

MINUTES

International Osoyoos Lake Board of Control Public Meeting

Sonora Community Centre
Multipurpose Room 1
8505 68th Avenue
Osoyoos, BC

Tuesday October 20, 2009
7:30 PM

Attendance

	United States	Canada
Chairs	Dr. Cynthia Barton	Kirk Johnstone (host)
Members	Col. Anthony Wright Kris Kauffman	Glen Davidson Brian Symonds
Secretaries	Robert Kimbrough	Daniel Millar
Guests	Commissioners: Lyall Knott (Canada) Tom McAuley (Canadian Section, IJC), Dr. Mark Colosimo (US Section IJC), Larry Merkle (USACE), Ray Newkirk (WA Dept of Ecology), Amy Reese (USACE), Brian Guy (Summit Environmental), Michael Barber (Washington State University), Lai Tran (Washington State University), Marc Beutel (Washington State University), Michael Laitta (IJC). <i>And from the community...</i> David Boan (Osoyoos), Carol Boan (Osoyoos), Nelson Jatel (Okanagan Basin Water Board, Kelowna), Al Schultz, Yvonne Schultz, John Moran (Oroville), Mike Cantwell (Osoyoos Lake Association, Oroville), Mark Pendergraft (Director, Regional District Okanagan Similkameen), Brad Elenko (Osoyoos), Lionel Dallas, Diana Thomas (Assistant to MLA John Slater), Bob Sherwood (Osoyoos), Janis St. Louis (Osoyoos), Melanie Sullivan (Osoyoos), Colin White (Osoyoos), Karen White (Osoyoos), Paul Everest (Osoyoos Times), Stan Porter (Oroville), Tamara Porter (Oroville), Joe Falkoski, Ivo Tyl (Osoyoos),	

Minutes

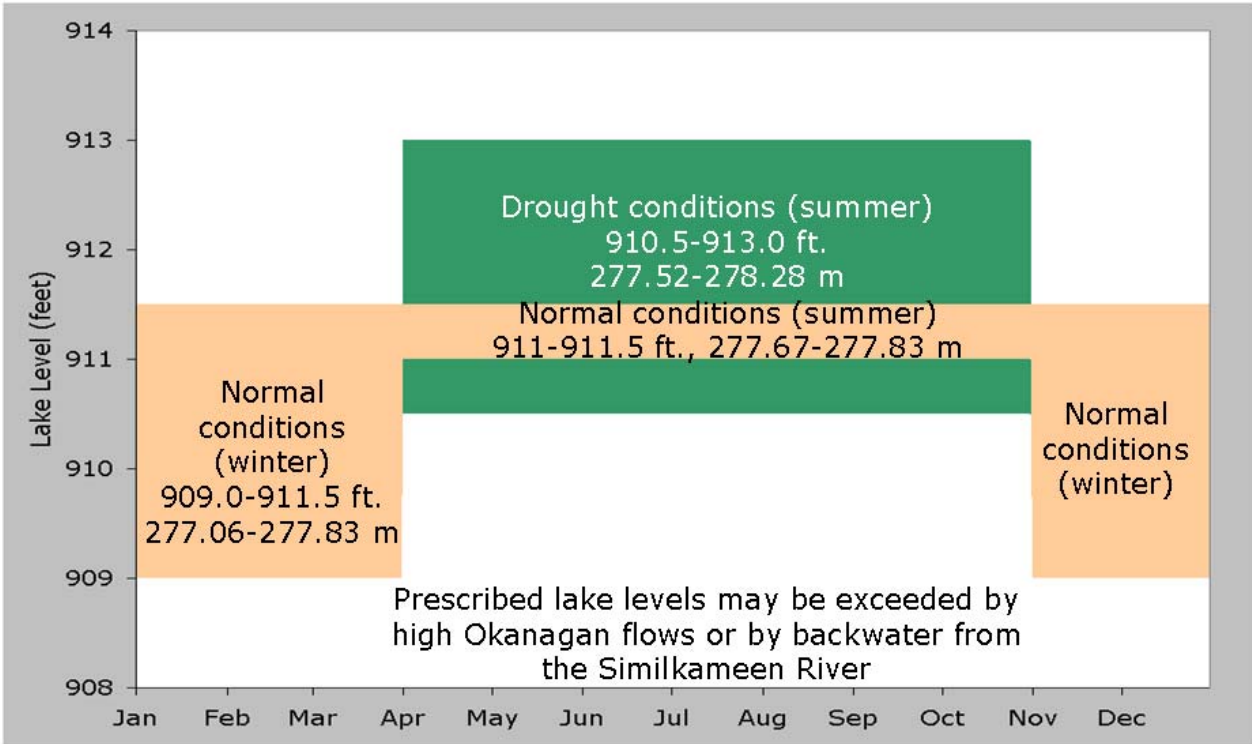
Welcome and Introductions

Chair Kirk Johnstone welcomed guests. With a short presentation, he reviewed the evening's agenda, introduced the Board members and explained the role of the International Joint Commission and the Board.

