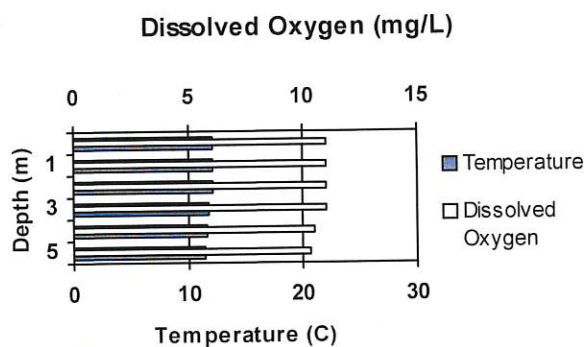


LAKE CHECK Water Quality Monitoring Report

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

On-Site Results

| Depth (m) | Temperature (degrees C) | Dissolved Oxygen | |
|-------------------|-------------------------|------------------|-----|
| | | mg/L | % |
| 0 | 12.2 | 11.0 | 103 |
| 1 | 12.2 | 11.0 | 103 |
| 2 | 12.2 | 11.0 | 103 |
| 3 | 11.8 | 11.0 | 101 |
| 4 | 11.6 | 10.5 | 100 |
| 5 | 11.5 | 10.4 | 99 |
| 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 | 92 | uS/cm | |
| Total Dissolved Solids | 60 | mg/L | Low concentration of dissolved salts |
| pH | 7.7 | S.U. | Water is slightly alkaline |
| Alkalinity | 61 | mg CaCO ₃ /L | Water is 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 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 **WO
PRO** DEALER



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

LAKE CHECK Water Quality Monitoring Report

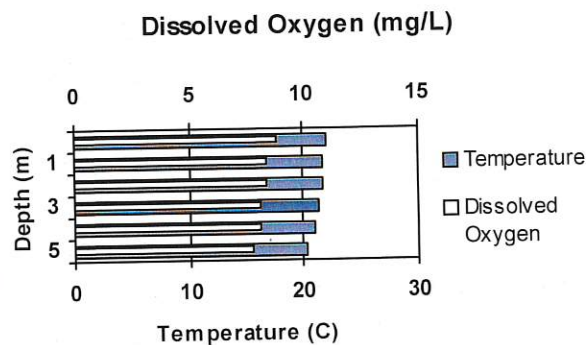
| Customer | Waterbody | Sample Information |
|-----------------------|------------|--------------------|
| North Lake (Muskegon) | North Lake | Date: 9/4/2019 |
| | | Site: Deep Hole |

On-Site Results

| Depth (m) | Temperature (degrees C) | Dissolved Oxygen (mg/L) | |
|-----------|-------------------------|-------------------------|----|
| | | mg/L | % |
| 0 | 22.0 | 8.9 | 90 |
| 1 | 21.7 | 8.4 | 83 |
| 2 | 21.6 | 8.4 | 82 |
| 3 | 21.4 | 8.2 | 81 |
| 4 | 21.0 | 8.1 | 80 |
| 5 | 20.3 | 7.8 | 76 |

Secchi Disk Depth 3.0 meters

Thermocline Depth meters



Analytical Results

| Parameter | Result | Units | Interpretation |
|--------------------------|--------|-------------------------|--------------------------------------|
| Fecal Bacteria (E. coli) | | CFU/100 mL | N/A |
| Conductivity | 95 | uS/cm | |
| Total Dissolved Solids | 62 | mg/L | Low concentration of dissolved salts |
| pH | 7.8 | S.U. | Water is slightly alkaline |
| Alkalinity | 45 | mg CaCO ₃ /L | Water is very soft |
| Total Phosphorus | 6 | 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 | 44 | mesotrophic |
| Based on Total Phosphorus | 26 | 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



PLM Lake & Land Management Corp
P.O. Box 132
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Bacteria Sampling Report

Waterbody:
North Lake (Muskegon)

North Lake (Muskegon)

Date Sampled:
7/9/2019

| Location | <i>E. coli</i> | 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


Mrs. Jaimee Conroy, Technical Services Manager

Date 11-Jul-19



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