RQ-2019-07-22-18 Sand Hammock Pond

Field Personnel processing steps

☐ New Field IDs created (when using a new station) Date: _____ initials: _____ ☐ NA

☐ Create entry in SMPStationCreationFile if new station is used

\\Fldep1\wqap\NW ROC\TMDL\WIN_Station Creation

☑ Date sampled Date: 08/12/2019 initials: FB

☐ Update MAT Date: N/A initials: _____

☑ Update "SMP Tracker" Date: 08/20/2019 initials: FB

☑ Photos put into archive Date: 09/05/2019 initials: FB ☐ NA

☐ RQ Sheet – from LIMS (display/print request)

☑ Field Sheets initialed/dated @ "Scan/Save Field Sheets" then scanned (with calibration logs) and saved into:

Scans_ToBeProcessed Date: 09/05/2019 initials: FB

☑ Update "Data Tracker"

\\publicfiles\pubfds\DEAR\WQAPmonitoring\StrategicMonitoring\2019\21FLPNS

Ready for folder system (top)

LIMS processing (to be completed by LIMS data personnel) (MC)

☐ Field parameters entered into LIMS Date: _____ initials: _____

☐ Digital RQ packet put into

SMP 2019/Data/Scanned Field Sheets Date: _____ initials: _____

☐ Digital field Sheets put into archive Date: _____ initials: _____

☐ Date submitted for QA/QC Date: _____ initials: _____

☐ Update "Data Tracker"

Database processing (Cheryl)

☐ Field parameters QA/QC in LIMS Date: _____ initials: _____

☐ Lab results put into archive (CB) Date: _____ initials: _____

☐ Data migrated to WINS Date: _____ initials: _____

☐ Update "Data Tracker"

Notes: Biology collected.

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: ISS 077 RQ- 2019-07-22-18 Project: SMP

Notes: (1) Always wait for meter to stabilize before recording any readings.
(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 06/13/19

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.											P / F	L / F
ICV											P / F	L / F
CCV	MK	~~8/12~~ ~~0730~~	0730	27.0	759.9	8.0	7.89	99.0			(P) F	(L) F
CCV	FB	8/12	1550	24.5	758.5	8.3	8.35	100.2			(P) F	(L) F

DO Acceptance criteria from Table ± 0.3 mg/L. **Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.
Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard µmhos/cm	Meter Reading µmhos/cm	Pass / Fail	Lab / Field
Calibr.	MK	8/12	0735	1906186	06/2020	10000	10.189	(P) F	(L) F
ICV	MK	8/12	0736	1906184	01/2020	1000	1009	(P) F	(L) F
CCV	~~MK~~	~~8/12~~	~~0735~~			10000	MK	P / F	L / F
CCV	MK	8/13	0715	1906184	06/2020	100	104	(P) F	(L) F

Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	MK	8/12	0740	2811803	10/20	7.0	25.2	7.0	-39.7	(P) F	(L) F
Calibr.	↓	↓	0741	2902818	01/21	4.0	25.3	4.0	142.9	(P) F	(L) F
Calibr.	↓	↓	0742	4904609	09/20	10.0	25.2	10.0	-205.3	(P) F	(L) F
ICV	↓	↓	0745	2902818	01/21	4.0		4.03		(P) F	(L) F
CCV	MK	8/13	0717	4904609	10/20	10.0		10.08		(P) F	(L) F
CCV										P / F	L / F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50; mV pH 4 Range +180 ± 50; mV pH 10 Range -180 ± 50;
If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? (YES) / NO / NA (not surf. water project)
If **YES**, complete daily Calibr. & ICV below and list date of last quarterly depth verification: 6/13/19
If **NO**, what will be used? (circle one) **Secchi Disk Line / Sonar** Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air	MK	8/12		0.000	0.000	(P) F	L (F)

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria ± 5 % or ± 0.05m, whichever is greater.

