

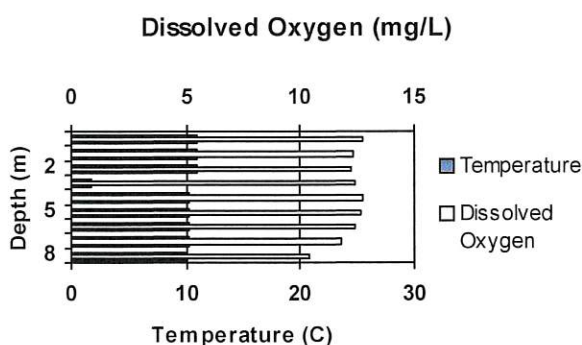
LAKE CHECK Water Quality Monitoring Report

2018055

Customer	Waterbody	Sample Information
Middle Lake (Muskegon)	Middle Lake	Date: 4/30/2018
		Site: Deep Hole

On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/L	%
0	11.0	12.8	117
1	10.9	12.3	112
2	10.9	12.3	111
3	1.7	12.4	112
4	10.2	12.8	114
5	10.2	12.7	110
6	10.2	12.4	109
7	10.1	11.8	107
8	10.0	10.4	104



Secchi Disk Depth 4.0 meters

Thermocline Depth meters

Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/100 mL	N/A
Conductivity	102	uS/cm	Low concentration of dissolved salts
Total Dissolved Solids	66	mg/L	
pH	7.8	S.U.	Water is slightly alkaline
Alkalinity	38	mg CaCO3/L	Water is very soft
Total Phosphorus	17	ug/L	Moderately phosphorus enriched
Nitrates	200	ug/L	Not nitrogen enriched
Chlorophyll	N/A		

Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	40	mesotrophic
Based on Total Phosphorus	41	mesotrophic
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.
- Sample is somewhat phosphorus enriched. Create natural buffer between lawn & lakeshore.
- Repeat LakeCheck in Fall.

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- 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 10/23/2018

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



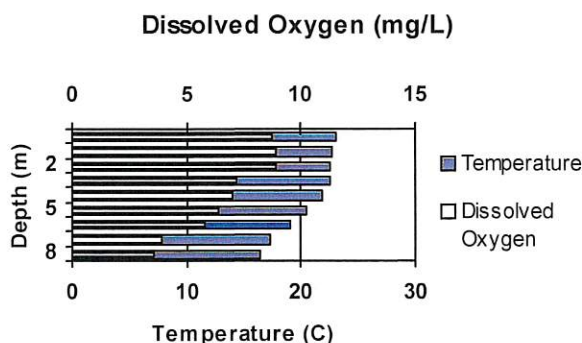
Water Quality Monitoring Report

2018112

Customer	Waterbody	Sample Information
Middle Lake (Muskegon)	Middle Lake	Date: 9/14/2018
		Site: Deep Hole

On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/L	%
0	23.1	8.8	89
1	22.7	8.9	90
2	22.6	9.0	90
3	22.6	7.2	70
4	21.9	7.0	68
5	20.5	6.4	64
6	19.1	5.8	56
7	17.3	3.9	40
8	16.4	3.5	36



Secchi Disk Depth 4.0 meters
 Thermocline Depth meters

Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/100 mL	N/A
Conductivity	105	uS/cm	Low concentration of dissolved salts
Total Dissolved Solids	68	mg/L	
pH	8.3	S.U.	Water is slightly alkaline
Alkalinity	41	mg CaCO ₃ /L	Water is very soft
Total Phosphorus	8	ug/L	Slightly phosphorus enriched
Nitrates	200	ug/L	Not nitrogen enriched
Chlorophyll	N/A		

Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	40	mesotrophic
Based on Total Phosphorus	30	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 NEXT YEAR!

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- 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 10/23/2018

Mrs. Jaimee Conroy, Technical Services Manager

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Bacteria Sampling Report

Waterbody: Middle Lake (Muskegon)
Middle Lake (Muskegon)

Date Sampled:
7/19/2018

Location	<i>E. coli</i>	Total Coliforms	Interpretation
#1	4.0	64	● Water meets bacteriological standards for safe swimming.
#2	1.0	56	● Water meets bacteriological standards for safe swimming.
#3	8.0	84	● Water meets bacteriological standards for safe swimming.

Bacterial counts are expressed as the number of Colony Forming Units per 100 milliliters (CFU/100mL).

For full body contact recreation (including swimming) counts of *E. coli* should not exceed 130 (CFU/100mL) as a monthly geometric mean of at least five samples per the State of Michigan standard, or single samples should not exceed 298 (CFU/100mL) [235 CFU/100mL in a designated bathing beach area] per Federal (EPA) guidelines.

Current recreational water quality standards do not rely on Total Coliform counts.

Approved by 
Mrs. Jaimee Conroy, Technical Services Manager

Date 23-Jul-18



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