



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
Yes / ☒ No

WIN Station Name: Shingle Creek @ 775m US of Lake Toho

Date: 08/26/2019

WIN/ Field ID: G4CE0173

WBID: 3169A

Latitude: 28.26696763

(mm/dd/yyyy)

County: Osceola

ORG ID: 21FLCEN

Longitude: -81.41476278

(Decimal Degrees)

Receiving Body of Water: Lake Toho

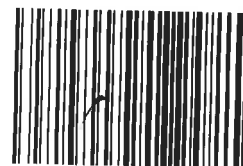
RQ-2019- 07-08-68 08-19-53

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
Leif Boman										☒ Sample Container	☐ Van Dorn	☐ Pole		
Katie March										☐ Carboy	☒ Syringe			
										☐ Dipper	☐ Other			
										Depth Measured with <u>Secchi Disk Line / Meter</u>				
										Equipment ID <u>Leadfoot, Knothead, Crusty/Bucket, Mucky/Trap</u>				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☒ Gasoline Motor			
Water Level: <u>Dry / Pooled / Low / Normal / High / Flooded</u>					Meter ID# <u>Craw Daddy</u>					Matrix: <u>Fresh / Marine / DI</u>				
Photos: <u>Yes / No</u>		Flow: <u>No Flow / Intestinal / Flowing / NA</u>			Tide: <u>Rising / Falling / Slack / NA</u>					Tide Times: <u>High / Low</u>				
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)				
(EST)	1143	2.2	0.3	0.7	5.50	70.1	7.04	0.08	173.0	27.8				
CEN			1.7		5.47	69.6	6.90	0.08	173.0	27.8				
Biological Samples Collected: <u>None</u> <u>HA</u> <u>SCI</u> <u>RPS</u> <u>Algae ID</u> <u>LVS</u> <u>LVI</u> Other:														
SBIO ID Numbers: SBIO-ID: <u>80225</u> HA-ID: <u>16296</u> RPS-ID: <u>9450</u> Macrophyte-ID: <u>11492</u> LIMS#: <u>2114894</u>														
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				☒ <2			
Metals		☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO3				☐ <2			
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 um Filter					☒ Ice		13615055					
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-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 ☐ Other							
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice							

Notes:

WIN ID / Field ID →

Shingle Creek @ 775m
US of Lake Toho



G4CE0173

Signature: K March

Date: 8/26/19

LIMS EVENT ID: CENT-DIST-2019-08-27-01

Enter Field Parameters, Verify Station ID In LIMS DMT:

KWM SEP 12 2019

QC Station ID, Field Parameters In LIMS DMT: LG 10/01/19

Scan/Save Field Sheets

Migrate Data to WIN:

Verify Data In WIN:

(Initials/Date)

(Initials/Date)

(Initials/Date)

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE _____
 COUNTY Osceola STORET # G4LE0173 LONGITUDE _____
 DATE 8/26/19 TIME _____ SAMPLING AGENCY _____
 SITE NAME Shingle Creek
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Lake Toho

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>30</u> Silviculture _____ Field/Pasture <u>20</u> Agricultural _____ Residential <u>50</u> Commercial _____ Industry _____ Other (Specify) _____								Landscape Development Intensity Index (LDI) _____
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy						Typical Width (m) Depth (m)/Velocity (m/sec) Transect _____ m wide _____ m/s <u>0.15</u> m/s _____ m/s _____ m deep <u>2.2</u> m deep _____ m deep		
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18</u> Right Bank: <u>>18</u>				Hydrologic Modification Score (per FT 3101) _____				
High Water Mark: <u>0.9</u> + <u>2.2</u> = <u>3.1</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)				