COMMENTS: SAND Hammock Road

Site Name Sand Hammock Lake Center

Date: 08/12/2019

Field ID G3NW0077 Storet G3NW0077

Project: TMDL Studies

Visit ID 80120

RQ: 2019-07-22-18

VPDB ID 11471

LIMS ID: 2110889

HA ID 16227

WBID: 61A

☑ LVI

☑ Sample Site Created in SBIO

☑ Phys/Chem entered in SBIO

☑ HA entered in SBIO Initial FB 8/12/2019 ☐ Date and Initial QA: _____

☑ LVI entered in SBIO Initial FB 8/12/2019 ☐ Date and Initial QA: _____

☑ Plants getting verified Date submitted: In House

☑ Plants verified Date returned: In House

☐ VPDB authorized in SBIO ☐ Date and Initial: _____

☐ VPDB score: _____

☐ If SMP, scanned into database

Notes. Biology

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2018

Data Qualified? Yes / (No)

Location/STORET Station Name: Sand Hammock Pond at Center (also, 32010038) **Date:** 08/12/2019 (mm/dd/yyyy)

WIN ID G3NW0077 **WBID:** 61A **Latitude:** 30.97652 (Decimal Degrees)

County: Holmes **RQ -** 2019-07-22-18 **ORG ID:** 21FLPNS **Longitude:** -85.63658 (Decimal Degrees)

Receiving Body of Water: Texas Br. **Field ID:** G3NW0077

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera					
Mike Long					

Sampling Equipment

- [x] Sample Container [ ] Van Dorn [ ] Pole
- [ ] Carboy [x] Syringe
- [ ] Dipper [ ] Other
- Equipment ID

Collection Method

- [ ] Wading [x] Canoe/Kayak
- [ ] From Shore [x] Electric Motor
- [ ] Other [ ] Gasoline Motor

Water Level: Dry / Low / (Normal) / Above Normal / 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

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	1200	2.8	0.3	1.5	5.28	72.5	5.93	0.01	25.8	31.8
(CEN)			2.3		2.85	38.6	5.87	0.01	30.0	31.1

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

SBIO ID Numbers: SBIO-ID: 80120 HA-ID: 16227 RPS-ID: N/A Macrophyte-ID: 11471 LIMS#: 2110889

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	[x] W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	[ ] Ice [ ] H_2SO_4	SA9010030	04/01/2020	[x] <2
Metals	[ ] W-ICPMS [ ] W-ICP	[ ] Ice [ ] HNO_3	NA9099030	04/09/2020	[ ] <2
Filtered Nutrients	[x] W-PO4-F [ ] Field Filtered 0.45 µm Filter	[x] Ice	16570048		
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-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-HF183 [ ] PCR-BacR [ ] PCR-GULL2 [ ] PCR-GFD	[ ] Ice			
Tracers	[ ] W-SUC-AA-R [ ] W-UHERB-AA [ ] W-AHERB-AA	[ ] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-UHERB-AA [ ] W-AHERB-AA [ ] W-CARB-AA [ ] W-PCL-SQ-R [ ] W-PYR-AA-R [ ] W-GLYPH [ ] W-SUC-AA-R	[ ] Ice [ ] Other			

Place Preservative Sticker(s) Here (If Available)

Notes:

Ref:
Dep:
08/13/2019

Date: 08Jul19
Wgt: 10.00 LBS
DV: 0.00

SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT
TRCK: 4751 8781 4127

Field/WIN ID → G3NW0077

Location:
Sand Hammock Pond at Center (also, 32010038)

Signature: [signature] Date:

Enter Field Parameters, Verify Station ID In LIMS DMT: _____ (Initials/Date) QC Station ID, Field Parameters In LIMS DMT: _____ (Initials/Date)

Scan/Save Field Sheets _____ (Initials/Date) Migrate Data to WIN: _____ (Initials/Date) Verify Data In WIN: _____ (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 80124 MACROPHYTE ID: 11471 LATITUDE: N 30.97652

COUNTY: Holmes (Esto) STORET #: G3NW0077 LONGITUDE: W -85.63658

DATE: 8/12/2019 TIME: 10:00-12:30 (Wtr @ 12:00) SAMPLING AGENCY: FL DEP - NWROC

SITE NAME: Sand Hammock Pond (Center), RQ-2019-07-22-18 WBID: 61A

FIELD ID/NAME: G3NW0077 LAKE SIZE: 42 RQ: 2019-07-22-18

WATERSHED / LAKESIDE FEATURES WBID 61A LIMS ID 2110889

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) :

