



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

PAGE 1 OF 1

Data Qualified?

Yes / No

October 2017

Location/STORET Station Name: Long Branch @ 0.7 miles DS of CR13 Date: 11/29/17

STORET # G2CE0036 WBID: 3030 Latitude: 28.53508 (mm/dd/yyyy)

County: Orange RQ-2017-11-27-68 ORG ID: 21FLEN Longitude: -81.10941 (Decimal Degrees)

Receiving Body of Water: Econ River Field ID: G2CE0036 (Decimal Degrees)

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment			
Leif Bonan Katie Williams							☒ 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: <u>Yes</u> / No		Flow: No Flow / Intestinal / <u>Flowing</u> / 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 (PPT)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
EST	10:55	0.15	0.3	5.8	64	7.0	0.15	0.3(s)	317	20.2
CEN										

Biological Samples Collected:		None	<u>HA</u>	<u>SCI</u>	<u>RPS</u>	Algae ID	LVS	LVI	Other	
SBIO ID Numbers:		SBIO-ID: <u>78129</u>	HA-ID: <u>14945</u>	RPS-ID: <u>9861</u>	Macrophyte-ID: <u>N/A</u>	LIMS#: <u>1949772</u>				
Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check					
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-SATP	☒ Ice ☒ H2SO4	<u>SA7275010</u>	<u>10/18</u>	☒ <2					
Metals	☒ W-ICPMS ☐ W-ICP	☒ Ice ☒ HNO3	<u>NA7261120</u>	<u>9/18</u>	☒ <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-CLIC / W-COLOR / W-SO4IC / W-TDS	☒ Ice								
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice								
Macroinvertebrates	☒ MI-FW QIDC	☒ 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								

Contains: 1:1 Sulfuric Acid
Lot No.: SA7275010
Expires: 10/02/18
See Safety Data Sheet (SDS)

Contains
1:1
Nitric Acid
NA-7261120
EXP: 09/18/18
See SDS

Notes:

Long Branch @ 0.7 miles
Downstream of CR13

RQ-2017-11-27-68
Date: 11/29/2017

G2CE0036

Field ID

STORET

G2CE0036

Signature:

KWilliams

Date:

11/29/17

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

(Initials/Date)

Field Parameters QC in LIMS:

(Initials/Date)

Date Migrated to STORET:

(Initials/Date)

Field Sheets Scanned/Saved:

(Initials/Date)

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

SAMPLE ID _____ ORG ID 2IFUEN LATITUDE 28.53508
 COUNTY Orange STORET # 6260036 LONGITUDE -81.10941
 DATE 11/29/17 TIME _____ SAMPLING AGENCY 2IFUEN
 SITE NAME Long Branch @ 0.7 miles OS of CR13
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Econ River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>60</u> Silviculture _____ Field/Pasture <u>40</u> 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>2.5</u> m wide <u>0.09</u> m/s <u>0.1</u> m/s <u>0.09</u> m/s <u>0.2</u> m deep <u>0.3</u> m deep <u>0.2</u> 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>0.3</u> + <u>0.3</u> = <u>0.6</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 % Coverage INVERT PERI # Times Sampled # Times Sampled			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.15</u> <u>20.2</u> <u>7.0</u> <u>5.8</u> <u>64</u> <u>317</u> <u>0.15</u> _____ Mid: _____ Bottom: _____ Meter ID: <u>Betty 67</u> <u>0.3</u> TOTAL DEPTH					
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 ☐ 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>70s, sunny</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.					

SAMPLING TEAM

SIGNATURE:

DATE:

Katie Williams, Leif Boman

K Williams

11/29/17

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

SAMPLING AGENCY: <u>ZIFCEN</u>		STORET STATION NUMBER: <u>G2CE0036</u>	DATE (MM/DD/YY): <u>11/29/17</u>	RECEIVING BODY OF WATER: <u>Econ River</u>
REMARKS:	COUNTY: <u>Orange</u>	LOCATION: <u>Long Branch</u>	FIELD ID/NAME: <u>G2CE0036</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>11</u> <u>12 kw</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>10</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>11</u> ----- Primary Score <u>39</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>8</u> Left Bank <u>8</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>74</u>	10 9	8 7 6	5 4	3 2 1

113 TOTAL SCORE

Date: <u>11/29/17</u>	Analyst: <u>Katie Williams</u>	Signature: <u>KWilliams</u>
-----------------------	--------------------------------	-----------------------------

Leaf packs present as major habitat, but were silt-smothered & anaerobic.

Waterbody: Long Branch	Date: 11/29/17	County: Orange	Storet Number: GZCE0034
Analyst: KMW, LGB	Signature: [Signature]		
Comments: 42m ² , no LVS			

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 umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis 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 americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens																							
Luziola fluitans																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophy																							

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Long Branch</u>					County: <u>Orange</u>		Date: <u>11/29/17</u>		Investigators: <u>KMU, LGB</u>		
STORET Station Number: <u>62LE0036</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	84	60	1	N	N	86
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
10	1	N		72	70	1	N		94
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
20	1	N		80	80	1	N		78
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
30	1	N		76	90	1	N		72
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
40	1	N		82	100	1	N		90
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		
50	1	N		94		1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	N				6	N		
	7	N				7	N		
	8	N				8	N		
	9	N				9	N		

Secchi depth	0.3 (s)
Estimated?	

# 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-2017-11-27-68	

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

Some sand/silt smothering, some moss growing on substrates, no periphyton noted

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%.

Sampler: Leif Boman

100 m: Latitude _____	Longitude _____
0 m: Latitude _____	Longitude _____
Substrates: Code key, draw proportionate habitat abundance. %	
	Snags <u>3.28</u>
	Roots/undercut banks <u>1.04</u>
	Leaf Packs (or mats) <u>2.6</u>
	Aquatic Macrophytes _____
	_____
	_____
	_____
	total # observed = _____ # range expected = _____
Average width <u>2.5</u> m	
Average depth <u>0.3</u> m	
Velocity measured at <u>50</u> meter mark.	
WQ & chemistry taken at <u>0</u> 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: 6.5
R: 2.6
S: 8.2

$$= 17.3^2$$
 250^2