

Riding Mountain Biosphere Reserve
Lake Health Monitoring Project - August 2019
A project to incorporate RMBR lakes into the
PanCanadian Lake Pulse 'Remote Lake Health Monitoring' Project

This sampling was performed to provide the Lake Pulse Project with baseline lake health metrics to allow the satellite remote-sensing, lake-health monitoring system to display the relative health (i.e increases or decreases trophic state) of our lakes in the future. When this project is completed everyone will be able to check the 'health' state of these lakes Online.

Sampling Sites*	Arrow Lake	Ditch Lake	Eagle Lake	Jackfish Lake	Rossman Lake	Sandy Lake
Sampling Date	2019 08 07 10:30	2019 08 06 10:15	2019 08 06 13:15	2019 08 07 14:30	2019 08 07 12:00	2019 08 05 13:35
GPS Coordinates	50.679424 -100.715370	50.573431 -99.932724	50.471281 -99.994915	50.522125 -100.075075	50.737330 -100.689182	50.535 -100.1667
Water Temperature (C)	21.4	22.4	23.9	21.5	21.2	21.9
Secchi Disk Reading (m) <i>Desirable minimum depth 1.2 m</i>	1.22	1.23	0.89	1.22	1.2	0.53
Surface Water Analyses						
Chlorophyll-a** (i.e. measures total concentration of phytoplankton/algae growth)	20.42	2.33	7.03	2.5	6.72	15.83
Total cyanobacterial cell count*** (cells/mL) <i>Desirable Upper Level: ≤ 100,000</i>	69100	31500	1,910,000	5380	271000	655,000#
Microcystin*** (ug/L) <i>Desirable Upper Level: ≤ 0.20</i>	0.5	<0.20	<0.20	<0.20	1.05	<0.20#
Nitrate*** (as N) (mg/L)	<0.0050	<0.0050	<0.025###	<0.0050	<0.0050	<0.0050
Nitrate and Nitrite as N**** (mg/L) <i>Desirable Upper Level: ≤ 10</i>	<0.0051	<0.0051	<0.025###	<0.0051	<0.0051	<0.0051
Nitrite*** (as N) (mg/L)	<0.0010	<0.0010	<0.0050##	<0.0010	<0.0010	<0.0010
Total Kjeldahl Nitrogen*** (mg/L)	1.78	1.18	2.71	2.37	1.17	3
Total Ammonia*** (mg/L)	0.04	<0.010	<0.038	0.03	0.05	0.03
Total Phosphorus**** (ug/L) <i>Desirable Upper Level: ≤ 25</i>	84	30	24	48	54	71

Analyses Notes:

- * Sampling was conducted by Daryl Kines and Jim Irwin of the RMBR's Lake and Stream Health Working Group
- ** Analyses were performed courtesy of the Lake Pulse Project, University of Sherbrooke, Sherbrooke, Quebec
- *** Analyses were performed courtesy of Manitoba Agriculture and Resource Development by ALS Environmental Winnipeg, MB
- **** Analyses were performed courtesy of the Lake Winnipeg Foundation

Sample Notes:

- # Sampled separately August 13, 2020 from beach swimming area
- ### Sensitivity limitations reported by ALS with their analytic processing of the sample