

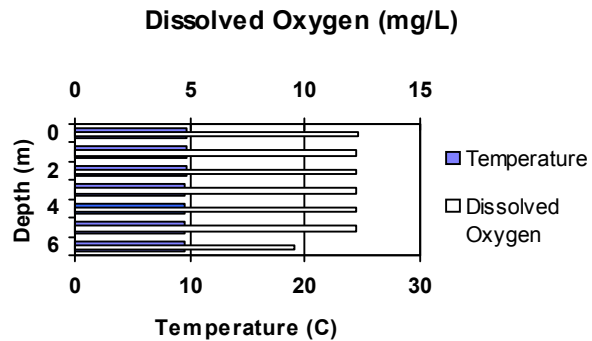


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 5/ 1/ 2018
		Site: Site #1

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen (mg/L)	
		mg/ L	%
0	9.6	12.3	108
1	9.6	12.2	108
2	9.6	12.2	107
3	9.6	12.2	107
4	9.6	12.2	107
5	9.6	12.2	107
6	9.6	9.6	84



Secchi Disk Depth 5.0 meters  
 Thermocline Depth meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	199	uS/ cm	
Total Dissolved Solids	130	mg/ L	Low concentration of dissolved salts
pH	8.5	S. U.	Water is slightly alkaline
Alkalinity	101	mg CaCO3/ L	Water is soft
Total Phosphorus	13	ug/ L	Moderately phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	37	meso-oligotrophic
Based on Total Phosphorus	37	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.
- No remedial action recommended at this time.
- Repeat LakeCheck in Fall.

---

*er* WARNING. condition requires immediate attention.

*er* CAUTION. condition requires further evaluation.

*er* OK. condition within acceptable limits.

*er* NEUTRAL. condition neither good nor bad.

## Notes

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WQ** DEALER  
**PRO**



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

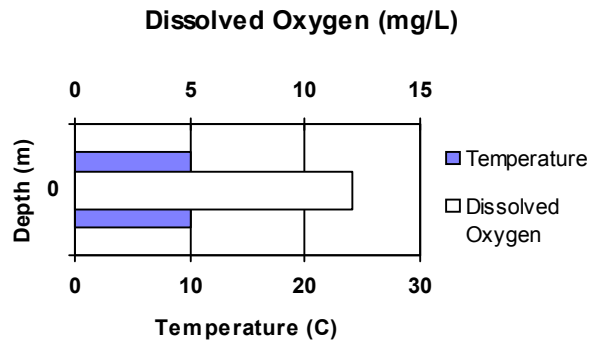


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 5/ 1/ 2018
		Site: Site #2

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	10.0	12.1	107



Secchi Disk Depth	meters
Thermocline Depth	meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	199	uS/ cm	
Total Dissolved Solids	129	mg/ L	Low concentration of dissolved salts
pH	8.5	S.U.	Water is slightly alkaline
Alkalinity	105	mg CaCO <sub>3</sub> / L	Water is soft
Total Phosphorus	15	ug/ L	Moderately phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	N/ A	
Based on Total Phosphorus	39	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.
- No remedial action recommended at this time.
- Repeat LakeCheck in Fall.

---

*er* WARNING. condition requires immediate attention.

*er* CAUTION. condition requires further evaluation.

*er* OK. condition within acceptable limits.

*er* NEUTRAL. condition neither good nor bad.

