

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

SAMPLE ID 77223 ORG ID 21FLWQSP LATITUDE 30.1321
 COUNTY WAKULLA STORET # 27020050 LONGITUDE -84.4944
 DATE 12-15-16 TIME 1000 SAMPLING AGENCY FDOP/A&A
 SITE NAME SOPCHOPPY RIVER
 FIELD ID/NAME SOPREF RECEIVING BODY OF WATER OCHLOCKNEE BAY

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) ☐								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: Right Bank:				Hydrologic Modification Score (per FT 3101)		m/s m/s m/s		
High Water Mark: + = (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 ☐
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SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon				WATER QUALITY							
				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:											
Mid:											
Bottom:											
Meter ID: <u>YSI# 1483</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: <u>SA-6209120</u> Exp: <u>7/27/17</u>				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:	☒	☐	☐	☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify)

AMBIENT FIELD CONDITIONS / NOTES:
 H₂O LEVEL A LITTLE LOWER (~1/2 FT) SINCE LAST SAMPLE. COOL
 ~50'S. CALM. MOSTLY SUNNY. < 2 m² PLANTS - NO LVS.
 DID NOT HAVE HNO₃ ACID W/US. PH < 2 S.U.
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM JACKSON, N WELLENDOFF, SPANEK **SIGNATURE:** JA Jackson **DATE:** 12.15.16

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

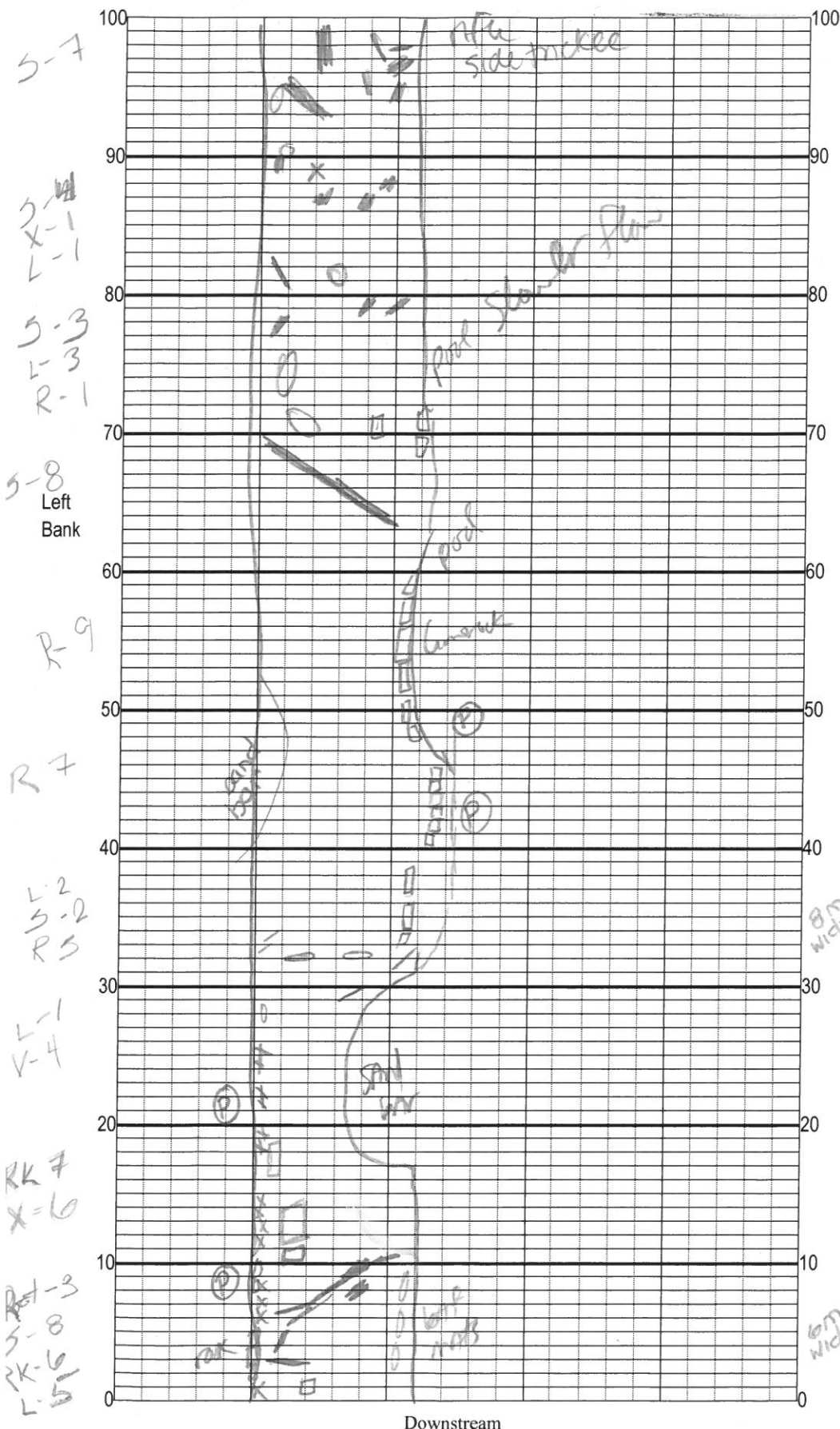
SAMPLING AGENCY:		STORET STATION NUMBER: <u>22020050</u>	DATE (MM/DD/YY): <u>12/15/16</u>	RECEIVING BODY OF WATER: <u>OCH. BAY</u>
REMARKS:	COUNTY: <u>WAKULLA</u>	LOCATION: <u>Sopchappy River</u>	FIELD ID/NAME: <u>Sopref</u>	

