

**ANNUAL REPORT  
to the  
INTERNATIONAL JOINT COMMISSION  
from the  
INTERNATIONAL OSOYOOS LAKE BOARD OF CONTROL  
for  
CALENDAR YEAR 1994**

**1. ACTIVITIES OF THE BOARD**

The International Osoyoos Lake Board of Control (the Board) was established on February 12, 1986, by the International Joint Commission to carry out the provisions of the Commission Order of Approval dated December 9, 1982, and the Supplementary Order of Approval dated October 17, 1985.

The Board held its annual meeting in Oroville, Washington, on May 17, 1994 and also held a public meeting that day.

**2. OPERATION AND MAINTENANCE OF ZOSEL DAM**

**a. Osoyoos Lake Elevations**

Levels of Osoyoos Lake were controlled by Zosel Dam throughout the year in accordance with criteria specified in the Order of Approval. The authorized range of normal operating elevations, 909.0 to 911.5 feet, is shown by the blue area on appendix I. Criteria for normal operation applied during the 5-month winter period. The grey area on appendix I shows the authorized range of elevations, 910.5 to 913.0 feet, that may be used to provide additional storage from April 1 to October 31, if drought conditions are declared by the Board. For the third consecutive year, drought criteria were applied and the dam was operated during the 7-month summer period under drought conditions.

Recorded lake elevations for 1994 are shown by the blue hydrograph on appendix I. The hydrographs for 1993 and 1992 are shown in green and red, respectively, for comparison.

Data on Osoyoos Lake levels and relevant river flows are summarized in appendix II.

**b. Drought Operation**

On April 1 the projected volume of flow for the Similkameen River at Nighthawk, Washington, for April through July was less than 1.0 million acre-feet. Thus, in accordance with condition 8(a) of the Order, drought conditions existed. Drought conditions continued until October 31 because the recorded volume of flow for this period by the end of July was 885,300 acre-feet.

The Washington State Department of Ecology (the State) was advised by the Board on April 1 that Zosel Dam could be operated in accordance with drought criteria, 910.5 to 913.0 feet, between April 1 and October 31. The Board also asked that the State manage the lake carefully, as some lakefront property owners could be adversely affected by prolonged lake levels above about 912.5 feet.

The State and the British Columbia Ministry of Environment, Lands and Parks (the Ministry) signed a Memorandum of Understanding (MOU) in which they agreed to a variation in the operation of Osoyoos Lake during drought conditions in the summer of 1994. The Ministry agreed to release up to an additional 2,850 acre-feet (1,450 cubic feet per second days) from Okanagan Lake to assist in the downstream migration of juvenile sockeye salmon during May. In return for these additional flows, the State agreed to make the upper target elevation of Osoyoos Lake

during 1994 not greater than 912.5 feet.

The Board notes the following observations:

(i) The special MOU expired at the end of October 1994. It expressly stated that it should not be construed as setting precedents for subsequent years.

(ii) Storage was used, or spilled, in September and October when the lake was lowered from 912.3 feet to 910.6 feet.

**c. Zosel Dam**

The Oroville-Tonasket Irrigation District operated Zosel Dam under the authority of the State of Washington, Department of Ecology. Levels on Osoyoos Lake were maintained for the year in accordance with the Commission's Orders of Approval.

**3. IMPROVEMENTS TO THE OKANOGAN RIVER CHANNEL**

The Board has obtained confirmation from the State regarding the capacities of the Okanogan River channel. Water is able to be moved out of the lake, through the channel, and past the dam at a rate of at least 2,500 cubic feet per second with the lake at elevation 913.0 and no appreciable backwater effect from the Similkameen River.

