

SCI

Site Name Little Wekiva (West) Sample Date 05/29/2019  
WBID 2987 B WIN ID GZCE0099 RQ 2019-04-01-46

|                                       | Initial/Date | QC Initial/Date |
|---------------------------------------|--------------|-----------------|
| Water chemistry data to LIMS          | LMD 6/3/19   | MKL 6/27/19     |
| Create SBIO station visit 79764       | LMD 6/3/19   | n/a             |
| Phys/Chem entry                       | LMD 6/3/19   | MKL 6/27/19     |
| Habitat Assessment entry              | LMD 6/3/19   | MKL 6/27/19     |
| Vascular entry (add LIMS ID to entry) | LMD 6/3/19   | MKL 6/27/19     |
| RPS entry                             | LMD 6/3/19   | MKL 6/27/19     |
| Authorize SBIO data                   | MKL 6/27/19  | n/a             |
| Scan all sheets to 21FLCEN folder     | LMD 6/28/19  | n/a             |
| LIMS/WIN migration                    | LMD 8/23/19  | 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: Little Wekiva (West) @ 50m US of Northwest Ave. Date: 05/29/2019  
(mm/dd/yyyy)

WIN/ Field ID: G2CE0099 WBID: 2987B Latitude: 28.65405  
(Decimal Degrees)

County: Seminole ORG ID: 21FLCEN Longitude: -81.41123  
(Decimal Degrees)

