

Field Sheets Scanned/Saved:

(Initials/Date)

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

SAMPLE ID _____ ORG ID 2IFCEN LATITUDE 28.760959
 COUNTY Lake STORET # 20020254 LONGITUDE -81.997361
 DATE 11/16/14 TIME _____ SAMPLING AGENCY 2IFCEN
 SITE NAME Buggy Spring Run @ 475m upstream of Helena Run
 FIELD ID/NAME ACE0037 RECEIVING BODY OF WATER Helena Run

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>40</u> Silviculture _____ Field/Pasture <u>20</u> Agricultural <u>15</u> Residential <u>25</u> 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>10</u> m wide				
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy				Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>19</u> Right Bank: <u>>18</u>				
High Water Mark: <u>0.1</u> + <u>1.2</u> = <u>1.3</u> (m) (above present water level) (present depth) (above bed)				Hydrologic Modification Score (per FT 3101) _____				
Artificially Impounded ☐ Yes ☒ No				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)				
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>0.05</u> m/s <u>0.05</u> m/s <u>0.05</u> m/s <u>1.2</u> m deep <u>1.2</u> m deep <u>1.2</u> m deep				

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							
Invert ☐ Peri ☐ % Coverage # Times Sampled # Times Sampled			Depth (M) Top: <u>0.3</u> Mid: _____ Bottom: _____	Temp. (°C) <u>19.7</u>	pH (SU) <u>6.6</u>	D.O. (MG/L) <u>4.6</u>	D.O. Sat (%) <u>51</u>	Cond. (UMHO/CM) <u>336</u>	Salinity (PPT) <u>0.16</u>	SECCHI (M) ☒ VOB TOTAL DEPTH <u>1.2</u>
Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble _____ Sand _____ Mud / Muck / Silt _____ Other _____ Other _____			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Stick ☐ Other ☐				
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number <u>6209120</u> Exp: <u>7/17</u>			Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☒ No Lot Number: _____ Exp: _____			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) _____				
ABUNDANCE Not Obs Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) <u>Spring run</u>							
AMBIENT FIELD CONDITIONS / NOTES: Mostly sunny, warm. SCI was scheduled but run was deemed inappropriate. ☒ The antecedent hydrologic conditions have been met to my best knowledge.										

SAMPLING TEAM

Katie Williams, Lef Bonam

SIGNATURE

K Williams

DATE:

11/16/14

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

SAMPLING AGENCY: <u>21FLCEN-CERCA</u>		STORET STATION NUMBER: <u>20020254</u>	DATE (MM/DD/YY): <u>11/6/14</u>	RECEIVING BODY OF WATER: <u>Helena Run</u>
REMARKS:	COUNTY: <u>Lake</u>	LOCATION: <u>Bugg Spring Run</u>	FIELD ID/NAME: <u>GICE0037</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>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>1</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>6</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 <u>0.05</u> 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>19</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

91

TOTAL SCORE

Date: <u>11/6/14</u>	Analyst: <u>Katie Williams, Leaf Boman</u>	Signature: <u>KWilliams</u>
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Waterbody: Gaug Spring Run

Date: 11/16/16 County:

