FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

March 2017

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Data Qualified? Yes / No

Location/STORET Station Name: Lake Hiawatha @ Center **Date:** 8/22/2017 (mm/dd/yyyy)

STORET # G1CE0069 **WBID:** 2839B **Latitude:** 28.56437 (Decimal Degrees)

County: Lake **RQ -** 2017-08-21-40 **ORG ID:** 21 FL CEN **Longitude:** -81.77928 (Decimal Degrees)

Receiving Body of Water: Lake Minneola **Field ID:** G1CE0069

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Terry Riordan	✓		✓		
Leif Boman		✓		✓	✓

Sampling Equipment

- ☑ Sample Container ☐ Van Dorn ☐ Pole
- ☐ Carboy ☑ Syringe
- ☐ Dipper ☐ Other ____

Equipment ID ____

Collection Method

- ☐ Wading
- ☐ From Shore
- ☐ Other (note below)

Via Boat:
- ☐ Canoe/Kayak
- ☐ Electric Motor
- ☒ Gasoline Motor

Water Level: Dry / Pooled / Low / (Normal) / High / Flooded

Matrix: (Fresh) / Marine / DI

Meter ID# Betty 67 **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)	1133	0.3	3.5	4.6	62	5.8	0.04	0.6	92	30.3
CEN		3.0		3.5	46	5.7	0.04		92	29.5

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

SBIO ID Numbers: SBIO-ID: 77982 RPS-ID: Macrophyte-ID: 10744 LIMS#: 1923333

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☑ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☑ Ice ☑ H_2SO_4			☐ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO_3			☐ <2
Filtered Nutrients	☑ W-PO4-F ☑ Field Filtered 0.45 µm Filter	☑ Ice			
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 ☐ qPCR	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Contains 1:1 Sulfuric Acid SA – 7093010 EXP: 04/03/18 Warning! See SDS

Pl[illegible]ve Sticker(s) Here [illegible]ailable)

Notes:

Bottle Group A

Boat Ramp: 28.558456; -81.772530

RQ-2017-08-21-40
Lake Hiawatha @ Center
Date: 08/22/2017
Time:

G1CE0069
Field ID ↑
STORET ↓
G1CE0069

Signature: [signature] **Date:** 8/22/17

Field Parameters Entered into LIMS: KMW 9/22/17 (Initials/Date) **Field Parameters QC in LIMS:** JR 9/27/17 (Initials/Date)

Date Migrated to STORET: ____ **Field Sheets Scanned/Saved:** ____

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

SAMPLE ID: _____ MACROPHYTE ID: _____ LATITUDE: 28.56437

COUNTY: LAKE STORET #: GICE0069 LONGITUDE: -81.77928

DATE: 8-22-17 TIME: _____ SAMPLING AGENCY: 21 FLCEN

SITE NAME: LAKE HIAWATHA @ Center WBID: 2839B

FIELD ID/NAME: GICE0069 LAKE SIZE: _____ RQ: 2017-08-21-40

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: _____

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

STORMWATER INPUTS 13	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 8	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 7	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 # SA-7093010 Exp. Date: 4/3/18

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	30.3	5.8	4.6	62	92	0.04
Mid-Depth:							
Bottom :	3.0	29.5	5.7	3.5	46	92	0.04

Meter ID: _____

Clarity: ☐ Clear ☑ Opaque ☐ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☑ Tannic ☐ Green

SECCHI (M) 0.6 VOB ☐

Total Station Depth (M) 3.5

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 ☐ 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 clear

SAMPLING TEAM: Terry Riordan / Leif Boman **SIGNATURE:** _____ **DATE:** 8-22-17

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Waterbody: Lake Hiawatha	County: Lake	Date: 8-22-17
Analyst: Terry Riordan / Leif Boman	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				/	
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.					
Cinnamomum campgora					
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 baldwinii				/	
Eleocharis cellulosa					
*Eleocharis elongata					
Eleocharis equisetoides					
Eleocharis interstincta					
Eleocharis submersed viviparous					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium					
Fraxinus					

SPECIES	1	4	7	10	Collected? (√)
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 hex-grand-uruguayensis complex**					
*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	/	/			

