



The Waterworks Newsletter - March 2011



St. Mary Lake algae bloom

An algal bloom was detected visually in St Mary Lake on January 19th. Lake turbidity was also increasing. We collected samples for algal toxins testing. The results showed toxins in the lake water but nothing in our filtered water. We decided to shut down our St Mary Lake treatment plant and supply all our customers from Lake Maxwell. Our operators have since been closely monitoring the distribution system pressures, reservoir levels, and chlorine concentration.

We switched the supply source for our St Mary customers to Lake Maxwell as a precaution. We were uncertain about the variability of toxin levels in the lake with location, with storm events, and with time as the algae bloom progressed. The laboratory test takes two days to complete and, should the results show that there are toxins in the treated water the data could be two-to-three days old before we could act on it.

We and CRD have since been monitoring lake algal toxins every few days at our three separate water intakes, to improve understanding. The toxins present are two different strains of Microcystins (M-YR and M-LR). The toxin levels are similar at all three locations, and they have not varied very much with time or storms. The toxins are still present in the lake, but are not increasing. They are in the same range as during the 2004-05 and 2005-06 algae blooms. Detailed information on algae and the toxins they can produce is available on the internet most easily by googling "Health Canada - blue green algae toxins".

Why are the aerators shut down in winter? In winter the lake water is well mixed, there are no layers and there is dissolved oxygen in the water throughout the lake. In summer, the lake stratifies with a warm surface layer and a colder lower layer, there is very little mixing between the layers and the oxygen in the lower layer is used up by biological activity. The aerators' main purpose is to keep oxygen in the lower layer to inhibit the release of phosphorus from the bottom sediment. Since phosphorus is a key nutrient for algae, reducing its availability reduces the potential for algae blooms. Since the aerators were installed, the level of phosphorus in the lake water has declined to half its previous level, and it is continuing to decline year by year. Unfortunately, enough phosphorus still remains to support occasional algae blooms, such as the current one.

We have carefully reviewed the lake and treatment performance data, and have decided to return to normal operation by mid-March. We will continue to closely monitor the lake and treated water and take appropriate action to safeguard the drinking water quality.

Website www.northsaltspringwaterworks.ca

We have added more pages as well as a "latest News" button on the home page. This will be activated when there is an item of urgency.

High-efficiency toilet rebates

With financial help from the Salt Spring Island Water Council, we have launched a high-efficiency toilet rebate program for our North Salt Spring Waterworks District customers. These toilets use far less water than older toilets do. The program is meant to be an incentive to help us begin to get rid of old water-hogs.

Application forms are available at the waterworks office at 761 Upper Ganges Road. Applications must meet certain eligibility requirements. There are only 100 of these rebates available at this time, and they will be issued on a "first-come-first-served" basis. The rebate will be in the form of a \$100 credit to the property owner's water account. Cash rebates will NOT be made.

Workshop

We have started construction of a much needed larger workshop and storage area for parts, supplies and equipment at our Upper Ganges Road office site.

Trustees Denis Russell (Chair), Jeff Thompson (Vice Chair), Bob Watson, Michael Woolley, Marshall Heinekey and General Manager Trevor Hutton