



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
Yes / No

WIN Station Name: Goose Lake

Date: 7/17/19
(mm/dd/yyyy)

WIN/ Field ID: 20030454 20030980-cab 7/22/19

WBID: 2543G

Latitude: 29.6988

County: Putnam

ORG ID: 21FLA

Longitude: 81.9802

Receiving Body of Water: Long Lake Drain

RQ-2019- 0715-05

Sampling Team Members						WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
<u>B. P. P. P.</u>						☒	☒	☒	☒	☒

Sampling Equipment									
☒ Sample Container	☐ Van Dorn	☐ Pole							
☐ Carboy	☐ Syringe								
☐ Dipper	☐ Other								
Depth Measured with <u>VEST</u>									
Equipment ID <u>04603</u>									

Collection Method									
☐ Wading	☒ Canoe/Kayak								
☐ From Shore	☐ Electric Motor								
☐ Other	☐ Gasoline Motor								

Water Level: Dry/ Pooled/ Low / (Normal) / High / Flooded

Photos: Yes (No) Flow: No Flow / Intestinal / Flowing (NA)

Meter ID# Vesi Matrix: Fresh / Marine / DI

Tide: Rising/ Falling/ Slack/ NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTH)	Sp COND (µmhos/cm)	Temp. (C°)
EST	<u>1245</u>	<u>1.9</u>	<u>0.3</u>	<u>0.5</u>	<u>3.70</u>	<u>50.1</u>	<u>5.3</u>	<u>0.02</u>	<u>57.2</u>	<u>31.4</u>
CEN	<u>1246</u>		<u>1.4</u>		<u>0.07</u>	<u>0.9</u>	<u>4.88</u>	<u>0.03</u>	<u>57.5</u>	<u>29.2</u>

Biological Samples Collected: None HA SCI RPS Algae ID LVS (LVI) Other:

SBO ID Numbers: SBO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-ATP	☐ Ice ☐ H2SO4	<u>SA9129100</u>	<u>5/9/20</u>	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☐ Ice	<u>R2A2900</u>		
Chlorophyll	☒ CHLSUITE-W	☐ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococci	☐ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☐ W-E8321-MS	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ W-E8321-MS ☐ W-CARB-AA	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes:

WIN ID/Field ID: 20030980

Goose Lake

Signature: B. P. P. P. Date: 7/17/19

LIMS EVENT ID: WIN Import ID: QC Station ID, Field Parameters in LIMS DMT: Scan/Save Field Sheets 30 7/18/19 Migrate Data to WIN: Verify Data in WIN:

Contains: 1:1 H2SO4
Lot No.: SA9129100
Expires: 05/09/20
See Safety Data Sheet (SDS)