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
	✓	✓	✓	✓			

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)

LDI: 2.52 (2008)

Land Use Source & Year:

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

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

Artificially Impounded ☑ Yes ☐ No

STORMWATER INPUTS 12	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place	Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
LAKESIDE ALTERATIONS 10	Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected)	Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected)	Many structures, roads or other human disturbance visible (50%-70% lakeside affected)	Highly developed or disturbed (>70% of lakeside affected)
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
BUFFER ZONE 14	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer	50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer	< 29% of shoreline with >18m buffer
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water:

Nutrient Sample Taken? ☑ Yes ☐ No Preserved? ☑ Yes ☑ pH<2 ☐ No

Color Sample Taken? ☑ Yes ☐ No Lot # ~~SA7341020~~ Exp. Date: ~~12/07/2018~~

Alkalinity Sample Taken? ☑ Yes ☐ No SA9010030 4/01/20 (RS) 26

Water Level ☐ Low ☑ Normal ☐ High

Water Odors: ☑ Normal ☐ Sewage ☐ Petroleum ☐ Other

Water Surface Oils: ☑ None ☐ Sheen/Slick ☐ Glob ☐ Other

Meter Readings:

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)
Top:	0.3	31.8	5.93	5.28	72.5	25.8	0.01
Mid-Depth:							
Bottom :	2.3	31.1	5.87	2.85	38.6	30.0	0.01

Meter ID:

Clarity: ☐ Clear ☐ Opaque ☑ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☑ Tannic ☐ Green

SECCHI (M) 1.5 VOB ☐

Total Station Depth (M) 2.8

Sediment Type: (may check more than one) Sample Taken? ☐ Yes ☑ No

☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☑ Vegetated

☑ Sand/Silt ☑ Organic smooth (muck) ☐ Other (Specify):

Sediment Odors: ☑ Normal ☐ Other (Specify): ☐ Anaerobic

Biological Communities:

LVI Conducted? ☑ Yes ☐ No

Phytoplankton Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot #: _____ Exp Date: _____

Algal Bloom/Algal ID Sample Taken? Yes (No)

Active Vegetation Mgmt? ☐ Yes ☑ No ☐ Don't Know

Abundance:

	Absent	Rare	Common	Abundant
Periphyton	☐	☐	☐	☑
Nuisance Plants	☐	☐	☑	☐
Submersed Plants	☐	☐	☐	☑
Exotic Apple Snails	☑	☐	☐	☐

Additional Notes: Water Lilies have grown, blocking access to shoreline.

Weather Conditions : Sunny. Heat Index 110+°F

SAMPLING TEAM: Frank Butera, Mike King **SIGNATURE:** **DATE:** 8/12/2019

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

Lake Habitat Assessment Field Sheet

Storet/ WIN ID NUMBER: G3NW0077	DATE (M/D/Y): 08/22/2019	LAKE NAME: Sand Hammock Pond, Center		FIELD ID / NAME: G3NW0077
ECO-REGION: 61A	COUNTY: Holmes	SAMPLING LOCATION/DESCRIPTION: Esto, FL		LAKE SIZE: 52 Acres
PARAMETER	**Optimal**	**Suboptimal**	**Marginal**	**Poor**
HYDROLOGY	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates ☐	Surface water inflow present, but flow is rare, moderate to long water residence time ☐	Surface water inflow and outflow present (or outflow only), sometimes with visible flow, short water residence time ☐	Impounded; hydrology of system artificially controlled ☒
Color	Very clear, uncolored water (benthic sampling appropriate) ☐	Water somewhat tannin stained (benthic sampling appropriate) ☒	Dark, discolored water (water color 20 PCU or higher) ☐	Visibility extremely reduced due to high color ☐
Secchi 11	Secchi >3 m / Secchi(m) — Or VOB: 20 19 18 17 16	15 14 13 12 **11**	10 9 8 7 6	5 4 3 2 1
Vegetation Quality 10	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa: 20 19 18 17 16	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants: 15 14 13 12 11	Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats: **10** 9 8 7 6	Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed): 5 4 3 2 1
Stormwater Inputs 12	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation: 20 19 18 17 16	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place: 15 14 13 **12** 11	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place: 10 9 8 7 6	Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place: 5 4 3 2 1
Bottom Substrate Quality 8	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present: 20 19 18 17 16	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present: 15 14 13 12 11	Moderate layer of CPOM/mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom: 10 9 **8** 7 6	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom: 5 4 3 2 1
Lakeside Adverse Human Alterations 10	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%): 20 19 18 17 16	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected: 15 14 13 12 11	Many structures, roads or other human disturbance visible (50%-70%) lakeside affected): **10** 9 8 7 6	Highly developed or disturbed (>70% of lakeside affected): 5 4 3 2 1
Upland Buffer Zone 14	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer: 20 19 18 17 16	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer: 15 **14** 13 12 11	50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer: 10 9 8 7 6	< 29% of shoreline with >18m buffer: 5 4 3 2 1
Adverse Watershed Land Use 10	Score the potential effects from adverse human land uses, based on a continuum of amount and type, with least to most adverse as follows: Native vegetation, Silviculture, Pasture or Citrus, Low Density Residential, Row Crops, Commercial, High Density Residential, Urban, Industrial: 20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1

