

SBIO processing

Z1-LL-11005

Hamlin Lake

Storet: 51062

☒ LVI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO FB 02/14/2018

☒ Phys/Chem entered in SBIO FB 02/14/2018

☒ HA entered in SBIO Initial FB 02/14/2018 ☒ Date and Initial QA: SS 2/15/18

☐ RPS entered in SBIO Initial N/A ☐ Date and Initial QA: _____

☒ LVS entered in SBIO Initial FS 6/15/2018 ☐ Date and Initial QA: 06/22/2018 SS

☐ < 2 m² vegetation

☒ Plants getting verified

Date submitted: 11/2018²⁰¹⁷

☒ Plants verified

Date returned: 6/14/2018

Sample Date: 07/10/2017

WBID 686 A

SBIO ID: 78217

HA ID: 15012

Macro ID: ~~10960~~ 10962 ^(FS)

Comments. A.K.A. "Hammock Lake"

LVS (Macro) Authorized

06/25/2018 fb

LVI Score 58

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: 78217 MACROPHYTE ID: 10962 LATITUDE: N 30.451355
COUNTY: Washington STORET #: 51002 LONGITUDE: W 85.5917421
DATE: 7-10-2017 TIME: 11:30 SAMPLING AGENCY: FL DEP - NWROC
SITE NAME: Hammock Lake Hammock Lake WBID: 686 A
FIELD ID/NAME: Z1-LL-11005 LAKE SIZE: 384 RQ: N/A

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>2d</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>2d</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>2d</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	
						Highly developed or disturbed (>70% of lakeside affected) ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1	
						< 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 ☐ 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>34.7</u> <u>4.7</u> <u>6.8</u> <u>92</u> <u>16</u> <u>0.0</u> Mid-Depth: Bottom: <u>1.8</u> <u>2.0</u> <u>30.4</u> <u>4.9</u> <u>6.7</u> <u>89</u> <u>16</u> <u>0.0</u> Meter ID: <u>113529</u>				Water Surface Oils: ☒ None ☐ Sheen/Slick ☐ Glob ☐ Other _____			
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Sand/Silt ☐ Organic smooth (muck)				Clarity: ☐ Clear ☒ Slightly Turbid ☐ Opaque ☐ Turbid			
Sample Taken? ☐ Yes ☒ No ☒ Vegetated ☐ Other (Specify): _____				Color: ☒ Clear ☒ Tannic ☐ Green <u>slt. Tannic</u> SECCHI (M) <u>3.1</u> Total Station Depth (M) <u>4.2</u> VOB ☒ FB			
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 ☒ Don't Know Active Vegetation Mgmt? ☐ Yes ☐ No ☒ Don't Know				Sediment Odors: ☒ Normal ☐ Anaerobic ☐ Other (Specify): _____			
Abundance: Absent Rare Common Abundant Periphyton ☐ ☐ ☐ ☒ Nuisance Plants ☒ ☐ ☐ ☐ Submersed Plants ☐ ☐ ☐ ☒ Exotic Apple Snails ☒ ☐ ☐ ☐				Additional Notes: <u>High-Water MAP</u> <u>SANDP/Clay Roads</u> <u>Silviculture, Litter</u>			

Weather Conditions: Scattered Thunderstorms. Overcast

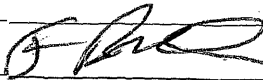
SAMPLING TEAM: Frank Butera, Stopher Slade

SIGNATURE: [Signature]

