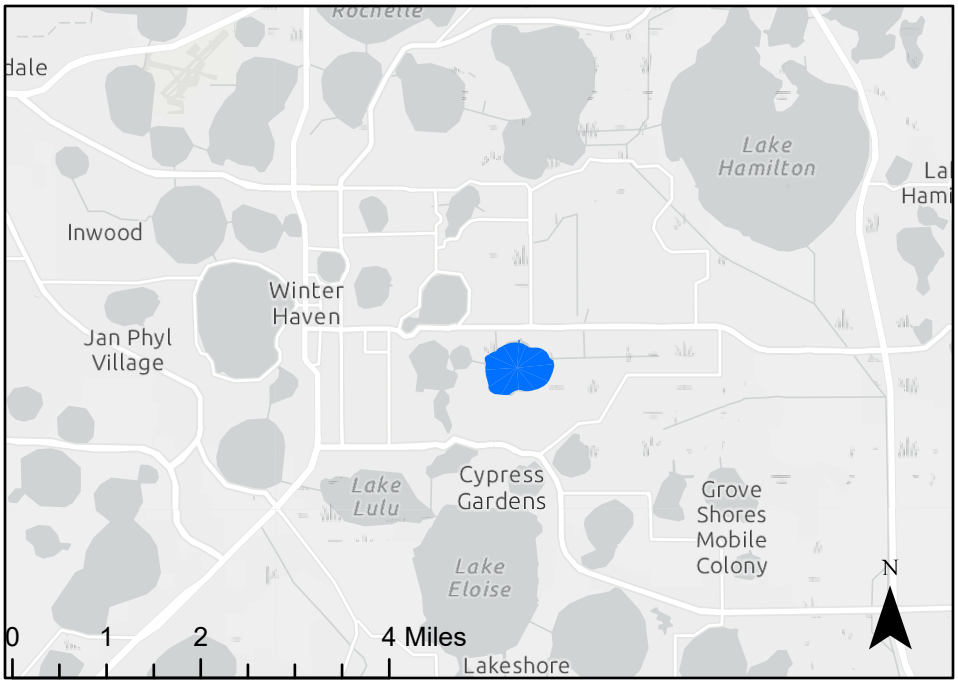
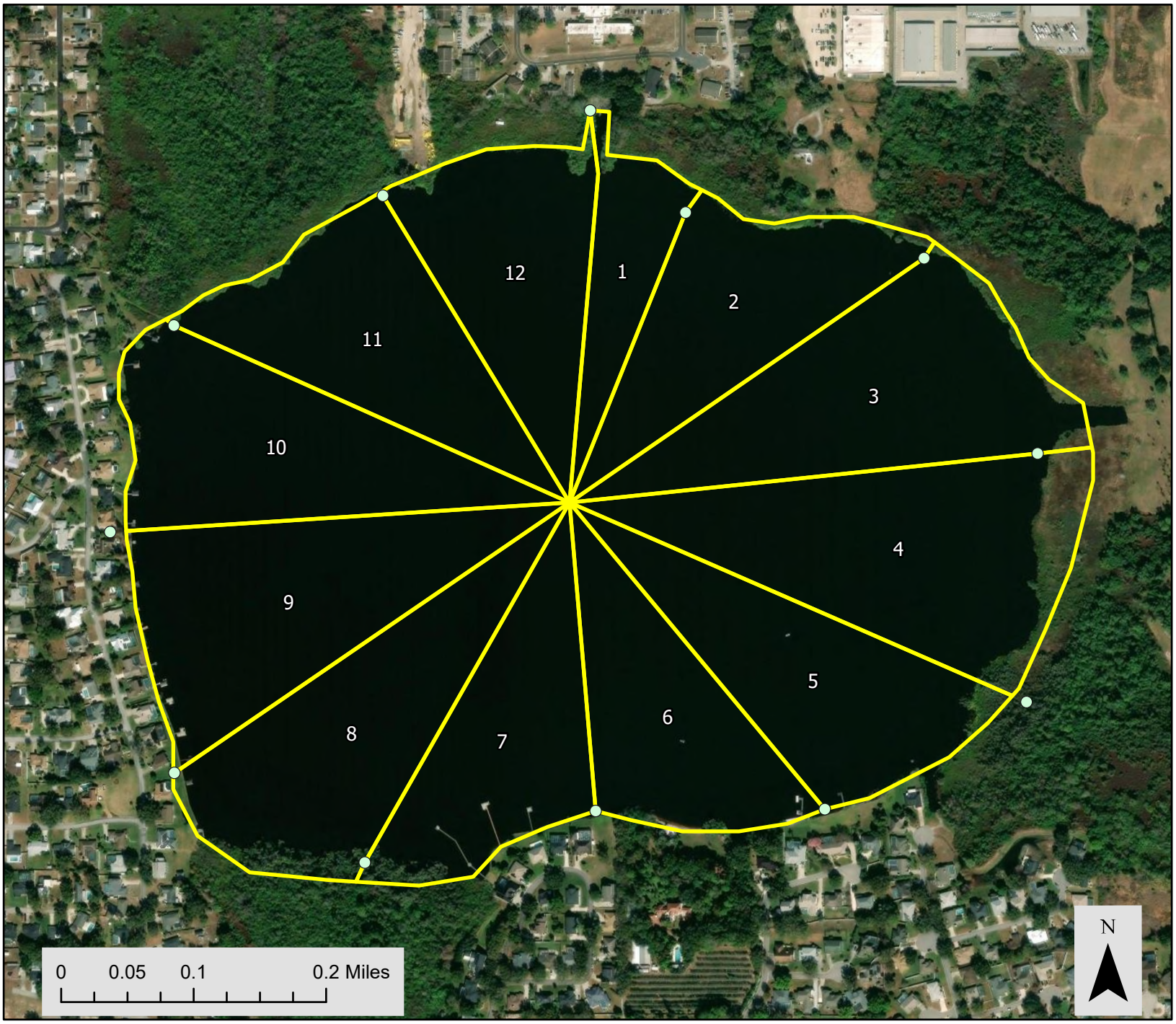


