

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: N 30.4851355
COUNTY: Washington STORET #: _____ LONGITUDE: W 85.5917421
DATE: 7-10-2017 TIME: 11:30 SAMPLING AGENCY: FL DEP - NWROC
SITE NAME: Hammock Lake WBID: 686
FIELD ID/NAME: Z1-LL-11005 LAKE SIZE: 389 RQ: N/A

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) :										LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)										
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)													
☒	☒	☐	☐	☐	☐	☐	☐													
Local Watershed Erosion (select one) : ☐ None ☐ Slight ☒ Moderate ☐ Heavy								Artificially Impounded			LDI:									
Local Watershed NPS Pollution : ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy								☐ Yes ☒ No			Land Use Source & Year:									
STORMWATER INPUTS		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									
<u>20</u>		19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
LAKESIDE ALTERATIONS		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)									
<u>20</u>		19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
BUFFER ZONE		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									
<u>20</u>		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 # _____ Exp. Date: _____ Alkalinity Sample Taken? ☐ Yes ☒ No Water Level ☐ Low ☐ Normal ☒ High										Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____									
Meter Readings: Top: <u>0.3</u> <u>34.7</u> <u>4.7</u> <u>6.8</u> <u>92</u> <u>16</u> <u>0.0</u> Mid-Depth: _____ Bottom: <u>2.0</u> <u>30.4</u> <u>4.9</u> <u>6.7</u> <u>89</u> <u>16</u> <u>0.0</u> Meter ID: <u>113529</u>										Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____									
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Sand/Silt ☐ Organic smooth (muck)										Clarity: ☐ Clear ☒ Slightly Turbid ☐ Opaque ☐ Turbid Color: ☒ Clear ☐ Tannic ☐ Green									
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 ☒ ☐ ☐ ☐									
Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____										Additional Notes: <u>High-water MAP.</u> <u>SAND/CLAY Roads</u> <u>Silviculture, Litter</u>									
Weather Conditions: <u>Scattered Thunderstorms. Overcast</u>																			
SAMPLING TEAM: Frank Butera, Stopher Slade										SIGNATURE: <u>[Signature]</u> DATE: <u>7/10/2017</u>									

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
Lake Habitat Assessment Field Sheet

STORET STATION NUMBER:	DATE (M/D/Y) 07/10/17	LAKE NAME: Hammock Lake (Z1-LL-11005)		FIELD ID / NAME: Z1-LL-11005	
ECO-REGION: 686	COUNTY: Washington	SAMPLING LOCATION/DESCRIPTION: Off of Greenhead Rd.		LAKE SIZE: 384	
PARAMETER	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 ☐	
HYDROLOGY					
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 ☒	Secchi > 3 m Or VOB 20 19 18 17 16	3 2.6 2.2 1.8 1.4 15 14 13 12 11	1.0 0.9 0.8 0.7 0.6 10 9 8 7 6	0.5 0.4 0.3 0.2 0.1 5 4 3 2 1	
Vegetation Quality ☒	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 ☒	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 ☒	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 ☒	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 ☒	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 ☒	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 137	COMMENTS:				

ANALYSIS DATE: 7/14/2017	ANALYST: Frank Butera, Stopher Slade	SIGNATURE: 
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DEP-SOP-001/01
FS 7000 General Biological Community Sampling

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

Date: 7-10-17	Name of Lake: Hammock Lake. Z1-LL-11005	Gear used: PONAR 1-1-1c	EKMAN	OTHER	
Comments:					
Drop #	Depth (m)	Sediment Type (circle all that apply)	Drop #	Depth (m)	Sediment Type (circle all that apply)
1		sand, silt/clay, CPOM, muck, SAV	7	3.1	VOB 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	4.2	VOB sand, silt/clay, CPOM, muck, SAV	10	2.4	VOB 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	12		sand, silt/clay, CPOM, muck, SAV

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

Storet
WBID 686

Field ID Z1LL11005 Project. Status Large 2017

SBIO ID:

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

Revision Date: February 1, 2004

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Hammock Lake (Z1-LL-11005)		County: Washington		Date: 7-10-17	
Analyst: F. Butera		Signature:		STORET:	
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	
SBIO ID	147100	Collected?	Macro ID		Collected?
SPECIES		(✓)	SPECIES		(✓)
Acer rubrum			Habenaria repens		
Alternanthera philoxeroides			Hydrilla verticillata		
Andropogon sp.			Hydrocotyle sp.		
Azolla filiculoides (A. caroliniana)			Hygrophila polysperma		
Baccharis sp.			*Hypericum fasciculatum		
Bacopa caroliniana			*Hypericum hypericoides		
Bacopa monnieri			*Hypericum myrtifolium		
Bidens laevis			Ilex cassine		
Bidens mitis			Ipomoea aquatica		
Blechnum serrulatum			Ipomoea sagittata		
Boehmeria cylindrica			Itea virginica		
Brasenia schreberi	1	1	Juncus effusus		
Cabomba caroliniana			*Juncus marginatus		
Casuarina equisetifolia			*Juncus megacephalus		
Centella asiatica			Juncus repens		
Cephalanthus occidentalis	1	1	*Juncus scirpoides		
Ceratophyllum demersum	1	1	Lachnanthes caroliniana		
Chara sp.			Leersia hexandra	1	1
Cladium jamaicense			Landoltia punctata (Spiro. punctata)		
Cliftonia monophylla			Lemna sp.		
Colocasia esculenta			Leucothoe racemosa (Eubotrys racemosa)		
*Commelina			Limnium spongia		
Crinum americanum			Limnophila sessiliflora		
* Cyperus alternifolius (C. involucratus)			Liquidambar styraciflua		
Cyperus articulatus			*Ludwigia arcuata		
Cyperus haspan			*Ludwigia leptocarpa		
*Cyperus lecontei			*Ludwigia linearis		
*Cyperus polystachyos			*Ludwigia octovalvis		
*Cyperus odoratus			* Ludwigia peruviana		
*Cyperus surinamensis	1	1	*Ludwigia repens Catherinella	1	1
Cyrtilla racemiflora	1	1	*Ludwigia subfruticosa	1	1
Decodon verticillatus			Luziola fluitans (Hydrochloa carolinensis)		
Diodia virginiana			Lyonia lucida		
*Echinochloa crus-galli			Magnolia virginiana		
*Echinochloa muricatum			Mayaca fluviatilis		
Echinochloa walteri			Melaleuca quinquenervia		
Eclipta prostrata (E. alba)			Micranthemum glomeratum		
Egeria densa			Micranthemum umbrosum		
Eichhornia crassipes			Mikania scandens		
*Eleocharis baldwinii			Mimosa pigra		
*Eleocharis lineare	1	1	Myrica cerifera		
Eleocharis cellulosa			Hypochaeris lissophylla	1	1
Eleocharis equisetoides			NOT Rhoxia (RHS)	1	1
Eleocharis interstincta			Speltis, opposite leaves	1	1
*Eriocaulon compressum			Eragrostis spectabilis	1	1
*Eriocaulon decangulare	1	1	Juncus polycephalus		
Eupatorium capillifolium	1	1			
*Fuirena					
Fuirena scirpoidea	1	1			
Gordonia lasianthus					

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Hammock Lake (Z1-LL-11005). Storet.				Date: 7-14-17	SBIO ID	Macro ID					
SPECIES	1	4	7	LD	Collected? (✓)	SPECIES	1	4	7	LD	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana					
*Myriophyllum heterophyllum						Salvinia minima					
*Myriophyllum laxum						Sambucus canadensis					
*Myriophyllum pinnatum						Sapium sebiferum					
Myriophyllum spicatum						Saururus cernuus					
*Najas filifolia						Schinus terebinthifolius					
*Najas guadalupensis						*Schoenoplectus californicus					
*Najas minor						*Schoenoplectus pungens					
Nelumbo lutea						*Schoenoplectus tabernaemontani (Scirpus validus)					
Nitella spp.						Scirpus cubensis (Oxycaryon cubense)					
Nuphar sp.	1	1	1			Scirpus cyperinus					
Nymphaea odorata		1				*Sesbania					
Nymphoides aquatica	1	1	1	1		Solidago sp.					
Nyssa sylvatica var. biflora						Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza					
Osmunda regalis						Taxodium sp.					
Panicum hemitomon	1	1	1	1		Thalia geniculata					
Panicum repens						Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum					
*Paspalum repens						Typha sp.					
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana	1	DD	C		
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii						*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta	1				
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*Polygonum hydropiperoides						*Websteria confervoides		+			
*Polygonum punctatum						Wedelia trilobata (Sphag. trilobata)					
*Polygonum						Wolffiella spp.					
Pontederia cordata	1	1				Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.		1	1	1	
*Potamogeton illinoensis						Zizania aquatica		1	1	1	
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuck. pectinatus)											
Proserpinaca pectinata						Amphicarpum (sep. bag)	1				✓ P
*Rhexia sp.											
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis		1									
Sagittaria lancifolia											
Sagittaria latifolia											
Myriophyllum sp. (sep. bag)	1			1	✓ P						