



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2016

PAGE ____ OF ____

Check box if data qualified

STORET Station Name: Catfish Creek @ 450m DS of Lake Pierce Date: 1/27/2016
(mm/dd/yyyy)

STORET Station ID: 26011453 Latitude: 27.9613
(Decimal Degrees)

WBID: 1532 RQ - 2016-01-25-11 ORG ID: 2IFLCEN Longitude: 81.4963
(Decimal Degrees)

Receiving Body of Water: Kissimmee River Field ID: G4CE0086 County: Polk

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Duplicate Collection	Blank Collection
Mike Linger		☒	☒	☒				
Mike Drennan			☒		☒	☒		

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# 11C / 11E Photos: Yes / No N, S, E, W, J, D Tide Falling: Yes / No / NA

Time Zone	Time	Total Depth (m)	Sample Depth	Temp (°C)	DO (mg/L)	DO (%SAT)	COND (µmhos/cm)	Salinity (ppt)	pH	Secchi Disk (m)
EST	11:43	0.9	0.3	14.6	7.9	78	144	0.1	6.9	0.9(5)
CEN	—									

Biological Samples Collected: None HA SCI LVS RPS LVI Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ TKN / TP / NOx / NH3 / TOC / TN ☐ Other	☒ Ice ☐ H2SO4	<u>4</u>		☒ < 2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ < 2
Filtered Nutrients	☒ OP ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Enteroc ☐ QPCR	☐ Ice			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PSCL-TQA ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Contains
1:1
Sulfuric Acid
SA-5259020
EXP: 09/16/16

Notes: 28.026851
-81.494476

Date: 1-27-2016

Time:

RQ-2016-01-25-11

G4CE0086



Field ID

STORET

26011453

Signature: Mike Linger Mike Drennan Date: 1/27/16

Entered into LIMS: MKL 2/2/16 Field Parameters QC in LIMS: 7R 2/3/16

JRET: Kmw 2/26/16 Field Sheets Scanned/Saved: NA 2/29/16

149

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

SAMPLING AGENCY: <u>FDEP</u>	STORET STATION NUMBER: <u>26011453</u>	DATE (MM/DD/YY): <u>01/27/16</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Polk</u>	LOCATION: <u>Catfish Creek @ 450 m DS of Lake Pierce</u>	FIELD ID/NAME: <u>G4CE0086</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>15</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>11</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 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>10</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 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>50</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 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	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>8</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>10</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>9</u> Left Bank <u>9</u> — ----- Secondary Score <u>75</u>	10 9	8 7 6	5 4	3 2 1

125

TOTAL SCORE

Date: <u>1/27/16</u>	Analyst: <u>Mike Linger</u>	Signature: <u>[Signature]</u>
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103
18

125

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

SAMPLE ID 75493 ORG ID 2IFICEN LATITUDE _____
COUNTY Polk STORET # 26011453 LONGITUDE _____
DATE 1/27/16 TIME 11:43 SAMPLING AGENCY FDEP C-ROC
SITE NAME Catfish Creek @ 450m DS of Lake Pierce
FIELD ID/NAME 64CE0086 RECEIVING BODY OF WATER _____

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 10 m wide
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>> 18</u>				Hydrologic Modification Score (per FT 3101)		m/s m/s m/s 1/7	
High Water Mark: <u>0.2</u> + <u>1.0</u> = <u>1.2</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No		m deep <u>1.0</u> 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 ☒																																	
SUBSTRATE TYPE Assessment Tool: ☐ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon % Coverage Woody Debris (Snags) Undercut Banks / Roots Leaf Packs or Mat Aquatic Vegetation Rock or Shell Rubble.. Sand..... Mud / Muck / Silt Other Other INVERT # Times Sampled PERI # Times Sampled 			WATER QUALITY <table border="1"> <thead> <tr> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top: <u>0.3</u></td> <td><u>14.6</u></td> <td><u>6.9</u></td> <td><u>7.9</u></td> <td><u>78</u></td> <td><u>144</u></td> <td><u>0.1</u></td> <td><u>0.9</u></td> </tr> <tr> <td>Mid: </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td>☒ VOB</td> </tr> <tr> <td>Bottom: </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> Meter ID: <u>11C / 11E</u> TOTAL DEPTH <u>0.9</u>			Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top: <u>0.3</u>	<u>14.6</u>	<u>6.9</u>	<u>7.9</u>	<u>78</u>	<u>144</u>	<u>0.1</u>	<u>0.9</u>	Mid:							☒ VOB	Bottom:							
Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)																														
Top: <u>0.3</u>	<u>14.6</u>	<u>6.9</u>	<u>7.9</u>	<u>78</u>	<u>144</u>	<u>0.1</u>	<u>0.9</u>																														
Mid:							☒ VOB																														
Bottom:																																					
Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐																																		
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify)																																		
Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			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: ☐ The antecedent hydrologic conditions have been met to my best knowledge.																																					

