FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter Passed End of Day CCV: (Yes) / No

WIN Station Name:	Twin Lakes @ Center of E Lobe					**Sample Date:**	6/27/2022
WIN / Field ID:	G3CE0063	**ORG ID:**	21FLCEN	**ENR:**	-	**Latitude:**	27.89378
County:	POLK	**WBID:**	1613F	LAKE		**Longitude:**	-81.59066
Receiving Body of Water:	-					**RQ-**	2022-06-27-14

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Leif Boman		x		x	x
Katie March	x		x		

Sampling Equipment					
x	Sample Container			Carboy	
	Dipper			Van Dorn	
x	Syringe			Pole	
Syringe Lot#	*1335260*		**Filter Lot#**	*17413308*	
Secchi Equipment ID:	*Light*				

Collection Method			
	Wading		Canoe/Kayak
	From Shore		Electric Motor
		x	Gasoline Motor
Depth Measured With	*Secchi*		

Water Level:	*Normal*
Flow:	*NA*
Matrix:	*Fresh*
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	*Yes*
Meter ID:	*Shrimp Trap*

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (C°)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTh)
EST	1252	5.4	0.3	7.88	106.5	31.2	8.66	0.7	98.6	0.04
	1254		2	5.55	72.8	29.6	8.08		98.9	0.04
	1258		4.9	0.35	4.3	27.5	6.76		149.1	0.07

Biological Samples Collected: LVI

SBIO Visit ID: 84978 **HA ID:** **RPS ID:** **Macrophyte ID:** 12213 **LIMS Sample ID Entered Into The Macrophyte Module:** 2337497

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation Type		Lot#	Expiration Date	pH Check
Microbiology								
Chlorophyll	CHLSUITE-W			ICE				
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE				
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE				
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE				
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	*132275*	*127/22*	*H2SO4 pH<2*
Metals	W-ICPMS	W-ICP		ICE	HNO3**	NA1105100	6/7/23	HNO3 pH<2
Organics (LC)	W-E8321-DI	W-E8321-MS						
Macroinvertebrates								
Organics (GC)				Ice				
	W-PSNP-TQ	W-TR-SQ-R						
Molecular								
Periphyton								
Phytoplankton								
BOD								
Other(s)								
Field Comments:								
Comments on COC:								
Relinquish Date:	06/27/2022	Signature:	KWMarch					

*2.0 ml of H2SO4 Used Unless Noted Otherwise
**2.0 ml of HNO3 Used Unless Noted Otherwise

LIMS EVENT ID: CEN-DIST-2022-06-28-02 WIN Import ID: 35070

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 7/26/22 (Initials/Date)

QC Station ID, Field Parameters In LIMS DMT: EB 8/11/22 (Initials/Date)

Save Field Sheets on Network: KWM 8/29/22 (Initials/Date)

Migrate Data to WIN: KWM 8/29/22 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: _____

COUNTY: Polk STORET #: 62CE0063 LONGITUDE: _____

DATE: 6/27/22 TIME: _____ SAMPLING AGENCY: _____

SITE NAME: Twin Lakes ~~(West)~~ East Lobe WBID: _____

FIELD ID/NAME: _____ LAKE SIZE: _____ RQ: _____

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category – from GIS): major roads

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
20				30	20		30

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)

LDI: _____

Land Use Source & Year: _____

Local Watershed Erosion (select one): ☐ None ☐ Slight ☑ Moderate ☒ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☑ Moderate ☒ Heavy

Artificially Impounded ☐ Yes ☐ No

STORMWATER INPUTS: 5	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
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
LAKESIDE ALTERATIONS: 7	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)
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
BUFFER ZONE: 6	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
	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 ☑ 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:	0.3	31.2	8.66	7.88	106.5	98.6	0.04
Mid-Depth:	2.0	29.6	8.08	5.55	72.8	98.9	0.04
Bottom:	4.9	27.5	6.76	0.35	4.3	149.1	0.07

Meter ID: _____

Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☑ Slightly Turbid

Color: ☐ Clear ☐ Tannic ☑ Green

SECCHI (M): 0.7 VOB ☐

Total Station Depth (M): 5.4

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	☑	☐	☐	☐

Additional Notes:

Much more development and direct storm water than on west lobe

Weather Conditions :

SAMPLING TEAM: Liz Boman, Katie Mauk **SIGNATURE:** KMauk **DATE:** 6/27/22

62-160.800, F.A.C.

Revision Date: January 2017

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Twin Lakes East	County: Polk	Date: 6/27/22
Analyst: Leif Boman, Katie Mach	Signature: KMach	STORET: 63CE0063

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
3, 6, 9, 12

SPECIES	1	4	7	10	Collected? (√)
Acer rubrum					
Alternanthera philoxeroides					
Amaranthus australis					
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri					
Bidens alba					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana					
Canna					
Centella asiatica					
Cephalanthus occidentalis				/	
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Colocasia esculenta					
*Commelina					
Crinum americanum					
***Cyperus alternifolius (C. involucratus)**					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos		/			
*Cyperus odoratus	/	/	C	/	
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli hairy	/	/	C	Fr	
*Echinochloa muricatum					
Echinochloa walteri	/	/	C		
Eclipta prostrata (E. alba)					
Eichhornia crassipes					
*Eleocharis					
Eleocharis cellulosa					
*Eleocharis elongata					
Eleocharis equisetoides					
Eleocharis interstincta					
Eleocharis submersed viviparous					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium	/	/	/		
Fraxinus					

