

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Margate Lake</u>		County: <u>Broward</u>		Date: <u>11/20/2022</u>							
Analyst: <u>A. Luning / J. Skaggs</u>		Signature: <u>Ashley Skaggs</u>		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 <u>2, 5, 8, 11</u> 3, 6, 9, 12							
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Acer rubrum						Gordonia lasianthus					
Acrostichum danaeifolium						Habenaria repens					
Alternanthera philoxeroides						Hydrilla verticillata					
Andropogon sp.						Hydrocotyle sp.					
Annona glabra						Hygrophila polysperma					
Azolla filiculoides (A. caroliniana)						*Hypericum fasciculatum					
Baccharis sp.						*Hypericum hypericoides					
Bacopa caroliniana						*Hypericum myrtifolium					
Bacopa monnieri						Ilex cassine					
Bidens laevis						Ipomoea aquatica					
Bidens mitis						Ipomoea sagittata					
Blechnum serrulatum						Itea virginica					
Boehmeria cylindrica						Juncus effusus					
Brasenia schreberi						*Juncus marginatus					
Cabomba caroliniana						*Juncus megacephalus					
Casuarina equisetifolia						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						Limnium 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					
*Cyperus lecontei						*Ludwigia peruviana					
*Cyperus polystachyos						*Ludwigia repens					
*Cyperus odoratus						*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											
Eleocharis cellulosa											
Eleocharis equisetoides											
Eleocharis interstincta											
Eleocharis vivipara											
*Eleocharis											
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea											

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Site:					Date:						
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Myriophyllum aquaticum						Sapium sebiferum					
*Myriophyllum heterophyllum						Saururus cernuus					
*Myriophyllum laxum						Schinus terebinthifolius					
*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 polyrhiza					
Nymphoides aquatica						Taxodium sp.					
Nyssa sylvatica var. biflora						Thalia geniculata					
Orontium aquaticum						Thelypteris palustris					
Osmunda cinnamomea						Triadenum virginicum					
Osmunda regalis						Typha sp.			P		
Panicum hemitomon						Urochloa mutica (Brachiaria mutica)					
Panicum repens		P	P	P		*Utricularia gibba (U. biflora)					
Paspalidium geminatum						*Utricularia floridana					
*Paspalum repens						*Utricularia foliosa					
Paspalum urvillei						*Utricularia inflata					
Peltandra sp.						*Utricularia purpurea					
Persea sp.						*Utricularia comuta					
Pennisetum purpureum						*Utricularia radiata					
Phragmites australis						Vallisneria americana					
Pinus elliotii						*Websteria confervoides					
Pistia stratioides						Wedelia trilobata (Sphagneticola trilobata)			P	P	P
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											
Salvinia minima											
Sambucus canadensis											

DEP Form FD 9000-6: Lake Habitat Assessment Field Sheet

STORET STATION NUMBER:	DATE (M/D/Y) 11/20/2023	LAKE NAME Margate Lake		FIELD ID / NAME: 64SE0169
ECO-REGION:	COUNTY: Broward	SAMPLING LOCATION / DESCRIPTION: Margate Lake Near Center		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 ☐ 20	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 ☐ 15	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 ☐ 1	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 ☐ 20	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 ☐ 1	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 ☐ 1	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 ☐ 3	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 ☐ 61	COMMENTS:			

ANALYSIS DATE: 11/20/2023	ANALYST: Andrew Luering / Jordan Skaggs	SIGNATURE: 
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DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ **MACROPHYTE ID:** _____ **LATITUDE:** 26.2428
COUNTY: Broward **STORET #:** _____ **LONGITUDE:** -80.2118
DATE: 11/20/2023 **TIME:** _____ **SAMPLING AGENCY:** SE-015
SITE NAME: C-14 Cypress Creek Canal Pompano **WBID:** 3270A
FIELD ID/NAME: Margate Lake Near Center G4SE0149 **LAKE SIZE:** _____ **RQ:** 2023-06-12-68

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) ☐						LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI:					
Local Watershed Erosion (select one) : ☐ None ☐ Slight ☒ Moderate ☐ Heavy						Artificially Impounded ☐ Yes ☒ No					
Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy											
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 1			
LAKESIDE ALTERATIONS <u>1</u>		Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected) 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			
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 1			

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water: Nutrient Sample Taken? ☒ Yes ☐ No Preserved? ☒ Yes ☐ No 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>24.5</u> <u>7.84</u> <u>7.99</u> <u>96</u> <u>341.2</u> <u>0.16</u> Mid-Depth: <u>2.0</u> <u>24.3</u> <u>7.92</u> <u>8.06</u> <u>96.2</u> <u>331.5</u> <u>0.16</u> Bottom: <u>3.0</u> <u>24.3</u> <u>7.27</u> <u>7.27</u> <u>868</u> <u>334.0</u> <u>0.16</u> Meter ID: <u>Hodder 7.74</u>						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____					
Sediment Type: (may check more than one) ☒ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Vegetated ☐ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____						Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly 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 ☐ Other (Specify): _____ ☐ Anaerobic						SECCHI (M) <u>3.5</u> Total Station Depth (M) <u>3.5</u> VOB ☒					
Weather Conditions :											
SAMPLING TEAM:						SIGNATURE:			DATE:		