

2020 ANNUAL BOARD MEETING MINUTES

International Kootenay Lake Board of Control

Webex virtual platform

Tuesday, 06 October 2020

9:00 – 12:00 PM (PDT)

Participants

	Canada	United States
Chair	David Hutchinson	Colonel Xander Bullock
Members	Ted White	Kyle Blasch
Secretariat	Martin Suchy	Kevin Shaffer
IJC Commissioners	Pierre Béland	Jane Corwin Robert Sisson Lance Yohe
IJC Advisors and Staff	Wayne Jenkinson Paul Allen	Mark Colosimo Norman Barth Adam Greeley
Guests	Shannon Price (Fortis BC), Brad Stykel (FortisBC) Gillian Kong (BC Hydro) Wellsley Hamilton (International Rainy-Lake of the Woods Watershed Board) Greg Hoffman (U.S. Army Corps of Engineers) Scott Jutila (International Rainy-Lake of the Woods Watershed Board) Erika Klyszejko (International Joint Commission) Dan Egolf (FortisBC) Brad Stykle (FortisBC) Anna Sharkova (Global Affairs Canada) Joshua Cummings (U.S. Department of State)	

1. Welcome and Introductions and Agenda Review

The virtual meeting held using the WEBEX platform was opened at 9:00 AM by Colonel Bullock (Board Chair, U.S. Section). Colonel Bullock introduced himself as the new USACE Seattle District Engineer and Board co-chair, replacing Colonel Mark Gerald.

Colonel Bullock provided some welcoming remarks and introductions of the board members and IJC Commissioners Pierre Beland, Jane Corwin, Lance Yohe and Rob Sisson, who were also in attendance.

2. Review of Agenda

The draft agenda was reviewed and accepted.

3. Hydrologic Conditions, Order Compliance, Dam Operations, & Applicant Report

3.1 Hydrologic Conditions 2020 – Order Compliance

Mr. Shaffer (U.S. Section Secretary) reviewed the Applicants IJC rule curve compliance and provided a 2019-2020 hydrology year-in-review. The past year was benign and Fortis BC did not have trouble meeting the Order requirements. There were no exceedances in the spring during the drawdown period. Minimum lake level was reached on March 28, 2020 (1,738.78 feet), Corra Linn Dam was in freefall during this time. The Board made the Spring Rise Declaration on April 25th, which triggered the rule curve to increase using the lowering formula. Grohman Narrows was in control of lake outflows for the whole of the freshet period.

A relatively wet December 2019 and January 2020 built up the snowpack in the Kootenay Basin, then it stayed cool through the spring with normal to below-normal precipitation. Snow Water Equivalent (SWE) in the Kootenay Basin was about 110-120% of average in Canada and 100-110% in U.S. A snowpack of 100-120% of normal is typically enough to present a flood threat, but not enough to guarantee a flood. In such a year, floods would happen as a result of intense heatwaves, and/or rain on snowmelt events, However, this year the basin was largely spared any flooding, with moderate May and June temperatures and some wet weather in May (that mainly increased the snowpack at high elevations) and normal precipitation in June. Low elevation snow melted off in May, followed by metered melt of higher elevation snow in June

Mr. Shaffer presented an updated plot of historical Kootenay Lake maximum and minimum levels before and after the construction of Libby Dam. He indicated that the peak lake level continues to be significantly lower than in the past, due to the dredging of Grohman Narrows (1940's) and, more significantly, due to the construction of the two upstream Columbia River Treaty dams, Duncan (1967) and Libby Dams (1972). The addition of flood risk reduction storage at these dams has, on average, reduced the annual peak stage of Kootenay Lake by about 6 feet.

