



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2017

A-KIT

PAGE 1 OF 1

Data Qualified?

Yes ☒ No ☐

STORET Station Name: MANGO LAKE Date: 8/10/17
(mm/dd/yyyy)
STORET Station ID: G1SW0034 WBID: 1576A Latitude: 27.9676
(Decimal Degrees)
County: Hillsborough RQ - 2017-07-31-57 ORG ID: 21FLTPA Longitude: 82.3016
(Decimal Degrees)
Receiving Body of Water: _____ Field ID: G1SW0034

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Catie Orr					X	X			
Hannah Sprinkle						X	X	X	
Dylan Herring									

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Equipment ID _____		
Collection Method		
☐ Wading	☒ Via Boat	
☐ From Shore	☒ Canoe/Kayak	
☐ Other (note below)	☐ Electric Motor	
	☐ Gasoline Motor	

Water Level: Dry / Pooled / Low / <u>Normal</u> / High / Flooded						Matrix: <u>Fresh</u> / Marine / DI				
Meter ID# _____			Photos: <u>Yes</u> / No			Tide Falling: Yes / No / <u>NA</u>				
Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
EST	1145	0.3	3.1	8.2	106	6.5	0.08	0.4	172	31.5
CEN	1147	2.8		0.5	7.3	6.3	0.09		192	28.9

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other _____
SBIO ID Numbers: SBIO-ID: T7870 RPS-ID: N/A Macrophyte-ID: 10633 LIMS#: 1920969

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	7043010	4/3/18	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-P04-F ☐ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CH-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enteroc ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			
Flow	"J" Qualify Flow				

Place Preservative Sticker(s) Here
(If Available)

Notes: <u>Clear; 90's</u>	RQ-2017-07-31-57	
	Date: <u>07/31/17</u> <u>8/10/17</u> <u>G1SW0034</u>	
	Time: <u>8</u>	↓ STORET Field ID ↑
	Mango Lake	
Signature: <u>Catie Orr</u>	Date: <u>8/10/17</u>	

Field Parameters Entered into LIMS: SM 08/24/2017 4 Biology (Initials/Date)
Date Migrated to STORET: _____ (Initials/Date)
Field Parameters QC in LIMS: SM 10/13/2017 4 Biology (Initials/Date)
Field Sheets Scanned/Saved: SM 10/13/2017 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 77870 MACROPHYTE ID: 10633 LATITUDE: 27.9676
 COUNTY: Albany STORET #: 615W0034 LONGITUDE: 82.3016
 DATE: 8/10/17 TIME: 1145 SAMPLING AGENCY: 8040
 SITE NAME: MANGO LAKE WBID: 1576A
 FIELD ID/NAME: G15W0034 LAKE SIZE: 5 RQ: 2017-07-31-57

WATERSHED / LAKESIDE FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category - from GIS) : Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ 100% Commercial ☐ Industrial ☐ Other (Specify) ☐					LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI:	
Local Watershed Erosion (select one) : ☐ None ☐ Slight ☐ Moderate ☒ Heavy					Artificially Impounded ☐ Yes ☒ No	
Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy					Land Use Source & Year:	
STORMWATER INPUTS <u>4</u>	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 19 18 17 16		Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place 15 14 13 12 11		Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place 10 9 8 7 6	
LAKESIDE ALTERATIONS <u>5</u>	Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected) 20 19 18 17 16		Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected) 15 14 13 12 11		Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 10 9 8 7 6	
BUFFER ZONE <u>6</u>	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16		89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer 15 14 13 12 11		50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer 10 9 8 7 6	
					Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place 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 _____						
Meter Readings: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>31.5</u> <u>6.5</u> <u>8.2</u> <u>106</u> <u>172</u> <u>0.08</u> Mid-Depth: _____ Bottom: <u>2.8</u> <u>28.9</u> <u>6.3</u> <u>0.5</u> <u>7.3</u> <u>192</u> <u>0.09</u>							Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____						
Meter ID: <u>1.1 Sen</u>							Clarity: ☐ Clear ☒ Turbid ☐ Slightly Turbid ☐ Opaque						
Sediment Type: (may check more than one) ☐ Sandy ☒ Organic fibrous (peaty, CPOM) ☐ Vegetated ☒ Sand/Silt ☐ Organic smooth (muck) ☐ Other (Specify): _____							Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____						
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: <u>Clear, 90's</u>													
SAMPLING TEAM: <u>C. Om D. Horman H. Sprinkle</u>							SIGNATURE: <u>[Signature]</u>						
DATE: <u>8/10/17</u>													

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
Lake Habitat Assessment Field Sheet

