Data Qualified? Yes / No

# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
## STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

**WIN Station Name:** Little Manatee River @ SP Boat Ramp **Date:** 12-16-19 (mm/dd/yyyy)

**WIN/ Field ID:** _____ **WBID:** _____ **Latitude:** _____ (Decimal Degrees)

**County:** Manatee **ORG ID:** __ 21FLTPA **Longitude:** _____ (Decimal Degrees)

**Receiving Body of Water:** Gulf of Mexico **RQ-2019-** ~~12-06~~ 12-16-04

| Sampling Team Members | WQ Measurements | Sample Collection | Documentation | Preservation | Preservation Check |
|---|---|---|---|---|---|
| Jenny Ashton | ✓ | ✓ | ✓ | | |
| Ben Pasmatter | | ✓ | ✓ | ✓ | |
| Sarah Meyer | | | | | |

**Sampling Equipment**
- [x] Sample Container [ ] Van Dorn [ ] Pole
- [ ] Carboy [ ] Syringe
- [ ] Dipper [ ] Other _____

Depth Measured with: Secchi
Equipment ID ____Secchi #1

**Collection Method**
- [ ] Wading [ ] Canoe/Kayak
- [ ] From Shore [ ] Electric Motor
- [ ] Other _____ [ ] Gasoline Motor

**Water Level:** Dry/ Pooled/ Low (Normal) / High / Flooded **Meter ID#** Chemwy **Matrix:** (Fresh) / Marine / DI

**Photos:** (Yes) / No **Flow:** No Flow / Interstitial / (Flowing) / NA **Tide:** Rising/ Falling/ Slack/ (NA) **Tide Times:** High Low

| Time Zone | Time | Total Depth (m) | Sample Depth (m) | Secchi Disk (m) | DO (mg/L) | DO (%SAT) | pH | Salinity (PPTh) | Sp COND (µmhos/cm) | Temp. (C°) |
|---|---|---|---|---|---|---|---|---|---|---|
| (EST) | 1035 | 1.0 | 0.3 | 1.0 | 8.39 | 88.6 | 5.58 | 0.15 | 317.0 | 18.0 |
| | | | | 1.5+ | | | | | | |

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

**SBIO ID Numbers:** SBIO-ID: 80680 HA-ID: 16518 RPS-ID: 9538 Macrophyte-ID: < 2m² LIMS#: —

| Parameter Suite | Parameter Methods | Preservation | Lot# | Expiration | pH Check |
|---|---|---|---|---|---|
| Preserved Nutrients | [x] W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP | [x] Ice [x] $H_2SO_4$ | SA9203100 | 07/22/20 | [x] <2 |
| Metals | [ ] W-ICPMS [ ] W-ICP | [ ] Ice [ ] $HNO_3$ | | | [ ] <2 |
| Filtered Nutrients | [x] W-PO4-F [x] Field Filtered 0.45 µm Filter | [x] Ice | | | |
| Chlorophyll | [x] CHLSUITE-W | [x] Ice | | | |
| Physical/Aggregate (Fresh) | [x] Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS | [x] Ice | | | |
| Physical/Aggregate (Marine) | [ ] Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY | [ ] Ice | | | |
| Macroinvertebrates | [ ] MI-FW-QLDC | [ ] Formalin | | | |
| Periphyton | [ ] ALGAE-ID | [ ] Ice | | | |
| Microbiology | [x] E Coli [ ] F Coli [ ] Enterococci | [x] Ice | | | |
| Molecular | [ ] PCR-FILTER [ ] PCR-BacR [ ] PCR-GULL2 [ ] PCR-HF183 [ ] PCR-DG3 [ ] PCR-GFD | [ ] Ice | | | |
| Tracers | [ ] W-E8321-DI [ ] W-E8321-MS | [ ] Ice | | | |
| Pesticides | [ ] W-PSNP-TQ [ ] W-CT-CL-R [ ] W-E8321-DI [ ] W-PCL-SQ-R [ ] W-E8321-MS [ ] W-CARB-AA | [ ] Ice | | | |
| Phytoplankton | [ ] DTY-QN-C [ ] PKD-QN-C | | | | |

Contains: 1:1 $H_2SO_4$
Lot No.: SA9203100
Expires: 07/22/20
See Safety Data Sheet (SDS)

SULFURIC ACID <51% DANGER 7664-93-9 Contains: 1:1 $H_2SO_4$

THERMO FISHER SCIENTIFIC 620 NORTH MAIN STREET MIAMI, OK 74354 1-888-854-2911

May be corrosive to metals. Causes severe skin burns and eye damage. Do not breathe fume/mist/vapours. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing/eye protection/face protection. Wash contaminated clothing before reuse. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Store in corrosive resistant container with a resistant inner liner.

