



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PLAN FIELD SHEET

January 2020

Meter Passed End

of Day CCV

Yes / No

WIN Station Name: Lake Emerald @ Center

Date: 7/27/2021

WIN/Field ID: G4CE0204

WBID: 3168Y1

ENR: -

Latitude: 28.53

County: ORANGE

Org ID: 21FLCEN

Longitude: -81.36

Receiving Body of Water: Kissimmee River

RQ- 2021-05-17-03

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Leif Boman		x		x	x
☒	Elizabeth Bates	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: YES		Flow: NA		Tide:		Tide Times: High: Low:							
Biological Samples Collected: ☐ None ☐ HA ☐ SCI ☐ RPS ☐ Algae ID ☐ LVS ☒ LVI Other: Phytoplankton													
SBIO ID Numbers: LIMS ID:2265381 SBIO ID: 82947 Macrophyte ID: 11921													
Notes:													

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-2021-07-28-02

WIN Import ID: 32199

Enter Field Parameters, Verify Station ID In LIMS DMT: EB 8/26/21

(Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: KWM 9/21/21

(Initials/Date)

Scan/Save Field Sheets KWM 4/15/22

(Initials/Date)

Migrate Data to WIN: KWM 4/15/22

(Initials/Date)

Verify Data In WIN:

(Initials/Date)



RQ-2021-05-17-03

Customer: WQAP

Project ID: SMP

Collected By: Leif Boman, Elizabeth Bates

Field Report Prepared By: Leif Boman

Sampling Agency: FDEP

Place Label Here

WIN ID/Field ID:



G4CE0204

Location: Lake Emerald @ Center

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)		
	1035 EST	4.92	67.7	31	7.43	0.3	0.6 ☐ VOB (S)	1.4	240.6	0.11		
7/27/2021												
	EST											
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				☒ Ice ☒ H2SO4*		☒ <2	1	.A		
		Lot #	SA1105060		Exp:	4/30/22						
Metals (P-500ML)		☐ W-ICPMS ☐ W-ICP ☐ W-HARD				☐ Ice ☐ HNO3*		☐ <2				
		Lot #			Exp:							
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A		
		Filter Lot #	17135566									
		Syringe Lot #	1091364									
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 Lot #			☐ Formalin						
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice						
Microbiology (Contract Lab Bottle)		☐ E Coli ☐ F Coli ☐ Enterococci				☐ Ice						
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3				☐ Ice						
		☐ 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	☐ Ice						
Phytoplankton/Periphyton		W-PCL-TQ-R		W-CARB-AA (5 ml of MCAA** Buffer Solution)		☐ Ice						
				☒ DTY-QN-C		☒ Ice			1	B		
				☒ PKD-QN-BV								
Name: Leif Boman Elizabeth Bates					Signature:				Date: 07/27/2021			

*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>Emerald</u>		County: <u>Orange</u>		Date: <u>7/27/21</u>	
Analyst: <u>Deborah Leif Boman</u>		Signature: <u>[Signature]</u>		STORET:	
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		Collected? (✓)		SPECIES	
Acer rubrum				Fuirena scirpoides	
Alternanthera philoxeroides	3	6	9	Gordonia lasianthus	
Amaranthus australis				Habenaria repens	
Andropogon sp.				Hibiscus coccineus	
Azolla filiculoides (A. caroliniana)	3	6	9	Hibiscus grandiflora	
Baccharis sp.				Hydrilla verticillata	D, DC
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	
Cladium jamaicense				*Juncus scirpoides	
Colocasia esculenta				Lachnanthes caroliniana	
*Commelina				Leersia hexandra	
Crinum americanum				Landoltia punctata (Spirodela punctata)	
* Cyperus alternifolius (C. involucratus)				Lemna sp.	
Cyperus articulatus				Leucothoe racemosa (Eubotrys racemosa)	
Cyperus haspan				Limnium spongia	
*Cyperus lecontei				Limnophila sessiliflora	
*Cyperus polystachyos				Liquidambar styraciflua	
*Cyperus odoratus				*Ludwigia arcuata	
*Cyperus surinamensis				*Ludwigia grandiflora	
Cyrilla racemiflora				*Ludwigia hexapetala	
Decodon verticillatus				*Ludwigia leptocarpa	
Diodia virginiana				Ludwigia (native)	
*Echinochloa crus-galli				*Ludwigia octovalvis	
*Echinochloa muricatum				*Ludwigia peruviana	
Echinochloa walteri				*Ludwigia repens	
Eclipta prostrata (E. alba)				Ludwigia suffruticosa	
Eichhornia crassipes				Luziola fluitans (Hydrochloa carolinensis)	
*Eleocharis				Magnolia virginiana	
Eleocharis cellulosa				Mayaca fluviatilis	
*Eleocharis elongata				Melaleuca quinquenervia	
Eleocharis equisetoides				Micranthemum glomeratum	
Eleocharis interstincta				Micranthemum umbrosum	
Eleocharis submersed viviparous				Mikania scandens	
*Eriocaulon compressum				Mimosa pigra	
*Eriocaulon decangulare				Myrica cerifera	
Eupatorium capillifolium					
Fraxinus					

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Emerald</u>				Date: <u>7/27/21</u>			
SPECIES			Collected? (✓)	SPECIES			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 polyrrhiza			
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 (Sphagnetica 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)				Phragmites <u>Phragmites nodiflorus</u>			
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							
<u>Phragmites nodiflorus</u>							

