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

SAMPLE ID _____ ORG ID 21FLWQSP LATITUDE 30.627192

COUNTY Gadsden STORET # 31010142 LONGITUDE -84.834197

DATE 7/27/17 TIME 1310 SAMPLING AGENCY FDEP AEQA

SITE NAME Flat Creek

FIELD ID/NAME FltRef RECEIVING BODY OF WATER Apalachicola River

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): 1.16

Local Watershed Erosion (select one) : [X] None [ ] Slight [ ] Moderate [ ] Heavy

Local Watershed NPS Pollution : [X] No evidence [ ] Slight [ ] Moderate [ ] Heavy

Width of Riparian Vegetation (m) on Each Buffer Side: Left Bank : >18 Right Bank : >17

Hydrologic Modification Score (per FT 3101): 1-2

High Water Mark: 0.9 (m) + 0.3 (present depth) = 1.2 (above bed)

Artificially Impounded: [ ] Yes [X] No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

5.5 m wide		
>0.25 m/s	~~0.25~~ 0.33 m/s	0.25 m/s
0.3 m deep	0.3 m deep	0.3 m deep

Artificially Channelized : [X] No [ ] Some recovery [ ] Mostly recovered, more sinuous [ ] Recent, severe

Canopy Cover %: [ ] Open [X] Heavily Shaded [ ] Lightly Shaded (11-45%) [ ] Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils: [X] Absent [ ] Slight [ ] Moderate [ ] Profuse

Sediment Odors: [X] Normal [ ] Sewage [ ] Petroleum [ ] Chemical [ ] Anaerobic [ ] Other (Specify) :

Smothering of Substrates

	None	Slight	Moderate	Severe
Sand Smothering:	[ ]	[ ]	[ ]	[X]
Silt Smothering:	[X]	[ ]	[ ]	[ ]
Algae Smothering:	[X]	[ ]	[ ]	[ ]

SUBSTRATE TYPE

Assessment Tool: [X] SCI [X] RPS [X] LVS [ ] LCI [ ] BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	5	5	
Undercut Banks / Roots	3	5	
Leaf Packs or Mat	2	5	
Aquatic Vegetation			
Rock or Shell Rubble..			
Sand.....	90	5	
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)
Top :	0.2	25.5	6.84	8.08	98.3	52.8 J	
Mid:							
Bottom							

Meter ID: 1483

SECCHI (M): [X] VOB

TOTAL DEPTH: 0.3

Water Odors Normal [X] Petroleum [ ] Sewage [ ] Chemical [ ] Other [ ]

Water Surface Oils Normal [X] Sheen [ ] Globs [ ] Slick [ ] Other [ ]

Water Sample Taken? [X] Yes [ ] No

Sample Preserved? [X] Yes [ ] No

Lot Number:_____ Exp:_____

Color Tannic [ ] Green (Algae) [ ] Clear [X] Other (Specify) [ ]

Algae Sample Taken? [ ] Yes [X] No

Sample Preserved? [ ] Yes [ ] No

Lot Number:_____ Exp:_____

Clarity Clear [ ] Slightly Turbid [X] Turbid [ ] Opaque [ ]

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	[X]	[ ]	[ ]	[ ]
Fish: ✓	[X]	[ ]	[ ]	[ ]
Aquatic Plants:	[X]	[ ]	[ ]	[ ]
Iron/Sulfur Bacteria:	[X]	[ ]	[ ]	[ ]

System Type: Stream [X] Lake [ ] Wetland [ ] Estuary [ ] Other(Specify) [ ] _____

AMBIENT FIELD CONDITIONS / NOTES:

"J" qualify conductivity

[X] The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM: Sarah Panek, Joy Jackson, Jason Storrs

SIGNATURE : Sarah C Panek

DATE : 7/27/2017

DEP-SOP-001/01: Form FD 9000-5

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: / SUBMITTING AGENCY NAME:	STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
	31010142	7.27.17	APALACHICOLA R

