



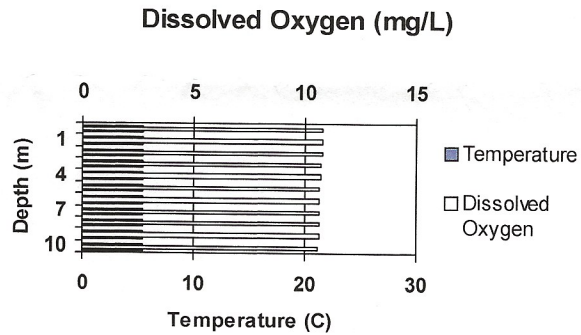
Water Quality Monitoring Report

2019328

Customer	Waterbody	Sample Information
Wall Lake Association	Wall Lake	Date: 3/28/2019
	Area: 530 acres	Site: Middle - deep hole
	Depth: 0 Feet (max)	
	0 Feet (avg.)	

On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/L	%
0	5.4	10.8	84
1	5.4	10.8	84
2	5.4	10.8	84
3	5.4	10.7	84
4	5.4	10.7	84
5	5.4	10.7	84
6	5.4	10.7	84
7	5.4	10.6	84
8	5.4	10.6	84
9	5.4	10.6	84
10	5.4	10.6	84



Secchi Disk Depth 3.1 meters

Thermocline Depth meters

Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/100 mL	N/A
Conductivity	123	uS/cm	
Total Dissolved Solids	87	mg/L	Low concentration of dissolved salts
pH	7.4	S.U.	Water is neutral (neither acid nor basic)
Alkalinity	81	mg CaCO3/L	Water is soft
Total Phosphorus	10	ug/L	Slightly phosphorus enriched
Nitrates	230	ug/L	Not nitrogen enriched
Chlorophyll	N/A		

Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	44	mesotrophic
Based on Total Phosphorus	33	meso-oligotrophic
Based on Chlorophyll	N/A	

Conclusions

- Conditions are good for fish growth.
- Minimum dissolved oxygen is adequate for good fish production.
- pH is within acceptable limits.
- Phosphorus and Nitrogen are within acceptable limits.
- Repeat LakeCheck in Fall.

-
- WARNING. condition requires immediate attention.
 - CAUTION. condition requires further evaluation.
 - OK. condition within acceptable limits.
 - NEUTRAL. condition neither good nor bad.

Notes

Report describes conditions at the time the sample was collected.

Approved by

Jaimee Conroy

Date 12/9/2019

Mrs. Jaimee Conroy, Technical Services Manager

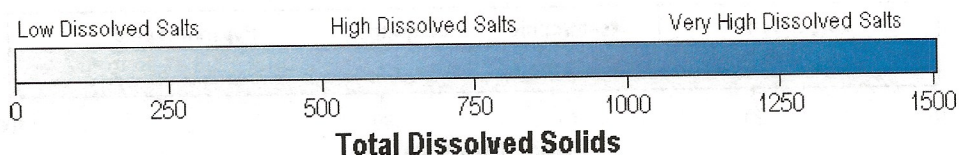
FROM YOUR **WQ
PRO** DEALER



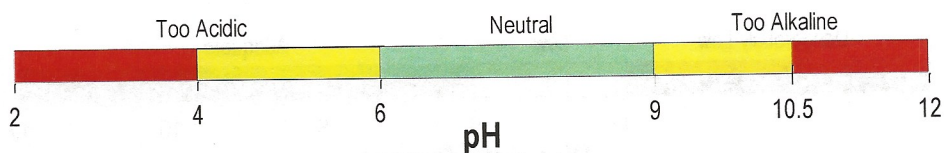
PLM Lake & Land Management Corp
P.O. Box 132
Caledonia MI 49316-
Phone: (616) 891-1294

LAKE CHECK WATER QUALITY MEASUREMENTS

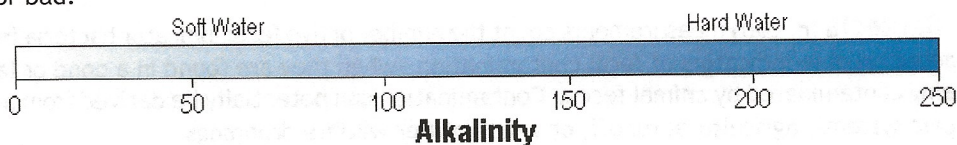
Conductivity and Total Dissolved Solids (TDS) measure the total amount of material dissolved in the water. Higher values indicate potentially richer, more productive water, whereas lower values indicate potentially cleaner, less productive water. Localized increases in conductivity and TDS may indicate inputs of groundwater or other nutrient-enriched water. [Note: Human activities that result in nutrient pollution (e.g., fertilizer runoff) can increase the productivity of algae and other organisms without raising conductivity/total dissolved solids very much. If nutrient pollution is occurring, the total phosphorus concentration is a much better indicator of potential productivity.]