Place Preservativ (If Ava

Field ID/WIN G2SW0037

Site Name: Little manatee River at SP Boat Ramp

**Notes:**

Signature: _____ Date: 12-16-19

LIMS EVENT ID: 2019-12-17-01 WIN Import ID: 17017

Enter Field Parameters, Verify Station ID In LIMS DMT: SM 02/10/2020 QC Station ID, Field Parameters In LIMS DMT: SM 02/13/2020

Scan/Save Field Sheets SM 03/11/2020 (Initials/Date) Migrate Data to WIN: SM 02/13/2020 (Initials/Date) Verify Data In WIN: SM 03/11/2020 (Initials/Date)

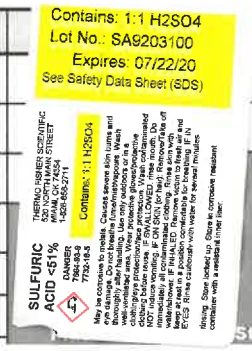
# QA/QC Sample Information

## Duplicate

**Time Zone:** EST CEN **Time:** 1040 **Field ID:** G2SW0037_DUP (WIN ID_DUP)

**WIN DMT Activity ID:**

| Parameter Suite | Parameter Methods | Preservation | Lot# / Expiration | pH Check |
|---|---|---|---|---|
| Preserved Nutrients | ☑ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP | ☐ Ice ☐ $H_2SO_4$ | | ☑ < 2 |
| Metals | ☐ W-ICPMS ☐ W-ICP | ☐ Ice ☐ $HNO_3$ | | ☐ < 2 |
| Filtered Nutrients | ☐ W-PO4-F ☑ Field Filtered 0.45 µm Filter | ☐ Ice | | |
| Chlorophyll | ☑ CHLSUITE-W | ☐ Ice | | |
| Physical/Aggregate (Fresh) | ☑ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS | ☐ Ice | | |
| Physical/Aggregate (Marine) | ☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY | ☐ Ice | | |
| Microbiology | ☐ E Coli ☐ F Coli ☐ Enterococci | | | |
| Molecular | ☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD | | | |
| Tracers | ☐ W-E3821-MS ☐ W-E3821-DI | | | |
| Pesticides | ☐ W-PSNP-TQ ☐ W-E3821-DI ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E-3821-MS ☐ W-CARB-AA | | | |




Sticker(s) Here

**Field ID:** G2SW0037_DUP

**Location:** Little Manatee River @ SP Boat Ramp

**WIN ID:** G2SW0037

## Blank

**Time Zone:** (EST) CEN **Time:** 1045 **Field ID:** FB_12162019 (Blank Type_DDMMYYYY)

**DI Source:** CARBO1 **Location:** Little Manatee River@SP Boat Ramp

☑ Field Blank ☐ Equipment Blank ☐ Field Cleaned Equipment Blank **Equipment ID:**

**WIN DMT Blank Batch ID:**

| Parameter Suite | Parameter Methods | Preservation | Lot# / Expiration | pH Check |
|---|---|---|---|---|
| Preserved Nutrients | ☑ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP | ☐ Ice ☐ $H_2SO_4$ | | ☑ < 2 |
| Metals | ☐ W-ICPMS ☐ W-ICP | ☐ Ice ☐ $HNO_3$ | | ☐ < 2 |
| Filtered Nutrients | ☑ W-PO4-F ☑ Field Filtered 0.45 µm Filter | ☐ Ice | | |
| Physical/Aggregate (Fresh) | ☑ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS | ☐ Ice | | |
| Physical/Aggregate (Marine) | ☐ Alkalinity / W-F / W-TSS / TURBIDITY | ☐ Ice | | |
| Tracers | ☐ W-E3821-MS ☐ W-E3821-DI | ☐ Ice | | |
| Pesticides | ☐ W-PSNP-TQ ☐ W-E3821-DI ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E3821-MS ☐ W-CARB-AA | ☐ Other | | |
| | E. COLI ✓ | | | |


**Notes:** CHLSUITE-W ✓

FIELD ID: FB 12162019

LOCATION: Field_Blank

**Signature:** [signature] **Date:** 12/16/19

**LIMS EVENT ID:** 2019-12-17-01 **WIN Import ID:** 17017

**Enter Field Parameters, Verify Station ID In LIMS DMT:** SM 02/10/2020 (Initials/Date) **QC Station ID, Field Parameters In LIMS DMT:** SM 02/13/2020 (Initials/Date)

