

SBIO processing

Z1-LL-12003

Lucas Lake.

WIN-ID 53800

LIMS ID 1999149

☒ LVI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO

Initial

FB 1/8/2019

☒ Date and Initial QA:

11/9/19

NA ☐ RPS entered in SBIO

Initial

☐ Date and Initial QA:

☒ LVS entered in SBIO

Initial

FB 1/08/19

☒ Date and Initial QA:

11/9/19

LVI

☒ < 2 m² vegetation No

☒ Plants getting verified

Date submitted:

✓

☒ Plants verified

Date returned:

✓

Sample Date: 05/23/2018

WBID 526

SBIO ID: 79121

HA ID: 15569

Macro ID: 11148

LVI authorized. FB 01/09/2018

LVI score. 86

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 79121 MACROPHYTE ID: 11148 LATITUDE: N 30.54920
 COUNTY: Washington (Vernon) STORET #: 53800 LONGITUDE: W -85.69115
 DATE: 05/23/2018 TIME: 1130 SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Z1-LL-12003 (Lucas Lake) WBID: 526
 FIELD ID/NAME: Z1-LL-12003 LAKE SIZE: 460 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) ☐

Local Watershed Erosion (select one): ☒ None ☐ Slight ☐ Moderate ☐ Heavy
 Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy ☐ Yes ☒ No

Artificially Impounded ☐ Yes ☒ No

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)
 LDI: 3.65
 Land Use Source & Year: _____

STORMWATER INPUTS
18
 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
18
 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
18
 Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18m 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 # _____ 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 27.84 5.35 7.54 96.1 17 0.01
 Mid-Depth: 1.5 27.76 5.36 7.52 95.8 16 0.01
 Bottom: 2.9 27.65 5.36 7.37 93.5 16 0.01

Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid
Color: ☒ Clear ☐ Tannic ☐ Green

SECCHI (M) 2.8 Total Station Depth (M) 3.4
 VOB ☐

Meter ID: 132237

Sediment Type: (may check more than one)
☒ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated
☐ Sand/Silt ☒ Organic smooth (muck) ☐ Other (Specify): _____

Sample Taken? ☐ Yes ☒ No

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: Sunny. No rain for awhile

SAMPLING TEAM: Frank Butera, Mike King

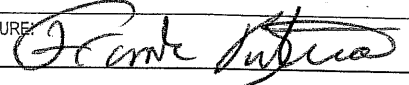
SIGNATURE: [Signature]

DATE: 05/23/2018

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

Store/ WIN ID NUMBER: G3NW0085	DATE (M/D/Y) 07/25/2018	LAKE NAME: Allen Lake		FIELD ID / NAME: G3NW0085
ECO-REGION: 959H	COUNTY: Walton	SAMPLING LOCATION/DESCRIPTION: Santa Rosa Beach, FL		LAKE SIZE: 15.3 Acres
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)		
3	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)
8	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
7	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
14	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)
3	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 75%-74% with 10m to 18m buffer	< 29% of shoreline with >18m buffer
8	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			
9	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1

TOTAL SCORE	52	COMMENTS: Natural Vegetation Outlet closed by Hwy 30A
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ANALYSIS DATE: 7/25/18	ANALYST: Frank Butera, Mike King	SIGNATURE: 
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SBIO ID: 78642