STORET STATION NUMBER: G1SWC034	DATE (M/D/Y) 8/10/17	LAKE NAME Mango Lake		FIELD ID / NAME: G1SWD034
ECO-REGION:	COUNTY: Hills. Co.	SAMPLING LOCATION/DESCRIPTION: Center of lake		LAKE SIZE: S
PARAMETER	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 ☐
HYDROLOGY				
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 ☐	Secchi > 3 m Or VOB	Secchi (m)		
	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Vegetation Quality ☐	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 (duckweed, 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 ☐	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 ☐	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 Alterations ☐	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 ☐	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 ☐	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	39			
COMMENTS:				

ANALYSIS DATE: 8/10/17	ANALYST: Corr; H. Sprinkle; D. Horning	SIGNATURE: 
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Form FD9000-27 Lake Vegetation Index Data Sheet (06-21-11)

Waterbody: Manga LakeCounty: HillsboroughDate: 8/10/17Analyst: Catie OrrSignature: [Signature]STORET: [Signature]

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 2, 5, 8, 11
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? (v)	SPECIES	2	5	8	11	Collected? (v)
Acer rubrum						Habenaria repens			X		
Alternanthera philoxeroides	X	X	X			Hydrilla verticillata					
Andropogon sp.						Hydrocotyle sp.	X		X	X	
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma					
Baccharis sp.						*Hypericum fasciculatum					
Bacopa caroliniana						*Hypericum hypericoides					
Bacopa monnieri	X	X				*Hypericum myrtifolium					
Bidens laevis						Ilex cassine					
Bidens bitis						Ipomoea aquatica					
Blechnum serrulatum						Ipomoea sagittata					
Boehmeria cylindrica						Itea virginica					
Brasenia schreberi						Juncus effusus					
Cabomba caroliniana						*Juncus marginatus					
Casuarina equisetifolia						*Juncus megacephalus					
Centella asiatica						Juncus repens					
Cephalanthus occidentalis						*Juncus scirpoides					
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra					
Cladium jamaicense						Landoltia punctata (Spirodela punctata)					
Cliffonia monophylla						Lemna sp.	X	X			
Colocasia esculenta	X	X	X	X		Leucothoe racemosa (Eubotrys racemosa)					
*Commelina						Limnolobos spongia					
Crinum americanum						Limnophila sessiliflora					
*Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua					
Cyperus articulatus						*Ludwigia arcuata					
Cyperus haspan	X					*Ludwigia leptocarpa					
*Cyperus lecontei						*Ludwigia linearis					
*Cyperus polystachyos						*Ludwigia octovalvis			X	X	
*Cyperus odoratus						*Ludwigia peruviana	X	X	X	X	
*Cyperus surinamensis						*Ludwigia repens					
Cyrtilla racemiflora						*Ludwigia					
Decodon verticillatus						Luziola fluitans (Hydrochloa carolinensis)					
Diodia virginiana						Lyonia lucida					
*Echinochloa crus-galli						Magnolia virginiana					
*Echinochloa muricatum						Mayaca fluviatilis					
Echinochloa walteri						Melaleuca quinquenervia					
Eclipta prostrata (E. alba)						Micranthemum glomeratum					
Egeria densa						Micranthemum umbrosum					
Eichhornia crassipes	X	X	X	X		Mikania scandens					
*Eleocharis baldwinii						Mimosa pigra					
*Eleocharis						Myrica cerifera					
Eleocharis cellulosa ??				X		Vitis	X	X	X		
Eleocharis equisetoides						as seed pod	X	X	X	X	
Eleocharis interstincta						tiny grass - or		X	X	X	
*Eriocaulon compressum						Tree		X	X	X	
*Eriocaulon decangulare						Sambucus	X	X	X		
Eupatorium capillifolium	X		X			Submerged		X	X		X
*Fuirena						Reptile flower		X	X		X
Fuirena scirpoidea						Quercus Sp.	X	X	X		
Gordonia lasianthus			X			Albizzia julibrissin	X	X	X		

Site:

Date:

SPECIES	2	3	8	11	Collected? (✓)	SPECIES	2	3	8	11	Collected? (✓)
Myriophyllum aquaticum	X					Salix caroliniana	X	X	D	X	
*Myriophyllum heterophyllum						Salvinia minima	X	X			
*Myriophyllum laxum						Sambucus canadensis	X		X		
*Myriophyllum pinnatum						Sapium sebiferum		X	X	X	
Myriophyllum spicatum						Saururus cernuus					
*Najas filifolia,						Schinus terebinthifolius		X		X	
*Najas guadalupensis						*Schoenoplectus californicus					
*Najas minor						*Schoenoplectus pungens					
Nelumbo lutea	✓	X	X			*Schoenoplectus tabernaemontani (Scirpus validus)					
Nitella spp.						Scirpus cubensis (Oxycaryon cubense)					
Nuphar sp.			✓	X		Scirpus cyperinus					
Nymphaea odorata						*Sesbania					
Nymphoides aquatica						Solidago sp.					
Nyssa sylvatica var. biflora						Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrrhiza					
Osmunda regalis						Taxodium sp.		✓	X	X	
Panicum hemitomon	✓		X	X		Thalia geniculata					
Panicum repens	✓	X	X	X		Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum					
*Paspalum repens						Typha sp.	X	X	X	X	
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)			X		
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii						*Utricularia purpurea					
Pistia stratioides	✓	X	X			*Utricularia cornuta					
Pluchea sp.		X	X			*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*Polygonum hydropiperoides	✓					*Websteria confervoides					
*Polygonum punctatum						Wedelia trilobata (Sphagneticola trilobata)					
*Polygonum						Wolffiella spp.					
Pontederia cordata		X	X	X		Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.					
*Potamogeton illinoensis						Zizania aquatica					
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuckenia pectinatus)						Urena lobata	X	X			
Proserpinaca pectinata						long flower	✓	✓			X
*Rhexia						hairy node purplish	X				X
*Rhynchospora corniculata						grass					X
*Rhynchospora inundata						Sphenoclea zeylanica	X	X			
Rhynchospora tracyi						Scirpus validus				X	
Ricciocarpus natans						Sesbania sp.		X	X	X	
Sabal palmetto		X									
Sacciolepis striata	X										
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia				X							
Sagittaria latifolia											

Request Number:

2017-07-31-57

Florida Department of Environmental Protection Central Laboratory Submittal Form

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last revised Apr 7, 2016

Customer: SW-DIST

Requester: Judy Ashton

Field Report Prepared By: C. Orr

Project ID: SMP

Collected By: C. Orr

Sampling Agency: 8040

Location		☐ Comp ☒ Grab		Collection (comp begin or grab)		☒ Eastern ☐ Central		Composite end		Bottle Group(s)	
Field ID		Date		Time		Date		Time		Date	
STORET #		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
Latitude		Temp (C)		pH		Sample Depth		Sp. Conductance			
Longitude		Salinity (ppt)		Comments							
dd		dd		dd		dd		dd		dd	
dms		dms		dms		dms		dms		dms	
Location		☐ Comp ☐ Grab		Collection (comp begin or grab)		☐ Eastern ☐ Central		Composite end		Bottle Group(s)	
Field ID		Date		Time		Date		Time		Date	
STORET #		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
Latitude		Temp (C)		pH		Sample Depth		Sp. Conductance			
Longitude		Salinity (ppt)		Comments							
dd		dd		dd		dd		dd		dd	
dms		dms		dms		dms		dms		dms	
Location		☐ Comp ☐ Grab		Collection (comp begin or grab)		☐ Eastern ☐ Central		Composite end		Bottle Group(s)	
Field ID		Date		Time		Date		Time		Date	
STORET #		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
Latitude		Temp (C)		pH		Sample Depth		Sp. Conductance			
Longitude		Salinity (ppt)		Comments							
dd		dd		dd		dd		dd		dd	
dms		dms		dms		dms		dms		dms	
Location		☐ Comp ☐ Grab		Collection (comp begin or grab)		☐ Eastern ☐ Central		Composite end		Bottle Group(s)	
Field ID		Date		Time		Date		Time		Date	
STORET #		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine					
Latitude		Temp (C)		pH		Sample Depth		Sp. Conductance			
Longitude		Salinity (ppt)		Comments							
dd		dd		dd		dd		dd		dd	
dms		dms		dms		dms		dms		dms	

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
C. Orr	8/10/17; 1300	Fed Ex	1		

Group: A	Bottle Type: P-1L	# of Bottles: 6	Preservative: ICE	Enter Number of Bottles Sent to Lab
ALKALINITY				
TURBIDITY				
W-CL-IC				
W-COLOR				
W-F				
W-SO4-IC				
W-TDS				
W-TSS				
Group: A	Bottle Type: BP-1L	# of Bottles: 6	Preservative: ICE	Enter Number of Bottles Sent to Lab
CHLSUITE-W				
Group: A	Bottle Type: P-500ML	# of Bottles: 6	Preservative: ICE And H2SO4	Enter Number of Bottles Sent to Lab
W-NH3				
W-NO2NO3				
W-S-A-TP				
W-TKN				
W-TOC				
Group: A	Bottle Type: P-125ML	# of Bottles: 6	Preservative: ICE-FLTR	Enter Number of Bottles Sent to Lab
W-PO4-F				