

(Initials/Date)

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Paradise Lake</u>	County: <u>Clay Co.</u>	Date: <u>6/18/19</u>									
Analyst: <u>Jeremy Farnum</u>	Signature: _____	STORET: <u>62NE1198</u>									
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						Habenaria repens					
Alternanthera philoxeroides						Hydrilla verticillata					
Andropogon sp.						Hydrocotyle sp.	P		P		
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.						*Hypericum fasciculatum					
Bacopa caroliniana			P			*Hypericum hypericoides					
Bacopa monnieri						*Hypericum myrtifolium					
Bidens laevis						Ilex cassine					
Bidens mitis						Ipomoea aquatica					
Blechnum serrulatum						Ipomoea sagittata					
Boehmeria cylindrica						Itea virginica					
Brasenia schreberi						Juncus effusus					
Cabomba caroliniana						*Juncus marginatus	P	P	P	P	
Casuarina equisetifolia						*Juncus megacephalus	P	P	P		
Centella asiatica						Juncus repens					
Cephalanthus occidentalis			P			*Juncus scirpoides	P	P		P	
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.	P	C	P	P		Leersia hexandra	D	C	D	D	
Cladium jamaicense						Landoltia punctata (Spirodela 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	P			P	
*Cyperus lecontei	P	P	P	P		*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis					
*Cyperus odoratus						*Ludwigia peruviana	P	P	P	P	
*Cyperus surinamensis						*Ludwigia repens					
Cyrilla racemiflora						*Ludwigia					
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						Myrica cerifera	P				
Eleocharis cellulosa											
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium	P										
*Fuirena											
Fuirena scirpoidea	P	P	P	P							
Gordonia lasianthus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Paradise Lake</u>					Date: <u>6/18/19</u>						
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana		P	P		
*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.						Scirpus cyperinus			P		
Nymphaea odorata						*Sesbania					
Nymphoides aquatica						Solidago sp.					
Nyssa sylvatica var. biflora						Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza					
Osmunda regalis						Taxodium sp.					
Panicum hemitomon	P	P	P	P		Thalia geniculata					
Panicum repens	P	P	P	P		Thelypteris palustris					
Paspalidium geminatum — ✓	P					Triadenum virginicum					
*Paspalum repens						Typha sp.		P	P	P	
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii	P	P	P	P		*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*Polygonum hydropiperoides						*Websteria confervoides					
*Polygonum punctatum						Wedelia trilobata (Sphagneticola trilobata)					
*Polygonum						Wolffiella spp.					
Pontederia cordata		P				Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.			P	P	
*Potamogeton illinoensis						Zizania aquatica					
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuckenia pectinatus)											
Proserpinaca pectinata											
*Rhaxia <u>virginiana</u>	P			P							
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 29.78733
 COUNTY: Clay Co. STORET #: 62 NE1178 LONGITUDE: 82.04709
 DATE: 6/18/19 TIME: 1305 SAMPLING AGENCY: _____
 SITE NAME: Paradise Lake Center WBID: 2509A
 FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: 201605-20172

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)	LDI: _____													
☐	☐	☐	☐	☐	☐	☐	☐	Land Use Source & Year: _____													
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>15</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>11</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>15</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 ☐ 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 _____ 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: <u>0.3</u> <u>29.2</u> <u>7.84</u> <u>7.50</u> <u>98.0</u> <u>131</u> <u>0.06</u> Mid-Depth: _____ Bottom: <u>7.9</u> _____								Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☐ Tannic ☐ Green SECCHI (M) <u>2.5</u> Total Station Depth (M) <u>7.9</u> VOB ☐							
Sediment Type: (may check more than one) ☒ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated ☐ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____								Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____							
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: <u>Chara mats on bottom</u>															
Weather Conditions: <u>Lake residents Raking grass removal</u>															
SAMPLING TEAM: <u>Jeremy Parrish Chevarro Rubin</u>								SIGNATURE: <u>Jeremy Parrish</u>				DATE: <u>6/18/19</u>			

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

STORET STATION NUMBER: <i>62 NE 1198</i>	DATE (M/D/Y) <i>6/18/19</i>	LAKE NAME <i>Paradise Lake center</i>		FIELD ID / NAME:		
ECO-REGION:	COUNTY: <i>Clay</i>	SAMPLING LOCATION/DESCRIPTION:		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		Poor		
Secchi	Secchi >3 m Or VOB	3	2.2	1.8	1.4	
<i>14</i>	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	5	4	3	
		2	1			
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa <i>13</i>	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants <i>13</i>		Large masses (21%-40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats		
	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	5	4	3	
		2	1			
Stormwater Inputs	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation <i>15</i>	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place <i>15</i>		Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place		
	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	5	4	3	
		2	1			
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present <i>16</i>	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		
	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	5	4	3	
		2	1			
Lakeside Adverse Human Alterations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) <i>11</i>	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected <i>11</i>		Many structures, roads or other human disturbance visible (50%-70%) lakeside affected		
	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	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 <i>15</i>	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer <i>15</i>		50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer		
	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	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 <i>14</i>					
	20 19 18 17 16	15	14	13	12	
		10	9	8	7	
		6	5	4	3	
		2	1			
TOTAL SCORE	<i>96</i>	COMMENTS:				

ANALYSIS DATE: <i>6/18/19</i>	ANALYST: <i>Jerry Cam</i>	SIGNATURE: <i>Jerry Cam</i>
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