## Notes

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WQ** DEALER  
**PRO**



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

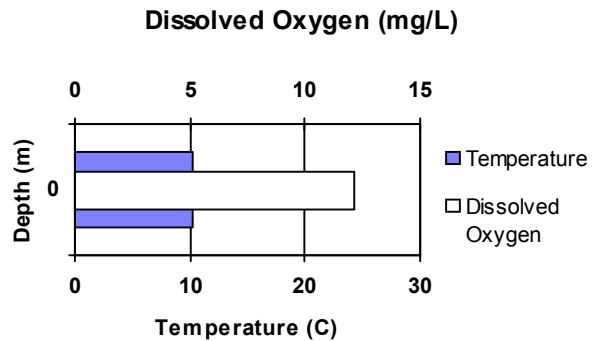


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 5/ 1/ 2018
		Site: Ste#3

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	10.3	12.1	108



Secchi Disk Depth	meters
Thermocline Depth	meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	199	uS/ cm	
Total Dissolved Solids	130	mg/ L	Low concentration of dissolved salts
pH	8.5	S.U.	Water is slightly alkaline
Alkalinity	95	mg CaCO3/ L	Water is soft
Total Phosphorus	18	ug/ L	Moderately phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	N/ A	
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.
- No remedial action recommended at this time.
- Repeat LakeCheck in Fall.

---

*er* WARNING. condition requires immediate attention.

*er* CAUTION. condition requires further evaluation.

*er* OK. condition within acceptable limits.

*er* NEUTRAL. condition neither good nor bad.

## Notes

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WQ** DEALER  
**PRO**



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



# Water Quality Monitoring Report

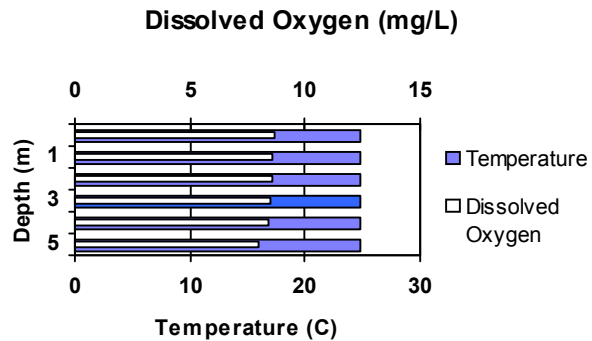
Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 7/ 12/ 2018
		Site: Ste#1

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen (mg/L)	
		mg/ L	%
0	24.8	8.6	104
1	24.8	8.6	104
2	24.8	8.6	103
3	24.8	8.5	103
4	24.8	8.4	101
5	24.8	8.0	96

Secchi Disk Depth	5.0 meters
Thermocline Depth	meters



## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	198	uS/ cm	
Total Dissolved Solids	129	mg/ L	Low concentration of dissolved salts
pH	8.5	S.U.	Water is slightly alkaline
Alkalinity	128	mg CaCO3/ L	Water is hard
Total Phosphorus	16	ug/ L	Moderately phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	37	meso-oligotrophic
Based on Total Phosphorus	40	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.
- No remedial action recommended at this time.
- Repeat LakeCheck in Fall.

---

*er* WARNING. condition requires immediate attention.

*er* CAUTION. condition requires further evaluation.

*er* OK. condition within acceptable limits.

*er* NEUTRAL. condition neither good nor bad.

## Notes

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WQ** DEALER  
**PRO**



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



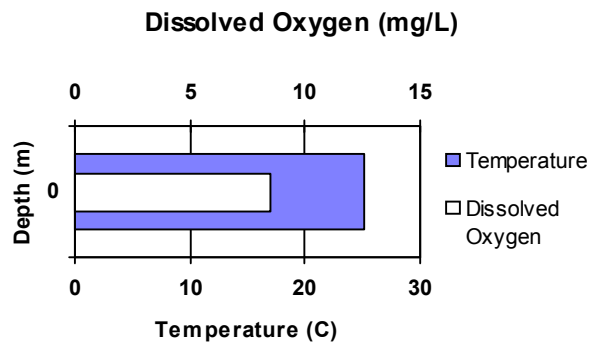


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 7/ 12/ 2018
		Site: Ste#2

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	25.2	8.5	104



Secchi Disk Depth	meters
Thermocline Depth	meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	199	uS/ cm	
Total Dissolved Solids	129	mg/ L	Low concentration of dissolved salts
pH	8.5	S.U.	Water is slightly alkaline
Alkalinity	134	mg CaCO3/ L	Water is hard
Total Phosphorus	10	ug/ L	Slightly phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI Trophic Status
Based on Secchi Disk Depth	N/ A
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.

---

*W* WARNING. condition requires immediate attention.

