

## Co-operative Forest Fire Protection

### Formation of Maurice Valley Forest Protective Association—Proposed Methods of Working—Similar Organizations in the United States

The adoption of the co-operative idea in forest fire protection is a matter of very recent development on this continent. In Canada, the first beginning has recently been made through the formation of the St. Maurice Valley Forest Protective Association, with headquarters at Three Rivers, Quebec. The membership comprises over 90 per cent. of the limit holders in the St. Maurice valley. The Government of Quebec will co-operate with the Association and will bear a portion of the expense, in recognition of the public interest at stake. An assessment has been levied, with which to start the work of protection. Steps will be taken to establish an efficient patrol of the whole section, placing men along all the larger streams to follow the river-drivers, hunters, fishermen and prospectors to see that they put out their camp fires and smudges and observe the government regulations. These rangers will also see that the settlers burn their clearings only when it is safe, and will compel them to take proper precautions to prevent fire spreading. On the railroads, men on gasoline "speeders" will follow the trains and put out fires started by sparks or hot coals. Look-out stations, telephones and trails will also be constructed, to facilitate the discovery of fires and the transportation of men to extinguish them.

That the maximum of efficiency in forest fire protection is compatible with the minimum of expense has been demonstrated by the twelve organizations of timberland owners in Washington, Oregon, Idaho and Montana which comprise the Western Forestry and Conservation Association. During the summer of 1911 this association provided for the co-operative patrol of 16,000,000 acres of timberland at a cost, including the construction of roads, trails, telephone lines, etc., of less than two cents per acre. The fire loss, as a result, was practically negligible. During the very bad season of 1910, the fire loss on the lands of the Association was kept down to less than one-half of one per cent. More than 400 patrol men were employed to guard the stand of not less than 400 billion feet of timber on these lands. During the two years the Association has been in existence, forest protection has become a living issue on the Pacific Coast. The laws have been strengthened and state appropriations doubled. The general public has become awake to the subject and convictions are secured for violations of the laws. In short, more has been accomplished during the two years of the Association's life in the way of securing definite action by states

and the private owners of timber lands than in all the year previously.

Co-operation in fire protection is a modern development, and other portions of Canada may well follow the example set by the timber owners of the St. Maurice valley.

## Railroads Are Using Oil

The consumption of fuel oil in the United States is steadily increasing, according to a report by David T. Day of the United States Geological Survey, on the production of petroleum in 1910.

During that year the quantity of fuel oil consumed amounted to 24,586,108 barrels, as compared with 19,939,394 barrels in 1909, an increase of 23.3 per cent. In the vicinity of oil fields or where cheap water transportation can be secured, as along the Pacific coast, the cost of operating with oil is less than with coal. The use of oil as a source of motive power for railroads offers, aside from the use of electricity, the only certain guarantee of immunity from the hitherto generally prevalent fires along railroad rights of way. The adoption of oil as fuel on the C. M. and St. P. lines west of Butte and on the Great Northern west of Leavenworth, with a proposed extension eastward to Spokane this summer offers great encouragement for the adoption of similar measures by the railroads of Canada on portions of their lines. Already the Canadian Pacific railway announces the establishment of oil-burners, effective July 1 on that portion of its line in British Columbia between Kamloops and Field. The Esquimault and Nanaimo railway running northward from Victoria on Vancouver Island is equipped with oil burning locomotives. The economy in the use of oil along the Pacific coast is further shown by its adoption, in place of coal, on the Canadian Pacific railway and Grand Trunk Pacific steamers. No one thing would go so far to prevent continued destruction of the magnificent forests of British Columbia as the use of oil on locomotives running through forested portions of that Province. The hardship upon the railroad companies would not be material, and in comparison with the tremendous public interest at stake would be infinitesimal.

