



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STRATEGIC MONITORING PROGRAM FIELD SHEET

February 2016

PAGE \_\_\_\_ OF \_\_\_\_

Data Qualified?  
Yes / No

STORET Station Name: Sand Creek @ Unnamed Rd. .5 miles West of Tomoka Farms Rd. Date: 9/26/16  
(mm/dd/yyyy)

STORET Station ID: 27010092 Latitude: 29.0734167  
(Decimal Degrees)

WBID: 2675 RQ: 2016-09-05-62 ORG ID: 2IFLCEN Longitude: -81.0751667  
(Decimal Degrees)

Receiving Body of Water: \_\_\_\_\_ Field ID: G5CE0076 County: Volusia

| Sampling Team Members |  | WQ Measurements | Sample Collection | Documentation | Preservation | Preservation Check |
|-----------------------|--|-----------------|-------------------|---------------|--------------|--------------------|
| <u>Leif Boman</u>     |  |                 |                   |               |              |                    |
| <u>Katie Williams</u> |  |                 |                   |               |              |                    |

| Sampling Equipment                                   |                                             |                               |
|------------------------------------------------------|---------------------------------------------|-------------------------------|
| <input checked="" type="checkbox"/> Sample Container | <input type="checkbox"/> Van Dorn           | <input type="checkbox"/> Pole |
| <input type="checkbox"/> Carboy                      | <input checked="" type="checkbox"/> Syringe |                               |
| <input type="checkbox"/> Dipper                      | <input type="checkbox"/> Other              |                               |
| Equipment ID                                         |                                             |                               |

| Collection Method                           |                                         |  |
|---------------------------------------------|-----------------------------------------|--|
| <input checked="" type="checkbox"/> Wading  | <input type="checkbox"/> Via Boat       |  |
| <input type="checkbox"/> From Shore         | <input type="checkbox"/> Canoe/Kayak    |  |
| <input type="checkbox"/> Other (note below) | <input type="checkbox"/> Electric Motor |  |
|                                             | <input type="checkbox"/> Gasoline Motor |  |

Water Level: Dry / Low / Normal / High / Flooded Matrix: Fresh / Marine / DI  
Meter ID# Betty HC 67 Photos: Yes / No Tide Falling: Yes / No / NA

| Time Zone  | Time        | Sample Depth (m) | Total Depth (m) | DO (mg/L)  | DO (%SAT) | pH         | Salinity (ppt) | Secchi Disk (m) | Sp COND (µmhos/cm) | Temp. (C°)  |
|------------|-------------|------------------|-----------------|------------|-----------|------------|----------------|-----------------|--------------------|-------------|
| <u>EST</u> | <u>1120</u> | <u>0.1</u>       | <u>0.25</u>     | <u>1.8</u> | <u>21</u> | <u>4.3</u> | <u>0.13</u>    | <u>0.25(s)</u>  | <u>265</u>         | <u>24.4</u> |
| <u>CEN</u> |             |                  |                 | <u>1.4</u> | <u>19</u> | <u>4.2</u> | <u>0.12</u>    |                 | <u>262</u>         | <u>24.3</u> |