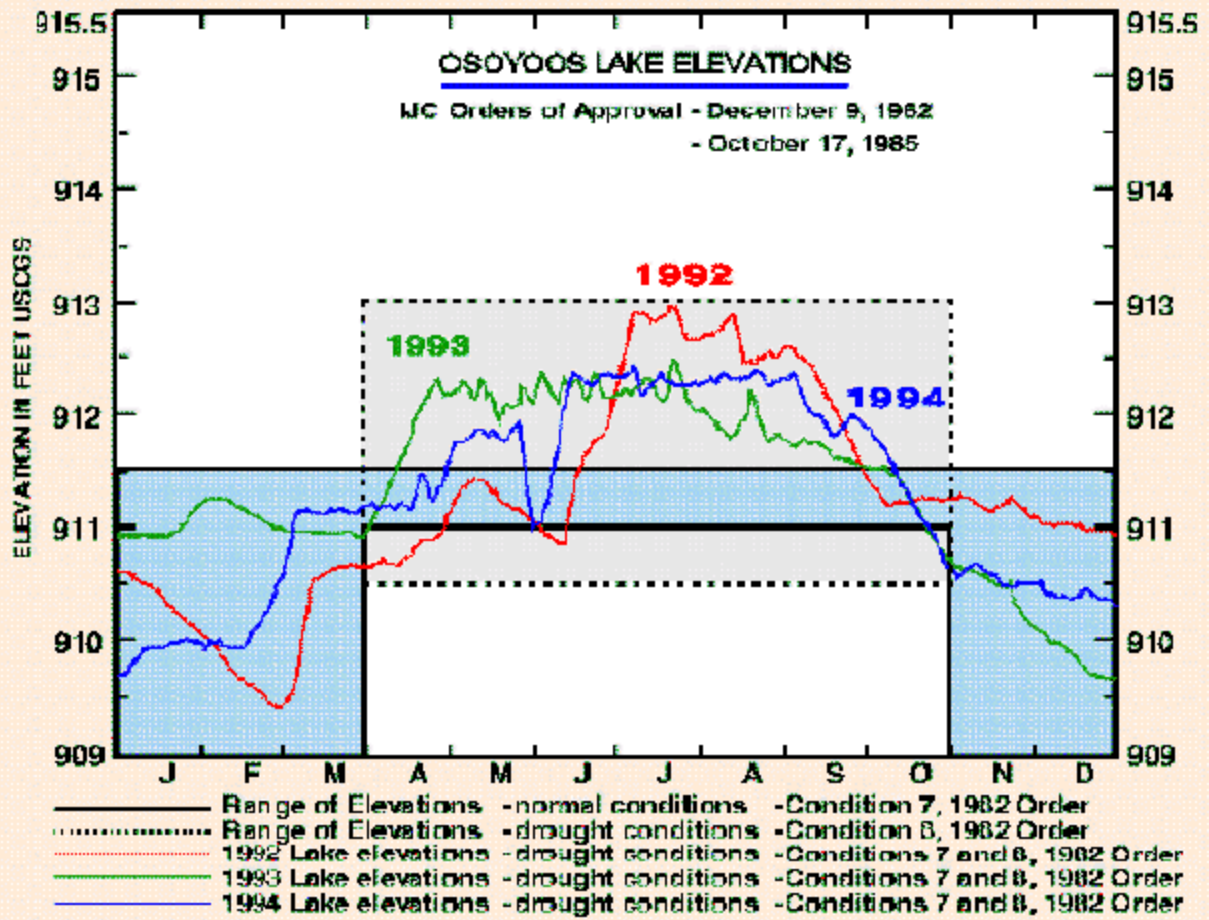
The detailed results of the 1994 flow-model runs will appear in the State's annual Zosel Dam Report to the Board of Control.

The maximum instantaneous flow on the Okanogan River at Oroville occurred on April 22 and was 2,190 cubic feet per second. Osoyoos Lake was at elevation 911.44 feet, and the Okanogan River at Oroville was in backwater from the Similkameen River on that day.

The maximum elevation on Osoyoos Lake occurred on July 7 at 912.46 feet and the mean daily discharge was 601 cubic feet per second at Okanogan River at Oroville for that day.

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APPENDIX 1



March 24, 1995

APPENDIX H.-- OSOYOOS LAKE LEVELS, INFLOWS, AND OUTFLOWS

A. International gaging stations in operation throughout the year:

(1) For Stage Records

Osoyoos Lake near Oroville, Washington

Okanagan River at Oroville, Washington (auxiliary gage)

(2) For Discharge Records

Okanagan River near Oliver, British Columbia

Okanagan River near Orville, Washington (base gage)

Sinilkameen River near Nighthawk, Washington

(3) Reports

Monthly summary reports of stage and discharge data were forwarded to the International Joint Commission and to the Board of Control members.

B. Compliance with the lake levels specified in the Orders of Approval is measured at the station "Osoyoos Lake near Oroville," where elevations are expressed in terms of USCGS datum.

C. Osoyoos Lake

Maximum daily mean elevation	278.112 meters (912.44 feet)	- July 7
Maximum instantaneous elevation	278.138 meters (912.46 feet)	- July 7
Minimum instantaneous elevation	277.264 meters (909.66 feet)	- January 1 and 2

D. Okanagan River at Oroville

Maximum instantaneous discharge	62.0 cms (2,190 cfs)	- April 22
Maximum daily mean discharge	60.3 cms (2,130 cfs)	- April 22
Annual mean discharge	16.4 cms (580 cfs)	

The annual mean discharge was 88 percent of the 52-year average.

E. Sinilkameen River near Nighthawk

Maximum instantaneous discharge	279 cms (9,860 cfs)	- May 12
Maximum daily mean discharge	269 cms (9,500 cfs)	- May 12

High discharges and stages on the Sinilkameen River created backwater conditions for the Okanagan River at Oroville gaging station from April 21 to May 1 and May 7 to 16.