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>16</u>	20 19 18 17 <u>16</u>	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>10</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>10</u> 9 8 7 6	Less than 5% major productive habitat 5 4 3 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>16</u> Primary Score <u>51</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 <u>16</u>	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>	<u>20</u> 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>9</u> Left Bank <u>9</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>8</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>10</u> Left Bank <u>10</u> Secondary Score <u>36</u>	10 9	8 7 6	5 4	3 2 1

127 TOTAL SCORE

Date: <u>12/15/2016</u>	Analyst: <u>SARAH PANEK / JOY JACKSON</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Sopref
 Date: 12/15/16
 Sampler: NIA Wellendorf

100 m: Latitude _____
 Longitude _____

0 m: Latitude _____
 Longitude _____

Substrates: Code key, draw proportionate habitat abundance. 15 %

☒	Snags	<u>5%</u>
☒	Roots/undercut banks	<u>2%</u>
☒	Leaf Packs (or mats)	<u>2%</u>
☐	Aquatic Macrophytes	_____
☒	<u>Rock</u>	<u>6%</u>
☐	_____	_____
☐	Pools	total # observed = <u>6</u> # range expected = _____

Average width 6 m
 Average depth 0.8 m 0.1 - > 1 m

Velocity measured at 15 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:

① pool
 L 12/600 = 2%
 S 32/600 = 5%
 RK - 35/600 = 6%
 R+ - 4/600 = 2%
 93/600 15-16%

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

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Sopref</u>					County: <u>Wauwilla</u>		Date: <u>12/15/16</u>		Investigators: <u>NIA Wellendorf, Sarah Parck</u>		
Transect (m)					Transect (m)					STORET Station Number: <u>22020050</u>	
Point 1=right 9=left					Point 1=right 9=left						
Algal Thickness Rank (N-6, X)					Algal Thickness Rank (N-6, X)						
Estimated					Estimated						
Canopy Cover					Canopy Cover						

0	1	N			60	1	N	✓	
	2	N				2	N	✓	
	3	N				3	N	✓	
	4	N				4	N	✓	
	5	N		18		5	N	✓	
	6	N				6	N	✓	19
	7	N				7	N	✓	
	8	N				8	3		
	9	N				9	4		
10	1	N			70	1	N	✓	
	2	5 5				2	N	✓	
	3	5				3	N		
	4	N				4	N		
	5	N		11		5	N		19
	6	N	✓			6	N		
	7	N	✓			7	N		
	8	N	✓			8	N		
	9	N				9	N		
20	1	N			80	1	N		
	2	3				2	N		
	3	X				3	N		
	4	N	✓			4	N		
	5	N	✓	24		5	N		29
	6	N	✓			6	N		
	7	X				7	N		
	8	N				8	N		
	9	3				9	N		
30	1	N			90	1	N		
	2	N				2	N		
	3	N				3	N		
	4	N				4	N		
	5	X		4		5	N		36
	6	N				6	N		
	7	4				7	N		
	8	4				8	N		
	9	3				9	N		
40	1	3			100	1	N		
	2	X				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N		16		5	N		34
	6	N				6	N		
	7	3				7	N		
	8	3				8	N		
	9	N				9	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	✓						
	6	N	✓						
	7	X		46					
	8	4							
	9	5							

2.2ft

Secchi depth	6.7
Estimated?	

