

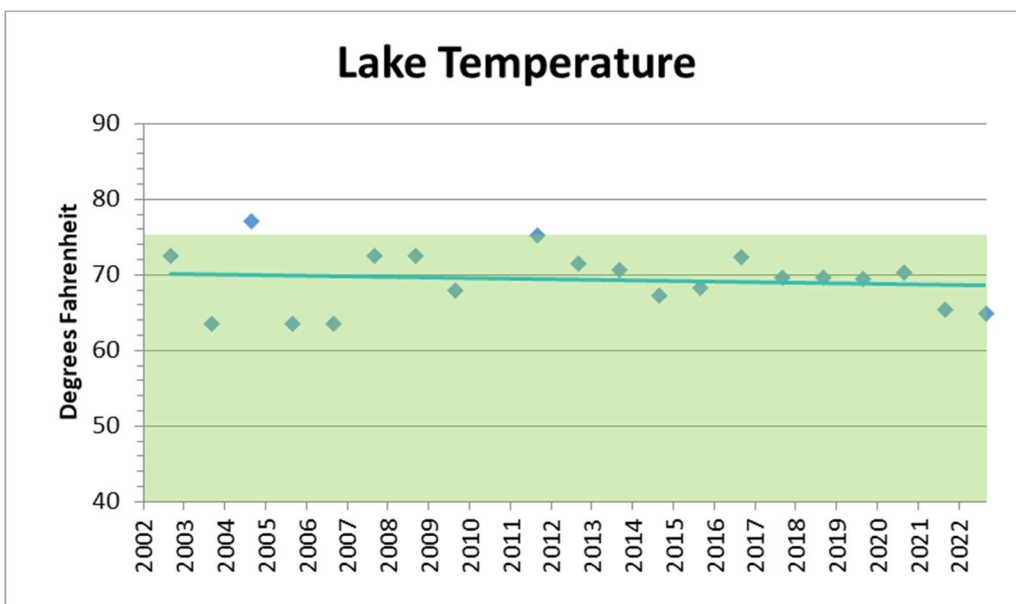


2022 Lower Long Lake Water Quality Review

Results

Parameter	2022 Season		Status
	Average	Target Range	
Temperature	64.8 °F	Less Than 75 °F	● Healthy
Dissolved Oxygen	7.8 mg/L	4.0 – 12.0 mg/L	● Healthy
Total Phosphorus	78 ppb	0 – 100 ppb	● Healthy
Phosphate	34 ppb	0 – 100 ppb	● Healthy
Nitrate	55 ppb	0 – 200 ppb	● Healthy
Chlorophyll-a	2.1 ppb	0 – 7.3 ppb	● Healthy
Transparency	16.9 feet	More than 6.5 feet	● Healthy
pH	8.6 S.U.	7.0 – 9.0 S.U.	● Healthy
Total Dissolved Solids	527 ppm	0 – 1,000 ppm	● Healthy
Conductivity	732 ppm	0 – 1,500 ppm	● Healthy
Alkalinity	128 ppm	100 – 250 ppm	● Healthy
Sulfate	12.0 ppm	3 – 30 ppm	● Healthy
Fluoride	0.10 ppm	0.01 – 0.30 ppm	● Healthy
Chloride	141 ppm	0 – 230 ppm	● Healthy

Historical Trends



Temperature (°F)		
	April	August
Site 1	51.2	79.0
Site 2	50.9	78.4
Site 3	51.6	77.9
Site 4	51.5	78.1
Season Average		64.8

