Annual Report

to the

International Joint Commission

from the

International Osoyoos Lake Board of Control

for

Calendar Year 2002

International Joint Commission

INTERNATIONAL OSOYOOS LAKE BOARD OF CONTROL
1201 Pacific Avenue, Suite 600
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March 21, 2003

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Gentlemen:

We hereby submit the Calendar Year 2002 Annual Report of the International Osoyoos Lake Board of Control.

The report sets forth the operation of the control works on Osoyoos Lake under the terms of the Commission's Orders dated December 9, 1982, and October 17, 1985.

Respectfully submitted:

For the United States

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Enclosures

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INTERNATIONAL OSOYOOS LAKE BOARD OF CONTROL

ANNUAL REPORT
for
CALENDAR YEAR 2002

The International Osoyoos Lake Board of Control was established on February 12, 1946, by the International Joint Commission to carry out the provisions of the Commission's Order of Approval dated December 9, 1982, and the Supplementary Order of Approval dated October 17, 1985.

ACTIVITIES OF THE BOARD

On April 9, 2002, the Board participated in a video teleconference with the IJC. The Board indicated that based on snowmelt forecasts, drought conditions for operating Osoyoos Lake would probably not be invoked in 2002 (actual runoff was of sufficient volume and drought conditions were not met in 2002). Also discussed were the Osoyoos Order renewal process and IJC's letter to the Board dated January 13, 2002, in which the IJC requested comment from the Board regarding a Canadian citizen's concern over the validity of drought criteria and Osoyoos Lake levels mandated under drought conditions.

A formal meeting of the Board was held on September 24, 2002, in Oroville, Washington. Topics of discussion included channel capacity below Osoyoos Lake, the re-issuance of the Osoyoos Orders of Approval, the new IJC policy on public access to Board meeting minutes, and compliance with the Osoyoos Lake Orders of Approval in 2002. In addition, IJC Commissioner Gourd, on behalf of the IJC, presented Robin McNeil with a plaque award in appreciation of dedicated service to the Osoyoos Lake Board of Control and IJC from April 1997–March 2002. Mr. McNeil thanked the Commission and encouraged continued cooperation between the two countries.

Robin McNeil, pictured above with IJC Commissioners Robert Gourd (left) and Dennis Schornack (right) received an award from the IJC in appreciation of his dedicated service to the Osoyoos Lake Board of Control.

A public meeting was held in the evening following the Board meeting. Presentations were made on the IJC and Osoyoos Lake Board of Control, an overview of Osoyoos Lake drought criteria, hydrologic conditions in 2001-2002, and the Washington Department of Ecology's management of lake levels in 2002. Attendance was 27, of which 9 were from the general public. One participant expressed concern about the potential negative effect climate change may have on the area's water resources, and another advocated the flood control and irrigation benefits that could be realized if a storage dam was built on the Similkameen River.

Prior to the afternoon Board meeting, Board members toured the lower Similkameen River Basin and visited Enloe Dam and the USGS stream gage near Nighthawk. Enloe Dam was completed in 1920; however, it has not produced electricity since the 1950s. A local Public Utility District continues to explore the possibility of resuming power generation in the future.

OSOYOOS LAKE LEVELS IN 2002

Throughout any given year, the level of Osoyoos Lake may fluctuate in accordance with criteria outlined in the International Joint Commission's Order of Approval dated December 9, 1982. Lake levels are influenced naturally by discharge in the Okanagan and Similkameen Rivers and by the operation of Zosel Dam situated at the outlet of the lake. The Oroville-Tonasket Irrigation District operates Zosel Dam under authority from the State of Washington, Department of Ecology.

The blue area in figure 1 shows the authorized range of normal operating elevations, 909.0 to 911.5 feet (277.06 to 277.83 meters). The area contained within the dotted line in figure 1 shows the authorized range of elevations, 910.5 to 913.0 feet (277.52 to 278.28 meters), that may be used to manage storage from April 1 to October 31 if at least one of the drought criterion described in Condition 8 of the Order are declared in effect by the Board. Condition 9 of the Order recognizes that backwater from high flow in the Similkameen River and (or) excessive flow in the Okanagan River may cause Osoyoos Lake levels to rise above the authorized range.

During 2002, none of the drought criteria set forth in Condition 8 of the Order of Approval were met, so lake levels were maintained between 909.0 and 911.5 feet to the extent possible (figure 1). From May 29 through June 20, 2002, lake levels rose above 911.5 feet in response to backwater in the Okanogan River caused by high flows in the Similkameen River.

The maximum instantaneous elevation on Osoyoos Lake of 912.54 ft (278.14 meters) occurred on June 1, 2002, at 1900 hours. The maximum daily-mean elevation of 912.50 ft (278.13 meters) occurred on June 1 and 2 (figure 1). Lake elevations for 2000 and 2001 are also shown in figure 1.