HA ID: 15296

RQ:2018-07-23-29

Revision Date: March 1, 2014

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Z1-LL-12003 (Lucas Lake)				County: Washington (Vernon)				Date: 05/23/2012			
Analyst: F. Butera <u>M. King</u>				Signature: <u>[Signature]</u>				STORET: 53800			
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): 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.											
SBIO ID <u>79121</u>		<u>1 4 7 10</u>		Collect ed? (✓)	Macro ID <u>11148</u>		<u>1 4 7 10</u>		Collect ed? (✓)		
SPECIES					SPECIES						
Acer rubrum					Habenaria repens						
Alternanthera philoxeroides					Hydrilla verticillata						
Andropogon sp.					Hydrocotyle sp.						
Azolla filiculoides (A. caroliniana)					Hygrophila polysperma						
Baccharis sp.					*Hypericum fasciculatum <u>5-petals</u>						
Bacopa caroliniana		<u>1 1 1 1</u>			*Hypericum hypericoides		<u>1 1 1 1</u>				
Bacopa monnieri					*Hypericum myrtifolium						
Bidens laevis					Ilex cassine						
Bidens mitis					Ipomoea aquatica						
Blechnum serrulatum					Ipomoea sagittata						
Boehmeria cylindrica					Itea virginica						
Brasenia schreberi		<u>1 1 1 1</u>			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 (Spiro. punctata)						
Cliftonia monophylla		<u>1 1</u>			Lemna sp.						
Colocasia esculenta					Leucothoe racemosa (E. racemosa)						
*Commelina					Limnium spongia						
Crinum americanum					Limnophila sessiliflora						
*Cyperus alternifolius (C. involucratus)					Liquidambar styraciflua						
Cyperus articulatus					*Ludwigia arcuata						
Cyperus haspan					*Ludwigia leptocarpa						
*Cyperus lecontei					*Ludwigia linearis						
*Cyperus polystachyos					*Ludwigia octovalvis						
*Cyperus odoratus					*Ludwigia peruviana						
*Cyperus surinamensis		<u>1 1 1 1</u>			*Ludwigia repens						
Cyrilla racemiflora					*Ludwigia						
Decodon verticillatus					Luziola fluitans (H. 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 <u>Wimph</u>		<u>1</u>			Myrica cerifera						
Eleocharis cellulosa					<u>Hypericum liss</u>						
Eleocharis equisetoides					<u>Lycopus</u>						
Eleocharis interstincta					<u>Magnolia grand</u>						
*Eriocaulon compressum		<u>1 1 1</u>			<u>Ludwigia</u>						
*Eriocaulon decangulare					<u>Juncus sp. effusus</u>						
Eupatorium capillifolium					<u>Bidens alba</u>						
*Fuirena		<u>1 1 1</u>									
Fuirena scirpoidea											
Gordonia lasianthus											

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Waterbody: <u>Z1-LL-14047 (UnNamed Oxbow Lake)</u>		Storet: <u>5/23/2012</u>		Date: <u>5/23/2012</u>		SBIO ID		Macro ID	
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DEP-SOP-001/01
FS 7000 General Biological Community Sampling

Form FD 9000-2: COMPOSITE LAKE SAMPLING SHEET (< 1000 ACRES)

Date: <u>7/25/2008</u>		Name of Lake: <u>Allen Lake.</u>		Gear used: <u>PONAR</u> <u>EKMAN</u> <u>OTHER</u>	
Comments:					
Drop #	Depth (m)	Sediment Type (circle all that apply)	Drop #	Depth (m)	Sediment Type (circle all that apply)
1		sand, silt/clay, CPOM, muck, SAV	7		sand, silt/clay, CPOM, muck, SAV
2		sand, silt/clay, CPOM, muck, SAV	8		sand, silt/clay, CPOM, muck, SAV
3	<u>1.6</u>	* sand, silt/clay, CPOM, muck, SAV <u>(Huge)</u>	9	<u>1.3</u>	* sand, silt/clay, CPOM, muck, SAV <u>(Huge)</u>
4		sand, silt/clay, CPOM, muck, SAV	10		sand, silt/clay, CPOM, muck, SAV
5		sand, silt/clay, CPOM, muck, SAV	11		sand, silt/clay, CPOM, muck, SAV
6		sand, silt/clay, CPOM, muck, SAV	12	<u>1.6</u>	sand, silt/clay, CPOM, muck, SAV <u>(Huge)</u>

CPOM = coarse particulate organic matter; SAV = submerged aquatic vegetation

WIN ID: G3NW0085 Field ID G3NW0085 Project. TMDL Studies (SMP 2018) SBIO ID:
WBID 959H RQ-2017-07-23-29

~~Blue~~ Thick-mat-like algae.

Paste map here and show location of each dredge drop and where water chemistry parameters were collected.

