FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

June 2016

Data Qualified? Yes / No DO

STORET Station Name: Lake Arrowhead at boat dock at Turtle Crk Ln near outlet **Date:** 07/21/2016 (mm/dd/yyyy)

STORET Station ID: G1WA0004 **WBID:** 564A **Latitude:** 30.568517 (Decimal Degrees)

County: Leon **RQ -** RQ-2016-07-18-48 **ORG ID:** 21FLWQA **Longitude:** -84.218058 (Decimal Degrees)

Receiving Body of Water: PINE HILL LAKE (BOCKUS LAKE) **Field ID:** G1WA0004-07212016

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Curtis Musson		X		X	X
Ben Ralys	X		X		

Sampling Equipment

- [x] Sample Container
- [ ] Van Dorn
- [ ] Pole
- [ ] Carboy
- [x] Syringe
- [ ] Dipper
- [ ] Other
- Equipment ID

Collection Method

- [ ] Wading CM
- [x] From Shore
- [ ] Other (note below)

Via Boat
- [ ] Canoe/Kayak
- [ ] Electric Motor
- [ ] Gasoline Motor

Water Level: Dry / Low / Normal / High / Flooded

Matrix: Fresh / Marine / DI

Meter ID# Biology 2 **Photos:** Yes / No

Tide Falling: Yes / No / NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
EST	10:30	0.3	1.4	9.55	131.0	8.49	0.03	0.65	77	32.02
CEN										

Biological Samples Collected: None HA SCI LVS RPS LVI Other

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	[x] W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	[ ] Ice [x] H_2SO_4	SA-6133010	05/12/2017	[x] <2
Metals	[ ] W-ICPMS [ ] W-ICP	[ ] Ice [ ] HNO_3			[ ] <2
Filtered Nutrients	[x] W-PO4-F [x] Field Filtered 0.45 µm Filter	[x] Ice			
Chlorophyll	[x] CHLSUITE-W	[x] Ice			
Physical/Aggregate (Fresh)	[x] Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	[x] Ice			
Physical/Aggregate (Marine)	[ ] Alkalinity / W-F / W-TSS / TURBIDITY	[ ] Ice			
Macroinvertebrates	[ ] MI-FW-QLDC	[ ] Formalin			
Microbiology	[ ] E Coli [ ] F Coli [ ] Entero [ ] QPCR	[ ] Ice			
Periphyton	[ ] ALGAE-ID	[ ] Ice			
Pesticides	[ ] W-PSNP-TQ [ ] W-AHERB-AA [ ] W-PYR-AA-R [ ] W-PC-AA-SF [ ] W-UHERB-AA [ ] W-GLYPH	[ ] Ice [ ] Other			

Contains 1:1 Sulfuric Acid SA-6133010 EXP: 05/12/17 Warning! See SDS

Pla… Sticker(s) Here …able)

Notes:

SBIoID: 76556

Macrophyte_ID: 9931

G1WA0004 21 July 2016

Lake Arrowhead at boat dock at Turtle Crk Ln near ou

Signature: Ben Ralys **Date:** 7/21/16

Field Parameters Entered into LIMS: CM 7-26-2016 (Initials/Date) **Field Parameters QC in LIMS:** (Initials/Date)

Date Migrated to STORET: (Initials/Date) **Field Sheets Scanned/Saved:** CM 7-26-2016 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 76556 **MACROPHYTE ID:** 9931 **LATITUDE:** 30.568517
COUNTY: Leon **STORET #:** 21FLA00004 **LONGITUDE:** -84.218058
DATE: 7/21/16 **TIME:** 10:30 **SAMPLING AGENCY:** FDEP
SITE NAME: Lake Arrowhead **WBID:** 564A
FIELD ID/NAME: 21FLA00004-07202016 **LAKE SIZE:** 7.17 Acres **RQ:** 2016-07-18-48

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)
45.0	2.4	—	—	26.8	7.6	14.9	3.2 Reservoirs

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) **LDI:** 4.5

Land Use Source & Year: NWF 2009-2010

Local Watershed Erosion (select one) : ☐ None ☒ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy

Artificially Impounded ☒ Yes ☐ No

STORMWATER INPUTS 2	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 # 6133010 Exp. Date: 5/12/17
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:	0.3	32.02	8.49	9.55	131.1	77	0.03
Mid-Depth:	—	—	—	—	—	—	—
Bottom :	—	—	—	—	—	—	—

Meter ID: Bidgy #2

Clarity: ☐ Clear ☐ Opaque ☒ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☒ Tannic ☐ Green

SECCHI (M) 0.65 VOB ☐

Total Station Depth (M) 1.4

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: 3 Storm water inputs, ie Culverts

Weather Conditions : Dry, Hot, Sunny 90's

SAMPLING TEAM: Curtis Musson / Ben Ralys **SIGNATURE:** [signature] **DATE:** 7/21/2016

SBIO_ID: 76556

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

STORET STATION NUMBER: GIVA0004	DATE (M/D/Y): 7/21/16	LAKE NAME: Lake Arrowhead	FIELD ID / NAME: GIVA0004_07212016
ECO-REGION: Tallahassee Hills	COUNTY: Leon	SAMPLING LOCATION/DESCRIPTION: Lake Arrow Head Middle	LAKE SIZE: 7.179c

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 7	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 2	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 same as yesterday 3	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 9	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: 38	COMMENTS:

ANALYSIS DATE: 7/21/16	ANALYST: Curtis Musson / Ben Ralrs	SIGNATURE: Curtis Musson

SDIO_ID: 76556 MacroPhyte_ID: 9931

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Arrowhead	County: Leon	Date: 7/21/16
Analyst: Curtis Musson, Ben Rabon	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				X	
Alternanthera philoxeroides	X	X	X	X	
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.		X	X		
Bacopa caroliniana	X	X			
Bacopa monnieri					
Bidens laevis	X		X	X	
Bidens mitis	X		X	X	
Blechnum serrulatum					
Boehmeria cylindrica	X	X	X	X	
Brasenia schreberi		D			
Cabomba caroliniana					
Casuarina equisitifolia					
Centella asiatica					
Cephalanthus occidentalis					
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Cliftonia monophylla					
Colocasia esculenta					
*Commelina _____					
Crinum americanum					
***Cyperus alternifolius** (C. involucratus)					
Cyperus articulatus					
Cyperus haspan	X				
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus	X	X			
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana	X			X	
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Egeria densa					
Eichhornia crassipes					
*Eleocharis baldwinii	X				
*Eleocharis _____					
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					
*Fuirena _____					
Fuirena scirpoidea					
Gordonia lasianthus					

SPECIES	1	4	7	10	Collected? (√)
Habenaria repens	X				
Hydrilla verticillata					
Hydrocotyle sp.	X	X	X	X	
Hygrophila polysperma					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium	X	X	X		
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica	X		X	X	
Juncus effusus			X	X	
*Juncus marginatus	X		X		
*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			X	X	
*Ludwigia arcuata					
*Ludwigia leptocarpa					
*Ludwigia linearis					
*Ludwigia octovalvis					
***Ludwigia peruviana**					
*Ludwigia repens	X			X	
~~*Ludwigia~~ (sp.)	X	X	X		C1
Luziola fluitans (Hydrochloa carolinensis)					
Lyonia lucida					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum	D	X	X		
Micranthemum umbrosum	X	X	X		C1
Mikania scandens	X		X	X	
Mimosa pigra					
Myrica cerifera	X	X	X	X	
Iris Pseudacorus	X				
Pycnanthemum Cyperus Involucratus	X	X	X		
~~Unknown Cyperus~~	X				C1
~~Cyperus~~ Lupulin Carex → Cyperus Haspan			X	X	

