2022 Public Meeting Minutes

International Kootenay Lake Board of Control (IKLBC)

Wednesday, October 5, 2022
7:00 to 8:30 PM

In-Person Attendance: Kootenai River Inn Casino, 7169 Plaza Street, Bonners Ferry, Idaho
Virtual Attendance: GoTo Webinar

Attendance

	Canada	United States
Chair	Dave Hutchinson	Col. Alexander Bullock (host)
Members	Ted White	Roy Bartholomay
Secretariat	Martin Suchy	Sonja Michelsen
IJC Commissioners		
IJC Staff	Rob Caldwell	John Allis Adam Greely
Guests	Evan Friesenhan (ECCC)	

1. **Welcome, Introductions, Review of the Agenda**

Col. Alexander Bullock (US Section Chair) opened the meeting at 7:00 pm and provided some welcoming remarks. He described the setup of the physical and virtual meeting rooms, how to use the GoTo Webinar platform, and how the various attendees can ask their questions during the Question and Comment period. Col. Bullock then reviewed the meeting agenda, there were no changes. There were 4 in-person attendees and 8 virtual attendees were present for the meeting, excluding the guests and representatives from the Applicant (Fortis BC) or the International Joint Commission.

2. **International Joint Commission and Kootenay Lake Order**

Col. Bullock provided an overview of the International Joint Commission, and its composition, framework and responsibilities. He described the duties of the Kootenay Board, outlined the history of the Kootenay Lake Order of Approval, and referenced the geographic area of the

Kootenay Basin. Col. Bullock detailed the main provisions of the Order, including the historical dredging of Grohman Narrows, and explained the significance of Grohman Narrows control on Kootenay Lake levels vs. Corra Linn Dam control, which reduced peak lake levels on Kootenay Lake. Col. Alexander Bullock also described the repayment of additional pumping costs to farmers in Idaho. Col. Alexander Bullock outlined rule curve's minimum and maximum lake elevations and discussed the associated seasonal and economic importance. He also outlined IKLBC's set of duties.

Basin Hydrology and Compliance Summary 2022

Sonja Michelsen (US Section Secretary) reviewed the Applicant's IJC rule curve compliance and provided a 2022 hydrology year-in-review. Kootenay Lake took longer to meet its minimum level this spring, reaching a low of 1,738.60 feet on April 25 with Corra Linn as the main control point. On April 1 the Order sets the rule curve's maximum elevation to 1,739.32 feet, as measured at Queen's Bay. At the time, Kootenay Lake levels were in exceedance of this maximum by approximately 0.4 feet due to higher inflows. However, Grohman Narrows was the main control point for lake outflow so this was not determined to be a rule curve violation. The Spring Rise was declared on April 27 at a lake elevation of 1,738.73 feet, triggering the rule curve's increase for the freshet period as per the lowering formula. Kootenay Lake remained below the rule curve for the entirety of the freshet, reaching a maximum level of 1,751.62 feet on June 15. This was higher than the historical average, due in part to the high inflows that were seen in early to mid-June. Except for a couple days, Grohman Narrows was in control of lake outflows during this time. The lake has continued to remain below the IJC rule curve for the remainder of the year up to the present day.

Snowpack in the west portion of the Kootenay Basin was above average throughout most of the 2022 water year while that in the east was near or below average. Overall, the Kootenay Basin snowpack was above average in Canada, with the SWE ranging from 101 to 130 % of normal throughout the winter and early spring period. Thanks to a cold, wet spring, in much of the basin the snowpack remained much later than usual into the summer months, with the snowpack sitting at around 170 % of normal on June 1. 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 could happen because of intense heatwaves, and/or rain on snowmelt events. A rainy June and melting of the large, lingering snowpack contributed to the above average peak in Kootenay Lake level and increased river discharges during the summer months. Despite this, the basin was spared from any major flooding.

Ms. Michelsen presented an updated plot of historical Kootenay Lake maximum and minimum levels before and after the construction of Duncan and Libby Dams. She 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.

Commented [W(1)]: Ms or Mrs?

