

LVI

Site Name Crystal Lake Sample Date 5/14/18
WBID 28629 WIN ID G1CE0103 RQ 2018-05-14-36

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	KWM MAY 18 2018	7/2 6/21/18
Create SBIO station visit	KWM MAY 21 2018	n/a
Vascular Entry (add LIMS ID) <u>18 6/14/18</u>	KWM MAY 21 2018 ^{UB}	LO 6/12/18 ^{KWM 6/15/18}
Lake Observation Sheet Entry	KWM MAY 21 2018	LO 6/12/18
Authorize SBIO data <u>Kwm 6/15/18</u>	LO 6/12/18	n/a
Scan all sheets to 21FLCEN folder		n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

Water Chem samples 5/14, LVI 5/14

New macrophyte ID: ~~78405~~ 10952

Reentered due to date issue.



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified?

Yes / No

WIN Station Name: Crystal Lake @ 150m SW of Center Date: 5/14/18
WIN/ Field ID: G1CE0103 WBID: 2862D Latitude: 28.55332012
County: Lake ORG ID: 21 FL CEN Longitude: -81.7605304
Receiving Body of Water: _____ RQ-2018- 05-14-36

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Leif Boman Katie March										☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☒ Syringe			
										☐ Dipper	☐ Other			
Depth Measured with <u>SECCHI DISK 1 LINE/METER</u>										Equipment ID (KNOTHEAD/67, LEADFOOT/10N, RUPT/300D)				
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>Betty 67</u>					Matrix: <u>Fresh</u> Marine/ DI				
Photos: Yes <u>No</u>					Flow: No Flow / Intestinal / Flowing <u>HA</u>					Tide: Rising/ Falling/ Slack/ <u>HA</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	1057	9.0	0.3	2.1	7.39	91.6	7.37	0.05	111	26.27				
CEN			7.0*		0.17	1.7	6.35	0.05	111	18.69				
Biological Samples Collected: <u>None</u> HA SCI RPS Algae ID LVS LVI <u>2862D</u> <u>10952</u>														
SBIO ID Numbers: SBIO-ID: <u>18405</u> HA-ID: _____ RPS-ID: _____ Macrophyte-ID: <u>10952</u> LIMS#: <u>1992590</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	<u>SA7275010</u>	<u>10/2/18</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	☒ 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 Coli ☐ Enterococci					☐ Ice								
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD					☐ Ice								
Tracers	☐ W-E8321-DI ☐ W-E8321-MS					☐ Ice								
Pesticides	☐ W-PSNP-TQ ☐ W-CT-CLR ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA					☐ Ice ☐ Other								

Notes: 28.55433, -81.760415
* deepest meter can go.
LVI not done due to weather
Signature: K March

WIN ID / Field ID →

Crystal Lake @ 150m
SW of Center (2862D)



G1CE0103

Date: 5/14/18

Enter Field Parameters, Verify Station ID In LIMS DMT: KVV IV MAY 18 2018 QC Station ID, Field Parameters In LIMS DMT: 28 6/21/18
(Initials/Date) (Initials/Date)
Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data In WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: _____
 COUNTY: Lake STORET #: 61CE0103 LONGITUDE: _____
 DATE: 5/16/18 TIME: _____ SAMPLING AGENCY: _____
 SITE NAME: Crystal Lake WBID: 28620
 FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: 2018-05-14-36

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:					
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:					
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>5</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>4</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 # _____ Exp. Date: _____ Alkalinity Sample Taken? ☒ Yes ☐ No Water Level ☐ Low ☒ Normal ☐ High								Water Odors: ☒ Normal ☐ Sewage ☐ Petroleum ☐ Other _____ Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____							
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>24.21</u> <u>7.37</u> <u>7.39</u> <u>91.6</u> <u>111</u> <u>0.05</u> Mid-Depth: _____ Bottom: <u>7.0</u> <u>18.69</u> <u>6.35</u> <u>0.17</u> <u>1.7</u> <u>111</u> <u>0.05</u>								Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☒ Tannic ☐ Green SECCHI (M) <u>2.9</u> Total Station Depth (M) <u>9.0</u> VOB ☐							
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Vegetated ☒ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____								Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____							
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>overcast, passing storms</u>															
SAMPLING TEAM: <u>LGB, KMM</u>								SIGNATURE: <u>KMauch</u>				DATE: <u>5/16/18</u>			