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site:						Date:					
SPECIES	1	4	7	10	**Collected? (√)**	**SPECIES**	1	4	7	10	**Collected? (√)**
Myriophyllum aquaticum						Salix caroliniana					
*Myriophyllum heterophyllum						**Salvinia minima**					
*Myriophyllum laxum						Sambucus canadensis					
*Myriophyllum pinnatum						**Sapium sebiferum**					
Myriophyllum spicatum						Saururus cernuus	X				
*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.	X				
Panicum hemitomon						Thalia geniculata					
Panicum repens	X	X	X	X		Thelypteris palustris					
Paspalidium geminatum			D	D		Triadenum virginicum					
*Paspalum repens						Typha sp.					
Paspalum urvillei			X	X		**Urochloa mutica (Brachiaria mutica)**					
Peltandra sp.						*Utricularia gibba (U. biflora)					
Persea sp.						*Utricularia floridana					
Pennisetum purpureum						*Utricularia foliosa					
Phragmites australis						*Utricularia inflata					
Pinus elliottii				X		*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	X	X	X	X		Woodwardia virginica					
*Potamogeton diversifolius						Xyris sp.	X				
*Potamogeton illinoensis						Zizania aquatica					
*Potamogeton pusillus						Zizaniopsis milacea					
*Potamogeton pectinatus (Stuckenia pectinatus)											
Proserpinaca pectinata											
*Rhexia Species Mariana	X		X			Lycopus Virginiana	X	X	X		
*Rhynchospora corniculata						water Oak BR →		X			
*Rhynchospora inundata				X		hydro (Tanyard)		X	X		
Rhynochospora tracyi						↳ Hydrolea quadrivalis					
Ricciocarpus natans											
Sabal palmetto											
Sacciolepis striata	X		X	X							
*Sagittaria filiformis											
*Sagittaria graminea											
*Sagittaria isoetiformis											
Sagittaria lancifolia											
Sagittaria latifolia	X										

Macrophyte QC Report

STORET: G1WA0004
Visit ID: 76556
Macrophyte ID: 9931
LIMS ID:

Sample Date: 7/21/2016
Collector Name: Musson, Curtis
Identifier Name: Musson, Curtis

Macrophyte Sample Comments:

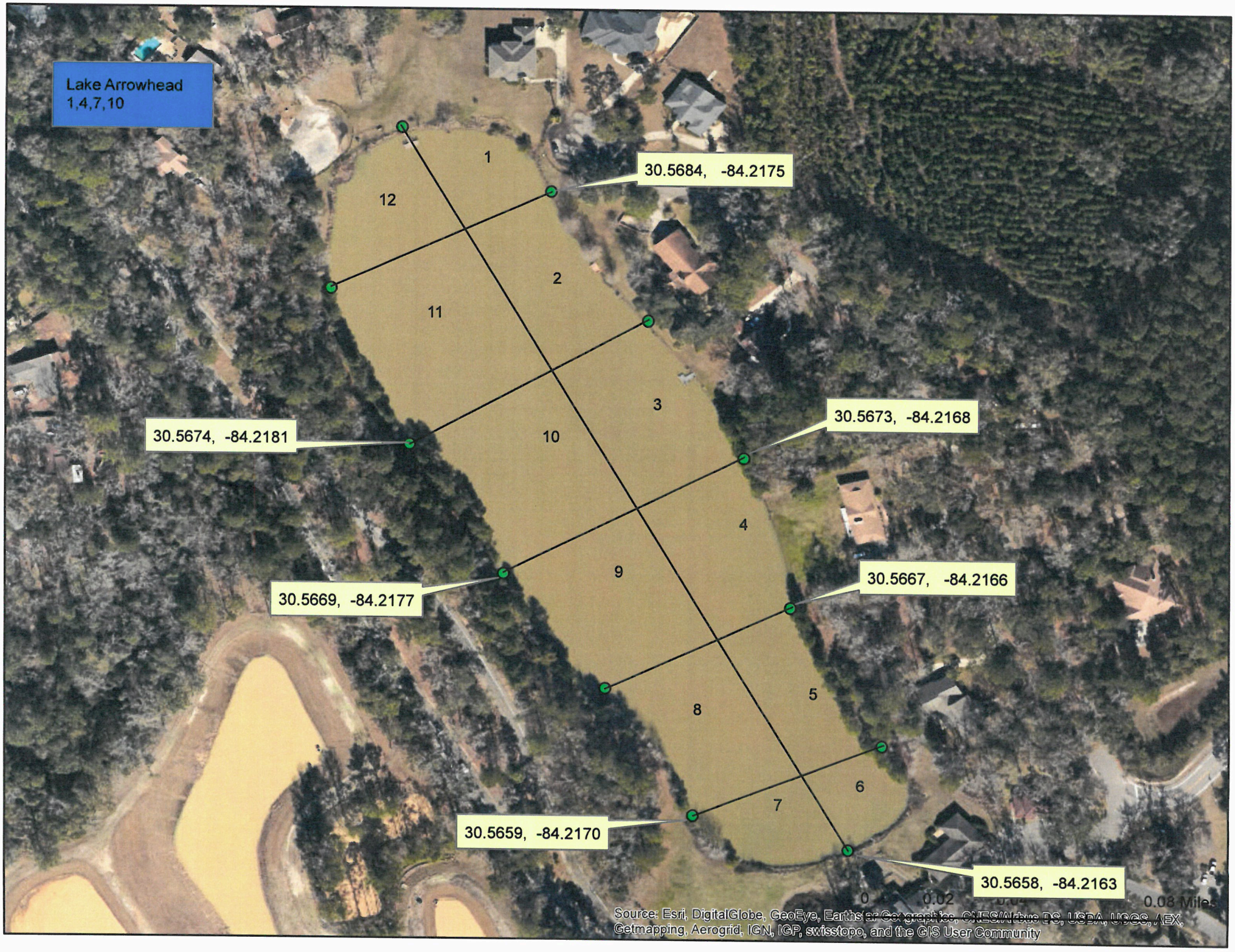
Taxa Name:	Rep 1	Rep 2	Rep 3	Rep 4	
Acer rubrum				P	CM
Alternanthera philoxeroides	P	P	P	P	CM
Baccharis		P	P		CM
Bacopa caroliniana	P	P			C
Bidens laevis	P		P	P	C
Bidens mitis	P		P	P	C
Boehmeria cylindrica	P	D	P	P	C
Carex lupulina			P	P	C
Cyperus haspan	P				C
Cyperus involucratus	P	P	P		CM
Cyperus odoratus	P	P			CM
Diodia virginiana	P			P	CM
Eleocharis baldwinii	P				C
Habenaria repens	P				C
Hydrocotyle	P	P	P	P	C
Hydrolea quadrivalvis		P	P		C
Hypericum myrtifolium	P	P	P		CM
Iris pseudacorus	P				CM
Itea virginica	P		P	P	C
Juncus effusus			P	P	CM
Juncus marginatus	P		P		CM
Liquidambar styraciflua			P	P	CM
Ludwigia repens	P			P	C
Lycopus virginicus	P	P	P		C
Micranthemum glomeratum	D	P	P		CM
Mikania scandens	P		P	P	CM
Myrica cerifera	P	P	P	P	CM
Panicum repens	P	P	D	D	CM
Paspalum urvillei			P	P	C
Pinus elliottii				P	C
Pontederia cordata	P	P	P	P	CM
Quercus nigra		P			C
Rhexia mariana	P		P		CM 7-26-2016

This data has not been fully approved at this time.

Macrophyte QC Report

Taxa Name:	Rep 1	Rep 2	Rep 3	Rep 4	
Rhynchospora inundata				P	C
Sacciolepis striata	P		P	P	C
Sagittaria latifolia	P				C
Saururus cernuus	P				C
Taxodium	P				C
Xyris	P				C

This data has not been fully approved at this time.


Lake Arrowhead
1,4,7,10
1
2
3
4
5
6
7
8
9
10
11
12
30.5684, -84.2175
30.5673, -84.2168
30.5667, -84.2166
30.5658, -84.2163
30.5659, -84.2170
30.5669, -84.2177
30.5674, -84.2181
0
0.02
0.08 Miles
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data to this note

Meter Biology # 2 RQ- 2016-07-18-48 Project SMP

Notes: (1) Numbers ≤4, are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
(2) Always wait for meter to stabilize before recording any readings.
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 06/03/2016

