

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

SAMPLE ID 74501 ORG ID 21FLAWQSP LATITUDE N 29.8288
 COUNTY LAFAYETTE STORET # STEIN CANAL RD LONGITUDE W -83.30847
 DATE 6/24/15 TIME 1040 SAMPLING AGENCY FDEP/DEAR/AEQA
 SITE NAME STEIN HATCHEE RIVER @ CANAL RD
 FIELD ID/NAME STEIN CANAL RECEIVING BODY OF WATER GULF OF MEXICO

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>1.11 (2/10)</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								<u>6-7 sec</u> <u>6</u> m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: <u>718m</u>		Right Bank: <u>718m</u>		<u>1</u>					
High Water Mark: <u>3.5</u> + <u>1.0</u> = <u>4.5</u>				Artificially Impounded					
(m) (above present water level) (present depth) (above bed)				☐ Yes ☒ No					
Artificially ☒ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☒ Open ☐ Heavily Shaded				☒ Lightly Shaded (11-45%) ☐ Moderate Shaded (46-80%)	
Channelized: ☐ Some recovery ☐ Recent, severe									

SEDIMENT / SUBSTRATE

Sediment Oils			Sediment Odors			Smothering of Substrates					
☒ Absent ☐ Slight			☒ Normal ☐ Sewage ☐ Petroleum			Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
☐ Moderate ☐ Profuse			☐ Chemical ☐ Anaerobic			Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
			☐ Other (Specify):			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>0.2</u> <u>24.44</u> <u>6.87</u> <u>6.35</u> <u>1.0</u> <u>0.7</u> <u>1.0</u>					
Woody Debris (Snags) <u>2</u> <u>5</u>						Mid: <u>1</u> <u>5</u> <u>2</u> <u>5</u> <u>1</u> <u>5</u> <u>1</u>					
Undercut Banks / Roots <u>1</u> <u>5</u>						Bottom: <u>1</u> <u>5</u> <u>2</u> <u>5</u> <u>1</u> <u>5</u> <u>1</u>					
Leaf Packs or Mat <u>1</u> <u>2</u>						Meter ID: <u>451 #2</u>					
Aquatic Vegetation <u>1</u>						Water Odors Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☒ <u>ROTTING ALGAE</u>					
Rock or Shell Rubble <u>90</u> <u>5</u>						Water Sample Taken? ☒ Yes ☐ No					
Sand <u>2</u> <u>3</u>						Sample Preserved? ☒ Yes ☐ No					
Mud / Muck / Silt <u>5</u>						Lot Number: <u>SA-5113230</u> Exp: <u>4.23.16</u>					
Other <u>ALGAE</u>						Algae Sample Taken? ☐ Yes ☒ No					
Other						Sample Preserved? ☐ Yes ☐ No					
						Lot Number: Exp:					
ABUNDANCE						System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐					
Periphyton: ☐ Not Obs. ☐ Rare ☐ Common ☒ Abundant						AMBIENT FIELD CONDITIONS / NOTES:					
Fish: ☐ ☐ ☒ ☐						PARTLY CLOUDY, ~90'S, CALM. H ₂ O LEVEL LOWER THAN LAST SAMPLING EVENT. STARTED ~70m DOWN BRIDGE. LOTS OF FILAMENTOUS ALGAE.					
Aquatic Plants: ☐ ☒ ☐ ☐						☒ The antecedent hydrologic conditions have been met to my best knowledge.					
Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐											

SAMPLING TEAM

JACKSON, K SUMMERFIELD

SIGNATURE:

JA

DATE:

6/24/15

FORMALIN BOTTLE 11.7315 HN

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

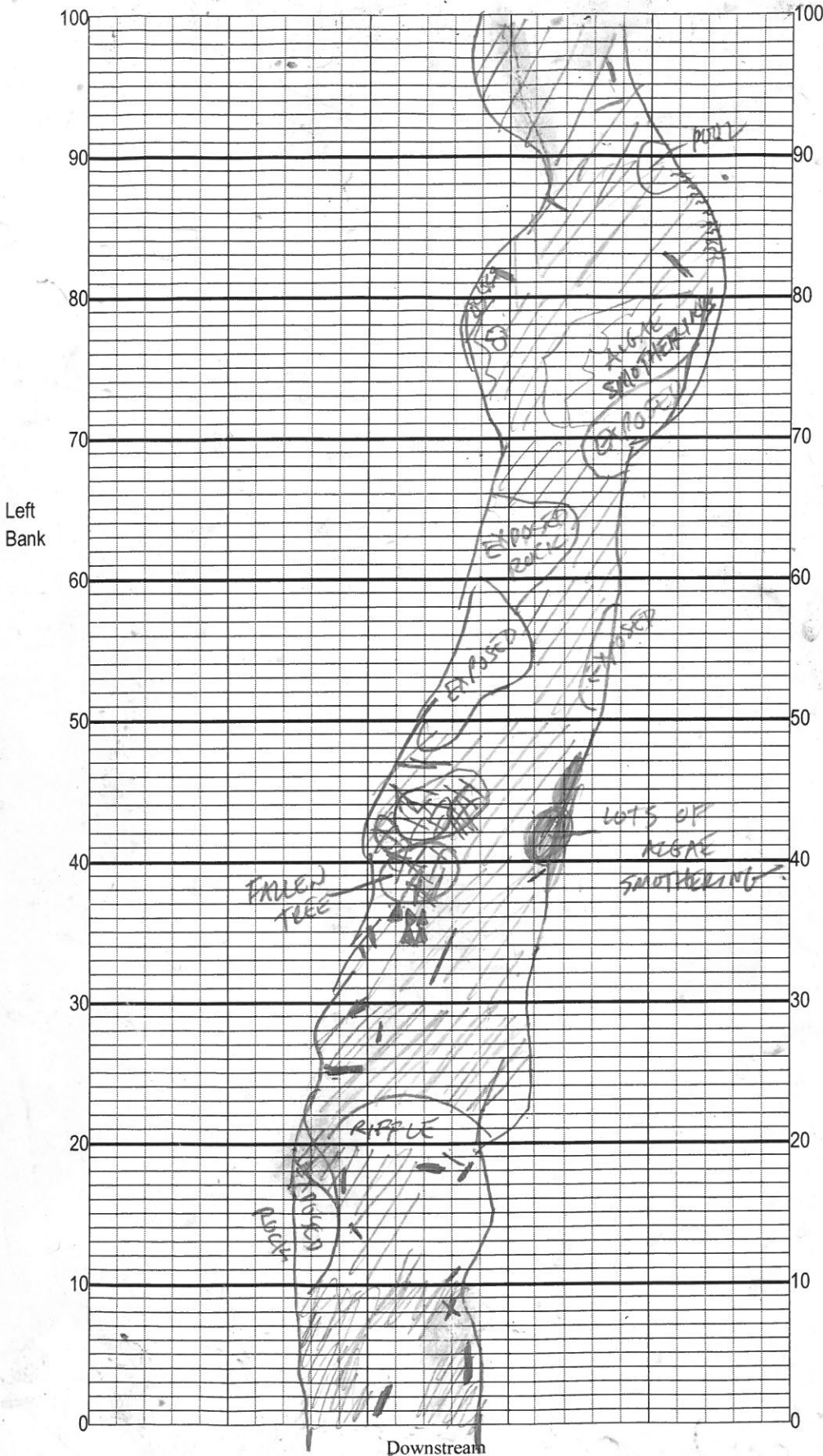
SAMPLING AGENCY: <u>FDOP / AEDA</u>		STORET STATION NUMBER: <u>STEIN CANAL RD</u>	DATE (MM/DD/YY): <u>6/24/15</u>	RECEIVING BODY OF WATER: <u>Gulf of Mexico</u>
REMARKS: <u>Eco Reg Ref Survey</u>	COUNTY: <u>Lafayette</u>	LOCATION: <u>Steinhatchee @ Canal Rd</u>	FIELD ID/NAME: <u>STEIN CANAL</u>	

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>12</u>	20 19 18 17 16	15 14 13 <u>12</u> 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>16</u>	Greater than 30% major productive habitat present at site 20 19 18 17 <u>16</u>	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>13</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 <u>13</u> 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>4</u> Primary Score <u>55</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 <u>14</u> 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 Right Bank <u>10</u> Left Bank <u>10</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. 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 <u>10</u> Left Bank <u>10</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 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>10</u> Left Bank <u>10</u> Secondary Score <u>80</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. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

135 **TOTAL SCORE**

Date: <u>6/24/15</u>	Analyst: <u>Joy Jackson</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: STEINWATCHEE @ CANAL ROAD

Date: 6.24.15

Sampler: JACKSON

100 m: Latitude 29 49 44.29
Longitude 83 18 39.90

0 m: Latitude 29 49 41.8
Longitude 83 18 31.1

Substrates: Code key, draw proportionate habitat abundance. %

	Snags	_____
	Roots/undercut banks	<u>≤ 1</u>
	Leaf Packs (or mats)	_____
	Aquatic Macrophytes	<u>≤ 1</u>
	<u>rock</u>	_____
	_____	_____
	Pools	total # observed = <u>WTS</u> # range expected = _____

Average width 6 m
Average depth 0.4 m

Velocity measured at 85 meter mark.