Biological Samples Collected: None HA SCI LVS RPS LVI Other

| Parameter Suite              | Parameter Methods                                                                                                                                                                                                      | Preservation                                                                      | Acid 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 |           |            | <input checked="" type="checkbox"/> <2 |
| Metals                       | <input type="checkbox"/> W-ICPMS <input type="checkbox"/> W-ICP                                                                                                                                                        | <input type="checkbox"/> Ice <input type="checkbox"/> HNO2                        |           |            | <input type="checkbox"/> <2            |
| Filtered Nutrients           | <input checked="" type="checkbox"/> W-PO4-F <input checked="" type="checkbox"/> Field Filtered 0.45 µm Filter                                                                                                          | <input checked="" type="checkbox"/> Ice                                           |           |            |                                        |
| Chlorophyll                  | <input checked="" type="checkbox"/> CHLSUITE-W                                                                                                                                                                         | <input checked="" type="checkbox"/> Ice                                           |           |            |                                        |
| BOD                          | <input type="checkbox"/> BOD-UNIN                                                                                                                                                                                      | <input type="checkbox"/> Ice                                                      |           |            |                                        |
| Physical/Aggregate (Kit A/C) | <input checked="" type="checkbox"/> Alkalinity / W-F / W-TSS / TURBIDITY / W-CHC / W-COLOR / W-SO4-IC / W-TDS                                                                                                          | <input checked="" type="checkbox"/> Ice                                           |           |            |                                        |
| Physical/Aggregate (Kit B/D) | <input type="checkbox"/> Alkalinity / W-F / W-TSS / TURBIDITY                                                                                                                                                          | <input type="checkbox"/> Ice                                                      |           |            |                                        |
| Macroinvertebrates           | <input type="checkbox"/> MI-FW-QLDC                                                                                                                                                                                    | <input type="checkbox"/> Formalin                                                 |           |            |                                        |
| Microbiology                 | <input type="checkbox"/> E Coli <input type="checkbox"/> F Coli <input type="checkbox"/> Entero <input type="checkbox"/> QPCR                                                                                          | <input type="checkbox"/> Ice                                                      |           |            |                                        |
| Periphyton                   | <input type="checkbox"/> ALGAE-ID                                                                                                                                                                                      | <input type="checkbox"/> Ice                                                      |           |            |                                        |
| Pesticides                   | <input type="checkbox"/> W-PSNP-TQ <input type="checkbox"/> W-AHERB-AA <input type="checkbox"/> W-PYR-AA-R<br><input type="checkbox"/> W-PC-AA-SF <input type="checkbox"/> W-UHERB-AA <input type="checkbox"/> W-GLYPH | <input type="checkbox"/> Ice <input type="checkbox"/> Other                       |           |            |                                        |

Notes: Areas w/ flow are too shallow to sample (~0.05), deeper areas look very stagnant, green & globs of muck on surface. Lots of iron bacteria smothering.

Sand Creek @ Unnamed Rd 0.5 miles west of Tomoka Farms Rd.  
RQ-2016-09-05-62  
Date: 9/26/16

Signature: [Signature] Date: 9/26/16

Field Parameters Entered into LIMS: \_\_\_\_\_ (Initials/Date) Field Parameters QC in LIMS: \_\_\_\_\_ (Initials/Date)  
Date Migrated to STORET: \_\_\_\_\_ (Initials/Date) Field Sheets Scanned/Saved: \_\_\_\_\_ (Initials/Date)

## FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID \_\_\_\_\_ ORG ID \_\_\_\_\_ LATITUDE \_\_\_\_\_  
 COUNTY Volusia STORET # 27010092 LONGITUDE \_\_\_\_\_  
 DATE 9/26/14 TIME \_\_\_\_\_ SAMPLING AGENCY \_\_\_\_\_  
 SITE NAME Sand Creek  
 FIELD ID/NAME CSCE0076 RECEIVING BODY OF WATER \_\_\_\_\_

## 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 type="checkbox"/> Commercial <input type="checkbox"/> Industry <input type="checkbox"/> Other (Specify) <input type="checkbox"/><br><u>25</u> <u>75</u> |  |  |  |                                                                                                                                                                                                              |  |                                                                                                                     |  | <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 type="checkbox"/> Moderate <input type="checkbox"/> Heavy<br>Local Watershed NPS Pollution: <input type="checkbox"/> No evidence <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy                                                                                   |  |  |  |                                                                                                                                                                                                              |  | <b>Typical Width (m) Depth (m)/Velocity (m/sec) Transect</b><br>_____ m wide<br>_____ m/s <u>0.01</u> m/s _____ m/s |  |                                                                                |  |
| <b>Width of Riparian Vegetation (m) on Each Buffer Side</b><br>Left Bank: <u>13</u> Right Bank: <u>13</u>                                                                                                                                                                                                                                                                                                                      |  |  |  | <b>Hydrologic Modification Score</b><br>(per FT 3101) _____                                                                                                                                                  |  |                                                                                                                     |  | _____ m/s _____ m/s _____ m/s                                                  |  |
| <b>High Water Mark:</b> <u>0.3</u> + <u>0.25</u> = <u>0.55</u><br>(m) (above present water level) (present depth) (above bed)                                                                                                                                                                                                                                                                                                  |  |  |  | <b>Artificially Impounded</b><br><input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                    |  |                                                                                                                     |  | _____ m deep <u>0.2</u> m deep _____ m deep                                    |  |
| <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                                                                                                                                                                                                       |  |  |  | <b>Canopy Cover %</b> <input type="checkbox"/> Open <input type="checkbox"/> Lightly Shaded (11-45%)<br><input type="checkbox"/> Heavily Shaded <input checked="" type="checkbox"/> Moderate Shaded (46-80%) |  |                                                                                                                     |  |                                                                                |  |

