

Farther east, the industries of eastern Ontario and the Ottawa and St. Lawrence Valleys draw their power from the 2,450,000 h.p. resources of the Gatineau, Lièvre, St. Maurice, and Saguenay Rivers flowing south from the Shield to the Ottawa and St. Lawrence Rivers; and from the 1,310,000 h.p. of the Ottawa, three-quarters of which lies within the Shield. The Bersimis, Outardes, Manikugan, and other great rivers entering the St. Lawrence east of the Saguenay have resources totalling 2,400,000 h.p.

The St. Lawrence Lowland Region.—This Region ranks second in resources and installation and embraces an area of 35,000 square miles extending from a short distance east of Quebec City to Lake Huron, south of Georgian Bay.

The water-power resources of this lowlands region, estimated at more than 6,000,000 h.p., are principally in the Niagara, St. Lawrence, and lower Ottawa Rivers, with powers of lesser magnitude on the Trent, Richelieu, and other tributaries. The present total development is almost 2,000,000 h.p. and substantial quantities of power, developed from rivers in the adjacent Canadian Shield, and Appalachian areas are transmitted into the St. Lawrence Lowlands.

The Niagara, under present treaty limitations, already produces and makes available for distribution in Canada a total of 800,000 h.p. with complete protection of the great scenic value of Niagara Falls. The vast industrial structure of southern and western Ontario now rests largely upon this great development.

The St. Lawrence River, between Lake Ontario and Montreal, has potential power resources totalling 5,000,000 h.p., of which about 4,000,000 h.p. are wholly located in Canada. This great power, of which more than 750,000 h.p. is already developed, coupled with the low-cost water-borne traffic of the Great Lakes and St. Lawrence River, which renders accessible the raw materials of almost half the continent, is a potential asset of very great value to the Dominion.

The Cordilleran Region.—This division which forms the western portion of the Continent consists of three roughly parallel mountain belts, the eastern belt comprising the Rocky and Mackenzie Mountain Ranges, the central belt comprising a series of plateaux and mountains, and the western belt, lying west of the plateau country comprising the coastal and insular mountain ranges.

On the eastern slope of the Rocky Mountains low-head sites are found on the main rivers and high-head sites, combined with areas adaptable for storage, on their tributaries. On the western slope of the Rockies and the eastern slope of the central belt, the streams are short and swift with many high-head power sites although few of them are of large capacity, the chief power sites being on the Bull and Elk Rivers in the southern section. In the central belt of plateaux and mountains there are large power resources on the main rivers, which flow through wide valleys and collect the flow of numerous tributaries. The western belt of the Cordilleran Region has many high-head sites for some of which storage and concentration of flow by the diversion of smaller streams provide great power possibilities. In addition there are valuable resources in the lower-head sites of some of the larger rivers, notably the Fraser and Skeena.

The water-power resources of the Cordilleran Region have been estimated at 5,200,000 h.p., warranting a turbine installation of approximately 6,800,000 h.p. Detailed studies of the run-off characteristics, of the possibilities of storage, of diversions from one watershed to another, and of the development of high heads, will unquestionably greatly increase this figure.