



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

June 2016

PAGE ____ OF ____

Data Qualified?

Yes / No

STORET Station Name: Mizner's Branch @ Falls Way Drive Date: 08/18/2016

STORET Station ID: 27010068 WBID: 2645 Latitude: 29.2669694

County: Volusia RQ - 2016-08-15-77 ORG ID: 2ELLEN Longitude: -81.0875611

Receiving Body of Water: _____ Field ID: G5CE0050

Sampling Team Members				WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Mike Linger								
Terry Rordan								

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# 116 / AB 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>1300</u>	<u>0.1</u>	<u>0.2</u>	<u>5.3</u>	<u>68</u>	<u>7.0</u>	<u>0.14</u>	<u>0.2(5)</u>	<u>298</u>	<u>27.9</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	<u>6209120</u>	<u>7/27/17</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			
BOD	☐ BOD-UNIN	☐ 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 ☐ Enterococcus ☐ 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 _____			

Place Preservative Sticker(s) Here
(If Available)

Notes: Flow for rivers/streams: 0.21 m/s Mizner's Branch @ Falls Way Drive

Volusia Co. staff members present for Bio training
(Kelly Young, Alyse Howell, & Rachelle Huddle)

Signature: [Signature] Date: 8/18/16

Field Parameters Entered into LIMS: END 8/23/16 T.Sheet Updated: ☐ Field Parameters QC in LIMS: _____ T.Sheet Updated: ☐

Date Migrated to STORET: _____ T.Sheet Updated: ☐ Field Sheets Scanned/Saved: _____ T.Sheet Updated: ☐

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

SAMPLE ID 76747 ORG ID 21FLCEN LATITUDE 29.2669694
 COUNTY Volusia STORET # 27010068 LONGITUDE -81.0875611
 DATE 8/18/16 TIME 10:00 SAMPLING AGENCY FDEP CE-ROC
 SITE NAME Mizner's Branch @ Falls Way Drive
 FIELD ID/NAME 65CE0050 RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):								Landscape Development Intensity Index (LDI)	
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)		
<u>15</u>				<u>85</u>					
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect	
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy									
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>10</u>		Right Bank: <u>2</u>							
High Water Mark: <u>0.2</u> + <u>0.2</u> = <u>0.4</u>				Artificially Impounded					
(m) (above present water level) (present depth) (above bed)				☒ Yes ☐ No					
Artificially ☐ No ☒ Some recovery				Mostly recovered, more sinuous ☐ Recent, severe ☐				Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☒ Moderate Shaded (46-80%)	
Channelized: ☒ Some recovery ☐ Recent, severe								☐ Heavily Shaded	

SEDIMENT / SUBSTRATE

Sediment Oils		Sediment Odors		Smothering of Substrates	
☒ Absent ☐ Slight	☐ Moderate ☐ Profuse	☒ Normal ☐ Sewage ☐ Petroleum	☐ Chemical ☐ Anaerobic	☐ Other (Specify):	
				Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐	
				Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐	
				Algae Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐	
SUBSTRATE TYPE			WATER QUALITY		
Assessment Tool: ☐ SCI ☒ RPS ☒ LVS			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)		
☐ LCI ☐ BioRecon			Top: <u>0.1</u> <u>27.9</u> <u>7.0</u> <u>5.3</u> <u>68</u> <u>298</u> <u>0.14</u> <u>0.2</u>		
% Coverage			Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB		
Woody Debris (Snags)			Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐		
Undercut Banks / Roots			Meter ID: <u>nc / AB</u>		
Leaf Packs or Mat			TOTAL DEPTH <u>0.2</u>		
Aquatic Vegetation			Water Odors Normal ☒ Petroleum ☐		
Rock or Shell Rubble			Sewage ☐ Chemical ☐ Other ☐		
Sand			Water Sample Taken? ☒ Yes ☐ No		
Mud / Muck / Silt			Sample Preserved? ☒ Yes ☐ No		
Other			Lot Number: <u>6209120</u> Exp: <u>7/21/17</u>		
Other			Algae Sample Taken? ☐ Yes ☒ No		
			Sample Preserved? ☐ Yes ☐ No		
			Lot Number: _____ Exp: _____		
			Water Surface Oils Normal ☒ Sheen ☐		
			Globs ☐ Slick ☐ Other ☐		
			Color Tannic ☐ Green (Algae) ☐		
			Clear ☒ Other (Specify) ☐		
			Clarity Clear ☒ Slightly Turbid ☐		
			Turbid ☐ Opaque ☐		
ABUNDANCE			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐		
Not Obs. Rare Common Abundant			AMBIENT FIELD CONDITIONS / NOTES:		
Periphyton: ☐ ☒ ☐ ☐			<u>90's clear, Humid</u>		
Fish: ☐ ☐ ☒ ☐			☒ The antecedent hydrologic conditions have been met to my best knowledge.		
Aquatic Plants: ☐ ☐ ☐ ☒					
Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐					