Revision Date: February 1, 2004

Photo Log

Storet G3NW0085

Station Name: Allen Lake

Date:

Samplers. F. Butera, M. King

- 1 12 section, Saw Guss
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____
- 10 _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____
- 17 _____

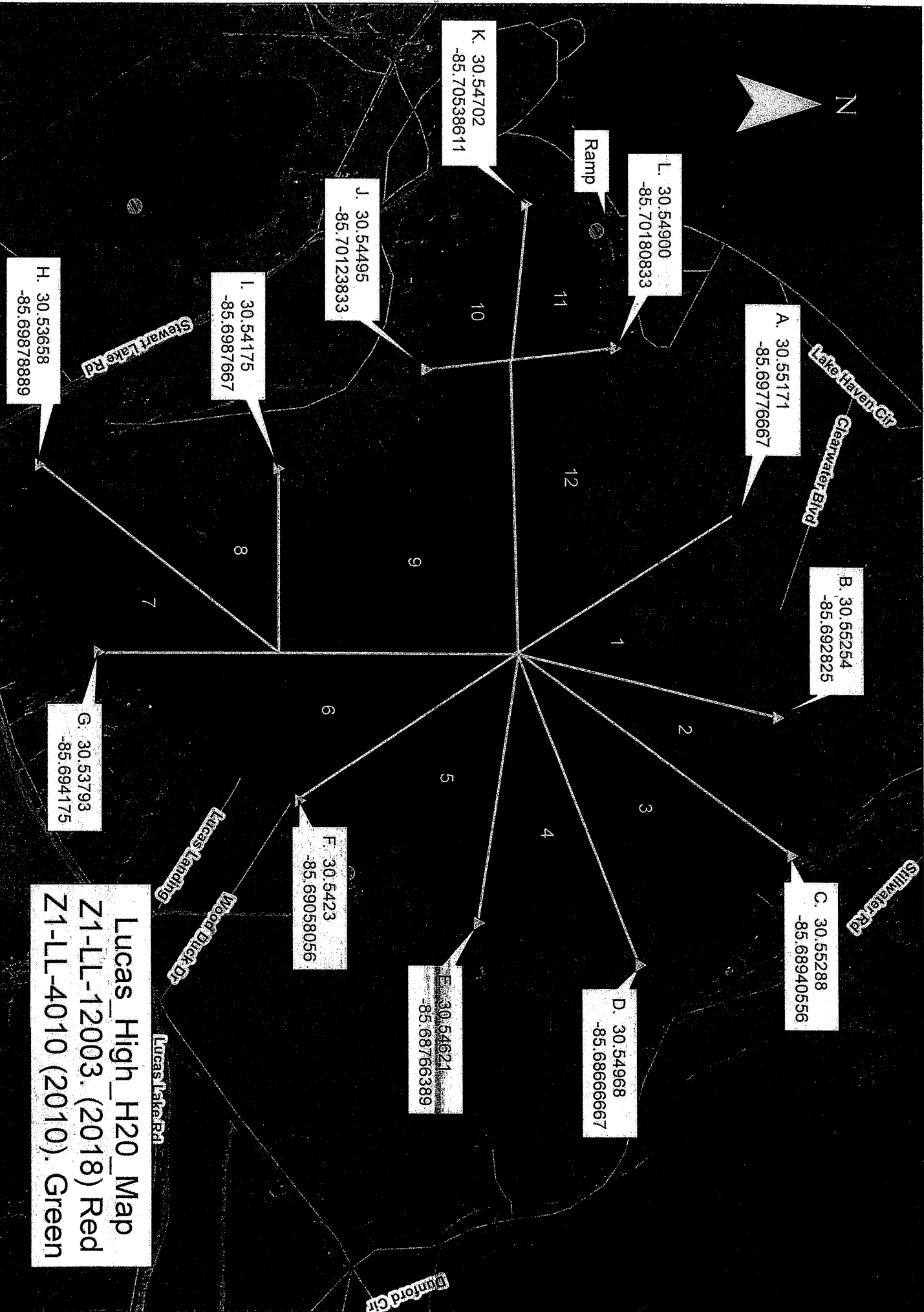
Notes.

Z1-LL-12003 (Lucas Lake) High Water

Status Storet TBD
 Receiving Water WBID 686
 Basin, WBID St. Andrew's Bay,
 City, County Vernon, Washington
 Lake Acreage
 Circumference (M)
 Seg. Length (M) 0

Storet	30.54920	-85.69115
A	30.55171	-85.69777
B	30.55254	-85.69283
C	30.55288	-85.68941
D	30.54968	-85.68667
E	30.54621	-85.68766
F	30.54230	-85.69058
G	30.53793	-85.69418
H	30.53658	-85.69879
I	30.54175	-85.69877
J	30.54495	-85.70124
K	30.54702	-85.70539
L	30.54900	-85.70181