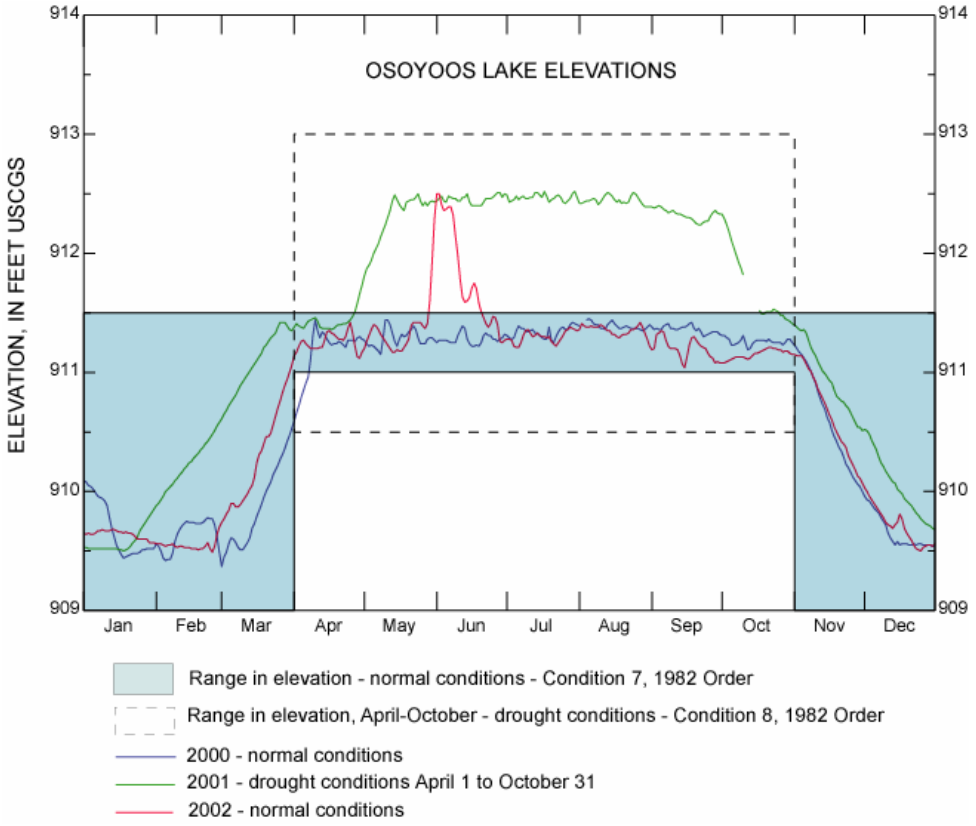

Figure 1.—Osoyoos Lake Elevations, in accordance with IJC Order of Approval dated December 9, 1982, and Supplementary Order of Approval dated October 17, 1985.

The maximum instantaneous discharge of the Okanogan River at Oroville occurred on June 9 and was 2,570 cubic feet per second (72.78 cubic meters per second). Because a flow in excess of 2,500 cubic feet per second (70.80 cubic meters per second) was observed when Osoyoos Lake elevation was less than 913.0 feet (912.14 feet on June 9), the capacity of the outlet channel was verified in accord with Condition 3 of the 1985 Order. Data on Osoyoos Lake elevation and relevant river flows are summarized in appendix I and depicted in figures 2 and 3.

