

HA/RPS/LVS

Site Name Wekiva River Sample Date 11/20/2019WBID 2956 WIN ID 62CE0205 RQ -2019-11-18-58

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 11/27/19	MKL 12/23/19
Create SBIO station visit 30492	LMD 11/22/19	n/a
Phys/Chem entry	LMD 12/16/19	MKL 12/23/19
Habitat Assessment entry 16419	LMD 12/16/19	MKL 12/23/19
Vascular entry (add LIMS ID to entry) 11564	LMD 12/16/19	MKL 12/23/19
RPS entry 9506	LMD 12/16/19	MKL 12/23/19
Authorize SBIO data	MKL 12/23/19	n/a
Scan all sheets to 21FLCEN folder		n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Wekiva River Upstream of Little Wekiva Confluence

Date: 11/20/2019

(mm/dd/yyyy)

WIN/ Field ID: G2CE0205

WBID: 2956

Latitude: 28.73743

(Decimal Degrees)

County: Seminole/Orange

ORG ID: 21FLCEN

Longitude: -81.42263

(Decimal Degrees)

Receiving Body of Water: St. John's River

RQ-2019- 11-18-58

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

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

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

Water Level: Dry / Pooled / Low / Normal / High / Flooded

Motor 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 (PPTH)	Sp COND (µmhos/cm)	Temp. (C°)
<u>EST</u>	<u>1139</u>	<u>1.0</u>	<u>0.3</u>	<u>1.0(s)</u>	<u>6.63</u>	<u>71.1</u>	<u>7.54</u>	<u>0.16</u>	<u>334.4</u>	<u>18.8</u>
<u>EEN</u>		<u>MKL</u>								

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:

SBIO ID Numbers: SBIO-ID: 80492 HA-ID: 16419 RPS-ID: 9506 Macrophyte-ID: 11564 LIMS#: 2138154

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	<u>SA9203100</u>	<u>7/22/20</u>	☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	<u>13615055</u>		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-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 Coli ☐ F Coli ☐ 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 ☐ W-E8321-MS ☐ W-CARB-AA	☐ Ice ☐ Other			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes:

WIN ID / Field ID →

Wekiva River Upstream
of Little Wekiva Confluence



G2CE0205

Signature: [Signature]

Date: 11/21/19

LIMS EVENT ID: CENT-DIST-2019-11-21-01

Enter Field Parameters, Verify Station ID In LIMS DMT: LMD 11/27/19

QC Station ID, Field Parameters In LIMS DMT: AKL 12/23/19

Scan/Save Field Sheets

Migrate Data to WIN:

Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

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

SAMPLE ID 80492 ORG ID 21 FL CEN LATITUDE 28.73743
 COUNTY Seminole / Orange STORET # GZCE0205 LONGITUDE -81.42263
 DATE 11/20/19 TIME 1139 SAMPLING AGENCY FDEP CE-ROC
 SITE NAME Wekiva River Upstream of Little Wekiva Confluence
 FIELD ID/NAME GZCE0205 RECEIVING BODY OF WATER SJR

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ <u>100</u> 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 <u>45</u> m wide ☐ m/s <u>0.17</u> m/s ☐ m/s ☐ m deep <u>1.0</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>0.3</u> + <u>1.0</u> = <u>1.3</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

Type: Sand / Vegetated

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 PERI # Times # Times Sampled Sampled Woody Debris (Snags) <u>5.44</u> ☐ ☐ Undercut Banks / Roots ☐ ☐ Leaf Packs or Mat ☐ ☐ Aquatic Vegetation <u>22.2</u> ☐ ☐ Rock or Shell Rubble ☐ ☐ Sand ☐ ☐ 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>18.8</u> <u>7.54</u> <u>6.63</u> <u>71.1</u> <u>334.4</u> <u>0.16</u> <u>1.0</u> Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Meter ID: <u>Shrimp Trap</u> <u>1.0</u>							
				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: <u>70's clear</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.							

