

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

STRATEGIC MONITORING PLAN FIELD SHEET

January 2022

Meter Passed End

of Day CCV

☒ Yes / ☐ No

WIN Station Name: Lake Dias @ Center

Date: 5/16/2022

WIN/Field ID: G2CE0235

WBID: 2667A

ENR: -

Latitude: 29.1619

County: VOLUSIA

Org ID: 21FLCEN

Longitude: -81.3132

Receiving Body of Water: -

RQ- 2022-05-16-18

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
☒	Katie March		☒		☒	☒
☒	Victoria Schwartz	☒		☒		
☐						
☐						

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:									
SBIO ID Numbers: SBIO 84192		MACROPHYTE 12137				LIMS 2327391			
Notes: SUNNY									

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_DDMMYYYY)
DI Source:		Location:				
DI Type:		Equipment ID:				
DI Container (Name/ID):				DI Container Type:		

LIMS EVENT ID: CEN-DIST-2022-05-17-02

WIN Import ID: 33667

Enter Field Parameters, Verify Station ID In LIMS DMT: KWM 5/24/22

QC Station ID, Field Parameters In LIMS DMT: EB 6/17/22

(Initials/Date)

(Initials/Date)

Scan/Save Field Sheets KWM 6/17/22

Migrate Data to WIN: KWM 6/17/22

Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)



RQ-2022-05-16-18
Customer: CEN-DIST
Project ID: STRATEGIC MONITORING PLAN

Collected By: Katie March, Victoria Schwartz
Field Report Prepared By: Katie March
Sampling Agency: FDEP

Place Label Here WIN ID/Field ID: G2CE0235 Location: Lake Dias @ Center						Comments: Please add orthophosphate (W-PO4-F) Qty. 1 bottle Group A to RQ					
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)	
5/16/2022	1201 EST	7.98	99.6	26.6	7.19	0.3	0.9 ☐ VOB (S)	4.5	112.6	0.05	
	1203	7.8	96.2	26.1	7.17	2.0	Central Lab please use top row for login purposes		112.7	0.05	
	1205 EST	4.6	55.9	25	6.44	4			115.3	0.05	
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 #	SA1308030		Exp:	12/1/22					
Metals (P-500ML)		☒ W-ICPMS ☒ W-ICP ☒ W-HARD				☒ Ice ☐ HNO3*		☐ <2	1	A	
		Lot #	NA1286110		Exp:	11/16/22					
Filtered Nutrients (P125ML)		☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter				☒ Ice			1	A	
		Filter Lot #	17413308			Syringe Lot #	1335260				
BOD (BP-1L)		☐ OV-BODUNIN				☐ Ice					
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					
Periphyton (PT-50ML)		☐ ALGAE-ID				☐ Ice					
Microbiology (Contract Lab Bottle)		☐ E Coli ☐ Coli ☐ Enterococci ☐ Contract Lab				☐ Ice					
Molecular (QPCR-P-500ML)		☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-DG3 ☐ PCR-GULL2 ☐ PCR-GFD ☐				☐ Ice					
Tracers (BG-500ML)		☐ W-E8321-DI ☐ W-E8321-MS				☐ Ice		MCAA Exp.			
Pesticides (BG-500ML) (BG-1L)		☒ W-E8321-DI	☒ WE8321-MS	☒ W-PSNP-TQ		W-CT-CL-R	☒ Ice	MCAA Lot#	5	A	
		W-PCL-TQ-R	W-CARB-AA (5 ml of MCAA** Buffer Solution)		☒	W-TR-SQ-R					
		W-PCB-TQ-R									
Phytoplankton/Periphyton				DTY-QN-C		PKD-QN-C	☐ Ice				
Name: Katie March Victoria Schwartz					Signature:					Date: 05/16/2022	

*2.0 ml of Preservative used unless noted otherwise.

