sonably conservative as it does not fully take into account the affect of artificial storage. Of the above total about 56,000 h.p. is at present developed, leaving an undeveloped surplus of 110,000 h.p.

As to industrial opportunities in this district, various quantities of power are, or will shortly be, available for purchase. The Simcoe Railway & Power Company has some 3,000 h.p. of surplus capacity available at the Big Chute on the Severn River. When the new plant at Swift Rapids is built there will be 3,000 to 3,500 h.p. available. When the South Falls development on the Muskoka River is completed, the towns of Gravenhurst, Bracebridge and Huntsville will have about 1,000 h.p. for sale. The Wahnapitae Power Company has about 2,000 h.p. of surplus capacity for sale in Sudbury and the vicinity.

The Hydro-Electric Power Commission has now in operation a 1,200-h.p. plant at Wasdell's Falls on the Severn River, and a 4,000-h.p. plant is under construction at Eugenia Falls on the Beaver River.

As to wholly undeveloped powers, those on the French River are the most important in this district, there being three sites capable of development to the extent of about 10,000 h.p. each, with the assistance of Lake Nipissing storage. The remainder of the undeveloped capacity of the district is distributed in blocks of 1,000 to 5,000 h.p., the smaller capacities being predominant, and in many cases not sufficiently accessible for commercial development at the present time. For the possibility of development in the near future the larger of these powers must look to the mining and pulp industries, in connection with which there are now two large plants on the Spanish River. At High Falls the Canadian Copper Company has 12,500 h.p. installed for the operation of its mines and smelters, and the Spanish River Pulp and Paper Company, lower down on the river, has 10,000 h.p. installed for the manufacture of pulp and paper.

The natural conditions and market prospects in the district, immediately south of Georgian Bay, are such that hydro-electric development and transmission offers little or no inducement for private enterprise, and for this reason, the hydraulic resources of the district have lain largely dormant up to the present time. An exhaustive investigation of conditions by the Hydro-Electric Power Commission, nevertheless, revealed the fact that if certain water powers were developed and transmission lines built, with $4\frac{1}{2}$ % money, and all consideration of selling profit eliminated, it would be commercially feasible to supply power to a number of municipalities on the east shore of Lake Simcoe and in the counties of Grey and Bruce.

At the request of the municipalities interested, the Commission obtained the consent of the Provincial Government to build the above-mentioned 1,200-h.p. plant at Wasdell's Falls, which is now supplying the towns and villages on the east shore of Lake Simcoe as far south as Cannington. The 4,000-h.p. plant at Eugenia Falls is being developed under a head of 540 ft., and it is expected that a market for this power will be found in the counties of Grey and Bruce.

Apart from the benefits which will directly accrue as a result of the construction of these two plants, it is anticipated that the power market will, in the near future, expend sufficiently to permit the further development of the power resources of the district on a commercial basis. As a result, the district as a whole will derive immense benefit from the utilization of its own local resources to the extent of some 15,000 h.p. of cheap power, a result which could never under any circumstances have come to pass through the agency of private initiative.

The watershed characteristics of the Lake Superior tributaries are generally similar throughout, as the whole area tributary to the lake has fairly uniform topographical features, and is generally forested with pine, spruce, balsam, birch and poplar. Owing to the proximity of the crest of the height of land to the north shore of the lake throughout the greater part of its length, most of its tributaries are short and turbulent and all have the high natural heads which characterize the Laurentian rivers. All along the north shore, on large and small rivers, natural falls 50 to 125 feet in height are common.

This territory is to a large extent unsettled, and in many localities practically unexplored, and it necessarily follows that no large proportion of its hydraulic resources will be developed in the very near future. At the present time about 20,000 h.p. is developed out of a total potential capacity of about 195,000 h.p. Of the developed power about 4,500 h.p. is used in the Michipicoten district for the operation of mines, 1,500 h.p. being supplied by the Michipicoten Power Company and 3,000 h.p. by the Algoma Steel Corporation. It is understood that the Michipicoten Power Company can increase its capacity considerably by the development of artificial storage.

The remaining 15,500 h.p. is used in the cities of Port Arthur and Fort William, and is mainly derived from the plant of the Kaministiquia Power Company. This company has an extensive development at Kakabeka Falls, operating a 180-ft. head. This company is said to have about 15,000 h.p. of surplus capacity capable of development.

These two cities have also, within easy transmission distance, the large water power at Silver Falls on the Kaministiquia River, at which point about 20,000 h.p. minimum can be developed under a 310-ft. head.

Concerning the Nipigon, the largest of the Lake Superior tributaries, the following facts may be set forth: The river proper is about 40 miles long and drops 255 ft. in this distance. At the head of the river in Lake Nipigon, with 1,500 square miles of water surface, receiving the run-off from about 9,500 square miles of drainage area. The effect of this immense central storage basin is to produce a flow regimen almost comparable to that of the St. Lawrence, and to make the river an ideal one for the development of power. The Nipigon basin contains one of the finest pulp-wood areas in the world. It also contains immense bodies of magnetic iron which would doubtless yield to treatment in the electric furnace.

The Nipigon water powers are within easy transmission distance of Port Arthur and Fort William, and while these cities have 50,000 h.p. hydraulic capacity available within a radius of 25 miles, the time will undoubtedly come when they will need Nipigon power.

In 40 miles of river there is 100,000 h.p. in the main, capable of easy development, and in this fact, together with the great natural resources of its basin, and the certainty of industrial expansion at the head of the Great Lakes, the Nipigon basin affords a range of commercial opportunities which can hardly be duplicated on the continent to-day.

The Winnipeg River and Its Tributaries.—The drainage system of Rainy River District is wholly tributary to the Hudson Sea by way of Lake Winnipeg, and forms part of the great basin of the Nelson River.