SAMPLING TEAM

Mike Lingor, Terry Ribordan

SIGNATURE:

[Signature]

DATE:

8/18/16

Revision Date: September 19, 2012

Volusia Co. Present for Bio training (Kelly Young, Alyse Howell, Rachelle Haddock)

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

SAMPLING AGENCY: <u>21 FLC EN FOEP CE-Roc</u>		STORET STATION NUMBER: <u>27010068</u>	DATE (MM/DD/YY): <u>8/18/16</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Vol</u>	LOCATION: <u>Muzner's Branche Drive</u>	FIELD ID/NAME: <u>65CE0050</u>	

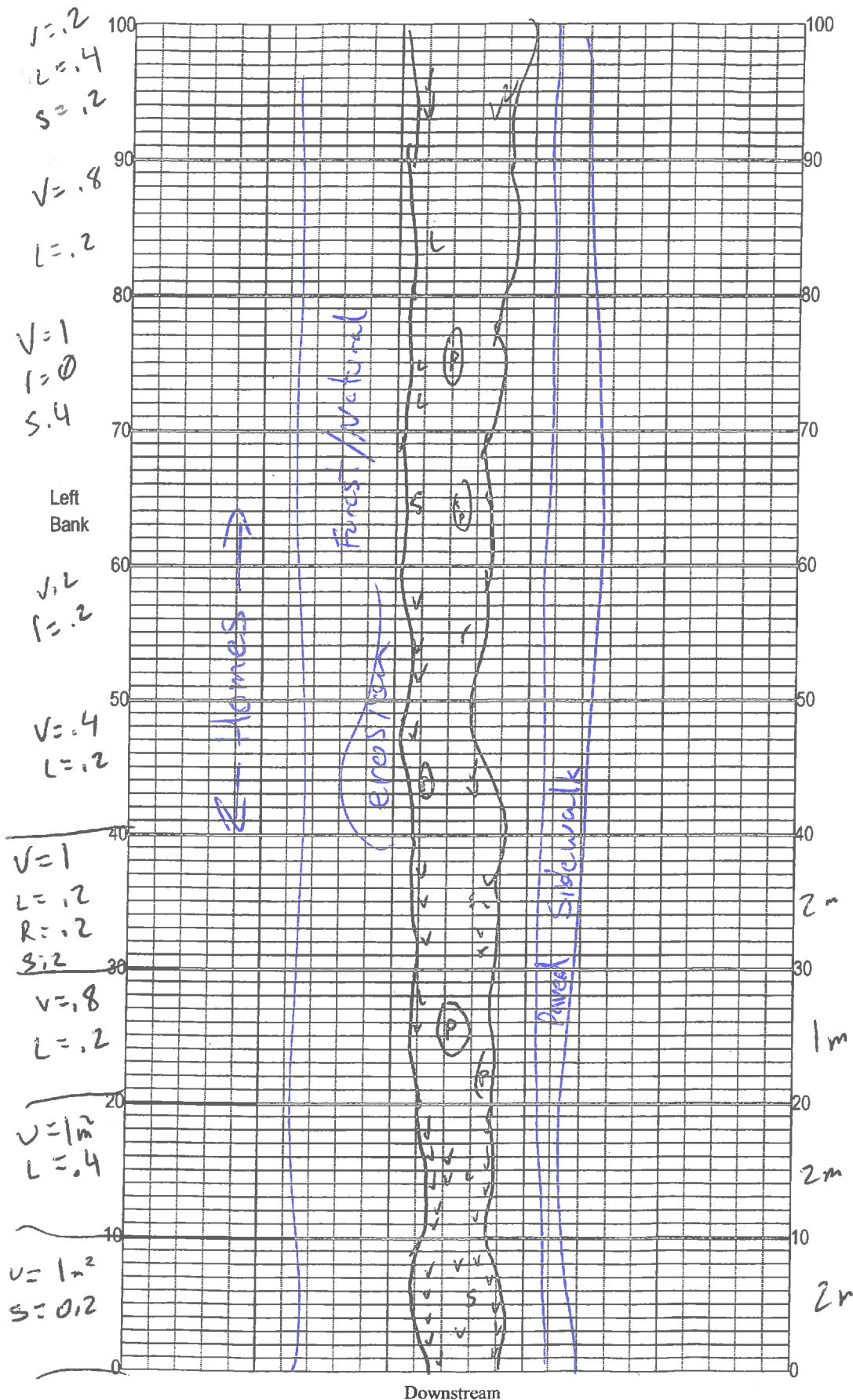
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 <u>4</u> 3 2 1
Substrate Availability <u>6</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 <u>15</u> <u>10</u> <u>6</u> 10 9 <u>8</u> 7 6	Less than 5% major productive habitat <u>5</u> <u>1</u> 5 4 3 2 1
Water Velocity <u>14</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 <u>14</u> 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>14</u> ----- Primary Score <u>44</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 <u>18</u> 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>7</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 <u>7</u> 6	5 4 3 2 1
Bank Stability Right Bank <u>4</u> Left Bank <u>5</u> <u>5</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. <u>5</u> <u>4</u>	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>2</u> Left Bank <u>4</u> <u>6</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 <u>4</u>	Less than 6 m of buffer zone due to intensive human activities 3 <u>2</u> 1
Riparian Zone Vegetation Quality Right Bank <u>2</u> Left Bank <u>5</u> ----- Secondary Score <u>29</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. <u>5</u> 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 <u>2</u> 1