*Y* CAUTION. condition requires further evaluation.

*O* OK. condition within acceptable limits.

*N* NEUTRAL. condition neither good nor bad.

## Notes

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WO** DEALER  
**PRO**



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

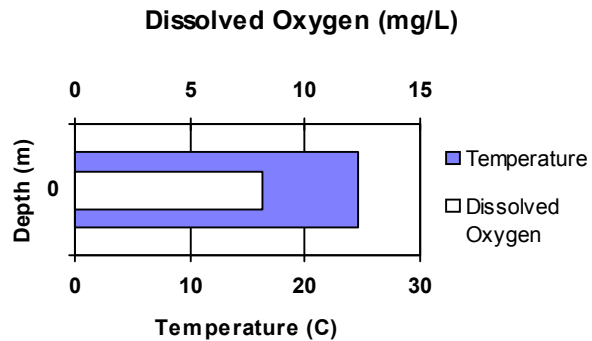


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 7/ 12/ 2018
		Site: Ste#3

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	24.7	8.1	98



Secchi Disk Depth	meters
Thermocline Depth	meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	202	uS/ cm	
Total Dissolved Solids	131	mg/ L	Low concentration of dissolved salts
pH	8.4	S.U.	Water is slightly alkaline
Alkalinity	132	mg CaCO3/ L	Water is hard
Total Phosphorus	16	ug/ L	Moderately phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	N/ A	
Based on Total Phosphorus	40	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.
- No remedial action recommended at this time.
- Repeat LakeCheck in Fall.

---

*er* WARNING. condition requires immediate attention.

*er* CAUTION. condition requires further evaluation.

*er* OK. condition within acceptable limits.

*er* NEUTRAL. condition neither good nor bad.

## Notes

Report describes conditions at the time the sample was collected.

Approved by



Date 12/3/2018

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

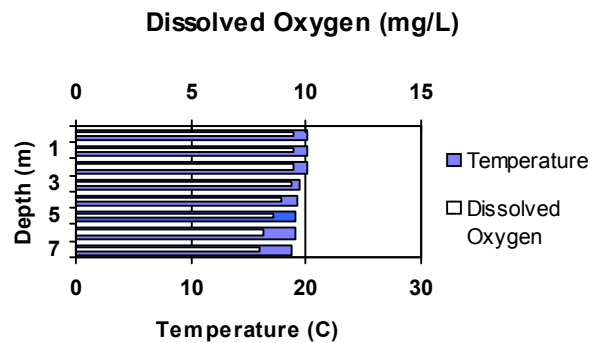


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 9/ 12/ 2018
		Site: Site #1

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	20.2	9.4	104
1	20.2	9.4	104
2	20.1	9.4	104
3	19.5	9.4	102
4	19.2	9.0	97
5	19.1	8.6	93
6	19.0	8.1	88
7	18.7	8.0	85



Secchi Disk Depth 2.8 meters  
 Thermocline Depth meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	194	uS/ cm	
Total Dissolved Solids	127	mg/ L	Low concentration of dissolved salts
pH	8.7	S. U.	Water is slightly alkaline
Alkalinity	88	mg CaCO3/ L	Water is soft
Total Phosphorus	243	ug/ L	Phosphorus polluted
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	45	mesotrophic
Based on Total Phosphorus	79	hypereutrophic
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 highly phosphorus enriched. Consider nutrient abatement measures.
- No remedial action recommended at this time.
- Deep water sample indicates possible internal loading of nutrients.
- REPEAT LakeCheck NEXT YEAR!

---

*cr* WARNING. condition requires immediate attention.

*cr* CAUTION. condition requires further evaluation.

*cr* OK. condition within acceptable limits.

*cr* NEUTRAL. condition neither good nor bad.

## Notes

Total Phosphorus Levels are uncharacteristically high, possible sample contamination. Watch for trend next year.

