



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Cassidy Lake Center

Date: 08/07/2019
(mm/dd/yyyy)

WIN/ Field ID: G3NW0183

WBID: 226

Latitude: 30.81620

County: Holmes

ORG ID: 21FLPNS

Longitude: 86.031136

Receiving Body of Water: Anderson Mill Creek

RQ-2019- 07-22-17

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Frank Butera		X	X	X	X	X
Myranda Clark		X	X	X	X	X

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

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

Water Level: Dry/ Pooled/ Low / Normal High Flooded Meter ID# 155077 Matrix: Fresh / Marine / DI

Photos: Yes / No Flow: No Flow / Intestinal / 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	13:00	10.3	0.3	5.3	7.01	95.0	5.57	0.01	15.4	31.0
CEN			9.7		0.17	2.1	4.95	0.01	19.9	22.3

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

SBIO ID Numbers: SBIO-ID: 80064 HA-ID: 16174 RPS-ID: MA Macrophyte-ID: 11464 LIMS#: 2109723

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☐ Ice ☒ H2SO4	SA9010030	04/10/20	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	NA9099030	04/09/20	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	16570048		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CH-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 ☐ WE8321-MS ☐ W-CARB-AA	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes:

Field/WIN ID



G3NW0183

Location:



CASSIDY LAKE CENTER

Signature: Frank Butera

Date: 08/07/2019

LIMS EVENT ID: WIN Import ID:

Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT:

Scan/Save Field Sheets Migrate Data to WIN: Verify Data In WIN:

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: B0064 MACROPHYTE ID: 1464 LATITUDE: N 30.816195
 COUNTY: Holmes (Ponce De Leon) STORET #: G3NW0183 LONGITUDE: W -86.03114
 DATE: 07/09/2019 TIME: 13:40 SAMPLING AGENCY: FL DEP - NWROC
 SITE NAME: Cassidy Lake Center, RA-2019-07-22-17 WBID: 226
 FIELD ID/NAME: G3NW0183 LAKE SIZE: 330 RQ: 2019-07-22-17

WATERSHED / LAKESIDE FEATURES WBID 226 LIMS ID 2109723

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: <u>1.0</u> 2016 SBIO Land Use Source & Year:		
Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ Heavy					Artificially Impounded ☐ Yes ☒ No				
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy									
STORMWATER INPUTS <u>18</u>		Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 19 <u>18</u> 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>18</u>		Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected) 20 19 <u>18</u> 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>18</u>		Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18m buffer 20 19 <u>18</u> 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 _____			
Meter Readings: Top: <u>03</u> <u>13:00</u> <u>31.0</u> <u>5.57</u> <u>7.01</u> <u>46.0</u> <u>15.4</u> <u>0.01</u> Mid-Depth: <u>5.33</u> <u>30.4</u> <u>5.51</u> <u>6.77</u> <u>90.5</u> <u>15.4</u> <u>0.01</u> Bottom: <u>9.7</u> <u>4.5</u> <u>22.3</u> <u>4.95</u> <u>0.17</u> <u>2.1</u> <u>19.9</u> <u>0.01</u> Meter ID: <u>155047</u>								Water Surface Oils: ☐ None ☐ Sheen/Slick ☐ Glob ☐ Other _____			
Sediment Type: (may check more than one) ☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☒ Vegetated ☒ Sand/Silt ☒ Organic smooth (muck) ☐ Other (Specify): _____								Clarity: ☒ Clear ☐ Opaque ☐ Turbid ☐ Slightly Turbid Color: ☒ Clear ☐ Tannic ☐ Green			
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>Sunny. Very Hot - Heat Index projected 110°F.</u> <u>11:00</u>								Additional Notes: SBIO Project Reference Lakes. SMP 2019 <u>Vegetation to</u> <u>@ least 5.0 m</u> <u>depth.</u>			
SAMPLING TEAM: Frank Butera, Miranda Clark								SIGNATURE: <u>[Signature]</u> DATE: <u>07/09/2019</u>			

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Cassidy Lake Center				County: Holmes (Ponce De Leon)				Date: 10/07/2019			
Analyst: F. Butera				Signature: <i>[Signature]</i>				STORET: G3NW0183			
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			
SBIO ID BQ664	2	5	8	11	Collect ed? (✓)	Macro ID 11464	2	5	8	11	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					
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	1	1	1	1		Juncus effusus					
Cabomba caroliniana	1	1	1	1		*Juncus marginatus					
Casuarina equisetifolia						*Juncus megacephalus					
Centella asiatica						Juncus repens					
Cephalanthus occidentalis			1			*Juncus scirpoides					
Ceratophyllum demersum						Lachnanthes caroliniana					
Chara sp.						Leersia hexandra					
Cladium jamaicense						Landoltia punctata (Spiro. punctata)					
Cliftonia monophylla				1		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						*Ludwigia repens					
Cyrilla racemiflora	1					*Ludwigia					
Decodon verticillatus						Luziola fluitans (H. carolinensis)					
Diodia virginiana						Lyonia lucida					
*Echinochloa crus-galli						Magnolia virginiana					
*Echinochloa muricatum						Mayaca fluviatilis	1	1	1	1	✓
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					
Eleocharis cellulosa						<i>Hypericum chapmanii</i>	1	1	1	1	✓
Eleocharis equisetoides						<i>Eriocaulon lineare</i>					✓
Eleocharis interstincta						<i>Clethra</i>					
*Eriocaulon compressum											
*Eriocaulon decangulare											
Eupatorium capillifolium											
*Fuirena											
Fuirena scirpoidea											
Gordonia lasianthus											

