LVI

Site Name Kasey Lake Sample Date 08/30/2018

WBID 3002 Q WIN ID G2CE0011 RQ-2018-08-27-31

	Initial/Date	QC Initial/Date
Water chemistry data to LIMS	LMD 9/6/18	MKL 9/10/18
Create SBIO station visit 78858	MKL 9/18/18	n/a
Vascular Entry (add LIMS ID) 11062	MKL 9/18/18	LB 10/19/18
Lake Observation Sheet Entry	MKL 9/18/18	LB 10/19/18
Authorize SBIO data	LB 10/19/18	n/a
Scan all sheets to 21FLCEN folder	LB 10/19/18	n/a
LIMS/WIN migration		n/a
File in cabinet		n/a

Comments/notes:

LIMS ID: 2021471

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2018

Data Qualified? Yes / (No)

WIN Station Name: Kasey Lake @ Center **Date:** 08/30/2018 (mm/dd/yyyy)

WIN/ Field ID: G2CE0011 **WBID:** 3002 Q **Latitude:** 28.55907 (Decimal Degrees)

County: Orange **ORG ID:** 21 FL CEN **Longitude:** -81.44326 (Decimal Degrees)

Receiving Body of Water: **RQ-2018-** 08-27-31

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Mike Linger	✓		✓		
~~Mike Drennan~~ MKL Leif Boman		✓		✓	✓

Sampling Equipment
- ☑ Sample Container ☐ Van Dorn ☐ Pole
- ☐ Carboy ☑ Syringe
- ☐ Dipper ☐ Other
- Depth Measured with [Secchi Disk Line] / Meter
- Equipment ID [KNOTHEAD (67) / LEADFOOT (NON)]

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

Water Level: Dry/ Pooled/ Low / (Normal) / High / Flooded **Meter ID#** Boop / Non **Matrix:** (Fresh) / Marine / DI

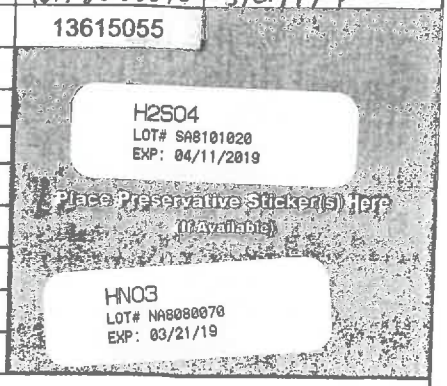
Photos: Yes / (No) **Flow:** No Flow / Intestital / Flowing / (NA) **Tide:** Rising/ Falling/ Slack/ (NA) **Tide Times:** High Low

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)	1035	3.1	0.3	0.8	3.84	50.6	6.43	0.04	94	29.11
CEN			2.6		2.71	35.9	6.38	0.04	94	29.00

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

SBIO ID Numbers: SBIO-ID: 78858 HA-ID: RPS-ID: Macrophyte-ID: 11062 LIMS#: 202147|

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☑ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☑ Ice ☐ H_2SO_4	SA8101020	4/11/19	☑ <2
Metals	☑ W-ICPMS ☑ W-ICP	☑ Ice ☑ HNO_3	NA8080070	3/21/19	☑ <2
Filtered Nutrients	☑ W-PO4-F ☑ Field Filtered 0.45 µm Filter	☑ Ice	13615055		
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-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-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-UHERB-AA ☐ W-AHERB-AA ☐ W-CARB-AA ☐ W-PCL-SQ-R ☐ W-PYR-AA-R ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			



Notes:
28.55938
-81.44423

WIN ID / Field ID →

Kasey Lake @ Center
(3002Q)

G2CE0011

Signature: Mike Linger **Date:** 8/30/18

Enter Field Parameters, Verify Station ID In LIMS DMT: LMD 9/6/18 (Initials/Date) QC Station ID, Field Parameters In LIMS DMT: MKL 9/10/18 (Initials/Date)