WQ & chemistry taken at above bridge 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:

CEDAR
SABAL PALM
VIBURNUM
WITS
CYPRESS
OAK

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:

STEIN KATCHER R O CANAL RD

County:

LAFAYETTE

Date:

6-24-15

Investigators:

JACKSON

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	3			60	1	N		
	2	3				2	N		
	3		✓			3	N		
	4		✓			4	N		
	5		✓	31		5	3		9
	6		✓			6	N		
	7		✓			7	N		
	8					8	3		
	9					9	N		
10	1	N			70	1	3		
	2	4				2	4		
	3	4				3	N		
	4					4	3		
	5	3		23		5	N		9
	6	N	✓			6	3		
	7	N				7	3		
	8	N				8	3		
	9	N				9	N		
20	1	N			80	1	N		
	2	N				2	3		
	3					3	3		
	4	3				4	4		
	5	N		35		5	N		75
	6	3				6	3		
	7	N				7	3		
	8	N				8	3		
	9	N				9	N		
30	1	3			90	1	N		
	2	4				2	N		
	3	3				3	N		
	4	4				4	N		
	5	3		✓		5	N		70
	6	4				6	N		
	7	3				7	N		
	8	N				8	N		
	9	6				9	N		
40	1	6			100	1	3		
	2	4				2	N		
	3	3				3	3		
	4	N				4	3		
	5	5		3		5	3		78
	6	4				6	N		
	7	N				7	N		
	8	N				8	N		
	9	3				9	N		
50	1	6							
	2	6							
	3	6							
	4	6							
	5	4		22					
	6	3							
	7	3							
	8	4							
	9	4							

STORET Station Number:

STEIN CANAL RD

Secchi depth 1.0
Estimated? N

points ranked 4-6 21
total points assessed 99
% points ranked 4-6 22

Check accompanying data collected at same site/date.

Algal mat sample ✓
Linear Veg Survey ✓
Habitat Assessment ✓
SC/Biorecon ✓
Water sample ✓

RQ- 2015-06-25-01

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

DOMINANT TAXA:

SPIROGYRA FLUVIATILIS

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: <u>STEINWATCHEE RD CANAL RD</u>	Date: <u>6.24.15</u>	County: <u>LAFAYETTE</u>	Storet Number: <u>STEIN CANAL</u>
Analyst: <u>JACKSON</u>	Signature: <u>J Jackson</u>		
Comments: <u>52m²</u>			

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.

[illegible] $42m^2$

SITE NAME: STEINWATCHEE RIVER @ CHAM RD DATE: 6/24/15 TIME 1040 EST CST DEPTH: 0.2 ft (m) FIELD ID: STEINCANAL
 (military)

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
J JACKSON (WATER)	✓	✓	✓	✓	✓
K SUMMERFIELD (SCI)	✓	✓	✓	✓	✓