Commented [A(2R1)]: The meeting notice online has Ms. (2022)

Finally, Ms. Michelsen reviewed the operations of Libby and Duncan Dams. Lake Koocanusa was drafted over the winter to prepare for the flood season, reaching a minimum elevation of 2,363.5 feet on March 1. Releases from Libby Dam were relatively high during this period in order to lower the reservoir. Sturgeon operations were conducted from mid-May to mid-June, with peak outflow through Libby at around 25 kcfs. Inflow to Lake Koocanusa peaked at 81.8

kcfs on June 13 and the lake reached a maximum elevation of 2,454.3 feet on August 5. This represents a successful refill operation for Lake Koocanusa in 2022. Duncan Reservoir was also drafted during the winter and spring, and reached a minimum elevation of 1,795.9 feet on May 27. Inflows peaked on June 23 at 17.3 kcfs and the reservoir reached its maximum elevation on August 10 at 1,891.2 feet.

3. Board Activities

Col. Bullock presented an update on the Kootenay Order of Approval review. The IJC had requested that the Board undertake a review of the 1938 Order and make recommendations as to whether it should be revised or renewed. The review was motivated by the age of the Order, difficulties in meeting the specified drawdown rule curve in times of high flow, the fact that the Order pre-dates the Columbia River Treaty and treaty dams and does not account for their resulting changes in hydrology, the lack of ecosystem and habitat protections, and the potential for changes in basin hydrology due to climate change. The first step was to complete a literature review to determine the current and future issues surrounding Kootenay Lake water management. These details were summarized in an information paper that has been submitted to the IJC. The paper will become available to the public once it has passed the approval process. The next step includes a determination of additional studies to fill any gaps in information identified during the literature review. A Climate Change Vulnerability Assessment of Kootenay Lake is currently being scoped, and will help to understand the ways in which the lake is sensitive to a changing climate.

Next, the Colonel discussed the possibility of expanding the Kootenay Lake Board to include additional members. Although the scope of the Board in overseeing the 1938 Order is narrow, a potential expansion would provide added experience and perspective to help the Board achieve its mandate. Factors for consideration include the candidate being based locally within the basin, having unbiased expertise, being well-connected and informed, serving the public interest, and benefitting both countries. As such, successful candidates could be from the basin's First Nations and Tribes, public members, municipal and regional governments, or non-governmental organizations or associations.

Finally, Martin Suchy (Canadian Section Secretary) provided a demonstration of the Kootenay Lake Visualization Tool. The tool is an interactive web app being developed as an International Watershed Initiative project to visualize how Kootenay Lake levels are controlled and what determines the lake's maximum possible outflow. The tool will help the lake's residents understand why flooding can occur and the limitations of the current infrastructure in preventing such events. Addition information provided with this tool include water levels required for salmon spawning. The tool is in its preliminary stage but a prototype has been developed for demonstration purposes. Once completed and approved, the final version will be publicly available.

Col. Alexander Bullock wrapped up the formal presentation by emphasizing a focus on improving communication surrounding the watershed and conditions of Kootenay Lake.

4. Questions and Comments from Public

Question 1 (Jacqueline, online): In your literature review have you included studies of the science of attribution when speaking of snowmelts, etcetera? Is there a recognition that there is a synchronization effect due to the increasing industrial cut blocks.

IKLBC: The information paper does not go into that much detail. It does acknowledge that it is important to run analyses that consider the changes in areas and terrain around the lake in which people live [not specifically industrial blocks]. Noting that the land and associated requirements may have changed since 1938. The information paper outlines that these factors will have to examined before changing the rule curve. However, the paper does not include a conducted analysis.

Question 2 (in person): If the treaty expires in 2024, will there be any wider impacts to the operation of the watershed and the dam while the countries work on a new treaty?

IKLBC: The board is isolated from the treaty. Creates a problem resolution after negotiations. Senior political staff from the US Department of State Global affairs and Canada are in Treaty negotiations. The information concerning the negotiations and discussions is privileged, and not available to the public yet. No speculation was given.

Question 3 (in person): The agreement that's made in 1938 on the dam of operation, is there a time limit? Was it in perpetuity? What was the agreement?

IKLBC: Some of the other boards have time limits of 25 years that require a review of their order. This does not mean they implement any changes. The Kootenay Lake Order of 1938 did not include a clause to do so. The 1938 agreement was written to balance power production desires with agricultural requirements.

Question 4 (Kayla, online): Can you explain why Kootenay Lake levels cannot be lowered in late September or early October to prevent shoal spawning kokanee from spawning at high elevations where reds will be dewatered in the spring?

