

LVI

Site Name Queen's Mirror Lake Sample Date 8/6/19

WBID 2994V1 WIN ID GZCE0214 RQ 2019-08-05-52

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 8/19/19	MKL 9/9/19
Create SBIO station visit 80104	LMD 8/19/19	n/a
Vascular Entry (add LIMS ID) 11453	LMD 8/19/19	MKL 9/9/19
Lake Observation Sheet Entry	LMD 8/19/19	MKL 9/9/19
Authorize SBIO data	MKL 9/9/19	n/a
Scan all sheets to 21FLCEN folder	LMD 9/13/19	n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

831

14639



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes ☒ No ☐

WIN Station Name: Queen's Mirror Lake @ Center

Date: 08/06/2019

(mm/dd/yyyy)

WIN/ Field ID: G2CE0214

WBID: 2994V1

Latitude: 28.66247

(Decimal Degrees)

County: Seminole

ORG ID: 21FLCEN

Longitude: -81.323007

(Decimal Degrees)

Receiving Body of Water: _____

RQ-2019- 08-05-52

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Mike Linger					☒	☒	☒	☒	☒	☒ Sample Container	☒ Van Dorn	☐ Pole		
Mike Drennan					☒	☒	☒	☒	☒	☐ Carboy	☒ Syringe			
										☐ Dipper	☐ Other			
										Depth Measured with <u>Secchi Disk Line / Meter</u>				
										Equipment ID <u>Leadfoot, Knothead, Crusty/ Bucket, Mucky/ Trap</u>				
										Collection Method				
										☐ Wading	☒ Canoe/Kayak			
										☐ From Shore	☒ Electric Motor			
										☐ Other	☐ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / <u>Normal</u> / High / Flooded					Motor ID# <u>Shrimp Trap</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: <u>Yes</u> / No					Flow: No Flow / Intestinal / Flowing <u>NA</u>					Tide: Rising/ Falling/ Slack/ <u>NA</u>				
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°)				
EST	1135	2.8	0.3	0.6	8.43	111.0	6.91	0.07	157.0	29.5				
GEN			2.3		0.19	2.3	6.42	0.08	176.4	27.4				
Biological Samples Collected: None <u>HA</u> SCI RPS Algae ID LVS <u>LVI</u> Other:														
SBIO ID Numbers: SBIO-ID: <u>80104</u> HA-ID: <u>16181</u> RPS-ID: _____ Macrophyte-ID: <u>11453</u> LIMS#: <u>2109158</u>														
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	SA8344070	12/10/2019	☒ <2				
Metals		☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO3			☐ <2				
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice	16930280						
Chlorophyll		☒ CHLSUITE-W					☒ Ice							
Physical/Aggregate (Fresh)		☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-IC / 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-BacR ☐ PCR-GULL2					☐ Ice							
		☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD					☐ Ice							
Tracers		☐ W-E8321-DI ☐ W-E8321-MS					☐ Ice							
Pesticides		☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI					☐ Ice							
		☐ W-PCL-SQ-R ☐ W-E8321-MS ☐ W-CARB-AA					☐ Other							
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice							

Notes:

Signature: _____

Date: 8/6/19

WIN ID / Field ID →

Queen's Mirror Lake @ Center



G2CE0214

LIMS EVENT ID: CENT-DIST-2019- 08-07-01

Enter Field Parameters, Verify Station ID in LIMS DMT: END 8/19/19

QC Station ID, Field Parameters in LIMS DMT: MKL 9/6/19

Scan/Save Field Sheets END 9/13/19

Migrate Data to WIN: _____

Verify Data in WIN: _____

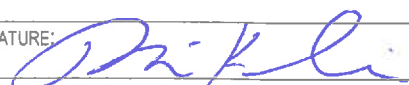
(Initials/Date)

(Initials/Date)

(Initials/Date)

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

STORET STATION NUMBER: GZCE0214	DATE (M/D/Y) 08/06/2019	LAKE NAME Queen's Mirror Lake ♀		FIELD ID / NAME: GZCE0214																	
ECO-REGION:	COUNTY: Seminole	SAMPLING LOCATION/DESCRIPTION: @ Center		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 6	Secchi >3 m Or VOB	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Vegetation Quality 11	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 4	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 3	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 3	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 3	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 7	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 37	COMMENTS:																				

