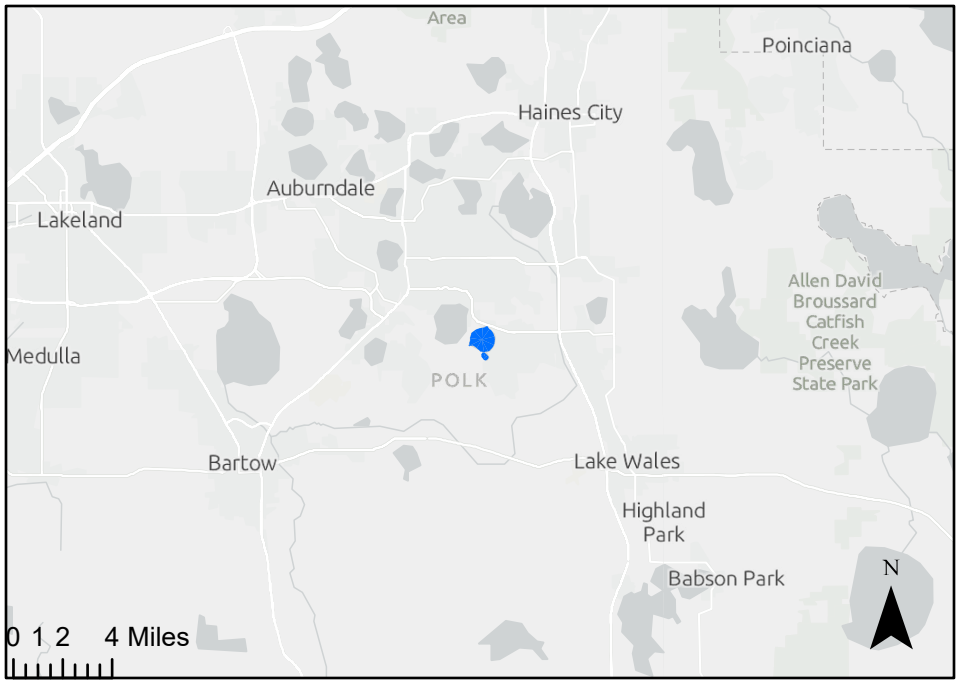
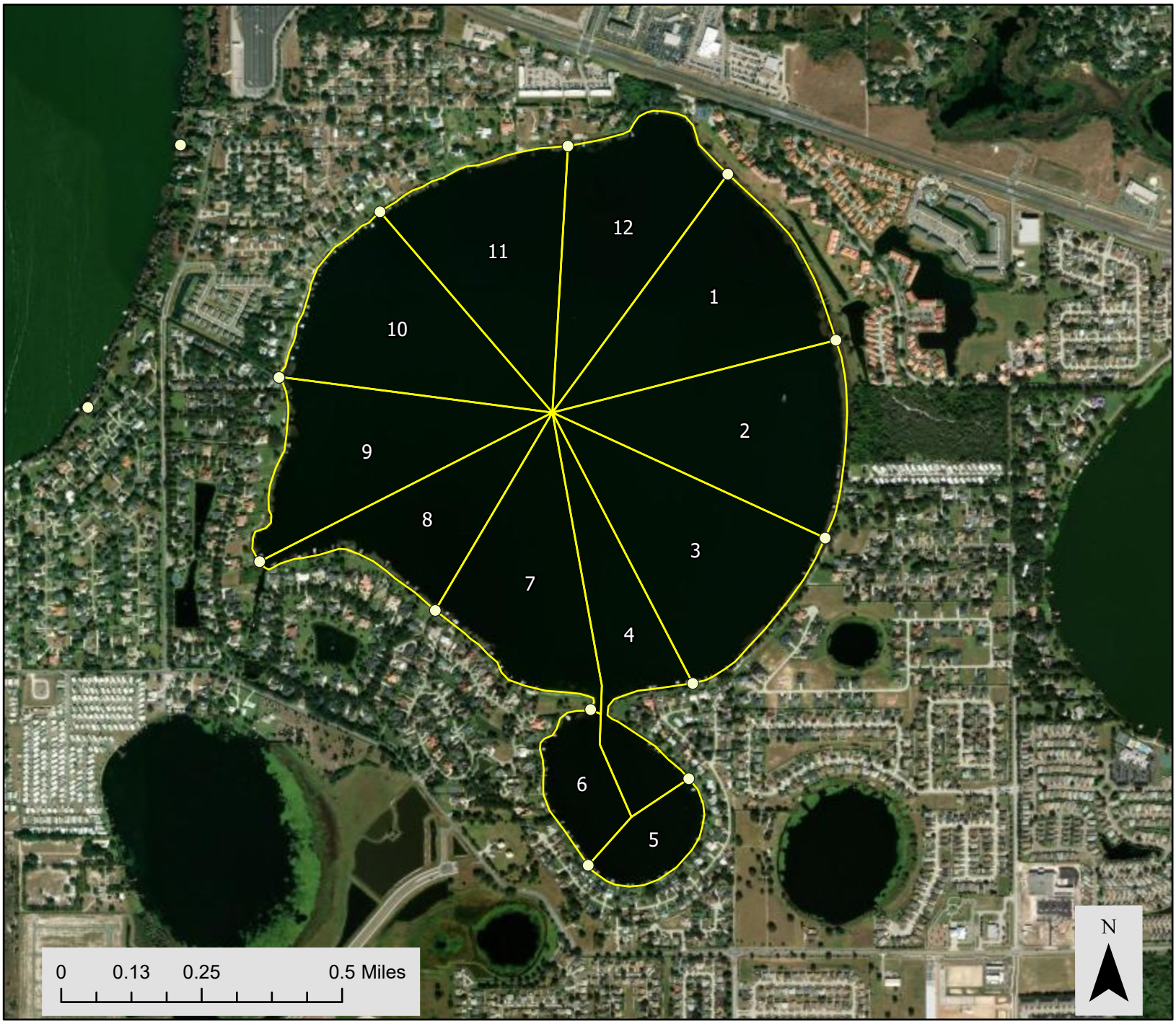