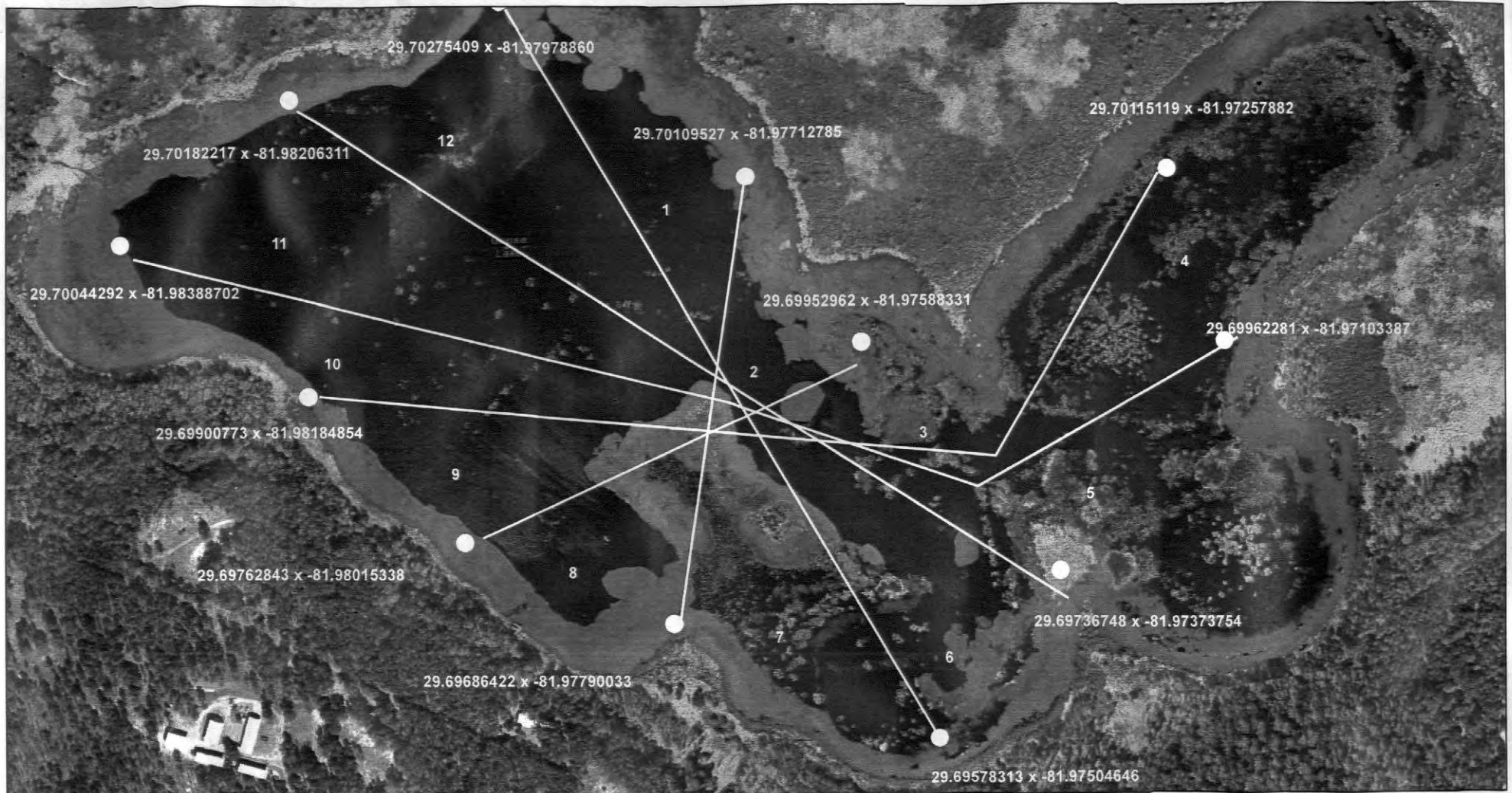
Place Preservation (If A)

Contains: 1:1 H2SO4
Lot No.: SA9129100
Expires: 05/09/20
See Safety Data Sheet (SDS)

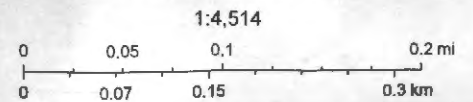


20030980

Goose Standard Map



July 15, 2019



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DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Goose Lake</u>					County: <u>Putnam</u>					Date: <u>7/17/19</u>				
Analyst:					Signature:					STORET: <u>2000780</u>				
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 <u>3, 6, 9, 12</u>				
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)			
Acer rubrum		P				Habenaria repens								
Alternanthera philoxeroides						Hydrilla verticillata								
Andropogon sp.						Hydrocotyle sp.	P	P	P	P				
Azolla filiculoides (A. caroliniana)						Hygrophila polysperma								
Baccharis sp.						*Hypericum fasciculatum								
Bacopa caroliniana						*Hypericum hypericoides								
Bacopa monnieri						*Hypericum myrtifolium								
Bidens laevis						Ilex cassine					P			
Bidens mitis						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	P	P	P	P		*Juncus scirpoides								
Ceratophyllum demersum						Lachnanthes caroliniana								
Chara sp.						Leersia hexandra								
Cladium jamaicense	P			P		Landoltia punctata (Spirodela punctata)								
Cliftonia monophylla						Lemna sp.	P	P	P	P				
Colocasia esculenta						Leucothoe racemosa (Eubotrys racemosa)								
*Commelina						Limnium spongia	P	P	P	P				
Crinum americanum						Limnophila sessiliflora								
* Cyperus alternifolius (C. involucratus)						Liquidambar styraciflua			P					
Cyperus articulatus						*Ludwigia arcuata								
Cyperus haspan						*Ludwigia leptocarpa								
*Cyperus lecontei						*Ludwigia linearis								
*Cyperus polystachyos						*Ludwigia octovalvis								
*Cyperus odoratus						*Ludwigia peruviana								
*Cyperus surinamensis						*Ludwigia repens								
Cyrtilla racemiflora						*Ludwigia								
Decodon verticillatus	P		P			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						Mikania scandens								
*Eleocharis baldwinii						Mimosa pigra								
*Eleocharis						Myrica cerifera			P	P				
Eleocharis cellulosa														
Eleocharis equisetoides														
Eleocharis interstincta														
*Eriocaulon compressum														
*Eriocaulon decangulare														
Eupatorium capillifolium														
*Fuirena														
Fuirena scirpoidea														
Gordonia lasianthus														