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>YSI #2</u>	
COLLECTION MODE	
☒ Wading	☐ Via Boat
☐ Diving	☐ Canoe
☐ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	☒ TKN ☒ TP ☒ NOx ☒ NH3 ☒ TOC ☐ Total N	S W	☒ Ice ☒ H ₂ SO ₄	SA-5113230	☒ <2	1
Filtered Nutrients	☐ oP ☐ Other: _____	W	☐ Ice ☐ .45 um Filter			
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color	W	☐ Ice			
Chlorophyll	☒ CHL-PPTN-W	S W	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☒ E coli ☐ T Coli ☒ F Coli ☐ Enteroc ☐ F Strep	S W	☒ Ice			2
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNCC	S W	☒ Formalin	11.7315		2
Phytoplankton	☐ PKD-QN-C ☐ DTY-QN-C	W	☐ Lugol's			
Periphyton	☐ PRN-QL-C ☐ DTM-QL-C ☐ PRN-QN-C ☐ DTM-QN-C	W	☐ Formalin			
AGP	☐ AA-AGP ☐ AA-LIM-NUT	W	☐ Ice			
Metals	☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	W	☐ HNO ₃		☐ <2	
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO ₃ ☐ .45 um Filter		☐ <2	
Mercury	☐ W-HG-AF	W				
BaseNeutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH	W	☐ Ice			
	☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice ☐ H ₂ SO ₄		☐ <2	
Pesticides	☐ W-PEST-CL ☐ W-PCB ☐ W-PEST-NP ☐ W-PSCL-PCB	W	☐ Ice			
	☐ W-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP	W	☐ Ice			
	☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____	W	☐ Ice			
	☐ W-ACIDHERB	W	☐ Ice ☐ H ₂ SO ₄			
	☐ W-CARB	W	☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS	W	☐ Ice			
	☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER	W-SUC-AA-R	S W	☒ Other: ICE			1

 Notes: _____

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): SW = Surface Water GW = Groundwater DW = Drinking Water WW = Wastewater O = Other: _____

**PRESERVATIVES: 1 ml added unless otherwise noted

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-06-15-59

SCI Reference sites

Customer: BSSP

Project ID: SCIREF

PMAS:

Requester: Larry Olney

Collected By: Joy Jackson

Sampling Agency: FDEP

Field Report Prepared By: Kaitlyn Summerfield

Send Final Report To: Joy Jackson

Lab ID *	Location Steinhatchee River At Canal Road		☐ Comp ☒ Grab	Collection (comp begin or grab) Date 6/24/15 Time 10:40 Eastern Central	Composite end Date Time Eastern Central	Bottle Group(s)**
	Field ID Stein Canal		Tot Res Chlorine (mg/L)		Diss Oxygen (mg/L)	Storet Station Number Stein Canal RD
	Matrix (include type e.g. Salt, Fresh, etc) Fresh	Temp (C) 24.44	pH 6.87	Sample Depth ☒ m 0.2	☐ Salinity (PPTH) ☒ Sp Conductance (umho/cm) 613	NPDES Number
	Latitude 29.8288 ☒ dd ☐ dms	Longitude -83.30847 ☒ dd ☐ dms	Comments Do probe malfunction - no readings			
Lab ID *	Location Ecno River At Oakland Church Road		☐ Comp ☒ Grab	Collection (comp begin or grab) Date 6/24/15 Time 4:00 Eastern Central	Composite end Date Time Eastern Central	Bottle Group(s)**
	Field ID Ec No 10		Tot Res Chlorine (mg/L)		Diss Oxygen (mg/L)	Storet Station Number 6976
	Matrix (include type e.g. Salt, Fresh, etc) Fresh	Temp (C) 22.62	pH 6.87	Sample Depth ☒ m 0.2	☐ Salinity (PPTH) ☒ Sp Conductance (umho/cm) 483	NPDES Number
	Latitude 30.170886667 ☒ dd ☐ dms	Longitude -83.823695556 ☒ dd ☐ dms	Comments Do probe malfunction - no readings ; No MI-Fw-QLDC			
Lab ID *	Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time Eastern Central	Composite end Date Time Eastern Central	Bottle Group(s)**
	Field ID		Tot Res Chlorine (mg/L)		Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTH) ☐ Sp Conductance (umho/cm)	NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments			
Lab ID *	Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time Eastern Central	Composite end Date Time Eastern Central	Bottle Group(s)**
	Field ID		Tot Res Chlorine (mg/L)		Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTH) ☐ Sp Conductance (umho/cm)	NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments			
Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time
				6-25-15		

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Group: A	Bottle Type:	PJ-2L	# of Bottles: 4	Preservative:	Formalin	Enter Number of Bottles Sent to Lab	2
MI-FW-QLDC							
Group: B	Bottle Type:	BP-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
CHLSUITE-W							
Group: B	Bottle Type:	P-250ML-WO-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
ECOLI-18QT							
Group: B	Bottle Type:	P-120ML-OC	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
FCOLI-MF							
Group: B	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
TURBIDITY							
W-ALK							
W-COLOR							
W-TDS							
W-TSS							
Group: B	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	2
W-NH3							
W-NO2NO3							
W-S-A-TP							
W-TKN							
W-TOC							
Group: B	Bottle Type:	BG-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
W-SUC-AA-R							