Receiving Body of Water: Little Wekiva RQ-2019- 04-01-46

| Sampling Team Members                                                                                                            |                                                                                                                                                                                                                                                         |                 |                  |                 | WQ Measurements                                | Sample Collection                                                                 | Documentation    | Preservation   | Preservation Check                     | Sampling Equipment                                                  |                                             |                               |  |  |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-----------------|------------------------------------------------|-----------------------------------------------------------------------------------|------------------|----------------|----------------------------------------|---------------------------------------------------------------------|---------------------------------------------|-------------------------------|--|--|
| Mike Linger                                                                                                                      |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | <input checked="" type="checkbox"/> Sample Container                | <input type="checkbox"/> Van Dorn           | <input type="checkbox"/> Pole |  |  |
| Mike Drennan                                                                                                                     |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | <input type="checkbox"/> Carboy                                     | <input checked="" type="checkbox"/> Syringe |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | <input type="checkbox"/> Dipper                                     | <input type="checkbox"/> Other              |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | Depth Measured with Secchi Disk Line / Meter                        |                                             |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | Equipment ID <u>Leadfoot, Knothead, Crusty/ Bucket, Mucky/ Trap</u> |                                             |                               |  |  |
| Collection Method                                                                                                                |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        |                                                                     |                                             |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | <input checked="" type="checkbox"/> Wading                          | <input type="checkbox"/> Canoe/Kayak        |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | <input type="checkbox"/> From Shore                                 | <input type="checkbox"/> Electric Motor     |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        | <input type="checkbox"/> Other                                      | <input type="checkbox"/> Gasoline Motor     |                               |  |  |
| Water Level: Dry/ Pooled/ <u>Low</u> Normal / High / Flooded                                                                     |                                                                                                                                                                                                                                                         |                 |                  |                 | Motor ID# <u>SCUD Bucket</u>                   |                                                                                   |                  |                |                                        | Matrix: <u>fresh</u> / Marine / DI                                  |                                             |                               |  |  |
| Photos: <u>Yes</u> No                                                                                                            |                                                                                                                                                                                                                                                         |                 |                  |                 | Flow: No Flow / Intestinal / Flowing <u>NA</u> |                                                                                   |                  |                |                                        | Tide: Rising/ Falling/ Slack <u>NA</u>                              |                                             |                               |  |  |
|                                                                                                                                  |                                                                                                                                                                                                                                                         |                 |                  |                 | 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°)                                                          |                                             |                               |  |  |
| <u>EST</u>                                                                                                                       | <u>1044</u>                                                                                                                                                                                                                                             | <u>0.4</u>      | <u>0.2</u>       | <u>0.4(s)</u>   | <u>0.48</u>                                    | <u>6.1</u>                                                                        | <u>6.69</u>      | <u>0.10</u>    | <u>222.7</u>                           | <u>29.4</u>                                                         |                                             |                               |  |  |
| GEN                                                                                                                              |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Biological Samples Collected: None <u>HA</u> <u>SCI</u> <u>RPS</u> <u>Algae ID</u> <u>LVS</u> LVI Other:                         |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        |                                                                     |                                             |                               |  |  |
| SBIO ID Numbers: SBIO-ID: <u>79764</u> HA-ID: <u>16024</u> RPS-ID: <u>9359</u> Macrophyte-ID: <u>11350</u> LIMS#: <u>2089897</u> |                                                                                                                                                                                                                                                         |                 |                  |                 |                                                |                                                                                   |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Parameter Suite                                                                                                                  | Parameter Methods                                                                                                                                                                                                                                       |                 |                  |                 |                                                | Preservation                                                                      | Lot#             | Expiration     | pH Check                               |                                                                     |                                             |                               |  |  |
| Preserved Nutrients                                                                                                              | <input checked="" type="checkbox"/> W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP                                                                                                                                                                         |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice <input checked="" type="checkbox"/> H2SO4 | <u>SA9010030</u> | <u>4/10/20</u> | <input checked="" type="checkbox"/> <2 |                                                                     |                                             |                               |  |  |
| Metals                                                                                                                           | <input checked="" type="checkbox"/> W-ICPMS <input checked="" type="checkbox"/> W-ICP                                                                                                                                                                   |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice <input checked="" type="checkbox"/> HNO3  | <u>NA8197080</u> | <u>7/16/19</u> | <input checked="" type="checkbox"/> <2 |                                                                     |                                             |                               |  |  |
| Filtered Nutrients                                                                                                               | <input checked="" type="checkbox"/> W-PO4-F <input checked="" type="checkbox"/> Field Filtered 0.45 um Filter                                                                                                                                           |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice                                           | <u>13615055</u>  |                |                                        |                                                                     |                                             |                               |  |  |
| Chlorophyll                                                                                                                      | <input checked="" type="checkbox"/> CHLSUITE-W                                                                                                                                                                                                          |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice                                           |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Physical/Aggregate (Fresh)                                                                                                       | <input checked="" type="checkbox"/> Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS                                                                                                                                         |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice                                           |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Physical/Aggregate (Marine)                                                                                                      | <input type="checkbox"/> Alkalinity / W-F / W-TSS / TURBIDITY                                                                                                                                                                                           |                 |                  |                 |                                                | <input type="checkbox"/> Ice                                                      |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Macroinvertebrates                                                                                                               | <input checked="" type="checkbox"/> MI-FW-QLDC                                                                                                                                                                                                          |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Formalin                                      |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Periphyton                                                                                                                       | <input checked="" type="checkbox"/> ALGAE-ID                                                                                                                                                                                                            |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice                                           |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Microbiology                                                                                                                     | <input type="checkbox"/> E Coli <input type="checkbox"/> F Coli <input type="checkbox"/> Enterococci                                                                                                                                                    |                 |                  |                 |                                                | <input type="checkbox"/> Ice                                                      |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Molecular                                                                                                                        | <input type="checkbox"/> PCR-FILTER <input type="checkbox"/> PCR-BacR <input type="checkbox"/> PCR-GULL2<br><input type="checkbox"/> PCR-HF183 <input type="checkbox"/> PCR-DG3 <input type="checkbox"/> PCR-GFD                                        |                 |                  |                 |                                                | <input type="checkbox"/> Ice                                                      |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Tracers                                                                                                                          | <input type="checkbox"/> W-E8321-DI <input type="checkbox"/> W-E8321-MS                                                                                                                                                                                 |                 |                  |                 |                                                | <input type="checkbox"/> Ice                                                      |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Pesticides                                                                                                                       | <input checked="" type="checkbox"/> W-PSNP-TQ <input type="checkbox"/> W-CT-CL-R <input checked="" type="checkbox"/> W-E8321-DI<br><input type="checkbox"/> W-PCL-SQ-R <input checked="" type="checkbox"/> WE8321-MS <input type="checkbox"/> W-CARB-AA |                 |                  |                 |                                                | <input checked="" type="checkbox"/> Ice                                           |                  |                |                                        |                                                                     |                                             |                               |  |  |
| Phytoplankton                                                                                                                    | <input type="checkbox"/> DTY-QN-C <input type="checkbox"/> PKD-QN-C                                                                                                                                                                                     |                 |                  |                 |                                                | <input type="checkbox"/> Ice                                                      |                  |                |                                        |                                                                     |                                             |                               |  |  |