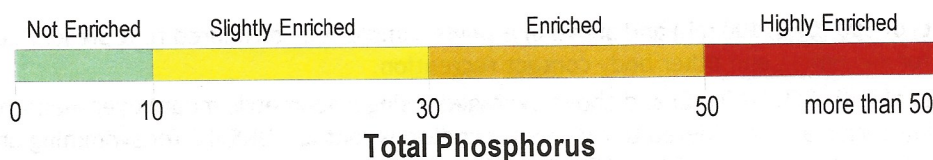
pH describes the balance between acids and bases in the water. Neutral values of pH (between 6 and 9) are desirable. Low pH values typically result either from the growth of bog vegetation (such as peat moss), acid precipitation ("acid rain"), or acid runoff (as in acid mine drainage). Excessive growth of certain plants and algae can raise pH values above 9.0 or 10.0.



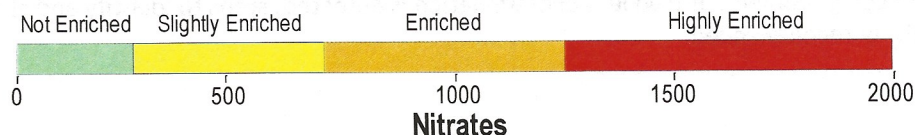
Alkalinity measures the concentration of carbonates and bicarbonates in the water. These compounds and other ions associated with them make water "hard". High alkalinity lakes are hardwater lakes, while low alkalinity lakes are softwater lakes. Different kinds of plants, algae, and other aquatic organisms live in hardwater than in softwater. Alkalinity also influences the effectiveness of some herbicides and algicides. Alkalinity is a basic characteristic of water, but is neither inherently good nor bad.



Total Phosphorus measures the total (organic and inorganic, dissolved and particulate) amount of phosphorus in the water. Phosphorus is usually the plant nutrient (i.e., fertilizer) that controls the amount of algal growth in lakes and ponds. Most Midwestern lakes have more phosphorus and more algae than is desirable, so lower values are generally better, though very unproductive water bodies typically support little fish production.



Nitrate measures the total inorganic amount of nitrogen in the water. Nitrogen is the plant nutrient (i.e., fertilizer) most likely to control the amount of rooted plant growth in lakes and ponds. Most Midwestern lakes have more nitrogen and more rooted plant growth than is desirable, so lower values are generally considered better



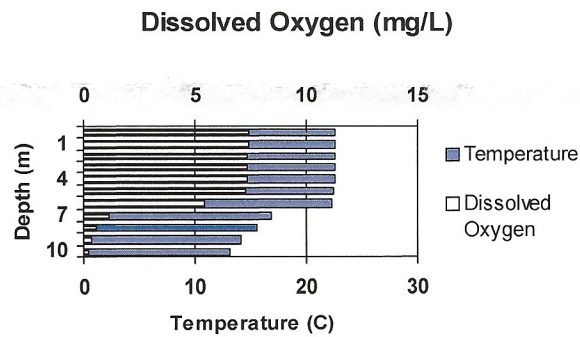


Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Wall Lake Association	Wall Lake	Date: 8/27/2019
	Area: 530 acres	Site: Middle - deep hole
	Depth: 0 Feet (max)	
	0 Feet (avg.)	

On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/L	%
0	22.5	7.4	86
1	22.5	7.4	86
2	22.5	7.4	85
3	22.5	7.4	85
4	22.5	7.4	85
5	22.4	7.3	84
6	22.3	5.4	63
7	16.9	1.1	12
8	15.6	0.6	7
9	14.2	0.3	3
10	13.2	0.2	2



Secchi Disk Depth 2.5 meters
 Thermocline Depth 7 meters

Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/100 mL	N/A
Conductivity	123	uS/cm	
Total Dissolved Solids	84	mg/L	Low concentration of dissolved salts
pH	7.8	S.U.	Water is slightly alkaline
Alkalinity	62	mg CaCO3/L	Water is soft
Total Phosphorus	23	ug/L	Moderately phosphorus enriched
Nitrates	230	ug/L	Not nitrogen enriched
Chlorophyll	N/A		

Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	47	mesotrophic
Based on Total Phosphorus	45	mesotrophic
Based on Chlorophyll	N/A	

Conclusions

- Conditions are good for fish growth.
- pH is within acceptable limits.
- Sample is somewhat phosphorus enriched. Create natural buffer between lawn & lakeshore.
- REPEAT LakeCheck NEXT YEAR!

-
- WARNING. condition requires immediate attention.
 - CAUTION. condition requires further evaluation.
 - OK. condition within acceptable limits.
 - NEUTRAL. condition neither good nor bad.

Notes

The 8/27/2019 sample is collected in deeper water (~7-8 meters) where oxygen levels are lower and there is a greater potential for P to be regenerated from bottom sediments

Report describes conditions at the time the sample was collected.

Approved by

Jaimee Conroy

Date 12/9/2019

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR



DEALER



PLM Lake & Land Management Corp
P.O. Box 132
Caledonia MI 49316-
Phone: (616) 891-1294