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

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

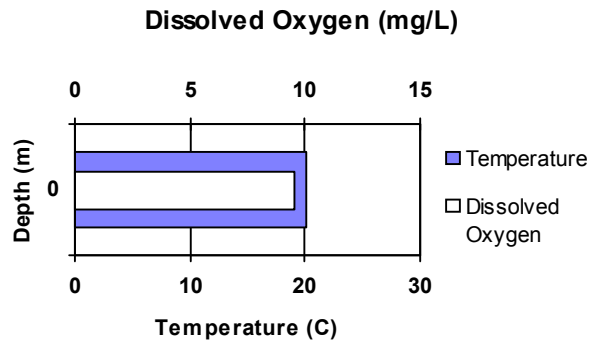


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 9/ 12/ 2018
		Site: Site #2

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	20.1	9.5	105



Secchi Disk Depth	meters
Thermocline Depth	meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	194	uS/ cm	
Total Dissolved Solids	126	mg/ L	Low concentration of dissolved salts
pH	8.7	S.U.	Water is slightly alkaline
Alkalinity	93	mg CaCO <sub>3</sub> / L	Water is soft
Total Phosphorus	45	ug/ L	Phosphorus enriched
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	N/ A	
Based on Total Phosphorus	55	moderately eutrophic
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 NEXT YEAR!

---

*cr* WARNING. condition requires immediate attention.

*cr* CAUTION. condition requires further evaluation.

*cr* OK. condition within acceptable limits.

*cr* NEUTRAL. condition neither good nor bad.

## Notes

Total Phosphorus Levels are uncharacteristically high, possible sample contamination. Watch for trend next year.

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WQ** DEALER  
**PRO**



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



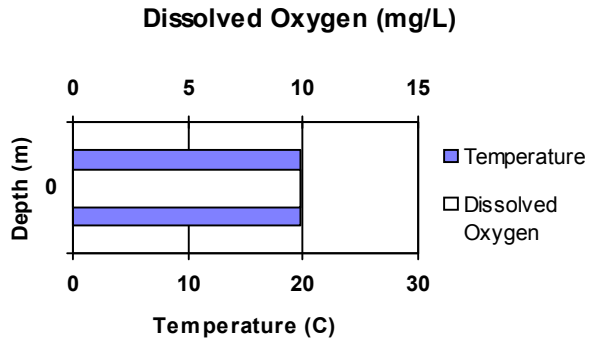


# Water Quality Monitoring Report

Customer	Waterbody	Sample Information
Missaukee Lake	Missaukee	Date: 9/ 12/ 2018
		Site: Site #3

## On-Site Results

Depth (m)	Temperature (degrees C)	Dissolved Oxygen	
		mg/ L	%
0	19.7	9.9	108



Secchi Disk Depth	meters
Thermocline Depth	meters

## Analytical Results

Parameter	Result	Units	Interpretation
Fecal Bacteria (E. coli)		CFU/ 100 mL	N/ A
Conductivity	195	uS/ cm	
Total Dissolved Solids	127	mg/ L	Low concentration of dissolved salts
pH	8.8	S.U.	Water is slightly alkaline
Alkalinity	95	mg CaCO <sub>3</sub> / L	Water is soft
Total Phosphorus	68	ug/ L	Phosphorus polluted
Nitrates	230	ug/ L	Not nitrogen enriched
Chlorophyll	N/ A	ug/ L	

## Trophic State Evaluation

	TSI	Trophic Status
Based on Secchi Disk Depth	N/ A	
Based on Total Phosphorus	61	eutrophic
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 highly phosphorus enriched. Consider nutrient abatement measures.
- REPEAT LakeCheck NEXT YEAR!

---

*cr* WARNING. condition requires immediate attention.

*cr* CAUTION. condition requires further evaluation.

*cr* OK. condition within acceptable limits.

*cr* NEUTRAL. condition neither good nor bad.

## Notes

Total Phosphorus Levels are uncharacteristically high, possible sample contamination. Watch for trend next year.

Report describes conditions at the time the sample was collected.

Approved by

*Jaimee Conroy*

Date 12/3/2018

Mrs. Jaimee Conroy, Technical Services Manager

FROM YOUR **WQ** DEALER  
**PRO**



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