

Table 1 gives, by province or territory, the estimated total water power resources of Canada and the total existing capacity of all water power plants.

**1.—Available and Developed Water Power, by Province, as at Jan. 1, 1963**

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	hp.	hp.	hp.
Newfoundland.....	1,608,000	3,264,000	504,025
Prince Edward Island.....	500	3,000	1,660
Nova Scotia.....	30,500	177,000	204,538
New Brunswick.....	123,000	334,000	309,726
Quebec.....	12,557,000	23,711,000	12,816,845
Ontario.....	5,496,000	7,701,000	7,959,512
Manitoba.....	4,758,000	8,454,000	988,900
Saskatchewan.....	552,000	1,131,000	142,135
Alberta.....	911,000	2,453,000	414,455
British Columbia.....	18,200,000 <sup>1</sup>	19,400,000 <sup>1</sup>	3,701,326
Yukon Territory.....	4,678,000 <sup>1</sup>	4,700,000 <sup>1</sup>	38,190
Northwest Territories.....	1,367,000 <sup>1</sup>	1,795,000 <sup>1</sup>	22,250
<b>Canada.....</b>	<b>50,281,000</b>	<b>73,123,000</b>	<b>27,103,562</b>

<sup>1</sup> Reflects the effect of possible stream-flow regulation based on known storage potentials.

The figures in the first and second columns of Table 1 represent continuous 24-hour power based on available data on stream flow and hydraulic head at individual sites. The hydraulic head used is the feasible concentration of head, which has been measured or at least estimated at existing falls, rapids and known power sites. No consideration has been given to possible economic concentrations of head on rivers and streams of gradual gradient, except at those locations where the available head has been definitely established by field investigations.

It should be emphasized that the figures of available power represent only the minimum water power possibilities of Canada. Many unrecorded power sites exist on rivers and streams throughout the country, particularly in the less-explored northerly districts. As power surveys are extended, detailed information on new sites will become available and, undoubtedly, substantial additions to present figures of available power will result. With the exception of British Columbia, Yukon Territory and the Northwest Territories, estimates of available power are based upon existing river flows and do not take into account the benefits of stream-flow regulation that would result from the development of storage potential. In addition, the figures of available power do not include the power potential of major river diversions that have been investigated but not developed.

The figures in the third column of Table 1 are the totals of plant capacities based upon the manufacturer's rating as indicated on the name-plate of each unit. In a few cases where, subsequent to installation of the unit, a change in the normal operating head has been effected, a rating based on the new normal operating head is used. The maximum economic turbine installation at any power site can be determined only by careful consideration of all the conditions and circumstances pertinent to its individual development. It is the usual practice, however, to install turbines with a total capacity in excess of the power equivalent of the ordinary six-month flow at the site. This additional capacity may be installed for use at peak-load hours or to facilitate plant or system maintenance, or to take advantage of high river flow.

The extent to which the installed capacity exceeds the power equivalent of the ordinary six-month flow depends upon the factors that govern the system of power-plant operation, and varies widely in different parts of the country. In some developments, the difference