**Scan/Save Field Sheets** SM 03/11/2020 (Initials/Date) **Migrate Data to WIN:** SM 02/13/2020 (Initials/Date) **Verify Data In WIN:** SM 03/11/2020 (Initials/Date)

# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
## STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

**Data Qualified?** Yes / No

**WIN Station Name:** _____ **Date:** _____ (mm/dd/yyyy)

**WIN ID/ Field ID** _____ **WBID:** _____ **Latitude:** _____ (Decimal Degrees)

**County:** _____ **ORG ID:** _____ **Longitude:** _____ (Decimal Degrees)

**Receiving Body of Water:** _____ **RQ -** _____

| Sampling Team Members | WQ Measurements | Sample Collection | Documentation | Preservation | Preservation Check | Duplicate Collection | Blank Collection |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**Sampling Equipment**

☐ Sample Container ☐ Van Dorn ☐ Pole
☐ Carboy ☐ Syringe
☐ Dipper ☐ Other _____

**Depth Measured with:** _____

**Equipment ID** _____

**Collection Method**

☐ Wading ☐ Canoe/Kayak
☐ From Shore ☐ Electric Motor
☐ Other _____ ☐ Gasoline Motor

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

**Meter ID#**

**Matrix:** Fresh / Marine / DI

**Photos:** Yes / No

**Flow:** No Flow / Intestital / Flowing/ NA

**Tide:** Rising/ Falling/ Slack/ NA

**Tide Times:** High Low (Bracket Sample Time)

## Field Sample

| Time Zone | Time | Total Depth (m) | Sample Depth (m) | Secchi Disk (m) | DO (mg/L) | DO (%SAT) | pH | Salinity (ppt) | Sp COND (µmhos/cm) | Temp. ($C^0$) |
|---|---|---|---|---|---|---|---|---|---|---|
| EST | 1035 | | | | | | | | | |
| CEN | | | | | | | | | | |

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

**SBIO ID Numbers:** SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

| Parameter Suite | Parameter Methods | Preservation | Lot# | Expiration | pH Check |
|---|---|---|---|---|---|
| Preserved Nutrients | ☐ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP | ☐ Ice ☐ $H_2SO_4$ | | | ☐ <2 |
| Metals | ☐ W-ICPMS ☐ W-ICP | ☐ Ice ☐ $HNO_3$ | | | ☐ <2 |
| Filtered Nutrients | ☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter | ☐ Ice | | | |
| Chlorophyll | ☐ CHLSUITE-W | ☐ Ice | | | |
| Physical/Aggregate (Fresh) | ☐ Alkalinity W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS | ☐ Ice | | | |
| Physical/Aggregate (Marine) | ☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY | ☐ Ice | | | |
| Macroinvertebrates | ☐ MI-FW-QLDC | ☐ Formalin | | | |
| Periphyton | ☐ ALGAE-ID | ☐ Ice | | | |
| Microbiology | ☐ E Coli ☐ F Coli ☐ Enterococci | ☐ Ice | | | |
| Molecular | ☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD | ☐ Ice | | | |
| Tracers | ☐ W-E3821-MS ☐ W-E32821-DI | ☐ Ice | | | |
| Pesticides | ☐ W-PSNP-TQ ☐ W-E3821-MS ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E3821-DI ☐ W-CARB-AA | ☐ Ice | | | |
| Phytoplankton | ☐ DTY-QN-C ☐ PKD-QN-C | ☐ Ice | | | |

Place Preservative Sticker(s) Here (If Available)

Field ID/WIN G2SW0037

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

| Site Name: Little manatee River at SP Boat Ramp | STORET STATION NUMBER: see sticker | DATE (MM/DD/YY): 12/16/2019 | SAMPLING AGENCY: FDEP SWROC |
|---|---|---|---|
| FIELD ID/NAME: see sticker | LOCATION: | COUNTY: MANATEE | RECEIVING BODY OF WATER: BIG MANATEE |

| Habitat Parameter | Optimal | Suboptimal | Marginal | Poor |
|---|---|---|---|---|
| Primary Habitat Components<br>**Substrate Diversity** 14 | Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]<br>20 19 18 17 16 | Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)<br>15 (14) 13 12 11 | Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed<br>10 9 8 7 6 | One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered<br>5 4 3 2 1 |
| **Substrate Availability** 7 | 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** 13 | 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** 18<br>Primary Score 52 | 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** 20 | 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 8<br>Left Bank 8 | Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 9<br>Left Bank 10 | 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 7<br>Left Bank 7<br>Secondary Score 69 | 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 |

121 **TOTAL SCORE**

| Date: 12/16/2019 | Analyst: Ben Pagwater | Signature: Ben Pagwater |
|---|---|---|