Lake Winterset
WBID 1512A

Sample Date - April 28, 2026
Surface Area - 544 acres (23,696.640 sqft)
100m Landscape Development Intensity - 6.88
Dominant Land Use 100m Buffer -
Residential (85.44%)
Forest/Natural (10.37%)
Lake Vegetation Index - 72
Lake Habitat Assessment - 66
Water Clarity - 5.10 m (16.7 ft)



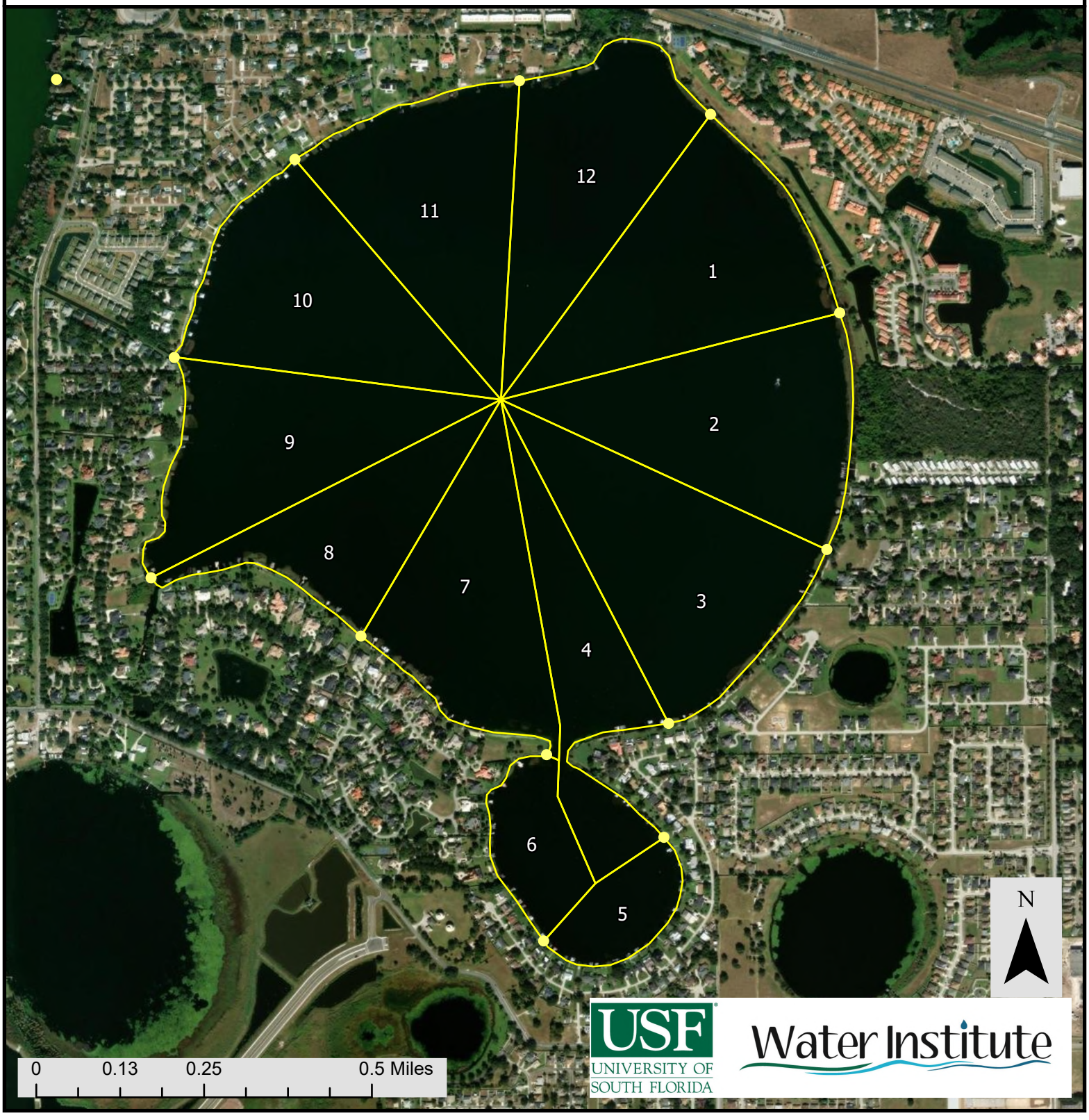
Lake Winterset
WBID 1521A

LVI_Points

LVI_Regions

Sample Date - April 28, 2026
Regions Assessed - (1, 4, 7, 10)
Dominant Species Per Region -
1- Nitella, Vallisneria americana
4- Potamogeton illinoensis, Vallisneria americana
7- Potamogeton illinoensis, Vallisneria americana
10- Potamogeton illinoensis, Vallisneria americana

Lake Description
Water Clarity - 5.10 meters (16.7 ft) - Clear
Color - Clear
Sediment Types
Sand/Silt
Sandy
Vegetated
Lake Vegetation Index - 72



USF UNIVERSITY OF SOUTH FLORIDA Water Institute

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: Winterset | MACROPHYTE ID: | LATITUDE: 27.9737273
COUNTY: Polk | STORET #: | LONGITUDE: -81.6813242
DATE: 4/28/26 | TIME: 11:30 | SAMPLING AGENCY: USFWST
SITE NAME: Lake Winterset | WBID: 1521A
FIELD ID/NAME: Winterset | LAKE SIZE: 544 | 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)
10.37 %				85.44 %	1.33 %		

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI: 6.88

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 4	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 2	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 2	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:	0.2	26.02	8.14	8.12	99.50	298.2	0.14
Mid-Depth:	3.75	25.2	8.17	8.23	99.5	292.2	0.14
Bottom :	7.3	24.53	7.69	7.33	87.3	293.6	0.14

Meter ID:

Clarity: ☑ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid

Color: ☑ Clear ☐ Tannic ☐ Green

SECCHI (M) 5.10 VOB ☐

Total Station Depth (M) 7.6

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 : Partly Cloudy, Light Wind

SAMPLING TEAM: D Eilers A Miranda S Sinivar | **SIGNATURE:** | **DATE:** 4/28/26

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

STORET STATION NUMBER:	DATE (M/D/Y): 4/28/26	LAKE NAME: Lake Winterset	FIELD ID / NAME: Winterset
ECO-REGION:	COUNTY: Polk	SAMPLING LOCATION/DESCRIPTION: Lake Winterset - Winter Haven	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 20	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 13	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 4	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 17	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 2	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 2	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 8	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: 4/28/26	ANALYST: David Eilers	SIGNATURE:

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Winterset	County: Polk	Date: 4/28/26
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	1	4	7	10	Collected? (√)
Acer rubrum	1				
Alternanthera philoxeroides					
Andropogon sp. virginicus	1				
Azolla filiculoides (A. caroliniana)					
Baccharis sp. hamilifolia		1	1		
Bacopa caroliniana					
Bacopa monnieri					
Bidens laevis					
Bidens mitis					
Blechnum serrulatum	1				
Boehmeria cylindrica	1		1		
Brasenia schreberi					
Cabomba caroliniana					
Casuarina equisitifolia					
Centella asiatica					
Cephalanthus occidentalis	1				
Ceratophyllum demersum	1	1	1	1	
Chara sp.					
Cladium jamaicense			1		
Cliftonia monophylla					
Colocasia esculenta	1				
*Commelina					
Crinum americanum					
***Cyperus alternifolius** (C. involucratus)					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei			1		
*Cyperus polystachyos					
*Cyperus odoratus	1		1		
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Egeria densa					
Eichhornia crassipes					
*Eleocharis baldwinii	1				
*Eleocharis					
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium	1	1	1		
*Fuirena					
Fuirena scirpoidea	1		1		
Gordonia lasianthus					

SPECIES	1	4	7	10	Collected? (√)
Habenaria repens					
Hydrilla verticillata	1	1	1	1	
Hydrocotyle sp.		1			
Hygrophila polysperma					
*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 leptocarpa	1		1		
*Ludwigia linearis					
*Ludwigia octovalvis					
***Ludwigia peruviana**	1				
*Ludwigia repens					
*Ludwigia					
Luziola fluitans (Hydrochloa carolinensis)					
Lyonia lucida					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens	1		1		
Mimosa pigra					
Myrica cerifera					
Ptilium capillacea	1				
Erechtites hieraciifolia	1				

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Lake Winterset

Date: 4/28/26

SPECIES	1	4	7	10	Collected? (√)
Myriophyllum aquaticum					
*Myriophyllum heterophyllum					
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis	1	1	1	1	
*Najas minor					
Nelumbo lutea					
Nitella spp.	C	1	1	1	
Nuphar sp.					
Nymphaea odorata					
Nymphoides aquatica					
Nyssa sylvatica var. biflora					
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon	1		1		
Panicum repens	1	1	1	1	
Paspalidium geminatum	1	1		1	
*Paspalum repens					
Paspalum urvillei	1				
Peltandra sp.					
Persea sp.					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii					
Pistia stratioides					
Pluchea sp. bacchata	1		1		
*Polygonum glabrum (densiflorum)					
*Polygonum hydropiperoides					
*Polygonum punctatum					
*Polygonum _____					
Pontederia cordata	1	1		1	
*Potamogeton diversifolius					
*Potamogeton illinoensis	1	C	C	C	
*Potamogeton pusillus					
*Potamogeton pectinatus (Stuckenia pectinatus)					
Proserpinaca pectinata					
*Rhexia _____					
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora tracyi					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria lancifolia	1	1	1	1	
Sagittaria latifolia					

SPECIES	1	4	7	10	Collected? (√)
Salix caroliniana	1	1	1		
Salvinia minima					
Sambucus canadensis					
Sapium sebiferum					
Saururus cernuus					
Schinus terebinthifolius					
*Schoenoplectus californicus					
*Schoenoplectus pungens					
*Schoenoplectus tabernaemontani (Scirpus validus)					
Scirpus cubensis (Oxycaryon cubense)					
Scirpus cyperinus					
*Sesbania _____					
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Spirodela polyrhiza					
Taxodium sp.	1	1	1	1	
Thalia geniculata					
Thelypteris palustris					
Triadenum virginicum					
Typha sp.	1	1	1		
Urochloa mutica (Brachiaria mutica)	1				
*Utricularia gibba (U. biflora)	1		1		
*Utricularia floridana					
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia cornuta					
*Utricularia radiata					
Vallisneria americana	C	C	C	C	
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					