ANALYSIS DATE: 8/6/19	ANALYST: Mike Linger / Mike Drennon	SIGNATURE: 
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DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 80104 MACROPHYTE ID: _____ LATITUDE: 28.66247
COUNTY: Seminole STORET #: G2CE0214 LONGITUDE: -81.323007
DATE: 8/6/19 TIME: 1135 SAMPLING AGENCY: FDEP CE.ROC
SITE NAME: Queen's Mirror Lake @ Center WBID: 2994V1
FIELD ID/NAME: G2CE0214 LAKE SIZE: _____ RQ: 2019-08-05-52

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)														
☐	☐	☐	☐	☒	☐	☐	☐														
Local Watershed Erosion (select one) : ☐ None ☒ Slight ☐ Moderate ☐ Heavy										Artificially Impounded ☐ Yes ☒ No											
Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy										Land Use Source & Year:											
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>4</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>3</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>3</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 # _____ Exp. Date: _____ Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☒ Normal ☐ High								Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____							
Meter Readings: Top: Depth (M) <u>0.3</u> Temp. (°C) <u>29.5</u> pH (SU) <u>6.91</u> D.O. (MG/L) <u>8.43</u> D.O. Sat. (%) <u>111.0</u> Cond. (UMHO/CM) <u>157.0</u> Salinity (PPT) <u>0.07</u> Mid-Depth: _____ Bottom: <u>2.3</u> <u>27.4</u> <u>6.42</u> <u>0.19</u> <u>2.3</u> <u>176.4</u> <u>0.08</u>								Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____							
Meter ID: <u>Shrimp Trap</u>								Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Tannic ☐ Clear ☐ Green							
Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☒ Vegetated ☐ Sand/Silt ☒ Organic smooth (muck) ☐ Other (Specify): _____								SECCHI (M) <u>0.6</u> Total Station Depth (M) <u>2.8</u> VOB ☐							
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								Sediment Odors: ☒ Normal ☐ Other (Specify): _____ ☐ Anaerobic							
Abundance: Absent Rare Common Abundant Periphyton ☐ ☐ ☐ ☒ Nuisance Plants ☐ ☐ ☒ ☐ Submersed Plants ☐ ☐ ☒ ☐ Exotic Apple Snails ☒ ☐ ☐ ☐								Additional Notes: <u>90</u>							
Weather Conditions : <u>90's clear</u>															
SAMPLING TEAM: <u>Mike Linger / Mike Dronnan</u>								SIGNATURE: <u>Mike</u>				DATE: <u>8/6/19</u>			

