

International Columbia River Board of Control

2008 Annual Report to the International Joint Commission



TABLE OF CONTENTS

HYDROLOGIC CONDITIONS IN 2008.....	1
INTERNATIONAL COLUMBIA RIVER BOARD OF CONTROL MEMBERSHIP	4

Cover: Columbia River at the International Boundary, International Gauging Station.

Looking downstream, June 11, 1941.

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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.

HYDROLOGIC CONDITIONS IN 2008

During calendar year 2008, 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 2008 totaled 87,700 cubic hectometers (71,100,000 acre-feet), about 9.2 percent below the mean annual volume for the 95-year period of record. The instantaneous maximum discharge of the Columbia River at the international boundary was 6,514 cubic meters per second (230,000 cubic feet per second) on June 4, about 12 percent below the mean annual instantaneous maximum discharge for the 71-year period of record, and ranking fortieth out of 71 discharge peaks. Daily mean discharge for the Columbia River at the international boundary for 2004-08 is shown in figure 1A. Extremes of instantaneous stage recorded on the lake varied between elevations 393.168 meters (1,289.92 feet) on July 14 and 374.358 meters (1,228.21 feet) on May 13. Elevations are above mean sea level, Bureau of Reclamation datum, and adjustments of 1937. The stage at midnight on December 31, 2008, was 391.705 meters (1,285.12 feet). Water-level elevation in Franklin D. Roosevelt Lake for 2004-08 is shown in figure 1B.

The analyses of data collected indicate that backwater at the international boundary varied during the year between 0.00 meter (0.00 feet) and 0.25 meter (0.83 feet). Backwater on December 31, 2008, was 0.00 meter (0.00 feet). Backwater that occurred at the international boundary during 2004-08, as computed at 10-day intervals each month, is plotted in figure 1C. Backwater since the time of filling of Franklin D. Roosevelt Lake in June 1942 to December 31, 2003, is plotted on the charts submitted with previous annual reports.

The Board was informed by the Bureau of Reclamation that flashboards at Grand Coulee Dam were in place for all of 2008.

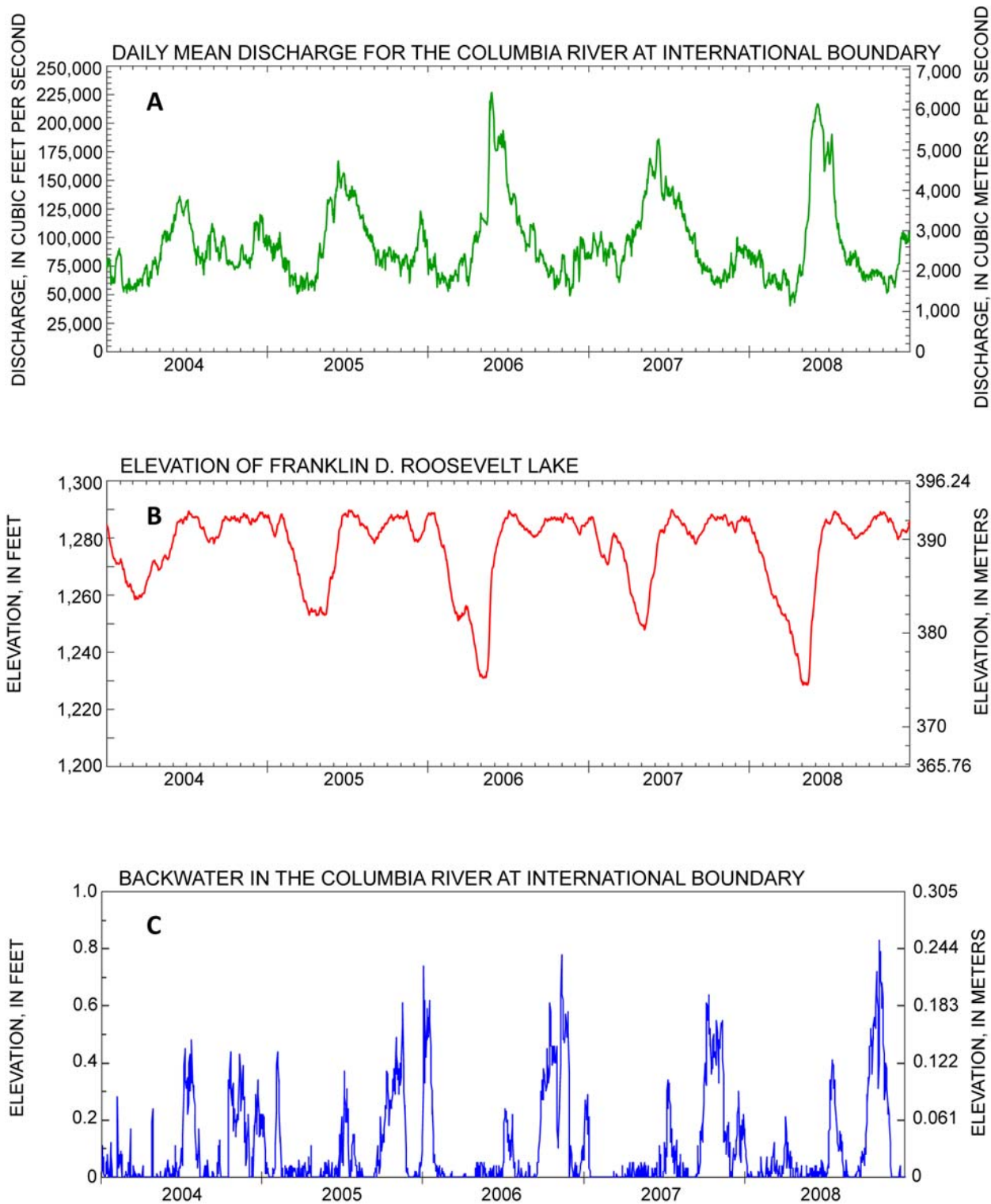


Figure 1. Hydrographs of A) daily-mean discharge for the Columbia River at the international boundary, B) elevation of Franklin D. Roosevelt Lake, and C) backwater in the Columbia River at the international boundary, 2004-08.

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