**MCAA: Monochloroacetic acid buffer solution

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 29.1419
 COUNTY: Volusia STORET #: G2CE0235 LONGITUDE: -81.3132
 DATE: 5/16/22 TIME: 12:01 SAMPLING AGENCY: 21 FL CEN
 SITE NAME: Lake Dias @ Center WBID: 2667A
 FIELD ID/NAME: G2CE0235 LAKE SIZE: _____ RQ: 2022-05-16-18

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS):				LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)				
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)	LDI: _____
<u>80</u>	<u>70</u>	<u>10</u>	<u>10</u>	<u>10</u>				
Local Watershed Erosion (select one): ☒ None ☒ Slight ☐ Moderate ☐ Heavy								Land Use Source & Year:
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☒ Moderate ☐ Heavy								
STORMWATER INPUTS		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
<u>18</u>		20 19 18 17 16		15 14 13 12 11		10 9 8 7 6		5 4 3 2 1
LAKESIDE ALTERATIONS		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)
<u>18</u>		20 19 18 17 16		15 14 13 12 11		10 9 8 7 6		5 4 3 2 1
BUFFER ZONE		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
<u>17</u>		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 ☐ No pH < 2 ☐ No Color Sample Taken? ☒ Yes ☐ No Lot # <u>SA1308030</u> Exp. Date: <u>12/1/22</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: <table border="1"> <thead> <tr> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat. (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> </tr> </thead> <tbody> <tr> <td>Top: <u>0.3</u></td> <td><u>26.6</u></td> <td><u>7.19</u></td> <td><u>7.98</u></td> <td><u>99.6</u></td> <td><u>112.6</u></td> <td><u>0.05</u></td> </tr> <tr> <td>Mid-Depth: <u>2.0</u></td> <td><u>26.1</u></td> <td><u>7.17</u></td> <td><u>7.80</u></td> <td><u>96.2</u></td> <td><u>112.7</u></td> <td><u>0.05</u></td> </tr> <tr> <td>Bottom: <u>4.0</u></td> <td><u>25.0</u></td> <td><u>6.44</u></td> <td><u>4.60</u></td> <td><u>55.9</u></td> <td><u>115.3</u></td> <td><u>0.05</u></td> </tr> </tbody> </table>				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)	Top: <u>0.3</u>	<u>26.6</u>	<u>7.19</u>	<u>7.98</u>	<u>99.6</u>	<u>112.6</u>	<u>0.05</u>	Mid-Depth: <u>2.0</u>	<u>26.1</u>	<u>7.17</u>	<u>7.80</u>	<u>96.2</u>	<u>112.7</u>	<u>0.05</u>	Bottom: <u>4.0</u>	<u>25.0</u>	<u>6.44</u>	<u>4.60</u>	<u>55.9</u>	<u>115.3</u>	<u>0.05</u>	Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☒ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green SECCHI (M) <u>0.9</u> Total Station Depth (M) <u>4.5</u> VOB ☐			
Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)																													
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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: <table border="1"> <thead> <tr> <th></th> <th>Absent</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☒</td> </tr> <tr> <td>Nuisance Plants</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Submersed Plants</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Exotic Apple Snails</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>					Absent	Rare	Common	Abundant	Periphyton	☐	☐	☒	☒	Nuisance Plants	☐	☐	☒	☐	Submersed Plants	☐	☐	☒	☐	Exotic Apple Snails	☒	☐	☐	☐			
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Submersed Plants	☐	☐	☒	☐																															
Exotic Apple Snails	☒	☐	☐	☐																															
Weather Conditions: <u>Sunny</u> - LVI: Submerged aquatic veg (Najas/Uticularia/Vallisneria) likely present in sections not marked but could not confirm due to accessibility with motor				Additional Notes: (eggs) - Native apple snails present - Vitis covering most plants along shoreline especially North side of lake																															
SAMPLING TEAM: <u>Katie March / Victoria Schwarz</u>				SIGNATURE: <u>Katie March</u>		DATE: <u>5/16/22</u>																													

