



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

Data Qualified?
Yes / No

January 2019

WIN Station Name: Unnamed Branch 400m downstream Barnes Farm Rd Date: 8/13/19
WIN/ Field ID: G2NE1204 WBID: 21562561 Latitude: 29.723178
County: Putnam ORG ID: 21FLA Longitude: -81.478786
Receiving Body of Water: Deep Creek RQ: 2019-08-05-43

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment		
						Sample Container	Van Dorn	Pole
J. Marsh B. Davis					☒ Carboy	☐ Syringe		
					☐ Dipper	☐ Other		
					Depth Measured with <u>Yes</u>			
Equipment ID <u>ortho kit #44</u>								
Collection Method								
☒ Wading ☐ Canoe/Kayak								
☐ From Shore ☐ Electric Motor								
☐ Other ☐ Gasoline Motor								

Water Level: <u>Dry</u> / Pooled / <u>Low</u> / Normal / High / Flooded		Meter ID# <u>Yes</u>		Matrix: <u>Fresh</u> / Marine / DI	
Photos: <u>Yes</u> / No		Flow: <u>No Flow</u> / Intestinal / <u>Flowing</u> / NA		Tide: <u>Rising</u> / Falling / Slack / NA	
Tide Times: <u>High</u> / 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°)	
EST	<u>940</u>	<u>0.1</u>	<u>0.05</u>	<u>VOB</u>	<u>6.11</u>
CEN				<u>(s)</u>	<u>76.2</u>
					<u>7.07</u>
					<u>0.48</u>
					<u>984</u>
					<u>26.6</u>

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other: _____
SBIO ID Numbers: SBIO-ID: _____ HA-ID: _____ RPS-ID: _____ Macrophyte-ID: _____ LIMS#: _____

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>SA9010030</u>	<u>4/2020</u>	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	<u>NA9099030</u>	<u>4/2020</u>	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice	<u>R93A86875</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-BR-IC / ☐ 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			
Tracers	☒ W-E8321-DI ☒ W-E8321-MS	☒ Ice			
Pesticides	☒ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI	☒ Ice			
Phytoplankton	☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA				
	☐ DTY-QN-C ☐ PKD-QN-C				

Notes: _____
WIN ID/Field ID: G2NE1204
Signature: B-D Date: 8/13/19

LIMS EVENT ID: _____ WIN Import ID: _____
Enter Field Parameters, Verify Station ID in LIMS DMT: _____ QC Station ID, Field Parameters in LIMS DMT: _____
Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data in WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)

Contains: 1:1 H2SO4
Lot No.: SA9010030
Expires: 04/10/20
See Safety Data Sheet (SDS)

Contains: 1:1 HNO3
Lot No.: NA9099030
Expires: 04/09/20
See Safety Data Sheet (SDS)

Sulfuric Acid <51%
Lot No.: 11 H2SO4
Expires: 04/10/20
See Safety Data Sheet (SDS)

Nitric Acid 70-75%
Lot No.: 11 HNO3
Expires: 04/09/20
See Safety Data Sheet (SDS)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: unnamed 400m downh. barres County: Pt. Har. Date: 8/13/12 Investigators: SRM

STORET Station Number: 62ve1204

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	✓		60	1	N	N		
	2					2				
	3					3				
	4			96		4				96
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N	N		70	1	N	N		
	2					2				
	3					3				
	4			96		4				96
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N	N		80	1	N	N		
	2					2				
	3					3				
	4			96		4				96
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N	N		90	1	N	N		
	2					2				
	3					3				
	4			92		4				96
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N	N		100	1	N	N		
	2					2				
	3					3				
	4			96		4				96
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N	N			1	N	N		
	2					2				
	3					3				
	4			96		4				
	5					5				
	6					6				
	7					7				
	8					8				
	9					9				

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%.

Secchi depth VOR
Estimated? ✓

points ranked 4-6 97
total points assessed 97
% 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-2019-08-05-43

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

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

SAMPLE ID _____ ORG ID 21 FLA LATITUDE 29.723178
 COUNTY Putnam STORET # 62NE1204 LONGITUDE -81.478786
 DATE 8/13/19 TIME 940 SAMPLING AGENCY DEARNED
 SITE NAME Un. 400m down from Barnes
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Deep Creek