IKLBC: FortisBC operates the late fall lake levels in a good will agreement to support the salmon. This happens once every three years. It is ultimately up to the applicant to decide where to hold the lake levels lower all the time. They do need to balance power production by refilling the lake to the winter operating level with the salmon spawning.

Question 5 (Martin Carter, online): When do you foresee reaching a decision about expanding the size of the board? And, if a non-indigenous member of the public would want to express interest in joining, who would one contact? Lastly, will there be renumeration?

IKLBC: Board secretaries should be contacted for expressing interest with board participation. There is no renumeration, however costs associated with travel to the annual board and semi-annual meetings will be covered.

Question 6 (in person): What is the probability that Grohman Narrows gets additional dredging as part of a new Order? As there is a challenge of passing enough water through GN.

IKLBC:
US: That is something that needs to be looked at as the dredging (completed in 1940) did change the system. The US side is less familiar with how much is available to be dredged.

CAN: The first step is to look at the changing climate over the next several decades, (i.e. runoff timing). How the water gets managed in the future is more dependent on those factors. Grohman Narrows is important too, and will be a part of lake level management, but is not the primary concern. Any changes in Grohman Narrows will come after the analysis of changing hydrology.

Question 7 (online): Request to review slide 25 due to poor/missing audio for the online participants.

IKLBC: Showed slide 25 (1938 Order of Approval Review and Information Paper Update). Comment: The board is considering reviewing the 1938 Order of Approval, taking that responsibility very seriously. There haven't been many issues with the 84-year-old order, however a lot has changed since then. Topographical differences, the creation of the Columbia River Treaty, new dam constructions, population increases, and changes in the climate are all factors that should be considered. The 1938 order also doesn't include ecosystem and habitat protection requirements. What has happened to date is the creation of the information paper which outlines what will need to be studied in advance of an order review. A Climate change vulnerability assessment is also planned. This study is expected to determine what may change regarding the local hydrology in the next 30 years and will potentially recommend an order review.

Question 8 (Mark Andre, online): Are there plans to standardize and update the elevation datums across the borders so that elevations recorded and reported are comparable with current datum? Current levels are getting outdated.

IKLBC: Yes, Canada has updated vertical datum to the Canadian Geodetic Vertical Datum 2013. The US is planning to start homogenizing to the same vertical datum in 2023.

Question 9 (Ramona, online): The map indicated shoal spawner locations. Can you talk about the management of shoal spawning locations?

IKLBC: The hydrology charts show the level of water required and in what season but not specific locations. In terms of the data on the visualization tool, the release is hopefully in early October. The tool's functionality with the salmon was more of a proof of concept. Feedback is encouraged so that the presented visualization tool is in its truest format.

Question 10 (in person): Since the implementation of Var Q for the past 27 years, has it made it more difficult for the management of the lake level following the Rule Curve.

IKLBC: Var Q operations provide more flexibility and control on the US side while maintaining the rule curve. Nothing has been brought up to imply that the Var Q operations impacts downstream interests. No compliance issues with the Kootenay Lake Order. The exceedances that have occurred are not tied to the Var Q operations.

Question 11 (David, in person): When Grohman Narrows was originally dredged, how did they determine how much to remove? It appears that the dredging of 1938 worked well for a long time, but with the implantation of more man-made structures and increasing flows at un-natural times of the year (i.e.to facilitate fish flushes), will Grohman Narrows need to be dredged more?

> **IKLBC:** The people that originally designed the GN dredging were doing so to make and maximize power output. At the time there was no consideration on what's best for the fish. Recent studies conducted by BC Hydro focused on what additional cuts may be required but didn't look at the ecological benefits of GN dredging. The outcome of those studies showed that capital costs vs power production is pretty much net zero. There is also some local opposition to dredging as it may impact the local ecology and people's properties downstream. Dredging today is more complicated and there are new competing issues that need to be considered.

Question 12 (In person): Do you limit the amount of pumping compensation to what was originally stated in the Order. What process would have to take place for that amount to be increased? Why was not a minimum employed in 1938?

> **IKLBC:** It is set by the order of 1938, so in essence yes, it is limited. Originally set to $3,000, it is now $30,000 because of an agreement with FortisBC.

Closing Comment

Col. Alexander Bullock thanked the public for coming out and engaging with the board. He explained how to reach out to the board if there are any other questions or comments. The meeting was adjourned at 8:13 pm.