

SCI

Site Name Catfish Creek Sample Date 12/17/2019

WBID 1532 WIN ID G4CE0175 RQ -2019-12-02-51

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	MKL 1/2/20	JK 1/8/20
Create SBIO station visit 80602	MKL 1/2/20	n/a
Phys/Chem entry	MKL 1/7/20	JK 1/8/20
Habitat Assessment entry 16482	MKL 1/7/20	JK 1/8/20
Vascular entry (add LIMS ID to entry) 11580	MKL 1/7/20	JK 1/8/20
RPS entry 9523	MKL 1/7/20	JK 1/8/20
Authorize SBIO data	JK 1/8/20	n/a
Scan all sheets to 21FLCEN folder	JK 1/8/20	n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

Please
QC
MKL



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Catfish Creek @ 450m DS of Lake Pierce

Date: 12/17/2019

WIN/ Field ID: G4CE0175

WBID: 1532

Latitude: 27.96128835

(mm/dd/yyyy)

County: Polk

ORG ID: 21FLCEN

Longitude: -81.49629622

(Decimal Degrees)

Receiving Body of Water:

RQ-2019- 12-02-51

Sampling Team Members						WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Mike Linger										
Natalie Ayala										
Terry Riordan										
Elizabeth Bates										

Sampling Equipment			
☒ Sample Container	☐ Van Dorn	☐ Pole	
☐ Carboy	☒ Syringe		
☐ Dipper	☐ Other		
Depth Measured with Secchi Disk Line / Meter			
Equipment ID Leadfoot, Knothead, Crusty/Bucket, Mucky/Trap			

Collection Method			
☒ Wading	☐ Canoe/Kayak		
☐ From Shore	☒ Electric Motor		
☐ Other	☐ Gasoline Motor		

Water Level: Dry/ Pooled/ Low / Normal / High / Flooded				Meter ID# Shrimp Trap		Matrix: Fresh / Marine / DI	
Photos: Yes / No				Flow: No Flow / Intestinal / Flowing / NA		Tide: Rising/ Falling/ Slack/ NA	
Tide Times: High 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	1110	0.5	0.3	0.5(s)	4.55	50.8	7.03	0.07	150.4	20.6
CEN										

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:										
SBIO ID Numbers: SBIO-ID: 80602 HA-ID: 16482 RPS-ID: 9523 Macrophyte-ID: 11580 LIMS#: 2145086										

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	5A9203100	7/22/20	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	NA9129070	5/9/20	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice	16930280		
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-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coll ☐ F Coll ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☒ W-E8321-DI ☒ W-E8321-MS	☒ Ice			
Pesticides	☒ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA	☒ Ice ☐ Other			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

HN03
LOT# NA9129070
EXP: 05/09/20

Notes:

WIN ID / Field ID →

Catfish Creek @ 450m DS
of Lake Pierce



G4CE0175

Signature: [Signature]

Date: 12/17/19

LIMS EVENT ID: CENT-DIST-2019-12-18-01

Enter Field Parameters, Verify Station ID In LIMS DMT:

MKL 1/2/20
(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT:

7A 1/8/20
(Initials/Date)

Scan/Save Field Sheets

(Initials/Date)

Migrate Data to WIN:

(Initials/Date)

Verify Data In WIN:

(Initials/Date)

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

SAMPLING AGENCY: <u>FDEP CE-ROC</u>		STORET STATION NUMBER: <u>G4CE0175</u>	DATE (MM/DD/YY): <u>12/17/19</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>Polk</u>	LOCATION: <u>Catfish Creek</u>		FIELD ID/NAME: <u>G4CE0175</u>