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	7/21/16	714	23.14	8.562	8.56	100.0	43.1	—	P	LAB
ICV	Curtis Musson	7/21/16	716	23.15	8.546	8.55	100.0	43.1	—	P	LAB
CCV	Curtis Musson	7/21/16	1133	27.43	7.192	8.71	100.0	43.1	—	Fail	LAB
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.
DO Acceptance criteria from Table ±0.3 mg/L. **Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.
Optical: DO gain range 0.85 to 1.15; DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard µmhos/cm	Meter Reading µmhos/cm	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	7/21/16	720	160330D	04/2017	1000	1000	P	L
ICV	Curtis Musson	7/21/16	721	160330D	04/2017	1000	1006	P	L
CCV	Curtis Musson	7/21/16	1135	260533	12/2017	100	99	P	LAB
CCV									

Report specific conductance as a whole number with no decimal figure. Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	7/21/16	723	160330B	10/2017	7.0	7.00	-19.9	P	L
Calibr.	Curtis Musson	7/21/16	726	160330A	04/2017	4.01	4.01	159.4	P	L
Calibr.	Curtis Musson	7/21/16	727	160330C	10/2017	10.01	10.01	-189.6	P	L
ICV	Curtis Musson	7/21/16	731	160330C	10/2017	10.01	10.01	-189.6	P	L
CCV	Curtis Musson	7/21/16	1137	160330A	04/2017	4.01	4.18	+160.7	P	L
CCV										

Report pH with one decimal place; pH Acceptance criteria ±0.2 SU; mV pH7 Range 0±50; mV pH 4 Range +180±50;
mV pH 10 Range -180±50; Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

Depth (Quarterly) Date of Last Depth Verification

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
Pressure mode in air				0.000			

ICV acceptance criteria ±5 % or ±0.05m, whichever is greater

Request Number: RQ-2016-07-18-48

Lake Arrowhead, Quincy Creek, Alford Arm Tributary and Killearn chain of lakes outlet

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Apr 7, 2016

Customer: WQAP

Project ID: SMP

Requester: Benjamin Ralys

Collected By: Curtis Musson

Field Report Prepared By: Curtis Musson

Sampling Agency: FDEP

Field	Sample 1	Sample 2	Sample 3	Sample 4
Location	Alford Arm Tributary at Buck Lake Rd.	Lake Arrowhead at Boat dock at turtle creek Ln near outlet		
Field ID	GIWA0017-07212016	GIWA0004-07212016		
STORET #	GIWA0017	GIWA0004		
Latitude (☑ dd / ☐ dms)	30.46363	30.568517		
Longitude (☑ dd / ☐ dms)	-84.17115	-84.218058		
Comp / Grab	☑ Grab	☑ Grab	☐ Comp ☐ Grab	☐ Comp ☐ Grab
Collection (comp begin or grab) Date	7-21-16	7-21-2016		
Time (~~Eastern~~ / Central)	8:20	10:30		
Composite end Date / Time	— / —	— / —		
Matrix (type, e.g., Salt, Fresh, etc)	Fresh	Fresh		
Diss. Oxygen (☑ mg/L ☐ % sat)	3.14	9.55		
Total Res. Chlorine (mg/L)	—			
Temp (C)	26.35	32.02		
pH	6.38	8.49		
Sample Depth (☐ ft ☑ m)	~~0.3~~ 0.1 m	0.3		
Sp. Conductance (umho/cm)	46	77		
Salinity (ppt)	0.02	0.03		
Comments				
Bottle Group(s) (See pg 2)	B	B		

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
				[signature]	7/21/16 / 1124A

Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	0
	ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-TDS W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	0
	CHLSUITE-W						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	HNO3	**Enter Number of Bottles Sent to Lab**	0
	W-ICP W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	**Enter Number of Bottles Sent to Lab**	0
	W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 2	Preservative:	ICE-FLTR	**Enter Number of Bottles Sent to Lab**	0
	W-PO4-F						
Group: B	Bottle Type:	P-1L	# of Bottles: 3	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-TDS W-TSS						
Group: B	Bottle Type:	BP-1L	# of Bottles: 3	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	2
	CHLSUITE-W						
Group: B	Bottle Type:	P-500ML	# of Bottles: 3	Preservative:	ICE And H2SO4	**Enter Number of Bottles Sent to Lab**	2
	W-NH3						

Cooler Packing Worksheet for Request: RQ-2016-07-18-48

Lake Arrowhead, Quincy Creek, Alford Arm Tributary and Killearn chain of lakes outlet

Ship Cooler On: 7/5/2016 Requester: Benjamin Ralys

Customer/Project: WQAP/SMP Priority: 3

850-245-8443
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400

Attn: Benjamin Ralys

Comments:
No preservatives needed.

