FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter Passed End of Day CCV Yes / No

WIN Station Name:	Lake Adair at Center					**Sample Date:**	7/13/2023
WIN / Field ID:	G2CE0007	**ORG ID:**	21FLCEN	**ENR:**		**Latitude:**	28.559842
County:	Orange	**WBID:**	2997R	LAKE		**Longitude:**	-81.39085
Receiving Body of Water:						**RQ-**	2023-07-10-51

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Katie March		x		x	x
Victoria Schwartz	x		x		

Sampling Equipment					
x	Sample Container			Carboy	
	Dipper			Van Dorn	
	Syringe			Pole	
Syringe Lot#	*2327923*		**Filter Lot#**	*17769663*	
Secchi Equipment ID:	*Knothead*				

Collection Method			
	Wading	x	**Canoe/Kayak**
	From Shore		**Electric Motor**
			Gasoline Motor
Depth Measured With	*Secchi*		

Water Level:	*Normal*
Flow:	*NA*
Matrix:	*Fresh*
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	*Yes*
Meter ID:	*Craw Daddy*
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 (PPTh)
EST	1148	4.7	0.3	12.66	172.1	31.4	8.92	0.5	199.8	0.09
	1157		2	6.31	83.7	30.2	7.92		199.3	0.09
	1159		4.2	0.35	4.5	27.4	6.54		287.6	0.14

Biological Samples Collected: LVI

SBIO Visit ID: 87459 **HA ID:** **RPS ID:** **Macrophyte ID:** 12515 **LIMS Sample ID In The Macrophyte Module:** 2423991

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**		Syring Lot#:2327923; Filter Lot#:17769663		
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**			**MCAA*****			
Macroinvertebrates								
Organics (GC)				**Ice**				
	W-PSNP-TQ	**W-TR-SQ-R**						
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
Other(s)								

*2.0 ml of H2SO4 Used Unless Noted Otherwise
**2.0 ml of HNO3 Used Unless Noted Otherwise

SyringLot# **FilterLot#**

Field Comments:	Sunny. Algal bloom occurring (common with this lake)
Comments on COC:	
Relinquish Date:	07/13/2023 **Signature:**

LIMS EVENT ID: CEN-DIST-2023-07-14-01 **WIN Import ID:** 42283

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 7/31/23 (Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: VLS 8/2/23 (Initials/Date)

Save Field Sheets on Network: KWM 8/22/23 (Initials/Date)

Migrate Data to WIN: KWM 8/22/23 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 28.559842

COUNTY: Orange STORET #: WIN G2CE0007 LONGITUDE: -81.39085

DATE: 7/13/23 TIME: 11:48 SAMPLING AGENCY: 21FLCEN

SITE NAME: Lake Adair at Center WBID: 2997R

FIELD ID/NAME: G2CE0007 LAKE SIZE: _____ RQ: 2023-07-10-57

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS): Golf course

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
				100			

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: _____ Land Use Source & Year:

Local Watershed Erosion (select one) : ☐ None ☐ Slight ☒ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy

Artificially Impounded ☐ Yes ☒ No

STORMWATER INPUTS 2	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
LAKESIDE ALTERATIONS 2	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	12	11	10	9	8	7	6	5	4	3	2	1
BUFFER ZONE 2	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

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water:

Nutrient Sample Taken? ☒ Yes ☐ No Preserved? ☒ Yes ☐ pH<2 ☐ No

Color Sample Taken? ☒ Yes ☐ No Lot # SA3013020 Exp. Date: 1/25/24

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:	0.3	31.4	8.92	12.66	172.1	199.8	0.09
Mid-Depth:	2	30.2	7.92	6.31	83.7	199.3	0.09
Bottom :	4.2	27.4	6.54	0.35	4.5	287.6	0.14

Meter ID: Crawdaddy

Clarity: ☐ Clear ☐ Opaque ☒ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☐ Tannic ☒ Green

SECCHI (M) 0.5 VOB ☐

Total Station Depth (M) 4.7

Sediment Type: (may check more than one) Sample Taken? ☐ Yes ☒ No

☐ 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:

- Algal bloom occurring (common for this lake)
- Trash common w/ many stormwater pipes around lake

Weather Conditions : hot/sunny

- Native apple snails present
- LVI: No Dominant Sec. 9 (*) most LVI sections had 3-4 dominant plants

SAMPLING TEAM: Katie Mann + Victoria Schuetz **SIGNATURE:** [signature] **DATE:** 7/13/23