** Deepest meter can go.*

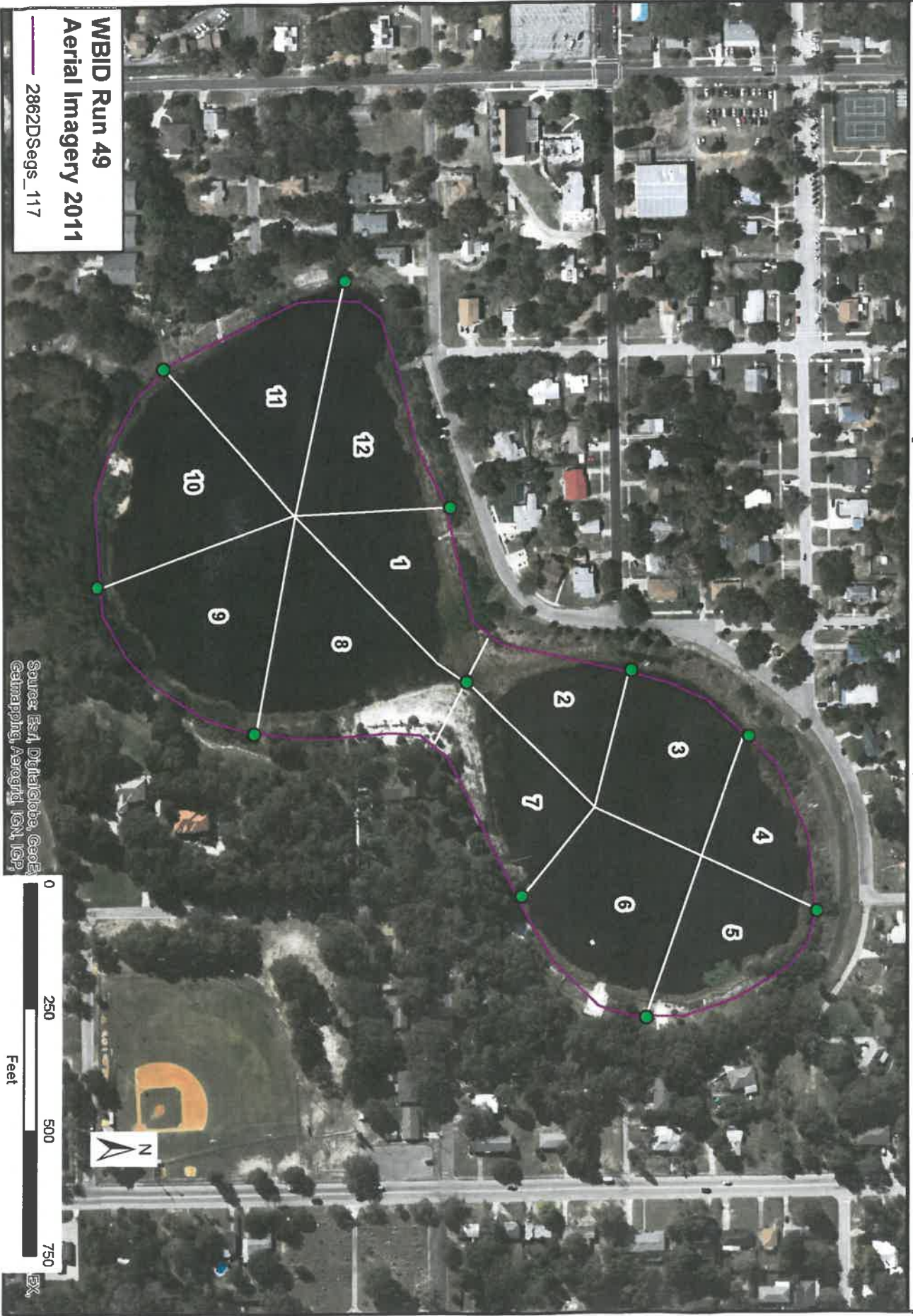
DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Crystal Lake</u>					County: <u>Lake</u>					Date: <u>5/16/18</u>				
Analyst: <u>Kate March</u>					Signature: <u>K March</u>					STORET: <u>GLCE0103</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 2, 5, 8, 11 <u>3, 6, 9, 12</u>				
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 <u>involucratus</u>	/					*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				/										