DATE: 7/10/2017

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

STORET STATION NUMBER: 51062	DATE (M/D/Y) 07/10/17	LAKE NAME: Hammock Lake (Z1-LL-11005) HAMMOCK LAKE		FIELD ID / NAME: Z1-LL-11005	
ECO-REGION: 686 A	COUNTY: Washington	SAMPLING LOCATION/DESCRIPTION: Off of Greenhead Rd.		LAKE SIZE: 384	
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 23 m Secchi(m) Or VOB 20 19 18 17 16	3 2.6 2.2 1.8 1.4 15 14 13 12 11	1.0 0.9 0.8 0.7 0.6 10 9 8 7 6	0.5 0.4 0.3 0.2 0.1 5 4 3 2 1	
Vegetation Quality ☐	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa 20 19 18 17 16	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants 15 14 13 12 11	Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats 10 9 8 7 6	Lake choked (>40%) with nuisance macrophytes (duckweed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed) 5 4 3 2 1	
Stormwater Inputs ☐	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	
Bottom Substrate Quality ☐	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 19 18 17 16	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present 15 14 13 12 11	Moderate layer of CPOM/ mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom 10 9 8 7 6	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom 5 4 3 2 1	
Lakeside Adverse Human Alterations ☐	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%) 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	
Upland Buffer Zone ☐	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	
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 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1				
TOTAL SCORE	137				
COMMENTS: AKA "HAMMOCK LAKE"					

ANALYSIS DATE: 7/14/2017	ANALYST: Frank Butera, Stopher Slade	SIGNATURE: 
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SB10 ID 78217

HA ID 15012

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Hamrock Lake (Z1-LL-11005) <u>HAMUN LAKE</u>		County: Washington		Date: <u>7-10-17</u>	
Analyst: F. Butera		Signature: <u>[Signature]</u>		STORET: <u>51062</u>	
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.					
SBIO ID <u>78217</u>	<u>1 4 7 10</u>	Collected? (✓)	Macro ID <u>10962</u>	<u>1 4 7 10</u>	Collected? (✓)
SPECIES			SPECIES		
Acer rubrum			Habenaria repens		
Alternanthera philoxeroides			Hydrilla verticillata		
Andropogon sp.			Hydrocotyle sp.		
Azolla filiculoides (A. caroliniana)			Hygrophila polysperma		
Baccharis sp.			*Hypericum fasciculatum		
Bacopa caroliniana			*Hypericum hypericoides		
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</u>		Juncus effusus		
Cabomba caroliniana			*Juncus marginatus		
Casuarina equisetifolia			*Juncus megacephalus		
Centella asiatica			Juncus repens		
Cephalanthus occidentalis	<u>1 1 1 1</u>		*Juncus scirpoides		
Ceratophyllum demersum			Lachnanthes caroliniana		
Chara sp.			Leersia hexandra	<u>1 1 1 1</u>	
Cladium jamaicense			Landoltia punctata (Spiro. punctata)		
Cliftonia monophylla			Lemna sp.		
Colocasia esculenta			Leucothoe racemosa (Eubotrys 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			*Ludwigia repens <u>Callandera</u>	<u>1 1 1 1</u>	<u>✓</u>
Cyrilla racemiflora	<u>1 1 1 1</u>		*Ludwigia <u>Suffructicosa</u>	<u>1 1 1 1</u>	<u>✓</u>
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			Mikania scandens		
*Eleocharis baldwinii			Mimosa pigra		
*Eleocharis <u>lanceolata</u> <u>elegantula</u>	<u>1 1 1 1</u>	<u>✓</u>	Myrica cerifera		
Eleocharis cellulosa			<u>Hypericum lissophloeos</u>	<u>1 1 1 1</u>	
Eleocharis equisetoides			<u>NOT Rhoxia (RHS)</u>		
Eleocharis interstincta			<u>Spetals, opposite leaves</u>	<u>1 1 1 1</u>	<u>✓</u>
*Eriocaulon compressum	<u>1 1 1 1</u>	<u>✓</u>	<u>Eragrostis speciosa</u>	<u>1 1</u>	<u>✓</u>
*Eriocaulon decangulare <u>truxense</u>	<u>1 1 1 1</u>	<u>✓</u>			
Eupatorium capillifolium			<u>Juncus polycephalus</u>	<u>1</u>	
*Fuirena					
Fuirena scirpoidea	<u>1 1 1 1</u>				
Gordonia lasianthus					