TOTAL SCORE	75	COMMENTS: Vegetation clumped Lake Margins (Edges) from boat access.

ANALYSIS DATE: 2/4/2019	ANALYST: Frank Butera,	SIGNATURE:

SBIO ID: 00124 HA ID: 16227 RQ:2019-07-22-18

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Sand Hammock Pond, Center	County: Holmes (Esto)	Date: 8/12/2016
Analyst: F. Butera	Signature: [signature]	STORET: G3NW0077

Except where noted as "sp." species level identification required. *Genera that may require lab verification*
Plants in bold= FLEPPC invasive exotic.

It is important to note dominant or co-dominant taxa (by areal extent) for each unit. Use "D" to denote dominant taxon, or "C" for the 2 co-dominant taxa.

Lake units sampled (circle one group): (1, 4, 7, 10 — circled) ~~2, 5, 8, 11~~ 3, 6, 9, 12

SBIO ID 80120 SPECIES	~~2~~ 1	~~5~~ 4	~~8~~ 7	~~11~~ 10	Collected? (√)
Acer rubrum					
Alternanthera philoxeroides					
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana	|	|		|	
Bacopa monnieri					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana					
Casuarina equisitifolia					
Centella asiatica					
Cephalanthus occidentalis	|	|		|	
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Cliftonia monophylla					
Colocasia esculenta					
*Commelina					
Crinum americanum					
***Cyperus alternifolius** (C. involucratus)					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus					
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Egeria densa					
Eichhornia crassipes					
*Eleocharis baldwinii					
*Eleocharis vivipara (cw spp)	|	|	|	|	
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium	|		|	|	
*Fuirena					
Fuirena scirpoidea	|		|	|	
Gordonia lasianthus					

Macro ID ______ SPECIES	~~2~~ 1	~~5~~ 4	~~8~~ 7	~~11~~ 10	Collected? (√)
Habenaria repens	|		|	|	
Hydrilla verticillata					
Hydrocotyle sp.					
Hygrophila polysperma					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica	|	|	|	|	
Juncus effusus	|	|		|	
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spiro. punctata)					
Lemna sp.					
Leucothoe racemosa (E. racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidamber styraciflua					
*Ludwigia arcuata					
*Ludwigia leptocarpa	|	|	|	|	
*Ludwigia linearis					
*Ludwigia octovalvis					
***Ludwigia peruviana**	|				√
*Ludwigia repens					
*Ludwigia grandiflora				|	
Luziola fluitans (H. carolinensis)					
Lyonia lucida					
Magnolia virginiana					
Mayaca fluviatilis	|				
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens					
Mimosa pigra					
Myrica cerifera					
Ludwigia unk. nativity	|	|	|	|	√
Lycopus	|	|	|		
Blue-Green Algae	|	|	|	|	
Erianthus giganteus		|			
~~RQ:2018-08-27-06~~					

LIMS ID 2110889 RQ-2019-07-22-18

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Sand Hammock Pond, Center Storet: G3NW0077 | Date: 8/12/2019 SBIO ID 80120 Macro ID