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:					Date:				
SPECIES	3	6	9/12	Collected? (✓)	SPECIES	3	6	9/12	Collected? (✓)
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.					<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>Sphagnetica 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>Erpogon Traz</i> (<i>Entrochium</i>)				
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)									
<i>Proserpinaca pectinata</i>									
* <i>Rhexia</i>									
* <i>Rhynchospora comiculata</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 CRYSTAL LAKE, WBID 2862D



Crystal Lk + LVI

last revised Jan 25, 2018

Customer: CEN-DIST

Requester: Michael Linger

Field Report Prepared By: K. March

Project ID: SMP

Collected By: L. Roman, K. March

Sampling Agency: DFCEN



WIN ID / Field ID →

Crystal Lake @ 150m
SW of Center (2862D)

Location	☐ Comp ☒ Grab		Collection (comp begin or grab) Date 5/14/18 Time 1057	Composite end Date	Eastern Central	Time	Bottle Group(s) (See pg 2)
Field ID	☐ dd ☐ dms		Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen 7.39	mg/L % sat	Total Res. Chlorine (mg/L)	A
WIN/STORET	☐ dd ☐ dms		Temp (C) 26.27	pH 7.37	ft m	Sp. Conductance (umho/cm) 111	
Latitude	☐ dd ☐ dms		Salinity (ppt) 0.05	Comments CD-FLR-ECA not collected			
Location	☐ Comp ☐ Grab		Collection (comp begin or grab) Date	Composite end Date	Eastern Central	Time	Bottle Group(s)
Field ID	☐ dd ☐ dms		Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	☐ dd ☐ dms		Temp (C)	pH	ft m	Sp. Conductance (umho/cm)	
Latitude	☐ dd ☐ dms		Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab		Collection (comp begin or grab) Date	Composite end Date	Eastern Central	Time	Bottle Group(s)
Field ID	☐ dd ☐ dms		Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	☐ dd ☐ dms		Temp (C)	pH	ft m	Sp. Conductance (umho/cm)	
Latitude	☐ dd ☐ dms		Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab		Collection (comp begin or grab) Date	Composite end Date	Eastern Central	Time	Bottle Group(s)
Field ID	☐ dd ☐ dms		Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	☐ dd ☐ dms		Temp (C)	pH	ft m	Sp. Conductance (umho/cm)	
Latitude	☐ dd ☐ dms		Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab		Collection (comp begin or grab) Date	Composite end Date	Eastern Central	Time	Bottle Group(s)
Field ID	☐ dd ☐ dms		Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	☐ dd ☐ dms		Temp (C)	pH	ft m	Sp. Conductance (umho/cm)	
Latitude	☐ dd ☐ dms		Salinity (ppt)	Comments			

Number of Coolers Shipped: 1

Shipping Method

Date/Time

Relinquished By: K. March

Received By: J.D.

Date/Time

5/15/18 10:10

Group: A	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	
ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-SO4-IC W-TDS W-TSS							
Group: A	Bottle Type:	P-250ML-WI-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	0 - not collected
CD-FLR-ECQ							
Group: A	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	
CHLSUITE-W							
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	
W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC							
Group: A	Bottle Type:	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	
W-PO4-F							