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## **Bamfield Drinking Water Quality and Trihalomethanes (THM)**

The purpose of this water quality advisory is to advise you that the Bamfield water system has *trihalomethane* (THM) levels that exceed the limit set in the Guidelines for Canadian Drinking Water Quality.

THMs are a group of chemical compounds that are made when chlorine reacts with organic matter in water, such as wood and leaves. The level of THMs in drinking water depends on the amount of organic material in the water source. The 2011 Ministry of Environment study of the watershed identified high organic material in Sugsaw Lake, which provides the source of water for the Bamfield drinking water system.

The Guidelines for Canadian Drinking Water Quality have set a maximum level for THM at 100 parts per billion. Testing on multiple occasions over the past year has confirmed an average THM level at the Bamfield reservoir of 210.5 parts per billion.

There is no immediate risk to your health. Health effects from THM are associated with consumption of high levels of THM for many years or decades.

People can reduce their exposures to THM by drinking water that has been stored for 24 hours or boiled and cooled, filtering water with activated carbon before drinking, or by using bottled water.

Island Health is working with the Ablerni-Clayoquot Regional District, who operates the Bamfield water system, to implement solutions that address both the THM and the need for adequate treatment.

### **What are THMs?**

THMs are a group of chemical compounds that are made when chlorine reacts with organic matter, such as leaves and plants.

### **Why is chlorine added to the water?**

Chlorine is added to drinking water to kill bacteria and viruses. Chlorination is effective in stopping many waterborne diseases. The immediate risk of illness from drinking untreated water is far greater than the health risks of THM.

Currently the Bamfield system is being appropriately operated to balance the safety achieved through chlorination with the concerns arising from the THMs.

### **What are the health effects of THMs?**

People who are exposed to high levels of THMs may have a slight increase in the risk of bladder cancer. This may occur after exposure to high levels of THM for a long period of time, at least 20 years. Other factors like smoking are more commonly related to the development of bladder cancer even where THM levels may be increased. Some literature suggests that THMs may be associated with a small increase in the risk of other health problems; however, such findings are not conclusive.

### **How can I be exposed to THMs?**

People can be exposed to THMs by drinking water with high levels of THMs. THMs can also evaporate from the tap and be breathed in during showering, or can be absorbed through the skin during bathing.

### **What can I do to reduce my exposure to THMs?**

There are several ways you can lower the THMs for drinking water at home:

- Store tap water in a fridge for 24 hours in an open jug. This will allow the THMs to partially evaporate into the air.
- Boil water and cool.
- Use an activated carbon filter, such as a filter pitcher.
- Drink bottled water.

Should you choose, you can further lower your exposure to THMs while bathing by:

- Ensuring the bathroom is well-ventilated, such as opening a window or turning the fan on.
- Taking short baths instead of a shower.
- Using colder water to bath or shower.

### **Where can I get more information?**

- Health Canada – Drinking water chlorination located at: <http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/chlor-eng.php>.
- Health Canada – Guidelines for Canadian Drinking Water Quality: Guideline Technical Documents: *Trihalomethanes* located at: <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/trihalomethanes/index-eng.php>.