Notes: SCF time = 1200

Signature: [Signature] Date: 5/29/19

WIN ID / Field ID → Little Wekiva (West) @ 50m US of Northwest Ave.

G2CE0099

LIMS EVENT ID: CENT-DIST-2019-05-30-01

Enter Field Parameters, Verify Station ID in LIMS DMT: LMD 6/3/19 QC Station ID, Field Parameters in LIMS DMT: MKL 6/27/19

Scan/Save Field Sheets LMD 6/28/19 Migrate Data to WIN: LMD 8/23/19 Verify Data in WIN: [Signature]

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

SAMPLE ID 79764 ORG ID 21 FL CEN LATITUDE 28.65405  
 COUNTY Seminole STORET # 42CE0099 LONGITUDE -81.41123  
 DATE 5/29/19 TIME 1200 (SC) SAMPLING AGENCY FDEP CE-ROL  
 SITE NAME Little Wekiva (West) @ 50 m US of Northwest Ave  
 FIELD ID/NAME 62CE0099 RECEIVING BODY OF WATER Little Wekiva River

## RIPARIAN ZONE / STREAM FEATURES

|                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--------------------------------------------------------------------------------|
| <b>PREDOMINANT LAND-USE IN WATERSHED</b> (specify relative percent in each category):<br>Forest/Natural <input type="checkbox"/> Silviculture <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industry <input type="checkbox"/> Other (Specify) <input type="checkbox"/><br>100 |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  | <b>Landscape Development Intensity Index (LDI)</b><br><input type="checkbox"/> |
| Local Watershed Erosion (select one): <input type="checkbox"/> None <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy<br>Local Watershed NPS Pollution: <input type="checkbox"/> No evidence <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy                                                        |  |  |  | <b>Typical Width (m) Depth (m)/Velocity (m/sec) Transect</b><br>5.75 m wide<br>m/s 0.11 m/s m/s<br>m deep 0.6 m deep m deep                                                                                                                                                                                                                                                                                                                      |  |  |  |                                                                                |
| <b>Width of Riparian Vegetation (m) on Each Buffer Side</b><br>Left Bank: 6m Right Bank: 5m<br><b>Hydrologic Modification Score</b> (per FT 3101) <input type="checkbox"/>                                                                                                                                                                                                                                                |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |                                                                                |
| <b>High Water Mark:</b> 0.4 + 0.6 = 1.0<br>(m) (above present water level) (present depth) (above bed)<br><b>Artificially Impounded</b><br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                            |  |  |  | <b>Artificially</b> <input type="checkbox"/> No <input type="checkbox"/> Mostly recovered, more sinuous<br><b>Channelized:</b> <input checked="" type="checkbox"/> Some recovery <input type="checkbox"/> Recent, severe<br><b>Canopy Cover %</b> <input type="checkbox"/> Open <input checked="" type="checkbox"/> Heavily Shaded <input type="checkbox"/> Lightly Shaded (11-45%) <input checked="" type="checkbox"/> Moderate Shaded (46-80%) |  |  |  |                                                                                |