## SEDIMENT / SUBSTRATE

*Smothering is mostly orange muck (?) & iron bacteria*

|                                                                                                                                                                          |  |                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Sediment Oils</b><br><input type="checkbox"/> Absent <input checked="" 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 checked="" type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/><br>Silt Smothering: None <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/><br>Algae Smothering: None <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe <input type="checkbox"/> |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

## SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☒ RPS ☐ LVS

|                        | % Coverage               | INVERT<br># Times Sampled | PERI<br># Times Sampled  |
|------------------------|--------------------------|---------------------------|--------------------------|
| Woody Debris (Snags)   | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Undercut Banks / Roots | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Leaf Packs or Mat      | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Aquatic Vegetation     | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Rock or Shell Rubble   | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Sand                   | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Mud / Muck / Silt      | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Other                  | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |
| Other                  | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> |

## WATER QUALITY

|                                   | Depth (M)                | Temp. (°C)               | pH (SU)                  | D.O. (MG/L)              | D.O. Sat (%)             | Cond. (UMHO/CM)          | Salinity (PPT)           | SECCHI (M)                              |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------------------------|
| Top:                              | <u>0.1</u>               | <u>24.3</u>              | <u>6.2</u>               | <u>1.6</u>               | <u>19</u>                | <u>242</u>               | <u>0.12</u>              | <input type="checkbox"/>                |
| Mid:                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> VOB |
| Bottom:                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                |
| <b>Meter ID:</b> <u>Betty/11C</u> |                          |                          |                          |                          |                          |                          |                          | <b>TOTAL DEPTH</b><br><u>0.25</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 ☐  
 Globbs ☐ Slick ☐ Other ☐

**Color** Tannic ☐ Green (Algae) ☐  
 Clear ☐ Other (Specify) ☒

Orange/brown

**Clarity** Clear ☐ Slightly Turbid ☒  
 Turbid ☐ Opaque ☐

## ABUNDANCE

Not Obs. Rare Common Abundant

|                       |                                     |                                     |                                     |                          |
|-----------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Periphyton:           | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Fish:                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
| Aquatic Plants:       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Iron/Sulfur Bacteria: | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |

**System Type:** Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ ditch

## AMBIENT FIELD CONDITIONS / NOTES:

☐ The antecedent hydrologic conditions have been met to my best knowledge.

## SAMPLING TEAM

LGB/Kmw

## SIGNATURE

Kullins

## DATE

9/26/14

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

|                  |                 |                                 |                          |                          |
|------------------|-----------------|---------------------------------|--------------------------|--------------------------|
| SAMPLING AGENCY: |                 | STORET STATION NUMBER: 27010092 | DATE (MM/DD/YY): 9/26/14 | RECEIVING BODY OF WATER: |
| REMARKS:         | COUNTY: Johnson | LOCATION: Sand Creek            | FIELD ID/NAME: G5CE0076  |                          |

