

Nature and Extent of the Problem

The vast storage capacity of the upper Great Lakes results in an unusually uniform flow in the Niagara. This flow and the concentration of fall at Niagara have created a scenic spectacle of unusual beauty and a hydroelectric power resource of great value. Both Canada and the United States have given attention over the years to the preservation and use of these assets.

In the Boundary Waters Treaty of 11 January 1909, the two countries agreed to permit diversion of up to 56,000 cubic feet per second of the Niagara River flow for power purposes. To forestall possible adverse effects on the scenic beauty, a Special International Niagara Board was formed in 1926 to consider the problem. The Board recommended early construction of an initial phase of remedial works and outlined the further measures to be considered for preservation of the beauty of the falls under conditions which would permit more complete utilization of the hydroelectric potential.

With the growing need for power for defense activities the Governments of Canada and the United States concluded agreements in 1940 and 1941 to utilize on a temporary basis an additional 26,500 c.f.s. of Niagara Flow for power purposes. Pursuant to these agreements the initial phase of remedial works recommended by the Special International Niagara Board was accomplished by construction of a submerged weir in the Niagara River about one mile above the Horseshoe Falls during the period 1942 to 1947. The weir has substantially compensated for the lowering effect of the power diversions on the Chippawa-Grass Island Pool and has greatly increased the flow over the American Falls; but of course it has not improved the conditions on the flanks of the Horseshoe Falls.

In 1944 and 1948 the earlier agreements were modified to provide for small additional temporary diversions, and discussions which led to the Treaty of February 27, 1950 were commenced. By means of this Treaty the two Governments put into effect a revised permanent schedule of permissible power diversions under which the flow over the Falls may be reduced to not less than 100,000 cubic feet per second during the daylight hours of the tourist season and to not less than 50,000 cubic feet per second at any other time. Analyses and tests by the Board indicated that under these flow conditions the following objectionable conditions would result if remedial works were not provided:

(a) The Chippawa-Grass Island Pool level would drop as much as four feet below its present normal elevation, thereby exposing considerable areas of the river bed presently covered, particularly in the vicinity of the head of Goat Island. The general lowering of this pool would result in some lowering of levels of Lake Erie.

(b) The lowering of the Chippawa-Grass Island Pool level would reduce the flow over the American Falls well below that necessary for a satisfactory scenic spectacle.

(c) Under future maximum permissible diversions the flow over Horseshoe Falls during tourist season days would be concentrated towards the center leaving unsatisfactory conditions at the flanks; and during the non-tourist season and the night hours of the tourist season, the flow over the Horseshoe Falls would be so concentrated near the center of the crest