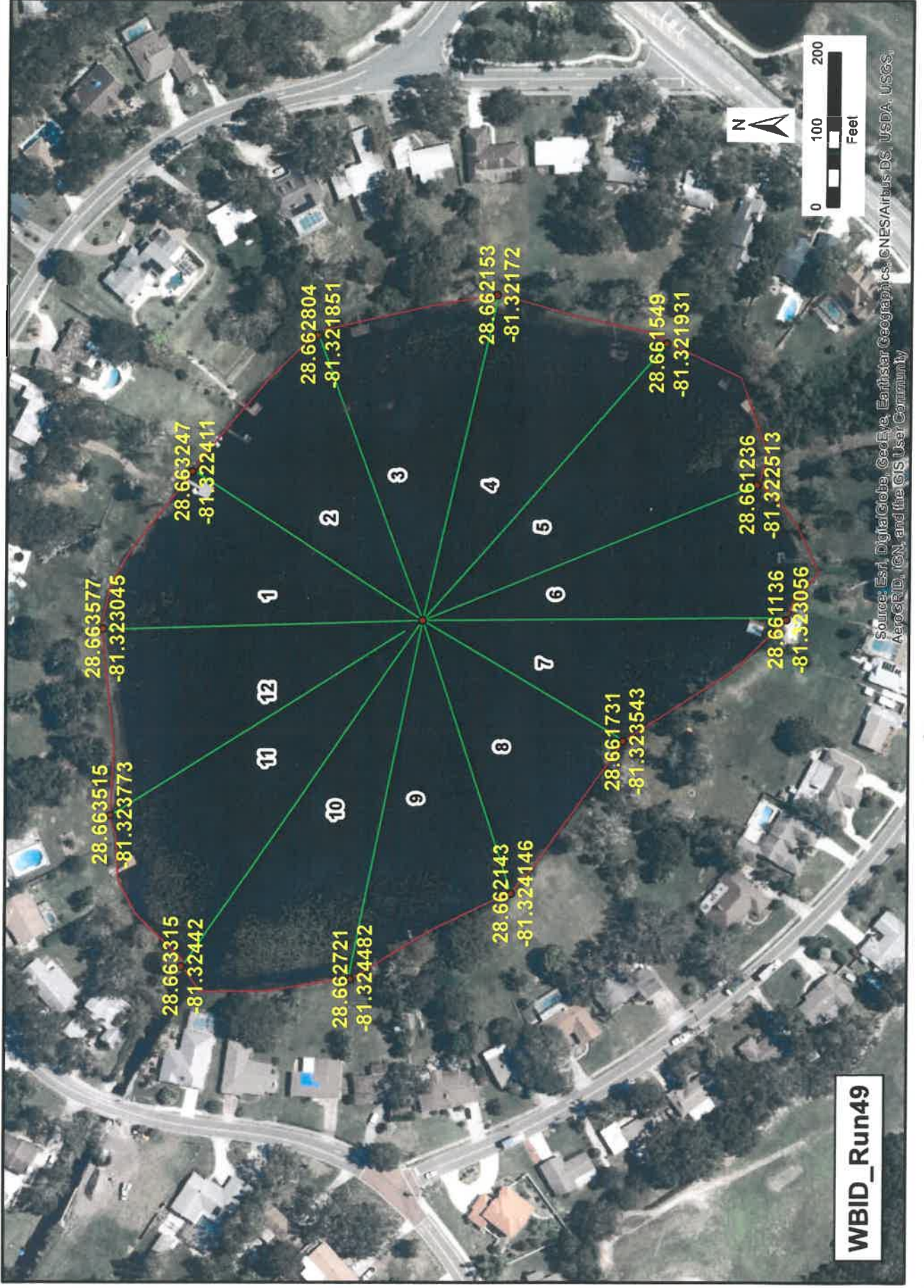
DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Queens Mirror Lake @ Center</u>		County: <u>Seminole</u>		Date: <u>8/6/19</u>							
Analyst: <u>Mike Linger, Mike Drennan</u>		Signature: <u>[Signature]</u>		STORET: <u>62CE0214</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): <u>1, 4, 7, 10</u> 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? (✓)
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					
Cyrtilla 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 <u>galatinii</u>	/					Mayaca fluviatilis					
Eleocharis cellulosa						Melaleuca quinquenervia					
*Eleocharis elongata						Micranthemum glomeratum			/	/	
Eleocharis equisetoides						Micranthemum umbrosum	/	/	/	/	
Eleocharis interstincta						Mikania scandens	/	/	/	/	
Eleocharis submersed viviparous	/	/	/	/		Mimosa pigra					
*Eriocaulon compressum						Myrica cerifera					
*Eriocaulon decangulare											
Eupatorium capillifolium											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Queen's Mirror Lake</u>					Date: <u>8/6/19</u>						
SPECIES	1	4	7	10	Collected? (Y)	SPECIES	1	4	7	10	Collected? (Y)
Myriophyllum aquaticum						<i>Salix caroliniana</i>					
* <i>Myriophyllum heterophyllum</i>						Salvinia minima	/	/	/	/	
* <i>Myriophyllum laxum</i>						<i>Sambucus canadensis</i>					
* <i>Myriophyllum pinnatum</i>						Sapium sebiferum	/				
Myriophyllum spicatum						<i>Saururus cernuus</i>					
* <i>Najas filifolia</i>						Schinus terebinthifolius					
* <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.	D	K	D	D		<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>					
Panicum repens	/	/	/	/		<i>Thelypteris palustris</i>					
<i>Paspalidium geminatum</i>						<i>Triadenum virginicum</i>					
* <i>Paspalum repens</i>						<i>Typha</i> sp.					
<i>Paspalum urvillei</i>						Urochloa mutica (<i>Brachiaria mutica</i>)					
<i>Peltandra</i> sp.						* <i>Utricularia gibba</i> (<i>U. biflora</i>)	/	/	/	/	
<i>Persea</i> sp.						* <i>Utricularia foliosa</i>					
Pennisetum purpureum						* <i>Utricularia inflata</i>					
<i>Phragmites australis</i>						* <i>Utricularia purpurea</i>					
<i>Pinus elliotii</i>						* <i>Utricularia radiata</i>					
Pistia stratioides						* <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>						Wedelia trilobata (<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>Carex longii</i>				/	
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)						<i>S. indica</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>											

LVI Map for Queen's Mirror Lake, WBID 2994V1



WBID_Run49