SPECIES					Collected? (√)
Fuirena scirpoides					
Gordonia lasianthus					
Habenaria repens					
Hibiscus coccineus					
Hibiscus grandiflora					
Hydrilla verticillata					
Hydrocotyle sp.					
Hygrophila polysperma					
Hymenocallis sp.					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica					
Juncus effusus					
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.					
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidamber styraciflua					
*Ludwigia arcuata					
*Ludwigia grandiflora					
*Ludwigia hexapetala					
*Ludwigia leptocarpa	/	/		/	
Ludwigia (native)					
*Ludwigia octovalvis		/		C	
***Ludwigia peruviana**	/	/			
*Ludwigia repens					
Ludwigia suffruticosa					
Luziola fluitans (Hydrochloa carolinensis)					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens		/		/	
Mimosa pigra					
Myrica cerifera					

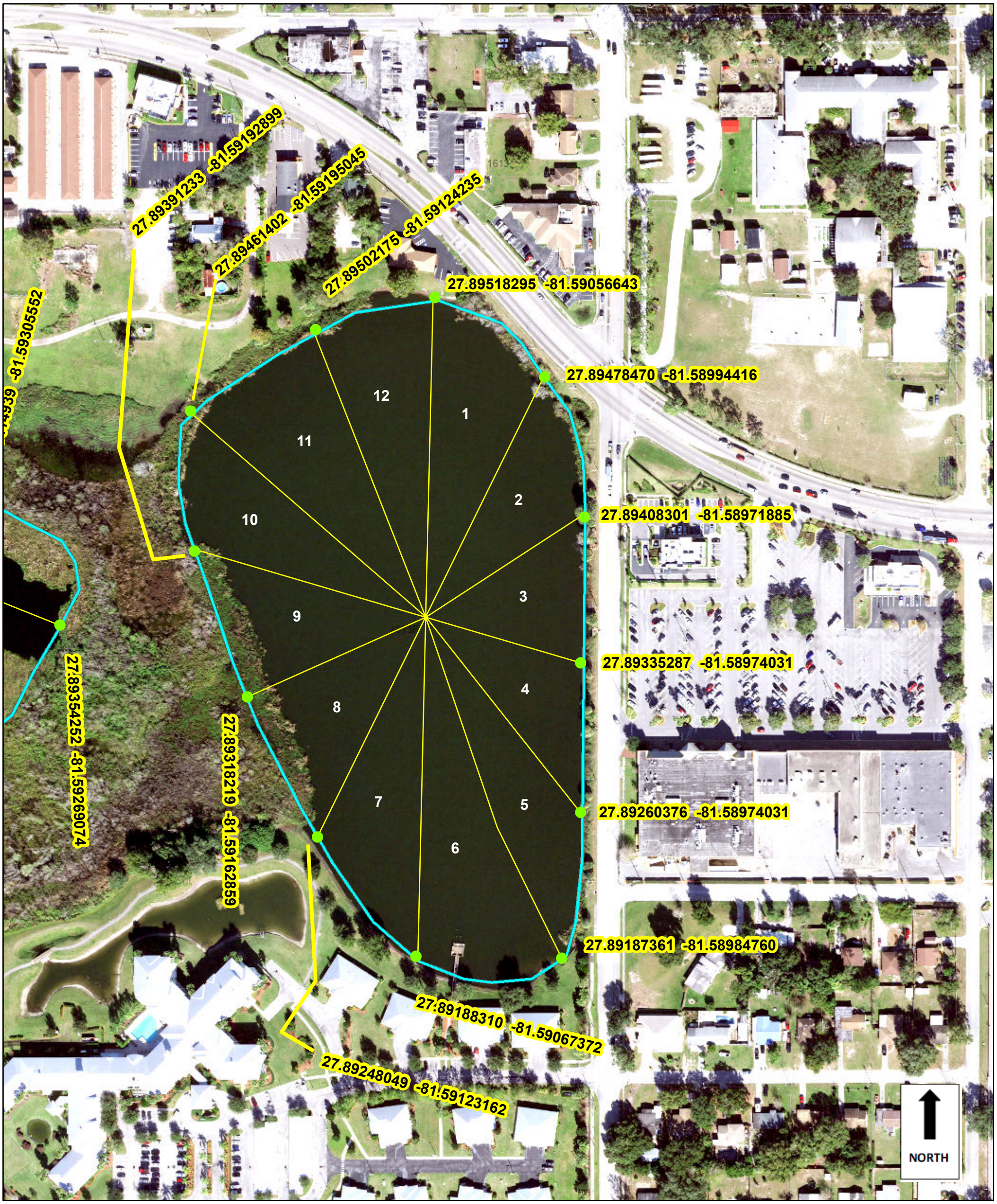
Amended September 2020 for 21FLCEN

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:						Date:					
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 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 elliottii						*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 lapathifolium		✓	✓	✓	✓	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											
Rhynochospora nitens											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata		✓									
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia											

Amended September 2020 for 21FLCEN

LVI MAP FOR WBID 1613F TWIN LAKES (1 OF 2)



1:2,257

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.14 km

FDOT, FDEP,DEAR

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