Lake Mariam
WBID 1539X

Sample Date - June 15, 2026
Surface Area - 181.4 acres (8,615,185 sqft)
100m Landscape Development Intensity - 4.4
Dominant Land Use 100m Buffer - Forest/Natural (47.6%)
Residential (45.7%)
Lake Vegetation Index - 11
Lake Habitat Assessment - 66
Water Clarity - 0.5 m (1.64 ft)



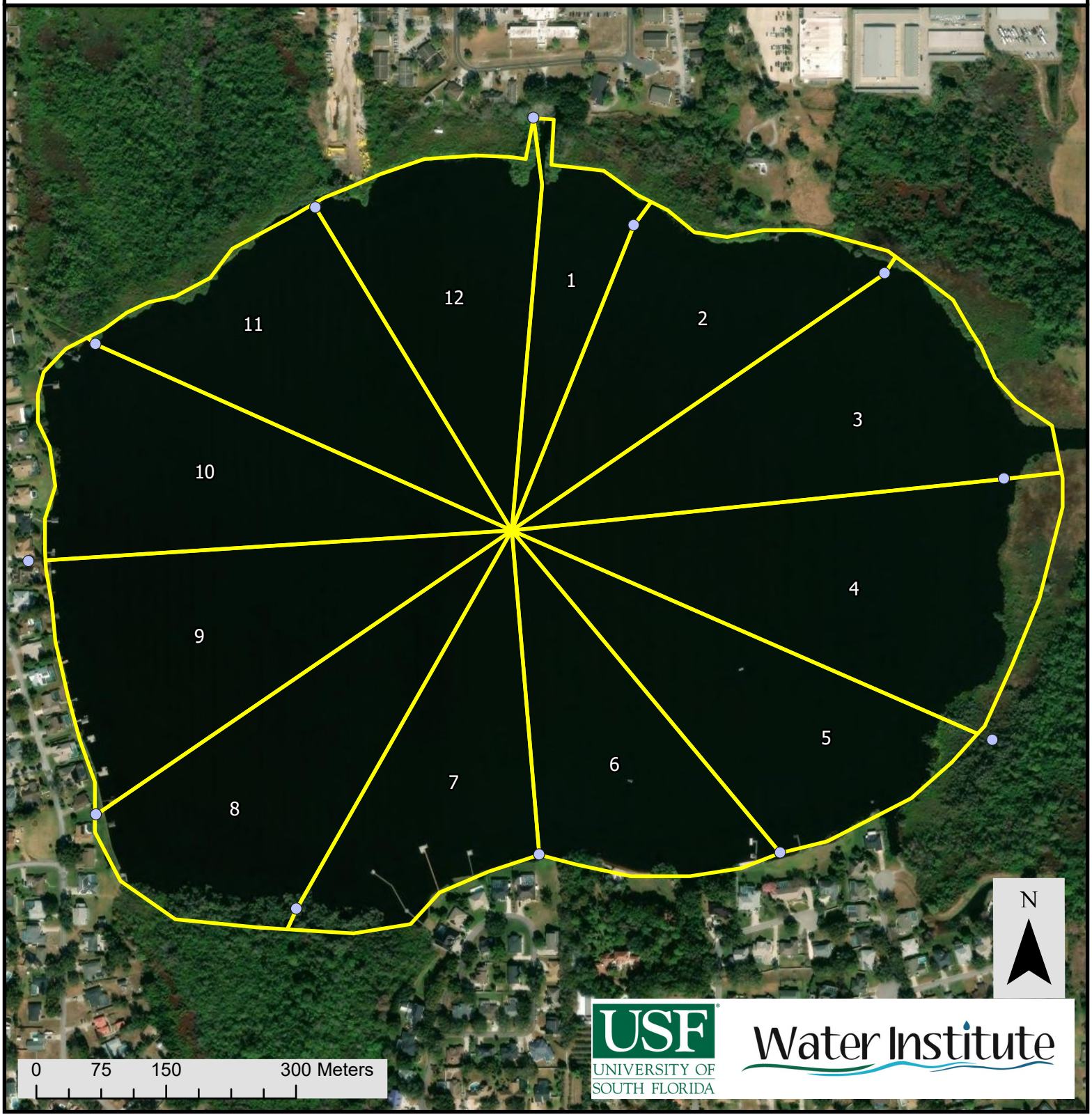
Lake Mariam
WBID 1539X

LVI_Points

LVI_Regions

Sample Date - June 15, 2026
Regions Assessed - (3, 6, 9, 12)
Dominant Species Per Region -
3- Sagittaria lancifolia
Ludwigia peruviana
6- Melaleuca viminalis
Schinus terebinthifolius
9 - Ludwigia peruviana
Ludwigia octovalis
12- Ludwigia peruviana
Ludwigia octovalis

Lake Description
Water Clarity - 0.5 meters
(1.64 ft)
- Turbid
Color - Tannic
Sediment Types
Organic Smooth
Organic Fibrous
Lake Vegetation Index - 11



DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: Mariam | MACROPHYTE ID: | LATITUDE:
COUNTY: Polk | STORET #: | LONGITUDE:
DATE: 6/15/26 | TIME: 12:30 | SAMPLING AGENCY: USFWS
SITE NAME: Lake Mariam | WBID:
FIELD ID/NAME: Mariam | 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)

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 11	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 13	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 14	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:	0.25	30.66	7.14	5.86	77.9	220.1	0.1
Mid-Depth:	0.86	30.66	7.14	5.84	77.7	220.1	0.1
Bottom :	1.7	30.53	7.13	5.87	78.5	220.3	0.1

Meter ID: USF Manta 2

Clarity: ☐ Clear ☐ Opaque ☑ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☑ Tannic ☐ Green

SECCHI (M) 0.30

VOB ☐

Total Station Depth (M) 2.1

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:

Weather Conditions :

SAMPLING TEAM: David Eilers | **SIGNATURE:** | **DATE:** 6/15/26

DEP Form FD 9000-6: Lake Habitat Assessment Field Sheet

STORET STATION NUMBER:	DATE (M/D/Y): 6/15/26	LAKE NAME: Lake Marian	FIELD ID / NAME: Marian
ECO-REGION: 75c	COUNTY: Polk	SAMPLING LOCATION/DESCRIPTION:	LAKE SIZE:

PARAMETER				
HYDROLOGY	No surface inflow or outflow present, very long water residence time, groundwater seepage dominates ☑	Surface water inflow present, but flow is rare, moderate to long water residence time ☐	Surface water inflow and outflow present (or outflow only), sometimes with visible flow, short water residence time ☐	Impounded, hydrology of system artificially controlled ☐