Bottle Group A: freshwater kits including metals
Bottle Group B: freshwater kits no metals

Requested Analyses:

Bottle Group: A **# of Sites: 2**

Container ID: P-1L **Qty: 2** **Preservation: ICE** **Lot #** 00065181

Description: Plastic Bottle 1L

Analysis	Description
ALKALINITY	Alkalinity in aqueous matrices as mg CaCO3/L
TURBIDITY	Turbidity in aqueous matrices
W-CL-IC	Chloride in aqueous matrices
W-COLOR	True Color measured at 450 nm
W-F	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)
W-TDS	Total Dissolved Solids in aqueous matrices
W-TSS	Total Suspended Solids in aqueous matrices

Container ID: BP-1L **Qty: 2** **Preservation: ICE** **Lot #** 1170333

Description: Brown Plastic Bottle 1L

Analysis	Description
CHLSUITE-W	Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry

Container ID: P-500ML **Qty: 2** **Preservation: HNO3** **Lot #** 00065372

Description: Plastic Bottle 500 mL Affix RED nitric acid dot to container.

Analysis	Description
W-ICP	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects
W-ICPMS	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

---

Container ID: P-500ML **Qty: 2** **Preservation: ICE And H2SO4** **Lot #** 00065372

Description: Plastic Bottle 500 mL Affix YELLOW sulfuric acid dot to container.

Analysis	Description
W-NH3	Ammonia in aqueous matrices as mg N/L
W-NO2NO3	Nitrite/Nitrate in aqueous matrices as mg N/L
W-S-A-TP	Total Phosphorus in aqueous matrices as mg P/L
W-TKN	Total Kjeldahl Nitrogen in aqueous matrices
W-TOC	Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML **Qty: 2** **Preservation: ICE-FLTR** **Lot #** 00065090

Description: Plastic Bottle 125 mL

Analysis	Description
W-PO4-F	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Bottle Group: B # of Sites: 3

Container ID: P-1L **Qty: 3** **Preservation: ICE** **Lot #** 00065181

Description: Plastic Bottle 1L

Analysis	Description
ALKALINITY	Alkalinity in aqueous matrices as mg CaCO3/L
TURBIDITY	Turbidity in aqueous matrices
W-CL-IC	Chloride in aqueous matrices
W-COLOR	True Color measured at 450 nm
W-F	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)
W-TDS	Total Dissolved Solids in aqueous matrices
W-TSS	Total Suspended Solids in aqueous matrices

Container ID: BP-1L **Qty: 3** **Preservation: ICE** **Lot #** 1170333

Description: Brown Plastic Bottle 1L

Analysis	Description
CHLSUITE-W	Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry

---

Container ID: P-500ML **Qty: 3** **Preservation: ICE And H2SO4** **Lot #** 00065372

Description: Plastic Bottle 500 mL Affix YELLOW sulfuric acid dot to container.

Analysis	Description
W-NH3	Ammonia in aqueous matrices as mg N/L
W-NO2NO3	Nitrite/Nitrate in aqueous matrices as mg N/L
W-S-A-TP	Total Phosphorus in aqueous matrices as mg P/L
W-TKN	Total Kjeldahl Nitrogen in aqueous matrices
W-TOC	Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML **Qty: 3** **Preservation: ICE-FLTR** **Lot #** 00065090

Description: Plastic Bottle 125 mL

Analysis	Description
W-PO4-F	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Cooler Packed By: SK Date: 7-15-16

DEP Cooler ID #(s): 2 Coolers

Kit must also include:

- ✓ Field Sheets
- ✓ Temperature Control Bottle (1 per cooler)
- ___ FedEx Bills, if applicable (1 per cooler)
- ✓ Plastic Bags
- ✓ Zip Ties

If Preservation Included:

ID _____ Lot # _____
ID _____ Lot # _____
ID _____ Lot # _____
ID _____ Lot # _____
ID _____ Lot # _____

PLEASE RETURN ALL COOLERS FOR RQ-2016-07-18-48