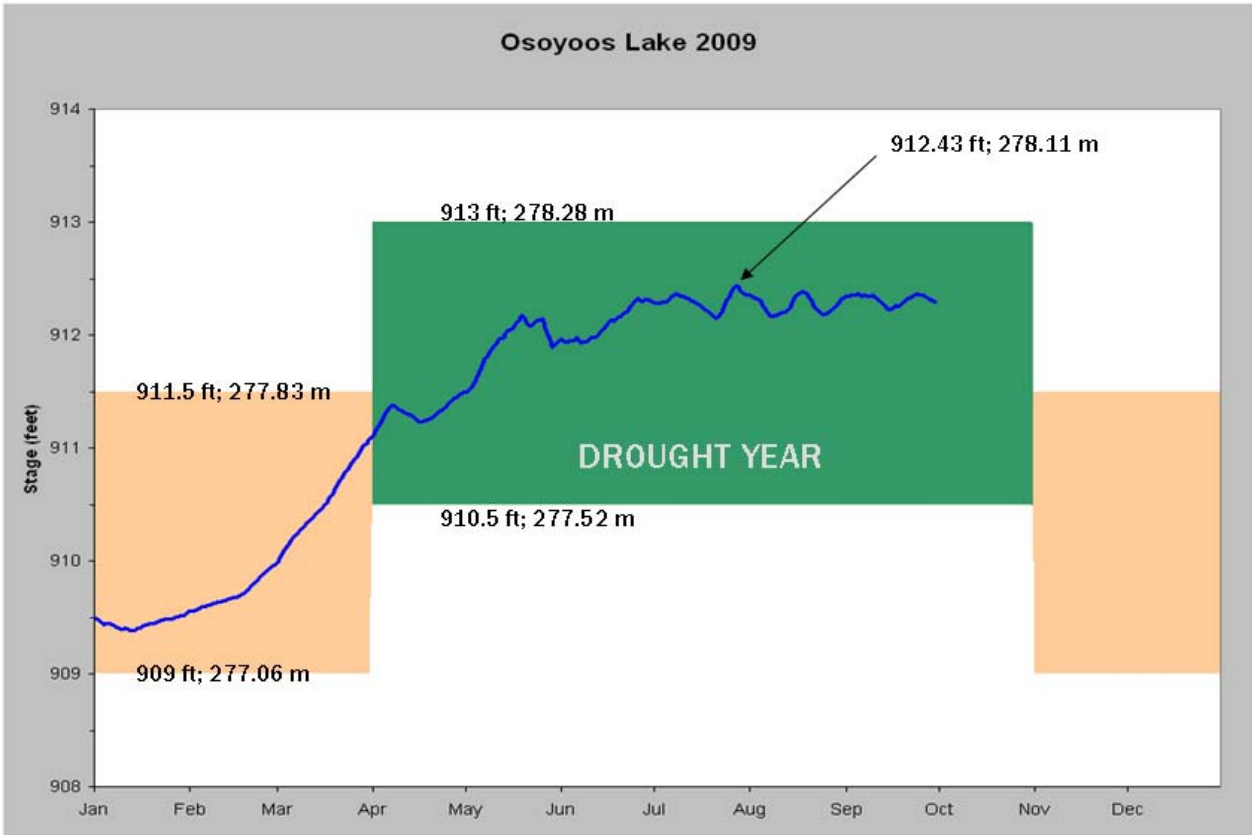
Overview of the Osoyoos Lake Orders and Lake Level Management in 2009

Board Secretary Daniel Millar gave a short presentation outlining the sections of the Osoyoos Order related to lake levels and showing a lake level hydrograph for 2009. The year was deemed a drought year, with all three drought criteria in the 1982 Order met. The water level was managed throughout the year by the State of Washington within the range specified in the Order.

**Osoyoos Lake Water Level Range
as Stipulated in the IJC's 1982 Order**



**Osoyoos Lake Water Level
in 2009 (Drought Year)**



Okanagan Basin Hydrologic Conditions

Brian Symonds presented the hydrologic conditions in the basin over the past year. He showed snow pillow data that indicated average to below average mountain snow packs last year. This was followed by a dry summer with low inflow to Okanagan Lake. All three drought criteria were met and subsequently summer lake levels in Osoyoos Lake were held higher than normal to make water available for irrigation.

