2019120

LAKE CHECK Water Quality Monitoring Report

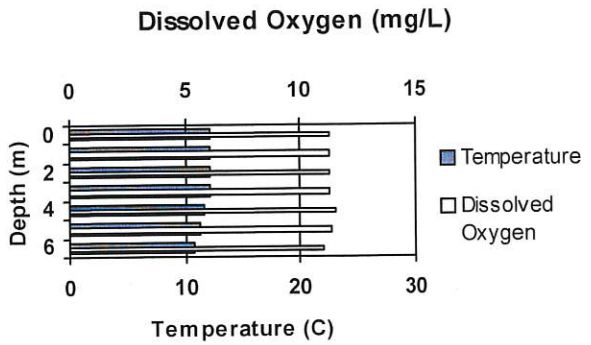
Customer	Waterbody	Sample Information
Twin Lake (Muskegon)	Twin Lake	Date: 4/23/2019
		Site: Deep Hole

On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen mg/L	Dissolved Oxygen %
0	12.2	11.3	105
1	12.2	11.3	105
2	12.2	11.3	105
3	12.1	11.3	105
4	11.6	11.6	106
5	11.3	11.3	105
6	10.8	11.0	101

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	124	uS/cm	Low concentration of dissolved salts
Total Dissolved Solids	81	mg/L	
pH	7.9	S.U.	Water is slightly alkaline
Alkalinity	29	mg CaCO3/L	Water is very soft
Total Phosphorus	12	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	36	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.
- Sample is somewhat phosphorus enriched. Create natural buffer between lawn & lakeshore.
- 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 11/21/2019

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

2019121

LAKE CHECK Water Quality Monitoring Report

Customer
Twin Lake (Muskegon)

Waterbody
Twin Lake

Sample Information
Date: 9/4/2019

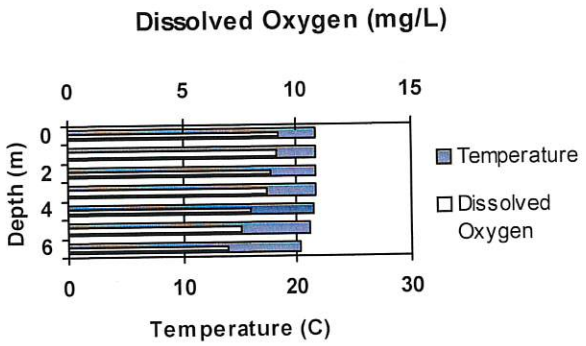
Site: Deep Hole

On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen mg/L	Dissolved Oxygen %
0	21.7	9.2	91
1	21.7	9.1	89
2	21.7	8.9	87
3	21.6	8.6	95
4	21.5	8.0	79
5	21.2	7.5	72
6	20.3	6.9	68

Secchi Disk Depth 3.5 meters

Thermocline Depth meters



Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli		CFU/100 mL	N/A
Conductivity	131	uS/cm	Low concentration of dissolved salts
Total Dissolved Solids	85	mg/L	
pH	7.9	S.U.	Water is slightly alkaline
Alkalinity	59	mg CaCO3/L	Water is very soft
Total Phosphorus	7	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	42	mesotrophic
Based on Total Phosphorus	28	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!

- 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 11/21/2019

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR WQ PRO DEALER

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Bacteria Sampling Report

Twin Lake (Muskegon)

Waterbody:
Twin Lake (Muskegon)

Date Sampled:
7/9/2019

Location	*E. coli*	Total Coliforms	Interpretation
#1	1	N/A	Water meets bacteriological standards for safe swimming.
#2	1	N/A	Water meets bacteriological standards for safe swimming.
#3	1	N/A	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 Jaimee C
Mrs. Jaimee Conroy, Technical Services Manager

Date 11-Jul-19

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