

***What I Learned on My
Summer Vacation...***



...About Lake Ecology!



Introduction

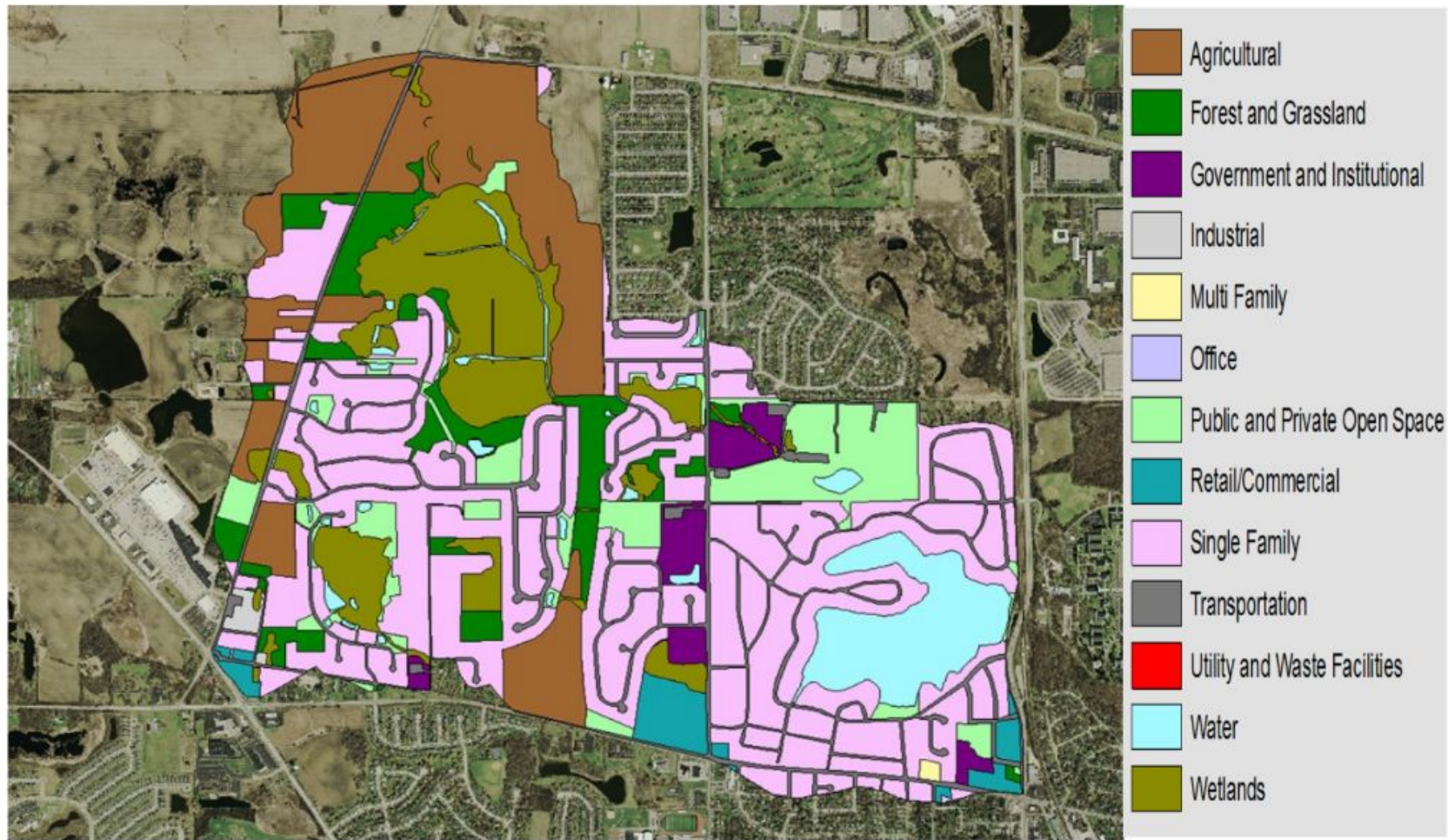
- Lake measurements on Loch Lomond May-October
 - Total depth, visible depth/clarity, temperature, & color, and more!
- Basic Questions...
 - What's going on? temperature ↑ visible clarity ↓ algae ↑ plants ↑
 - How do we improve the lake? *Ranked #150 of 173 lakes in county*
 - Any long term trends from 25 years of measurements?
- Basic Answers (Google!)
 - 15+ Information Sheets: *What's going on & What can we do?*
 - 25 years of Data Trends: *Binder data to Spreadsheets & Graphs*
 - New Measurements: *pH, conductivity, dissolved oxygen, & nitrogen*

