



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

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Data Qualified?

Yes / No

February 2017

STORET Station Name: Unnamed Branch US of Airport Rd Date: 3/15/17

STORET Station ID: G5CE0084 WBID: 2641 Latitude: 29.306394 (mm/dd/yyyy)

County: Volusia RQ: 2017-03-20-54 ORG ID: 2IFCEN Longitude: -81.103035 (Decimal Degrees)

Receiving Body of Water: _____ Field ID: G5CE0084 (Decimal Degrees)

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Leif Boman						
Kurt 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 / Pooled / Low / <u>Normal</u> / High / Flooded		Matrix: <u>Fresh</u> Marine / DI								
Meter ID# <u>Betty 67</u>		Photos: Yes / <u>No</u>								
		Tide Falling: Yes / No / <u>NA</u>								
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°)
EST	1215	0.1	0.2	8.1	79	7.5	0.19	0.2(s)	400	14.0
CEN										

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other _____

SBIO ID Numbers: SBIO-ID: 77405 RPS-ID: 8616 Macrophyte-ID: n/a LIMS#: 1880466

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	<u>10242080</u>	<u>8/17</u>	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <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			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Entero ☒ PCR-FILTER	☐ Ice			
Tracers	☐ W-LCMS-DU (1/4 vial fill) ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-LCMS-DU (1/4 vial fill)	☐ Ice			
	☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Other			

Notes: _____

Signature: KW Williams

Unnamed Branch
upstream of Airport Rd.

RQ-2017-03-20-54
Date: 03/15/17

Date: 3/15/17

G5CE0084

Field ID ↑

STORET ↓



G5CE0084

Field Parameters Entered into LIMS: _____ (Initials/Date)

Date Migrated to STORET: _____ (Initials/Date)

Field Parameters QC in LIMS: _____ (Initials/Date)

Field Sheets Scanned/Saved: _____ (Initials/Date)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Unnamed Branch County: 3/15/17 Date: Johna Investigators: KMW, LGB

Transect (m) Point 1=right 9=left Algal Thickness Rank (N-6, X) Estimated Canopy Cover

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STORET Station Number: 65CED084

Secchi depth 0.2
Estimated?

points ranked 4-6 0
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- 2017-03-20-54

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

Cannot wade creek due to soft substrate so cannot assess all points or get densimeter readings. Due to nature of system, algae is presumed absent.

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%.

Waterbody: <u>Unnamed Branch</u>	Date: <u>3/15</u>	County: <u>Valusia</u>	Storet Number: <u>65LE000</u>
Analyst: <u>Kate Williams</u>	Signature: <u>K Williams</u>		
Comments: <u>2m², no WS, Saururus & Proximum present</u>			
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m ² 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.			

Revision Date: March 1, 2014

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

SAMPLING AGENCY:		STORET STATION NUMBER: <u>G5CE0084</u>	DATE (MM/DD/YY): <u>3/15/17</u>	RECEIVING BODY OF WATER: <u>Tamoka</u>
REMARKS:	COUNTY: <u>Johns</u>	LOCATION: <u>Unnamed Branch</u>	FIELD ID/NAME: <u>G5CE0084</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>2</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 <u>3</u> 2 1
Water Velocity <u>9</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 <u>9</u> 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>2</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>18</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>10</u> Left Bank <u>10</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. 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 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>9</u> Left Bank <u>9</u> ----- Secondary Score <u>18</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

92 TOTAL SCORE

Date: <u>3/15/17</u>	Analyst: <u>Katie Williams</u>	Signature: <u>KWilliams</u>
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DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLCN LATITUDE _____
 COUNTY Volusia STORET # 65C0084 LONGITUDE _____
 DATE 3/15/17 TIME _____ SAMPLING AGENCY _____
 SITE NAME Unnamed Branch
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Tomoka