REMARKS:	COUNTY:	LOCATION:	FIELD ID/NAME:
	GADSDEN	FLAT CREEK	FLTREF

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 14	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 (14) 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability 7	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 20	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 12 Primary Score 53	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 **Artificial Channelization** 20	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. (20) 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 9 Left Bank 9	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 9 Left Bank 10	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 10 Left Bank 10 Secondary Score 77	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

130 **TOTAL SCORE**

Date:	Analyst:	Signature:
7.27.17	J. JACKSON	

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site:	County:	Date:	Investigators:
FLAT CREEK	GADSDEN	7.27.17	J. JACKSON

STORET Station Number: FLATREE

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
10	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
20	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
30	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
40	1			
	2			
	3			
	4			
	5			94
	6			
	7			
	8			
	9			
50	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
70	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
80	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
90	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
100	1			
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			

Secchi depth	0.3 VGTS
Estimated?	✓

# points ranked 4-6	0
total points assessed	99
% 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- 2017-07-24-23	

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: Flat Creek	Date: 7/27/17	County: Gadsden	Storet Number: 3101014 2
Analyst: S. Panek		Signature: Jared C Panek	
Comments: no plants in water			

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 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 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Commelina diffusa											
Commelina virginica											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with "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											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar luteum											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Ruellia simplex											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											

Form FD9000-28 Water Field Form 031306_FD9000-28.doc

SITE NAME: Flat Creek **DATE:** 7/27/17 **TIME** 1310 (military) EST CST **DEPTH^:** 0.2 ft m **FIELD ID:** Flt Ref

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Sarah Panek	X	X		X	X
Joy Jackson		X	X		
Jason Storrs	X		X	X	

SAMPLING EQUIPMENT

- [X] Sample Container
- [ ] Pole
- [ ] Pump ID#: _____
- [ ] Tubing type: _____
- [ ] Other _____
- [ ] Other _____

WATER QUALITY MEASUREMENTS

Instrument ID: 1483

COLLECTION MODE

- [X] Wading
- [ ] Diving
- [ ] From Shore
- [ ] Other _____

Via Boat
- [ ] Canoe
- [ ] Electric Motor
- [ ] Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	[X] TKN [X] TP [X] NOx [X] NH3 [ ] TOC [ ] Total N [ ] Other:	S W	[X] Ice [X] H_2SO_4	7163030	[X] <2	1
Filtered Nutrients	[ ] oP [ ] Other:	W	[ ] Ice [ ] .45 um Filter			
Unpreserved Nutrients	[ ] NO_2 [ ] NO_3 [ ] SO4 [ ] Other:	W	[ ] Ice			
Physical/Aggregate Properties	[X] TDS [X] TSS [ ] TS [X] Turbidity [X] Alk [X] Color [ ] Other:	S W	[X] Ice			1
Chlorophyll	[X] CHL-PPTN-W	W	[ ] Ice			1
BOD	[ ] BOD-INHB [ ] BOD-UNIN	W	[ ] Ice			
Microbiology	MF: [ ] E coli [ ] T Coli [ ] F Coli [ ] Entero [ ] F Strep	W	[ ] Ice			
Macroinvertebrates	[X] MI-FW-QLDC [ ] MI-FW-QLBR [ ] MI-FW-QNNC [ ] MI-MN-QNNC	S W	[X] Formalin			3
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	[X] W-ICP [ ] W-FIAS [ ] W-ICPMS [ ] W-ICP-Tr	S W	[X] HNO_3	7086060	[X] <2	1
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_2SO_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-SLFN-UREA [ ] W-SULFN-LC [ ] Other:	W	[ ] Ice			
	[ ] W-ACIDHERB	W	[ ] Ice [ ] H_2SO_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	[ ] Other:			

