International Kootenay Lake Board of Control

PUBLIC MEETING MINUTES

September 22, 2011

Nelson, BC

	United States	**Canada**
Chair	Col. Bruce Estok	Kirk Johnstone (host)
Members	Steve Lipscomb	Glen Davidson
Secretary	Amy Reese	Daniel Millar
Guests	Dr. Mark Colosimo (IJC), Tom McAuley (IJC), Marc-Andre (Creston Valley Wildlife Management Area), Dale Stuparyk (Ainsworth), Larry Martin (Trail), John Drysdale (Sanca Creek), Garry Jackman (RDCK, Area A), Josh Smienk (Nelson), Eric Sargent (Nelson), David Cunningham, Andy Shadrack (RDCK), Marko Aaltomaa (FortisBC), Gwyn Graham (Environment Canada), Joel Fenolio (USACE), Llewellyn Matthews (Columbia Power Corporation), Danielle Royer (FortisBC), Alex Love (Nelson Hydro), Jamie King (FortisBC), Amy Stevenson (BCHydro),	

Duncan Lake at Duncan Dam

1. Welcome and introductions

Canadian Co-Chair Kirk Johnstone welcomed guests to the meeting and introduced Board members and secretaries.

2. Review of the agenda

Mr. Johnstone reviewed the agenda and invited any additions. The agenda was approved as written.

3. IJC and the Kootenay Lake Orders - context

Mr. Johnstone explained the relation among the Boundary Waters Treaty of 1909, the International Joint Commission, the 1938 Kootenay Lake Order, and the Board of Control. He advised that the mandate of the Commission is to prevent and resolve issues along our common border by undertaking investigations, holding hearings, and issuing Orders such as the Kootenay Lake Order. The Commission also appoints Boards of Control to monitor its Orders.

The duties of the Kootenay Lake Board of Control are to monitor FortisBC's operation of Corra Linn Dam, assure all other provisions of the 1938 IJC Order are followed, and provide general advice and assistance to the Commission on issues relating to the 1938 IJC Order.

3.1 Kootenay Lake levels 2011

Daniel Millar reviewed the details of the Kootenay Order. The Order directed FortisBC's predecessor to dredge Grohman Narrows (completed in the early 1940s) to allow both better conveyance of flood waters and better storage operations. It also directs FortisBC's operation of Corra Linn Dam with respect to maximum water levels in Kootenay Lake and orders the company to help pay increased pumping costs for land drainage incurred by Idaho farmers. Corra Linn Dam does not have exclusive control of lake outflow. When the Corra Linn forebay is kept low, control moves upstream to the constriction at Grohman Narrows near Nelson. This complicates the control of lake levels.

The Order allows FortisBC to store water in the lake up to a level of 1745.32 feet from September 1st to January 7th. Then, the water level must be drawn down incrementally so that it is below 1739.32 feet around April 1st. During the spring runoff period, the maximum allowable water level is calculated in a manner that takes advantage of the Grohman Narrows dredging to lessen potential peak water levels at the height of spring runoff.

In late winter and early spring 2011, water released from the two upstream dams as a precaution against flooding caused Kootenay Lake levels to rise above the Order's maximum elevation in March and April. In keeping with the Order (section 2.5) FortisBC attempted to lower the lake by discharging sufficient water such that the control of the lake outflow and level moved upstream to the constriction at Grohman Narrows. The lowest lake level was 1740.49 feet on April 23, 2011. Spring rise was declared on May 3, 2011, and Kootenay Lake peaked at 1751.70 on June 15th.

4. Questions from the public

(Questions or comments from guests are in plain text. Responses follow in italics. Both are paraphrased.)

Why was the lake not drawn down to 1739.32 feet in April?
High releases of water from the two upstream dams in late winter and early spring as a precaution against serious snowmelt flooding caused water levels to rise above the set maximums in March and April. The two upstream dams, Duncan and Libby, operate under the Columbia River Treaty. The Columbia River Treaty Operating Committee is currently studying the relation between the operation of their dams and the Kootenay Lake Order. The Board of Control will report the outcome of this study to the Commission when the study is complete.

While the upstream dam operators acted appropriately considering the conditions during this period, not enough effort was given to alert the public in advance.

Was this operation of Libby normal?
With the increase in snowpack late in the season, the operation of the dam was unusual.

Was the magnitude of the peak water level in June partially caused by the higher-than-normal water levels in April?
We do not believe so.

Is there any ongoing discussion about a Kootenay to Columbia diversion?
Not that the Board is aware.

Why were there two high water peaks this year?
This is not uncommon. It is possibly caused by the lag between melting of the lower and upper snow packs.

Does the Board have any information concerning the ability of Grohman Narrows to convey water?
The Board has looked at the stage discharge curves prepared around 1950 by Waanenan and Patterson. We found that, to this day, when the lake outlet control is at Grohman Narrows the stage and discharge still plot on those curves. This is a strong indication that Grohman Narrows is not aggrading. But the Board is open to consider any other supportive or contrary evidence.

Considering the apparent frequency of high water on the lake, isn't it prudent to further dredge Grohman Narrows to increase operational flexibility? Would it not be appropriate for the Board to recommend further dredging?

I (Andy Shadrack) am formally requesting a meeting with BCHydro, FortisBC, Columbia Power Corporation, and the Board of Control to discuss mosquitoes. Due to higher lake levels in early spring, the mosquito problem was out of hand this year. Mosquito control costs doubled from the normal $45,000 per season to $90,000. The small population in my area cannot be expected to bear this extra cost.

Why do US farmers get compensated for Corra Linn Dam operations while Canadian farmers do not?
Since the operation of Corra Linn affected the costs to farmers across the border in the United States, the Commission had the authority to include compensation in its Order of Approval. However, as the Canadian farmers are impacted by a Canadian dam, compensation is considered a domestic matter.

It appears that system operators are not taking storm waves into account when managing the lake and control structures. While the peak lake level this year may have appeared to be below the flood damage stage, storm waves several feet high on top of this can readily cause damage.

The impacts of VarQ operation at Libby Dam on Kootenay Lake are becoming increasingly apparent. The mosquito and storm wave problems are two examples. Both are worsened as the high water periods lengthen. The Board must inform the United States that VarQ operations are causing these problems in Canada.
(Fenolio) With the runoff experienced in 2011, the VarQ operating regime and the normal operating regime were equivalent.

Does the Board of Control deal with water quality?
The Kootenay Order does not speak to water quality, but Board members are sensitive to water quality issues.

Is any consideration given to dyke erosion that causes silting downstream?
A USGS study determined that the largest proportion of silt in the Kootenai/Kootenay River above the lake comes from the river's tributaries below Libby Dam.

Note that the Creston Advance newspaper failed to publish the lake level several days this year.
Those days were missed by FortisBC because the newspaper changed its weekly publication date without notice. This problem was corrected.

5. Adjourn

Mr. Johnstone thanked participants and adjourned the meeting.

After the meeting, one guest requested a chart of the assembled hydrographs from 2000 to 2011. This request was in the context of understanding whether double peaks were usual during spring runoff and observing whether there is any short term trend in the date of the annual peak water levels. The requested curves are plotted below.