



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End
of Day CCV
Yes / No

WIN Station Name: Merial Lake Center

Date: 07-15-2020
(mm/dd/yyyy)

WIN/ Field ID: G3TLHR0014

WBID: 966

Latitude: 30.3891

(Decimal Degrees)

County: Bay

ORG ID: 21FTLHR

Longitude: -85.6762

(Decimal Degrees)

Receiving Body of Water: NA

RQ-2020-07-06-40

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Jon Woods	X		X		
Chris Green		X		X	X

Sampling Equipment	
☒ Sample Container	☐ Van Dorn
☐ Syringe	☐ Pole
☐ Dipper	☐ Other
Depth Measured with YSI PRO DSS	
Equipment ID 153484	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☒ Gasoline Motor

Water Level: Dry/ Pooled/ Low / Normal / High / Flooded

Meter ID#

153484

Photos: Yes / No

Flow: No Flow / Flowing / NA

Tide: Rising/ Falling/ Slack/ NA

Tide Times:

High Low

Biological Samples Collected:

None

HA

SCI

RPS

Algae ID

LVS

LV

Other:

SBIO ID Numbers:

SBIO-ID:

HA-ID:

RPS-ID:

Macrophyte-ID:

LIMS#:

Notes:

Nutrients (fresh)

Duplicate Sample

Time Zone: EST CEN Time: _____

Field ID: _____ (WIN ID_DUP)

WIN DMT Activity ID: _____

Blank

Time Zone: EST CEN Time: _____

Field ID: _____ (Blank Type_DMMYYYY)

DI Source:

Location:

☐ Field Blank

☐ Equipment Blank

☐ Field Cleaned Equipment Blank

Equipment ID: _____

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)

Scan/Save Field Sheets

(Initials/Date)

Migrate Data to WIN:

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2020-07-06-40

Customer: TLH - ROC

Project ID: SMP

Collected By: Woods/Green

Field Report Prepared By: Jon Woods

Sampling Agency: FDEP - THLR

Field/WIN ID → Location ↓ MERIAL LAKE CENTER							Comments:				
Matrix: ☒ Fresh ☐ Marine							(Check one) ☒ GRAB ☐ COMPOSITE				
Date	Time	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Sample Depth (m)	Secchi Disk (m)	Total Depth (m)	Sp COND (µmhos/cm)	Salinity (PPTH)	
7/15	1120	7.34	99.6	31.6	5.49	0.3	3.4	5.2	19.8	0.01	
EST / CST											
Cental Lab please use top row for login purposes											
	1125	7.73	98.8	31.1	5.53	4.7			19.7	0.01	
EST / CST											
Parameter Suite		Parameter Methods				Preservation		pH Check	# Bottles sent to Lab	Bottle Group	
Preserved Nutrients (P-500ML)		☒ W-NH3 / ☐ W-NO2NO3 / ☐ W-TKN / ☐ W-TOC / ☐ W-S-A-TP Lot # 9354050 Exp:				☒ Ice ☒ H2SO4*		☒ <2	1	A	
Metals (P-500ML)		☐ W-ICPMS ☐ W-ICP ☐ W-HARD Lot # Exp:				☐ Ice ☐ HNO3*		☐ <2			
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter Filter Lot # Syringe Lot #				☒ Ice			1	A	
Chlorophyll (BP-1L)		☒ CHLSUITE-W				☒ Ice			1	A	
Physical/Aggregate (Fresh) (P-1L)		☒ Alkalinity / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY / ☐ W-CHC / ☐ W-COLOR / ☐ W-SO4-IC / ☐ W-TDS				☒ Ice			1	A	
Physical/Aggregate (Marine) (P-1L)		☐ Alkalinity / ☐ W-BR-IC / ☐ W-F / ☐ W-TSS / ☐ TURBIDITY				☐ Ice					
Macroinvertebrates (PJ-2L)		☐ MI-FW-QLDC				☐ Formalin					
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice					
Microbiology (Contract Lab Bottle)		☐ E Coli ☐ F Coli ☐ Enterococci ☐ Contract Lab				☐ Ice					
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GU112 ☐ PCR-GFD ☐ See Notes				☐ Ice					
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice					
Pesticides (BG-500ML) (BG-1L)		☐ W-E8321-DI ☐ W-E8321-MS ☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution)				☐ Ice					
Name: Jon Woods		Signature:						Date: 7/15/20			