SAMPLING TEAM Mike Linger, Mike Drennan **SIGNATURE:** [Signature] **DATE:** 1/27/16

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Catfish Creek @ 450m DS of Lk Pierce Polk County: Polk Date: 1/27/16 Investigators: Mike Linger

STORET Station Number: 26011453

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	4		28	60	1	3		52
	2	2				2	4		
	3	2				3	N		
	4	2				4	N		
	5	2				5	N		
	6	2				6	N		
	7	5				7	3		
	8	3				8	3		
	9	4				9	3		
10	1	3		24	70	1	4		48
	2	3				2	3		
	3	N				3	3		
	4	3				4	N		
	5	N				5	N		
	6	N				6	N		
	7	4				7	5		
	8	3				8	3		
	9	5				9	4		
20	1	4		28	80	1	3		40
	2	4				2	N		
	3	N				3	N		
	4	N				4	N		
	5	N				5	N		
	6	4				6	N		
	7	3				7	4		
	8	4				8	N		
	9	N				9	4		
30	1	N		32	90	1	4		32
	2	3				2	4		
	3	3				3	N		
	4	N				4	N		
	5	N				5	N		
	6	4				6	3		
	7	5				7	5		
	8	5				8	4		
	9	4				9	4		
40	1	4		36	100	1	4		24
	2	N				2	3		
	3	N				3	N		
	4	N				4	N		
	5	3				5	N		
	6	N				6	3		
	7	3				7	5		
	8	4				8	4		
	9	5				9	3		
50	1	4		40	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.				
	2	3			Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.				
	3	3			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.				
	4	N			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%.				
	5	N							
	6	N							
	7	3							
	8	3							
	9	4							

Secchi depth
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-2016-01-25-11

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 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: Catfish Creek @ 450m DS of Lake Pierce Date: 1/27/16 County: Polk Storet Number: 26011453