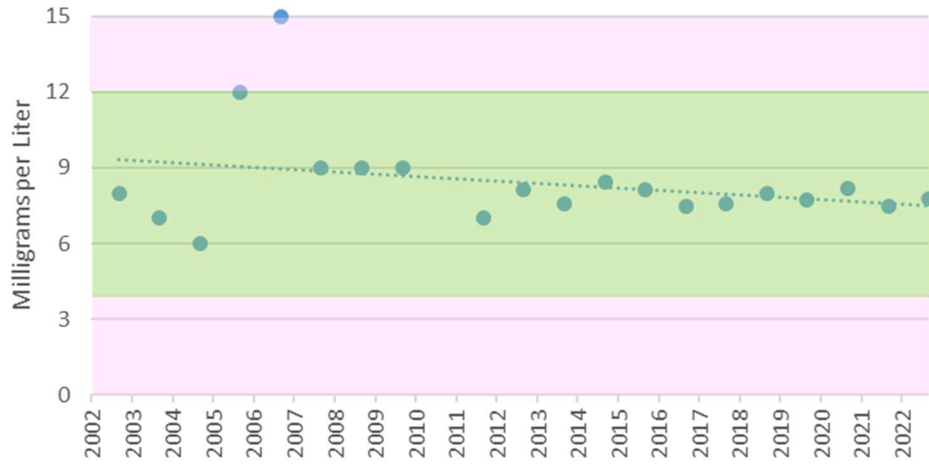




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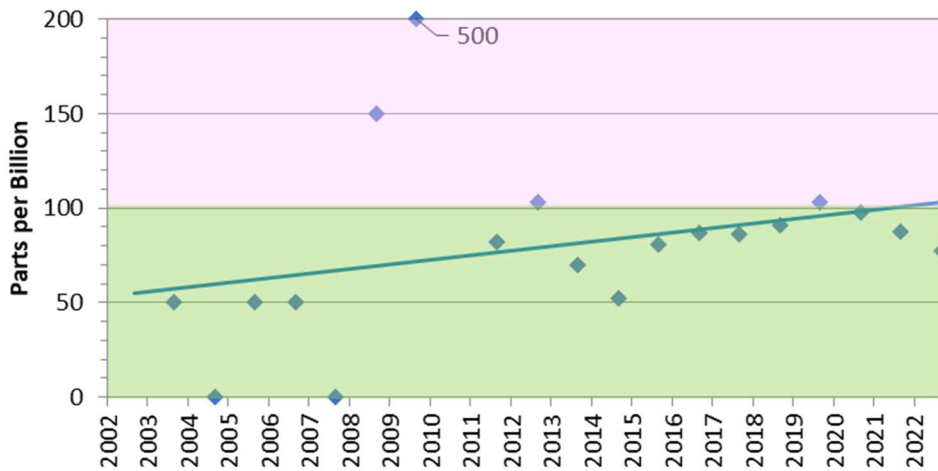
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Dissolved Oxygen



Dissolved Oxygen		
	April	August
Site 1	7.4	7.1
Site 2	8.6	7.5
Site 3	7.9	8.5
Site 4	7.8	7.3
Season Average		7.8

Total Phosphorus



Total Phosphorus		
	April	August
Site 1	100	60
Site 2	80	50
Site 3	110	70
Site 4	90	60
Season Average		78

