

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 third column of Table 1 gives 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 of the available developed water power resources. At developed sites, the water wheel installation averages 30 p.c. greater than the corresponding calculated maximum available power at the same sites. Figures of the table therefore indicate that the *at present* recorded water power resources will permit of a turbine installation of about 74,000,000 h.p. and that the turbine installation at Dec. 31, 1956, represents less than 25 p.c. of recorded water power resources.

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 central electric 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 operation in the 1944-47 period. However, the effects of the later postwar program of construction are apparent in the large growth in the years 1948-56 when the average rate was about 845,000 h.p. per annum. A continuation of this rate of growth is indicated for some years.

2.—Hydraulic Turbine Horsepower Installed by Province as at Dec. 31, Decennially 1900-56 and Annually 1951-56

NOTE.—Figures for each year 1900-30 are given in the 1939 Year Book, p. 362; for 1931-39 in the 1946 edition, p. 362; and for 1940-49 in the 1954 edition, pp. 556-557.

Year	New-foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900.....	—	1,521	19,810	4,601	82,864	53,876
1910.....	—	1,760	31,476	11,197	334,763	490,821
1920.....	—	2,233	37,623	21,976	955,090	1,057,422
1930.....	—	2,439	114,224	133,681	2,718,130	2,088,055
1940.....	—	2,617	139,217	133,347	4,320,943	2,597,595
1950.....	262,810	2,299	150,960	133,111	6,372,812	3,513,840
1951.....	279,160	2,299	150,960	132,911	6,755,351	3,718,505
1952.....	292,660	2,299	162,455	135,511	7,263,621	3,948,466
1953.....	311,150	1,900	162,433	164,130	7,719,122	4,006,688
1954.....	323,150	1,882	170,908	164,130	7,773,822	4,845,488
1955.....	329,150	1,882	177,018	164,130	7,975,657	5,367,866
1956.....	336,750	1,882	179,718	164,130	8,489,957	5,443,766