SPECIES	2	5	8	11	Collected? (√)
Myriophyllum aquaticum					
*Myriophyllum heterophyllum	C	C	C	C	✓
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis					
*Najas minor					
Nelumbo lutea					
Nitella spp.					
Nuphar sp.	1	1	1	1	
Nymphaea odorata	C	C	C	C	
Nymphoides aquatica					
Nyssa sylvatica var. biflora	1	1	1	1	
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon					
Panicum repens					
Paspalidium geminatum					
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Persea sp.					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii					
Pistia stratioides					
Pluchea sp.					
*Polygonum glabrum (densiflorum)					
*Polygonum hydropiperoides					
*Polygonum punctatum					
*Polygonum _____					
Pontederia cordata					
*Potamogeton diversifolius					
*Potamogeton illinoensis				1	✓
*Potamogeton pusillus					
*Potamogeton pectinatus (Stuck. pectinatus)					
Proserpinaca pectinata					
*Rhexia _____					
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora tracyi					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria lancifolia					
Sagittaria latifolia					
Pinus sp				1	
~~RQ-2018-08-27-06~~					

SPECIES	2	5	8	11	Collected? (√)
Salix caroliniana					
Salvinia minima					
Sambucus canadensis					
Sapium sebiferum					
Saururus cernuus					
Schinus terebinthifolius					
*Schoenoplectus californicus					
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani					
Scirpus cubensis (Oxycaryon cubense)					
Scirpus cyperinus	1	1		1	✓
*Sesbania _____					
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Spirodela polyrhiza					
Taxodium sp.	1	1	1	1	
Thalia geniculata					
Thelypteris palustris					
Triadenum virginicum	1	1	1	1	
Typha sp.					
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)					
*Utricularia floridana	1	1	1	1	
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia cornuta					
*Utricularia radiata					
Vallisneria americana					
*Websteria confervoides					
Wedelia trilobata (Sphag. trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica	1	1	1	1	
Zizaniopsis milacea					
Nymphoides cordata			1	1	
Rhynchospora sp					
Vitis	1				

*Schoenoplectus tabernaemontani = Scirpus validus

Lims ID 2110889

RQ-2019-07-22-18

Form FD 9000-2: COMPOSITE LAKE SAMPLING SHEET (< 1000 ACRES)

Date: 8/12/2019	Sand Hammock Pond	Gear used: (PONAR)	EKMAN	OTHER
Comments:				

Drop #	Depth (m)	Sediment Type (circle all that apply)	Drop #	Depth (m)	Sediment Type (circle all that apply)
1	2.0	sand, silt/clay, CPOM, muck, SAV	7		sand, silt/clay, CPOM, muck, SAV
2		sand, silt/clay, CPOM, muck, SAV	8		sand, silt/clay, CPOM, muck, SAV
3		sand, silt/clay, CPOM, muck, SAV	9		sand, silt/clay, CPOM, muck, SAV
4		sand, silt/clay, CPOM, muck, SAV	10		sand, silt/clay, CPOM, muck, SAV
5		sand, silt/clay, CPOM, muck, SAV	11		sand, silt/clay, CPOM, muck, SAV
6		sand, silt/clay, CPOM, muck, SAV	~~Sand 12~~	2.8	sand, silt/clay, CPOM, muck, SAV

CPOM = coarse particulate organic matter; SAV = submerged aquatic vegetation

WIN ID: G3NW0077 Field ID G3NW0077 RQ-2019-07-22-18 SBIO ID: 80120

WBID 61A Project. TMDL Studies (SMP 2019)

Paste map here and show location of each dredge drop and where water chemistry parameters were collected.

