

Table 1 gives a summary of the water power resources of Canada and their development as at the end of 1958.

1.—Available and Developed Water Power, by Province, as at Dec. 31, 1958

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation ¹
	At Ordinary Minimum Flow	At Ordinary Six-Months Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	1,608,000	3,264,000	368,935
Prince Edward Island.....	500	3,000	1,660
Nova Scotia.....	30,500	177,000	183,168
New Brunswick.....	123,000	334,000	254,375
Quebec.....	10,896,000	20,445,000	9,857,607
Ontario.....	5,496,000	7,701,000	7,150,851
Manitoba.....	3,492,000	5,798,000	778,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	911,000	2,453,000	312,595
British Columbia.....	18,200,000 ²	19,400,000 ²	3,310,460
Yukon Territory.....	4,678,000 ²	4,700,000 ²	38,190
Northwest Territories.....	374,000	808,000	13,050
Canada.....	46,359,000²	66,203,000²	22,379,626

¹ Includes water wheels and hydraulic turbines installed.

² This figure reflects the effect of possible stream flow regulation based on known storage potentials.

The figures given in the first and second columns of Table 1 represent 24-hour power and are based upon rapids, falls and power sites of which the actual drop, or the head of possible concentration, has been measured or at least carefully estimated. Tabulations of potential power in Canada are not complete as many unrecorded rapids and falls of undetermined power capacity exist on rivers and streams throughout the country, particularly in the less explored northern districts. Apart from areas where definite studies have been carried out and the results recorded, no consideration has been given to the power concentrations that are feasible on rivers and streams of gradual gradient where economic heads possibly may be created by the construction of dams. Furthermore, the estimates of power available in different provinces do not include the power potential of major river diversions which have been investigated but not developed. Thus the figures in Table 1 of available power under the two conditions of stream flow represent only the minimum water power possibilities of Canada.

The figures in the third column of Table 1 give the total capacity of the water wheels actually installed and should not be placed in direct comparison with those in the first and second columns to deduce the percentage developed of the available water power resources. While the maximum economic turbine installation at any site can be determined only by careful consideration of all conditions and circumstances pertinent to its individual development, it is usual practice to install turbines that have a total capacity in excess of the power equivalent of the six-months flow at the site.

The consistent growth of hydraulic turbine capacity is shown in Table 2. The average annual increase from 1900 to 1905 of 56,000 h.p., was stepped up sharply in subsequent years because of improvements in the transmission of electricity and the building of large generating stations. During the period 1906-22 development proceeded at the fairly uniform rate of 150,000 h.p. per annum but the rate of installation increased sharply in 1923 and continued at about 377,000 h.p. each year from 1923 to 1935. As an aftermath to the economic depression, the rate of installation was low during the years 1936-39 but increased to a high average of 481,000 h.p. per annum during the period 1940-43 to satisfy war requirements. Few developments were undertaken in the later war years or in the immediate postwar period so that only a small amount of new capacity came into