Cyanobacteria (Blue-green Algae) and Microcystins

Microcystins are potentially harmful toxins released by cyanobacteria (blue-green algae) during algal blooms. These blooms are naturally occurring and can appear at any time. They may or may not produce harmful microcystin toxins. If toxins are produced, the concentration can vary unpredictably within the body of water by location and time. If you notice a bloom, you should assume there are toxins present and for at least 2 weeks or longer after the bloom has disappeared.

St. Mary Lake (Salt Spring Island) Drinking Water

Water System Operators of Drinking Water Systems in British Columbia are responsible for routine microbiological and chemical sampling **for their water systems**. This includes testing for microcystin in raw and treated water when its presence is suspected or has been previously detected. Both the Capital Regional District (CRD) and North Salt Spring Waterworks District (NSSWD) conduct microcystin sampling **for their respective systems**. The results can be found at the following websites.

https://crd.bc.ca/files/waterqualityreports/PERIODIC_HIGWS_ALGTX.pdf

http://www.northsaltspringwaterworks.ca/technical-information/st-mary-test-results/

It is important to note that these microcystin test results do not necessarily represent conditions throughout the entire lake. Therefore, private users who are not on either the CRD or NSSWW systems and who draw water from St. Mary Lake should be cautious and ensure that strategies and treatments are employed at all times to address all potential hazards in the water supply, including algal toxins. Boiling of water IS NOT effective against microcystin.

The *Guidelines for Canadian Drinking Water Quality* set the maximum acceptable concentration (MAC) for total microcystin (toxin) in drinking water at 1.5 micrograms/L (ug/L) . The MAC of 1.5 µg/L for microcystin-LR is believed to be protective against exposure to other microcystins (total microcystins, i.e., free plus cell bound) that may also be present. It is a conservative value, as it is derived on the basis of daily consumption of microcystin-LR over a full year.

For more information on Blue-green Algae (Cyanobacteria), go to the following BC Healthfile.

https://www.healthlinkbc.ca/healthlinkbc-files/blue-green-algae

For more information on Microcystin levels as regulated under the Canadian Drinking Quality Water Guidelines, go to the following link.

http://hc-sc.gc.ca/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom_2014-10_eng.pdf