

# **WATERSHED DISSENT**

June 2016

I am writing this to explain my opposition to the Chapman Lake Alternate Approval Process which the SCR D has decided to pursue, and which I voted against. I have opposed all parts of this environmental misadventure from the beginning and I want to make my reasons for that completely clear.

The SCR D has voted to spend \$5 million of taxpayers money to dig a deeper channel at the end of Chapman Lake, allowing the SCR D to draw the lake down another five metres, in addition to the three metres it can presently draw, for a total of eight metres (26 feet).

Chapman Lake is the primary water source for 23,000 people on the Sunshine Coast, and I believe that this action puts it in great jeopardy.

## **RISK OF SHORELINE COLLAPSE**

Like other mountain lakes in this region, Chapman Lake was formed 5-6,000 years ago when the glaciers receded. The land around the lake is hard packed from the weight and scour of the glaciers, but organic material such as leaf litter washes down via small streams, forming a spongy edge. This glacial fluvial deposit is full of aquatic life, and it is buoyed up by the water. If you draw down the lake too far, you risk a "slough", where the edge of the lake dries out and collapses in a mini landslide.

This is exactly what happened at Tyson Lake on Narrows Inlet in 2010, when an independent hydroelectric project pumped the lake down 10 metres from its original level. The glacial fluvial deposit formed over millenia around the lake slipped, releasing a large plume of sediment that is extremely fine and takes a very long time to settle again. This not only damaged the lake environment, but flowed out through the Tzoonie River, damaging fish habitat.

Chapman Lake is at risk for a similar environmental mishap, which would substantially change the character and quality of the water in the lake and disperse sediment down Chapman Creek.

An environmental assessment carried out in 1998 by Alan Whitehead and summarized in a 1999 report, noted that further lowering the level of the Chapman Lake might threaten the quality of the water, due to the instability of the lake's edge. At the time, the level of the risk was considered uncertain, but the slide at Tyson Lake demonstrates that it is a clear and imminent risk.

## **RISK TO WATER QUALITY**

Drawing down the lake repeatedly also places stress on the health of the lake and the surrounding shoreline, which is a buffer between the water and land ecosystems. An

additional five metre drop will expose an expanse of lake bottom to air and to conditions that will cause it to deteriorate. A lake drawn down during a drought can only refill from precipitation. Rain falling on the exposed sediments of the lake bed causes an increase in turbidity which means that the water requires more treatment with chlorine in order to be potable. (This first rush of turbidity after rains is often called the "first flush.") If there is too much turbidity, the water isn't potable and a boil water advisory must be issued.

Repeated drawn downs will change the quality and character of the water we drink.

### **RISK TO FISHERIES**

Draw downs are also hard on fish. During a hot summer drought, like 2015, the lake heats up as it gets shallower, sending warmer water into Chapman Creek where it warms even more as it flows down to the sea. Warm water holds little oxygen and makes it very difficult for fish to live. 2015 was a very bad year for salmon, and more episodes of very warm water will pose a threat to the pink, chum and coho salmon runs and Chapman Creek hatchery operations.

### **DAMAGE TO A PROVINCIAL PARK**

Chapman Lake is in a provincial park, and the work necessary to lower the channel is an industrial process which involves blasting the rock as well as digging. This is a major environmental disturbance that ought not to take place in a provincial park. If this activity was proposed by a private company, such as a mining company, residents would be urging the regional district to oppose it.

### **A COSTLY BAND-AID**

Finally, this is a very expensive band-aid solution for a much bigger water supply problem. The SCRCD is well aware of the need for a new reservoir to add to our system's storage capacity, and the construction of a new engineered lake is identified as a priority in our Regional Water Plan. For roughly twice the \$5 million, we could build that reservoir, so why are we spending so much on a temporary fix that carries such high environmental risks?

Repeatedly drawing down this lake to deal with increasing regional demand for water is a fundamentally flawed solution. Our watershed is already stressed by global warming, deforestation, and increased human activity. We should be protecting this precious asset, not further damaging it.

With this level of risk to our primary water source, the precautionary principle should be observed, and this project should not be pursued.

Lorne Lewis, Area E Director  
Sunshine Coast Regional District