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 W Lobe					**Sample Date:**	6/27/2022
WIN / Field ID:	G3CE0037	**ORG ID:**	21FLCEN	**ENR:**	-	**Latitude:**	27.89415
County:	POLK	**WBID:**	1613F	LAKE		**Longitude:**	-81.59459
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#**	*1741330*	
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:	*No*
Meter ID:	*Shrimp Trap*

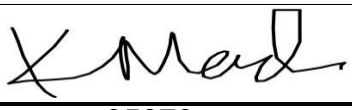
Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (C⁰)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPTh)
EST	1158	3.4	0.3	8.16	109.3	30.8	7.88	0.7	97.5	0.04
	1201		2	4.63	60.2	29.4	7.29		97.6	0.04
	1204		2.9	0.42	5.2	28.7	6.82		105.6	0.05

Biological Samples Collected: LVI

SBIO Visit ID: 84979 **HA ID:** **RPS ID:** **Macrophyte ID:** 12212 **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*	*12/7/22*	*H2SO4 pH<2*
Metals	**W-ICPMS**	**W-ICP**	**W-HARD**	**ICE**	**HNO3****	NA1105100	06/07/2022	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)								

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

Field Comments:			
Comments on COC:			
Relinquish Date:	06/27/2022	**Signature:**	

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 #: 63CE0037 LONGITUDE: _____

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

SITE NAME: Wire Lakes ~~East~~ West Lake WBID: _____

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

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)
50 ~~10~~		10	~~40~~ 10	~~40~~ 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 13	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 14	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 15	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	30.8	7.88	8.16	109.3	97.5	0.04
Mid-Depth:	2.0	29.4	7.29	4.63	60.2	97.6	0.04
Bottom :	2.9	28.7	6.82	0.42	5.2	105.6	0.05

Meter ID: _____

Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☑ Slightly Turbid

Color: ☐ Clear ☑ Tannic ☐ Green

SECCHI (M) 0.7 VOB ☐

Total Station Depth (M) 3.4

Sediment Type: (may check more than one) Sample Taken? ☐ Yes ☑ No

☐ 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: Very shallow & mucky towards edges

Weather Conditions : very hot

SAMPLING TEAM: Leif Roman, Katie Mark **SIGNATURE:** K Mark **DATE:** 6/27/22

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Twin Lakes (East) West	County: Polk	Date: 6/27/22
Analyst: Leif Boman, Katie Marsh	Signature: K Marsh	STORET: 63CE0037

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

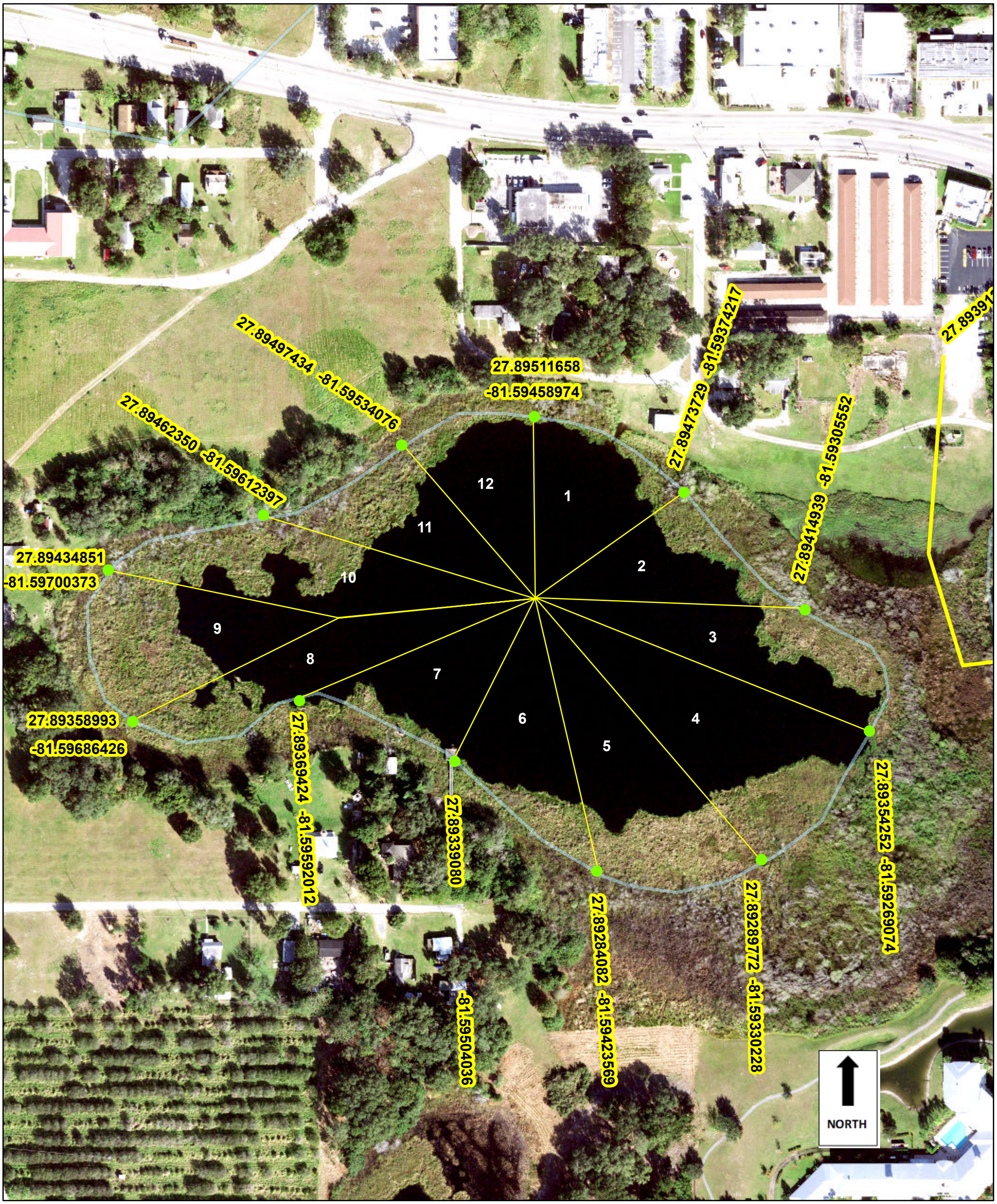
SPECIES					Collected? (√)	SPECIES					Collected? (√)
Acer rubrum						Fuirena scirpoides					
Alternanthera philoxeroides						Gordonia lasianthus					
Amaranthus australis						Habenaria repens					
Andropogon sp.						Hibiscus coccineus					
Azolla filiculoides (A. caroliniana)						Hibiscus grandiflora					
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					
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						Limnobium spongia					
*Cyperus lecontei						**Limnophila sessiliflora**					
*Cyperus polystachyos	✓	✓	✓	✓		Liquidamber 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 baldwinii						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:						Date:					
SPECIES					Collected? (√)	SPECIES	2	5	8	11	Collected? (√)
Myriophyllum aquaticum						Salix caroliniana	E	E	E	D	
*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						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 (2 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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