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## THE CONSERVATION OF WATER POWER

THE question of conservation has to do with the policy not only of the governments, federal and provincial, but also of the people at large, with regard to those resources, useful to man, which are supplied by nature in form easily adaptable to immediate utilization, and particularly with regard to those natural resources, not uniformly distributed, which are limited in extent or in quantity.

Among such natural resources are the minerals in the earth, the forests growing upon the earth, and the waters flowing over the earth. Whether applied to any or all of these, a policy of conservation should manifestly be directed neither to a locking up or withdrawal from use on the one hand, nor to an indiscriminate or wasteful utilization upon the other hand. Economy in its best sense should prevail, but an economy which has regard for both the present and the coming generations. These natural resources are placed by nature for the use of man—the man of to-day and the man of the future. Where present and future interests conflict, those of the present are paramount. It is not justifiable unduly to place burdens and restrictions upon the present generation out of regard for those to come after us nor unduly, by present extravagance, to impose unnecessary burdens upon the future. More than that, neither desires for the present nor for the future should be made the justification or pretext for measures in conflict with the fundamental laws of personal and property rights which are, under our constitutional government, the safeguards of our free constitutions.

Conservation, then, should denote the policy of the economical utilization of these natural resources, and of

the utmost protection, within the law, of such economy, consistent with the needs of the present and of future generations.

The two great natural sources of energy available are coal deposits and water powers. The known supply of coal, while sufficient for a few centuries to come, assuming that the present rate of consumption continues, is in fact limited, as its cost to the consumer gradually increases as the supply diminishes. While the cost of developing water power is considerable, the development and transmission of electrical energy has made water power development feasible as a business proposition, as against the cost of steam power, to the extent that the amount of water power which is still undeveloped, but which could be economically developed at the present time, amounts to millions of horse-power. As fuel grows scarcer and as the science of electrical generation and transmission progresses, further water powers, now merely potential, will be available for the market.

Because it is inexhaustible and because its use replaces that of another and exhaustible natural source of energy, water power is the most potent of all natural resources, as a subject and agency for conservation. In the case of a limited, exhaustible, and rapidly diminishing supply of a natural resource, such as coal deposits, the forces of conservation should be directed to the prevention of use as far as consistently possible. But the correct view of conservation inevitably leads to the demand that, in the case of water powers, there shall be encouraged and promoted the greatest and most immediate use possible.

## ONTARIO'S MINERAL PRODUCTION

THE statistics in the preliminary statement of Ontario's mineral production for 1917, cover the output of metallic and non-metallic mines, quarries and other excavations, and also the primary products of works and plants treating materials of provincial origin. The figures are subject to revision, and are issued as soon after the completion of the year as possible, for the information of the mining community and the public generally. Mr. T. W. Gibson, deputy minister of mines, Ontario, and his staff are to be commended for the rapid and careful collection and prompt publication of their statistics. Such action materially enhances the value of the figures. The total production last year, having a value of \$71,060,942, shows an increase of \$5,757,120 compared with that of 1916, and marks a new high point in the record of Ontario's mining industry. As Mr. Gibson says, "an expression of satisfaction may be permitted in this successful effort to bring the minerals of the province to bear with added weight in the great struggle of Britain and her Allies for justice and freedom."

Some interesting particulars are given in the preliminary statement regarding nickel and copper. The output of nickel-copper matte in 1917 was 78,897 tons as compared with 80,010 tons in 1916. The nickel content, 41,887 tons, was greater, but the copper content, 21,997 tons, less than in that year, which may be explained by the fact that the bulk of the Canadian Copper Company's production was from the Creighton mine, the ore of which is well known to contain much more nickel than copper. During the year, 1,453,661 tons of ore were smelted at the Copper Cliff and Coniston smelters.

The Royal Ontario Nickel Commission in its report on the nickel industry, issued early last year, estimated the known reserves of nickel ore as 70 million tons, but it is