

GearSample Date 8/23/18D WIN ID G2CE0154

RQ-2018-08-20-68

	Initial/Date	QC Initial/Date
water chemistry data to LIMS	LMD 8/28/18	MKL 9/10/18
Create SBIO station visit 78824	MKL 9/10/18	n/a
Vascular Entry (add LIMS ID) 11060	MKL 9/18/18	LO 10/19/18
Lake Observation Sheet Entry	MKL 9/10/18	LO 10/19/18
Authorize SBIO data	LO 10/19/18	n/a
Scan all sheets to 21FLCEN folder	LO 10/19/18	n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

LIMS ID: 2020175

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Goan</u>		County: <u>Orange</u>		Date: <u>8/23/2019</u>							
Analyst: <u>Mike Hinger, Lief Borman</u>		Signature: <u>[Signature]</u>		STORET: <u>G2CE0154</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 <u>3, 6, 9, 12</u>							
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	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Acer rubrum						Fraxinus					
Alternanthera philoxeroides	/	/	/	/		Fuirena scirpoides					
Amaranthus australis						Gordonia lasianthus					
Andropogon sp.						Habenaria repens					
Azolla filiculoides (A. caroliniana)						Hibiscus coccineus					
Baccharis sp.						Hibiscus grandiflora					
Bacopa caroliniana						Hydrilla verticillata	/	/	/	/	
Bacopa monnieri	/	/	/	/		Hydrocotyle sp.		/	/	/	
Bidens alba						Hygrophila polysperma					
Bidens laevis						Hymenocallis sp.					
Bidens mitis						*Hypericum fasciculatum					
Blechnum serrulatum						*Hypericum hypericoides					
Boehmeria cylindrica						*Hypericum myrtifolium					
Brasenia schreberi						Ilex cassine					
Cabomba caroliniana						Ipomoea aquatica					
Canna						Ipomoea sagittata					
Centella asiatica						Itea virginica					
Cephalanthus occidentalis						Juncus effusus					
Ceratophyllum demersum						*Juncus marginatus					
Chara sp.	/	/	/	/		*Juncus megacephalus					
Cicuta maculata						Juncus repens					
Cinnamomum camphora						*Juncus scirpoides					
Cladium jamaicense						Lachnanthes caroliniana					
Colocasia esculenta						Leersia hexandra					
*Commelina						Landoltia punctata (Spirodela punctata)					
Crinum americanum						Lemna sp.	/	/	/	/	
*Cyperus alternifolius (C. involucratus)						Leucothoe racemosa (Eubotrys racemosa)					
Cyperus articulatus						Limnobia spongia					
Cyperus haspan						Limnophila sessiliflora					
*Cyperus lecontei				/		Liquidambar styraciflua					
*Cyperus polystachyos				/		*Ludwigia arcuata					
*Cyperus odoratus	/	/	/	/		*Ludwigia grandiflora					
*Cyperus surinamensis				/		*Ludwigia hexapetala					
Cyrilla racemiflora						*Ludwigia leptocarpa					
Decodon verticillatus						Ludwigia (native)					
Diodia virginiana		/				*Ludwigia octovalvis					
*Echinochloa crus-galli						*Ludwigia peruviana	/	/	/	/	
*Echinochloa muricatum						*Ludwigia repens					
Echinochloa walteri						Ludwigia suffruticosa					
Eclipta prostrata (E. alba)						Luziola fluitans (Hydrochloa carolinensis)					
Eichhornia crassipes						Magnolia virginiana					
*Eleocharis						Mayaca fluviatilis					
Eleocharis cellulosa						Melaleuca quinquenervia					
*Eleocharis elongata						Micranthemum glomeratum					
Eleocharis equisetoides						Micranthemum umbrosum					
Eleocharis interstincta						Mikania scandens	/			/	
Eleocharis submersa viviparous	/	/	/	/		Mimosa pigra					
*Eriocaulon compressum						Myrica cerifera	/			/	
*Eriocaulon decangulare											
Eupatorium capillifolium	/										