Field ID/WIN G2SW0037

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

Site Name: Little manatee River at SP Boat Ramp

21FLTPA ___ LATITUDE _____

Y 10:35 LONGITUDE _____

SAMPLING AGENCY FDEP SW ROC

RECEIVING BODY OF WATER Gulf of Mexico

## RIPARIAN ZONE / STREAM FEATURES

**PREDOMINANT LAND-USE IN WATERSHED** (specify relative percent in each category) :

| Forest/Natural | Silviculture | Field/Pasture | Agricultural | Residential | Commercial | Industry | Other (Specify) |
|---|---|---|---|---|---|---|---|
| 60 | | 20 | 10 | 10 | | | |

**Landscape Development Intensity Index (LDI)**

Local Watershed Erosion (select one) : ☐ None ☐ Slight ☑ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☑ Slight ☑ Moderate ☐ Heavy

**Width of Riparian Vegetation (m) on Each Buffer Side**

Left Bank : >18m Right Bank : >18m

**Hydrologic Modification Score** (per FT 3101) 3

**Typical Width (m) Depth (m)/Velocity (m/sec) Transect**

10 m wide

| | | |
|---|---|---|
| .17 m/s | 0.17 m/s | .17 m/s |
| .5 m deep | 1.0 m deep | .5 m deep |

**High Water Mark:** 2.0 + 1.0 = 3.0

( m ) ( above present water level ) ( present depth ) ( above bed )

**Artificially Impounded** ☐ Yes ☑ No

**Artificially Channelized :** ☑ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

**Canopy Cover %** ☑ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

## SEDIMENT / SUBSTRATE

**Sediment Oils** ☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

**Sediment Odors** ☑ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify) :

**Smothering of Substrates**

| | None | Slight | Moderate | Severe |
|---|---|---|---|---|
| Sand Smothering: | ☐ | ☑ | ☐ | ☐ |
| Silt Smothering: | ☐ | ☐ | ☑ | ☐ |
| Algae Smothering: | ☐ | ☑ | ☐ | ☐ |

**SUBSTRATE TYPE**

Assessment Tool: ☐ SCI ☑ RPS ☑ EVS ☐ LCI ☐ BioRecon

| | % Coverage | INVERT # Times Sampled | PERI # Times Sampled |
|---|---|---|---|
| Woody Debris (Snags) | 2.5 | | |
| Undercut Banks / Roots | 3.5 | | |
| Leaf Packs or Mat ..... | 1.0 | | |
| Aquatic Vegetation ..... | | | |
| Rock or Shell Rubble.. | | | |
| Sand..... | | | |
| Mud / Muck / Silt ..... | | | |
| Other ..... | | | |
| Other ..... | | | |

**WATER QUALITY**

| | Depth (M) | Temp. (°C) | pH (SU) | D.O. (MG/L) | D.O. Sat (%) | Cond. (UMHO/CM) | Salinity (PPT) |
|---|---|---|---|---|---|---|---|
| Top : | 0.3 | 18.0 | 5.58 | 8.39 | 88.6 | 317.0 | 0.15 |
| Mid: | | | | | | | |
| Bottom | | | | | | | |

SECCHI (M) 1.0 ☒ VOB

TOTAL DEPTH 1.0

**Meter ID:** CHEW Y

**Water Odors** Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

**Water Surface Oils** Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot Number: see Water Datasheet

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

Algae Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☐ No

Lot Number:_____ Exp:_____

**Clarity** Clear ☑ Slightly Turbid ☐ Turbid ☐ Opaque ☐

**ABUNDANCE**

| | Not Obs. | Rare | Common | Abundant |
|---|---|---|---|---|
| Periphyton: | ☐ | ☐ | ☑ | ☐ |
| Fish: | ☐ | ☐ | ☑ | ☐ |
| Aquatic Plants: | ☑ | ☐ | ☐ | ☐ |
| Iron/Sulfur Bacteria: | ☑ | ☐ | ☐ | ☐ |

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

**AMBIENT FIELD CONDITIONS / NOTES:**

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

**SAMPLING TEAM** Jna, ASHTON, BEN PASWATER, SARAH MEYER

SIGNATURE :

DATE : 12-16-19

Field ID/WIN G2SW0037

# DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

Site Name: Little manatee River at SP Boat Ramp

County: MANATEE | Waterbody: See Sticker

Date: 12-16-19 | Signature:

Comments: 2 2m2 | Analyst: J. ASHTON

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 $m^2$ 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. **BOLD is exotic invasive**

| HERBACEOUS SPECIES | Meter Mark 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 | Specimen collected (check) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alternanthera philoxeroides** | | | | | | | | | | | |
| Bacopa caroliniana (Lemon) | | | | | | | | | | | |
| Bacopa monneri | | | | | | | | | | | |
| Bidens mitis | | | | | | | | | | | |
| Boehmeria cylindrica | | | | | | | | | | | |
| Centella asiatica | | | | | | | | | | | |
| Ceratophyllum demersum | | | | | | | | | | | |
| Chara sp. | | | | | | | | | | | |
| Cicuta maculata | | | | | | | | | | | |
| Cladium jamaicense | | | | | | | | | | | |
| **Colocasia esculenta** | | | | | | | | | | | |
| Commelina diffusa | | | | | | | | | | | |
| Commelina virginica | | | | | | | | | | | |
| Crinum americanum | | | | | | | | | | | |
| Cyperus _____ | | | | | | | | | | | |
| Diodia virginiana | | | | | | | | | | | |
| **Eichhornia crassipes** | | | | | | | | | | | |
| Eleocharis (wispy viviparous) | | | | | | | | | | | |
| Fontinalis sp. (Aquatic Moss) | | | | | | | | | | | |
| Fraxinus caroliniana | | | | | | | | | | | |
| **Hydrilla verticillata** | | | | | | | | | | | |
| Hydrocotle sp. | | | | | | | | | | | |
| **Hygrophila polysperma** | | | | | | | | | | | |
| **Hymenachne amplexicaulis** | | | | | | | | | | | |
| Hymenocallis | | | | | | | | | | | |
| Lachnanthes caroliniana | | | | | | | | | | | |
| **Landoltia punctata** | | | | | | | | | | | |
| Lemna sp. | | | | | | | | | | | |
| **Limnophila sessiflora** | | | | | | | | | | | |
| Ludwigia leptocarpa | | | | | | | | | | | |
| Ludwigia palustris | | | | | | | | | | | |
| **Ludwigia peruviana** | | | | | | | | | | | |
| Ludwigia repens | | | | | | | | | | | |
| Luziola fluitans | | | | | | | | | | | |
| | | | | | | | | | | | |
| **If no Dominant or Co-Dominant were selected, indicate with "X"** | | | | | | | | | | | |
| **Indicate % cover macrophytes per section** | | | | | | | | | | | |
| **0-5% Macrophyte Coverage** | | | | | | | | | | | |
| **>5 and ≤10% Macrophyte Coverage** | | | | | | | | | | | |
| **>10 and ≤25% Macrophyte Coverage** | | | | | | | | | | | |
| **>25 and ≤50% Macrophyte Coverage** | | | | | | | | | | | |
| **> 50% Macrophyte Coverage** | | | | | | | | | | | |

| HERBACEOUS SPECIES | Meter Mark 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 | Specimen collected (check) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Micranthemum glomeratum | | | | | | | | | | | |
| Micranthemum umbrosum | | | | | | | | | | | |
| **Myriophyllum aquaticum** | | | | | | | | | | | |
| Najas guadelupensis | | | | | | | | | | | |
| Nitella sp. | | | | | | | | | | | |
| Nuphar luteum | | | | | ✓ | | | | | | |
| Orontium aquaticum | | | | | | | | | | | |
| Panicum hemitomon | | | | | | | | | | | |
| **Panicum repens** | | | | | | | | | | | |
| Panicum rigidulum | | | | | | | | | | | |
| **Pistia stratioides** | | | | | | | | | | | |
| Polygonum glabra | | | | | | | | | | | |
| Polygonum hydropiperoides | | | | | | | | | | | |
| Polygonum punctatum | | | | | | | | | | | |
| Pontedaria cordata | | | | | | | | | | | |
| Potamogeton illinoensis | | | | | | | | | | | |
| **Ruellia simplex** (Mex Petunia) | | | | | | | | | | | |
| Sacciolepis striata | | | | | | | | | | | |
| Sagittaria kurziana | | | | | | | | | | | |
| Sagittaria lancifolia | | | | | | | | | | | |
| Sagittaria latifolia | | | | | | | | | | | |
| **Salvinia minima** | | | | | | | | | | | |
| Samolus parviflora | | | | | | | | | | | |
| Saururus cernuus | | | | | | | | | | | |
| Sparganium americanum | | | | | | | | | | | |
| Schoenoplectus americanus | | | | | | | | | | | |
| **Sphagneticola trilobata(Wedelia)** | | | | | | | | | | | |
| Typha sp. | | | | | | | | | | | |
| **Urochloa mutica (Brachiaria)** | | | | | | | | | | | |
| Vallisneria americana | | | | | | | | | | | |
| Zizania aquatica | | | | | | | | | | | |
| | | | | | | | | | | | |
| Crinum | | | | | | | | ✓ | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
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| | | | | | | | | | | | |

