

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Melva					County: Broward					Date: 06/22/2023				
Analyst: Andrew Lueling, Charlie Hoey					Signature: AL/CH					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				
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)			
Acer rubrum						Gordonia lasianthus								
Acrostichum danaeifolium						Habenaria repens								
Alternanthera philoxeroides						Hydrilla verticillata								
Andropogon sp.						Hydrocotyle sp.	X							
Annona glabra	X					Hygrophila polysperma								
Azolla filiculoides (A. caroliniana)						*Hypericum fasciculatum								
Baccharis sp.						*Hypericum hypericoides								
Bacopa caroliniana						*Hypericum myrtifolium								
Bacopa monnieri	X					Ilex cassine								
Bidens laevis						Ipomoea aquatica								
Bidens mitis						Ipomoea sagittata								
Blechnum serrulatum						Itea virginica								
Boehmeria cylindrica	X			X		Juncus effusus								
Brasenia schreberi						*Juncus marginatus								
Cabomba caroliniana						*Juncus megacephalus								
Casuarina equisetifolia	X					Juncus repens								
Centella asiatica						*Juncus scirpoides								
Cephalanthus occidentalis						Lachnanthes caroliniana								
Ceratophyllum demersum						Leersia hexandra								
Chara sp.						Landoltia punctata (Spirodela punctata)								
Cladium jamaicense						Lemna sp.								
Cliftonia monophylla						Leucothoe racemosa (Eubotrys racemosa)								
Colocasia esculenta						Limnobium spongia								
*Commelina _____						Limnophila sessiliflora								
Crinum americanum						Liquidambar styraciflua								
*Cyperus alternifolius (C. involucratus)						*Ludwigia arcuata								
Cyperus articulatus						*Ludwigia leptocarpa								
Cyperus blepharoleptos						*Ludwigia linearis								
Cyperus haspan						*Ludwigia octovalvis	X							
*Cyperus lecontei						*Ludwigia peruviana								
*Cyperus polystachyos						*Ludwigia repens								
*Cyperus odoratus	X	X				*Ludwigia _____								
*Cyperus surinamensis						Luziola fluitans (Hydrochloa carolinensis)								
Cyrtilla racemiflora						Lyonia lucida								
Decodon verticillatus						Magnolia virginiana								
Diodia virginiana						Mayaca fluviatilis								
*Echinochloa crus-galli						Melaleuca quinquenervia								
*Echinochloa muricatum						Micranthemum glomeratum								
Echinochloa walteri						Micranthemum umbrosum								
Eclipta prostrata (E. alba)						Mikania scandens								
Egeria densa						Mimosa pigra								
Eichhornia crassipes						Myrica cerifera								
*Eleocharis baldwinii						Chrysobalanus icaco (Cocoplum)	X							
Eleocharis cellulosa						Melaleuca viminalis (Weeping Bottlebrush)	X	X	X	X				
Eleocharis equisetoides						Coccoloba uvifera (Seagrapes)		X	C	X				
Eleocharis interstincta						Musa sp. (Banana Plant)			X					
Eleocharis vivipara						Cocos nucifera				X				
*Eleocharis _____														
*Eriocaulon compressum														
*Eriocaulon decangulare														
Eupatorium capillifolium														
*Fuirena _____														
Fuirena scirpoidea														

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Site: Lake Merva						Date: 06/22/2023					
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Myriophyllum aquaticum						Sapium sebiferum					
*Myriophyllum heterophyllum						Saururus cernuus					
*Myriophyllum laxum						Schinus terebinthifolius	X	D	C	D	
*Myriophyllum pinnatum						*Schoenoplectus californicus					
Myriophyllum spicatum						*Schoenoplectus pungens					
*Najas filifolia						*Schoenoplectus tabernaemontani (Scirpus validus)					
*Najas guadalupensis						Scirpus cyperinus					
*Najas minor						*Sesbania _____					
Nelumbo lutea						Solidago sp.					
Nitella spp.						Sparganium americanum					
Nuphar sp.						Spartina bakeri					
Nymphaea odorata						Spirodela polyrrhiza					
Nymphoides aquatica						Taxodium sp.				X	
Nyssa sylvatica var. biflora						Thalia geniculata					
Orontium aquaticum						Thelypteris palustris					
Osmunda cinnamomea						Triadenum virginicum					
Osmunda regalis						Typha sp.	D				
Panicum hemitomom						Urochloa mutica (Brachiaria mutica)					
Panicum repens			X	X		*Utricularia gibba (U. biflora)					
Paspalidium geminatum						*Utricularia floridana					
*Paspalum repens						*Utricularia foliosa					
Paspalum urvillei						*Utricularia inflata					
Peltandra sp.						*Utricularia purpurea					
Persea sp.						*Utricularia cornuta					
Pennisetum purpureum						*Utricularia radiata					
Phragmites australis						Vallisneria americana					
Pinus elliotii						*Websteria confervoides					
Pistia stratioides						Wedelia trilobata (Sphagneticola trilobata)					
Pluchea sp.						Wolffiella spp.					
*Persicaria glabrum (densiflorum)						Woodwardia virginica					
*Persicaria hydropiperoides						Xyris sp.					
*Persicaria punctatum						Zizania aquatica					
*Persicaria _____						Zizaniopsis milacea					
Pontederia cordata											
*Potamogeton diversifolius											
*Potamogeton illinoensis											
*Potamogeton pusillus											
*Potamogeton pectinatus (Stuckenia pectinatus)											
Proserpinaca pectinata											
*Rhexia _____											
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											
Salix caroliniana	X										
Salvinia minima											
Sambucus canadensis											

LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____

MACROPHYTE ID: _____

LATITUDE: _____

COUNTY: Broward

STORET #: _____

LONGITUDE: _____

DATE: 01/22/2023TIME: 0915SAMPLING AGENCY: SE ROCSITE NAME: Lake MelvaWBID: 3274AFIELD ID/NAME: 04SE0156LAKE SIZE: _____ RQ: 2023-01-19-30

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)														
				<u>700</u>	<u>20</u>																
Local Watershed Erosion (select one) : ☐ None ☒ Slight ☐ Moderate ☐ Heavy										Artificially Impounded ☐ Yes ☒ No											
Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy																					
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>1</u>		20	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>1</u>		20	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>1</u>		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 # <u>3A3013020</u> Exp. Date: <u>11/25/24</u> Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☒ Normal ☐ High										Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____									
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>30.1</u> <u>8.26</u> <u>7.35</u> <u>97.4</u> <u>303.7</u> <u>0.14</u> Mid-Depth: _____ Bottom: _____										Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____									
Meter ID: <u>HODOR</u>										Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☐ Clear ☐ Tannic ☒ Green									
Sediment Type: (may check more than one) ☒ 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:																			
Weather Conditions : <u>mostly sunny</u>																			
SAMPLING TEAM: <u>Charlie Hoey/Andrew Luering</u>										SIGNATURE: <u>CA/AL</u>					DATE: <u>01/22/23</u>				

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

STORET STATION NUMBER:	DATE (M/D/Y) <u>01/22/23</u>	LAKE NAME <u>Lake Melva</u>		FIELD ID / NAME: <u>045E0150</u>
ECO-REGION:	COUNTY: <u>Broward</u>	SAMPLING LOCATION/DESCRIPTION: <u>middle of east shore</u>		LAKE SIZE:
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 <u>20</u>	Secchi ≥ 3 m Or VOB <u>20</u> 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 <u>1</u>	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 <u>1</u>
Stormwater Inputs <u>1</u>	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 <u>1</u>
Bottom Substrate Quality <u>10</u>	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 20 19 18 17 <u>16</u>	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 <u>1</u>
Lakeside Adverse Human Alterations <u>1</u>	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 <u>1</u>
Upland Buffer Zone <u>1</u>	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 <u>1</u>
Adverse Watershed Land Use <u>2</u>	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 <u>2</u> 1			
TOTAL SCORE <u>42</u>	COMMENTS:			

ANALYSIS DATE: <u>01/22/23</u>	ANALYST: <u>Charlie Hoey</u> <u>Andrew Luerking</u>	SIGNATURE: <u>CA/AL</u>
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