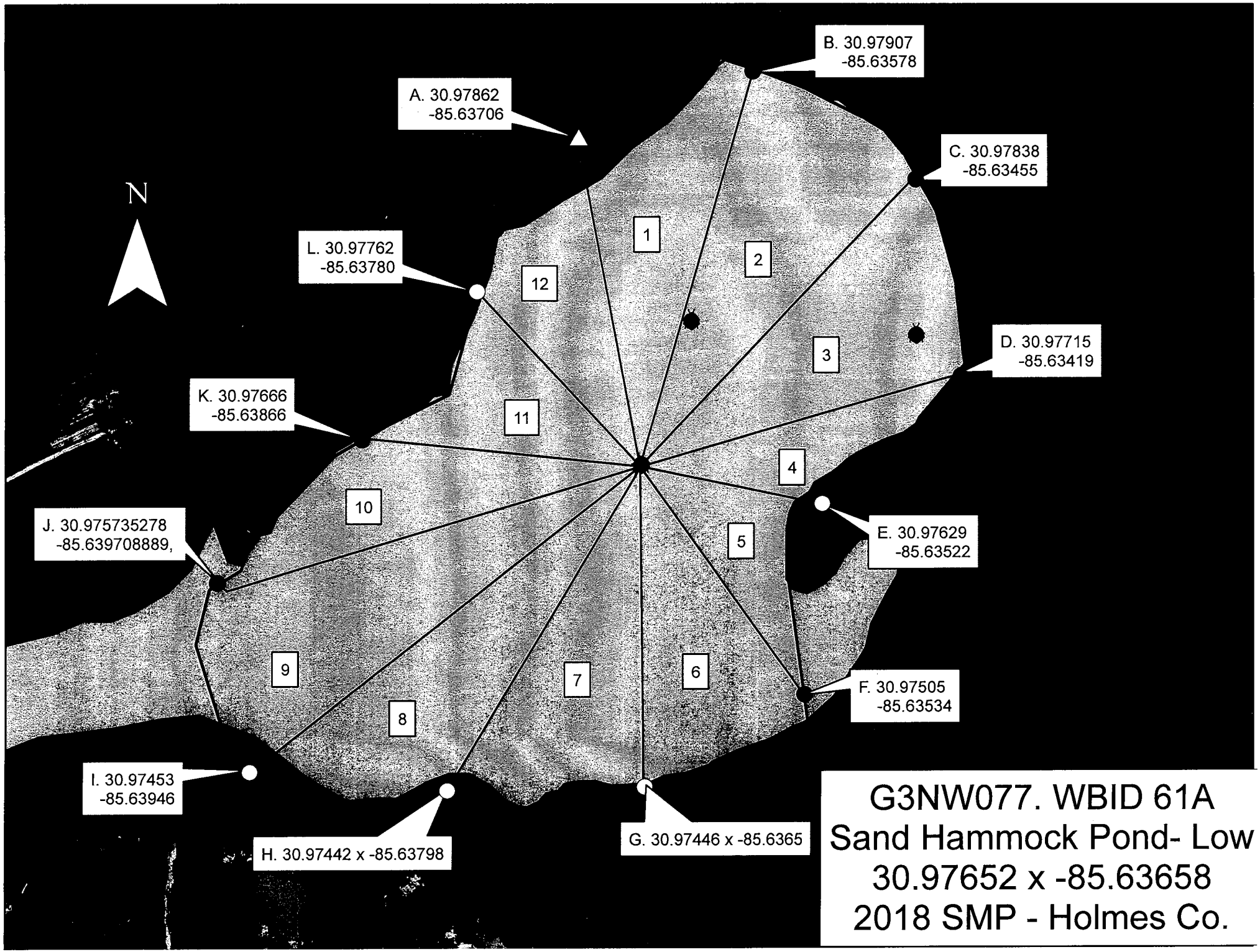
Photo Log
Storet G3NW0077
Station Name: Sand Hammock Pond, Center
Date: 08/12/2019
Samplers. F. Butera, M. King

1
2 Sect 11
3 Sect 7 - Cypress
4 Sect 7 - Cypress & Nymphaea
5 Sect. 4 - Shore
6 Sect. 4 - middle
7 Sect. 1 - Shore
8
9 Ludwigia peruviana
10 several
11
12 storet N
13 E
14 S
15 W
16
17

~~Unk.~~ Ludwigia
alternate, peruviana
~~Super hairy~~
4 petal
large yellow
Showy.
Giant,

Other
Ludwigia
Very hairy
alternate
No - flower
robust

Notes.


