

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV

Yes / No

WIN Station Name:		Omega lake center				Sample Date:		8/18/2022	
WIN / Field ID:	G2NE1225	ORG ID:	21FLA	ENR:		Latitude:	29.44785		
County:	Putnam	WBID:	2625A	LAKE		Longitude:	-81.53203		
Receiving Body of Water:		Lake				RQ-	2022-06-13-15		

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
			NA
Syringe Lot#		Filter Lot# R2ebo1329	
Secchi Equipment ID:		D#4	
Collection Method			
	Wading	x	Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With		Meter	

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	No
Meter ID:	Desi

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 (PPTth)
EST	1020	4.378	0.3	6.54	89.4	31.7	6.66	1.5	114.7	0.05
	1021		2	6.25	84.3	31.4	6.6		114.7	0.05
	1013		3.878	2.43	32.8	31	6.25		115.4	0.05

Biological Samples Collected: None**SBIO Visit ID:** **HA ID:** **RPS ID:** **Macrophyte ID:** **LIMS Sample ID Entered Into The Macrophyte Module:**

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation						
				Type	Lot#	Expiration Date	pH Check			
Microbiology										
Chlorophyll	CHLSUITE-W			ICE						
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE						
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE						
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE						
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	Sa415160	6/7/23			
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	Na115110	6/2/23			
Organics (LC)	W-E8321-DI	W-E8321-MS								
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										
Other(s)										
Field Comments:										
Comments on COC:										
Relinquish Date:	08/18/2022	Signature:								

LIMS EVENT ID: _____ WIN Import ID: _____

Enter Field Parameters, Verify Station ID in LIMS DMT: _____ (Initials/Date) QC Station ID, Field Parameters in LIMS DMT: _____ (Initials/Date)

Save Field Sheets on Network: _____ (Initials/Date) Migrate Data to WIN: _____ (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 29.44285
COUNTY: Rutnam STORET #: G211E1225 LONGITUDE: 81-53203
DATE: 08/18/22 TIME: 10:20 AM SAMPLING AGENCY: FDEP
SITE NAME: Omega Lake Center WBID: 26254
FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: 2022-06-13-15

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>30%</u>	<u>70%</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>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>13</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>13</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 # <u>SA2145160</u> Exp. Date: <u>06/02/23</u> 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. (µMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>31.7</u> <u>6.66</u> <u>8.84</u> <u>89.4</u> <u>114.7</u> <u>0.05</u> Mid-Depth: <u>2.0</u> <u>31.4</u> <u>6.60</u> <u>6.25</u> <u>84.3</u> <u>114.7</u> <u>0.05</u> Bottom: <u>4.37</u> <u>31.0</u> <u>6.25</u> <u>2.43</u> <u>32.8</u> <u>115.4</u> <u>0.05</u> Meter ID: _____										Clarity: ☐ Clear ☒ Turbid ☐ Opaque ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green SECCHI (M) <u>1.5</u> Total Station Depth (M) <u>4.378</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 ☐ 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 :																			
SAMPLING TEAM: <u>Terry Parsh / Katy Halbert</u>										SIGNATURE: <u>[Signature]</u>					DATE: <u>08/18/22</u>				

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

STORET STATION NUMBER: <i>62NE225</i>	DATE (M/D/Y) <i>8/18/22</i>	LAKE NAME <i>Omega Lake</i>		FIELD ID / NAME:												
ECO-REGION:	COUNTY: <i>Putnam</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		Marginal												
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

94

COMMENTS:

ANALYSIS DATE:

08/18/22

ANALYST:

[Signature]

SIGNATURE:

[Signature]

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Omega Lake</u>		County: <u>Potomac</u>		Date: <u>8/18/22</u>							
Analyst:		Signature: <u>Jon Pan</u>		STORET: <u>62061225</u>							
Except where noted as "sp." species level identification required. *Genera that may require lab verification* Plants in bold= FLEPPC invasive exotic.				Lake units sampled (circle one group): 1, 4, 7, 10 2, 5, 8, 11 3, 6, 9, 12							
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.											
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
Hydrophyllum						Habenaria repens					
Hydrophyllum						Hydrilla verticillata					
Hydrophyllum						Hydrocotyle sp.	P	P	P		
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Sagittaria sp.						*Hypericum fasciculatum					
Sagittaria caroliniana						*Hypericum hypericoides					
Sagittaria monnieri				P		*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					
Casuarina equisetifolia						*Juncus megacephalus *					✓
Centella asiatica		P	P			Juncus repens					✓
Cephalanthus occidentalis	P		P	P		*Juncus scirpoides					
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra	P			P	
Cladium jamaicense						Landoltia punctata (Spirodela punctata)					
Cliftonia monophylla						Lemna sp.					
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnolobium spongia					
Crinum americanum						Limnophila sessiliflora					
*Cyperus alternifolius (C. involucreatus)						Liquidambar styraciflua					
Cyperus articulatus						*Ludwigia arcuata	P	P		P	
Cyperus haspan			P	P	✓	*Ludwigia leptocarpa					
*Cyperus lecontei					✓	*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis		P			
*Cyperus odoratus						*Ludwigia peruviana	P	P	P	P	
*Cyperus surinamensis						*Ludwigia repens					
Cyrtia 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			P	P		Mimosa pigra					
*Eleocharis						Myrica cerifera					P
Eleocharis cellulosa											
Eleocharis equisetoides											
Eleocharis interstincta											
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium				P							
Eriocaulon											
Eriocaulon scirpoidea											
Gordonia lasianthus											

* 10 co dominant vine
and Ludwigia peruviana

* 4 look at remaining
Juncus mega.

Date: 8/18/2022

SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana	P				
*Myriophyllum heterophyllum						Salvinia minima					
*Myriophyllum laxum						Sambucus canadensis	PP			PP	
*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					
Nymphaea odorata	P					*Sesbania hex. (✓)	P	P	P		
Nymphoides aquatica	P					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						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					
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 hydropiperoides						*Websteria confervoides					
*Polygonum punctatum						Wedelia trilobata (Sphagnetocola trilobata)					
*Polygonum						Wolffiella spp.					
Pontederia cordata						Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.		P		P	
*Potamogeton illinoensis						Zizania aquatica		P		P	
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuckenia pectinatus)						Vitis	P			P	
Proserpinaca pectinata						Rubrus	P			P	
*Rhaxia virginiana		P				Rhynchospora microcephala				P	
*Rhynchospora corniculata						Cinn. Camp.				P	
*Rhynchospora inundata						Kaoluteria rammei	P			P	
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto											
Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

29.4477

to

29.449

449

x tree in 10
compensated

-81.5319 to -81.53242