

LVI

Site Name Lake Helen Sample Date 7/8/19
WBID 2938A WIN ID G2LE0212 RQ 2019-07-08-67

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	KWM JUL 17 2019	LO 08/12/19
Create SBIO station visit	KWM JUL 19 2019	n/a
Vascular Entry (add LIMS ID)	KWM JUL 19 2019	LO 08/12/19
Lake Observation Sheet Entry	KWM JUL 19 2019	LO 08/12/19
Authorize SBIO data	LO 08/12/19	n/a
Scan all sheets to 21FLCEN folder	LO 08/12/19	n/a
LIMS/WIN migration	LMD 8/23/19	n/a
File in cabinet		n/a

Comments/notes:

858 14149



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Lake Helen @ center of southern lobe

Date: 07/08/2019

WIN/ Field ID: G2CE0212

WBID: 2938A

Latitude: 28.98396939

(mm/dd/yyyy)

County: Volusia

ORG ID: 21FLCEN

Longitude: -81.22930655

(Decimal Degrees)

Receiving Body of Water:

RQ-2019- 07-08-67

(Decimal Degrees)

Sampling Team Members

Leif Boman

Katie March

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 Leadfoot, Knothead, Crusty/ Bucket, Mucky/Trap

Collection Method

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

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

Photos: Yes / No

Flow: No Flow / Intestinal / Flowing / NA

Meter ID# Betty 67

Matrix: Fresh Marine / DI

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°)
EST	1140	3.1	0.3	1.1	4.59	61.4	6.74	0.07	143	30.46
GEN			2.4		0.57	7.2	6.42	0.07	144	29.35

Biological Samples Collected:

None

HA

SCI

RPS

Algae ID

LVS

LVI

Other:

SBIO ID Numbers:

SBIO-ID: 79958

HA-ID:

RPS-ID:

Macrophyte-ID: 11422

LIMS#: 2100961

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			☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	13615055		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-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 Coll ☐ Enterococci	☐ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ 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 ☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Other ☐ Ice			

Notes:

Signature: K March

Date: 7/8/19

WIN ID / Field ID →

Lake Helen @ center of southern lobe



G2CE0212

LIMS EVENT ID: CENT-DIST-2019- 07-10-01

Enter Field Parameters, Verify Station ID in LIMS DMT: KWM JUL 17 2019

QC Station ID, Field Parameters in LIMS DMT: LB 8/12/19

Scan/Save Field Sheets LB 8/12/19

(Initials/Date)

Migrate Data to WIN: LMD 8/23/19

(Initials/Date)

Verify Data in WIN:

(Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ COUNTY: Idaho DATE: 7/8/19 SITE NAME: Lake Helen FIELD ID/NAME: _____

MACROPHYTE ID: _____ STORET #: 62UE0212 TIME: _____

LATITUDE: _____ LONGITUDE: _____ SAMPLING AGENCY: _____ WBID: 2938A LAKE SIZE: _____ RQ: 2019-07-08-6

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)							
		<u>5</u>	<u>5</u>	<u>90</u>										
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy								Artificially Impounded		LDI:				
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy								☐ Yes ☒ No		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>4</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>30.46</u> pH (SU) <u>6.74</u> D.O. (MG/L) <u>4.59</u> D.O. Sat. (%) <u>61.4</u> Cond. (UMHO/CM) <u>143</u> Salinity (PPT) <u>0.07</u> Mid-Depth: _____ Bottom: <u>2.6</u> <u>29.35</u> <u>6.42</u> <u>0.57</u> <u>7.2</u> <u>144</u> <u>0.07</u>								Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____							
Meter ID: <u>Betty 67</u>								Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☐ Tannic ☒ Green							
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Sand/Silt ☐ Organic smooth (muck) ☐ Vegetated ☐ Other (Specify): _____								SECCHI (M) <u>1.1</u> Total Station Depth (M) <u>3.1</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 ☐ Anaerobic ☐ Other (Specify): _____							
Abundance: Periphyton ☐ Absent ☐ Rare ☐ Common ☒ Abundant Nuisance Plants ☐ ☐ ☐ ☒ Submersed Plants ☐ ☒ ☐ ☐ Exotic Apple Snails ☐ ☐ ☐ ☒								Additional Notes: <u>Lots of dying P. repens & other from herbicides</u>							
Weather Conditions: _____															
SAMPLING TEAM: <u>Lif Boman, Katie March</u> SIGNATURE: <u>KMarch</u> DATE: <u>7/8/19</u>															

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Helen</u>		County: <u>Volusia</u>		Date: <u>07/08/19</u>							
Analyst: <u>Kate March, K.F. Roman</u>		Signature: <u>K March</u>		STORET: <u>G21E0212</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.				Lake units sampled (circle one group): 1, 4, 7, 10 <u>2, 5, 8, 11</u> 3, 6, 9, 12							
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	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						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											

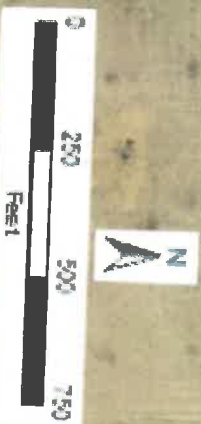
Site:					Date:						
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana	/	/	/	/	
*Myriophyllum heterophyllum						Salvinia minima					
*Myriophyllum laxum						Sambucus canadensis	/			/	
*Myriophyllum pinnatum						Sapium sebiferum	/			/	
Myriophyllum 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 mexicana				/		*Sesbania					
Nymphaea odorata	/			/		Solidago sp.					
Nymphoides aquatica				/		Sparganium americanum					
Nyssa sylvatica var. biflora						Spartina bakeri					
Orontium aquaticum						Spirodela polyrhiza				/	
Osmunda cinnamomea						Taxodium sp.				/	
Osmunda regalis						Thalia geniculata					
Panicum hemitomon	/	/		/		Thelypteris interrupta					
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 foliosa					
Pennisetum purpureum						*Utricularia inflata					
Phragmites australis						*Utricularia purpurea					
Pinus elliotii						*Utricularia radiata					
Pistia stratioides						*Utricularia resupinata					
Pluchea sp.						Vallisneria americana					
*Polygonum glabrum (densiflorum)				/		Vitis sp.					
Polygonum hirsutum	/			/		*Websteria confervoides				/	/
*Polygonum hydropiperoides						Wedelia trilobata (Sphagneticola trilobata)				/	/
*Polygonum punctatum						Wolffiella spp.					
*Polygonum						Woodwardia virginica					/
Pontederia cordata						Xyris sp.					/
*Potamogeton diversifolius						Zizania aquatica					
*Potamogeton illinoensis						Zizaniopsis milacea					
*Potamogeton pusillus											
*Potamogeton pectinatus (Stuckenia pectinatus)											
Proserpinaca pectinata											
*Rhexia											
*Rhynchospora corniculata											
*Rhynchospora inundata											
Rhynchospora nitens											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata	/	/									
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

LVI Map for, WBID 2938A, Lake Helen

WBID 2938A, Lake Helen		
Section-Points	Lat	Long
12/1	28.9982	-81.2304
1/2	28.9897	-81.2296
2/3	28.9865	-81.2299
3/4	28.9851	-81.2298
4/5	28.9846	-81.2286
5/6	28.9861	-81.2283
6/7	28.9844	-81.2278
7/8	28.9833	-81.2288
8/9	28.9837	-81.2302
9/10	28.9849	-81.2305
10/11	28.9864	-81.2308
11/12	28.9878	-81.2312



WBID_Run49



Source: Esri, DeLorme, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community