## SEDIMENT / SUBSTRATE

Sediment type: sand/silt

|                                                                                                                                                                          |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sediment Oils</b><br><input checked="" type="checkbox"/> Absent <input type="checkbox"/> Slight<br><input type="checkbox"/> Moderate <input type="checkbox"/> Profuse | <b>Sediment Odors</b><br><input type="checkbox"/> Normal <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum<br><input type="checkbox"/> Chemical <input checked="" type="checkbox"/> Anaerobic<br><input type="checkbox"/> Other (Specify): | <b>Smothering of Substrates</b><br>Sand Smothering: None <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/><br>Silt Smothering: None <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input checked="" type="checkbox"/><br>Algae Smothering: None <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input checked="" type="checkbox"/> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |                                                                                                                                                                                                                            |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| <b>SUBSTRATE TYPE</b><br>Assessment Tool: <input checked="" type="checkbox"/> SCI <input checked="" type="checkbox"/> RPS <input checked="" type="checkbox"/> LVS<br><input type="checkbox"/> LCI <input type="checkbox"/> BioRecon<br>% Coverage INVERT # Times Sampled PERI # Times Sampled<br>Woody Debris (Snags) 0.52 5<br>Undercut Banks / Roots 0.26 1<br>Leaf Packs or Mat 1 1<br>Aquatic Vegetation 0.52 5<br>Rock or Shell Rubble 1.74 5<br>Sand 3<br>Mud / Muck / Silt<br>Other<br>Other |  |  |  | <b>WATER QUALITY</b><br>Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)<br>Top: 0.3 29.4 6.69 0.48 6.1 222.7 0.10 0.4<br>Mid:<br>Bottom:<br>Meter ID: SCUD TOTAL DEPTH 0.4 |  |  |  |  |  |  |  |
| <b>Water Odors</b> Normal <input checked="" type="checkbox"/> Petroleum <input type="checkbox"/><br>Sewage <input type="checkbox"/> Chemical <input type="checkbox"/> Other <input type="checkbox"/>                                                                                                                                                                                                                                                                                                |  |  |  | <b>Water Surface Oils</b> Normal <input type="checkbox"/> Sheen <input checked="" type="checkbox"/><br>Globbs <input type="checkbox"/> Slick <input type="checkbox"/> Other <input type="checkbox"/>                       |  |  |  |  |  |  |  |
| Water Sample Taken? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Sample Preserved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Lot Number: Exp:                                                                                                                                                                                                                                                                                                |  |  |  | Color Tannic <input type="checkbox"/> Green (Algae) <input type="checkbox"/><br>Clear <input checked="" type="checkbox"/> Other (Specify)                                                                                  |  |  |  |  |  |  |  |
| Algae Sample Taken? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Sample Preserved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Lot Number: Exp:                                                                                                                                                                                                                                                                                                |  |  |  | Clarity Clear <input type="checkbox"/> Slightly Turbid <input checked="" type="checkbox"/><br>Turbid <input type="checkbox"/> Opaque                                                                                       |  |  |  |  |  |  |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |                                                                                                                                                                               |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| <b>ABUNDANCE</b><br>Not Obs. Rare Common Abundant<br>Periphyton: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/><br>Fish: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/><br>Aquatic Plants: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/><br>Iron/Sulfur Bacteria: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |  |  |  | <b>System Type:</b> Stream <input checked="" type="checkbox"/> Lake <input type="checkbox"/> Wetland <input type="checkbox"/> Estuary <input type="checkbox"/> Other(Specify) |  |  |  |
| <b>AMBIENT FIELD CONDITIONS / NOTES:</b><br>90's clear<br><input checked="" type="checkbox"/> The antecedent hydrologic conditions have been met to my best knowledge.                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |                                                                                                                                                                               |  |  |  |

