



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2020

Meter Passed End

of Day CCV

Yes

No

WIN Station Name: Lake Lucerne SW

Date: 5/19/2021

WIN/Field ID: G4CE0202

WBID: 3168Z1

ENR: -

Latitude: 28.5341

County: ORANGE

Org ID: 21FLCEN

Longitude: -81.38

Receiving Body of Water: Kissimmee River

RQ- 2021-03-29-69

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Elizabeth Bates	x		x		
☒	Leif Boman		x		x	x
☐						
☐						

Sampling Equipment	
☒ Sample Container	☐ Carboy
☐ Dipper	☐ Van Dorn
☒ Syringe	☐ Pole
Depth measured with: Secchi	
Secchi Equipment ID: Knothead	
Collection Method	
☐ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☒ Gasoline Motor

Water Level: ☒ Normal ☐ Low ☐ High ☐ Dry ☐ Pooled ☐ Flooded						Meter ID# CRAW DADDY					
Photos: NO		Flow: NA		Tide:		Tide Times: High: Low:					
Biological Samples Collected: ☐ None ☐ HA ☐ SCI ☐ RPS ☐ Algae ID ☐ LVS ☒ LVI Other:											
SBIO ID Numbers: SBIO 82453 MACROPHYTE 11817						LIMS 2248784					
Notes: AQUASHADE APPLIED											

Duplicate Sample

Time Zone: EST	Time:	Field ID: N/A	(WIN ID_DUP)
WIN DMT Activity ID:			

Blank

Time Zone:	Time:	Field ID:	(Blank Type_DDDMMYYY)
DI Source:	Location:		
DI Type:	Equipment ID:		
DI Container (Name/ID):		DI Container Type:	

LIMS EVENT ID: CEN-DIST-2021-05-20-02

WIN Import ID: 27963

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 6/18/21

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: EB 7/13/21

(Initials/Date)

Scan/Save Field Sheets KWM 8/6/21

(Initials/Date)

Migrate Data to WIN: KWM 8/6/21

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2021-03-29-69

Customer: WQAP

Project ID: SMP

Collected By: Elizabeth Bates, Leif Boman

Field Report Prepared By: Elizabeth Bates

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G4CE0202

Location: Lake Lucerne SW

Comments:

Matrix: Fresh

(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 (PPT)
5/19/2021	1118 EST	7.66	93.3	25.4	8.06	0.3	1 ☐ VOB (S)	4.2	295	0.14
	1120	7.54	91.7	25.3	7.98	2.0	Central Lab please use top row for login purposes		295.2	0.14
	1122 EST	6.94	84.3	25.1	7.82	3.7			295.6	0.14

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 # 120053 Exp: 10/05/2021	☒ 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 # 17135566 Syringe Lot # 1091364	☒ Ice		1	A
Chlorophyll (BP-1L)	☒ CHLSUITE-W	☒ Ice		1	A
Physical/Aggregate (Fresh) (P-1L)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / 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-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers (BG-500ML)	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides (BG-500ML) (BG-1L)	☐ W-E8321-DI ☐ WE8321-MS ☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-CARB-AA (5 ml of MCAA** Buffer Solution) ☐ W-DIELDRIN	☐ Ice			
Phytoplankton/Periphyton	DTM-QL-C ☐ PEN-QL-C ☒ DTY-QN-C ☐ PKD-QN-C DTM-QN-C ☐ PRN-QN-C ☒ PKD-QN-BV	☒ Ice		1	B

Name:
Elizabeth Bates
Leif Boman

Signature:

Date:

