

LVI

Site Name Lake Pearl @ Center Sample Date 8/6/18
WBID 3009J WIN ID G2CE0192 RQ 2018-08-06-28

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 8/20/18	7R 8/29/18
Create SBIO station visit 78695	LMD 8/7/18	n/a
Vascular Entry (add LIMS ID) 11030	LMD 8/22/18	7R 8/29/18
Lake Observation Sheet Entry	LMD 8/22/18	7R 8/29/18
Authorize SBIO data	7R 8/29/18	n/a
Scan all sheets to 21FLCEN folder	LMD	n/a
LIMS/WIN migration	LMD	n/a
File in cabinet		n/a

Comments/notes: Intern Liz Bates present



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

April 2018

Data Qualified?

Yes / No

WIN Station Name: Lake Pearl @ Center

Date: 8/3/2018 8/6/18
(mm/dd/yyyy)

WIN ID/ Field ID G2CE0192

WBID: 3009J

Latitude: 28.604514

County: Orange

ORG ID: 21FL CEN

Longitude: -81.264114

Receiving Body of Water:

RQ - 2018-08-06-28

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Duplicate Collection	Blank Collection
TERRY RIORDAN		✓		✓				
MIKE DRENNAN					✓	✓	✓	✓
ELIZABETH BATES			✓		✓	✓		

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with: SECCHI DISK LINE/ METER		
Equipment ID (KNOTHEAD/67, LEADFOOT/NON, RUSTY/SCUD)		

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

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

Meter ID# BOOP / NON

Matrix: Fresh/ Marine / DI

Photos: Yes/ No

Flow: No Flow / Intestinal / Flowing/ NA

Tide: Rising/ Falling/ Slack/ NA

Tide Times: High Low

Field Sample										
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	0916	3.0	0.3	0.8	6.86	91.9	6.85	0.06	136 137 12	30.91
CEN			2.5		4.21	56.0	6.45	0.06	137	30.49

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:

SBIO ID Numbers: SBIO-ID: 78695 HA-ID: RPS-ID: Macrophyte-ID: 11030 LIMS#: 201414

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 Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E3821-MS ☐ W-E32821-DI	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-E3821-MS ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E3821-DI ☐ W-CARB-AA	☐ Ice ☐ Other			

H2SO4
LOT# SA8085170
EXP: 03/26/19

Place Preservative Sticker(s) Here
(If Available)

HNO3
LOT# NA8067020
EXP: 03/08/2019

Duplicate

Time Zone: <u>EST</u> CEN		Time: <u>0918</u>		Field ID: <u>G2CE0192 DUP</u> (WIN ID + DUP)	
Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H ₂ SO ₄			☒ < 2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO ₃			☒ < 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			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E3821-MS ☐ W-E3821-DI	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-E3821-DI ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E-3821-MS ☐ W-CARB-AA	☐ Ice ☐ Other			

H2SO4
LOT# SA8085170
EXP: 03/26/19

HNO3
LOT# NA8067020
EXP: 03/08/2019

Blank

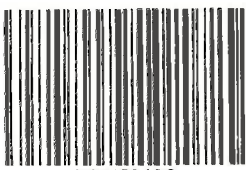
Time Zone: <u>EST</u> CEN		Time: <u>1025</u>		Field ID: <u>BLANK 08062018</u> (Blank_MMDDYYYY)	
DI Source: <u>WASHROOM</u>		Location: <u>@ Boat ramp</u>		Equipment ID: _____	
☒ Field Blank ☐ Equipment Blank ☐ Field Cleaned Equipment Blank					
WIN DMT Blank Batch ID: _____					
Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H ₂ SO ₄			☒ < 2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO ₃			☒ < 2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	13615055		
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			
Tracers	☐ W-E3821-MS ☐ W-E3821-DI	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-E3821-DI ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E3821-MS ☐ W-CARB-AA	☐ Other			

H2SO4
LOT# SA8085170
EXP: 03/26/19

HNO3
LOT# NA8067020
EXP: 03/08/2019

Notes:
BOTTLE GROUPS: A - Pearl C - Blank
B - DUP
Woodside Village community boat ramp access @ 28.6011261
-81.266473, call Yvette Baldonada (407-359-7202 X105) and she will
open gate remotely

WIN ID / Field ID → Lake Pearl @ Center (3009J)