SAMPLING TEAM Mike Linger / Mike Drennan SIGNATURE [Signature] DATE: 5/29/19

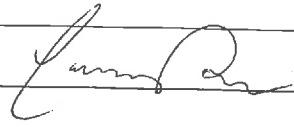
# DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

|                                |                     |                                    |                             |                                                 |
|--------------------------------|---------------------|------------------------------------|-----------------------------|-------------------------------------------------|
| SAMPLING AGENCY:<br>FDLP CEROC |                     | STORET STATION NUMBER:<br>G2CE0099 | DATE (MM/DD/YY):<br>5/29/19 | RECEIVING BODY OF WATER:<br>Little Wekiva river |
| REMARKS:                       | COUNTY:<br>Seminole | LOCATION:<br>Little Wekiva west    | FIELD ID/NAME:<br>G2CE0099  |                                                 |

| 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>11</u>                                                                                                | 20 19 18 17 16                                                                                                                                                                                                            | 15 14 13 12 <u>11</u>                                                                                                                                                   | 10 9 8 7 6                                                                                                                                               | 5 4 3 2 1                                                                                                                                        |
| Substrate Availability <u>3</u>                                                                                              | Greater than 30% major productive habitat present at site<br>20 19 18 17 16                                                                                                                                               | 16% to 30% major productive habitat, by aerial extent<br>15 14 13 12 11                                                                                                 | 6% to 15% major productive habitat<br>10 9 8 7 6                                                                                                         | Less than 5% major productive habitat<br>5 4 <u>3</u> 2 1                                                                                        |
| Water Velocity <u>11</u>                                                                                                     | Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec<br>≥0.33 0.31 0.29 0.27 >0.25<br>20 19 18 17 16                                                                                                            | Max. observed at typical transect >0.1 to 0.25 m/sec<br>0.25 0.21 0.17 0.13 >0.1<br>15 14 13 12 <u>11</u>                                                               | Max. observed at typical transect: 0.05 to 0.1 m/sec<br>0.1 0.09 0.07 0.06 0.05<br>10 9 8 7 6                                                            | Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec<br><0.05 0.04 0.03 0.01 <0.01<br>5 4 3 2 1                         |
| Habitat Smothering <u>10</u><br>-----<br>Primary Score <u>35</u>                                                             | Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae.<br>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.<br>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).<br><u>10</u> 9 8 7 6                | Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation.<br>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>7</u>                                                                                           | 20 19 18 17 16                                                                                                                                                                                                            | 15 14 13 12 11                                                                                                                                                          | 10 9 8 <u>7</u> 6                                                                                                                                        | 5 4 3 2 1                                                                                                                                        |
| Bank Stability<br>Right Bank <u>6</u><br>Left Bank <u>5</u> <u>11</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.<br>10 9                                                            | Only meets 2 of the 3 requirements for optimal bank stability.<br>8 7 <u>6</u>                                                                                          | Only meets 1 of the 3 requirements for optimal bank stability.<br><u>5</u> 4                                                                             | Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.<br>3 2 1                             |
| Riparian Buffer Zone Width<br>Right Bank <u>2</u><br>Left Bank <u>3</u> <u>5</u>                                             | Width of vegetation greater than 18 m<br>10 9                                                                                                                                                                             | Width of vegetation >12 to 18m<br>8 7 6                                                                                                                                 | Width of vegetation 6 to 12 m. human activities close to system<br>5 4                                                                                   | Less than 6 m of buffer zone due to intensive human activities<br><u>3</u> <u>2</u> 1                                                            |
| Riparian Zone Vegetation Quality<br>Right Bank <u>3</u><br>Left Bank <u>4</u> <u>7</u><br>-----<br>Secondary Score <u>30</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.<br>10 9 | >50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.<br>8 7 6 | 25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.<br>5 <u>4</u> | Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).<br><u>3</u> <u>2</u> 1 |