05/19/2021

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

Waterbody: <u>Lake Wacoma (West)</u>	County: <u>Orange</u>	Date: <u>5/19/21</u>									
Analyst: <u>WLF Buman Elizabeth Bates</u>	Signature: <u>WLF Buman</u>	STORE: <u>G4CE0202</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						Fuirena scirpoides					
Alternanthera philoxeroides	/	/	/	/		Gordonia lasianthus					
Amaranthus australis						Habenaria repens					
Andropogon sp.						Hibiscus coccineus					
Azolla filiculoides (A. caroliniana)				/		Hibiscus grandiflora					
Baccharis sp.						Hydrilla verticillata					
Bacopa caroliniana						Hydrocotyle sp.				/	
Bacopa monnieri						Hygrophila polysperma					
Bidens alba						Hymenocallis sp.					
Bidens laevis						*Hypericum fasciculatum					
Bidens mitis						*Hypericum hypericoides					
Blechnum serrulatum						*Hypericum myrtifolium					
Boehmeria cylindrica						Ilex cassine					
Brasenia schreberi						Ipomoea aquatica					
Cabomba caroliniana						Ipomoea sagittata					
Canna						Itea virginica					
Centella asiatica						Juncus effusus					
Cephalanthus occidentalis						*Juncus marginatus					
Ceratophyllum demersum						*Juncus megacephalus					
Chara sp.						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						<u>Ludwigia sp</u>	/			/	
Eupatorium capillifolium						<u>floating red bottom multiple roots Spirodela</u>					
Fraxinus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Lucerne</u>					Date: <u>5/19/21</u>						
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	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 foliosa					
Persea sp.						*Utricularia gibba (U. biflora)					
Pennisetum purpureum						*Utricularia inflata					
Phragmites australis						*Utricularia purpurea					
Pinus elliotii						*Utricularia radiata					
Pistia stratioides						*Utricularia resupinata					
Pluchea sp.						Vallisneria americana					
*Polygonum glabrum (densiflorum)						Vigna luteola					
Polygonum hirsutum						Vitis sp.					
*Polygonum hydropiperoides						*Websteria confervoides					
*Polygonum punctatum						Wedelia trilobata (Sphagneticola trilobata)					
*Polygonum <u>densiflorum</u>					✓	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 nitens											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 28.5311
 COUNTY: Orange STORET #: GYCE0202 LONGITUDE: -81.3782
 DATE: 5/19/21 TIME: 11:18 SAMPLING AGENCY: 21FLCEN
 SITE NAME: Lake Lucerne (west) WBID: 316821
 FIELD ID/NAME: Lake Lucerne SW LAKE SIZE: _____ RQ: 2021-03-29-69

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)			LDI: _____											
				<u>80</u>	<u>10</u>		<u>10</u>			<u>Major Roadways</u>											
Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☒ Heavy										Artificially Impounded											
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy										☒ Yes ☐ No											
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>2</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>1</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>1</u>		20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

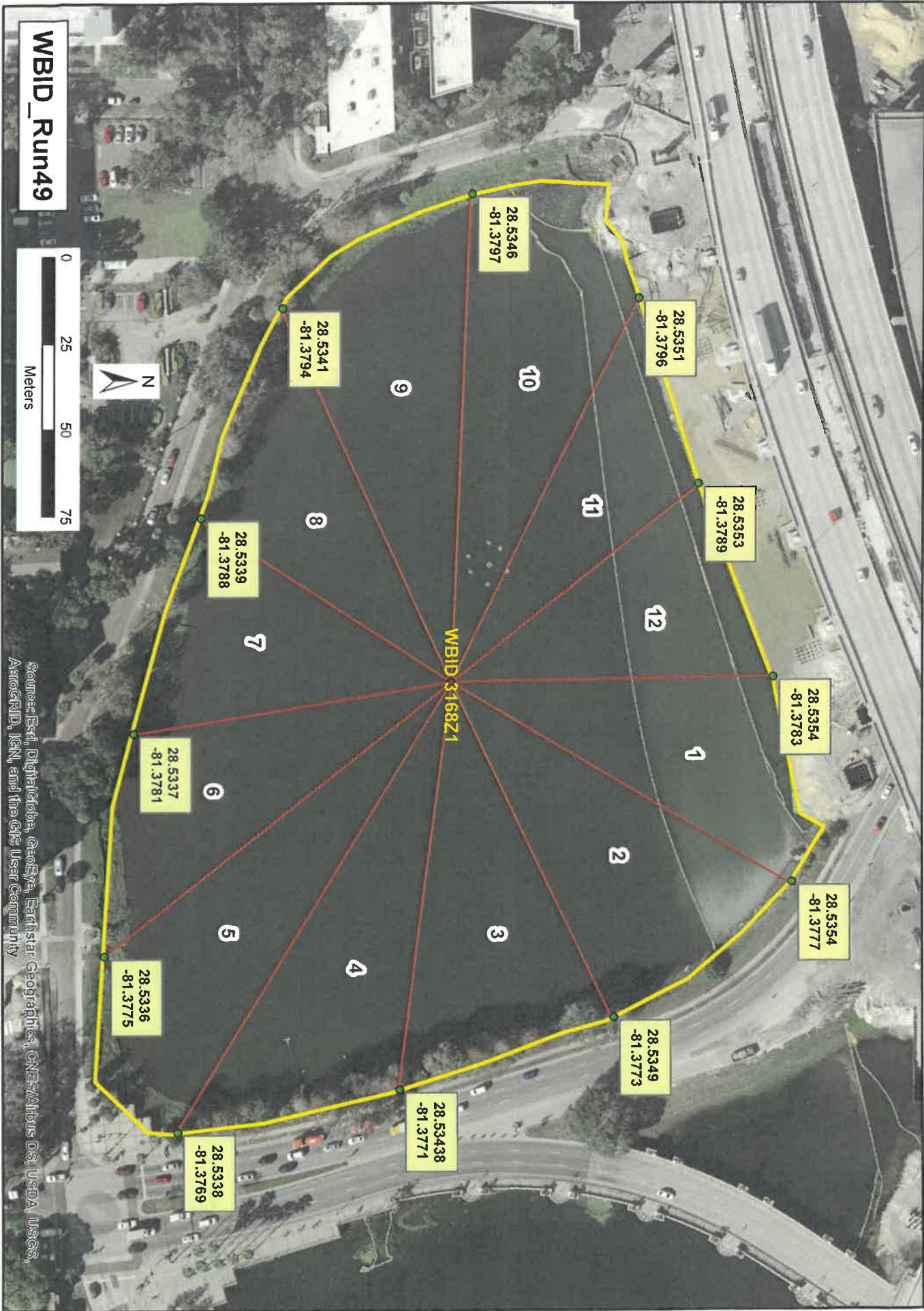
WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