County: _____
Signature: KW Lano

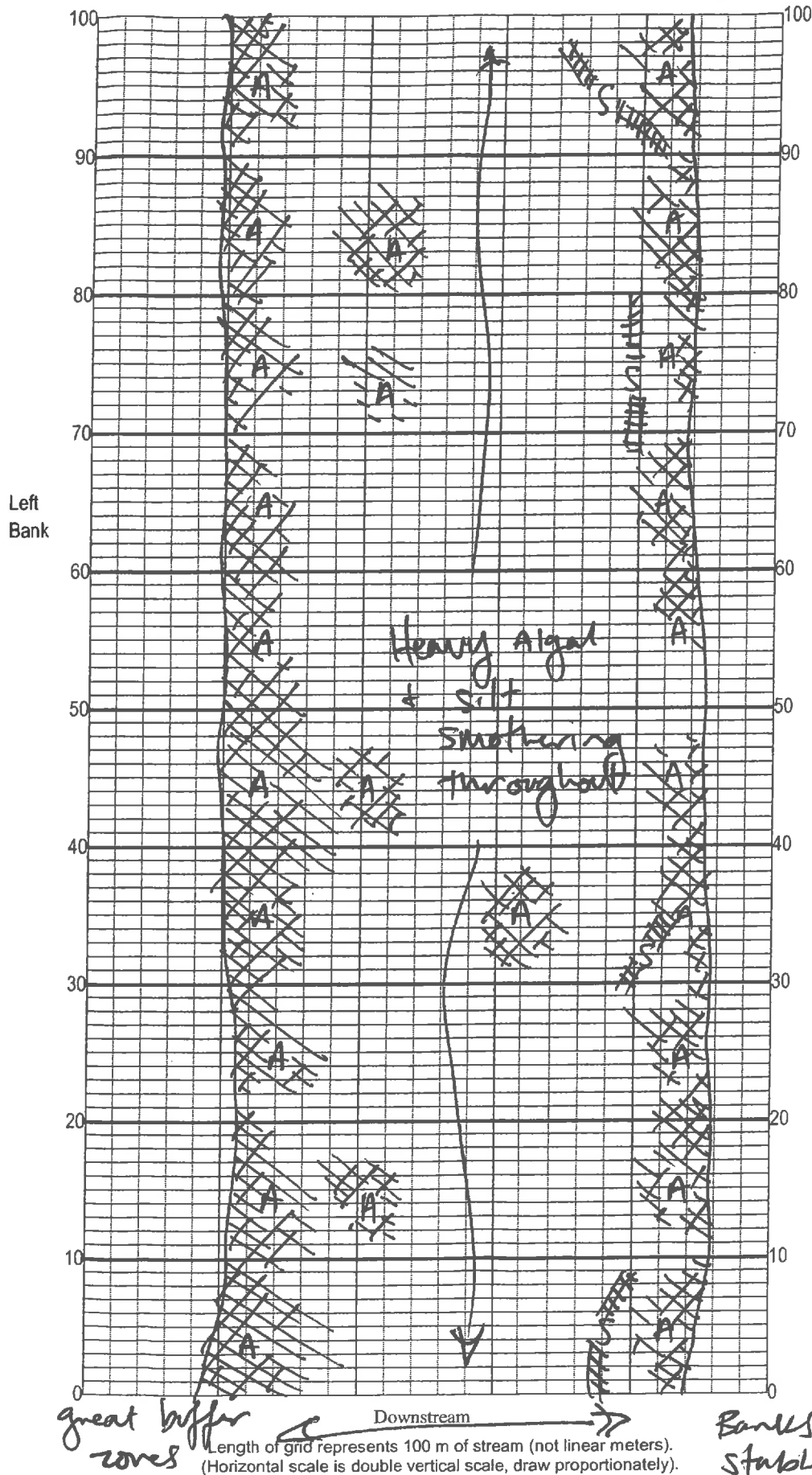
Storet Number: 20020254

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.

[illegible]

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



Location: Bigg Spring
 Date: 11/16/16
 Sampler: Katie Williams, Leif Boman

100 m: Latitude	Longitude
0 m: Latitude	Longitude
Substrates: Code key, draw proportionate habitat abundance. %	
	Snags
	Roots/undercut banks
	Leaf Packs (or mats)
	Aquatic Macrophytes
	Pools
total # observed = _____	
# range expected = _____	
Average width <u>10</u> m	
Average depth _____ m	
Velocity measured at <u>0</u> meter mark.	
WQ & chemistry taken at _____ 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:
velocity 0.06

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Bug Spring Run</u>					County: <u>Lake</u>		Date: <u>11/16/16</u>		Investigators: <u>KMW, LGB</u>	
									STORET Station Number: <u>20020254</u>	

Transect (m)	Point	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
	1=right 9=left					1=right 9=left			
0	1	4			60	1	4		
	2	4	✓			2	4	✓	
	3	4				3	4		
	4	4				4	4		
	5	4		0		5	4		0
	6	4				6	4		
	7	4				7	4		
	8	4				8	4		
	9	4				9	4		
10	1	4			70	1	4		
	2	4	✓			2	4	✓	
	3	4				3	4		
	4	4		0		4	4		0
	5	4				5	4		
	6	4				6	4		
	7	4				7	4		
	8	4				8	4		
	9	4				9	4		
20	1	4			80	1	4		
	2	4	✓			2	4	✓	
	3	4				3	4		
	4	4		4		4	4		4
	5	4				5	4		
	6	4				6	4		
	7	4				7	4		
	8	4				8	4		
	9	4				9	4		
30	1	4			90	1	4		
	2	4	✓			2	4	✓	
	3	4				3	4		
	4	4		0		4	4		0
	5	4				5	4		
	6	4				6	4		
	7	4				7	4		
	8	4				8	4		
	9	4				9	4		
40	1	4			100	1	4		
	2	4	✓			2	4	✓	
	3	4				3	4		
	4	4		0		4	4		0
	5	4				5	4		
	6	4				6	4		
	7	4				7	4		
	8	4				8	4		
	9	4				9	4		
50	1	4				1	4		
	2	4	✓			2	4	✓	
	3	4				3	4		
	4	4		12		4	4		
	5	4				5	4		
	6	4				6	4		
	7	4				7	4		
	8	4				8	4		
	9	4				9	4		

Secchi depth	1.2 (s)
Estimated?	

# points ranked 4-6	22
total points assessed	99
% points ranked 4-6	22

Check accompanying data collected at same site/date.	
Algal mat sample	✓
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	
Water sample	✓
RQ- <u>2016-02-29-49</u>	

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%.