Color	Very clear, uncolored water (benthic sampling appropriate) ☐	Water somewhat tannin stained (benthic sampling appropriate) ☐	Dark, discolored water (water color 20 PCU or higher) ☐	Visibility extremely reduced due to high color ☑

	Optimal					Suboptimal					Marginal					Poor				
Secchi 5	Secchi >3 m		Secchi(m)			3	2.6	2.2	1.8	1.4	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1
	Or VOB	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Vegetation Quality 8	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa					Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants					Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats					Lake choked (>40%) with nuisance macrophytes (duck-weed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Stormwater Inputs 11	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
Bottom Substrate Quality 4	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present					Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present					Moderate layer of CPOM/ mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom					Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom				
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Lakeside Adverse Human Alternations 13	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%)					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
Upland Buffer Zone 14	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
Adverse Watershed Land Use 11	Score the potential effects from adverse human land uses, based on a continuum of amount and type, with least to most adverse as follows: Native vegetation, Silviculture, Pasture or Citrus, Low Density Residential, Row Crops, Commercial, High Density Residential, Urban, Industrial																			
	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

TOTAL SCORE	66	COMMENTS:

ANALYSIS DATE: 6/15/26	ANALYST: David Eilers	SIGNATURE:

22.80

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Mariam	County: Polk	Date: 6/5/26
Analyst: David Eilers	Signature:	STORET:

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	3	6	9	12	Collected? (√)	SPECIES	3	6	9	12	Collected? (√)
Acer rubrum		1		1		Habenaria repens					
Alternanthera philoxeroides	1	1		1		**Hydrilla verticillata**					
Andropogon sp.						Hydrocotyle sp.	1	1			
Azolla filiculoides (A. caroliniana)	1					**Hygrophila polysperma**					
Baccharis sp.						*Hypericum fasciculatum					
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri	1					*Hypericum myrtifolium					
Bidens laevis						Ilex cassine					
Bidens mitis						**Ipomoea aquatica**					
Blechnum serrulatum						Ipomoea sagittata					
Boehmeria cylindrica		1				Itea virginica					
Brasenia schreberi						Juncus effusus					
Cabomba caroliniana						*Juncus marginatus					
Casuarina equisitifolia						*Juncus megacephalus					
Centella asiatica						Juncus repens					
Cephalanthus occidentalis	1		1			*Juncus scirpoides					
Ceratophyllum demersum						Lachnanthes caroliniana	1				
Chara sp.						Leersia hexandra					
Cladium jamaicense						**Landoltia punctata (Spirodela punctata)**					
Cliftonia monophylla						Lemna sp.	1				
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)					
*Commelina _____						Limnobium spongia					
Crinum americanum						**Limnophila sessiliflora**					
***Cyperus alternifolius** (C. involucratus)						Liquidamber styraciflua					
Cyperus articulatus						*Ludwigia arcuata					
Cyperus haspan						*Ludwigia leptocarpa					
*Cyperus lecontei						*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis	1			1	
*Cyperus odoratus	1	1	1			***Ludwigia peruviana**	C	1	1	1	
*Cyperus surinamensis						*Ludwigia repens					
Cyrilla racemiflora						*Ludwigia _____					
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)	1				
Diodia virginiana						Lyonia lucida					
*Echinochloa crus-galli						Magnolia virginiana					
*Echinochloa muricatum						Mayaca fluviatilis					
Echinochloa walteri		1				**Melaleuca quinquenervia**	1	1		1	
Eclipta prostrata (E. alba)	1					Micranthemum glomeratum					
Egeria densa						Micranthemum umbrosum	1				
Eichhornia crassipes	1			1		Mikania scandens	1	1	1	1	
*Eleocharis baldwinii	1					**Mimosa pigra**					
*Eleocharis vivipara	1					Myrica cerifera	1			1	
Eleocharis cellulosa						Melaleuca viminalis		C			
Eleocharis equisetoides						UNK vine Clematis	1	1		1	
Eleocharis interstincta						Musa		1			
*Eriocaulon compressum						Enteralobidium consortium		1			
*Eriocaulon decangulare						Vitis rotundifolia		1		1	
Eupatorium capillifolium		1									
*Fuirena _____						Ptilium capillaceum			1		
Fuirena scirpoidea						Erichites hieracifolia				1	
Gordonia lasianthus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Marion | Date: 6/15/20

SPECIES	3	6	9	12	Collected? (√)
Myriophyllum aquaticum					
*Myriophyllum heterophyllum					
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis					
*Najas minor					
Nelumbo lutea					
Nitella spp.					
Nuphar sp.					
Nymphaea odorata					
Nymphoides aquatica					
Nyssa sylvatica var. biflora					
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon					
Panicum repens	1	1	1		
Paspalidium geminatum					
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Persea sp.					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii					
Pistia stratioides					
Pluchea sp.					
*Polygonum glabrum (densiflorum)					
*Polygonum hydropiperoides	1				
*Polygonum punctatum					
*Polygonum _____					
Pontederia cordata	1				
*Potamogeton diversifolius					
*Potamogeton illinoensis					
*Potamogeton pusillus					
*Potamogeton pectinatus (Stuckenia pectinatus)					
Proserpinaca pectinata					
*Rhexia _____					
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora tracyi					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata	1				
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria lancifolia	C	1	1		
Sagittaria latifolia					

SPECIES	3	6	9	12	Collected? (√)
Salix caroliniana	1	1	1	1	
Salvinia minima	1				
Sambucus canadensis					
Sapium sebiferum				1	
Saururus cernuus					
Schinus terebinthifolius		C		1	
*Schoenoplectus californicus					
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani (Scirpus validus)	1				
Scirpus cubensis (Oxycaryon cubense)	1				
Scirpus cyperinus					
*Sesbania herbacea	1				
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Spirodela polyrhiza					
Taxodium sp.			1		
Thalia geniculata					
Thelypteris ~~palustris~~ interrupta	1	1		1	
Triadenum virginicum					
Typha sp.	1	1	1	1	
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)					
*Utricularia floridana					
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia cornuta					
*Utricularia radiata					
Vallisneria americana					
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					