# points ranked 4-6	
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- 2016-12-12+19	

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

Reference Stream Sampling

Central Laboratory Submittal Form

last revised Apr 7, 2016

Customer: BSSP

Requester: Sarah Panek

Field Report Prepared By: SARAH PANEK

Project ID: SCIREF

Collected By: Sarah Panek, Nia Williams

Sampling Agency: FDEP/AEQA

Location		☒ Comp		Collection (comp begin or grab)		☒ Eastern		Composite end		Bottle Group(s)	
Field ID		☒ Grab		Date 12/15/16		Time 10:00		Central Date		(See pg 2)	
STORET #		Temp (C)		pH		Sample Depth		mg/L Total Res. Chlorine		A, B	
22020050		16.8		5.5		0.1		154.3			
Latitude		Longitude		Salinity (ppt)		Comments		Sample Depth		Sp. Conductance (umho/cm)	
30.1321		-84.4944				Matrix (type, e.g., Salt, Fresh, etc)		ft (umho/cm)		154.3	
Location		☐ Comp		Collection (comp begin or grab)		☐ Eastern		Composite end		Bottle Group(s)	
Field ID		☐ Grab		Date		Time		Central Date		Time	
STORET #		Temp (C)		pH		Sample Depth		mg/L Total Res. Chlorine			
								ft (umho/cm)			
Latitude		Longitude		Salinity (ppt)		Comments		Sample Depth		Sp. Conductance (umho/cm)	
								ft (umho/cm)			
Location		☐ Comp		Collection (comp begin or grab)		☐ Eastern		Composite end		Bottle Group(s)	
Field ID		☐ Grab		Date		Time		Central Date		Time	
STORET #		Temp (C)		pH		Sample Depth		mg/L Total Res. Chlorine			
								ft (umho/cm)			
Latitude		Longitude		Salinity (ppt)		Comments		Sample Depth		Sp. Conductance (umho/cm)	
								ft (umho/cm)			
Location		☐ Comp		Collection (comp begin or grab)		☐ Eastern		Composite end		Bottle Group(s)	
Field ID		☐ Grab		Date		Time		Central Date		Time	
STORET #		Temp (C)		pH		Sample Depth		mg/L Total Res. Chlorine			
								ft (umho/cm)			
Latitude		Longitude		Salinity (ppt)		Comments		Sample Depth		Sp. Conductance (umho/cm)	
								ft (umho/cm)			
Location		☐ Comp		Collection (comp begin or grab)		☐ Eastern		Composite end		Bottle Group(s)	
Field ID		☐ Grab		Date		Time		Central Date		Time	
STORET #		Temp (C)		pH		Sample Depth		mg/L Total Res. Chlorine			
								ft (umho/cm)			
Latitude		Longitude		Salinity (ppt)		Comments		Sample Depth		Sp. Conductance (umho/cm)	
								ft (umho/cm)			
Location		☐ Comp		Collection (comp begin or grab)		☐ Eastern		Composite end		Bottle Group(s)	
Field ID		☐ Grab		Date		Time		Central Date		Time	
STORET #		Temp (C)		pH		Sample Depth		mg/L Total Res. Chlorine			
								ft (umho/cm)			
Latitude		Longitude		Salinity (ppt)		Comments		Sample Depth		Sp. Conductance (umho/cm)	
								ft (umho/cm)			

Relinquished By:

Date/Time

Shipping Method

Number of Coolers Shipped:

Received By:

Date/Time

Relinquished By: *[Signature]* Date/Time: 12/15/16 1408 Shipping Method: *hand deliver* Number of Coolers Shipped: *2* Received By: *[Signature]* Date/Time: 12/15/16 14:08