Field ID/WIN G2SW0037

Site Name: Little manatee River at SP Boat Ramp

**DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sh**

Investigators: Jnoy Ashton

County: MANATEE

STORET Station Number: **see label**

| Transect (m) | Point 1=right 9=left | Algal Thickness Rank (N-6, X) | Estimated | Canopy Cover |
|---|---|---|---|---|
| 0 | 1 | N | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 5 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 10 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 11 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 20 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 9 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 30 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 13 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 40 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 7 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 50 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 21 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |

| Transect (m) | Point 1=right 9=left | Algal Thickness Rank (N-6, X) | Estimated | Canopy Cover |
|---|---|---|---|---|
| 60 | 1 | N | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 3 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 70 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 26 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 80 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 18 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 90 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 0 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |
| 100 | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | 0 |
| | 6 | | | |
| | 7 | | | |
| | 8 | | | |
| | 9 | | | |

| | |
|---|---|
| Secchi depth | 1.0 |
| Estimated? | No |

| | |
|---|---|
| # points ranked 4-6 | 8 |
| total points assessed | 33 |
| % points ranked 4-6 | 8 |

| Check accompanying data collected at same site/date. | |
|---|---|
| Algal mat sample | |
| Linear Veg Survey | ✓ |
| Habitat Assessment | ✓ |
| SCI/Biorecon | |
| Water sample | ✓ |

RQ-2019-12-16-04

| 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.

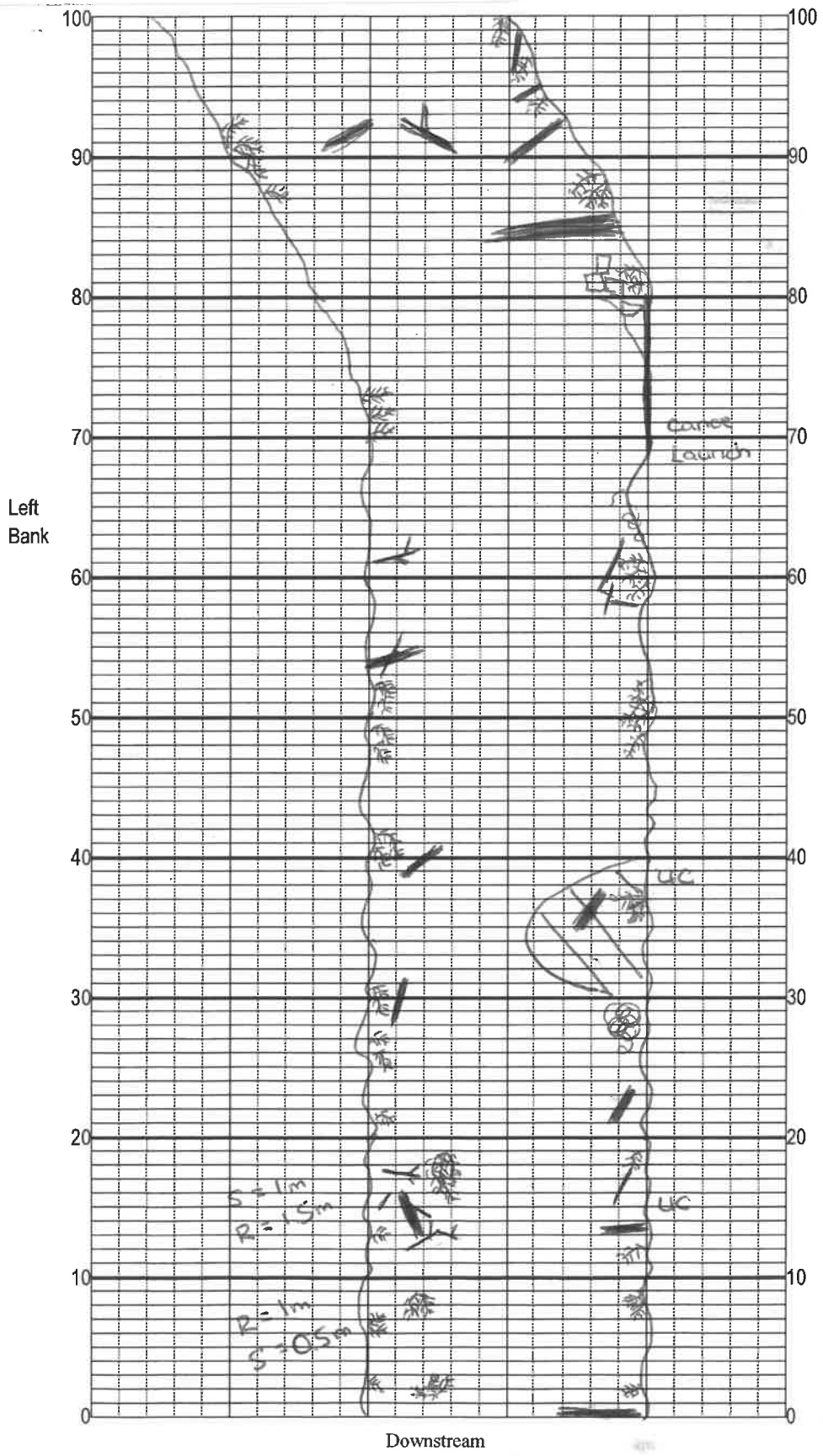
Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of **4, 5, or 6 is >20%.**