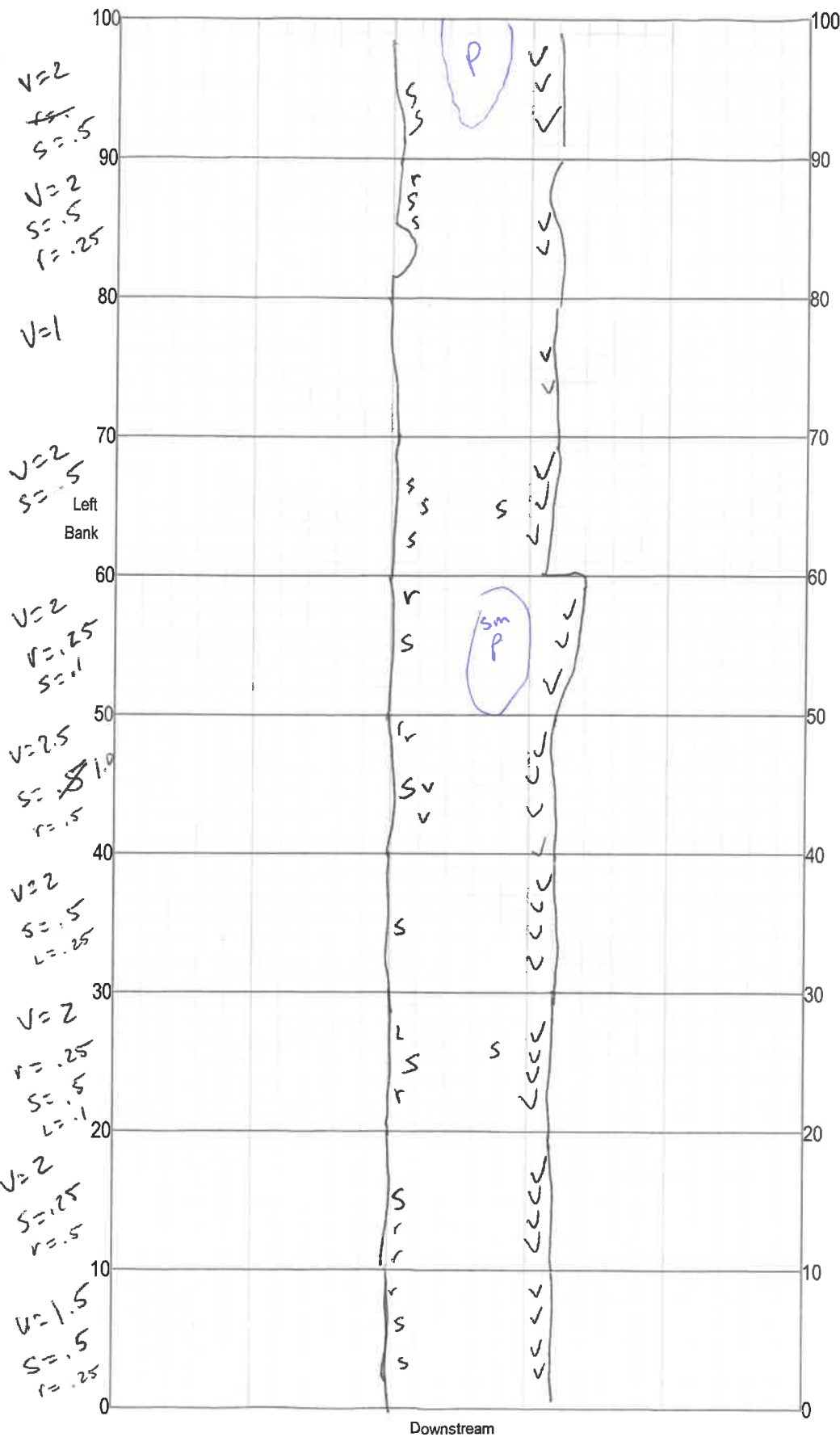
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>13</u>	20 19 18 17 16	15 14 <u>13</u> 12 11	10 9 8 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>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 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>12</u> ----- Primary Score <u>44</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 <u>12</u> 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. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging or straightening 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	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. <u>10</u> 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 woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m Right Bank <u>10</u> Left Bank <u>10</u> 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	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. Right Bank <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>79</u> 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

123

TOTAL SCORE

Date: <u>12/17/19</u>	Analyst: <u>Mike Linger</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Catfish Creek
 Date: 12/17/19
 Sampler: Mike Linger

100 m: Latitude	<u>27.961338</u>
Longitude	<u>-81.496237</u>
0 m: Latitude	<u>27.962103</u>
Longitude	<u>-81.495738</u>
Substrates: Code key, draw proportionate habitat abundance. %	
☒ S	Snags <u>0.7</u>
☒ r	Roots/undercut banks <u>0.3</u>
☐ L	Leaf Packs (or mats) <u> </u>
☒ V	Aquatic Macrophytes <u>3.2</u>
☐	<u> </u>
☐	<u> </u>
☒ P	Pools total # observed = <u>2</u> # range expected = <u>2-4</u>
Average width <u>6</u> m	
Average depth <u>0.5</u> m	
Velocity measured at <u>20</u> meter mark.	
WQ & chemistry taken at <u>100</u> 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:

V = 1.9 3.2%
 S = 4.35 .7%
 r = 2 .3%

600m²

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

SAMPLE ID 80602 ORG ID 21 FL CEN LATITUDE 27.96128835
COUNTY Polk STORET # 64 CE 0175 LONGITUDE -81.49629622
DATE 12/17/19 TIME 1110 SAMPLING AGENCY FDEP CE-ROC
SITE NAME Catfish Creek @ 450m DS of Lake Pierce
FIELD ID/NAME 64CE0175 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) ☐ <u>100</u> ☐ ☐ ☐ ☐ ☐ ☐ ☐								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 <u>6</u> m wide ☐ m/s <u>0.17</u> m/s ☐ m/s <u>6 sec</u> ☐ m deep <u>0.4</u> m deep ☐ m deep				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18</u> Right Bank: <u>>18</u>				Hydrologic Modification Score (per FT 3101) ☐				
High Water Mark: <u>0.5</u> + <u>0.5</u> = <u>1.0</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 ☒
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SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☒ RPS ☒ LVS
☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>0.7</u>	<u>5</u>	
Undercut Banks / Roots	<u>0.3</u>	<u>5</u>	
Leaf Packs or Mat		<u>2</u>	
Aquatic Vegetation	<u>3.2</u>	<u>5</u>	
Rock or Shell Rubble..			
Sand.....		<u>3</u>	
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)	SECCHI (M)
Top:	<u>0.3</u>	<u>20.6</u>	<u>7.03</u>	<u>4.55</u>	<u>50.8</u>	<u>150.4</u>	<u>0.07</u>	<u>0.5</u>
Mid:								☒ VOB
Bottom:								
Meter ID:	<u>Shrimp Trap</u>							<u>0.5</u>

Water Odors Normal ☒ Petroleum ☐
Sewage ☐ Chemical ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☐ Yes ☐ No
Lot Number: _____ Exp: _____

Algae Sample Taken? ☒ Yes ☐ No
Sample Preserved? ☒ Yes ☐ No
Lot Number: _____ Exp: _____

Water Surface Oils Normal ☒ Sheen ☐
Globs ☐ Slick ☐ Other ☐

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:

80's cloudy, windy
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Mike Linger / Natalie Ayala / Terry Riordan / Liz Bates

SIGNATURE:

[Signature]

DATE:

12/17/19

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Cattfish Creek</u>					County: <u>Pelk</u>		Date: <u>12/17/15</u>		Investigators: <u>Mike Linger</u>	
					STORET Station Number: <u>G4CE0175</u>					

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	5	N		60	1	4	N	
	2	3				2	4		
	3	2				3	2		
	4	2				4	2		
	5	2		24		5	2		
	6	2				6	2		36
	7	2				7	2		
	8	2				8	5		
	9	2				9	3		
10	1	4			70	1	4		
	2	4				2	3		
	3	2				3	3		
	4	2		32		4	2		
	5	2				5	2		28
	6	2				6	2		
	7	2				7	2		
	8	2				8	4		
	9	2				9	2		
20	1	4			80	1	2		
	2	4				2	4		
	3	2				3	2		
	4	2		36		4	2		
	5	2				5	2		44
	6	2				6	2		
	7	2				7	2		
	8	2				8	2		
	9	4				9	4		
30	1	4			90	1	2		
	2	4				2	2		
	3	4				3	2		
	4	2				4	2		
	5	2		28		5	2		56
	6	2				6	2		
	7	2				7	2		
	8	4				8	5		
	9	4				9	4		
40	1	4			100	1	3		
	2	4				2	4		
	3	2				3	2		
	4	2				4	2		
	5	2		32		5	2		52
	6	2				6	2		
	7	2				7	2		
	8	2				8	5		
	9	4				9	4	N	
50	1	4							
	2	4							
	3	4							
	4	2							
	5	2		40					
	6	2							
	7	2							
	8	2							
	9	4	N						

Secchi depth	0.5
Estimated?	

# points ranked 4-6	29
total points assessed	99
% points ranked 4-6	29

Check accompanying data collected at same site/date.	
Algal mat sample	☒
Linear Veg Survey	☒
Habitat Assessment	☒
SC/Biorecon	☒
Water sample	☒
RQ-2019-12-02-51	

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%.

Waterbody: <u>Catfish Creek</u>	Date: <u>12/17/14</u>	County: <u>Polk</u>	Storet Number: <u>64CF0175</u>
Analyst: <u>Natalie Ayala</u>	Signature: <u>Natalie Ayala</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.

Revision Date: March 1, 2014