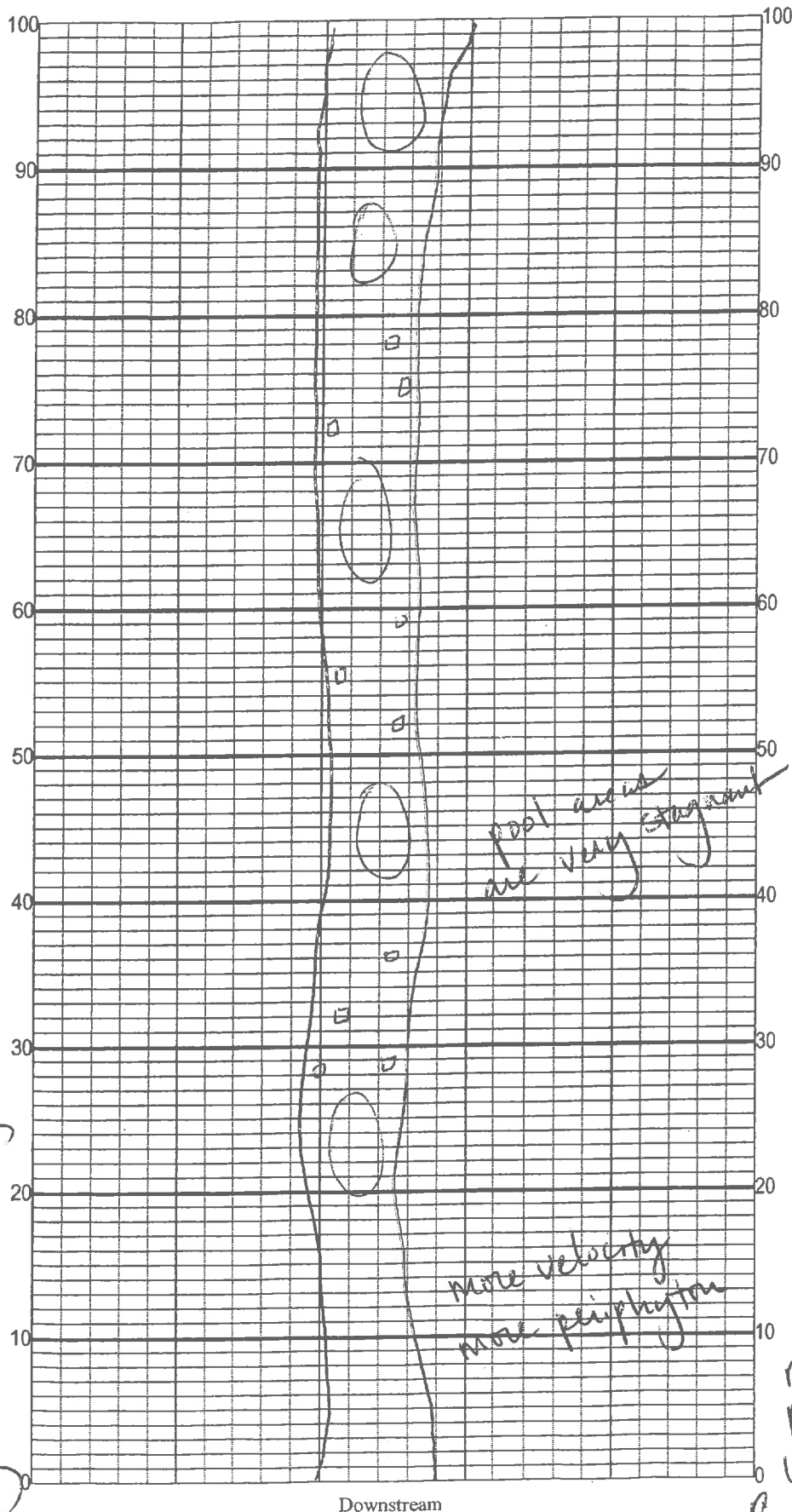
| Habitat Parameter                                                                              | Optimal                                                                                                                                                                                                                   | 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 2                                                                          | 20 19 18 17 16                                                                                                                                                                                                            | 15 14 13 12 11                                                                                                                                                          | 10 9 8 7 6                                                                                                                                        | 5 4 3 2 1                                                                                                                                  |
| Substrate Availability 2                                                                       | 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 3 2 1                                                                                         |
| Water Velocity 1                                                                               | 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 11                                                                     | 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 3<br>-----<br>Primary Score 8                                               | 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>10 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<br>Artificial Channelization 6                                    | Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.<br>20 19 18 17 16                                                                                         | Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.<br>15 14 13 12 11                                          | Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.<br>10 9 8 7 6                 | Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.<br>5 4 3 2 1 |
| Bank Stability<br>Right Bank 4<br>Left Bank 4                                                  | 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 6                                                                                                 | Only meets 1 of the 3 requirements for optimal bank stability.<br>5 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 7<br>Left Bank 7                                      | 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>3 2 1                                                                    |
| Riparian Zone Vegetation Quality<br>Right Bank 9<br>Left Bank 9<br>-----<br>Secondary Score 46 | 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 4 | Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).<br>3 2 1         |

54 TOTAL SCORE

|               |              |                    |
|---------------|--------------|--------------------|
| Date: 9/26/14 | Analyst: KMW | Signature: Kullans |
|---------------|--------------|--------------------|

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

Smothering of orange muck (?) & periphyton significant throughout. Iron bacteria easily disturbed. No major habitats.



