



SOME OF  
CANADA'S LITTLE KNOWN  
AND UNUSED WATERPOWERS.

Commission of Conservation

(Cat No. 19)

## Repeated Fires Kill Seed Trees

Great Damage done on Lands  
Already Burned

In the township of Cashel, Frontenac county, Ont., a forest fire occurred about 35 years ago, which destroyed most of the old trees, but, after this first fire, a vigorous reproduction of young pine took place, amounting on an average to 170 trees per acre. The prospective yield in dues to the Government from these trees may be placed at \$34.00 per acre. Fifteen years later, however, a second fire ran over all but 3,500 acres of the area, and so injured the remaining seed trees that the subsequent reproduction was only 20 trees per acre. This second fire reduced the prospective dues to \$4.00 an acre. A third fire which ran over about 1,500 acres killed the few seed trees that escaped the second fire, and reduced the prospective dues to zero. There are now in the township about 3,500 acres that have been burned once, 9,000 acres twice, and 1,500 acres three times, so that we may calculate the loss in prospective dues to the Government, since the first fire, as follows:

Prospective dues after first fire:	
14,000 acres burned once, \$34 per acre.	\$476,000
Prospective dues at present:	
8,500 acres burned once, \$4	\$119,000
per acre.	
9,000 acres burned twice, \$4	\$36,000
per acre.	
1,500 acres burned three times,	0 155,000
Loss of revenue to the Government.	\$321,000

## Garbage Incineration

Most Efficient Way to Dispose of City Refuse

Incineration is the most efficient, sanitary, and, if properly managed, economical way of disposing of garbage in cities and large towns. Mere dumping in a huge midden is not disposal in the true sense of the word. It is simply an attempt to segregate a nuisance. Burial of rubbish requires a large area of ground and a long haul. It may be suitable for small towns that cannot afford an incineration plant, but it is out of the question for larger centres. Dumping into water should never be permitted except by cities on the sea-coast, and only then provided the tides are favourable and the waste material will not be washed back on the shore. Reduction of garbage in "digesters" to remove grease is practised in many United States cities, but the capital re-

quired and the operating expenses are high. Moreover, such reduction plants are liable to give rise to foul odours, and many kinds of rubbish, such as bottles, tin cans, broken furniture, cast-off clothing, etc., cannot be disposed of in this manner.

The best furnaces for the cremation of refuse are to be found in England. These British destructors are of a high-temperature, forced-draught type, and need skilful firing, but they will get rid of all refuse and the resulting gases and solid residue are entirely harmless.

Plants of similar pattern are installed at Westmount, Que., Milwaukee, Wis., and San Francisco, Cal., and are giving good satisfaction.

## TO NEWSPAPERMEN

To further public interest in conservation subjects, the Commission will lend to Canadian journals the cuts used in this bulletin. These may be obtained in either fine or coarse screen.

As there are only a limited number of these cuts, delays are sometimes unavoidable, but orders will always be filled as soon as possible after receipt of application. It is requested that cuts be made use of at the earliest possible date, and returned (G. H. M. S.) promptly, enclosing note showing by whom sent. We shall be pleased to receive copy of publication in which the illustration appears.

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## Water-power Data being Collected

So far as waters and water-powers are concerned, the efforts of the Commission of Conservation have, thus far, been devoted to the collection of information. To practise conservation intelligently we must, first, know what we have to conserve.

When the Commission was established, a good deal of information respecting water-powers in Canada was in existence, but nothing had been done toward bringing this data together in the form of a concise report covering the whole Dominion. Hence the first work of the Commission's Committee of Waters and Water-Powers was to collect and tabulate all the available data. It was found that the information relating to the Eastern Provinces was fairly complete but was very meagre as to the Prairie Provinces and British Columbia. It was not thought advisable, however, to withhold the information respecting Eastern Canada and the report on "Water-Powers of Canada" was published in 1911. This publication also included the very limited data then available respecting the Western Provinces.

Since 1911, the attention of the Committee has been concentrated on obtaining information relating to Western Canada, to form the basis of a special report on this portion of the Dominion. In British Columbia, the Commission's water-power reconnaissances have been made in co-operation with the Provincial Government and, during the last three years, field parties have covered practically all the province from the boundary line to one hundred miles north of the Grand Trunk Pacific railway.

The principal rivers of the northern portion of the Prairie Provinces were covered by reconnaissance surveys by the Commission, while, in the southern portion of these provinces and in the Railway Belt of British Columbia, the Water-Powers and Irrigation branches of the Interior Department have been active in obtaining water-power data.

A marked advance in systematic stream measurement has also taken place in Western Canada during the last three years. The British Columbia Department of Lands and the Water-Powers and Irrigation branches of the Interior Department have established numerous stations throughout the Western Provinces where regular readings are recorded.

One of the principal by-products of the national forests of Japan is furnished by mushrooms, which have yielded in one year a revenue of a million dollars.