The drought criteria and 2009 values were as follows: April to July flow of the Similkameen less than on million acre-feet (808,400 ac-ft); April to July inflow to Okanagan Lake less than 195,000 acre-feet (148,571 ac-ft); and, level of Okanagan Lake in June or July fails to reach 1,122.8 feet (1,122.4).

Operation of Zosel Dam

Ray Newkirk described the 2009 operation of Zosel Dam near the outlet of the lake as smooth. He noted that the Province and the State had agreed to keep the level of the lake below 912.5 feet during the drought period—in exchange for an equivalent volume of water from Okanagan Lake used to flush smolts downstream in May—in order to prevent aggrieving Osoyoos Lake users and lakeside residents with high water levels.

Mr. Newkirk reported maximum and minimum lake levels and outflows in 2009: 912.43 feet on July 28, and 909.38 feet on January 13; 517 cubic feet per second on May 27, and 100 cubic feet per second on March 17.

Osoyoos Lake Studies

Brian Guy and associates from Summit Environmental Consultants Ltd. are working on studies 7 & 8 in advance of the 2013 renewal of the IJC's Osoyoos Lake Orders. Michael Barber and associates from Washington State University are undertaking studies 1, 4 & 5. They each gave an overview of their study approaches.

Summit Environmental was contracted to complete the following: study 7, independent review of flooding on Osoyoos Lake and development of an outreach program; and, study 8, assessment of present method of confirming channel capacity at 2,500 cfs and recommendations for changes. The review includes compilation of all hydrometric data, analyses of lake level records, identification of the number of years / duration of water levels exceeding 911.5 ft, and assessment of Osoyoos Lake storage. A comprehensive spreadsheet model has been developed to assess high water events since 1988 (present Zosel Dam completion). The model is being used to see if different lake levels could be achieved if Zosel Dam was operated differently. The results of these analyses will provide a basis for public consultation. The assessment of the lake's outlet channel includes compilation of hydrometric data, analysis of channel capacity, review of cross-sectional survey data, and review of hydraulic model output.

Plan of Studies	
1.	Lake levels during drought years
2.	Criteria for declaring drought
3.	Dates for changing lake levels
4.	Effects of the dam on water quality
5.	Including ecosystem requirements in the Order
6.	Impacts of climate change
7.	Factors that govern lake levels during floods
8.	Verifying the capacity of the outlet channel

Washington State University was contracted to complete the following: study 1, assessment of water levels for Osoyoos Lake during drought; study 4, effects of water regulation on water quality in Osoyoos Lake; and study 5, methods for including ecosystem requirements in the new Order. Each study will include the following: a draft report for review and input of the Board and IJC liaisons, a summary of the draft report to be prepared for and presented at a Board public meeting to obtain public feedback, a summary of public feedback received on the draft report, a final technical report incorporating all input, and a brief summary of the final report for the general public.

Questions and Comments from Guests

[Public questions and comments are paraphrased and presented in plain text, followed by the response in *italics*.]

Where is the channel capacity of concern?

The channel capacity is of concern between the lake outlet and Zosel Dam. In this reach, Tonanket Creek enters the Okanogan River. A bar occasionally develops at the creek outlet that can constrict the river.

What was the need for the dam?

The original dam was built by Zosel Lumber to create a pond in which to sort and move logs. Over time, people became accustomed to the controlled water level. The original dilapidated dam was rebuilt in 1988. Water stored in Osoyoos Lake is used primarily for irrigation and recreation.

How was the normal summer water level range (911.0 to 911.5 feet) established?

Prior to the construction of the present Zosel Dam, the International Joint Commission held public hearings, from which the most suitable range of water levels for irrigation and other uses was determined.

912.0 feet is a perfect water level for boat recreation and docks. While some people do not want the water level too high, there are others, like boaters, who do not want it too low.

Lakeside property owners get flooded at 913 feet. The maximum water level on the lake should be 912.5 feet. As it is now, property boundaries are surveyed into the lake. Section 17 of the 1982 Order calls for compensation for persons/property 'injured' by the dam, but no one has been compensated. Only the Osoyoos Indian Band received compensation for this lost property. Holding the lake level below 912.5 feet is appreciated. Hopefully the new Order will be more flexible and be backed by an environmental assessment. Boating, which damages the environment, the shoreline and fish, should be restricted.

(Referring to studies 1, 4, & 5...) The Similkameen River should be part of the solution to problems that affect Osoyoos Lake.