FORM FD 9000-27: LAKE VEGETATION INDEX FIELD SHEET

Site: <u>Hammock Lake (Z1-LL-11005)</u> , Storet. <u>51062</u>		Date: <u>7-10-17</u>		SBIO ID <u>78217</u> Macro ID	
HAMMOKK LAKE SBIO ID 78217 SPECIES		Collected? (✓)	Macro-ID SPECIES	Collected? (✓)	Macro ID
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.	1	1	Scirpus cyperinus		
Nymphaea odorata		1	*Sesbania		
Nymphoides aquatica	1	1	Solidago sp.		
Nyssa sylvatica var. biflora			Sparganium americanum		
Orontium aquaticum			Spartina bakeri		
Osmunda cinnamomea			Spirodela polyrhiza		
Osmunda regalis			Taxodium sp.		
Panicum hemitomon	1	1	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	1	DDC
Pennisetum purpureum			*Utricularia foliosa		
Phragmites australis			*Utricularia inflata		
Pinus elliotii			*Utricularia purpurea		
Pistia stratioides			*Utricularia cornuta	1	
Pluchea sp.			*Utricularia radiata		
*Polygonum glabrum (densiflorum)			Vallisneria americana		
*Polygonum hydropiperoides			*Websteria confervoides	1	
*Polygonum punctatum			Wedelia trilobata (Sphag. trilobata)		
*Polygonum			Wolffiella spp.		
Pontederia cordata	1	1	Woodwardia virginica		
*Potamogeton diversifolius			Xyris sp.	1	1
*Potamogeton illinoensis			Zizania aquatica	1	1
*Potamogeton pusillus			Zizaniopsis milacea		
*Potamogeton pectinatus (Stuck. pectinatus)					
Proserpinaca pectinata			Amphicarpum	1	✓P
*Rhexia sp.			(Sep. bag)		
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynchospora tracyi					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis		1			
Sagittaria lancifolia					
Sagittaria latifolia					
Phragmites sp.	1	1			✓P
(Sep. bag)					

DEP-SOP-001/01
FS 7000 General Biological Community Sampling

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

Date: 7-10-17		Name of Lake: Hammock Lake Z1-LL-11005 Hamrin		Gear used: PONAR 1-1-1	EKMAN	OTHER
Comments: AKA HAMMOCK LAKE						
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	3.1	NOB sand, silt/clay, CPOM, muck, SAV	
2		sand, silt/clay, CPOM, muck, SAV	8		sand, silt/clay, CPOM, muck, SAV	
3		sand, silt/clay, CPOM, muck, SAV	9		sand, silt/clay, CPOM, muck, SAV	
4	4.2	*NOB sand, silt/clay, CPOM, muck, SAV	10	2.4	NOB 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		sand, silt/clay, CPOM, muck, SAV	

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

Storet **51062** Field ID **Z1LL11005** Project. Status **Large 2017**
WBID **686 A**