G2CE0192

Signature: [Signature] Date: 8/6/18

Enter Field Parameters, Verify Station ID In LIMS DMT: 8/20/18 LMD (Initials/Date) QC Station ID, Field Parameters In LIMS DMT: 7/8 8/29/18 (Initials/Date)

Scan/Save Field Sheets (Initials/Date) Migrate Data to WIN: (Initials/Date) Verify Data In WIN: (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 78695 MACROPHYTE ID: 11030 LATITUDE: 28.604514
COUNTY: Orange STORET #: 62CE0192 LONGITUDE: -81.264114
DATE: 8/6/18 TIME: 916 SAMPLING AGENCY: FDDEP-CEROC
SITE NAME: Lake Pearl @ Center WBID: 30095
FIELD ID/NAME: 62CE0192 LAKE SIZE: 64 Acre RQ: 2018-08-06-28

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS) : Forest/Natural <u>10</u> Silviculture <u>0</u> Field/Pasture <u>0</u> Agricultural <u>0</u> Residential <u>90</u> Commercial <u>0</u> Industrial <u>0</u> Other (Specify) <u>0</u>					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: <u>0</u> Land Use Source & Year:				
Local Watershed Erosion (select one) : ☒ None ☐ Slight ☐ Moderate ☐ Heavy					Artificially Impounded ☐ Yes ☐ No				
Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy									
STORMWATER INPUTS <u>11</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>2</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>2</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>SA8085170</u> Exp. Date: <u>3/26/19</u> 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>30.91</u> <u>6.85</u> <u>6.86</u> <u>91.9</u> <u>136</u> <u>0.06</u> Mid-Depth: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Bottom: <u>2.5</u> <u>30.49</u> <u>6.45</u> <u>4.21</u> <u>56.0</u> <u>137</u> <u>0.06</u> Meter ID: <u>BOOP/NOON</u>						Clarity: ☐ Clear ☒ Turbid ☐ Opaque ☒ Slightly Turbid Color: ☒ Clear ☐ Tannic ☒ Green ☐ *above is "clear" SECCHI (M) <u>0.8</u> Total Station Depth (M) <u>3.0</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 ☐ 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>Low 90's, Pt. cloudy</u>						Additional Notes: <u>Intern Liz Bates Present</u>					
SAMPLING TEAM: <u>Terry Riordan, Liz Bates, Mike Drannan</u>						SIGNATURE: <u>[Signature]</u>					
						DATE: <u>8/6/18</u>					