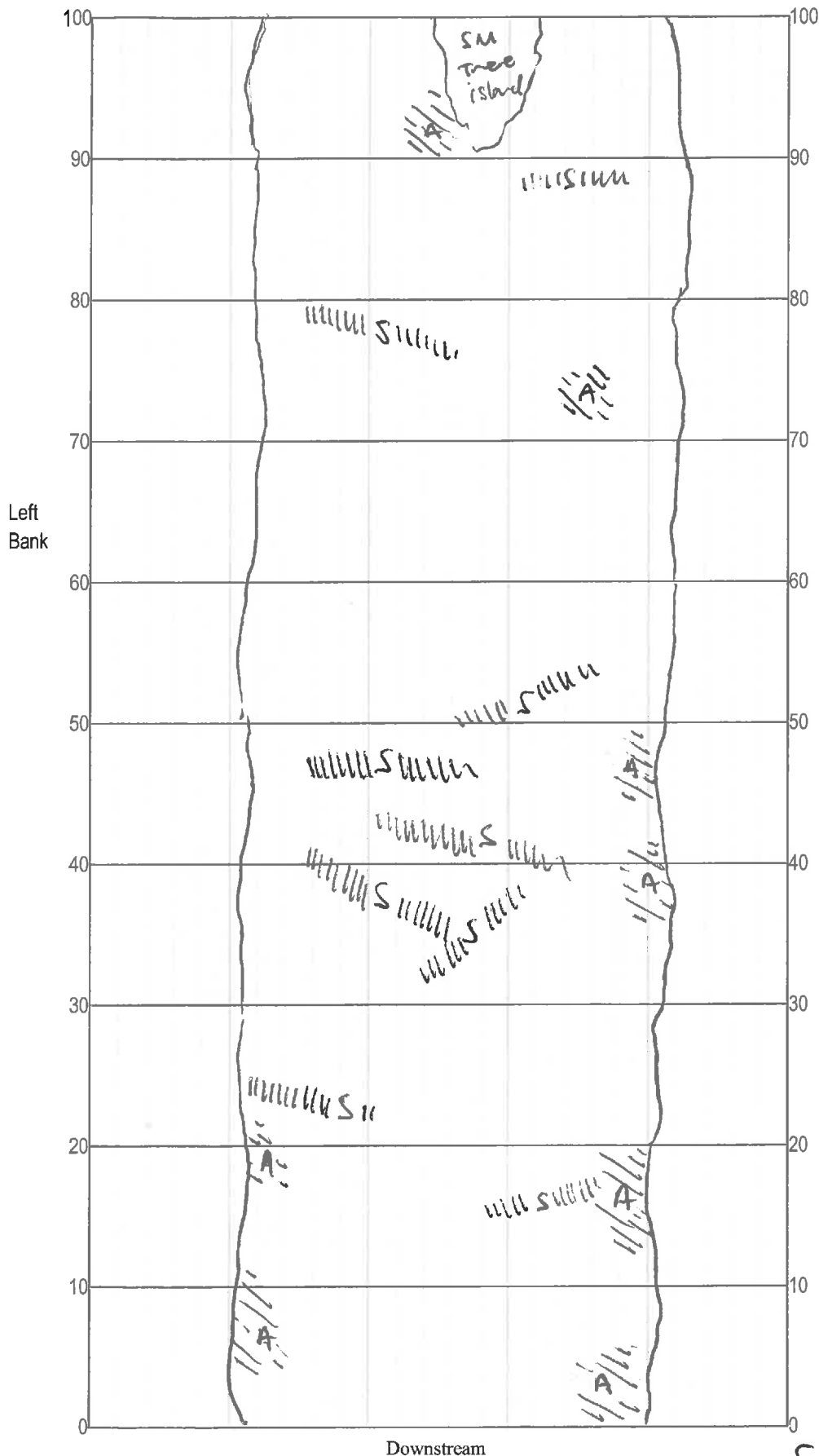
RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>35</u> <u>20</u> <u>30</u> Silviculture _____ Field/Pasture _____ Agricultural <u>45</u> Residential _____ Commercial _____ Industry <u>10</u> Other (Specify) <u>10</u>								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 _____ m wide _____ m/s _____ m/s _____ m/s			
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) _____				_____ m/s _____ m/s _____ m/s	
High Water Mark: <u>0.5</u> + <u>0.2</u> = <u>0.7</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				_____ m deep _____ m deep _____ 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			WATER QUALITY																													
% Coverage Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation _____ Rock or Shell Rubble.. _____ Sand..... _____ Mud / Muck / Silt _____ Other _____ Other _____			INVERT # Times Sampled _____ _____ _____ _____ _____ _____ _____ _____			PERI # Times Sampled _____ _____ _____ _____ _____ _____ _____ _____			Depth (M) Top: <u>0.1</u> Mid: _____ Bottom: _____ Meter ID: <u>Betty 67</u>			Temp. (°C) <u>14.0</u>			pH (SU) <u>7.5</u>			D.O. (MG/L) <u>8.1</u>			D.O. Sat (%) <u>79</u>			Cond. (UMHO/CM) <u>400</u>			Salinity (PPT) <u>0.19</u>			SECCHI (M) ☒ VOB TOTAL DEPTH <u>0.2</u>		
			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ 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: _____ Exp: _____			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: <u>46°, sunny</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																													
SAMPLING TEAM <u>KMW, LGB</u>			SIGNATURE: <u>Kullman</u>			DATE: <u>3/15/17</u>																										

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



Left Bank

Downstream

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

Location: _____

Date: 3/15/17

Sampler: Katie Williams / Leif

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ S Snags _____

☐ Roots/undercut banks _____

☐ L Leaf Packs (or mats) _____

☐ A Aquatic Macrophytes _____

☐ _____

☐ _____

☐ Pools total # observed = 0
range expected = _____

Average width 5 m

Average depth _____ m

Velocity measured at 50 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:

Silt smothering throughout
snag habitat heavily silted.

S = 3m
A =