

HA/RPS/LVS

Site Name Faulk Canal @ 50m upstream of Fiske Blk Sample Date 8/21/19WBID 3060 WIN ID G3CE0016 RQ -2019-08-19-53

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 8/23/19	MKL 9/9/19
Create SBIO station visit 80148	LMD 8/23/19	n/a
Phys/Chem entry	LMD 8/23/19	MKL 9/9/19
Habitat Assessment entry 11192	LMD 8/23/19	MKL 9/9/19
Vascular entry (add LIMS ID to entry) 11460	LMD 8/23/19	MKL 9/9/19
RPS entry 9433	LMD 8/23/19	MKL 9/9/19
Authorize SBIO data	MKL 9/9/19	n/a
Scan all sheets to 21FLCEN folder	LMD 9/13/19	n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

Packet also includes WQ data from Bird Lake Ditches



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
Yes / No

WIN Station Name: Faulk Canal @ 50m upstream of Fiske Blvd

Date: 08/21/2019

(mm/dd/yyyy)

WIN/ Field ID: G3CE0016

WBID: 3060

Latitude: 28.317396

(Decimal Degrees)

County: Brevard

ORG ID: 21FLCEN

Longitude: -80.742210

(Decimal Degrees)

Receiving Body of Water: Barnett Lake

RQ-2019- 08-19-53

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Mike Linger					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole		
Mike Drennan					☒	☒	☒	☒	☒	☐ Carboy	☒ Syringe			
										☐ Dipper	☐ Other			
										Depth Measured with <u>Secchi Disk Line / Meter</u>				
										Equipment ID <u>Leadfoot, Knothead, Crusty/Bucket, /Trap</u>				
										Collection Method				
										☒ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☐ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded					Meter ID# <u>Scud Bucket</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: Yes / <u>No</u>					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising/ Falling/ Slack/ NA				
Tide Times: High Low														
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)				
<u>EST</u>	<u>948</u>	<u>0.4</u>	<u>0.2</u>	<u>0.4(s)</u>	<u>2.30</u>	<u>29.0</u>	<u>6.42</u>	<u>0.53</u>	<u>1078</u>	<u>27.7</u>				
GEN														
Biological Samples Collected: None <u>HA</u> SCI <u>RPS</u> Algae ID <u>LVS</u> LVI Other:														
SBIO ID Numbers: SBIO-ID: <u>80148</u> HA-ID: <u>16192</u> <u>RPS-ID: 9433</u> Macrophyte-ID: <u>11460</u> LIMS#: <u>2113564</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>SA7163030</u>	<u>10/30/19</u>	☒ <2			
Metals		☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO3				☐ <2			
Filtered Nutrients		☒ W-PO4-F ☐ Field Filtered 0.45 um Filter					☒ Ice		<u>13615055</u>					
Chlorophyll		☒ CHLSUITE-W					☒ Ice							
Physical/Aggregate (Fresh)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-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 ☐ Enterococci					☒ Ice							
Molecular		☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2					☐ Ice							
		☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD												
Tracers		☐ W-E8321-DI ☐ W-E8321-MS					☐ Ice							
Pesticides		☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI					☐ Ice							
		☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA					☐ Other							
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice							

Notes:

- Park on E side of rd by fence (28.317375, -80.742676)
- Walk 50m around fence & US on S side of stream to sample
- Wade or use pole

WIN ID / Field ID →

Faulk Canal @ 50m
upstream of Fiske Blvd



G3CE0016

Signature: [Signature]

Date: 8/21/19

LIMS EVENT ID: CENT-DIST-2019-08-22-01

Enter Field Parameters, Verify Station ID In LIMS DMT: END 8/23/19

QC Station ID, Field Parameters In LIMS DMT: MKL 5/9/19

Scan/Save Field Sheets END 9/13/19

Migrate Data to WIN: [Initials]

Verify Data In WIN: [Initials]

(Initials/Date)

(Initials/Date)

(Initials/Date)