SBIO ID: **78217**

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 51062

Station Name: Z1-LL-11005 / ~~Hammock Lake~~ HAMLIN LAKE

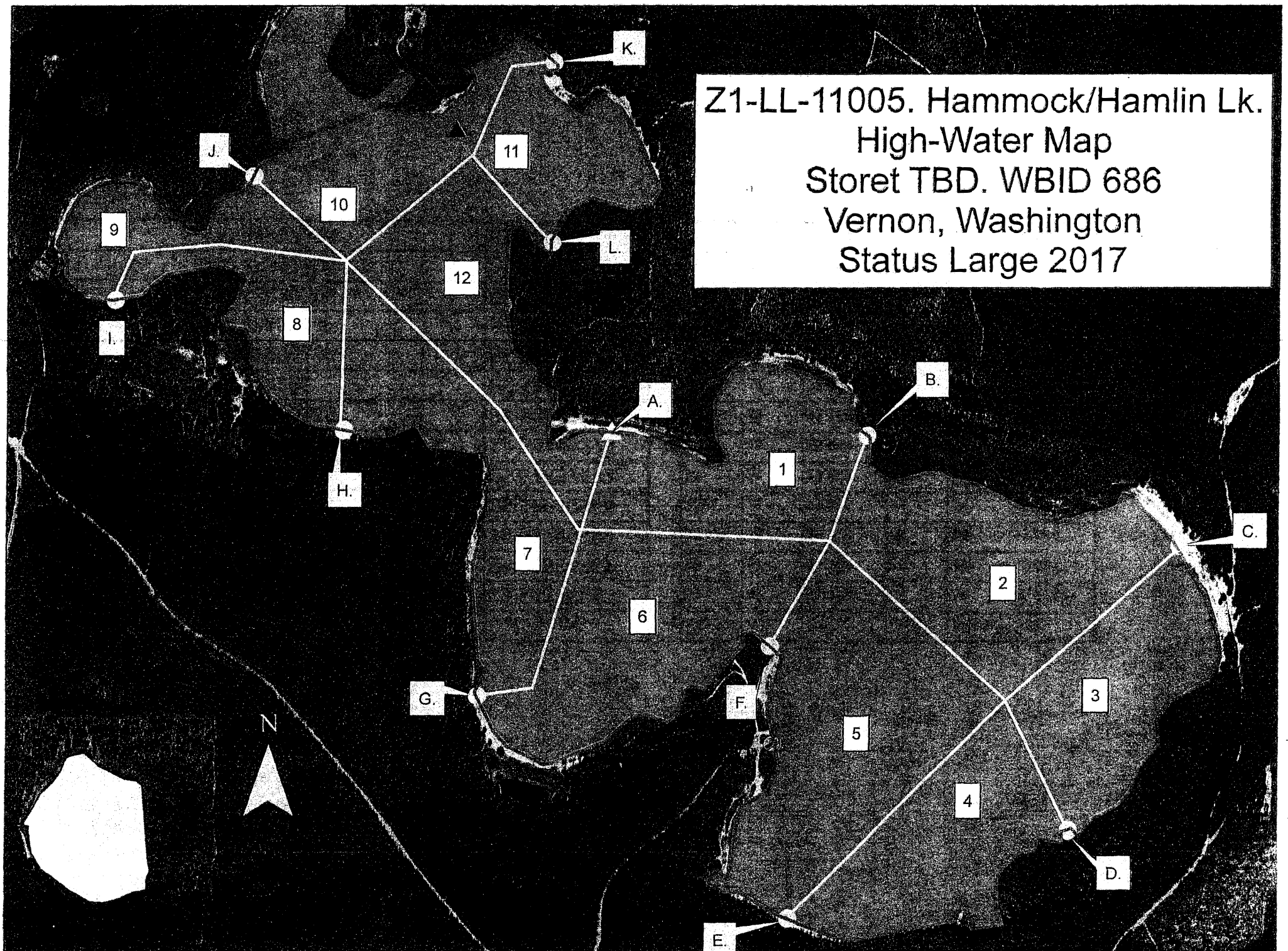
Date: 7-10-2007

Samplers. F. Butera, S. Slade

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 N _____
- 8 E _____
- 9 S _____
- 10 W _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____
- 17 _____

Notes. AKA "HAMMOCK LAKE"

Z1-LL-11005. Hammock/Hamlin Lk.
High-Water Map
Storet TBD. WBID 686
Vernon, Washington
Status Large 2017



Z1-LL-11005 Hammock Lake (High Water)

Status Storet TBD
 Receiving Water WBID 686
 Basin, WBID St. Andrew's Bay,
 City, County Vernon, Washington
 Lake Acreage 384
 Circumference (M) 9287
 Seg. Length (M) 773.9166667

Location	Dec. Latt.	Dec. Long.
Storet	30.4851355	85.5917421
A	30.47949917	85.58834361
B	30.47952167	85.58295389
C	30.47751083	85.57640944
D	30.47224778	85.57857472
E	30.47051222	85.58444278
F	30.47560139	85.58492389
G	30.474625	85.59111361
H	30.47950139	85.59402639
I	30.48188167	85.59883472
J	30.48420306	85.59598194
K	30.48641806	85.58971472
L	30.48307694	85.58968861

Deg.	Min.	Sec.	Deg.	Min.	Sec.
30	29	6.4878	85	35	30.27156
30	28	46.197	85	35	18.037
30	28	46.278	85	34	58.634
30	28	39.039	85	34	35.074
30	28	20.092	85	34	42.869
30	28	13.844	85	35	3.994
30	28	32.165	85	35	5.726
30	28	28.65	85	35	28.009
30	28	46.205	85	35	38.495
30	28	54.774	85	35	55.805
30	29	3.131	85	35	45.535
30	29	11.105	85	35	22.973
30	28	59.077	85	35	22.879