Bull Creek Watershed & Subwatershed



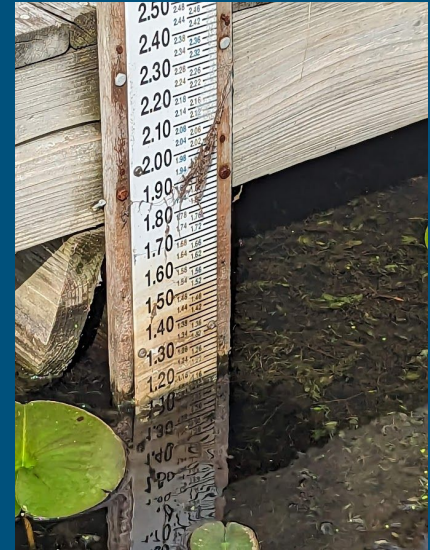
- **Loch Lomond is 75 acre lake within 330+ acres subdivision**

LOCH LOMOND WATERSHED AND LAND USE



Water Testing

- ***Data collected:***
 - Total Depth with Secchi Disk
 - Visible Depth with Secchi Disk
 - Water Temperature
 - Color
 - Lake Level
 - Rainfall & Weather conditions
 - Aquatic plants



Water Testing - Sites

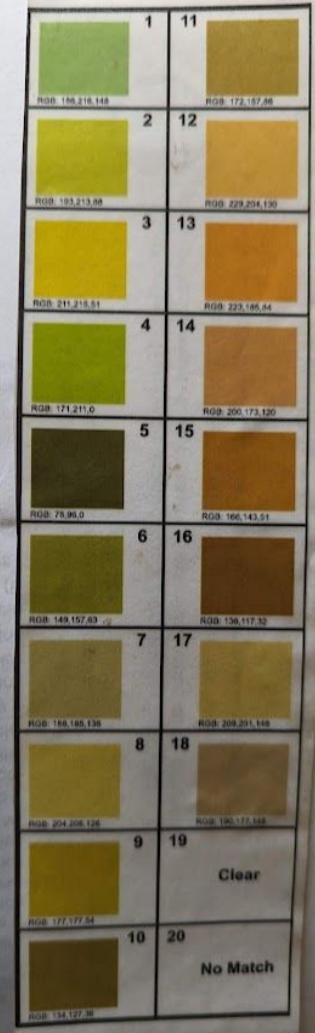
- 3 Primary Sites
 - RGU-1,2,3
 - 1 = Dam
 - 2 = South Bay
 - 3 = North Bay



Lake	LakeCode	X	Y
LochLomond	RGU-1	-88.0050485	42.2801885
LochLomond	RGU-2	-88.0114851	42.2792222
LochLomond	RGU-3	-88.0098892	42.28256861

Water Testing Data - *a sample*

Loch Lomond Lake	Designated VLMP Reference Location				
	Buoy #2	- South Bay			
Date	Total Depth (in)	Secchi Depth (in)	Temp (F)	Color (1-20)	Aquatic Plants (0-4)
1988 MAP	96				
5/3/2023	81	34	60	10	0
5/17/2023	84	48	70	11	0
5/31/2023	79	61	76	10	0
6/16/2023	76	23	69	15	0
7/6/2023	82	35	90	15	0
7/17/2023	79	21	76	10	2
8/1/2023	81	21	79.8	16	0
9/7/2023	77	20	76.2	16	0
9/22/2023	82	48	69.2	16	0
10/1/2023					
10/15/2023					