SAMPLING TEAM

Mike Linger / Mike Drennan

SIGNATURE:

[Signature]

DATE:

11/20/19

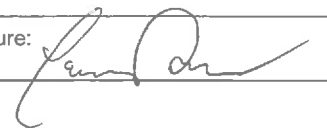
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>FIDEP - CEROC</u>		STORET STATION NUMBER: <u>62CE0205</u>	DATE (MM/DD/YY): <u>11/20/19</u>	RECEIVING BODY OF WATER: <u>SJR</u>
REMARKS:	COUNTY: <u>Seminole/Orange</u>	LOCATION: <u>Wekiva River</u>		FIELD ID/NAME: <u>62CE0205</u>

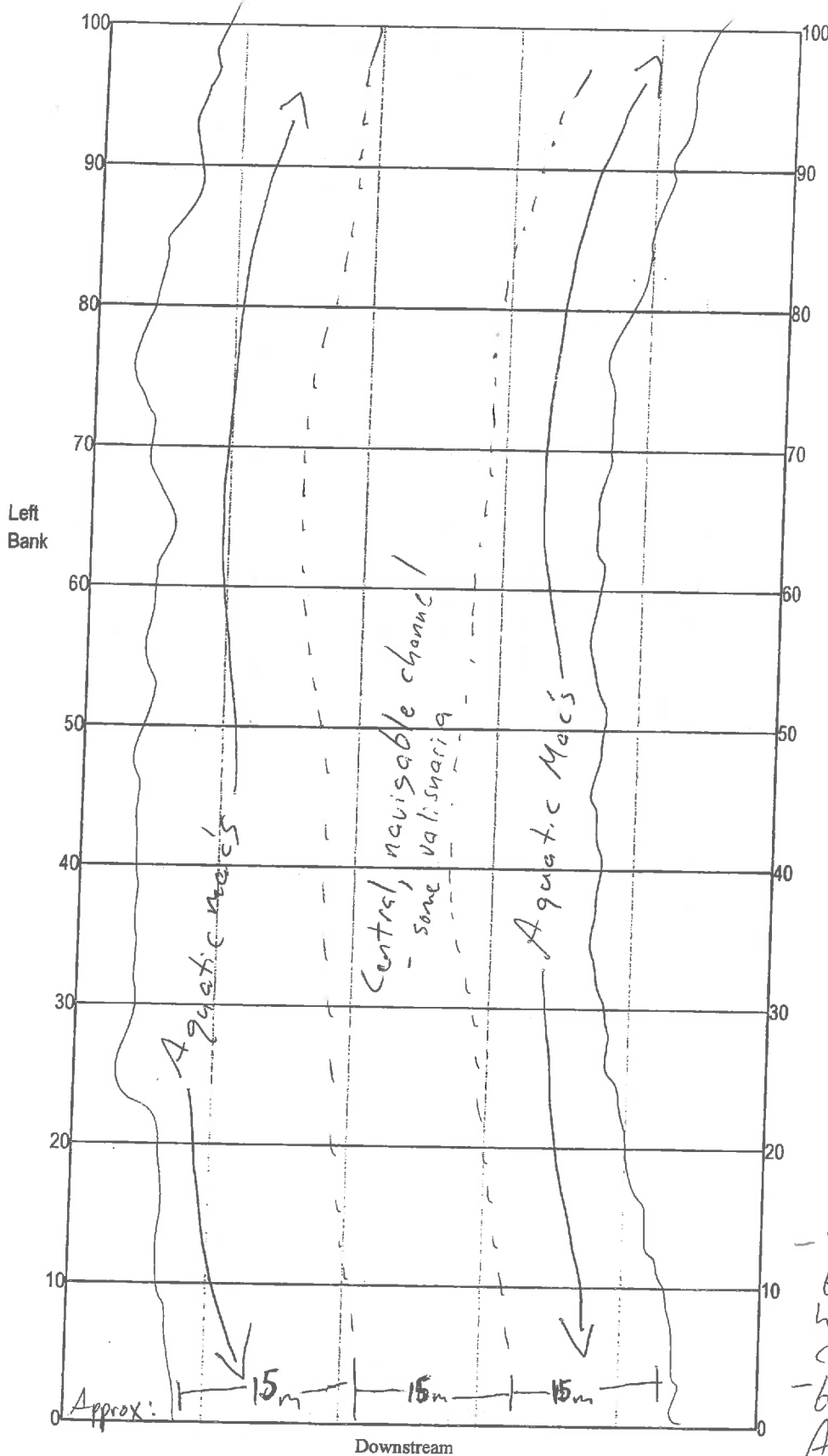
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>8</u>	20 19 18 17 16	15 14 13 12 11	10 9 <u>8</u> 7 6	5 4 3 2 1
Substrate Availability <u>14</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 <u>14</u> 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>14</u> ----- Primary Score <u>49</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 or straightening 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 woody 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 woody root zone with raw, eroded areas.
Right Bank <u>10</u> Left Bank <u>10</u> <u>20</u>	<u>10</u> 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> <u>20</u>	<u>10</u> 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> <u>20</u> ----- Secondary Score <u>80</u>	<u>10</u> 9	8 7 6	5 4	3 2 1