B. 30.97907
-85.63578
A. 30.97862
-85.63706
C. 30.97838
-85.63455
N
L. 30.97762
-85.63780
1
2
12
3
D. 30.97715
-85.63419
K. 30.97666
-85.63866
11
4
10
J. 30.975735278
-85.639708889,
E. 30.97629
-85.63522
5
9
7
6
F. 30.97505
-85.63534
8
I. 30.97453
-85.63946
H. 30.97442 x -85.63798
G. 30.97446 x -85.6365
G3NW077. WBID 61A
Sand Hammock Pond- Low
30.97652 x -85.63658
2018 SMP - Holmes Co.

Station: Sand Hammock Lake, Center
GPS Dec. 30.97652 x -85.63658
Storet: G3NW0077 WBID 61A
Sample ID : 80120
Macro ID: 11471

Sampled : 08/12/2019
Sampled By. F.Butera, M. King
Location. Esto, Holmes Co. FL
Receiving Waters: Texas Br.
LIMS ID: 2110889

Taxa	1	4	7	10	Coll.	Verified
Bacopa caroliniana	1	1		1		
Cephalanthus occidentalis	1	1		1		
Eleocharis vivipara (submersed)	1	1	1	1		
Eupatorium capillifolium	1		1	1		
Fuirena scirpoidea	1		1	1		
Habenaria repens	1		1	1		
Itea virginica	1	1	1	1		
Juncus effusus	1	1		1		
Leptochloa fascicularis	1	1	1	1		
Ludwigia (Unknown Nativity)*	1	1	1	1	Y	Spec. lost
Ludwigia grandiflora				1		
Ludwigia leptocarpa	1	1	1	1		
Ludwigia peruviana	1					
Lycopus sp.	1	1	1			
Mayaca fluviatilis	1					
Myriophyllum heterophyllum	C	C	C	C	Y	FB Lab
Nuphar sp.	1	1	1	1		
Nymphaea odorata	C	C	C	C		
Nymphoides cordata			1	1		
Nyssa sylvatica var. *biflora*	1	1	1	1		
Pinus sp.				1		
Potamogeton illinoensis				1	Y	FB Lab
Rhynchospora scirpoides			1		Y	FB
Saccharum giganteum		1				
Scirpus cyperinus	1	1		1	Y	FB
Taxodium sp.	1	1	1	1		
Triadenum virginicum	1	1	1	1		
Utricularia floridana	1	1	1	1		
Vitis sp.	1					
Taxa per section	22	17	18	22	Herb. Taxa	24
Exotic Present	1	0	0	1	Woody Taxa	5
Avg. taxa per section	20				Ferns	0
sections with exotics	2				Macro Algae	0
Exotic Taxa	2	Exotics per Section: 0.5			Total Taxa	29

Seen but not counted (Not approp. For LVI or Not in surveyed segment)

Green Algae	1	1	1	1

Lake margin vegetation has increased markedly since 2018 survey, limiting access to lake edge.
Leptochloa fascicularis. Field ID Zizania aquatica.

Request Number: RQ-2019-07-22-18
SMP LVI SAND HAMMOCK POND

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: NW-DIST
Project ID: SMP

Requester: Michael King
Collected By: Frank Butera M. King
Field Report Prepared By: F Butera
Sampling Agency: FL DEP NW ROC

Location / Field ID / WIN/STORET	**Field/WIN ID →** G3NW0077 Location: Sand Hammock Pond at Center (also, 32010038)	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 8/12/2019 Time 12:00	Eastern / Central (circled)	Composite end Date / Time		Bottle Group(s) (See pg 2): A
		Matrix (type, e.g., Salt, Fresh, etc): Fresh		Diss. Oxygen: 5.28 ☑ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
		Temp (C): 31.8	pH: 5.93	Sample Depth: 0.3 ☐ ft ☑ m	Sp. Conductance (umho/cm): 25.8		
Latitude ☐ dms	☐ dms	Salinity (ppt): 0.01	Comments				
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				
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				
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				

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
F Butera	8/12/2019 ~~12:00 CT~~ 15:30 CTZ	Fed Ex	1	Tyler Reynolds	08/13/19 @ 10:00

Group: A	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab 1
	ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-SO4-IC W-TDS W-TSS					

Group: A	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab 1
	CHLSUITE-W					

Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab 1
	W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC		H2SO4 LOT# SA9010030 EXP: 04/10/2020			

Group: A	Bottle Type:	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab 1
	W-PO4-F					