

# **International Columbia River Board of Control**

## **2007 Annual Report to the International Joint Commission**



Franklin D. Roosevelt Lake

# INTERNATIONAL JOINT COMMISSION



## International Columbia River Board of Control

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March 28, 2008

Mr. James Chandler  
Acting Secretary, United States Section  
International Joint Commission  
1250 23rd Street NW., Suite 100  
Washington, DC 20037

Dr. Murray Clamen  
Secretary, Canadian Section  
International Joint Commission  
234 Laurier Avenue W., 22nd Floor  
Ottawa, Ontario K1P 6K6

Dear Mr. Chandler and Dr. Clamen:

We hereby submit the Calendar Year 2007 Annual Report of the International Columbia River Board of Control.

Respectfully submitted:

For the United States

For Canada

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Cynthia Barton, Ph.D, LG, LHG  
Chair, United States Section  
Center Director, USGS Washington Water Science Center  
U.S. Geological Survey  
Tacoma, Washington

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Kirk Johnstone  
Chair, Canadian Section  
Chief, Pacific Prediction Centre  
Meteorological Service of Canada  
Environment Canada  
Vancouver, British Columbia

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### Executive Summary

The flow of the Columbia River at Grand Coulee Dam for the 2007 calendar year totaled 92,960 cubic hectometers (75,360,000 acre-feet), about 3.9 percent below the mean annual volume for the 94-year period of record.

The instantaneous maximum discharge of the Columbia River at the international boundary was 5,409 cubic meters per second (191,000 cubic feet per second) on June 8, about 27 percent below the mean annual instantaneous maximum discharge for the 70-year period of record, and ranking forty-seventh out of 70 discharge peaks.

Extremes of instantaneous stage on Franklin D. Roosevelt Lake varied between elevations 393.232 meters (1,290.13 feet) on July 9 and 380.290 meters (1,247.67 feet) on May 8. The stage was 392.061 meters (1,286.29 feet) at midnight on December 31, 2007. Backwater at the international boundary varied during the year, between 0.000 meter (0.00 feet) and 0.20 meter (0.64 feet). Backwater on December 31, 2007, was 0.04 meter (0.13 feet). Flashboards at Grand Coulee Dam were in place for all of 2007 and should remain in place in the future under normal operating conditions.

## 2007 Annual Report to the International Joint Commission

The Order of the International Joint Commission dated December 15, 1941, in the matter of the Application of the United States for Approval of the construction and operation of the Grand Coulee Dam and reservoir (Franklin D. Roosevelt Lake) provided for the creation of an engineering board to be known as the International Columbia River Board of Control. The Order provides that the Board shall conduct studies under the supervision of the Commission as to the effect of the operation of Grand Coulee Dam and Franklin D. Roosevelt Lake on water levels at and above the international boundary, and shall submit a report to the Commission annually.

On April 19, 2007, the Board participated by videoconference in the Commission's 2007 Spring Semi-Annual Meeting in Washington, DC. The Board presented an overview of Grand Coulee Dam and Lake Roosevelt, and summarized 2006 data for the Columbia River and Franklin D. Roosevelt Lake.

During calendar year 2007, the United States Geological Survey continued the collection of information concerning the stages and discharges of Franklin D. Roosevelt Lake and, in cooperation with the Water Survey of Canada, the stages and discharges of the Columbia River at the international boundary, upstream from the lake.

The annual flow of the Columbia River at Grand Coulee Dam for calendar year 2007 totaled 92,960 cubic hectometers (75,360,000 acre-feet), about 3.9 percent below the mean annual volume for the 94-year period of record. The instantaneous maximum discharge of the Columbia River at the international boundary was 5,409 cubic meters per second (191,000 cubic feet per second) on June 8, about 27 percent below the mean annual instantaneous maximum discharge for the 70-year period of record, and ranking forty-seventh out of 70 discharge peaks. Thirty-two of the lowest annual instantaneous maximum discharge peaks in the 70-year period of record have occurred in the last 35 years, indicating, in part, the effects of storage behind Mica Dam (1973) and Libby Dam (1974). The discharge at the international boundary is shown on the accompanying hydrograph. Extremes of instantaneous stage recorded on the lake varied between elevations 393.232 meters (1,290.13 feet) on July 9 and 380.290 meters (1,247.67 feet) on May 8. Elevations are above mean sea level, Bureau of Reclamation datum, and

adjustments of 1937. The stage at midnight on December 31, 2007, was 392.061 meters (1,286.29 feet).

The analyses of data collected indicate that backwater at the international boundary varied during the year between 0.000 meter (0.00 feet) and 0.20 meter (0.64 feet). Backwater on December 31, 2007, was 0.04 meter (0.13 feet). Backwater that occurred at the international boundary during the period January 1, 2003, to December 31, 2007, as computed at 10-day intervals each month, is plotted on the accompanying graph. Backwater since the time of filling of Franklin D. Roosevelt Lake in June 1942 to December 31, 2001, is plotted on the charts submitted with previous annual reports.

The Board was informed by the United States Bureau of Reclamation that flashboards at Grand Coulee Dam were in place for all of 2007.

