

INTERNATIONAL OSOYOOS LAKE BOARD OF CONTROL
Conference Call
Tuesday September 7, 2021 at 1:00 PM – 3:00 PM PDT

IJC COMMISSIONERS

Pierre Beland	Canadian Commissioner - Chair
Henry Lickers	Canadian Commissioner
Rob Sisson	U.S. Commissioner

BOARD MEMBERS

Dave Hutchinson	Chair, Canadian Section
Cindi Barton	Chair, U.S. Section
Ted White	Board Member, Canadian Section
Sue McKortoff	Board Member, Canadian Section
Brian Symonds	Board Member, Canadian Section
Anna Warwick Sears	Board Member, Canadian Section
John Arterburn	Board Member, U.S. Section
Col. Xander Bullock (absent)	Board Member, U.S. Section
Kris Kauffman (absent)	Board Member, U.S. Section
Arnie Marchand	Board Member, U.S. Section

BOARD STAFF and BOARD MEMBER ASSISTANTS

Andy Gendaszek	Secretary, U.S. Section
Martin Suchy	Secretary, Canadian Section
Major Cherise Lao	Representative for Colonel Xander Bullock
Ken Brettman	Technical Assistant to Colonel Xander Bullock

IJC REPRESENTATIVES

Rob Caldwell	Engineering Advisor, Canadian Section
Adam Greely	Senior Advisor, U.S. Section

Introductions

The meeting began at 1:04 pm and was led by Cindi Barton (U.S. Section Chair). Three IJC Commissioners were in present for the call.

1. Approval of the Agenda

The meeting agenda was accepted with no changes required.

2. Approval of June Conference Call Minutes

The Board reviewed the June 8, 2021 conference call minutes. Sue McKortoff (Canadian Section Member) indicated she was not in attendance for the June call, which was corrected in the minutes. Anna Warwick Sears moved to approve the minutes, seconded by Brian Symonds.

3. Hydrologic Conditions and Climate

Martin Suchy (Canadian Section Secretary) reviewed the weather and hydrological conditions for the past 3 months in the Similkameen and Okanagan Basins, final Order of Approval drought criteria values and drought conditions, and the fall and winter climate forecast.

Drought Monitor

Board members were reminded of the “heat dome” and record high temperatures and low precipitation within the Okanagan/Okanogan and Similkameen basins in June and July. According to Environment and Climate Change Canada (ECCC), Penticton and Kelowna recorded historical high mean daily temperatures in June, while Kelowna experienced the 5th driest month for the period of record (1969 to present). The BC Provincial drought portal reported “Extreme” and “Severe” drought conditions in the Okanagan and Similkameen basins, respectively, while the US Drought Monitor reported similar conditions south of the border.

Hydrology

The Order of Approval Condition 8 Drought criteria final values for the period April 1 to July 31 were reported. Condition 8a (Similkameen flow volume) and Condition 8bi (Okanagan Lake net inflow) drought criteria were not met. The final Similkameen River July 31 cumulative flow volume was 1,321,000 ac-feet, above the 1,000,000 acre-feet threshold. The September 6th Similkameen River discharge was 288 cfs (8.2 cms), which is below the historical daily mean.

The final Okanagan Lake net inflow value for July 31 was 244,000 acre-feet, above the 195,000 acre-feet threshold. The Condition 8bii (Okanagan lake level) did meet the drought criteria; however, because the Similkameen criteria were not met, the Board did not declare a drought, while the applicant did not request a Condition 10 variance.

Okanagan Lake level has been declining since it peaked at 1,122.25 feet (342.06 m) on June 18, well below the “normal” full pool level of 1,123.62 feet. The September 6th lake level was 1,120.86 feet (341.64 m), near the 12th percentile historical mean daily level.

Osoyoos Lake levels never experienced a freshet peak in 2021, instead remained below the Condition 7 allowable summer range elevation of 912.0 feet. The lake level peaked three times between July 11th and July 30th at 911.87 feet (277.94 m), then gradually decreased throughout August and were 911.57 feet (277.85 m) on September 6th.

The IJC Order discharge capacity demonstration, whereby the dam has capacity of at least 2,500 cfs when the elevation of Osoyoos Lake is 913.0 feet and there is no appreciable backwater effect from the Similkameen River was not able to be tested in 2021, as a lake elevation of 913.0 feet was never attained, neither was a discharge of 2,500 cfs reaches for the Okanogan River at Oroville (USGS 12439500) hydrometric gage.

Outlook

The short-term weather forecast at the Penticton Airport for early September called for minimal precipitation, daytime temperatures 17-25 °C and nights of 5-13 °C. The long-term seasonal outlook indicates a ~60% of ENSO-neutral conditions continuing to the end of summer, then La Nina possibly emerging during Fall season and ~70% chance during the winter. During La Nina event, coastal waters off BC/WA tend to be cooler than normal. The seasonal weather forecasts from ECCC indicate an increased likelihood of warmer than normal Sept-Oct-Nov temperatures in southern BC, while the NOAA probabilistic forecast is for neutral conditions. Precipitation probability is near and above-normal for the period of Sept-Oct-Nov, for the ECCC and NOAA forecast, respectively.