65

TOTAL SCORE

|                |                                     |                                                                                                  |
|----------------|-------------------------------------|--------------------------------------------------------------------------------------------------|
| Date: 05/29/19 | Analyst: Mike Linger / Mike Drennan | Signature:  |
|----------------|-------------------------------------|--------------------------------------------------------------------------------------------------|

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

100

90

80

70

60

50

40

30

20

10

0



Downstream

100

90

80

70

60

50

40

30

20

10

0

W=5  
Z=.6  
V=.14

Location: Little Wekiva West  
Date: 5/29/19  
Sampler: Mike Linger/Mike Diennen

100 m: Latitude 28.65383  
Longitude -81.41196  
0 m: Latitude 28.6541  
Longitude -81.4110

| Substrates: Code key, draw proportionate habitat abundance. |                      | %                                                            |
|-------------------------------------------------------------|----------------------|--------------------------------------------------------------|
| <u>S</u>                                                    | Snags                | <u>6.52</u>                                                  |
| <u>R</u>                                                    | Roots/undercut banks | <u>0.26</u>                                                  |
| <u>L</u>                                                    | Leaf Packs (or mats) | <u>—</u>                                                     |
| <u>A</u>                                                    | Aquatic Macrophytes  | <u>0.52</u>                                                  |
| <u>R0</u>                                                   | Rocks                | <u>1.74</u>                                                  |
| <u>P0</u>                                                   | Pools                | total # observed = <u>2</u><br># range expected = <u>2-4</u> |

Average width 5.75 m  
Average depth 0.6 m

Velocity measured at 5, 35, 65, 95 meter mark.

WQ & chemistry taken at 20 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:

- *Najas* g, *Hydrophylla*,  
*Cladocarya*, *Eichornia*, *Lemna*, *Salvinia*  
- many rocks first 30m,  
95% covered w/ periphyton  
- some roots along rt bank  
(mostly herbaceous species)  
- much woody roots above Bf (-)

W=7  
Z=.4  
V=.1

0

S=3  
R=1.5  
A=3  
R0=10  
17.5/5.75 = 3 3/4

W=5.75m  
Z=0.6m  
V=0.11 m/s  
BF=WL+4m  
BH=BF+5m

Revision Date: January 2019

62 160 900 E A C

# DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

|                                   |  |  |  |  |                          |  |                                        |  |                                  |  |
|-----------------------------------|--|--|--|--|--------------------------|--|----------------------------------------|--|----------------------------------|--|
| Site: <u>Little Wekiva (West)</u> |  |  |  |  | County: <u>San Mateo</u> |  | Date: <u>5/25/19</u>                   |  | Investigator: <u>Mike Linger</u> |  |
| Transect (m)                      |  |  |  |  | Transect (m)             |  | STORET Station Number: <u>G2CE0099</u> |  |                                  |  |

