A-KIT

PAGE 1 OF 1

Data Qualified? Yes / No

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2017

STORET Station Name: HAMMOCK LAKE - REF. LAKE **Date:** 6-22-17 (mm/dd/yyyy)

STORET Station ID: ~~HAM~~ 23010467 **WBID:** _____ **Latitude:** _____ (Decimal Degrees)

County: POLK **RQ -** 2017-06-19-31 **ORG ID:** 21FLTPA **Longitude:** _____ (Decimal Degrees)

Receiving Body of Water: _____ **Field ID:** HAMMOCKLK

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
JUDY ASHTON	X			X	
LAURIE BACHER		X	X		X

Sampling Equipment

- [X] Sample Container
- [ ] Carboy
- [ ] Dipper
- [ ] Van Dorn
- [ ] Syringe
- [ ] Other
- [ ] Pole

Equipment ID _____

Collection Method

- [ ] Wading
- [ ] From Shore
- [X] Other (note below) AIRBOAT

Via Boat
- [ ] Canoe/Kayak
- [ ] Electric Motor
- [X] Gasoline Motor

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

Matrix: (Fresh) / Marine / DI

Meter ID# LIL JON **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°)
(EST)	1000	0.3	3.3	6.8	88	7.1	0.06	0.5	129	28.2
CEN		2.8		4.9	63	7.2	0.06		130	27.8

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

SBIO ID Numbers: SBIO-ID: 77741 RPS-ID: Macrophyte-ID: 10546 LIMS#: 1908518

Parameter Suite	Parameter Methods	Preservation	Acid 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			[X] <2
Metals	[ ] W-ICPMS [ ] W-ICP	[ ] Ice [ ] HNO_3			[ ] <2
Filtered Nutrients	[X] W-PO4-F [ ] 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-F / W-TSS / TURBIDITY	[ ] Ice			
Macroinvertebrates	[ ] MI-FW-QLDC	[ ] Formalin			
Periphyton	[ ] ALGAE-ID	[ ] Ice			
Microbiology	[ ] E Coli [ ] F Coli [ ] Entero [ ] PCR-FILTER	[ ] Ice			
Tracers	[ ] W-SUC-AA-R [ ] W-UHERB-AA	[ ] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-AHERB-AA [ ] W-PYR-AA-R [ ] W-PCL-SQ-R [ ] W-UHERB-AA [ ] W-GLYPH	[ ] Ice [ ] Other			
Flow	"J" Qualify Flow				

Contains 1:1 Sulfuric Acid SA-7093010 EXP: 04/03/18 Warning! See SDS

Contains Nitric Acid ... Warning! See SDS

Notes: Event 06-23-01

RQ-2017-06-19-31
Date: 06/22/17
Time:
Hammock Lake

HAMMOCKLK
↓STORET Field ID ↑
23010467

Signature: _____ Date: 6-22-17

Field Parameters Entered into LIMS: SM 07/11/2017 (Initials/Date) Field Parameters QC in LIMS: SM 08/29/2017 & BIO (Initials/Date)

Date Migrated to STORET: _____ (Initials/Date) Field Sheets Scanned/Saved: _____ (Initials/Date)

Form FD9000-27 Lake Vegetation Index Data Sheet (06-21-11)

Waterbody: Hammock Lakes | County: Polk | Date: 6-22-17

Analyst: Judy Ashton | Signature: Judy Ashton | STORET: 23010467

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 | 2, 5, 8, 11 | 3, 6, 9, 12

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

SPECIES	2	5	8	11	Collected? (√)
Habenaria repens					
Hydrilla verticillata					
Hydrocotyle sp.			X	X	
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	X			X	
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.	X				
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidamber styraciflua					
*Ludwigia arcuata					
*Ludwigia leptocarpa					
*Ludwigia linearis					
*Ludwigia octovalvis					
***Ludwigia peruviana**	X	C	D	C	
*Ludwigia repens					
*Ludwigia					
Luziola fluitans (Hydrochloa carolinensis)					
Lyonia lucida					
Magnolia virginiana	X	C	X	C	
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens		X	X	X	
Mimosa pigra					
Myrica cerifera	X	X	X	X	
PLANT					
SESBANIA	X				
~~CEPHALANTHUS OCCIDENTALIS~~	X				
SAGITTARIA GRAMINEA	X	X			
AMPHICARPUM				X	
				X	
FERN ?				X	
PERSIMMON		X		X	

→ DIOSPYROS VIRGINIANA

Site: HAMMOCK LAKE Date: 6-22-17

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

SPECIES	2	5	B	H	Collected? (√)
Salix caroliniana			X		
Salvinia minima	X				
Sambucus canadensis					
Sapium sebiferum					
Saururus cernuus	X	X			
Schinus terebinthifolius					
*Schoenoplectus californicus					
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani (Scirpus validus)					
Scirpus cubensis (Oxycaryon cubense)	X	X	X	X	
Scirpus cyperinus					
*Sesbania	X				
Solidago sp.					
Sparganium americanum					
Spartina bakeri	X		X		
Spirodela polyrhiza					
Taxodium sp.					
Thalia geniculata					
Thelypteris palustris	X	X	X	X	
Triadenum virginicum					
Typha sp.		X	X	X	
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)					
*Utricularia floridana					
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia cornuta					
*Utricularia radiata					
Vallisneria americana					
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					
PINUS ELLIOTTII	X			X	
~~ROSA~~		X			
VITIS			X		