129

TOTAL SCORE

Date: <u>11/20/19</u>	Analyst: <u>Mike Linger, Mike Danner</u>	Signature: 
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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: Wekiva River
Date: 11/20/19
Sampler: Mike Linger, Mike Drennan

100 m: Latitude 28.73705
Longitude -81.42282
0 m: Latitude 28.73784
Longitude -81.42235

Substrates: Code key, draw proportionate habitat abundance. %

☐ S	Snags	<u>0.44</u>
☐ R	Roots/undercut banks	<u>22.2</u>
☐ L	Leaf Packs (or mats)	<u>0</u>
☐ A	Aquatic Macrophytes	<u>22.2</u>
☐		
☐		
☐	Pools	total # observed = <u>0</u> # range expected = <u>0-1</u>

Average width 38.45 m

Average depth 1.0 m

Velocity measured at 50 meter mark.

WQ & chemistry taken at 50 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:

- Veg present 15m wide on both sides but productive habitat first 5m from central, free flowing channel
- banks lined with: *Sabal*, *Acer*, *Myssa*, *Myrica*
- some large snags through
- roots present but not within good flow.

Revision Date: March 1, 2014

62-160.800, F.A.C

BF = WL + .3m

BT = BF + .1m

Bank is Flood plain, stabil

$$S = 20 \quad LMD \quad 420/3000 = 14\% \text{ habitat}$$

$$A = 400 \quad 1020/4500 = 23\% \text{ habitat}$$

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Wekiva River</u>					County: <u>Seminole</u>		Date: <u>11/20/17</u>		Investigators: <u>Mike Linger</u>	
					STORET Station Number: <u>62CE0205</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	N	N		60	1	N	N	
	2	3	N			2	N	N	
	3	N	Y			3	N	Y	
	4	N	Y			4	N	Y	
	5	N	Y	0		5	N	Y	0
	6	N	Y			6	N	Y	
	7	3	Y			7	N	Y	
	8	2	N			8	N	N	
	9	N	N			9	3	N	
10	1	N	N		70	1	N	N	
	2	N	N			2	N	N	
	3	N	Y			3	N	Y	
	4	3	Y			4	N	Y	
	5	N	Y	0		5	N	Y	0
	6	N	Y			6	N	Y	
	7	N	Y			7	N	N	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
20	1	3	N		80	1	N	N	
	2	N	N			2	N	N	
	3	N	Y			3	N	Y	
	4	N	Y			4	N	Y	
	5	N	Y	0		5	N	Y	0
	6	N	Y			6	N	Y	
	7	N	Y			7	N	Y	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
30	1	N	N		90	1	N	N	
	2	3	N			2	N	N	
	3	N	Y			3	3	Y	
	4	3	Y			4	N	Y	
	5	N	Y	0		5	N	Y	0
	6	N	Y			6	N	Y	
	7	N	Y			7	N	Y	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
40	1	N	N		100	1	N	N	
	2	N	N			2	3	N	
	3	3	Y			3	N	Y	
	4	N	Y			4	N	Y	
	5	N	Y	0		5	N	Y	0
	6	N	Y			6	N	Y	
	7	N	Y			7	N	Y	
	8	N	N			8	N	N	
	9	N	N			9	N	N	
50	1	N	N			1	N	N	
	2	N	N			2	N	N	
	3	N	Y			3	N	Y	
	4	N	Y			4	N	Y	
	5	3	Y	0		5	N	Y	
	6	N	Y			6	N	Y	
	7	N	Y			7	N	Y	
	8	3	N			8	N	N	
	9	3	N			9	N	N	

Secchi depth	1.0
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-2019-11-18-58	

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

- Did 2 plant grabs on each side
- Very difficult to see periphyton w/ aqua scope on bottom due to turbid water (silt vs periphyton)
- secchi depth deeper than bottom (vob)

MKL

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>Wekiva River</u>	Date: <u>11/20/19</u>	County: <u>Seminole / Orange</u>	Storet Number: <u>62E0205</u>
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Analyst: Mike Linger Signature: [Signature]

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.

Species for additional taxa names:												Meter Mark												Specimen n collected (check)	Meter Mark												Specimen n collected (check)									
HERBACEOUS SPECIES												0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	HERBACEOUS SPECIES												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 monneri																							Myriophyllum aquaticum																							
Bidens mitis																							Najas guadelupensis																							
Boehmeria cylindrica																							Nuphar luteum												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Centella asiatica																							Orontium aquaticum																							
Ceratophyllum demersum																							Panicum hemitomon																							
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																						✓	
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												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Ludwigia palustris																							Zizania aquatica																							
Ludwigia peruviana																							Cyperus odoratus																			✓				
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												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																								