Boat Ramps		
3474 Lake Lucas Rd., Chipley, 32428	30.54856	-85.70472
Lucas Lndg Rd.	30.54098	-85.69079



Station: Z1-LL-12003. Lucas Lake
 GPS Dec. 30.54920 x 85.69115
 Storet: 53800 WBID 302
 Sample ID : 79121
 Macro ID: 11148

Sampled : 05/23/2018
 Sampled By: F. Butera, S. Slade
 Location: Vernon, Washington Co. FL
 Receiving Waters: St. Andrew's Bay
 LIMS ID: 1999149

	Taxa	1	4	7	10	C of C	Coll.	Verified
1	<i>Andropogon</i> sp.			1	1			
2	<i>Eleocharis vivipara</i> (submersed)	1				3.81		
3	<i>Eriocaulon compressum</i>		1	1	1	7.50		
4	<i>Fuirena</i> sp.	1			1			
5	<i>Juncus effusus</i>				1	3.25	✓	FB Lab
6	<i>Lachnanthes caroliniana</i>				1	3.76		
7	<i>Leersia hexandra</i>			1		5.61		
8	<i>Panicum hemitomon</i>	1	1		1	5.82		
9	<i>Panicum repens</i>		1	1		0.00		
10	<i>Pontederia cordata</i>	1	1	1	1	5.38		
11	<i>Sacciolepis striata</i>	1	1	1	1	5.35		
12	<i>Typha</i> sp.		1		1	0.80		
13	<i>Websteria confervoides</i>	1	1		1	4.00		
14	<i>Xyris</i> sp.		1	1	1			
15	<i>Bacopa caroliniana</i>	1	1	1	1	5.31		
16	<i>Bidens alba</i>				1	1.00		
17	<i>Brasenia schreberi</i>	1	1	1	1	8.79		
18	<i>Centella asiatica</i>				1	1.92		
19	<i>Eupatorium capillifolium</i>			1	1	0.83		
20	<i>Hydrocotyle</i> sp.	1		1		2.00		
21	<i>Hypericum fasciculatum</i>	1	1	1	1	7.27	✓	FB Lab
22	<i>Hypericum lissophloeus</i>			C	1	7.56		
23	<i>Ludwigia</i> (Unknown Nativity)*				1	6.75		
24	<i>Lycopus</i> sp.			1	1			
25	<i>Myriophyllum heterophyllum</i>	1	1	1	1	5.85		
26	<i>Nuphar</i> sp.				1	4.64		
27	<i>Nymphaea odorata</i>	1	1	1	1	6.99		
28	<i>Nymphoides aquatica</i>	1	1	1	1	6.09		
29	<i>Utricularia floridana</i>	D	D	C	D	6.34		
30	<i>Vitis rotundifolia</i>			1	1			
31	<i>Acer rubrum</i>		1		1	4.65		
32	<i>Baccharis</i> sp.			1				
33	<i>Cephalanthus occidentalis</i>			1	1	6.99		
34	<i>Cliftonia monophylla</i>	1	1			5.63		
35	<i>Cyrilla racemiflora</i>	1	1	1	1	5.20		
36	<i>Magnolia grandiflora</i>			1		4.36		
37	<i>Myrica cerifera</i>		1		1	3.82		
38	<i>Sabal palmetto</i>			1		4.85		
39	<i>Salix caroliniana</i>			1		2.95		
40	<i>Taxodium</i> sp.	1	1	1		7.20		
Taxa per section		17	20	26	30	Herb. Taxa	30	
Exotic Present		0	2	0	0	Woody Taxa	10	
Avg. taxa per section		23				Ferns	0	
sections with exotics		2				Macro Algae	0	
Exotic Taxa		1	Exotics per Section: 0.5			Total Taxa	40	

Metric	Rep. 1	Rep. 2	Rep. 3	Rep. 4	LVI Average
LVI 2012	91	85	86	83	86
Native Percentage	100	95	96	96.67	96.92
FLEPPC Pct (Exotic)	0	5	4	0	2.25
Total Taxa	17	20	25	30	23.00
C of C over 7.0	23.53	25	20	16.67	21.30
Dominant Taxa	U. floridana	U. floridana	U floridana / H lissophloeus	U floridana	U. floridana
C of C Dominant	6.34	6.34	7.67	6.34	6.67