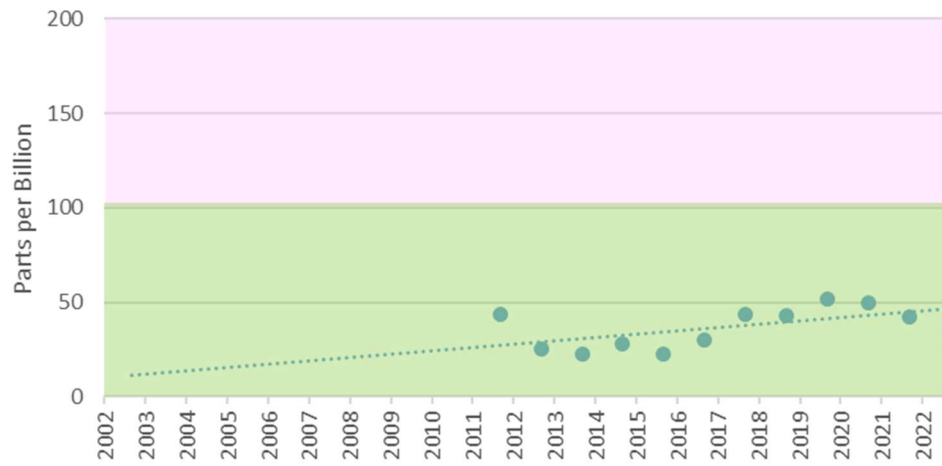




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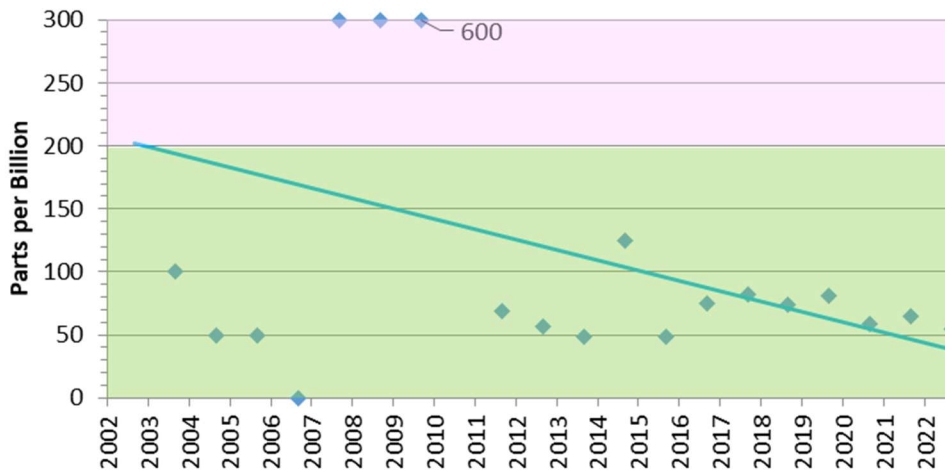
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Phosphate



Phosphate		
	April	August
Site 1	50	20
Site 2	30	30
Site 3	40	30
Site 4	50	20
Season Average		34

Nitrate



Nitrate		
	April	August
Site 1	80	20
Site 2	70	40
Site 3	100	20
Site 4	90	20
Season Average		55

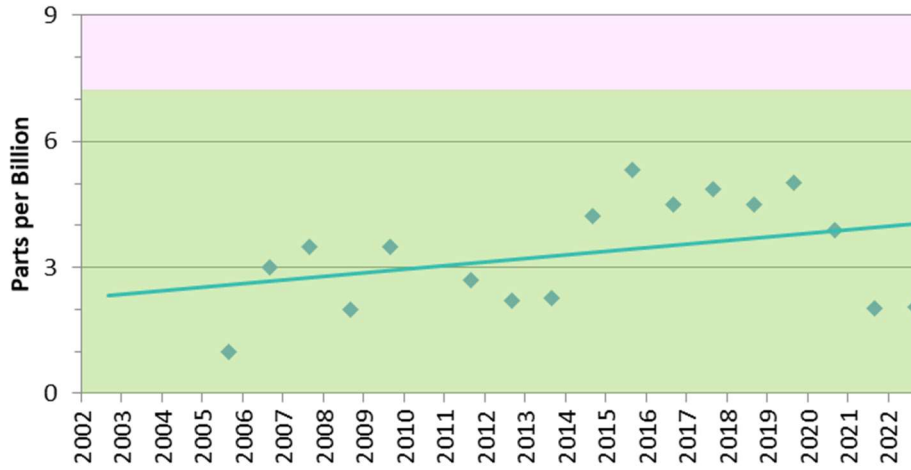




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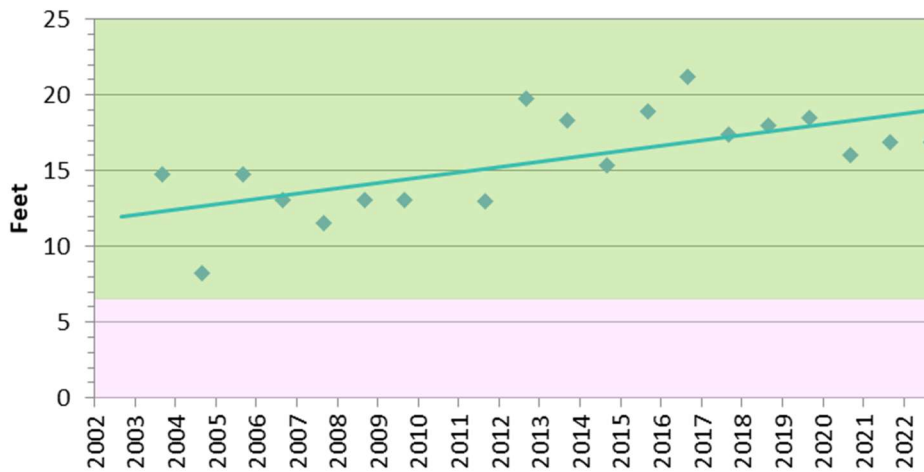
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Chlorophyll