Lake receives water from Spring Lake/OCE golf course

No Dom. See. 9

* needs to be added to WIN

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Adair	County: Orange	Date: 7/13/23
Analyst: Katie March / Victoria Schwartz	Signature: KMarch / Vict Sch	~~STORET:~~ G2LEN007

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? (√)
Acer rubrum					
Alternanthera philoxeroides	/	/	/	/	
Amaranthus australis					
Andropogon sp.					
Azolla filiculoides (A. caroliniana)		.			
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri				/	
Bidens alba					
Bidens laevis		.			
Bidens mitis		.			
Boehmeria cylindrica	/	/	/	/	
Brasenia schreberi					
Cabomba caroliniana					
Canna sp.		.			
Centella asiatica					
Cephalanthus occidentalis				C	
Ceratophyllum demersum	/	/	/	C	
Chara sp.				.	
Cicuta maculata		.			
Cinnamomum camphora					
Cladium jamaicense				.	
Colocasia esculenta		/	/		
*Commelina					
Crinum americanum					
Cyperus articulatus					
Cyperus blepharoleptos (Scirpus cubensis)					
Cyperus haspan					
***Cyperus involucratus**	/	/	/	/	
*Cyperus lecontei					
*Cyperus odoratus					
*Cyperus polystachyos					
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus				.	
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricata					
Echinochloa walteri					
Eclipta prostrata					
Eichhornia crassipes					
*Eleocharis					
Eleocharis cellulosa					
*Eleocharis elongata					
Eleocharis equisetoides					
Eleocharis interstincta	/		/	/	
Eleocharis vivipara (submersed)					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					

SPECIES	3	6	9	12	Collected? (√)
Fraxinus					
Fuirena scirpoidea					
Gordonia lasianthus					
Habenaria repens					
Hibiscus coccineus					
Hibiscus grandiflorus					
Hydrilla verticillata	/	/	/	/	
Hydrocotyle sp.		/			
Hygrophila polysperma					
Hymenocallis sp.					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine				.	
Ipomoea aquatica					
Ipomoea sagittata				.	
Itea virginica					
Juncus effusus		.		.	
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)		.			
Lemna sp.			/	/	
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora		.			
Liquidamber styraciflua	/				
*Ludwigia arcuata					
*Ludwigia grandiflora					
*Ludwigia hexapetala				.	
*Ludwigia leptocarpa					
Ludwigia (native)					
*Ludwigia octovalvis			/	/	
***Ludwigia peruviana**		/			
*Ludwigia repens		.			
Ludwigia suffruticosa					
Luziola fluitans (Hydrochloa carolinensis)					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens		.			
Mimosa pigra				.	
Myrica cerifera	/				

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Lake Adair | Date: 7/13/23

SPECIES	3	6	9	12	Collected? (√)
Myriophyllum aquaticum					
*Myriophyllum heterophyllum					
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis					
*Najas minor					
Nelumbo lutea					
Nitella spp.					
Nuphar sp.			/	/	
Nymphaea mexicana					
Nymphaea odorata					
Nymphoides aquatica					
Nyssa sylvatica var. biflora					
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon					
Panicum repens			/	/	
Paspalidium geminatum	/		/	/	
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Persea sp.					
*Persicaria glabra (densiflora)					
Persicaria hirsuta					
*Persicaria hydropiperoides					
*Persicaria punctata					
*Persicaria					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii					
Pistia stratiotes					
Pluchea sp.					
Pontederia cordata	/		/	/	
*Potamogeton diversifolius					
*Potamogeton illinoensis					
*Potamogeton pusillus					
*Potamogeton pectinatus (Stuckenia pectinatus)					
Proserpinaca pectinata					
*Rhexia					
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora nitens					
Ricciocarpus natans					
Sabal palmetto	/	/			
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria ~~lancifolia~~ ~~grimenta~~ graminea (E)			/		✓
Sagittaria latifolia					