No dominant for 12

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Lake Gear</u>						Date: <u>8/23/2018</u>					
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Myriophyllum aquaticum						<i>Salix caroliniana</i>					
* <i>Myriophyllum heterophyllum</i>						<i>Salvinia minima</i>					
* <i>Myriophyllum laxum</i>						<i>Sambucus canadensis</i>					
* <i>Myriophyllum pinnatum</i>						<i>Sapum sebiferum</i>					
<i>Myriophyllum spicatum</i>						<i>Saururus cernuus</i>					
* <i>Najas filifolia</i>						<i>Schinus terebinthifolius</i>					
* <i>Najas guadalupensis</i>						* <i>Schoenoplectus californicus</i>					
* <i>Najas minor</i>						* <i>Schoenoplectus pungens</i>					
<i>Nelumbo lutea</i>						* <i>Schoenoplectus tabernaemontani</i> (<i>Scirpus validus</i>)					
<i>Nitella</i> spp.						<i>Scirpus cubensis</i> (<i>Oxycaryon cubense</i>)					
<i>Nuphar</i> sp.						<i>Scirpus cyperinus</i>					
<i>Nymphaea mexicana</i>						* <i>Sesbania</i>					
<i>Nymphaea odorata</i>						<i>Solidago</i> sp.					
<i>Nymphoides aquatica</i>						<i>Sparganium americanum</i>					
<i>Nyssa sylvatica</i> var. <i>biflora</i>						<i>Spartina bakeri</i>					
<i>Orontium aquaticum</i>						<i>Spirodela polyrhiza</i>					
<i>Osmunda cinnamomea</i>						<i>Taxodium</i> sp.					
<i>Osmunda regalis</i>						<i>Thalia geniculata</i>					
<i>Panicum hemitomon</i>						<i>Thelypteris interrupta</i>					
<i>Panicum repens</i>						<i>Thelypteris palustris</i>					
<i>Paspalidium geminatum</i>						<i>Triadenum virginicum</i>					
* <i>Paspalum repens</i>						<i>Typha</i> sp.					
<i>Paspalum urvillei</i>						<i>Urochloa mutica</i> (<i>Brachiaria mutica</i>)					
<i>Peltandra</i> sp.						* <i>Utricularia gibba</i> (<i>U. biflora</i>)					
<i>Persea</i> sp.						* <i>Utricularia foliosa</i>					
<i>Pennisetum purpureum</i>						* <i>Utricularia inflata</i>					
<i>Phragmites australis</i>						* <i>Utricularia purpurea</i>					
<i>Pinus elliotii</i>						* <i>Utricularia radiata</i>					
<i>Pistia stratioides</i>						* <i>Utricularia resupinata</i>					
<i>Pluchea</i> sp.						<i>Vallisneria americana</i>					
* <i>Polygonum glabrum</i> (<i>densiflorum</i>)						<i>Vitis</i> sp.					
<i>Polygonum hirsutum</i>						* <i>Websteria confervoides</i>					
* <i>Polygonum hydropiperoides</i>						<i>Wedelia trilobata</i> (<i>Sphagneticola trilobata</i>)					
* <i>Polygonum punctatum</i>						<i>Wolffiella</i> spp.					
* <i>Polygonum</i>						<i>Woodwardia virginica</i>					
<i>Pontederia cordata</i>						<i>Xyris</i> sp.					
* <i>Potamogeton diversifolius</i>						<i>Zizania aquatica</i>					
* <i>Potamogeton illinoensis</i>						<i>Zizaniopsis milacea</i>					
* <i>Potamogeton pusillus</i>						<i>Ruellia</i> sp. <i>Simplex</i> (LB)					
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)						<i>Phylla nodiflora</i>					
<i>Proserpinaca pectinata</i>											
* <i>Rhexia</i>											
* <i>Rhynchospora corniculata</i>											
* <i>Rhynchospora inundata</i>											
<i>Rhynchospora nitens</i>											
<i>Ricciocarpus natans</i>											
<i>Sabal palmetto</i>											
<i>Sacciolepis striata</i>											
* <i>Sagittaria filiformis</i>											
* <i>Sagittaria graminea</i>											
* <i>Sagittaria isoetiformis</i>											
<i>Sagittaria lancifolia</i>											
<i>Sagittaria latifolia</i>											

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 78824 MACROPHYTE ID: 11060 LATITUDE: 28.55641
COUNTY: Orange STORET #: G2CE0154 LONGITUDE: -81.33080
DATE: 8/23/18 TIME: 950 SAMPLING AGENCY: FDEP CE-ROC
SITE NAME: Lake Gear @ Center WBID: 3023 D
FIELD ID/NAME: G2CE0154 LAKE SIZE: Medium RQ: 2018-08-20-68