73

TOTAL SCORE

Date: <u>8/18/2016</u>	Analyst: <u>Mike Linger, Terry Ribdan</u>	Signature: <u>[Signature]</u>
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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: Mizner's Branch

Date: 8/18/16

Sampler: Mike Lingo, Terry Rorden

100 m: Latitude 29.263606
Longitude -81.086926

0 m: Latitude 29.264645
Longitude -81.086945

Substrates: Code key, draw proportionate habitat abundance. %

☐ S Snags 3.3

☒ Roots/undercut banks 0.9

☐ L Leaf Packs (or mats) 0.5

☒ Aquatic Macrophytes 0.03

☐

☐

☐ P Pools total # observed = 5
range expected = 4-8

Average width 2.0 m

Average depth 0.2 m

Velocity measured at 100 meter mark.

WQ & chemistry taken at 27610068 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:

$$V = 6.6 \text{ m}^2$$

$$L = 1.8 \text{ m}^2$$

$$S = 1.0$$

$$r = 0.6$$

$$200 \text{ m}$$

$$= 5\%$$

$$10/200$$

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Mizner's Branch</u>					County: <u>Vol</u>		Date: <u>8/18/16</u>		Investigators: <u>Terry Kordon</u> <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>27010068</u>
0	1	N			60	1	N			68
	2	N				2	N			
	3	N				3	N			
	4	N				4	N			
	5	N		76		5	N			
	6	N				6	N			
	7	N				7	N			
	8	N				8	3			
	9	N				9	N		N	
10	1	N			70	1	N			60
	2	N				2	N			
	3	N				3	N			
	4	N		80		4	N			
	5	N				5	N			
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N		N	
20	1	N			80	1	N			64
	2	N				2	N			
	3	N				3	N			
	4	N		64		4	N			
	5	N				5	N			
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N		N	
30	1	N			90	1	N			92
	2	N				2	N			
	3	N				3	N			
	4	N		88		4	N			
	5	N				5	N			
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N		N	
40	1	N			100	1	N			88
	2	N				2	N			
	3	N				3	N			
	4	N		96		4	N			
	5	N				5	N			
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N		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								
	5	N		56						
	6	N								
	7	N								
	8	N								
	9	N								

Secchi depth	<u>0.2(5)</u>
Estimated?	
# points ranked 4-6	
total points assessed	
% points ranked 4-6	<u>2</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	
Water sample	☒
RQ- <u>2016-08-15 JK</u>	
<u>2016-08-15-77</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

6mm	
20mm	
10cm	