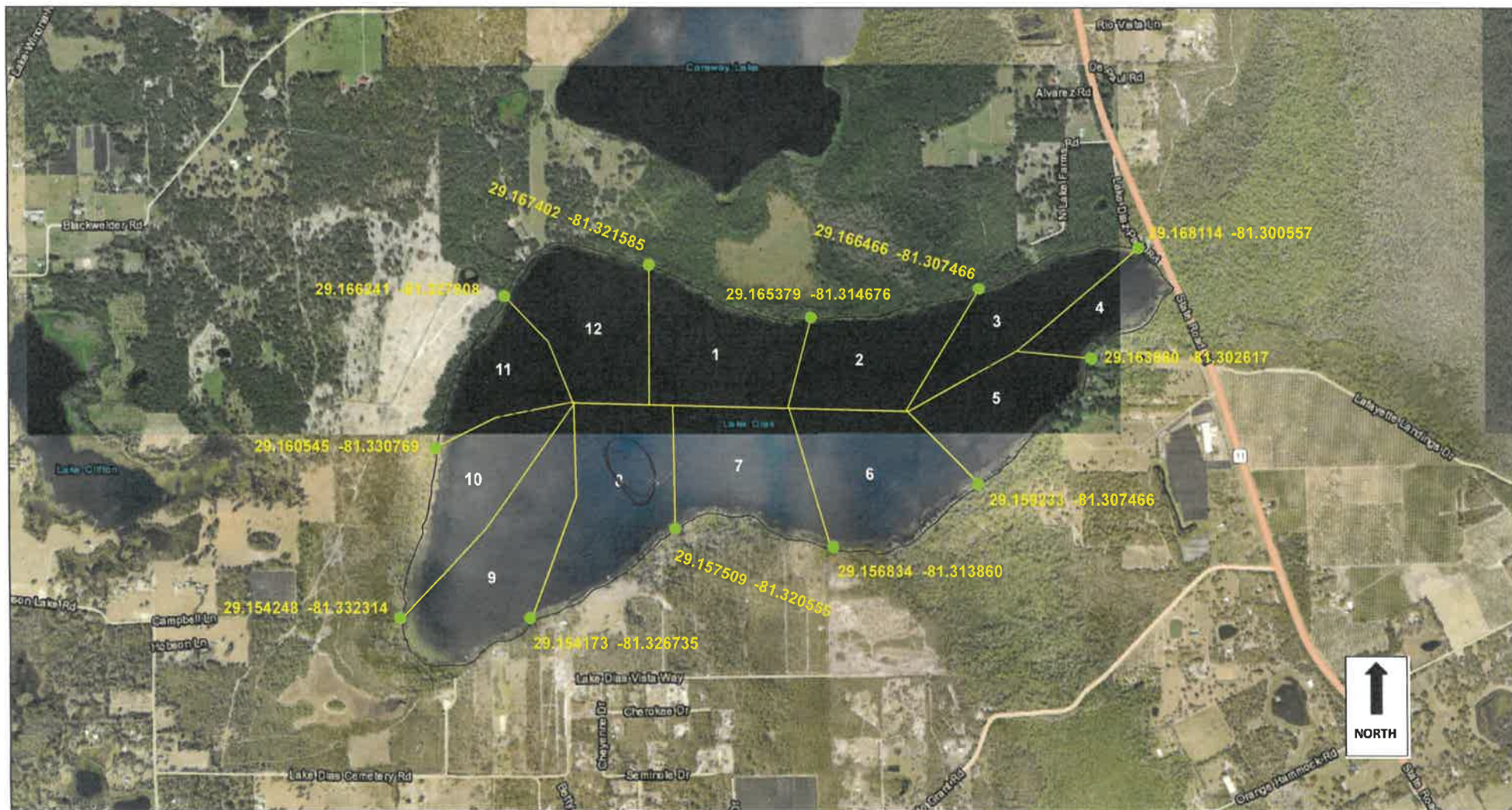
Waterbody: <u>Lake Dias</u>		County: <u>Volusia</u>		Date: <u>5/16/22</u>							
Analyst: <u>Katie March + Victoria Schwartz</u>		Signature: <u>K March / V Schwartz</u>		STORET: <u>G2CE0235</u>							
Except where noted as "sp." species level identification required. *Genera that may require lab verification* Plants in bold = FLEPPC invasive exotic.				Lake units sampled (circle one group): 1, 4, 7, 10 <u>2, 5, 8, 11</u> 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	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	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						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 viviparus						Mikania scandens					
*Eriocaulon compressum						Mimosa pigra					
*Eriocaulon decangulare						Myrica cerifera					
Eupatorium capillifolium											
Fraxinus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Lake Dias</u>					Date: <u>5/16/22</u>						
SPECIES	2	5	8	11	Collected? (✓)	SPECIES	2	5	8	11	Collected? (✓)
Myriophyllum aquaticum						<i>Salix caroliniana</i>					
* <i>Myriophyllum heterophyllum</i>						<i>Salvinia minima</i>					
* <i>Myriophyllum laxum</i>						<i>Sambucus canadensis</i>					
* <i>Myriophyllum pinnatum</i>						<i>Sapium sebiferum</i>					
<i>Myriophyllum spicatum</i>						<i>Saururus cernuus</i>					
* <i>Najas filifolia</i>						<i>Schinus terebinthifolius</i>					
* <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>					
<i>Panicum repens</i>						<i>Thelypteris palustris</i>					
<i>Paspalidium geminatum</i>						<i>Triadenum virginicum</i>					
* <i>Paspalum repens</i>						<i>Typha</i> sp.					
<i>Paspalum urvillei</i>						<i>Urochloa mutica</i> (<i>Brachiaria mutica</i>)					