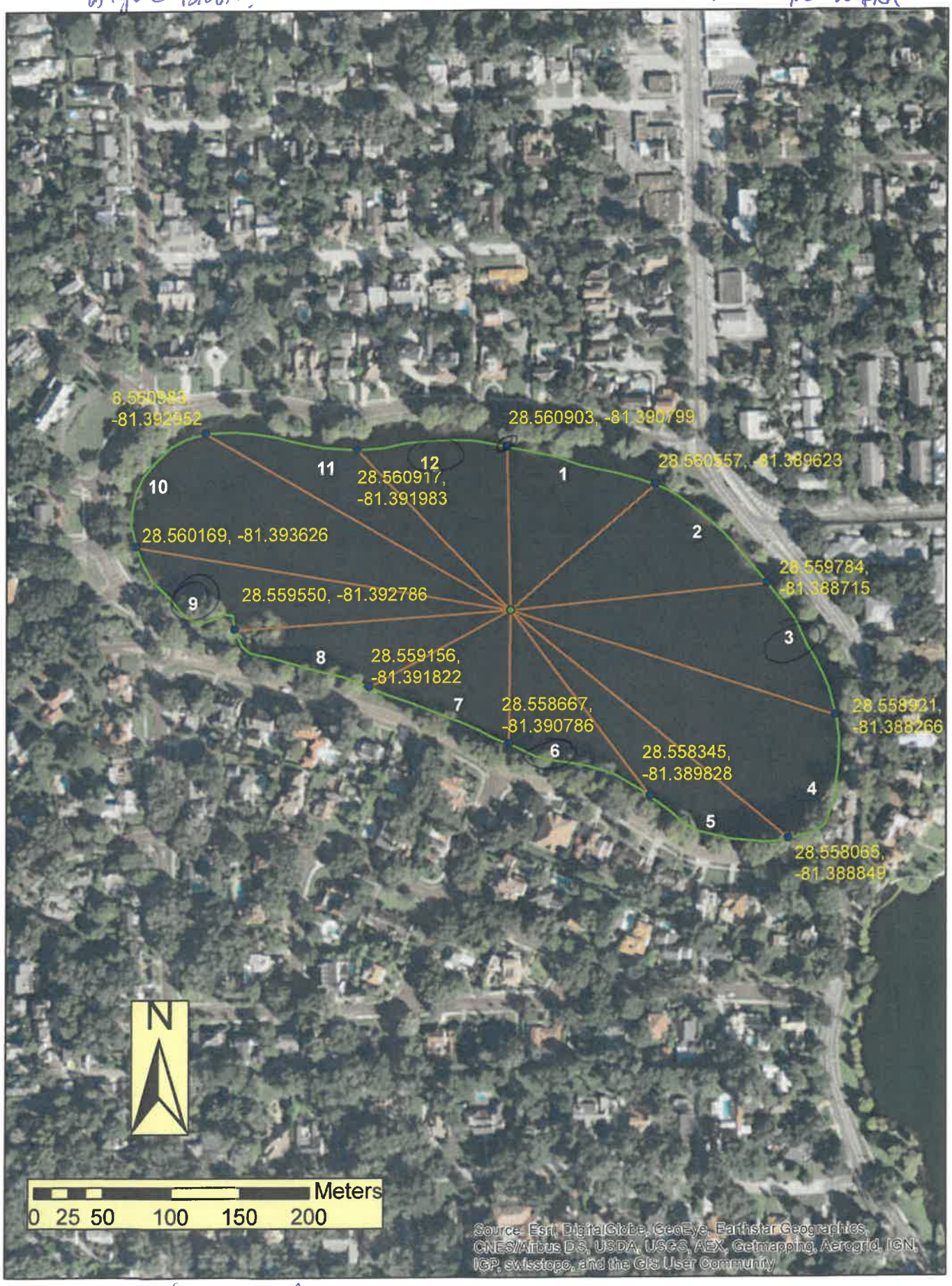
SPECIES	3	6	9	12	Collected? (√)
Salix caroliniana					
Salvinia minima					
Sambucus canadensis					
Sapium sebiferum					
Saururus cernuus					
Schinus terebinthifolius		/	/		
*Schoenoplectus californicus	C		/	/	
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani					
Scirpus cyperinus					
*Sesbania					
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Spirodela polyrhiza			/	/	
Taxodium sp.	/	D	/	/	
Thalia geniculata			/		
Thelypteris interrupta					
Thelypteris palustris					
Triadenum virginicum					
Typha sp.					
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)					
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia radiata					
*Utricularia resupinata					
Vallisneria americana	C	/	/	C	
Vitis sp.					
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)	/			/	
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					
Cyperus papyrus			/		
Ludwigia ~~erecta grimenta~~ erecta (E)			/		✓

Garbage
native apple snails
Submersed

LVI Map for Lake Adair, WBID 2997R

Algal Bloom!

Usually 3-4 dominant spp. per section



Green water