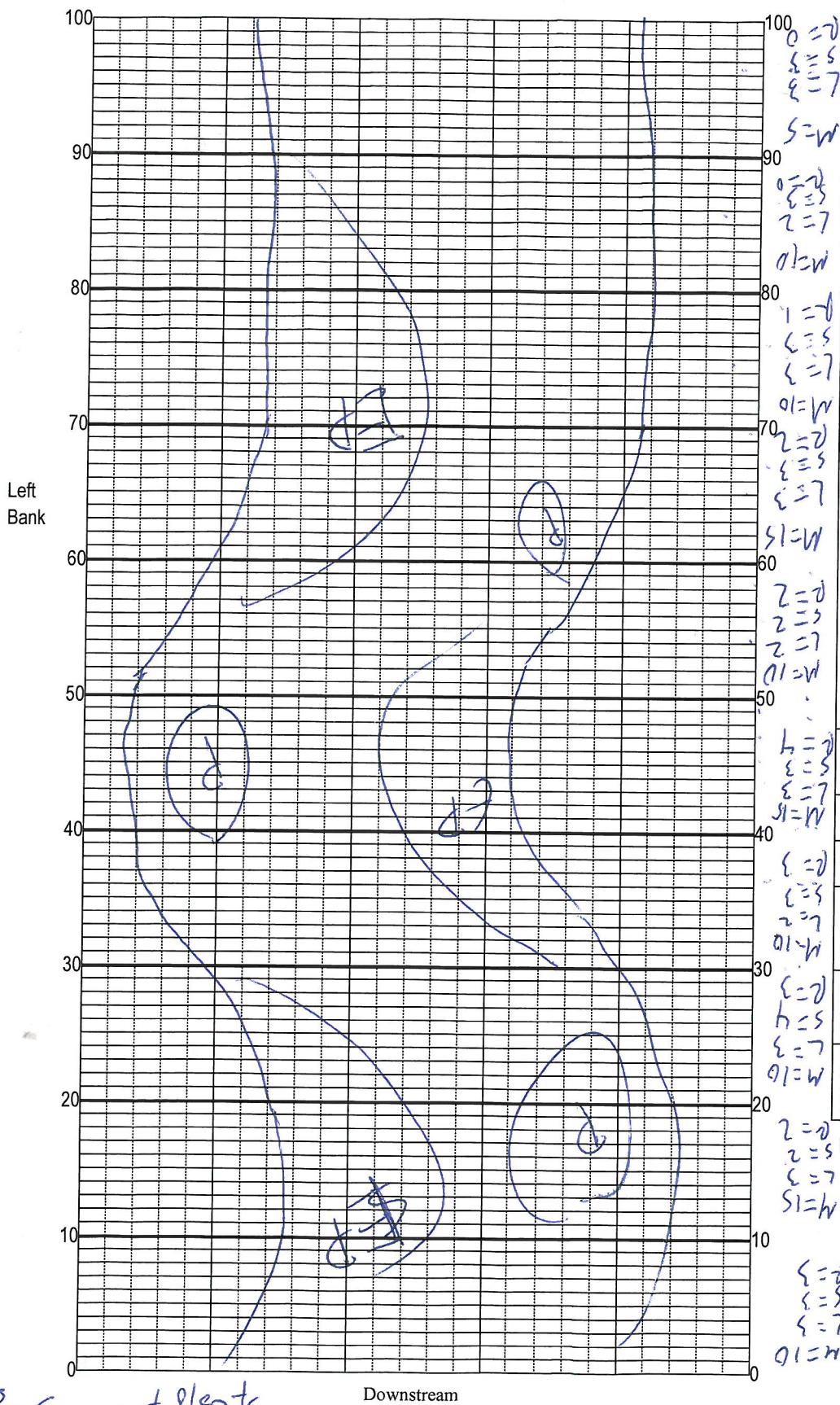
Analyst: Mike Linger Signature: Mike Linger

Comments:

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.

HERBACEOUS SPECIES	Meter Mark										Specime n collected (check)	HERBACEOUS SPECIES	Meter Mark										Specime n collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum					✓						
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon	D/D			✓	✓	✓	✓			✓	
Chara												Panicum repens					✓	✓	✓	✓	✓	✓	
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense					✓							Pistia stratioides											
Colocasia esculenta										✓		Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata	✓	✓	D/D		✓	✓	✓	✓	✓	✓	
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle	✓	✓		✓								Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia					✓						
Hymenocallis												Salvinia minima	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha		✓		✓			✓	✓	✓	✓	
Ludwigia leptocarpa												Vallisneria americana					D/D	D/D	D/D	D/D	✓	✓	
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana												Utr.		✓			✓	✓	✓	✓	✓	✓	
Ludwigia repens												"		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Luziola fluitans												Foliase		✓		✓	✓	✓	✓	✓	✓	✓	
												Taxodrom	✓			✓	✓	✓	✓	✓	✓	✓	
												Micanra Scan								✓	✓		
												Sch	✓	✓		✓	✓	✓	✓	✓	✓		
												Eleocharis inter closer						✓	✓	✓	✓		
												Cephala		✓	✓		✓						
												Selica		✓		✓							
												Nymphaea		✓		✓							
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																							

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



Location: Cattfish crk.
 Date: 1/27/16
 Sampler: Mike Drennan

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

Substrates: Code key, draw proportionate habitat abundance.		%
☐ S	Snags	_____
☐ R	Roots/undercut banks	_____
☐ L	Leaf Packs (or mats)	_____
☐ M	Aquatic Macrophytes	_____
☐		_____
☐		_____
☐	Pools	total # observed = _____ # range expected = _____

Average width 14 m
 Average depth 1.7 m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ 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:

22009/1/27/16
02=0
62=5
L2=7
01=H

EP = Emergent Plants
 P = Pools
 Length of grid represents 100 m of stream (not linear meters).
 (Horizontal scale is double vertical scale, draw proportionately).