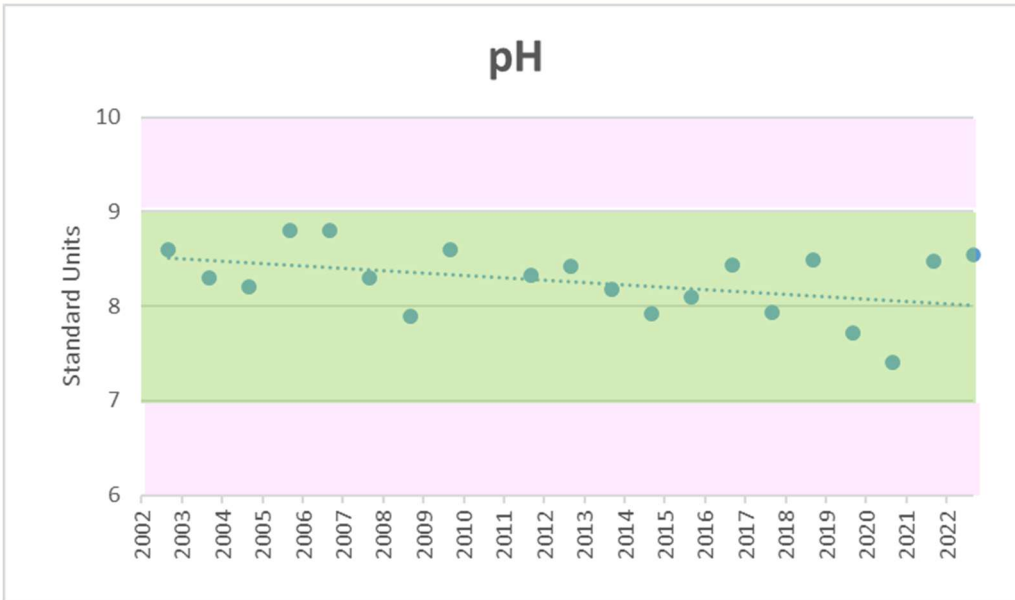
Chlorophyll		
	April	August
Site 1	1.3	3.3
Site 2	0.9	3.0
Site 3	1.7	3.4
Site 4	1.2	1.6
Season Average		2.1

Transparency

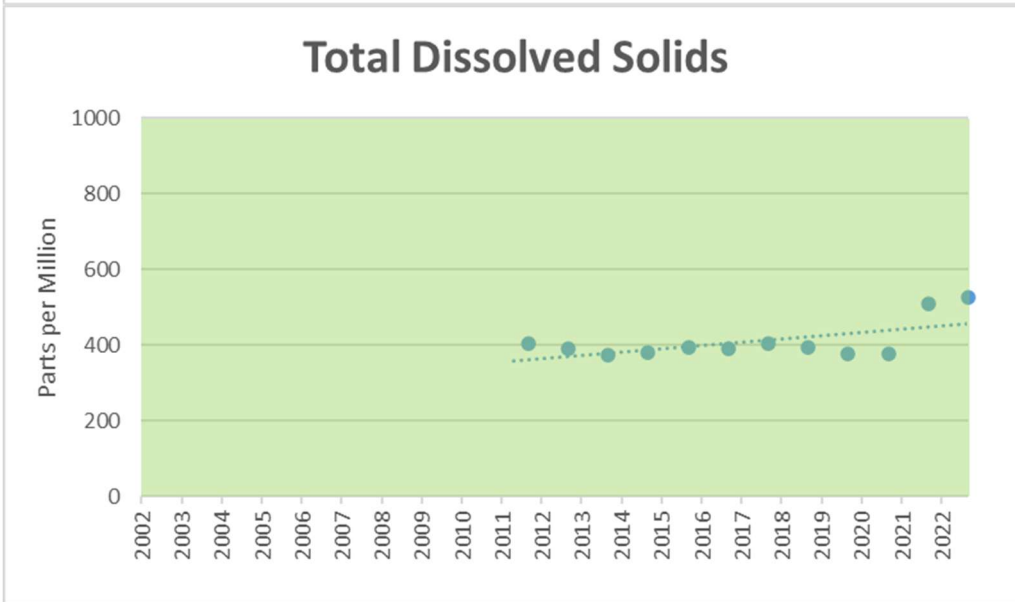


Transparency		
	April	August
Site 1	16.9	17.6
Site 2	15.7	17.3
Site 3	16.4	17.5
Site 4	17.1	16.7
Season Average		16.9





pH		
	April	August
Site 1	8.4	8.6
Site 2	8.6	8.6
Site 3	8.5	8.7
Site 4	8.4	8.6
Season Average		8.6



Total Dissolved Solids		
	April	August
Site 1	529	515
Site 2	534	521
Site 3	539	519
Site 4	544	517
Season Average		527

The Total Dissolved Solids showed a slight upward trend over the testing history. This is common for inland lakes as they accumulate more substances from their watershed and the atmosphere.