Site: <i>Goose Lake</i>					Date: <i>7/12/15</i>						
SPECIES	3	6	9	12	Collected? (✓)	SPECIES	3	6	9	12	Collected? (✓)
Myriophyllum aquaticum						Salix caroliniana					
*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 odorata						*Sesbania					
Nymphoides aquatica						Solidago sp.					
Nyssa sylvatica var. biflora						Sparganium americanum					
Orontium aquaticum						Spartina bakeri					
Osmunda cinnamomea						Spirodela polyrhiza					
Osmunda regalis						Taxodium sp.					
Panicum hemitomon						Thalia geniculata					
Panicum repens						Thelypteris palustris					
Paspalidium geminatum						Triadenum virginicum					
*Paspalum repens						Typha sp.					
Paspalum urvillei						Urochloa mutica (Brachiaria mutica)					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliotii						*Utricularia purpurea					
Pistia stratioides						*Utricularia cornuta					
Pluchea sp.						*Utricularia radiata					
*Polygonum glabrum (densiflorum)						Vallisneria americana					
*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											
Rhynchospora tracyi											
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata											
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											

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

STORET STATION NUMBER: <i>20030980</i>	DATE (M/D/Y) <i>7/17/19</i>	LAKE NAME <i>Goose Lake</i>		FIELD ID / NAME:												
ECO-REGION:	COUNTY: <i>Putnam</i>	SAMPLING LOCATION/DESCRIPTION: <i>Center</i>		LAKE SIZE: <i>Large</i>												
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												
Secchi	Secchi >3 m Or VOB	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
<i>5</i>	20 19 18 17 16	15	14	13	12	11	10	9	8	7	6	<i>5</i>	4	3	2	1
Vegetation Quality	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa <i>20</i>	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)										
<i>20</i>	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 <i>20</i>	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										
<i>20</i>	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 <i>20</i>	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										
<i>20</i>	20 19 18 17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Lakeside Adverse Human Alternations	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) <i>19</i>	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)										
<i>19</i>	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 <i>19</i>	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										
<i>19</i>	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 <i>20</i>															
<i>20</i>	20 19 18 17 16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
TOTAL SCORE	<i>123</i>															
COMMENTS:																
ANALYSIS DATE:					ANALYST:					SIGNATURE:						

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 29.6988
 COUNTY: Putnam STORET #: 20030980 LONGITUDE: -81.9802
 DATE: 2/17/19 TIME: 1245 SAMPLING AGENCY: PEAR
 SITE NAME: Goose Lake WBID: 25438
 FIELD ID/NAME: _____ LAKE SIZE: Large RQ: 2019-0715-08

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				Artificially Impounded ☐ Yes ☒ No					
Local Watershed NPS Pollution : ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy				Land Use Source & Year:					
STORMWATER INPUTS <u>20</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		Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place 5 4 3 2 1	
LAKESIDE ALTERATIONS <u>19</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		Highly developed or disturbed (>70% of lakeside affected) 5 4 3 2 1	
BUFFER ZONE <u>20</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		< 29% of shoreline with >18m buffer 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>SA9127100</u> Exp. Date: <u>5/9/20</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: Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat. (%) Cond. (UMHO/CM) Salinity (PPT) Top: <u>0.3</u> <u>31.4</u> <u>5.3</u> <u>3.70</u> <u>50.1</u> <u>57.2</u> <u>0.02</u> Mid-Depth: <u>1.4</u> <u>29.2</u> <u>4.88</u> <u>0.07</u> <u>0.9</u> <u>57.5</u> <u>0.03</u> Bottom: _____ Meter ID: <u>4051</u>				Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☐ Clear ☒ Tannic ☐ Green SECCHI (M) <u>0.5</u> Total Station Depth (M) <u>1.9</u> VOB ☐			
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 ☒ ☐ ☐ ☐			
Weather Conditions : <u>Clear, slightly Cloudy</u>				Additional Notes:			
SAMPLING TEAM:				SIGNATURE:		DATE:	