<i>Peltandra</i> sp.						* <i>Utricularia foliosa</i>					
<i>Persea</i> sp.						* <i>Utricularia gibba</i> (<i>U. biflora</i>)					
<i>Pennisetum purpureum</i>						* <i>Utricularia inflata</i>					
<i>Phragmites australis</i>						* <i>Utricularia purpurea</i>					
<i>Pinus elliotii</i>						* <i>Utricularia radiata</i>					
<i>Pistia stratioides</i>						* <i>Utricularia resupinata</i>					
<i>Pluchea</i> sp.						<i>Vallisneria americana</i>					
* <i>Polygonum glabrum</i> (<i>densiflorum</i>)						<i>Vigna luteola</i>					
<i>Polygonum hirsutum</i>						<i>Vitis</i> sp.					
* <i>Polygonum hydropiperoides</i>						* <i>Websteria confervoides</i>					
* <i>Polygonum punctatum</i>						<i>Wedelia trilobata</i> (<i>Sphagneticola trilobata</i>)					
* <i>Polygonum</i>						<i>Wolffiella</i> spp.					
<i>Pontederia cordata</i>						<i>Woodwardia virginica</i>					
* <i>Potamogeton diversifolius</i>						<i>Xyris</i> sp.					
* <i>Potamogeton illinoensis</i>						<i>Zizania aquatica</i>					
* <i>Potamogeton pusillus</i>						<i>Zizaniopsis milacea</i>					
* <i>Potamogeton pectinatus</i> (<i>Stuckenia pectinatus</i>)											
<i>Proserpinaca pectinata</i>											
* <i>Rhexia</i>						green shrub → <i>Lyonia lucida</i>					✓
* <i>Rhynchospora corniculata</i>						<i>Nephrolepis</i> → <i>Nephrolepis</i>					
* <i>Rhynchospora inundata</i>						fern					
<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>											

5/16/22

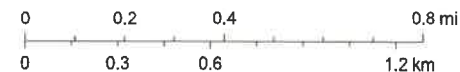
LVI MAP FOR WBID 2667A LAKE DIAS



April 21, 2022

NOI: Grapenle (Antis) - White etc

1:18,056



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Map created by Map Direct, powered by ESRI.

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