

## Commission of Conservation

CANADA

HON. CLIFFORD SUTTON  
Chairman

JAMES WHITE

Assistant to Chairman and Deputy  
Head

CONSERVATION is published about the first of each month. Its object is the dissemination of information relative to the natural resources of Canada, their development and the proper conservation of same, together with timely articles covering town-planning and public health.

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When fire prevention becomes a matter of the individual responsibility of the citizen, then, and not till then, may a reduction in the enormous fire loss in Canada be expected.

There is real value in keeping a section of a fire department inspecting the city, learning the interior layout of the large buildings, the places where inflammable goods are stored, the location of hydrants, and the approaches, that in case of fire breaking out no time is lost in placing the water where it will be the most effective.

Forestry is the art of utilizing the forest and at the same time re-vegetating it. It is wholly utilitarian; it has nothing (except incidentally) to do with the esthetic aspects of forest growth which concern the landscape gardener. Wood-crops is its object, just as food-crops is the object of agriculture. The only obligation which forestry imposes in the use or harvest of a forest growth is to systematically replace the harvested crop. In this obligation mainly, if not alone, does forestry differ from lumbering.—*Fernou.*

It may be said, roughly, that the cost of hydro-electric developments in Norway varies between \$24 and \$60 per horse-power, except in the lowlands, where the falls are lower and the cost of development may run as high as \$160 per horse-power at the power station. The Norwegian Government concedes water-power sites for a limited period, the yearly tax being based on horse-power. At the termination of the concession, the plant automatically falls back to the Government and new agreements have to be negotiated. The Govern-

ment itself is shortly to develop an important power site at Nore, where a plant of 228,000 horse-power capacity is to be constructed. A part of the power generated is to be transmitted a distance of 78 miles to the coast, where it can be sold at \$8 per horse-power-year.—*L. G. D.*

In Eastern Canada the burden of forest fire protection falls largely upon the lumbermen, and fire patrolmen are, to a large extent, concentrated upon the merchantable timber areas, leaving vast areas of cut-over and burned-over lands practically or totally without protection. As a result, in case of fire breaking out, not only are large areas of young forest growth of great potential value destroyed, but the valuable tree species are eradicated, soil erosion occurs, and in times of drought, the fires spread into the merchantable timber areas, often gaining such headway as to be uncontrollable. The attention to merchantable timber areas should not be relaxed, but more adequate protection to cut-over areas is essential to the future existence of the forest, as well as to the preservation of areas now containing merchantable timber.—*C. L.*

## Leasing of Oyster Areas in P.E.I.

During 1913 the leasing of oyster areas by the Provincial Government of Prince Edward Island proceeded successfully, and, by December, 5,000 acres had been let and 1,500 acres additional had been applied for. The income to the government from lessees was \$7,049. The private companies formed in 1912 and early in 1913 displayed energy in planting their beds, one concern purchasing an American oyster dredge at considerable cost. Many carloads of American young oysters were imported, and in some cases these matured sufficiently to be taken up and sold as Malpeque oysters in Montreal in the autumn, to the detriment of the reputation of the Island's oysters. The private lessees, too, were permitted to take up their oysters in September, before the public beds were thrown open to the poorer fishermen, and as they thus took the edge off the demand for the autumn trade they were the objects of complaints by the unorganized fishermen. The price of oysters was poor and this circumstance was only partly offset by the relatively large supply. A cooperative association, in which private companies and independent fishermen joined together to promote the general interests of the industry, was formed late in the year. The excellent reputation of the Island's Malpeques is attested by the sale of 250 barrels of seed Malpeques to a Maine concern on Passamaquoddy bay.—*U.S. Daily Consular and Trade Reports.*

## Electric Power From Anthracite Culm

A remarkable plant for generating electricity from unmarketable anthracite culm has been recently installed at Hauto, Pa., by the Lehigh Navigation and Electric Company. Two factors have previously hindered the utilization of this low-grade coal: its cost of transportation is the same as that for the higher grade of anthracite, and the large quantity of coal dust in the refuse renders a special furnace necessary for its proper combustion. The transportation difficulty can be overcome by turning the energy of the coal into electricity and transmitting the power by wire. The type of furnace to be used has received great attention from the designers of the Lehigh company's plant.

Grates for both hand and mechanical firing have been installed and their respective performances will be watched with interest. The combustion chambers are large and the air supply has been so arranged as to ensure a thorough burning of the fuel. The other features of the equipment, both for generating and transmitting the power, are modern and of a high standard. Evidently the men who are behind the project are confident that the proximity of a good market—Philadelphia and New York being within the radius of economical transmission—justifies the building of an expensive and up-to-date station, even though the fuel to be used is of a kind which is ordinarily wasted.

At Bankhead, Alberta, coal of a similar quality occurs. Huge dumps of this unmarketable material are to be seen near the mines, but the market for electricity in the vicinity is, unfortunately, limited. However, a certain amount of this culm is being used for making briquettes, although there is more of it than can at present be profitably utilized even in this way.

## Fire Prevention along Railways

Companies now Energetic in Protective Measures—Settlers' Slash Responsible for many Fires

According to the Fire Inspection Department of the Board of Railway Commissioners, the railways throughout the country are doing very much better this year in the matter of fire protection than they have ever done before. There has been closer compliance with the requirements of the Board, and a far greater degree of cooperation between the various agencies interested in fire prevention. In particular, the railways are cooperating much more closely than previously with the fire protective organizations of the Dominion and Provincial Governments. The situation has also been greatly improved by the increase, in

number and strength, of lumbermen's cooperative fire protective associations, of which there are now two in the Province of Quebec, protecting a total of nearly 14,000,000 acres.

In the past railways have always been regarded as one of the principal causes of forest fire destruction. This situation is now being rapidly changed, due to the increasing care given this matter under the requirements of the Railway Commission. The fire hazard is being reduced by the expenditure of large sums by railway companies in disposing of inflammable debris on rights of way. Great care is taken to keep the spark arresters on locomotives in good order. Through the more dangerous sections, special fire patrols are maintained, and everywhere railway employees have received special instructions regarding the reporting and extinguishing of fires in the vicinity of the track.

Reports received by the chief fire inspector of the Board indicate that, to a very much greater extent than in previous years, the fires in the vicinity of the railways have been adequately handled by the railway employees and that most of the serious fires reported as occurring in May originated at a distance from the railways, frequently as a result of settlers' slash-burning operations.—*C. L.*

## Our Northern Water-Powers are Valuable

In Norway, Under Similar Conditions, Million and a Half Horse-power Developed

The statement is sometimes made by the uninitiated that the water-powers north of the settled parts of our Dominion are of little value. The existence of numerous falls and rapids in these parts is not denied, but the argument is advanced that the temperature and other climatic conditions existing where these falls and rapids are situated will prevent their utilization. As a direct contradiction to the above assertion, we need only turn to Norway, the latitude of which is at out the same as that of the Yukon, and where climatic conditions are similar to those of northern Canada. In size, Norway is only slightly larger than our Maritime Provinces, and yet we find there water-power plants with a total capacity of over 1,500,000 horse-power, either in actual operation or in course of construction. Hydro-electric stations of considerable size have been constructed in different parts of that country. Many of the smaller ones have been erected for municipal use, but the larger ones are for the electro-chemical industry, in which a main factor of success is cheap and plentiful electric power.—*L. G. D.*