Scan/Save Field Sheets _____ (Initials/Date) Migrate Data to WIN: _____ (Initials/Date) Verify Data In WIN: _____ (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 78858 MACROPHYTE ID: 11062 LATITUDE: 28.55507
COUNTY: Orange STORET #: G2CE0011 LONGITUDE: -81.44326
DATE: 08/30/2018 TIME: 1035 SAMPLING AGENCY: FDEP CE-Roc
SITE NAME: Kasey Lake @ Center WBID: 3002 Q
FIELD ID/NAME: G2CE0011 LAKE SIZE: Small RQ: 2018-08-27-31

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)
				100			

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer) LDI:

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 (LB)

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 # _____ 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:	0.3	29.11	6.43	3.84	50.6	94	0.04
Mid-Depth:							
Bottom :	2.6	29.00	6.38	2.71	35.9	94	0.04

Meter ID: Boop / Nom

Clarity: ☐ Clear ☐ Opaque ☐ Turbid ☑ Slightly Turbid

Color: ☐ Clear ☐ Tannic ☑ Green

SECCHI (M): 0.8 VOB ☐

Total Station Depth (M): 3.1

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 : 90's rain approaching

SAMPLING TEAM: Mike Linger / Leif Boman **SIGNATURE:** [signature] **DATE:** 08/30/2018

62-160.800, F.A.C.

Revision Date: March 1, 2014

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Kasey Lake	County: Orange	Date: 08-20-18
Analyst: Mike Linger / Leif Bomen	Signature:	STORET: 21FLCEOD11

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					
Alternanthera philoxeroides	/	/	/	/	
Amaranthus australis					
Andropogon sp.					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana					
Bacopa monnieri					
Bidens alba				/	
Bidens laevis					
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana					
Canna					
Centella asiatica					
Cephalanthus occidentalis					
Ceratophyllum demersum					
Chara sp.					
Cicuta maculata					
Cinnamomum camphora				/	
Cladium jamaicense					
Colocasia esculenta					
*Commelina _____					
Crinum americanum					
***Cyperus alternifolius (C. involucratus)**					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos					
*Cyperus odoratus					
*Cyperus surinamensis					
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana			/	/	
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Eichhornia crassipes					
*Eleocharis _____					
Eleocharis cellulosa					
*Eleocharis elongata					
Eleocharis equisetoides					
Eleocharis interstincta					
Eleocharis submersed viviparous					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium				/	

SPECIES	1	4	7	10	Collected? (√)
Fraxinus					
Fuirena scirpoides					
Gordonia lasianthus					
Habenaria repens		/			
Hibiscus coccineus					
Hibiscus grandiflora					
Hydrilla verticillata					
Hydrocotyle sp.	/	/	/	/	
Hygrophila polysperma					
Hymenocallis sp.					
*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 grandiflora					
*Ludwigia hexapetala					
*Ludwigia leptocarpa					
Ludwigia (native)					
*Ludwigia octovalvis	/			/	
***Ludwigia peruviana**	/	/	/	/	
*Ludwigia repens					
Ludwigia suffruticosa					
Luziola fluitans (Hydrochloa carolinensis)					
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens		/	/		
Mimosa pigra					
Myrica cerifera					

No dominant in section 10

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: Kasey Lake

Date: 8/30/18

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

SPECIES	1	4	7	10	Collected? (√)
Salix caroliniana			/		
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.					
Thalia geniculata					
Thelypteris interrupta					
Thelypteris palustris					
Triadenum virginicum					
Typha sp.					
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)	/	/		/	
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia radiata					
*Utricularia resupinata					
Vallisneria americana					
Vitis sp.					
*Websteria confervoides					
Wedelia trilobata (Sphagneticola trilobata)					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					
~~Dec vine (species)~~ Vigna luteola	/	/		/	
~~Phyla nodiflora~~ nodiflora (LB)			/		
Duckweed Spirodela polyrhiza				/	10 MKL

Kasey Lake (Orange County)

12/1	28.599605, -81.443321	6/7	28.598636, -81.443330
1/2	28.599539, -81.442962	7/8	28.598755, -81.443737
2/3	28.599308, -81.442659	8/9	28.598943, -81.444013
3/4	28.598984, -81.442492	9/10	28.599182, -81.444218
4/5	28.598693, -81.442640	10/11	28.599415, -81.444027
5/6	28.598631, -81.442946	11/12	28.599551, -81.443702