4. Osoyoos Lake Water Science Forum

Anna Warwick Sears (Canadian Section Member) provided an update for the Osoyoos Lake Water Science Forum (OLWSF), which scheduled to take place April 28-30, 2022 as a face-to-face conference/workshop in Osoyoos, BC. There were no summer updates following the suspension of committee meetings when the forum was postponed from Fall 2021, however, committee meetings will resume in September/October again. Brian Guy is stepping back for personal reasons from his roll as the Canadian co-chair for the program committee, with Anna Warwick Sears stepping in. Major items on the agenda will be to address the need for additional U.S. content, sponsorship/funding requests to engineering firms, and finalizing the Indigenous facilitation contract.

5. Phase II Model Integration and Climate Change Update

The IJC is working on preparing the contract with NHC to complete the Phase II model integration. NHC project lead Joel Trubilowicz is looking for data availability, and the project will likely get delayed while the lidar bathymetric project proceeds first. It is hoped that preliminary results will be available at the Osoyoos Lake Water Science Forum in April 2022.

6. Bathymetry Project

This past summer, the Board submitted a proposal to the IWI program to pay for an airborne Lidar bathymetric and shoreline survey of the US portion of Osoyoos Lake, the Okanogan River main stem from the Osoyoos Lake outlet to the confluence with the Similkameen River, the Similkameen River up to Enloe Dam, and the cross-channel. The work will be completed Sept 9-10 as an add-on to a Public Safety Canada funded near-shore bathymetry project from Osoyoos Lake to Kalamalka Lake near Vernon. The project is expected to be completed by March 2022. The collection of US data is critical for the already funded Phase II model integration and climate change analysis project.

The Canadian co-chair (Mr. Hutchinson) inquired whether it will be possible to strip out all the near-shore infrastructure? Board member Dr. Warwick Sears indicated the data will integrate both terrestrial and bathymetric lidar and should be able to do so. She further added that the data will be available to various consumers, and will be beneficial to flood risk mapping. The U.S. co-chair (Dr. Barton) asked whether a link to the data will be available on the Osoyoos Board website? To which Dr. Warwick Sears indicated that provincial, state and federal agencies have data portals, but that a repository has yet to be decided in this case.

7. Ice Jam Proposal

John Arterburn (U.S. member) presented an idea at the June quarterly conference call to submit an IWI proposal to study the occurrence of ice jams at the outlet of Osoyoos Lake. Ice jams at the lake outflow cause a rise in lake levels, while simultaneously greatly reducing flows in the downstream reach which can subject fish eggs to dewatering and freezing temperatures in winter. Mr. Arterburn asked whether the Board was interested in proceeding with a submission for the Sept 30 deadline. The study could investigate the frequency and correlation of low winter lake outflows, wind direction, and temperatures. The study could also evaluate potential solutions to reduce the frequency and severity of occurrences.

Andrew Gendaszek added that a study could evaluate the historical account of events, meteorological conditions that precipitated the occurrences, then evaluate engineering solutions to mitigate the condition. Rob Caldwell (Canadian IJC Engineering Advisor) indicated he has experience with similar issues on the Great Lakes, and that the USACE maintains ice booms on the Niagara River. This study could determine the severity of the issue, and evaluate how other regions addressed the problem.

Brian Symonds (Canadian member) indicated that strong winter northerly winds pushing frazil ice to the lake outlet are likely to blame. Mr. Symonds suggested to that someone (possibly Jay O’Brian – Zosel Dam operator) take photographic evidence if the conditions develops. Commissioner Lickers added that the Board may want to also determine if the events bring any beneficial outcomes. Dave Hutchinson (Canadian co-chair) suggested the study could also evaluate future events under climate change scenarios which cause ice jam conditions. Mr. Arterburn indicated the lake previously had more occurrences of solid ice, but they are less frequent with climate change. Traditional Tribe and First Nations history could also

8. IJC Dynamic Map Project

Andrew Gendaszek (U.S. Section Secretary) presented to the Board the results from the IJC St. Croix watershed pilot dynamic map. Martin Suchy (Canadian Section Secretary) then added that relevant Okana(o)gan and Similkameen hydrometric stations and snow pillow stations would be added to the map. Rob Caldwell (Canadian Engineering Advisor) then showed an early draft of the Osoyoos dynamic map. Brian Symonds (Canadian member) added that it would be valuable to also illustrate the magnitude of flows at critical stations, and not just to know the station locations.

9. Fall 2021 Board and Public Meetings

The virtual Annual Board meeting is scheduled for Thursday October 14th (12:30-3:30 pm PDT), and will be done using the MS Teams virtual platform, while the Annual public meeting will be held using the GoToWebinar platform and is scheduled for Thursday October 14th (6:30-8:00 pm PDT). Secretaries are working to make newspaper and social media notices in both countries. Draft agenda’s for the Board and Public meeting were circulated with Board member for review and comment. Brian Symonds (Canadian member) suggested “the Applicant” (WADOE) be added to the public meeting.

10. Ottawa Fall Semi-Annual Appearances

Appearances are scheduled for October 19-21, 2021. Secretaries will prepare the presentation, which will be delivered by Dave Hutchinson (Canadian Section co-chair).

11. Round Table

John Arterburn (U.S. member), indicated that new pit tag detectors (sensors) on the Zosel Dam apron were installed this past summer. In addition, all fish recently dealt with low flow conditions and survived.

Cindi Barton (U.S. Section co-chair) indicated that USGS water quality monitoring staff were working on the Similkameen River recently as part of some transboundary monitoring work and continued evaluation of sediments in Enloe Dam.