3.2 USACE Libby Dam Operations

Mr. Shaffer reviewed Libby Dam operations. Libby Dam was not drafted deeply due to a middling water supply forecast, with snowpack Snow Water Equivalents (SWE) in Canada at 110-120% of normal, and in the U.S. at near normal SWE of 100-110%. The minimum elevation of Lake Koochanusa was 2,403.1 feet on April 17, 2020. Koochanusa Reservoir stored 10-55 kcfs from mid-May through early July, then released approximately 1 million acre-feet for sturgeon augmentation, and then made higher releases after the flood threat passed in early June through July to accommodate summer transformer maintenance. A maximum reservoir elevation was reached on August 9 at 2451.7 feet.

3.3 BC Hydro Kootenay Lake and Duncan Dam Operations

Gillian King (BC Hydro) presented a summary of BC Hydro's Columbia River system operations. Ms. Kong then reviewed the Kootenay Basin weather and hydrologic conditions for the current water year. She indicated the northern parts of the basin were generally wetter, and it was progressively drier further south. January and February started off mild, then it became colder and drier in March and April, which provided operational challenges for inflow modelling. Summer temperatures were above normal in the basin, precipitation was below normal in August and September.

Ms. Kong then reviewed Duncan Dam operations. As is typical, the reservoir was drafted to near-empty and refilled to near-full in the summer. The reservoir typically drafts some in the late summer, drafts minimally in the fall during kokanee spawning, and then completes the draft in the early spring upon the completion of kokanee spawning. The maximum reservoir elevation was 1,891.6 feet, on August 3, 2020. BC Hydro directs water management at Corra Linn Dam and the Kootenay Canal, under an operating agreement with Fortis BC. There were no unusual operations this past year.

3.4 Applicant – Corra Linn Dam Operations and Spill Gate Project

Shannon Price (Operations Manager at Fortis BC) provided a review of Corra Linn Dam operations, reviewing the winter peak, spring minimum and freshet peak lake levels. The peak freshet lake elevation was near normal in 2020, compared to higher elevations in recent years. Ms. Price also indicated outflow from the dam was in freefall from mid-February to early March, then again following the spring rise declaration on April 25th, until mid-June following the peak elevation of 1750.09 feet on June 4.

Ms. Price provided a project status update on the Corra Linn Spillway Gate Replacement Project. Ms. Price indicated replacement of gates 9, 10 and 11 is complete, while the concealed components replacement of gates 6, 7 and 8 is almost complete and should be returned to service this year. FortisBC and the contractor developed a concealed component mitigation strategy that included the procurement of a 4th cofferdam, which now allows for construction at 4 gates. The project is on track for substantial completion in the first quarter of 2022.

Ms. Price indicated that preventative maintenance on the Queen's Bay and Nelson hydrometric gauges is scheduled twice annually in summer and winter. Furthermore, for 2019, FortisBC made a \$35,000 CDN payment to Idaho farmers in June 2020 to offset additional pumping costs.

Kevin Shafer (U.S. Section Secretary) asked whether Fortis BC or BC Hydro received any concerns from the public regarding Kootenay Lake operations. Ms. Price indicated FortisBC did not receive any public concerns this past year, but that for them flood risk management with their stakeholders (USACE, BC Hydro, municipal governments) are their primary areas of interest. Ms. Price said there were no specific fish concerns this year.

4. Guest Presentations

4.1 Rainy-Lake of the Woods Watershed Board

Erika Klyszejko (Rainy-Lake of the Woods Watershed Board - Watershed Committee Co-chair and now IJC Engineering Advisor) gave a presentation to the Kootenay Board on the activities and issues that Board deals with. Ms. Klyszejko described the various controls on Rainy and Namakan Lakes, education tools, and how they must balance hydropower concerns on both sides of the border. The Rainy-Lake of the Woods Watershed Board conducted multiple order reviews and plans of study over the years. This board invests heavily in public engagement activities.