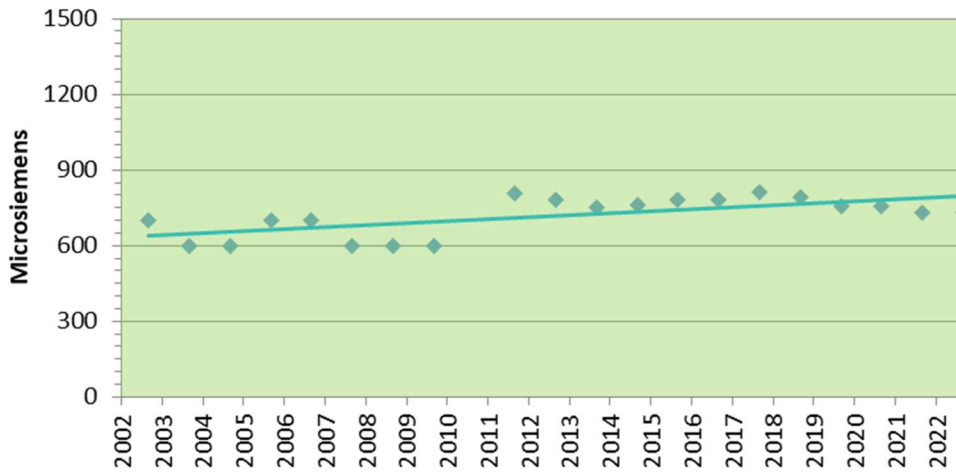




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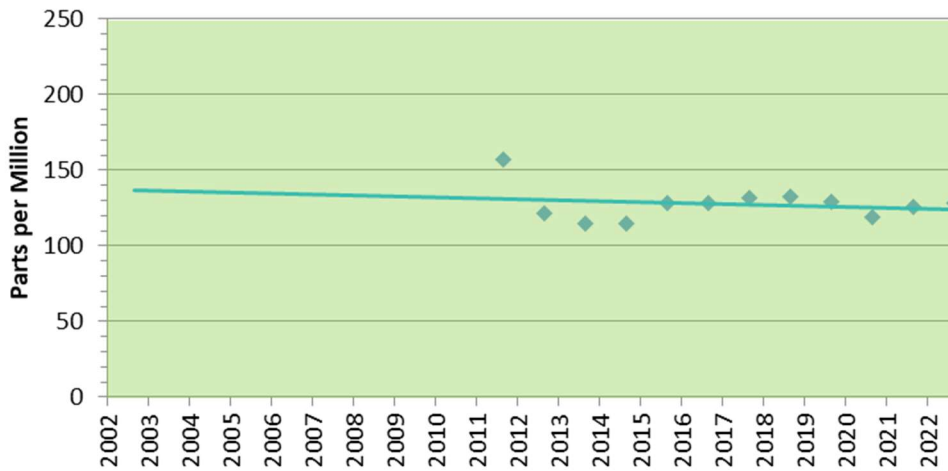
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Conductivity



Conductivity		
	April	August
Site 1	719	742
Site 2	723	727
Site 3	726	736
Site 4	728	754
Season Average		732

Alkalinity

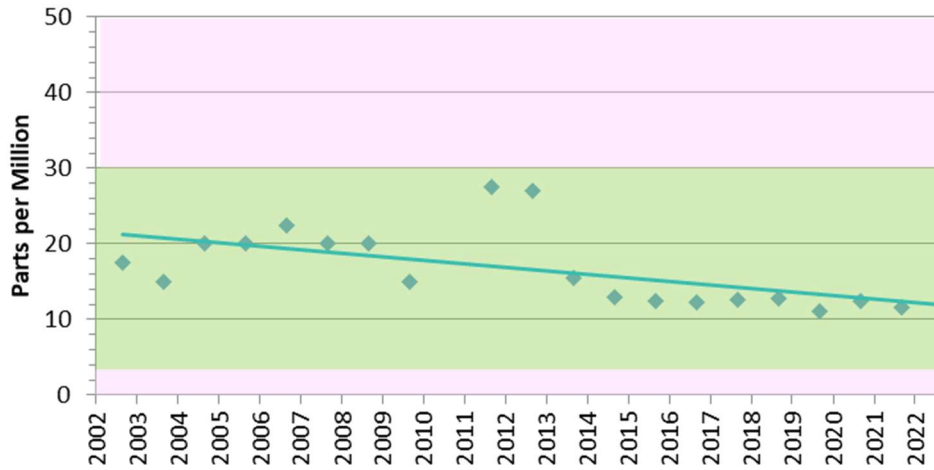


Alkalinity		
	April	August
Site 1	134	120
Site 2	136	127
Site 3	131	123
Site 4	128	126
Season Average		128