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: <u>0.3</u> <u>25.4</u> <u>8.06</u> <u>7.66</u> <u>93.3</u> <u>295</u> <u>0.14</u> Mid-Depth: <u>2.0</u> <u>25.3</u> <u>7.98</u> <u>7.54</u> <u>91.7</u> <u>295.2</u> <u>0.14</u> Bottom: <u>3.1</u> <u>25.1</u> <u>7.82</u> <u>6.94</u> <u>84.3</u> <u>295.6</u> <u>0.14</u>								Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____							
Meter ID: <u>CrawDaddy</u>								Clarity: ☐ Clear ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☐ Tannic ☐ Green <u>aquashade applied to</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: <u>lake has been drained and filled multiple times for 1-4/408 construction</u>															
Weather Conditions: <u>overcast, hot, light showers</u>															
SAMPLING TEAM: <u>Leif Boman, Elizabeth Bates</u>										SIGNATURE: <u>Leif Boman</u>			DATE: <u>05/19/21</u>		

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

STORET STATION NUMBER: GRUCE0202		DATE (M/D/Y) 05/19/21		LAKE NAME Lake Lucerne (west)		FIELD ID / NAME:	
ECO-REGION:		COUNTY: Orange		SAMPLING LOCATION/DESCRIPTION: Lake Lucerne SW		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	
HYDROLOGY		☐		☐		☐	
Color ★ aquashade applied		Very clear, uncolored water (benthic sampling appropriate) ☐		Water somewhat tannin stained (benthic sampling appropriate) ☐		Dark, discolored water (water color 20 PCU or higher) ☐	
		Optimal		Suboptimal		Marginal	
Secchi		Secchi > 3 m		Secchi (m)		1.0 0.9 0.8 0.7 0.6	
10		20 19 18 17 16		15 14 13 12 11		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	
3		20 19 18 17 16		15 14 13 12 11		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	
2		20 19 18 17 16		15 14 13 12 11		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	
4		20 19 18 17 16		15 14 13 12 11		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	
1		20 19 18 17 16		15 14 13 12 11		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	
1		20 19 18 17 16		15 14 13 12 11		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					
1		20 19 18 17 16		15 14 13 12 11		5 4 3 2 1	
TOTAL SCORE		22		COMMENTS: lots of construction, major roadways surrounding lake & area.			
ANALYSIS DATE: 05/19/21		ANALYST: Leif Boman, Elizabeth Bates		SIGNATURE: Leif Boman, Elizabeth Bates			

LVI Map for Lake Lucerne (West), WBID 3168Z1



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