4.2 Kootenai River White Sturgeon Recovery

Mr. Greg Hoffman (Fisheries Biologist, USACE) provided a presentation of the Ecosystem flows in the Kootenai River downstream of Libby Dam, specifically as it pertains to Kootenai River White Sturgeon. Mr. Hoffman discussed the flow recommendations for the 2020 Sturgeon Operations at Libby Dam and compared changes between pre- and post-Libby river water temperatures and discharge regimes. Mr. Hoffman indicated the current 1938 IJC Kootenay Order pre-dates species reservations and current science, and the desire for an updated Kootenay Lake Rule Curve from a fisheries perspective, especially in the spring, where a raised minimum level would encourage sturgeon re-habilitation in Kootenay Lake.

5. Business Items

5.1 Public Correspondences

Mr. Shaffer reviewed a number of public inquiries directed to the Kootenay Lake Board of Control in the past year. The first was a request from December 2019 to post a safety guide for recovering and returning home after a natural disaster. The response indicated that although potentially useful, corporate marketing material could not be placed on the Board website without suggesting endorsement.

The next correspondence in January 2020 was from Eileen Delahanty Pearkes (City of Nelson Cultural Ambassador 2017) regarding the inclusion of "Grohman Narrows: A Historical, Cultural and Ecological Review" and her book "A River Captured" in the Kootenay Lake Order Information Paper. Ms. Pearkes was told there may still be an opportunity to incorporate some additional information at this stage.

Gregory Hoffman (USACE) sent a letter to Kevin Shaffer (IKLBC U.S. Section Secretary) regarding the current status of a further Grohman Narrows expansion project. Mr. Hoffman indicated there may be further future interest to re-visit the subject from the sturgeon restoration

perspective. Mr. Shaffer responded that BC Hydro had conducted a cost benefit analysis and abandoned the effort due to lack of public interest.

Mr. Andy Shadrack made an inquiry regarding the ownership and operation of the hydrometric gauge at Queens Bay, and whether it plays a role in determining the level in the main portion of Kootenay Lake. The response to Mr. Shadrack from Martin Suchy (Canadian Section Secretary) was that both Water Survey of Canada (WSC) and FortisBC operate hydrometric equipment in the Queens Bay gauge house, and how the IJC Rule Curve is tied to the Queens bay gauge.

The last correspondence, also from Mr. Shadrack was not directed specifically to the Board; however, members of the Kootenay Board were cc'd in a correspondence to the BC Minister of the Crown (Michelle Mungall) regarding some possibly illegal shoreline disturbance and land accretion near Fletcher Creek.

5.2 Review of Work Plan Items

The Board reviewed the current 2019-2020 Kootenay Board Work Plan. The document was updated as required, with focus on the Corra Linn spillway gate replacement project, the Kootenay Lake information paper, updates on the visualization tool, monitoring any regional climate change impact assessments and generally to stay abreast of current climate research. Mr. Shaffer indicated these revised efforts and priorities would be incorporated into a new 2020-2021 Work Plan, and would be distributed to the Board electronically when completed.

5.3 Kootenay Basin – Information Paper

At the request of the Commission in 2018, the Kootenay Board has begun the process of gathering regional information with implications on transboundary water issues in the Kootenay Basin. The Board plans to coalesce the information into an information paper describing current and potential future transboundary water issues on Kootenay Lake, including topics within and outside of the Board's mandate. The intent is for the Board to use the information to communicate a position to the Commission on whether any updates are recommended for the Kootenay Lake Order.

In September 2019, the U.S. Army Corps of Engineers contracted with a consultant to support the preparation of the information paper, which was expected to be completed in fall 2020. The Board along with Fortis BC and BC Hydro were given draft versions of the report for comments and edits. The main objectives of the paper were to look at information pertaining to: 1) the IJC Rule Curve; 2) Flood Management; 3) Climate Change; and 4) Ecosystem Interests. The paper provides a table of current information gaps and identifies potential future studies that would aid the Board in making a recommendation on whether a review of the Order is warranted.