| Point | Algal Thickness Rank (N-6, X) | Estimated | Canopy Cover | Point | Algal Thickness Rank (N-6, X) | Estimated | Canopy Cover |
|-------|-------------------------------|-----------|--------------|-------|-------------------------------|-----------|--------------|
| 1     | 6                             |           |              | 1     | 3                             |           |              |
| 2     | 6                             |           |              | 2     | N                             |           |              |
| 3     | 6                             |           |              | 3     | 6                             |           |              |
| 4     | 6                             |           |              | 4     | 5                             |           |              |
| 5     | 6                             |           | 60 36        | 5     | 3                             |           | 84           |
| 6     | N                             |           |              | 6     | N                             |           |              |
| 7     | N                             |           |              | 7     | N                             |           |              |
| 8     | 3                             |           |              | 8     | 3                             |           |              |
| 9     | 4                             |           |              | 9     | N                             |           |              |
| 1     | 6                             |           |              | 1     | 3                             |           |              |
| 2     | 6                             |           |              | 2     | 3                             |           |              |
| 3     | 3                             |           |              | 3     | 4                             |           |              |
| 4     | 6                             |           | 72           | 4     | 3                             |           |              |
| 5     | 6                             |           |              | 5     | N                             |           | 80           |
| 6     | 6                             |           |              | 6     | 6                             |           |              |
| 7     | 4                             |           |              | 7     | N                             |           |              |
| 8     | N                             |           |              | 8     | 5                             |           |              |
| 9     | N                             |           |              | 9     | 4                             |           |              |
| 1     | 6                             |           |              | 1     | N                             |           |              |
| 2     | 6                             |           |              | 2     | 4                             |           |              |
| 3     | 2                             |           |              | 3     | N                             |           |              |
| 4     | 6                             |           | 92           | 4     | 4                             |           |              |
| 5     | 6                             |           |              | 5     | 5                             |           | 76           |
| 6     | 5                             |           |              | 6     | N                             |           |              |
| 7     | 2                             |           |              | 7     | 3                             |           |              |
| 8     | N                             |           |              | 8     | 5                             |           |              |
| 9     | 4                             |           |              | 9     | 4                             |           |              |
| 1     | N                             |           |              | 1     | 4                             |           |              |
| 2     | X                             | N         | Y            | 2     | 5                             |           |              |
| 3     | X                             | N         | Y            | 3     | 4                             |           |              |
| 4     | 5                             |           |              | 4     | N                             |           |              |
| 5     | 3                             |           | 84           | 5     | 4                             |           | 72           |
| 6     | N                             |           |              | 6     | N                             |           |              |
| 7     | 3                             |           |              | 7     | N                             |           |              |
| 8     | 5                             |           |              | 8     | 3                             |           |              |
| 9     | 4                             |           |              | 9     | 4                             |           |              |
| 1     | 3                             |           |              | 1     | 3                             |           |              |
| 2     | X                             | N         | Y            | 2     | 4                             |           |              |
| 3     | N                             |           |              | 3     | 5                             |           |              |
| 4     | 3                             |           |              | 4     | 6                             |           |              |
| 5     | N                             |           | 80           | 5     | 6                             |           | 76           |
| 6     | N                             |           |              | 6     | N                             |           |              |
| 7     | 4                             |           |              | 7     | 5                             |           |              |
| 8     | 3                             |           |              | 8     | 6                             |           |              |
| 9     | 5                             |           |              | 9     | 4                             |           |              |
| 1     | 3                             |           |              |       |                               |           |              |
| 2     | 4                             |           |              |       |                               |           |              |
| 3     | X                             | N         | Y            |       |                               |           |              |
| 4     | X                             | N         | Y            |       |                               |           |              |
| 5     | X                             | N         | Y            |       |                               |           |              |
| 6     | X                             | N         | Y            |       |                               |           |              |
| 7     | X                             | N         | Y            |       |                               |           |              |
| 8     | N                             |           |              |       |                               |           |              |
| 9     | 3                             |           |              |       |                               |           |              |

|                       |     |
|-----------------------|-----|
| Secchi depth          | 0.4 |
| Estimated?            |     |
| # points ranked 4-6   | 47  |
| total points assessed | 91  |
| % points ranked 4-6   | 52  |

|                                                      |                                     |
|------------------------------------------------------|-------------------------------------|
| Check accompanying data collected at same site/date. |                                     |
| Algal mat sample                                     | <input checked="" type="checkbox"/> |
| Linear Veg Survey                                    | <input checked="" type="checkbox"/> |
| Habitat Assessment                                   | <input checked="" type="checkbox"/> |
| SC/Biorecon                                          | <input checked="" type="checkbox"/> |
| Water sample                                         | <input checked="" type="checkbox"/> |
| RQ-2019-04-01-46                                     |                                     |

| 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: Little Wekiva (West)

Date: 5/29/19

County: Seminole

Storet Number: 6ZCE0099

Analyst: Mike Linger

Signature: Amir K. Ali

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m<sup>2</sup> 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]