Observations indicate that at water levels 912.2 and above there are erosion problems and other riparian pressures that can be attributed to boat-generated wave action. To keep the water level lower [in drought years], water for US irrigation could be stored on Okanogan Lake rather than Osoyoos Lake.

Osoyoos Lake management is equivalent to going from artificial system to artificial system for artificial reasons. Can we instead use information on the lake's natural regime as a guide to the new Order?

We do consider the natural regime when determining how to manage the lake. However the transformation of the entire basin affects Osoyoos Lake, not just Zosel Dam. The Canadian Okanagan is highly regulated, whereas the Similkameen flows naturally. Any consideration of flooding, for example, must recognize backwater into Osoyoos Lake caused by high Similkameen flows. Such a problem is independent of Zosel Dam. The high water reached on Osoyoos Lake during flooding would not be any different if the dam did not exist. Natural levels on the lake might typically range by two metres instead of one metre, and there could be times of zero outflow. The lake has historically ranged from about 905 to 919 feet.

Isn't the Order and the Board meeting an appropriate venue to discuss water quality? I don't hear much about it.

The present Osoyoos Lake Orders deal only with water levels. The studies being conducted by Dr. Barber and his associates will look into the impacts of lake level management on water quality.

I invite the Board to collaborate on studies with the Okanagan Basin Water Board (OBWB). There is some OBWB work relevant to the Osoyoos studies such the Agriculture and Agri-Foods Canada Okanagan basin models. I am very pleased to see the Osoyoos Board holding this public meeting...an example of good governance.

The Osoyoos Board is quite open to collaborating on studies with the Okanagan Basin Water Board.

It is important for people with docks to know the summer operating regime as soon as possible so that the docks do not need to be moved once set in place.

When drought year operation is declared, a notice is posted on the IJC website and in the local newspaper. The summer regime is not known until at least the first week of April. Even then, water levels are largely dependent on the nature of the season's runoff, including the Similkameen freshet.

How did the Board decide on a water level of 912.3 feet for this drought year.

The maximum water level (under predictable conditions) was adjusted from 913.0 per the Osoyoos Orders to 912.5 feet through a side agreement between BC and Washington. The idea is to keep water levels below the level that frustrates lakeside property owners. It is actually very difficult to manage this lake within a narrow range of water levels. Dam operators try to get close to 912.5 but give themselves a few tenths of a foot to avoid any problems and ensure they do not go over the 912.5.

Would a deeper river channel help alleviate problems such as the temperature-oxygen squeeze and backwater from the Similkameen?

A deeper channel would have negligible benefit for the lake. Washington State (Zosel Dam's operator) and others are experimenting with flushing flows to reduce the temperature-oxygen squeeze in late summer.

Can low water levels in the winter be used to eradicate milfoil? For example, could the lake level be dropped to 904 feet?

The sill of the lake is about 904 feet. It is unclear whether such a drawdown would help. A water level below the milfoil roots under freezing conditions generally kills the plant, but there are associated risks. It would be difficult to refill the lake. Water lines into the lake would freeze.

Ice on the lake seems to attract geese. Their droppings turn the ice black. These droppings subsequently fertilize the milfoil.

I am here representing my own interest as an Osoyoos Lake water front property owner, but I am also here representing many friends and clients who are also Osoyoos Lake water front property owners. Our collective concern is two fold: the high level of Osoyoos Lake during summer months, and the damage to private property that results from natural wave action and wave action created by boats which are on the lake specifically to create big waves for wake boarding; and the loss of land and development rights that occur from the establishment of a "natural boundary" of Osoyoos Lake that is set at an artificially high level based on the actions of the closure of the Zosel Dam to retain water in Osoyoos Lake to mitigate the impacts of a drought through the shortage of water in Osoyoos Lake. Mr. Chairman, would you agree that the current natural boundary being established at an elevation of 913 feet is too high? Would you agree that drought conditions resulting in higher than average levels on Osoyoos Lake are not a common occurrence? Would you agree that the natural boundary of Osoyoos Lake should be somewhere between 911 feet which is the approximate mean lake elevation over all 12 months over the past decade and an elevation of 910.15 which is the mean elevation of Osoyoos Lake during the winter months when the lake level is not manipulated?

The elevation range of the lake may change with the renewed IJC Order in 2013. The Board is unable to address any of these questions concerning the natural boundary of the lake since the surveying of land is a matter of provincial jurisdiction.

Kirk Johnstone noted that the Board had received and discussed two letters from community residents who were unable to attend the meeting.

Adjourn