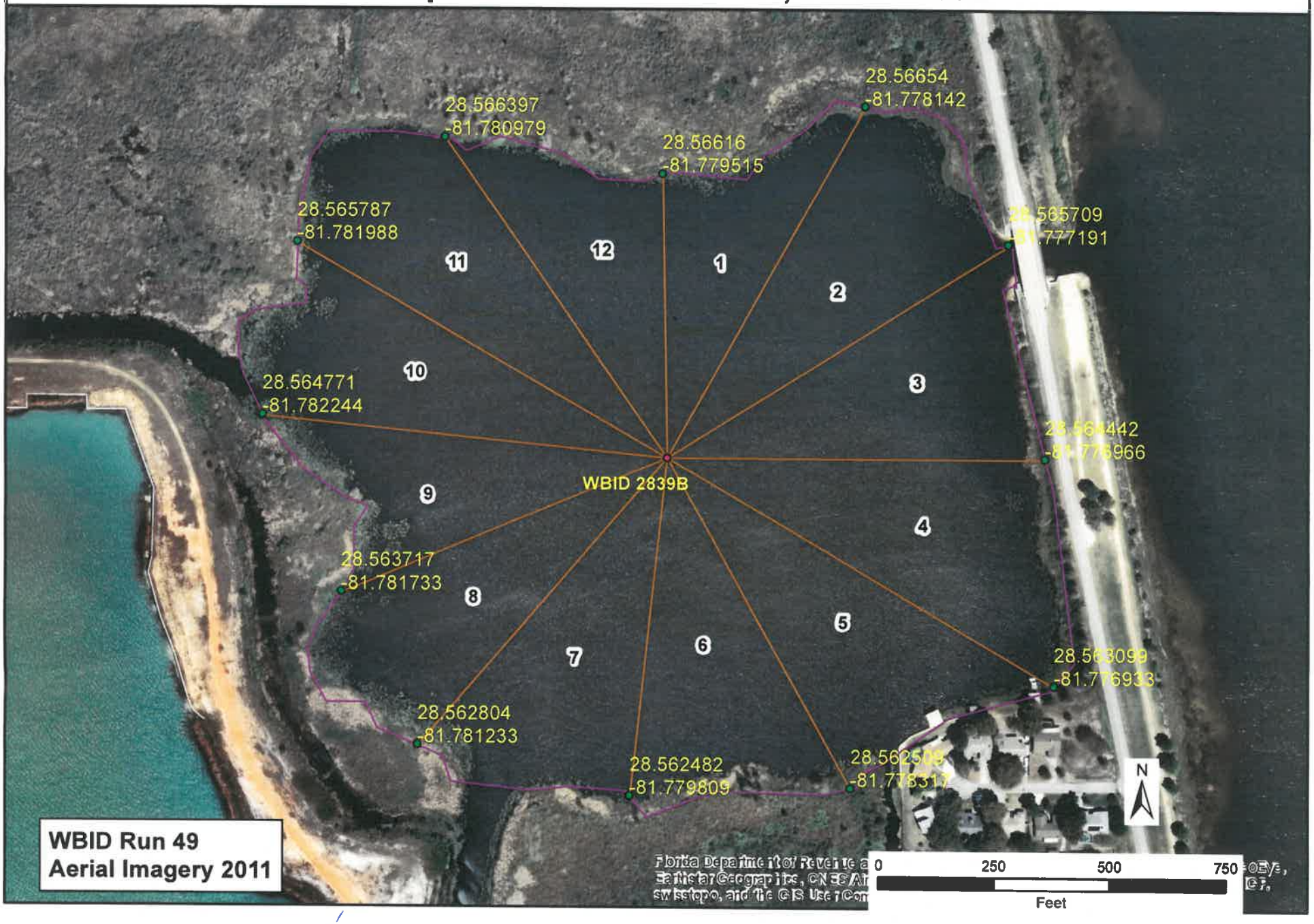
**Enter in SBIO as Ludwigia (unknown nativity) and note in comments that it was the hexapetala-grandiflora-uruguayensis complex

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				/	
*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.	D	/	D	D		Scirpus cyperinus					
Nymphaea mexicana						*Sesbania					
Nymphaea odorata	/	/	/	/		Solidago sp.					
Nymphoides aquatica						Sparganium americanum					
Nyssa sylvatica var. biflora	/			/		Spartina bakeri					
Orontium aquaticum						Spirodela polyrhiza					
Osmunda cinnamomea						Taxodium sp.		/	/	/	
Osmunda regalis						Thalia geniculata					
Panicum hemitomon	/	/	/			Thelypteris interrupta					
Panicum repens	/	D	/			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 foliosa					
Pennisetum purpureum						*Utricularia inflata	/		/		
Phragmites australis						*Utricularia purpurea					
Pinus elliottii						*Utricularia radiata					
Pistia stratioides						*Utricularia resupinata					
Pluchea sp.						Vallisneria americana					
*Polygonum glabrum (densiflorum)						Vitis sp.					
Polygonum hirsutum						*Websteria confervoides					
*Polygonum hydropiperoides						**Wedelia trilobata (Sphagneticola trilobata)**					
*Polygonum punctatum						Wolffiella spp.					
*Polygonum						Woodwardia virginica					
Pontederia cordata	/		/	/		Xyris sp.					
*Potamogeton diversifolius						Zizania aquatica					
*Potamogeton illinoensis						Zizaniopsis milacea					
*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											

Amended September 2016 for 21FLCEN

LVI Map for LAKE HIAWATHA, WBID 2839B



Current Date: 8/21/2017

Date Saved: 7/19/2017