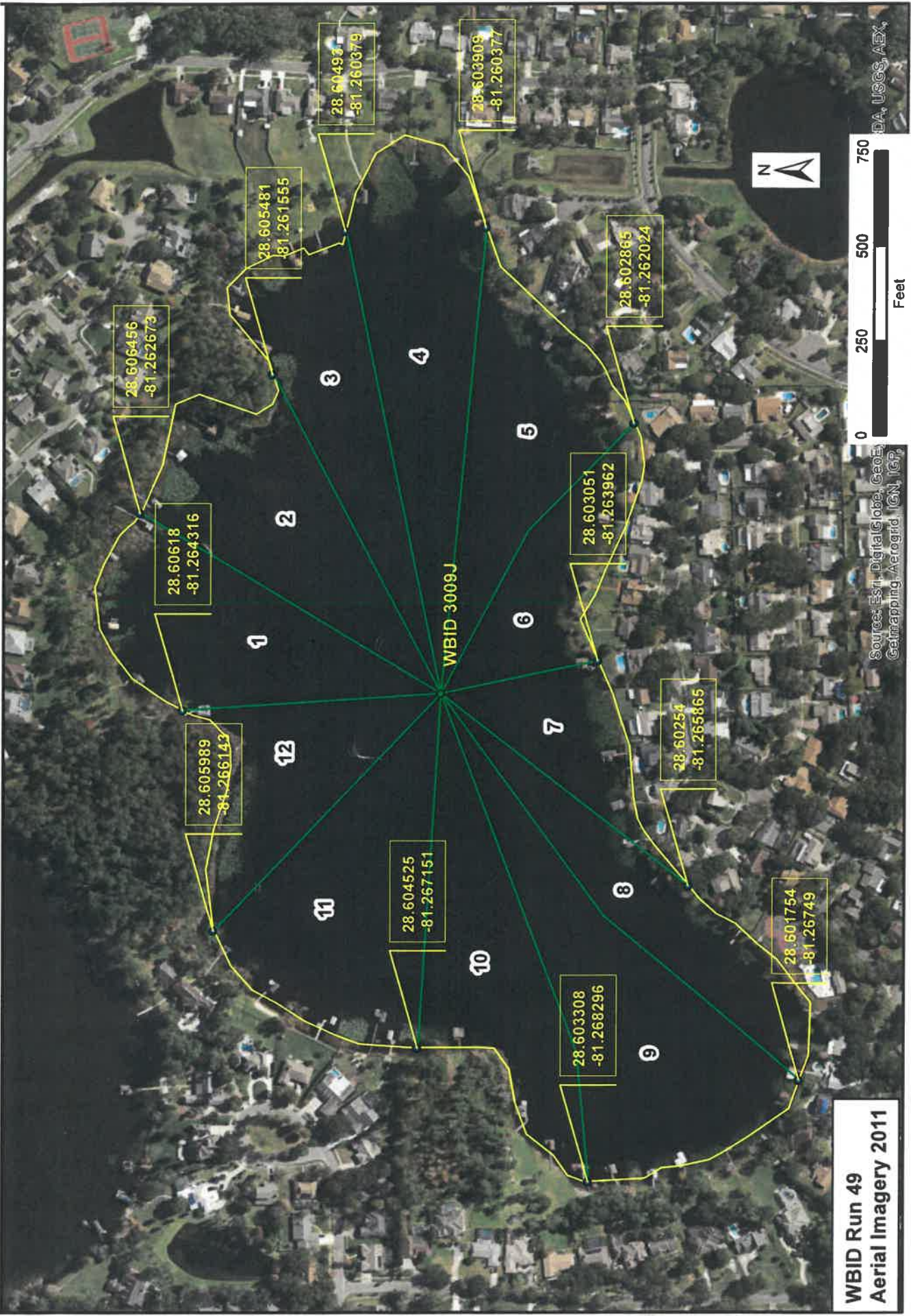
DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Lake Pearl @ Center</u>		County: <u>Orange</u>		Date: <u>8/6/18</u>							
Analyst: <u>Terry Jordan, Mike Drennan</u>		Signature: <u>[Signature]</u>		STORET: <u>G2C0192</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) ^{LM}	/	/	/	/		Leucothoe racemosa (Eubotrys racemosa)					
Cyperus articulatus						Limnium spongia					
Cyperus haspan						Limnophila sessiliflora					
*Cyperus lecontei						Liquidambar styraciflua					
*Cyperus polystachyos		/		/		*Ludwigia arcuata					
*Cyperus odoratus	/	/	/	/		Ludwigia hex-grand-uruguayensis complex**					
*Cyperus surinamensis						*Ludwigia leptocarpa					
Cyrilla racemiflora						Ludwigia (native)					
Decodon verticillatus						*Ludwigia octovalvis					
Diodia virginiana	/	/	/	/		*Ludwigia peruviana	/	/	/	/	
*Echinochloa crus-galli						*Ludwigia repens					
*Echinochloa muricatum	/	/	/	/		Ludwigia suffruticosa					
Echinochloa walteri	/	/	/	/		Luziola fluitans (Hydrochloa carolinensis)					
Eclipta prostrata (E. alba)						Magnolia virginiana					/
Eichhornia crassipes						Mayaca fluviatilis					
*Eleocharis						Melaleuca quinquenervia	/	/	/	/	
Eleocharis cellulosa						Micranthemum glomeratum	/	/	/	/	
*Eleocharis elongata						Micranthemum umbrosum	/	/	/	/	
Eleocharis equisetoides		/	/	/		Mikania scandens	/	/	/	/	
Eleocharis interstincta	/	/	/	/		Mimosa pigra					
Eleocharis submersed viviparous	/	/	/	/		Myrica cerifera	/	/	/	/	
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium	/	/	/	/							
Fraxinus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Lake Proctor Center					Date: 8/6/18						
SPECIES	1	4	7	10	Collected? (✓)	SPECIES	1	4	7	10	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>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>Canna flaccida</i>					
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)						<i>Vigna luteola</i>					
<i>Proserpinaca pectinata</i>						<i>Eragrostis hieracifolius</i>					
* <i>Rhexia cubensis</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 LAKE PEARL, WBID 3009J



WBID Run 49
Aerial Imagery 2011