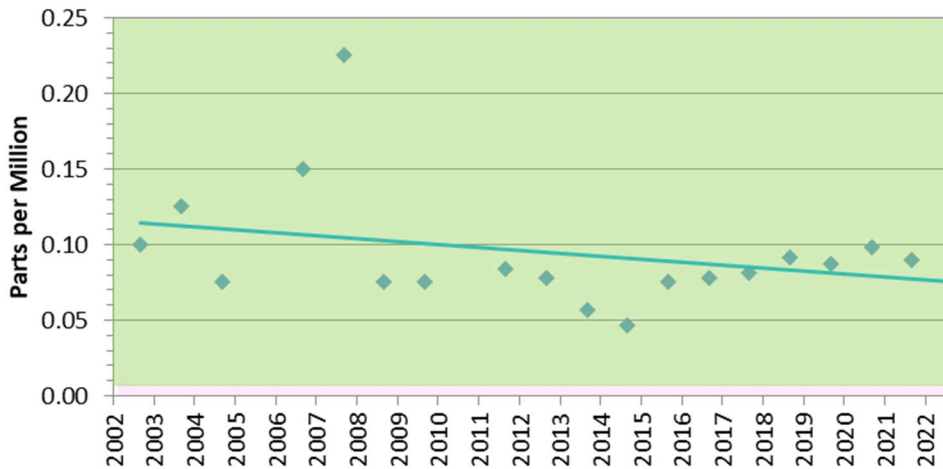


Sulfate



Sulfate		
	April	August
Site 1	12.0	11.0
Site 2	14.0	13.0
Site 3	11.0	10.0
Site 4	12.0	13.0
Season Average		12.0

Fluoride

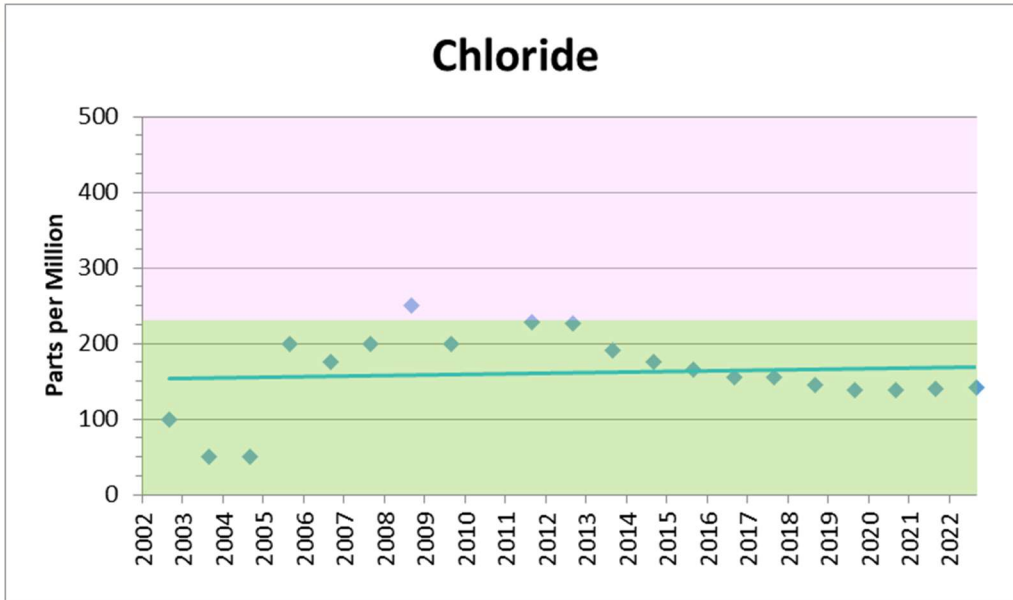


Fluoride		
	April	August
Site 1	0.07	0.11
Site 2	0.08	0.12
Site 3	0.09	0.10
Site 4	0.09	0.11
Season Average		0.10

Target Range: 0.01 – 0.30 ppm

Fluoride occurs naturally in ground water, so some may be present in the lake surface water. Elevated levels can indicate pollution but are not physiologically harmful. Over the testing history, fluoride remained comfortably within the target range.





Chloride		
	April	August
Site 1	146	134
Site 2	145	141
Site 3	147	139
Site 4	140	138
Season Average		141

