



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV
Yes / No

WIN Station Name:	DINNER LAKE NEAR CENTER OF NORTH BASIN					Sample Date:	6/27/2023
WIN / Field ID:	G4SE0171	ORG ID:	21FLWPB	ENR:	-	Latitude:	27.51713
County:	HIGHLANDS	WBID:	1813A	LAKE	3F	Longitude:	-81.4457
Receiving Body of Water:	Carter Creek					RQ-	2023-05-01-44

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Charlie Hoey		x		x	x
Tirzah Chichester	x		x		

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
	Syringe		Pole
	Syringe Lot#	2298556	Filter Lot# 178666251
	Secchi Equipment ID:	Secchi Disc 1	
Collection Method			
	Wading		Canoe/Kayak
	From Shore		Electric Motor
		x	Gasoline Motor
	Depth Measured With	Meter	

Water Level:	Normal
Flow:	NA
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	Hodor
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 (PPTth)
EST	945	7.4	0.3	7.51	98.8	29.7	7.68	2.8	155	0.07
	948		2	7.39	96.9	29.7	7.49		155	0.07
	0950		6.9	2.45	33.3	28.3	6.83		159	0.07

Biological Samples Collected: LVI

SBIO Visit ID:87124 HA ID:18530 RPS ID: Macrophyte ID:12469 LIMS Sample ID In The Macrophyte Module: 2420187

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#:2298556; Filter Lot#:178666251			
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				
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC								
Other(s)								
Field Comments:								
Comments on COC:								
Relinquish Date:	06/27/2023	Signature:						

LIMS EVENT ID: SE-DIST-2023-06-28-01

WIN Import ID: 42212

Enter Field Parameters, Verify Station ID In LIMS DMT: CH 07/05/2023

QC Station ID, Field Parameters In LIMS DMT: AL 08/16/2023

Save Field Sheets on Network: CH 07/05/2023 (Initials/Date)

Migrate Data to WIN: AL 08/16/2023 (Initials/Date)

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Dinner Lake					County: Highlands					Date: 6/27/2023				
Analyst: J. Skaggs, A. Luring, C. Hoey, T. Chichester					Signature:					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 2, 5, 8, 11 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				X		Juncus repens								
Centella asiatica						*Juncus scirpoides								
Cephalanthus occidentalis	X	X	X			Lachnanthes caroliniana								
Ceratophyllum demersum	X					Leersia hexandra								
Chara sp.						Landoltia punctata (Spirodela punctata)								
Cladium jamaicense	X	X				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		X	X					
*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	X	X	X	X										
Eleocharis interstincta														
Eleocharis vivipara														
*Eleocharis														
*Eriocaulon compressum														
*Eriocaulon decangulare														
Eupatorium capillifolium	X	X	X											
*Fuirena														
Fuirena scirpoidea	X	X	X	X										

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:						Date:					
SPECIES	2	5	8	11	Collected? (√)	SPECIES	2	5	8	11	Collected? (√)
Myriophyllum aquaticum						Sapium sebiferum (Triadeca sebifera)					
*Myriophyllum heterophyllum						Saururus cernuus					
*Myriophyllum laxum						Schinus terebinthifolius		X			
*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.	X			X		Sparganium americanum					
Nuphar sp.	X	X	X			Spartina bakeri					
Nymphaea odorata	X	X	X	X		Spirodela polyrhiza					
Nymphoides aquatica						Taxodium sp.			X	X	
Nyssa sylvatica var. biflora						Thalia geniculata					
Orontium aquaticum						Thelypteris palustris					
Osmunda cinnamomea						Triadenum virginicum					
Osmunda regalis						Typha sp.	X	X	X		
Panicum hemitomon						Urochloa mutica (Brachiaria mutica)					
Panicum repens		X	X			*Utricularia gibba (U. biflora)					
Paspalidium geminatum	X	D	X	X		*Utricularia floridana					
*Paspalum repens						*Utricularia foliosa					
Paspalum urvillei						*Utricularia inflata					
Peltandra sp.						*Utricularia purpurea					
Persea sp.						*Utricularia cornuta					
Pennisetum purpureum						*Utricularia radiata					
Phragmites australis						Vallisneria americana					
Pinus elliotii						*Websteria confervoides					
Pistia stratioides						Wedelia trilobata (Sphagneticola trilobata)					
Pluchea sp.						Wolffiella spp.					
*Persicaria glabrum (densiflorum)						Woodwardia virginica					
*Persicaria hydropiperoides						Xyris sp.					
*Persicaria punctatum						Zizania aquatica					
*Persicaria _____						Zizaniopsis milacea					
Pontederia cordata	X	X	X			Cupaniopsis anacardioides		X			
*Potamogeton diversifolius											
*Potamogeton illinoensis	D	X	D	D	✓						
*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	X	X	X								
Salvinia minima											
Sambucus canadensis	X										

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: Dinner Lake MACROPHYTE ID: _____ LATITUDE: _____
 COUNTY: Highlands STORET #: _____ LONGITUDE: _____
 DATE: 6/27/23 TIME: _____ SAMPLING AGENCY: _____
 SITE NAME: _____ WBID: _____
 FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>30</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential <u>70</u> Commercial _____ Industrial _____ Other (Specify) _____								LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: _____					
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution : ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy								Artificially Impounded ☐ Yes ☒ No					
STORMWATER INPUTS _____		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 _____		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 _____		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: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>29.7</u> <u>7.68</u> <u>7.51</u> <u>98.8</u> <u>155</u> <u>0.07</u> Mid-Depth: <u>2.0</u> <u>29.7</u> <u>7.49</u> <u>7.39</u> <u>96.9</u> <u>155</u> <u>0.07</u> Bottom: <u>6.9</u> <u>28.3</u> <u>6.83</u> <u>2.45</u> <u>33.3</u> <u>159</u> <u>0.07</u>								Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____															
Clarity: ☐ Clear ☒ Slightly Turbid ☐ Opaque ☐ Turbid								Color: ☒ Clear ☐ Tannic ☐ Green															
SECCHI (M) <u>2.8</u>								Total Station Depth (M) <u>7.4</u>															
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:								SIGNATURE:								DATE:							

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

STORET STATION NUMBER:	DATE (M/D/Y) <u>6/27/23</u>	LAKE NAME <u>Dinner Lake</u>		FIELD ID / NAME:
ECO-REGION:	COUNTY:	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	COMMENTS:			
ANALYSIS DATE:	ANALYST:	SIGNATURE:		