Length of grid represents 100 m of stream (not linear meters).  
(Horizontal scale is double vertical scale, draw proportionately).

Location: Sand Creek  
Date: 9/26/14  
Sampler: KMW

|                                                                                                                |                                                      |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| 100 m: Latitude _____                                                                                          | Longitude _____                                      |
| 0 m: Latitude _____                                                                                            | Longitude _____                                      |
| Substrates: Code key, draw proportionate habitat abundance. %                                                  |                                                      |
| <input checked="" type="checkbox"/> Snags                                                                      | _____                                                |
| <input checked="" type="checkbox"/> Roots/undercut banks                                                       | _____                                                |
| <input checked="" type="checkbox"/> Leaf Packs (or mats)                                                       | _____                                                |
| <input checked="" type="checkbox"/> Aquatic Macrophytes                                                        | _____                                                |
| <input checked="" type="checkbox"/> <u>pools</u>                                                               | _____                                                |
| <input type="checkbox"/> Pools                                                                                 | total # observed = _____<br># range expected = _____ |
| Average width <u>1</u> m                                                                                       |                                                      |
| Average depth <u>0.2</u> m                                                                                     |                                                      |
| Velocity measured at <u>40</u> meter mark.                                                                     |                                                      |
| WQ & chemistry taken at <u>100</u> meter mark.                                                                 |                                                      |
| Habitat Smothering:<br>Note areas (on map) where sand or silt is smothering substrates, limiting habitability. |                                                      |
| Bank Stability:<br>Note areas (on map) with unstable, eroding banks.                                           |                                                      |
| Riparian Buffer Width:<br>Note areas (on map) where natural vegetation is altered or eliminated.               |                                                      |

Plants observed / other notes:

Limnium & Salvinia in water, but < 2m<sup>2</sup>  
Myrica, Quercus nigra,  
Polygonum, Boehmeria,  
Urena lobata, Callicarpa,  
Pinus, Woodwardia areolata &  
virginica, Juncus effusus, Carex,  
Sacciolepis striata, Bidens alba,  
Xyris, Echinochloa, Pontederia