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Merial Lake Center</u>		County: <u>Washington</u>		Date: <u>7-15-2020</u>	
Analyst: <u>Jon Woods</u>		Signature: <u>[Signature]</u>		STORET: <u>43TLH0014</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.					
SPECIES		12369	Collected? (✓)	SPECIES	
Acer rubrum				Habenaria repens	
Alternanthera philoxeroides				Hydrilla verticillata	
Andropogon sp.				Hydrocotyle sp.	
Azolla filiculoides (A. caroliniana)				Hygrophila polysperma	
Baccharis sp.				*Hypericum fasciculatum	
Bacopa caroliniana				*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	
Casuarina equisetifolia				*Juncus megacephalus	
Centella asiatica				Juncus repens	
Cephalanthus occidentalis	✓			*Juncus scirpoides	
Ceratophyllum demersum				Lachnanthes caroliniana	
Chara sp.				Leersia hexandra	
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	
*Cyperus lecontei				*Ludwigia linearis	
*Cyperus polystachyos				*Ludwigia octovalvis	
*Cyperus odoratus				* Ludwigia peruviana	
*Cyperus surinamensis				*Ludwigia repens	
Cynilla 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	
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					
*Fuirena					
Fuirena scirpoidea					
Gordonia lasianthus					

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Meria Lake 63TL4R0014</u>					Date: <u>7-15-2020</u>								
SPECIES	1	2	3	6	9	Collected? (✓)	SPECIES	1	2	3	6	9	Collected? (✓)
Myriophyllum aquaticum							Salix caroliniana						
*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						
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							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 comuta						
Pluchea sp.							*Utricularia radiata						
*Polygonum glabrum (densiflorum)							Vallisneria americana						
*Polygonum hydropiperoides							*Websteria confervoides						
*Polygonum punctatum							Wedelia trilobata (Sphagneticola trilobata)						
*Polygonum							Wolffiella spp.						
Pontederia cordata							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													
Sacciolepis striata													
*Sagittaria filiformis													
*Sagittaria graminea													
*Sagittaria isoetiformis													
Sagittaria lancifolia													
Sagittaria latifolia													

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

STORET STATION NUMBER: <i>G3TLHR0014</i>	DATE (M/D/Y) <i>07/15/20</i>	LAKE NAME <i>Merial Lake</i>		FIELD ID / NAME: <i>G3TLHR0014</i>	
ECO-REGION:	COUNTY: <i>Washington</i>	SAMPLING LOCATION/DESCRIPTION: <i>center</i>		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	Secchi(m)		Poor	
<i>18</i>	20 19 18 17 16	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	
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa <i>12</i>	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	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
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		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 11		10 9 8 7 6	
Bottom Substrate Quality	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present <i>17</i>	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present		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	
Lakeside Adverse Human Alterations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) <i>13</i>	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected		Many structures, roads or other human disturbance visible (50%-70%) lakeside affected	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
Upland Buffer Zone	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer <i>11</i>	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	
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
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>12</i>				
	20 19 18 17 16	15 14 13 12 11		10 9 8 7 6	
TOTAL SCORE	<i>98</i>	COMMENTS:			
ANALYSIS DATE: <i>7/15/20</i>	ANALYST: <i>Woods/Green</i>	SIGNATURE: <i>[Signature]</i>			

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: G3TLHR0014 **MACROPHYTE ID:** _____ **LATITUDE:** _____
COUNTY: Washington **STORET #:** G3TLHR0014 **LONGITUDE:** _____
DATE: 2/15/20 **TIME:** 1120 **SAMPLING AGENCY:** _____
SITE NAME: Mesial Lake **WBID:** 966 **LAKE SIZE:** _____ **RQ:** 2020-07-06-40
FIELD ID/NAME: G3TLHR0014

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>10</u> Silviculture _____ Field/Pasture <u>20</u> Agricultural _____ Residential <u>70</u> Commercial _____ Industrial _____ Other (Specify) _____				LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) 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 <u>15</u>		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	
LAKESIDE ALTERATIONS <u>13</u>		Moderate disturbance visible - structures, roads or other disturbance adjacent to lake (<10% lakeside affected) 20 19 18 17 16		Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 10 9 8 7 6	
BUFFER ZONE <u>11</u>		Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16		50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer 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	

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>9354050</u> Exp. Date: <u>12/20/20</u> 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>31.6</u> <u>5.49</u> <u>7.34</u> <u>99.8</u> <u>19.8</u> <u>0.01</u> Mid-Depth: _____ Bottom: <u>4.7</u> <u>31.1</u> <u>5.53</u> <u>7.73</u> <u>98.8</u> <u>19.7</u> <u>0.01</u>						Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____					
Meter ID: <u>153484</u>						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>3.4</u> Total Station Depth (M) <u>5.2</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: <u>Partly Cloudy</u>						Additional Notes:					
SAMPLING TEAM: <u>Woods/Green</u>						SIGNATURE: <u>[Signature]</u> DATE: <u>2/15/20</u>					