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: _____

COUNTY: POLK STORET #: 23010467 LONGITUDE: _____

DATE: 6-22-17 TIME: 1000 SAMPLING AGENCY: FDEP

SITE NAME: HAMMOCK LAKE - REF. LAKE WBID: _____

FIELD ID/NAME: HAMMOCK LK LAKE SIZE: L RQ: 2016-06-19-31

WATERSHED / LAKESIDE FEATURES

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

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
~~80~~ 50		10	10	10	10	10	

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: _____

Land Use Source & Year:

Local Watershed Erosion (select one): [X] None [ ] Slight [ ] Moderate [ ] Heavy

Local Watershed NPS Pollution: [ ] No evidence [X] Slight [ ] Moderate [ ] Heavy

Artificially Impounded [ ] Yes [X] No

STORMWATER INPUTS 19	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 19	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 18	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? [X] Yes [ ] No Preserved? [X] Yes [X] pH<2 [ ] No

Color Sample Taken? [ ] Yes [X] No Lot # _____ Exp. Date: _____

Alkalinity Sample Taken? [X] Yes [ ] No

Water Level [ ] Low [X] Normal [ ] High

Water Odors: [X] Normal [ ] Sewage [ ] Petroleum [ ] Other _____

Water Surface Oils: [X] 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	28.2	7.1	6.8	88	129	0.06
Mid-Depth:							
Bottom:	2.8	27.8	7.2	4.9	63	130	0.06

Meter ID: _____

Clarity: [X] Clear [ ] Opaque [ ] Turbid [ ] Slightly Turbid

Color: [ ] Clear [X] Tannic [ ] Green

SECCHI (M) 0.5 VOB [ ]

Total Station Depth (M) 3.3

Sediment Type: (may check more than one) Sample Taken? [ ] Yes [X] No

[X] Sandy [X] Organic fibrous (peaty, CPOM) [ ] Vegetated

[ ] Sand/Silt [ ] Organic smooth (muck) [ ] Other (Specify): _____

Sediment Odors: [X] Normal [ ] Other (Specify): _____ [ ] Anaerobic

Biological Communities:

LVI Conducted? [X] Yes [ ] No

Phytoplankton Sample Taken? [ ] Yes [X] No

Sample Preserved? [ ] Yes [ ] No

Lot #: _____ Exp Date: _____

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

Active Vegetation Mgmt? [X] Yes [ ] No [ ] Don't Know

Abundance:

	Absent	Rare	Common	Abundant
Periphyton	[ ]	[X]	[ ]	[ ]
Nuisance Plants	[ ]	[ ]	[X]	[ ]
Submersed Plants	[ ]	[X]	[ ]	[ ]
Exotic Apple Snails	[X]	[ ]	[ ]	[ ]

Additional Notes:

Weather Conditions :

PARTLY CLOUDY

SAMPLING TEAM: JUSTY ASHTON, LAURIE BAXTER SIGNATURE: _____ DATE: 6-22-17

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

Lake Habitat Assessment Field Sheet

STORET STATION NUMBER: 23010467	DATE (M/D/Y): 6-22-17	LAKE NAME: HAMMOCK LAKE	FIELD ID / NAME: HAMMOCKLK
ECO-REGION:	COUNTY: POLK	SAMPLING LOCATION/DESCRIPTION:	LAKE SIZE: L

PARAMETER				
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 ☐

	Optimal					Suboptimal					Marginal					Poor				
Secchi 5	Secchi >3 m		Secchi(m)			3	2.6	2.2	1.8	1.4	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1
	Or VOB	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Vegetation Quality 13	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa					Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants					Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats					Lake choked (>40%) with nuisance macrophytes (duck-weed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Stormwater Inputs 19	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
Bottom Substrate Quality 18	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present					Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present					Moderate layer of CPOM/ mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom					Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Lakeside Adverse Human Alternations 19	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%)					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
Upland Buffer Zone 18	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
Adverse Watershed Land Use 8	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	100	COMMENTS:

ANALYSIS DATE: 6-22-17	ANALYST: Judy Ashton	SIGNATURE: Judy

last revised Apr 7, 2016

Request Number: RQ-2017-06-19-31
Reference Hammock Lake

Customer: SW-DIST
Project ID: LAKESREF

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Requester: Judy Ashton
Collected By: Judy Ashton, L. Bachler
Field Report Prepared By: Judy Ashton
Sampling Agency: FDEP

Location	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 6-22-17 Time 1000	Eastern (circled) / Central	Composite end Date Time (struck through)	Bottle Group(s) (See pg 2) 4
Field ID RQ-2017-06-19-31 Date: 06/22/17 HAMMOCKLK (↓STORET Field ID ↑) 23010467	Matrix (type, e.g., Salt, Fresh (circled), etc)		Diss. Oxygen 6.8 ☒ mg/L ☐ % sat (struck through)	Total Res. Chlorine (mg/L) (struck through)	
STORET Time: Hammock Lake	Temp (C) 28.2	pH 7.1	Sample Depth 0.3 ☐ ft ☒ m	Sp. Conductance (umho/cm) 129	
Latitude ☐ dms	☐ dd ☐ dms	Salinity (ppt) 0.06	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)	
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)	
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)	
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
J. Ashton	6-22-17 1700	Fed Ex	1		