Mr. Shaffer indicated the next draft of the paper was recently completed, and that it would be distributed to the Board in the near future. However, Colonel Bullock also indicated the paper is still undergoing internal USACE review and cannot be released to the public, asked which concerns are most important to investigate at this time, but questioned whether the Board should recommend further studies. Mr. Hutchinson questioned the practical application of adaptive management in the modernized Columbia River Treaty (CRT) and how biological implications would be incorporated into an updated Kootenay Order. Ms. Kong indicated she is a Canadian Member of the CRT Operating Committee, and that any CRT modernization is not likely to affect Duncan Dam operations since it is not constrained by CRT operations, and Libby

Dam already considers fish habitat considerations in its operations. The Arrow Lakes dams operate in a manner to compensate any Duncan Dam shortfalls, but that Kootenay Lake operations do not have much flexibility to operate with multiple objectives. A previous BC Hydro Grohman Narrows study determined that flood onset begins at 1752 feet on Kootenay Lake, while flood risks begin at 1755 feet. Therefore, Kootenay Lake operations must move more water than potentially necessary prior to the commencement of freshet to limit flood risks.

5.4 Grohman Narrows Visualization Tool

Mr. Suchy updated the Board on the status of the Kootenay Lake visualization tool, which is listed in the current work plan. It would be a user-friendly interactive visualization tool to help communicate to the public and stakeholders the drivers and seasonality of Kootenay Lake water levels, the constraints of the International Joint Commission (IJC) 1938 Order of Approval rule curve, along with other overlapping demands. Board secretaries submitted a funding proposal to the IJC International Watershed Initiative (IWI) in the spring, which was accepted subject to a number of conditions and recommendations. The IJC sought confirmation that BC Hydro is willing to share their Grohman Narrows routing model as an in-kind contribution. That a steering committee including Canadian and U.S. members with no scientific background be formed to ensure ease of use by all members of the public. Third, include a lessons learned section in the project summary report. And finally, to provide press releases to promote the tool's purpose and use. IJC recommendations included an indicator as to whether Grohman Narrows or Corra Linn are in control of lake outflow, and considerations on how the tool could be updated with climate change data.

Mr. Suchy indicated that Board Secretaries had been in touch with BC Hydro and their preferred modelling contractor who was familiar with their routing model, but that the IJC needed to inquire about any such sole source contracts.

6. Round Table

Mr. Hutchinson (Canadian co-chair) inquired with FortisBC whether past concerns about the location of the Nelson gauge land tenure were still an issue. Ms. Price indicated there are no longer any immediate concerns about the Nelson gauge.

Canadian Engineering Advisor (Wayne Jenkinson) questioned the Board whether the information paper findings would be presented to the Commissioners during the upcoming Ottawa fall appearances, and that Commissioners would be very much interested to discuss the findings. Colonel Bullock indicated that non-controversial findings would be presentable, but that any recommendations are not yet ready for release. Colonel Bullock suggested the Board should target biological fish studies for future work.

Mr. Blasch indicated that economics are a significant component of the review issue. The current Order is outdated, it has not kept up with current values, but the cost to revitalize ecological factors would be hundreds of millions of dollars, like the restoration work taking place on the Kootenai River. What are the minimum and best case scenario ecological requirement, and to seek funding for ecological and social economic studies. Mr. Jenkinson indicated there are two primary funding sources for such studies. First, the IWI program, but these funds are limited to help answer small questions, and that tasks must be within the Boards mandate. The

second avenue is much longer and requires reference letters from both federal governments and binational approval.

Mr. Colosimo (IJC U.S. Section Advisor) indicated it would be very useful for Commissioners to see the findings, but they will also want to hear about scientifically defensible study scopes and expected timelines.

The Board concluded that aside from finalizing the paper, any report to Commissioners should also include a potential study scope (focus on information gaps: basin climate change implications, social, economic, and ecological factors), timelines, and estimated costs.

7. Preparation for Public Meeting

Colonel Bullock reviewed the agenda and presentation planned for the evening virtual public meeting.

8. Adjourn

Colonel Bullock adjourned the meeting on schedule.