RIPARIAN ZONE / STREAM FEATURES

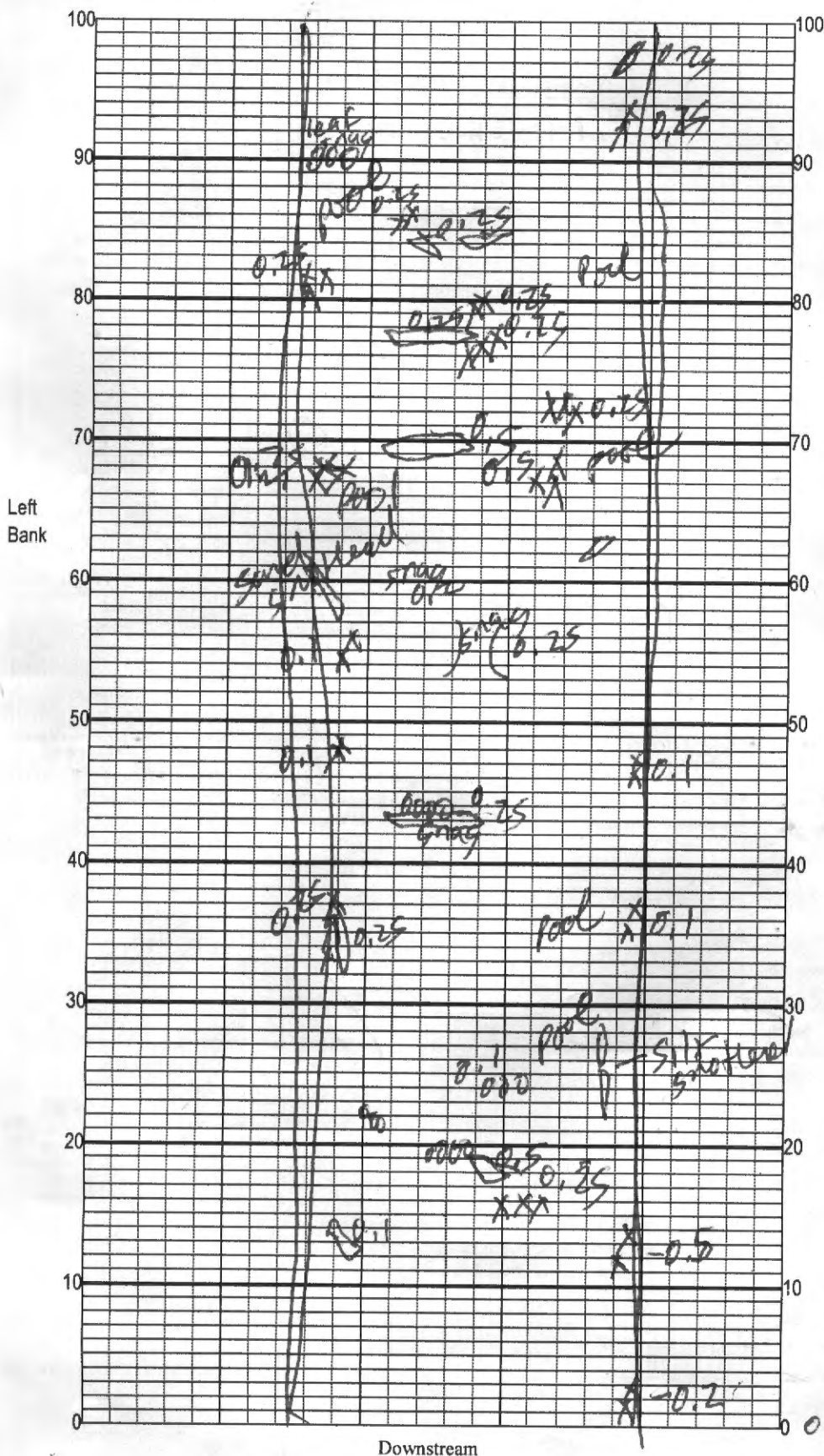
Meter ID: Desi

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ 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 1.5 m wide 0.2 m/s 0.2 m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18</u> Right Bank: <u>~12</u>				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: <u>0.5</u> + <u>0.1</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			WATER QUALITY																																																																										
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System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐																																																																										
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐																																																																										
Algae Sample Taken? ☐ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐																																																																										
Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐																																																																													
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☐ ☒ ☐ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☐ ☒ ☐			AMBIENT FIELD CONDITIONS / NOTES: <u>side channel from pond</u> <u>flowed in with sporadic bacteria</u> Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ The antecedent hydrologic conditions have been met to my best knowledge.																																																																										
SAMPLING TEAM <u>B-P-</u>			SIGNATURE: <u>B-P-</u> <u>8/13/19</u>																																																																										

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



Location: VA. 400m Downstream Garrison

Date: 8/13/19

Sampler: JP/KA/BB

100 m: Latitude _____
Longitude _____
0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

	Snags	2-3 m	2.0
	Roots/undercut banks		3.5
	Leaf Packs (or mats)		
	Aquatic Macrophytes		
	Pools	total # observed = _____ # range expected = _____	

Average width 1.5 m

Average depth 0.2 m

Velocity measured at 0 meter mark.

WQ & chemistry taken at 0 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:

<2 M of Macrophytes was observed while doing the LVSI? YES or NO

Snags - 0.6 + 0.25 + 0.25 + 0.25 + 0.25
Roots - 0.2 + 0.5 + 0.25 + 0.25 + 0.1
0.2 + 1 + 0.5 + 0.5 + 0.5

0.2 m/sec flow

1.25 wide

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

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

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 62NE1204	DATE (MM/DD/YY): 8/13/19	RECEIVING BODY OF WATER: Deep Creek
REMARKS:	COUNTY: Putnam	LOCATION: Unnamed 400m Downst. Barnes Rd		FIELD ID/NAME:

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>87</u>	20 19 18 17 16	15 14 13 12 11	10 9 <u>8</u> 7 6	5 4 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 10 9 8 7 <u>6</u>	Less than 5% major productive habitat 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>11</u> Primary Score <u>39 38</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 <u>11</u>	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 <u>18</u> 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability <u>6</u> Right Bank <u>6</u> Left Bank <u>6</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 <u>6</u>	Only meets 1 of the 3 requirements for optimal bank stability. 5 <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 <u>109</u> Right Bank <u>109</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> <u>9</u>	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 <u>9</u> Right Bank <u>9</u> Left Bank <u>9</u> Secondary Score <u>63</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 <u>9</u>	>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

TOTAL SCORE

Date: <u>8/13/19</u>	Analyst: <u>Jeremy Parr</u>	Signature: <u>Jeremy Parr</u>
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