Steep spoil banks, but < 60°, raw eroded areas

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

Site: Sand Creek County: Volusia Date: 9/26/14 Investigators: Kmw/LGB

STORET Station Number: 27010092

| Transect (m) | Point<br>1=right<br>9=left | Algal Thickness Rank<br>(N-6, X) | Estimated | Canopy Cover | Transect (m) | Point<br>1=right<br>9=left | Algal Thickness Rank<br>(N-6, X) | Estimated | Canopy Cover |  |
|--------------|----------------------------|----------------------------------|-----------|--------------|--------------|----------------------------|----------------------------------|-----------|--------------|--|
| 0            | 1                          | N                                |           |              | 60           | 1                          | N                                |           |              |  |
|              | 2                          |                                  |           |              |              | 2                          |                                  |           |              |  |
|              | 3                          |                                  |           |              |              | 3                          |                                  |           |              |  |
|              | 4                          |                                  |           |              |              | 4                          |                                  |           |              |  |
|              | 5                          |                                  |           | 64           |              | 5                          |                                  |           | 78           |  |
|              | 6                          |                                  |           |              |              | 6                          |                                  |           |              |  |
|              | 7                          |                                  |           |              |              | 7                          |                                  |           |              |  |
|              | 8                          |                                  |           |              |              | 8                          |                                  |           |              |  |
|              | 9                          |                                  |           |              |              | 9                          |                                  |           |              |  |
| 10           | 1                          | N                                |           |              | 70           | 1                          | N                                |           |              |  |
|              | 2                          |                                  |           |              |              | 2                          |                                  |           |              |  |
|              | 3                          |                                  |           |              |              | 3                          |                                  |           |              |  |
|              | 4                          |                                  |           |              |              | 4                          |                                  |           |              |  |
|              | 5                          |                                  |           | 48           |              | 5                          |                                  |           | 64           |  |
|              | 6                          |                                  |           |              |              | 6                          |                                  |           |              |  |
|              | 7                          |                                  |           |              |              | 7                          |                                  |           |              |  |
|              | 8                          |                                  |           |              |              | 8                          |                                  |           |              |  |
|              | 9                          |                                  |           |              |              | 9                          |                                  |           |              |  |
| 20           | 1                          | N                                |           |              | 80           | 1                          | N                                |           |              |  |
|              | 2                          |                                  |           |              |              | 2                          |                                  |           |              |  |
|              | 3                          |                                  |           |              |              | 3                          |                                  |           |              |  |
|              | 4                          |                                  |           |              |              | 4                          |                                  |           |              |  |
|              | 5                          |                                  |           | 72           |              | 5                          |                                  |           | 42           |  |
|              | 6                          |                                  |           |              |              | 6                          |                                  |           |              |  |
|              | 7                          |                                  |           |              |              | 7                          |                                  |           |              |  |
|              | 8                          |                                  |           |              |              | 8                          |                                  |           |              |  |
|              | 9                          |                                  |           |              |              | 9                          |                                  |           |              |  |
| 30           | 1                          | N                                |           |              | 90           | 1                          | N                                |           |              |  |
|              | 2                          |                                  |           |              |              | 2                          |                                  |           |              |  |
|              | 3                          |                                  |           |              |              | 3                          |                                  |           |              |  |
|              | 4                          |                                  |           |              |              | 4                          |                                  |           |              |  |
|              | 5                          |                                  |           | 56           |              | 5                          |                                  |           | 56           |  |
|              | 6                          |                                  |           |              |              | 6                          |                                  |           |              |  |
|              | 7                          |                                  |           |              |              | 7                          |                                  |           |              |  |
|              | 8                          |                                  |           |              |              | 8                          |                                  |           |              |  |
|              | 9                          |                                  |           |              |              | 9                          |                                  |           |              |  |
| 40           | 1                          | N                                |           |              | 100          | 1                          | N                                |           |              |  |
|              | 2                          |                                  |           |              |              | 2                          |                                  |           |              |  |
|              | 3                          |                                  |           |              |              | 3                          |                                  |           |              |  |
|              | 4                          |                                  |           |              |              | 4                          |                                  |           |              |  |
|              | 5                          |                                  |           | 54           |              | 5                          |                                  |           | 60           |  |
|              | 6                          |                                  |           |              |              | 6                          |                                  |           |              |  |
|              | 7                          |                                  |           |              |              | 7                          |                                  |           |              |  |
|              | 8                          |                                  |           |              |              | 8                          |                                  |           |              |  |
|              | 9                          |                                  |           |              |              | 9                          |                                  |           |              |  |
| 50           | 1                          | N                                |           |              |              | 1                          | N                                |           |              |  |
|              | 2                          |                                  |           |              |              | 2                          |                                  |           |              |  |
|              | 3                          |                                  |           |              |              | 3                          |                                  |           |              |  |
|              | 4                          |                                  |           |              |              | 4                          |                                  |           |              |  |
|              | 5                          |                                  |           | 60           |              | 5                          |                                  |           |              |  |
|              | 6                          |                                  |           |              |              | 6                          |                                  |           |              |  |
|              | 7                          |                                  |           |              |              | 7                          |                                  |           |              |  |
|              | 8                          |                                  |           |              |              | 8                          |                                  |           |              |  |
|              | 9                          |                                  |           |              |              | 9                          |                                  |           |              |  |

Secchi depth  
Estimated?

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

Check accompanying data collected at same site/date.

Algal mat sample  
Linear Veg Survey  
Habitat Assessment  
SCI/Biorecon  
Water sample

RQ-

| 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                                  |

\*algae was present at site, but in mat form floating on surface. No periphytic algae growing on substrate, all silt & iron bacteria smothering

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%.

photos in ZIFLEN folder

|                              |                                             |                                |
|------------------------------|---------------------------------------------|--------------------------------|
| Waterbody: <u>Sand Creek</u> | Date: <u>9/20/10</u> County: <u>Volusia</u> | Storet Number: <u>27010092</u> |
|------------------------------|---------------------------------------------|--------------------------------|

Analyst:

Signature: K. W. Harris

Comments: 62m2, no LVs

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]