

International Columbia River Board of Control

2014 Annual Report to the International Joint Commission



Cover: Franklin D. Roosevelt Lake.

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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 upstream of the International Boundary, and shall submit a report to the Commission annually. The Board's studies are currently limited to the monitoring and reporting on the stage (water level) and discharges of the lake and the Columbia River at the International Boundary.

COLUMBIA RIVER TREATY REVIEW

The 1964 Columbia River Treaty is an agreement between Canada and the United States for the cooperative development and operation of water resource regulation for the upper Columbia River. The Treaty has no specified termination date; however, either Canada or the United States can terminate the Treaty any time on or after September 16, 2024, with a minimum 10 years written notice. Because either country may give notice to terminate the Treaty, government agencies in Canada and the United States have begun the process to evaluate future options regarding the Treaty.

HYDROLOGIC CONDITIONS IN 2014

During calendar year 2014, the U.S. 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 2014 totaled 79.2 million acre-feet (97.7 cubic kilometers), about 1 percent above the mean annual volume for the 101-year period of record of 78.3 million acre-feet (96.6 cubic kilometers). The instantaneous maximum discharge of the Columbia River at the International Boundary was 228,000 cubic feet per second (6,460 cubic meters per second) on June 1, about 12 percent below the mean annual instantaneous maximum discharge for the 77-year period of record of 259,000 cubic feet per second (7,330 cubic meters per second). Daily mean discharge for the Columbia River at the International Boundary for 2010-14 is shown in figure 1A. Extremes of instantaneous stage recorded on the lake in 2014 varied between elevations 1,231.82 feet (375.459 meters) on May 4 and 1,289.57 feet (393.061 meters) on July 13. Elevations are above mean sea level, with respect to a Bureau of Reclamation datum adjusted in 1937. This datum is 1.425 feet (0.434 meter) above the National Geodetic Vertical Datum of 1929 (NGVD 29). The stage at midnight on December 31, 2014, was 1,287.52 feet (392.436 meters). Water-level elevation in Franklin D. Roosevelt Lake for 2010-14 is shown in figure 1B.

The analyses of data collected indicate that backwater at the International Boundary varied during the year between 0.00 feet (0.00 meter) and 0.40 feet (0.12 meter). Backwater on December 31, 2014, was 0.00 feet (0.00 meter). Backwater that occurred at the International Boundary during 2010-14 is plotted in figure 1C. Backwater since the time of filling of Franklin D. Roosevelt Lake in June 1942 to December 31, 2009, is plotted on the charts submitted with previous annual reports.

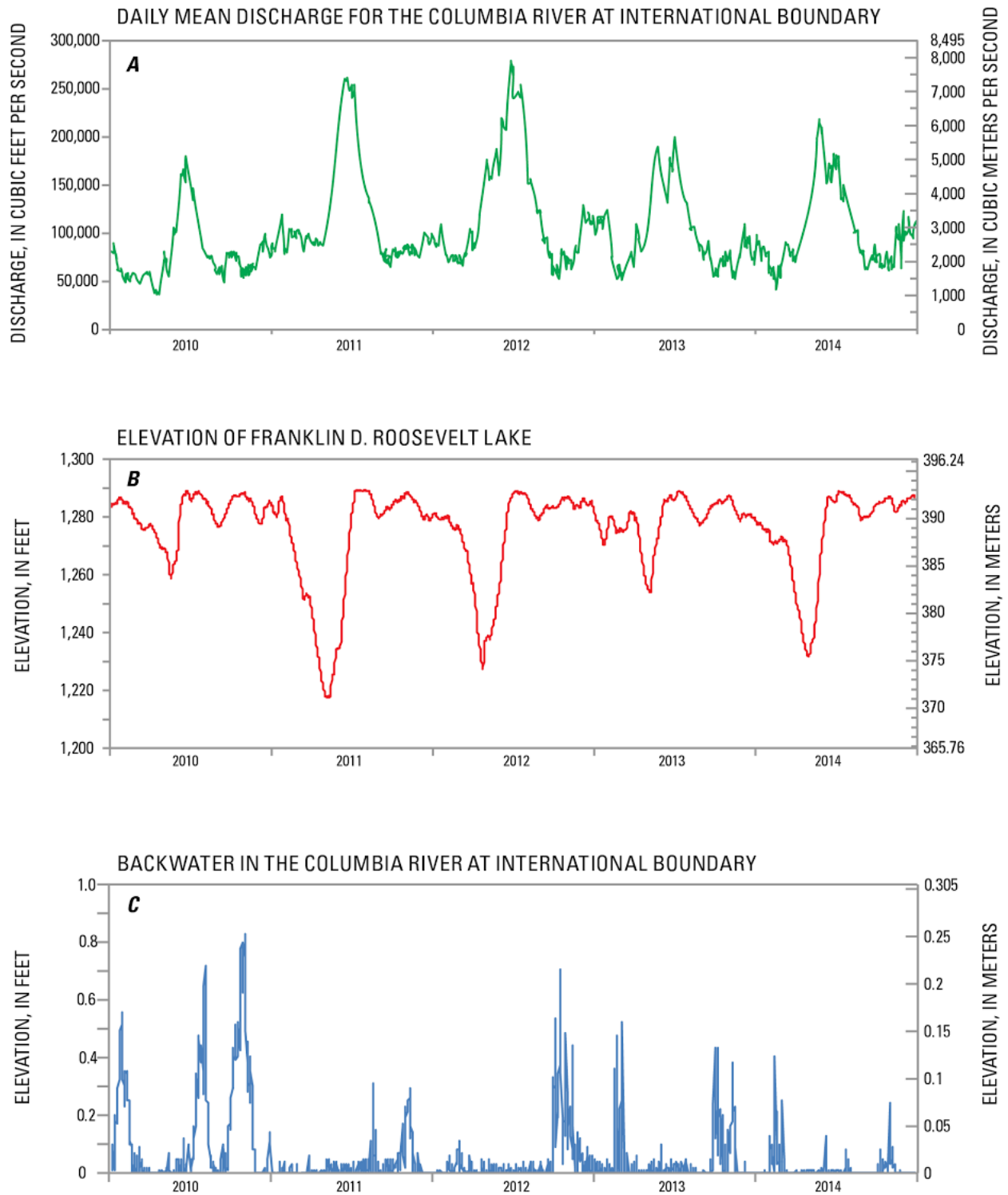


Figure 1. Hydrographs of A) daily-mean discharge for the Columbia River at the International Boundary, B) elevation of Franklin D. Roosevelt Lake, and C) backwater in the Columbia River at the International Boundary, 2010-14.

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