Notes: NA - 7086060 exp. 3/27/18

SA - 7163030 exp. 6/12/18

sucralose & herbicide W-SUC-AA-R, WAHERB-AA, NUHERB-AA SW 1 bottle

qPCR SW Ice 2 bottles

ions: bromide, chloride, flourde, sulfate → same bottle as physical aggregate

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.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

Request Number: RQ-2017-07-24-23

Reference Stream Sampling

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Apr 7, 2016

Customer: BSSP

Project ID: SCIREF

Requester: Sarah Panek

Collected By: Sarah Panek

Field Report Prepared By: Sarah Panek

Sampling Agency: FDEP/AEQA

Location: Smith Creek @ 375	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/27/2017 Time 1020 (Eastern / Central)			Composite end Date	Time			Bottle Group(s) (See pg 2): A, B	
Field ID: Smith Ref	Matrix (type, e.g., Salt, Fresh, etc): Fresh		Diss. Oxygen: 6.66 mg/L, 79.4% sat ☑ mg/L ☑ % sat		Total Res. Chlorine (mg/L)					
STORET #: 22020064	Temp (C): 24.4	pH: 7.18	Sample Depth: 0.2 ☐ ft ☒ m		Sp. Conductance (umho/cm): 35.6					
Latitude: 30.167392 N ☒ dd ☐ dms	Longitude: -84.654714 W ☒ dd ☐ dms		Salinity (ppt):		Comments:					
Location: (Smith Creek) BLANK	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/27/2017 Time 1035 (Eastern / Central)			Composite end Date	Time			Bottle Group(s): C	
Field ID: BLANK	Matrix (type, e.g., Salt, Fresh, etc):		Diss. Oxygen: ☐ mg/L ☐ % sat		Total Res. Chlorine (mg/L)					
STORET #:	Temp (C):	pH:	Sample Depth: ☐ ft ☐ m		Sp. Conductance (umho/cm)					
Latitude: ☐ dd ☐ dms	Longitude: ☐ dd ☐ dms		Salinity (ppt):		Comments:					
Location: Flat Creek	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/27/2017 Time 1310 (Eastern / Central)			Composite end Date	Time			Bottle Group(s): A, B	
Field ID: Flt Ref	Matrix (type, e.g., Salt, Fresh, etc): Fresh		Diss. Oxygen: 8.08 mg/L, 98.3% sat ☑ mg/L ☐ % sat		Total Res. Chlorine (mg/L)					
STORET #: 31010142	Temp (C): 25.5	pH: 6.84	Sample Depth: 0.2 ☐ ft ☒ m		Sp. Conductance (umho/cm): 52.8					
Latitude: 30.627192 N ☒ dd ☐ dms	Longitude: -84.834197 W ☒ dd ☐ dms		Salinity (ppt):		Comments:					
Location:	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time (Eastern / Central)			Composite end Date	Time			Bottle Group(s):	
Field ID:	Matrix (type, e.g., Salt, Fresh, etc):		Diss. Oxygen: ☐ mg/L ☐ % sat		Total Res. Chlorine (mg/L)					
STORET #:	Temp (C):	pH:	Sample Depth: ☐ ft ☐ m		Sp. Conductance (umho/cm)					
Latitude: ☐ dd ☐ dms	Longitude: ☐ dd ☐ dms		Salinity (ppt):		Comments:					

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Sarah Panek	7/27/17 1525				

Group: C	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	1
	W-COLOR W-F W-SO4-IC W-TDS W-TSS						
Group: C	Bottle Type:	QPCR-P-250ML	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	PCR-HF183						
Group: C	Bottle Type:	BG-1L	# of Bottles: 1	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	1
	W-AHERB-AA W-SUC-AA-R W-UHERB-AA						
Group: C	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO3	**Enter Number of Bottles Sent to Lab**	1
	W-ICP						
Group: C	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	ICE And H2SO4	**Enter Number of Bottles Sent to Lab**	1
	W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC						