



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
Yes / No

WIN Station Name:	LAKE WINNOTT CENTER				Sample Date:	8/16/2023	
WIN / Field ID:	G3NE0006	ORG ID:	21FLA	ENR:	-	Latitude:	29.64917
County:	PUTNAM	WBID:	2713F	LAKE		Longitude:	-82.04435
Receiving Body of Water:	-				RQ-	2023-08-21-60	

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Jeremy Parrish		x		x	x
Katherine Halbert	x		x		

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
	Syringe	x	Pole
	Syringe Lot#	Filter Lot#	175533
	Secchi Equipment ID:	Disco	
Collection Method			
	Wading		Canoe/Kayak
	From Shore	x	Electric Motor
			Gasoline Motor
	Depth Measured With	Meter	

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	Desi
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPT)
EST	1040	4	0.3	6.64	91	32.1	6.13	1.5	48	0.02
	1048		2	6.31	86.3	32	6.06		48	0.02
	1039		3.5	0.53	6.8	28.3	5.71		55.2	0.02

Biological Samples Collected: None

SBIO Visit ID: HA ID: RPS ID: Macrophyte ID: LIMS Sample ID
In The Macrophyte Module:

Parameter Suite	Parameter Methods (LIMS Test Codes)	Preservation				
		Type	Lot#	Expiration Date	pH Check	
Microbiology						
Chlorophyll	CHLSUITE-W	ICE				
Physical/Aggregate	ALKALINITY, TURBIDITY, W-F, W-TSS	ICE				
Nutrients	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS	ICE				
Filtered Nutrients	W-PO4-F Field Filtered 0.45 µm Filter	ICE	Syringe Lot#; Filter Lot#:175533			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	ICE	H2SO4*	SA3013020	01/25/2024	H2SO4 pH<2
Metals	W-ICPMS W-ICP W-HARD	ICE	HNO3**	NA2230040	09/01/2023	HNO3 pH<2
Organics (LC)	W-E8321-DI W-E8321-MS	Ice				
Macroinvertebrates						
Organics (GC)	W-PSNP-TQ W-TR-SQ-R	Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular						
Periphyton						
Phytoplankton						
BOD						
DOC						
Other(s)						
Field Comments:	Sky was overcast at sample site location.					
Comments on COC:						
Relinquish Date:	08/16/2023	Signature:				

LIMS EVENT ID: WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:

(Initials/Date)

(Initials/Date)

Save Field Sheets on Network: Migrate Data to WIN:

(Initials/Date)

(Initials/Date)

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

STORET STATION NUMBER: 63NE0006	DATE (M/D/Y) 8/16/2023	LAKE NAME Lake Winnebago		FIELD ID / NAME:												
ECO-REGION:	COUNTY: Pulaski	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	Marginal	Poor												
Secchi	Secchi > 3 m Or VOB	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
	20 19 18 17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Vegetation Quality	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 (duckweed, 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	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	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 Alterations	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	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	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	79															
COMMENTS:																

ANALYSIS DATE: 8/16/2023	ANALYST: Jerry Parn	SIGNATURE: Jerry Parn
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DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Winona</u>		County: <u>Purnam</u>		Date: <u>08/16/23</u>							
Analyst: <u>Derry Parnell</u>		Signature: <u>Derry Parnell</u>		STORE: <u>63NE0006</u>							
Except where noted as "sp." species level identification required. *Genra 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	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
<i>Acer rubrum</i>						<i>Habenaria repens</i>					
<i>Alternanthera philoxeroides</i>						<i>Hydrilla verticillata</i>					
<i>Andropogon</i> sp.						<i>Hydrocotyle</i> sp.					
<i>Azolla filiculoides</i> (A. caroliniana)						<i>Hygrophila polysperma</i>					
<i>Baccharis</i> sp.						* <i>Hypericum fasciculatum</i>					
<i>Bacopa caroliniana</i>						* <i>Hypericum hypericoides</i>					
<i>Bacopa monnieri</i>						* <i>Hypericum myrtifolium</i>					
<i>Bidens laevis</i>						<i>Ilex cassine</i>					
<i>Bidens bitis</i>						<i>Ipomoea aquatica</i>					
<i>Blechnum serrulatum</i>						<i>Ipomoea sagittata</i>					
<i>Boehmeria cylindrica</i>						<i>Itea virginica</i>					
<i>Brasenia schreberi</i>						<i>Juncus effusus</i>					
<i>Cabomba caroliniana</i>						* <i>Juncus marginatus</i>					
<i>Casuarina equisetifolia</i>						* <i>Juncus megacephalus</i>					
<i>Centella asiatica</i>						<i>Juncus repens</i>					
<i>Cephalanthus occidentalis</i>						* <i>Juncus scirpoides</i>					
<i>Ceratophyllum demersum</i>						<i>Lachnanthes caroliniana</i>					
<i>Chara</i> sp.						<i>Leersia hexandra</i>					
<i>Cladium jamaicense</i>						<i>Landoltia punctata</i> (<i>Spirodela punctata</i>)					
<i>Cliftonia monophylla</i>						<i>Lemna</i> sp.					
<i>Colocasia esculenta</i>						<i>Leucothoe racemosa</i> (<i>Eubotrys racemosa</i>)					
* <i>Commelina</i>						<i>Limnium spongia</i>					
<i>Crinum americanum</i>						<i>Limnophila sessiliflora</i>					
* <i>Cyperus alternifolius</i> (C. involucreatus)						<i>Liquidambar styraciflua</i>					
<i>Cyperus articulatus</i>						* <i>Ludwigia arcuata</i>					
<i>Cyperus haspan</i>						* <i>Ludwigia leptocarpa</i>					
* <i>Cyperus lecontei</i>						* <i>Ludwigia linearis</i>					
* <i>Cyperus polystachyos</i>						* <i>Ludwigia octovalvis</i>					
* <i>Cyperus odoratus</i>						* <i>Ludwigia peruviana</i>					
* <i>Cyperus surinamensis</i>						* <i>Ludwigia repens</i>					
<i>Cyrilla racemiflora</i>						* <i>Ludwigia superficialis</i>					
<i>Decodon verticillatus</i>						<i>Luziola fluitans</i> (<i>Hydrochloa carolinensis</i>)					
<i>Diodia virginiana</i>						<i>Lyonia lucida</i>					
* <i>Echinochloa crus-galli</i>						<i>Magnolia virginiana</i>					
* <i>Echinochloa muricatum</i>						<i>Mayaca fluviatilis</i>					
<i>Echinochloa walteri</i>						<i>Melaleuca quinquenervia</i>					
<i>Eclipta prostrata</i> (E. alba)						<i>Micranthemum glomeratum</i>					
<i>Egeria densa</i>						<i>Micranthemum umbrosum</i>					
<i>Eichhornia crassipes</i>						<i>Mikania scandens</i>					
* <i>Eleocharis baldwinii</i>						<i>Mimosa pigra</i>					
* <i>Eleocharis VIVI</i>						<i>Myrica cerifera</i>					
<i>Eleocharis cellulosa</i>											
<i>Eleocharis equisetoides</i>											
<i>Eleocharis interstincta</i>											
* <i>Eriocaulon compressum</i>											
* <i>Eriocaulon decangulare</i>											
<i>Eupatorium capillifolium</i>											
* <i>Fuirena</i>											
<i>Fuirena scleripodea</i>											
<i>Gordonia lasianthus</i>											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:						Date:					
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana	1				
*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				D		*Schoenoplectus tabernaemontani (Scirpus validus)					
Nitella spp.						Scirpus cubensis (Oxycaryon cubense)	D	E	D		
Nuphar sp.	1	1	1	1		Scirpus cyperinus					
Nymphaea odorata						*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.	1			1	
Panicum hemitomon	1	C	1	1		Thalia geniculata					
Panicum repens	1	1	1	1		Thelypteris palustris				1	
Paspalum geminatum						Triadenum virginicum					
*Paspalum repens						Typha sp.	1	1	1		
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)					
Peltandra sp.		1	1			*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii						*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*Polygonum hydrophiloides						*Websteria confervoides					
*Polygonum punctatum						Wedelia trilobata (Sphagneticola trilobata)	1			1	
*Polygonum						Wolffiella spp.					
Pontederia cordata	1	1	1	1		Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.					
*Potamogeton illinoensis						Zizania aquatica					
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuckenia pectinatus)											
Proserpinaca pectinata											
*Rhexia											
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto	1			1							
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia	1										
Sagittaria latifolia											

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: _____
COUNTY: Penn STORET #: G3NE0006 LONGITUDE: _____
DATE: 8/16/2023 TIME: 1040 SAMPLING AGENCY: _____
SITE NAME: Lake W. Manott WBID: 2713F
FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: _____

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					Land Use Source & Year:				
STORMWATER INPUTS <u>11</u>		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 <u>11</u>		10 9 8 7 6		5 4 3 2 1			
LAKESIDE ALTERATIONS <u>12</u>		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 <u>12</u> 11		10 9 8 7 6		5 4 3 2 1			
BUFFER ZONE <u>11</u>		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 <u>11</u>		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>6.3</u> <u>32.1</u> <u>6.13</u> <u>6.64</u> <u>91</u> <u>48</u> <u>0.02</u> Mid-Depth: <u>2</u> <u>32</u> <u>6.06</u> <u>6.31</u> <u>96.3</u> <u>48</u> <u>0.02</u> Bottom: <u>3.5</u> <u>28.3</u> <u>5.71</u> <u>0.53</u> <u>6.8</u> <u>55</u> <u>0.02</u>					Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____									
Meter ID: _____					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): _____					SECCHI (M) <u>1.5</u> Total Station Depth (M) <u>4.0</u> VOB ☐									
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 ☒ ☐ ☐ ☐				
Weather Conditions :					Additional Notes:									

SAMPLING TEAM: Jerry Carr / Kaitan Herbert **SIGNATURE:** Jerry Carr **DATE:** 8/16/23