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse		Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): _____		Smothering of Substrates Sand Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐ Algae Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐																																																																									
SUBSTRATE TYPE Assessment Tool: ☐ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon <table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT # Times Sampled</th> <th>PERI # Times Sampled</th> </tr> </thead> <tbody> <tr><td>Woody Debris (Snags)</td><td></td><td></td><td></td></tr> <tr><td>Undercut Banks / Roots</td><td></td><td></td><td></td></tr> <tr><td>Leaf Packs or Mat</td><td></td><td></td><td></td></tr> <tr><td>Aquatic Vegetation</td><td></td><td></td><td></td></tr> <tr><td>Rock or Shell Rubble..</td><td></td><td></td><td></td></tr> <tr><td>Sand</td><td></td><td></td><td></td></tr> <tr><td>Mud / Muck / Silt</td><td></td><td></td><td></td></tr> <tr><td>Other</td><td></td><td></td><td></td></tr> <tr><td>Other</td><td></td><td></td><td></td></tr> </tbody> </table>				% Coverage	INVERT # Times Sampled	PERI # Times Sampled	Woody Debris (Snags)				Undercut Banks / Roots				Leaf Packs or Mat				Aquatic Vegetation				Rock or Shell Rubble..				Sand				Mud / Muck / Silt				Other				Other				WATER QUALITY <table border="1"> <thead> <tr> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top: <u>0.3</u></td> <td><u>27.8</u></td> <td><u>7.04</u></td> <td><u>5.50</u></td> <td><u>70.1</u></td> <td><u>173.0</u></td> <td><u>0.08</u></td> <td><u>0.7</u></td> </tr> <tr> <td>Mid: _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>☐ VOB</td> </tr> <tr> <td>Bottom: <u>1.7</u></td> <td><u>27.8</u></td> <td><u>6.90</u></td> <td><u>5.47</u></td> <td><u>69.6</u></td> <td><u>173.0</u></td> <td><u>0.08</u></td> <td>TOTAL DEPTH <u>2.2</u></td> </tr> </tbody> </table> Meter ID: <u>Craw Daddy</u>			Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top: <u>0.3</u>	<u>27.8</u>	<u>7.04</u>	<u>5.50</u>	<u>70.1</u>	<u>173.0</u>	<u>0.08</u>	<u>0.7</u>	Mid: _____	_____	_____	_____	_____	_____	_____	☐ VOB	Bottom: <u>1.7</u>	<u>27.8</u>	<u>6.90</u>	<u>5.47</u>	<u>69.6</u>	<u>173.0</u>	<u>0.08</u>	TOTAL DEPTH <u>2.2</u>
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			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐																																																																							
			Algae Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☒ No Lot Number: _____ Exp: _____			Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																																																							
ABUNDANCE <table border="1"> <thead> <tr> <th></th> <th>Not Obs.</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☒</td> </tr> <tr> <td>Fish:</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Aquatic Plants:</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Iron/Sulfur Bacteria:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				Not Obs.	Rare	Common	Abundant	Periphyton:	☐	☐	☐	☒	Fish:	☐	☐	☒	☐	Aquatic Plants:	☐	☐	☒	☐	Iron/Sulfur Bacteria:	☒	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐																																																	
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AMBIENT FIELD CONDITIONS / NOTES: <u>very hot</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																													
SAMPLING TEAM <u>Boman, March</u>				SIGNATURE: <u>K March</u>		DATE: <u>8/26/19</u>																																																																							

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: Shingle Creek Date: 8/26 County: Osceola Storet Number: G4CED173
 Analyst: Katie March Signature: K March

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle												Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa octo												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens												Hymenachne											
Luziola fluitans												Echinochloa crus-g											
												Limnophila											
												Shoignosflexus tabern.											
												Paspalum repens											
If no Dominant or Co-Dominant were selected, indicate with "X"	X	X	X	X	X	X	X	X	X	X													
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Shingle Creek County: Osceola Date: 8/26/19 Investigators: Boman, Mauch

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	4			60	1	4		
	2	N	✓			2	N		
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
10	1	2			70	1	2		
	2	N				2	N		
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
20	1	2			80	1	2		
	2	N				2	N		
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
30	1	2			90	1	2		
	2	N				2	N		
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
40	1	2			100	1	2		
	2	N				2	N		
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9					9			
50	1	4				1	4		
	2	N				2	N		
	3					3			
	4					4			
	5			0		5			0
	6					6			
	7					7			
	8					8			
	9	5				9	5		

STORET Station Number: 64UE0173

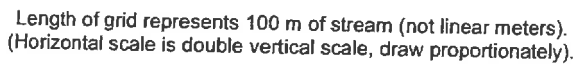
Secchi depth 0.7
Estimated?

points ranked 4-6
total points assessed
% points ranked 4-6

Check accompanying data collected at same site/date.
Algal mat sample
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon
Water sample ☒
RQ- 2019-09-19-53

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.
Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.
Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.
Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.



DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY:		STORET STATION NUMBER: <u>G4CE0173</u>	DATE (MM/DD/YY): <u>08/26/19</u>	RECEIVING BODY OF WATER: <u>Lake Toho</u>
REMARKS:	COUNTY: <u>Osceola</u>	LOCATION: <u>Shingle Creek</u>	FIELD ID/NAME:	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>11</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>4</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>13</u> <u>6.5</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>11</u> ----- Primary Score <u>39</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>17</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>9</u> Left Bank <u>9</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>8</u> Left Bank <u>8</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality <u>km</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>87</u> Left Bank <u>87</u> ----- Secondary Score <u>6765</u>	10 9	8 7 6	5 4	3 2 1

104 104 TOTAL SCORE

Date: <u>8/26/19</u>	Analyst: <u>Boman, March</u>	Signature: <u>KMarch</u>
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