

Lake of the Woods To Be Regulated For Power

International Joint Commission Presents Report—Canada to Retain Control of the Norman Dam—Main Function of Lake Recognized as Power Storage—Compensation for Land Damages

AFTER five years of investigation, the International Joint Commission has reported in favor of a high water level for the Lake of the Woods, recognizing that the dominant interests to be considered in that region are those relating to production of power and that the lake should be used as a storage reservoir to the greatest extent practicable. The Canadian authorities are to continue in control of the outlets, which are in Canadian territory, so long as the waters remain within the limits, 1,056 and 1,061 sea-level datum. But whenever the water rises above 1,061 or falls below 1,056 control shall pass to the International Joint Commission. So long as the waters of the lake are kept between the levels mentioned, only Canadian interests will be affected and, therefore, Canada will retain control. If the water rises above or falls below that range, international interests will be affected and international control will be exercised.

The conclusions and recommendations of the Commission are as follow:—

Summary of Conclusions and Recommendations.

Question 1.—The Commission answers that it is practicable and desirable to maintain the surface of the Lake of the Woods at a relatively uniform level throughout all ordinary seasons. In order to secure the most advantageous use of the waters of the lake, and of the waters flowing thereinto and therefrom, and of the shores and harbors of the lake, for the purposes stated in this question, the Commission recommends that the waters of the lake be maintained at an ordinary maximum stage of 1061.25, sea level datum, with a range from 1056 to 1062.50 representing respectively the extreme low level and the extreme high level. These extremes, however, in the opinion of the Commission, will be reached only in years of excessive drought and of excessive precipitation. The Commission also contemplates that in extreme low water years the water of the lake may be drawn below 1056, but only with its approval and upon such terms as it may impose. The Commission, as stated in its report, also considers that with proper storage and after experience has been gained in regulation, the ordinary maximum level of 1061.25 may be slightly increased.

Question 2.—The Commission answers that the ordinary maximum level of 1061.25, which it recommends, is 2.23 feet higher than the computed normal or natural level of the lake. Considering not only the low lands actually overflowed on the southern border of the Lake of the Woods or elsewhere on its border, but also the lands injuriously affected above the recommended ordinary maximum level through occasional flooding, wind effects and seepage, the Commission has concluded that flowage should be obtained up to contour 1064 sea-level datum. The Commission therefore finds that the areas, with values as at 31st December, 1915, for which flowage rights should be obtained, are as follows:—

United States, 23,968 acres, value \$163,957, or say \$164,000; Canada, 40,792 acres, value \$80,877, or say \$81,000; total value, \$245,000.

The Commission estimates that the cost should not exceed \$115,000 for the following:—

(1) The removal of buildings and compensation for loss of high land by erosion along the south shore of the lake in Minnesota;

(2) The necessary protection of the town of Warroad, including town lots submerged or injuriously affected;

(3) The necessary protection along water front in vicinity of Baudette, Minnesota and Rainy River, Ontario.

About \$5,000 of this estimate is for protection on the Canadian side of the boundary at and near Rainy River; the balance, \$110,000, is for lands and protective works in Minnesota.

Question 3.—The Commission answers that it is both possible and advisable to regulate the volume, use and outflow of the waters of the Lake of the Woods, as well as insure the adequate protection and development of all the interests involved on both sides of the boundary in the following manner:—

(1) By increasing the outflow capacity of the Lake of the Woods to 47,000 c.f.s. at a stage of 1,061 sea-level datum, costing about \$175,000; and by compensating interests at the outlets and on Winnipeg River, involving about \$25,000 and \$30,000 respectively. The Norman dam in the Winnipeg River should be used for regulating purposes, and the cost of securing such use will have to be included. Should it be used for power as well as regulating purposes, then the necessary additional wasteway capacity will cost about \$60,000.

(2) By taking advantage of the existing reservoir capacity of something over 100 billion cubic feet on Rainy Lake and the lakes immediately above Kettle Falls.

(3) By enlarging these reservoirs as soon as the demands for power warrant, so as to be able to store an additional 45 billion cubic feet—the cost of which is difficult to estimate at the present time.

(4) By international control of all dams and regulating works extending across the international boundary, also the dam at Kettle Falls in the Canadian channel, and, when the level rises above 1,061 or falls below 1,056, sea-level datum, the dams and regulating works at the outlets of the Lake of the Woods.

Problem Submitted in 1912.

The Lake of the Woods problem was submitted to the Commission on June 27th, 1912. The terms of the references, or questions, were as follows:—

(1) In order to secure the most advantageous use of the waters of the Lake of the Woods and of the waters flowing into and from the lake on each side of the boundary for domestic and sanitary purposes, for navigation and transportation purposes, for fishing purposes and for power and irrigation purposes, and also in order to secure the most advantageous use of the shores and harbors of the lake and of the waters flowing into and from the lake, it is practicable and desirable to maintain the surface of the lake during the different seasons of the year at a certain stated level, and if so at what level?

(2) If a certain stated level is recommended in answer to question No. 1, and if such level is higher than the normal or natural level of the lake, to what extent, if at all, would the lake, when maintained at such level, overflow the low lands upon its southern border, or elsewhere on its border, and what is the value of the lands which would be submerged?