## The Meaning of Conservation

Conservation does not mean forbidding access to resources that could be made available for present use. It means the freest and largest development of them consistent with the public interest and without waste. A bag of gold buried in the earth is useless for any purpose. So is an acre unutilized, a mine unopened, a forest that bars the way to homes and human happiness.—*Gas. J. Hill.*

## Conservation of Mineral Resources

Water-powers and the products of the soil and forest may be wasted and partially destroyed, but, by careful and long continued treatment, a re-creation is made possible; by the extension of our forests and the judicious care of our soils and waters we may be assured of timber, water and abundant crops for all time.

The ores or minerals, on the other hand, are the products resulting from the action of different forces in nature extending over long periods of time which cannot be measured in terms of life. Hence, when such deposits are exhausted they cannot be replenished. The coal, when once burned, goes into the air and cannot be reclaimed. It is true that the metals saved are utilized without being, like coal, entirely and irrevocably destroyed in use. Gold and silver serve mainly to increase the stock of the precious metals upon which the monetary systems of the world are based. They are, to a certain extent, dissipated and lost beyond recovery by the abrasion of coins and use in the arts.

### Factors to be noted

In considering the conservation of mineral resources it is of the utmost importance to observe the following facts:

1. There will be no mineral industry without profits; that is to say, no mining company will mine or extract these resources in such a manner as to entail continuous loss to itself in order to conserve such resources for the future.

2. The present generation has the power and the right to use efficiently so much of these resources as it needs. The past has proven that the needs increase with the extension of our industries, and more rapidly than the population.

3. The nation's needs will not be curtailed. The people will take what they require.

Conservation of our mineral resources may be accomplished by investigation, education and legislation. Investigation should be carried on to determine the nature and extent of each of our important resources; the rate at which each resource is being utilized; the nature and extent of the waste in mining, extraction and use of each mineral product; how this waste can be prevented; to discover and develop substitutes which may take the place of products of importance, the supply of which is limited; to discover methods for utilizing by-products or other materials for which, under existing conditions, there is no commercial demand and which are therefore wasted. If, from time to time, the policy and action of individuals and corporations are such that wasteful methods are used in order to make large financial profits, regardless of the rights

of the future, such action should be restrained by legislation. Report on *Lands, Fisheries, Game and Minerals.*

## Economics in Street Construction

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There is no reason why we should not have our towns and cities beautiful and picturesque. It can be done economically by adopting wise and carefully planned methods of road construction. The authorities of many cities and towns in Canada have yet to realize that while streets should be wide—not less than 60 feet—yet it is not essential that they should all be planned or paved alike. The important factor in deciding such points is the amount and character of the traffic which passes along, or will in future pass along, any given streets.

The illustrations on the preceding page indicate the advantage of wide boulevards and comparatively narrow roadways, where the street traffic is light. These typical English suburban streets are not only beautiful, but are economical both in the matter of construction and of maintenance.

## WHITEFISH HABITS

Perhaps the most important characteristic of the whitefish is that it is local in its habits—that is, its movements are pretty well confined to a limited area of water. From this a very important corollary follows viz., that we must hold ourselves responsible for depleting our own waters of this fish. We cannot say that the whitefish are disappearing from our side of the lakes because the United States fishermen are catching them all, for their fishermen are not allowed on this side of the international boundary line. Moreover, when this fact is known, we may rest satisfied that when we plant fry on this side of the lakes the fish into which they grow will be caught by Canadian fishermen. Because we cannot get our neighbors to agree to international fishery regulations is no reason why we should not conserve our whitefish supply.

—From an Address before the Fisheries Committee of the Commission of Conservation.

## FUR FARMING

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and breed of the stock on the several farms, and the sales that have been made within recent years. In addition the experience of fur-farmers in the United States and Russia will be studied. The results of this work will be embodied in a well illustrated report which will be published late in the year. It is hoped that the investigation will do much towards placing the industry on a sound financial basis, and tend to check the over speculation in breeding stock which has been so common in the past.