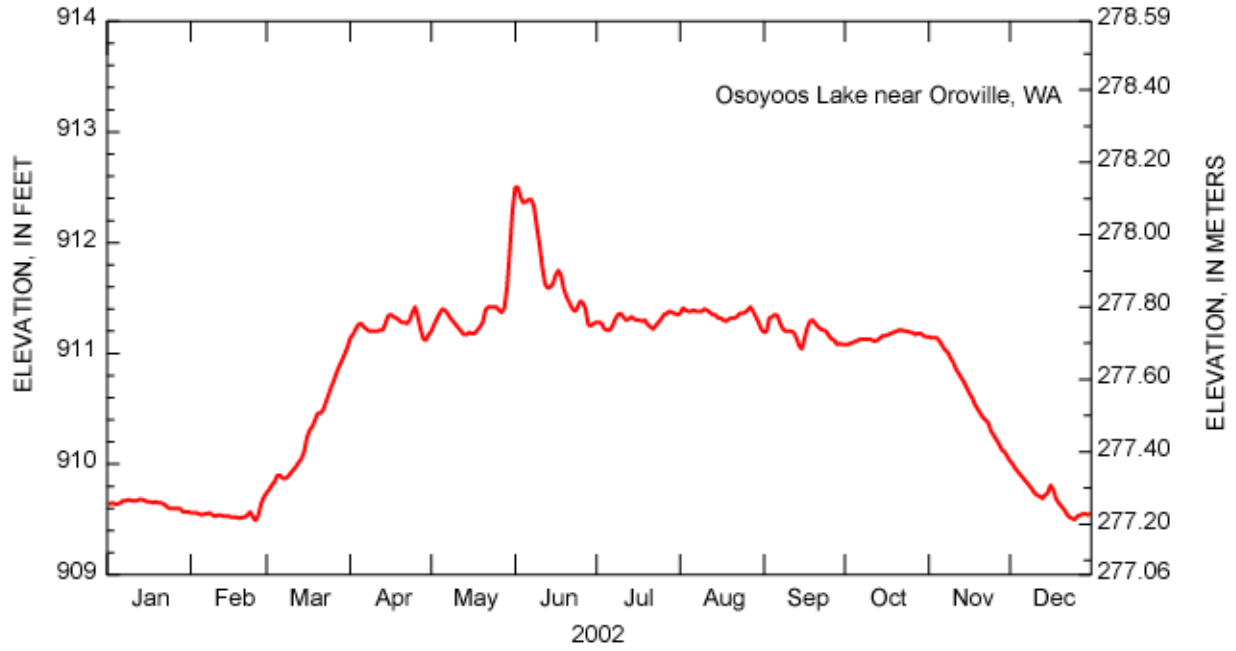

Figure 2. Hydrograph of Osoyoos Lake elevation.

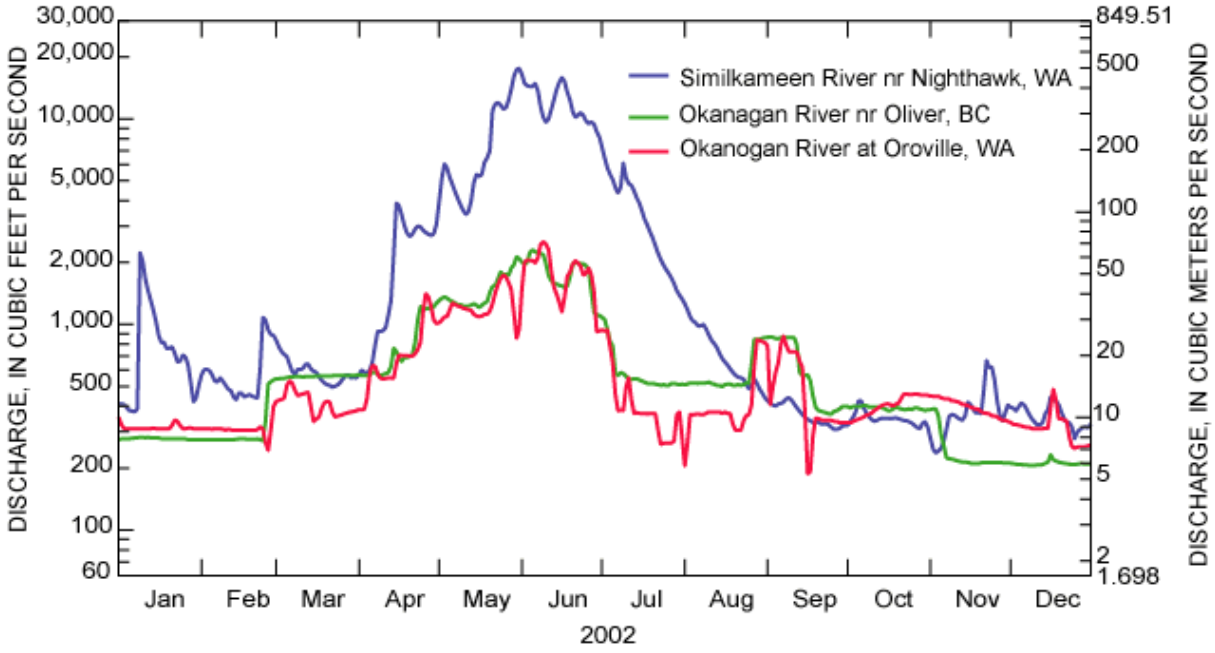

Figure 3. Hydrographs of discharge for the Similkameen and Okanogan (Okanagan in Canada) Rivers.

APPENDIX I.—OSOYOOS LAKE LEVELS, INFLOWS, AND OUTFLOWS
[cubic feet per second, cfs; cubic meters per second, cms]

A. International gaging stations in operation throughout the year:

(1) For Stage Records

Osoyoos Lake near Oroville, Washington
Okanogan River at Oroville, Washington (auxiliary gage)

(2) For Discharge Records

Okanagan River near Oliver, British Columbia
Okanogan River near Oroville, Washington (base gage)
Similkameen 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	278.130 meters – June 1 and 2 (912.50 feet)
Maximum instantaneous elevation	278.142 meters - June 1 (912.54 feet)
Minimum instantaneous elevation	277.210 meters - Feb. 25 & 26 (909.48 feet)
Lake elevation at time of peak flow for Okanogan River at Oroville	278.026 meters – June 9 (912.16 feet)

D. Okanogan River at Oroville

Maximum instantaneous discharge	72.8 cms – June 9 (2,570 cfs)
Maximum daily mean discharge	71.4 cms – June 9 (2,520 cfs)
Annual mean discharge	17.1 cms (604 cfs)

The annual mean discharge was 87 percent of the 60-year average of 695 cfs.

E. Similkameen River near Nighthawk

Maximum instantaneous discharge	507 cms – May 30 (17,900 cfs)
Maximum daily mean discharge	498 cms – May 31 (17,600 cfs)

High river discharges and stages created backwater conditions for the Okanogan River at Oroville gaging station for 49 days.

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