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ <u>55</u> Commercial ☒ <u>25</u> Industrial ☐ <u>20</u> <i>Park - Cadyway trl</i> Other (Specify) ☐				LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI:	
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Artificially Impounded ☐ Yes ☒ No				Land Use Source & Year:	
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy					
STORMWATER INPUTS <u>4</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>4</u>		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	
BUFFER ZONE <u>2</u>		Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16		Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place 10 9 8 7 6	
				Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 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	
				Highly developed or disturbed (>70% of lakeside affected) 5 4 3 2 1	
				< 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 ☐ 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>0.3</u> <u>30.24</u> <u>7.21</u> <u>4.42</u> <u>58.2</u> <u>197</u> <u>0.09</u> Mid-Depth: _____ Bottom: <u>6.9</u> <u>23.06</u> <u>6.68</u> <u>0.67</u> <u>7.9</u> <u>329</u> <u>23.06</u>				Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____			
Meter ID: <u>Boop / Non</u>				Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid			
Sediment Type: (may check more than one) ☒ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated ☐ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____				Color: ☒ Clear ☐ Tannic ☐ Green			
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>90's cloudy</u>				Additional Notes: Large amount of periphyton all around lake, covering all submersed plants. <i>MKL</i>			
SAMPLING TEAM: <u>Mike Linger / Lert Boman</u>				SIGNATURE: <u>[Signature]</u>		DATE: <u>8/23/18</u>	



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2018

Data Qualified?

Yes / No

WIN Station Name: Lake Gear @ Center

Date: 08/23/2018
(mm/dd/yyyy)

WIN/ Field ID: G2CE0154

WBID: 3023 D Latitude: 28.55641

County: Orange

ORG ID: 21 FL CEN Longitude: -81.33080

Receiving Body of Water: _____

RQ-2018- 08-20-68

Sampling Team Members

Mike Linger

Lert Bonnan

WQ Measurements
Sample Collection
Documentation
Preservation
Preservation Check

Sampling Equipment

☒ Sample Container ☐ Van Dorn ☐ Pole
☐ Carboy ☒ Syringe
☐ Dipper ☒ Other

Depth Measured with [Secchi Disk Line] / Meter
Equipment ID [KNOTHEAD (67) / LEADFOOT (NON)]

Collection Method

☐ Wading ☒ Canoe/Kayak
☐ From Shore ☐ Electric Motor
☐ Other ☐ Gasoline Motor

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

Meter ID# Boop / Non

Matrix: (Fresh) / Marine / DI

Photos: Yes / No

Flow: No Flow / Intestinal / Flowing (NA)

Tide: Rising/ Falling/ Slack (NA)

Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)
<u>EST</u>	<u>950</u>	<u>7.4</u>	<u>0.3</u>	<u>2.2</u>	<u>4.42</u>	<u>58.2</u>	<u>7.21</u>	<u>0.09</u>	<u>197</u>	<u>30.24</u>
<u>CEN</u>			<u>6.9</u>		<u>0.67</u>	<u>7.9</u>	<u>6.68</u>	<u>0.16</u>	<u>329</u>	<u>23.06</u>

Biological Samples Collected: None HA SCI RPS Algae ID LVS (LVI) Other:

SBIO ID Numbers: SBIO-ID: 78824 HA-ID: _____ RPS-ID: _____ Macrophyte-ID: 11060 LIMS#: 202015

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	<u>SA8101020</u>	<u>4/11/19</u>	☒ <2
Metals	☒ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☐ Ice	<u>13615055</u>		
Chlorophyll	☒ CHLSUTE-W	☐ Ice			
Physical/Aggregate (Fresh) %	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CHC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-UHERB-AA ☐ W-AHERB-AA ☐ W-CARB-AA ☐ W-PCL-SQ-R ☐ W-PYR-AA-R ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

H2SO4
LOT# SA8101020
EXP: 04/11/2019

Place Preservative Sticker(s) Here
(If Available)

Notes:

WIN ID / Field ID →

Lake Gear @ Center
(3023D)



G2CE0154

Signature: [Signature]

Date: 8/23/18

Enter Field Parameters, Verify Station ID In LIMS DMT: LMD 8/28/18

QC Station ID, Field Parameters In LIMS DMT: AKL 9/10/18

Scan/Save Field Sheets

Migrate Data to WIN:

Verify Data In WIN:

LVI Map for LAKE GEAR, WBID 3023D