Field ID/WIN G2SW0037

RQ 2019-12-16-04

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

Site Name: Little manatee River at SP Boat Ramp




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

Location: Little Manatee

Date: 12/16/2019

Sampler: B Paswater, J Ashton, S Meyer

| | |
|---|---|
| 100 m: Latitude | |
| Longitude | |
| 0 m: Latitude | |
| Longitude | |

| Substrates: Code key, draw proportionate habitat abundance. | | % |
|---|---|---|
| | Snags 5m | 2.5 |
| | Roots/undercut banks 20m | 3.5 |
| | Leaf Packs (or mats) 10m | 1 |
| | Aquatic Macrophytes | |
| | ROCKS | |
| | | |
| | Pools total # observed = 1 | |
| | # range expected = 0-1 | |

Average width 10 m

Average depth 1.0 m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

62-160.800, F.A.C

Revision Date: March 1, 2014

**Request Number: RQ-2019-12-16-04**

SMP HA

# Florida Department of Environmental Protection
## Central Laboratory Submittal Form

last revised Jan 25, 2018

**Customer: SW-DIST**

**Project ID: SMP**

Requester: Benjamin Paswater

Field Report Prepared By: Judy Ashton

Collected By: J. Ashton, B. Absmeier, S. Meyer

Sampling Agency: FDEP

---

**Location**

Field ID/WIN: G2SW0037

Site Name: Little manatee River at SP Boat Ramp

Latit ☐ dms

☐ Comp ☒ Grab | Collection (comp begin or grab) Date 12-16-19 Time 1035 Eastern Central | Composite end Date Time | Bottle Group(s) (See pg 2): A/B

Matrix (type, e.g., Salt, Fresh, etc) | Diss. Oxygen 8.39 ☒ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

Temp (C) 18.0 | pH 5.58 | Sample Depth 0.3 ☐ ft ☒ m | Sp. Conductance (umho/cm) 317.0

Salinity (ppt) 0.15 | ☐ dd ☐ dms

Comments: E.COLI DROPPED OFF @ BENCHMARK

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**Location**

Field ID: G2SW0037_DUP

Location: Little Manatee River @ SP Boat Ramp

WIN ID: G2SW0037

Latil ☐ dms

☐ Comp ☒ Grab | Collection (comp begin or grab) Date 12-16-19 Time 1040 Eastern Central | Composite end Date Time | Bottle Group(s): A/B

Matrix (type, e.g., Salt, Fresh, etc) | Diss. Oxygen ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

Temp (C) | pH | Sample Depth ☐ ft ☐ m | Sp. Conductance (umho/cm)

Salinity (ppt) | ☐ dd ☐ dms

Comments: E.COLI DROPPED OFF @ BENCHMARK

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**Location**

FIELD ID: FB 12162019

LOCATION: Field_Blank

Lati ☐ dms

☐ Comp ☒ Grab | Collection (comp begin or grab) Date 12-16-19 Time 1045 Eastern Central | Composite end Date Time | Bottle Group(s): A/B

Matrix (type, e.g., Salt, Fresh, etc) | Diss. Oxygen ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

Temp (C) DI | pH DI | Sample Depth ☐ ft ☐ m | Sp. Conductance (umho/cm)

Salinity (ppt) | ☐ dd ☐ dms

Comments: E.COLI DROPPED OFF @ BENCHMARK

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**Location**

☐ Comp ☐ Grab | Collection (comp begin or grab) Date Time Eastern Central | Composite end Date Time | Bottle Group(s)

Field ID | Matrix (type, e.g., Salt, Fresh, etc) | Diss. Oxygen ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

WIN/STORET # | Temp (C) | pH | Sample Depth ☐ ft ☐ m | Sp. Conductance (umho/cm)

Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | Salinity (ppt) | Comments

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| Relinquished By: | Date/Time | Shipping Method | Number of Coolers Shipped: | Received By: | Date/Time |
|---|---|---|---|---|---|
| J. Ashton | 12-16-19 1600 | FED EX | 1 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Group: A | Bottle Type: | P-1L | # of Bottles: 1 | Preservative: | ICE | **Enter Number of Bottles Sent to Lab** | 3 |
| | ALKALINITY<br>TURBIDITY<br>W-CL-IC<br>W-COLOR<br>W-F<br>W-SO4-IC<br>W-TDS<br>W-TSS | | | | | | |
| Group: A | Bottle Type: | BP-1L | # of Bottles: 1 | Preservative: | ICE | **Enter Number of Bottles Sent to Lab** | 3 |
| | CHLSUITE-W | | | | | | |
| Group: A | Bottle Type: | P-120ML-WC-THI | # of Bottles: ~~2~~ 3 | Preservative: | ICE | **Enter Number of Bottles Sent to Lab** | 3 |
| | ~~SW-AEL-ECQ~~ SW-BEA-ECQ | | | | | | |
| Group: A | Bottle Type: | P-500ML | # of Bottles: 1 | Preservative: | ICE And H2SO4 | **Enter Number of Bottles Sent to Lab** | 3 |
| | W-NH3<br>W-NO2NO3<br>W-S-A-TP<br>W-TKN<br>W-TOC | | | | | | |
| Group: A | Bottle Type: | P-125ML | # of Bottles: 1 | Preservative: | FILTER-ICE | **Enter Number of Bottles Sent to Lab** | 3 |
| | W-PO4-F | | | | | | |

Benchmark EnviroAnalytical,Inc
1711 12th Street East
Palmetto, Fl 34221
941-723-9986
941-723-6061 Fax

**PO#__B578C6_____**

**Client Information: FDEP**

Address: 13051 N. Telecom Parkway
Tampa FL 33604
Phone # 815-470-5772
Report to: Judy.ashton@dep.state.fl.us, DEP-Overflomicro@dep.state
Invoice to: FDEP Micro Overflow

**Project Name: RQ-** 12-16-04

Laboratory Submission # 19I-0853

| Sample Name | Sample Type[1] / Sample Matrix[2] | Collection | | Container | | | Preservative[4] | Parameters for Analysis | Laboratory Sample # |
|---|---|---|---|---|---|---|---|---|---|
| | | Date | Time | Qty | Capacity | Type[3] | | | |
| G2SWD037 LIL MANATEE RVR @SP BOAT RAMP | SW | 12-16-19 | 1035 | 1 | 120mL | P | Plain (on Ice) | E. COLI | 1 |
| G2SWD037_DUP LIL MANATEE RVR @SP BOAT RAMP | SW | 12-16-19 | 1040 | 1 | 120mL | P | Plain (on Ice) | E. COLI | 2 |
| FB 12162019 FIELD BLANK | SW | 12-16-19 | 1045 | 1 | 120mL | P | Plain (on Ice) | E. COLI | 3 |
| | SW | | | | 120mL | P | Plain (on Ice) | | |
| | SW | | | | 120mL | P | Plain (on Ice) | | |
| | SW | | | | 120mL | P | Plain (on Ice) | | |
| | SW | | | | 120mL | P | Plain (on Ice) | | |

1 "Sample Type" is used to indicate whether the sample was a grab (G) or whether it was a composite (C).
2 "Sample Matrix" is used to indicate whether the sample is being discharged to drinking water (DW), groundwater (GW), surface water (SW), fresh surface water (FSW), saline surface water (SSW), soil, sediment (SDMNT), or sludge (SLDG).
3 "Container Type" is used to indicate whether the container is plastic (P) or glass (G).
4 Sample must be refrigerated or stored in wet ice after collection. The temperature during storage should be less than or equal to 6°C (42.8°F).
Under "Preservative," list any preservatives that were added to the sample container.

Instructions:
1. Each bottle has a label identifying sample ID, preassigned preservative contained in the bottle, sample type, client ID, and parameters for analysis.
2. The following information should be added to each bottle label after collection with permanent black ink: date and time of collection, sampler's name or initials, and any field number or ID.
3. All bottles not containing preservative may be rinsed with appropriate sample prior to collection.
4. The client is responsible for documentation of the sampling event. Please note special sampling events on the sample custody form.

Laboratory Sample Acceptability:
Temperature: 4.3°C

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Collected / Relinquished By: J. Ashton | Date 12-16-19 | Time 1045 | Received By: | | Date | Time |
| 2 | Relinquished By: J. Ashton | Date 12-16-19 | Time 1220 | Received By: | | Date 12-16-19 | Time 1220 |