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 28.53
 COUNTY: Orange STORET #: _____ LONGITUDE: -81.36
 DATE: 7/27/21 TIME: 1035 SAMPLING AGENCY: 21PLCEN
 SITE NAME: Lake Emerald WBID: 316841
 FIELD ID/NAME: G4CE0204 LAKE SIZE: 2 Acre RQ: 2021-05-17-03

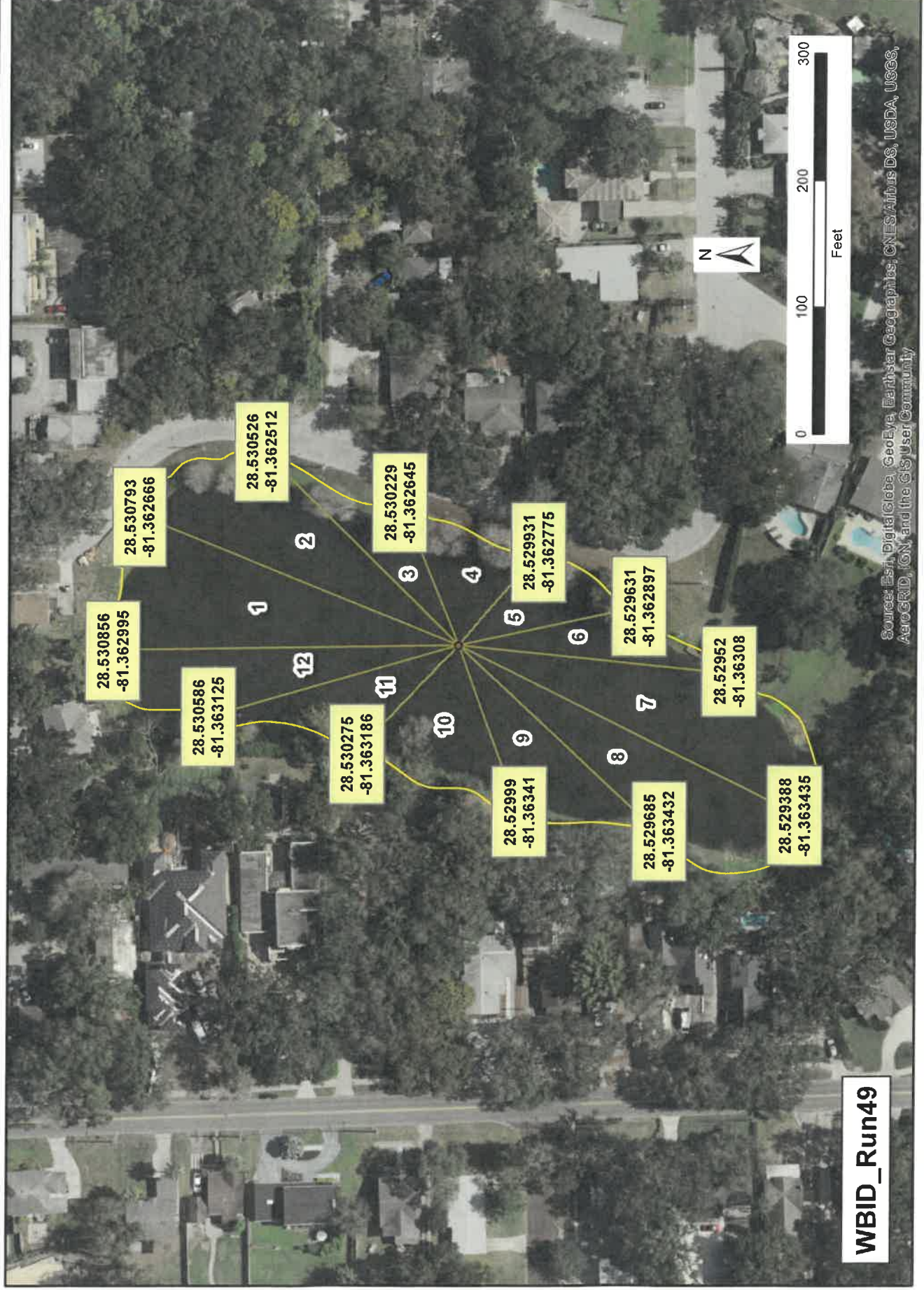
WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industrial ☐ Other (Specify) ☐				LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: <u>7.6</u>	
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy				Artificially Impounded ☐ Yes ☒ No Land Use Source & Year: <u>2013-2016</u>	
STORMWATER INPUTS <u>5</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	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place 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	
LAKESIDE ALTERATIONS <u>3</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	Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 10 9 8 7 6	Highly developed or disturbed (>70% of lakeside affected) 5 4 3 2 1	
BUFFER ZONE <u>3</u>	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer 15 14 13 12 11	50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer 10 9 8 7 6	< 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 ☐ No pH<2 ☐ No Color Sample Taken? ☒ Yes ☐ No Lot # <u>SA105060</u> Exp. Date: <u>9/30/22</u> Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☐ Normal ☒ High				Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____			
Meter Readings: Top: <u>0.3</u> <u>31.0</u> <u>7.43</u> <u>4.92</u> <u>67.7</u> <u>240.4</u> <u>0.11</u> Mid-Depth: _____ Bottom: _____				Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____			
Meter ID: <u>Cran Daddy / knothead</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): _____				Sample Taken? ☐ Yes ☒ No 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>Sunny, hot</u>				Additional Notes:			
SAMPLING TEAM: <u>Dr. Beth Bates, Leif Boman</u>				SIGNATURE: _____		DATE: <u>7/27/21</u>	

LVI Map for Lake Emerald, WBID 3168Y1



WBID_Run49