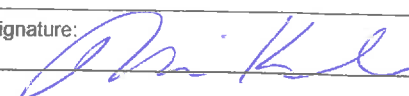
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: FDEP		STORET STATION NUMBER: G3CE0014	DATE (MM/DD/YY): 08/21/2019	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: Brevard	LOCATION: Faulk Canal	FIELD ID/NAME: G3CE0014	

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 3	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 1	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 5	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 7 ----- Primary Score 16	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 2	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank 6 Left Bank 6	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 2 Left Bank 2	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 3 Left Bank 3 ----- Secondary Score 24	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

40

TOTAL SCORE

Date: 8/21/19	Analyst: Mike Linger / Mike Drinnan	Signature: 
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arges into Lk. Barnett, 17.

$$V = 2.2/400 = 0.55\%$$

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

SAMPLE ID 30148 ORG ID 21 FL CEN LATITUDE 28.317396
 COUNTY Brevard STORET # G3CE0014 LONGITUDE -80.742210
 DATE 8/21/15 TIME _____ SAMPLING AGENCY FDEP
 SITE NAME Faulk Canal @ 50m upstream of Fiske Blvd
 FIELD ID/NAME _____ RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ Commercial ☐ Industry ☐ Other (Specify) ☐ 100								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 <u>0.05</u> m/s _____ m/s _____ m deep <u>0.4</u> m deep _____ m deep		
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>1m</u> Right Bank: <u>1m</u>				Hydrologic Modification Score (per FT 3101)				
High Water Mark: <u>0.3</u> + <u>0.4</u> = <u>0.7</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 Invert PERI % Coverage # Times Sampled # Times Sampled Woody Debris (Snags) Undercut Banks / Roots Leaf Packs or Mat Aquatic Vegetation <u>0.55</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>0.2</u> <u>27.7</u> <u>6.42</u> <u>2.30</u> <u>29.0</u> <u>1078</u> <u>0.53</u> <u>0.4</u> Mid: ☒ VOB Bottom: Meter ID: <u>Shrimp Trap</u> <u>0.4</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) ☒ <u>Canal/Ditch</u>					
AMBIENT FIELD CONDITIONS / NOTES: <u>2 pipes enter canal 75m mark</u> <u>80's overcast</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.								

SAMPLING TEAM Mike Linger / Mike Drennon SIGNATURE: [Signature] DATE: 8/21/15

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Faulk Canal</u>					County: <u>Brevard</u>		Date: <u>8/21/19</u>		Investigators: <u>Mike Linger</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	STORET Station Number: <u>G3CE0014</u>

0	1	3		16	60	1	3		0
	2	2							
	3	2							
	4	2							
	5	2							
	6	2							
	7	2							
	8	2							
	9	2							
10	1	2		0	70	1	2		0
	2	2							
	3	2							
	4	2							
	5	2							
	6	2							
	7	2							
	8	2							
	9	2							
20	1	2		0	80	1	2		0
	2	2							
	3	2							
	4	2							
	5	2							
	6	2							
	7	2							
	8	2							
	9	2							
30	1	2		0	90	1	2		0
	2	2							
	3	2							
	4	2							
	5	2							
	6	2							
	7	2							
	8	2							
	9	2							
40	1	2		0	100	1	2		0
	2	2							
	3	2							
	4	2							
	5	2							
	6	2							
	7	2							
	8	2							
	9	2							
50	1	2		0		1	2		
	2	2							
	3	2							
	4	2							
	5	2							
	6	2							
	7	2							
	8	2							
	9	2							

Secchi depth	<u>0.4</u>
Estimated?	

# points ranked 4-6	<u>0</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>0</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	
Water sample	☒
RQ- <u>2019-08-19-53</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%.

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

Waterbody: Faulk Canal Date: 8/21/14 County: Brevard Storet Number: G3CE0014

Analyst: Mike Linger Signature: [Signature]

Comments: Mowed Ditch/Canal

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	
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"	X	X		X	X	X	X	X	X	X													
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage	✓	✓		✓	✓	✓	✓	✓	✓	✓													
>5 and ≤10% Macrophyte Coverage			✓																				
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							