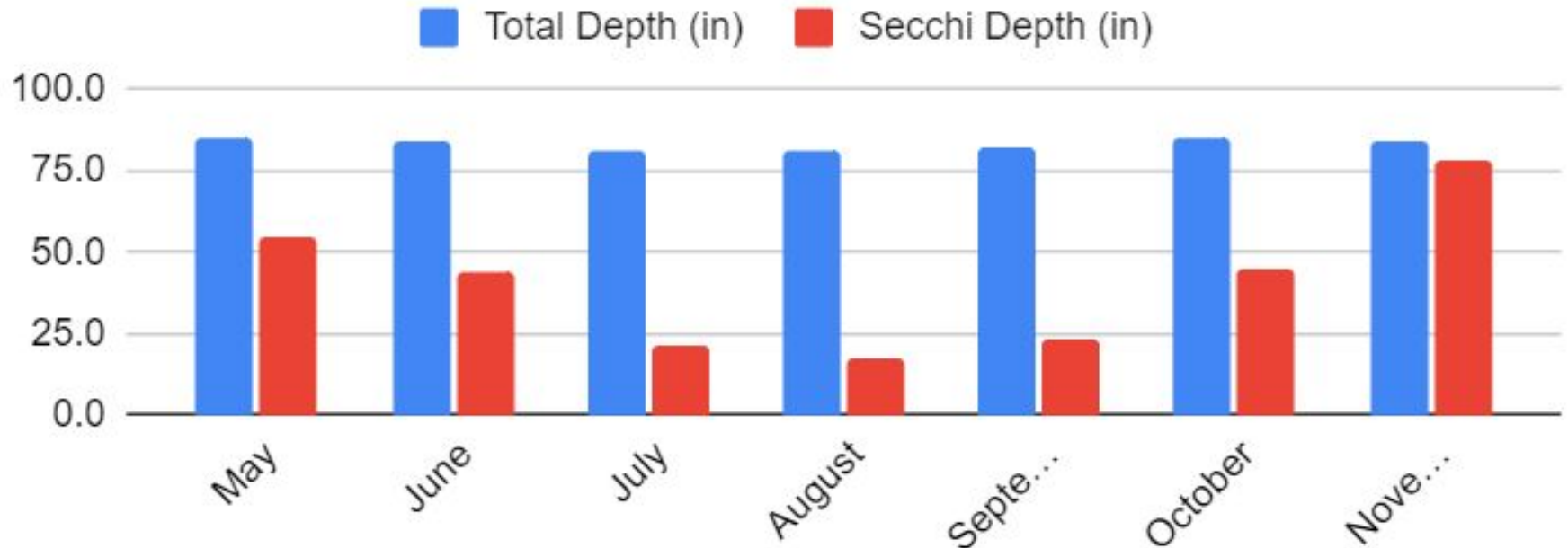


25 Year Trends - *By Month*

Loch Lomond Lake	Designated VLMP Reference Location				
	Buoy #2	- South Bay			
Date	Total Depth (in)	Secchi Depth (in)	Temp (F)	Color (1-20)	Aquatic Plants (0-4)
1988 MAP	96				
MONTHLY AVG	Buoy #2	- South Bay			
Date	Total Depth (in)	Secchi Depth (in)	Temp (F)	Color (1-20)	Aquatic Plants (0-4)
May	84.9	52.2	69.8	11.8	0.000
June	84.4	42.6	74.5	12.8	0.000
July	81.7	22.2	79.5	12.3	0.069
August	81.1	17.6	80.4	12.5	0.000
September	82.6	21.2	70.4	12.4	0.036
October	84.9	42.3	59.8	11.3	0.000
November (only 1 pt)	84.0	84.0		9.0	0.000

25 Year Trends - *Depth & Visible Depth*

Buoy #2 Average Monthly Depth & Secchi 1999-2023



New Measurements!



HEALTHY			80-120%		6.5-8 mg/L	0-0.200 mS/cm	<1.0 ppt	0.05-0.250 g/L	7.0-9.0	0.1-1.0 mg/L		
Date	TEMP (F) at 2'	TEMP (F) at 4'	DO (%) at 2'	DO (%) at 4'	DO (mg/L) 2'	SPC (mS/cm)	SALINITY-ppt	TDS (g/L)	pH	Nitrate-N (mg/L)	Nitrate (mV)	COMMENTS
9/22/2023												
#1 Dam	68.1	67.4	52.0	16.8	4.59	0.730	0.4	0.475	7.97	1.29	190.1	no plants
#2 S. Bay	69.1	67.9	84.5	49.9	7.38	0.754	0.4	0.490	8.16	1.28	190.4	
#3 N. Bay	69.1	68.0	92.8	56.0	8.12	0.715	0.4	0.465	8.25	1.22	191.4	more plants
IS-N. Bay	68.5		91.3		8.05	0.705	0.3	0.458	8.39	1.41	187.9	
IS-Firth	68.7		47.1		4.14	0.705	0.3	0.458	7.91	1.16	192.6	
IS-S. Beach	67.2		23.6		2.09	0.720	0.4	0.468	7.72	1.17	192.2	
IS-Dam	67.8		55.4		4.90	0.720	0.4	0.474	7.96	1.22	191.3	
KMCP-from shore	73.3		124.4		10.41	0.647	0.3	0.420	8.55	1.38	189.3	

- *ProQuatro device measures multiple parameters simultaneously:*
 - **Temperature, Dissolved Oxygen, Specific Conductivity, Salinity, Total Dissolved Solids, pH, & Nitrate-Nitrogen**
- *Still learning what each measurement means & the impact on the lake's health*

Information Sheets

[2015 Loch Lomond Summary](#)
Report from County

2018 Long Term Lake &
Watershed Plan

Aquatic Plant Islands

Buffer Zones - Lakes & Wetlands

Deterrents for Geese & Beavers

Homegrown National Parks

Loch Lomond History in Maps

Loch Lomond Storm Sewers

Native Plants List

Phosphorus Free Fertilizers

Planting Next Generation Trees

Plants for Pollinators

Rain Gardens

Water Testing 25 Year Summary

Water Testing Parameters

What's the Muck?