LIMS ID 2109723

80064

Date: 8/7/2019

SBIO ID 80064 Macro ID 11464

**Schoenoplectus tabernaemontani* = *Scirpus validus*

[illegible]

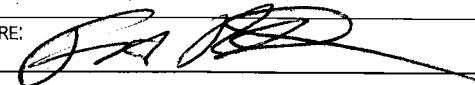
Station: Cassidy Lake Center
 GPS Dec. 30.81620 x -86.031136
 Storet: G3NW0183 WBID 226
 Sample ID : 80064
 Macro ID: 11464

Sampled : 08/07/2019
 Sampled By. F.Butera, M. Clark
 Location. Ponce de Leon, Holmes Co. FL
 Receiving Waters: Anderson Mill Creek
 LIMS ID: 2109723

	Taxa	2	5	8	11
1	<i>Brasenia schreberi</i>	1	1	1	1
2	<i>Cabomba caroliniana</i>	1	1	1	1
3	<i>Cephalanthus occidentalis</i>			1	
4	<i>Clethra alnifolia</i>			1	1
5	<i>Cliftonia monophylla</i>				1
6	<i>Cyrilla racemiflora</i>	1			
7	<i>Eriocaulon lineare</i>		1	1	
8	<i>Hypericum chapmani</i>	1	1	1	1
9	<i>Itea virginica</i>	1	1		
10	<i>Mayaca fluviatilis</i>	1	1	C	C
11	<i>Najas quadalupensis</i>	1	1	1	1
12	<i>Nuphar</i> sp.	1	1	1	1
13	<i>Nymphoides aquatica</i>	1			1
14	<i>Nymphoides cordata</i>	1	1	1	1
15	<i>Nyssa sylvatica</i> var. <i>biflora</i>	1	1	1	1
16	<i>Panicum hemitomon</i>	1	1	1	1
17	<i>Panicum repens</i>		1		
18	<i>Pontederia cordata</i>	1	1	1	1
19	<i>Taxodium</i> sp.	1	1	1	1
20	<i>Utricularia floridana</i>	D	P	C	C
21	<i>Websteria confervoides</i>	1	D	1	1
	Taxa per section	15	14	14	15
	Exotic Present	0	1	0	0
	Avg. taxa per section	15			
	sections with exotics	1			
	Exotic Taxa	1			
			Exotics per Section: 0.25		

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

STORET STATION NUMBER: G3NW0183	DATE (M/D/Y) 08/07/2019	LAKE NAME Cassidy Lake, Center		FIELD ID / NAME: G3NW0183
ECO-REGION: WBID 226	COUNTY: Holmes	SAMPLING LOCATION/DESCRIPTION: Cassidy Lake, Ponce De Leon		LAKE SIZE: 330
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 ☐ 20	Secchi > 3 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 ☐ 17	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 ☐ 13 ☒ 16	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 ☐ 17 ☒ 15	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present 20 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 ☐ 13 ☒ 17	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 ☐ 13	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 ☐ 16	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 ☐ 124	COMMENTS:			

ANALYSIS DATE: 08/07/19	ANALYST: Frank Burton	SIGNATURE: 
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SBIO ID: 30064

H.A. ID: 16170

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

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

Date: 08/07/19		Name of Lake: Cassidy Lake		Gear used: <u>PONAR</u>		EKMAN		OTHER	
Comments:									
Drop #	Depth (m)	Sediment Type (circle all that apply)		Drop #	Depth (m)	Sediment Type (circle all that apply)			
1	1.3	sand, silt/clay, CPOM, muck, SAV		7		sand, silt/clay, CPOM, muck, SAV			
2	7.0	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		sand, silt/clay, CPOM, muck, SAV		10		sand, silt/clay, CPOM, muck, SAV			
5	4.7	sand, silt/clay, CPOM, muck, SAV		11	9.4	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 G3NW0183 Field ID G3NW0183 Project. Reference Lakes
WBID 226

SBIO ID: 80064

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

Revision Date: February 1, 2004

G3NW0183. Cassidy Lake
330 Acres. WBID 226
30.81619 x -86.03114
Ponce De Leon, Holmes Co. FL

