Importance of Water Storage

Increased Power and Steady Flow Secured by Storage During High Water Periods

The problem of properly conserving and utilizing the water resources of a country is neither new nor novel. The great hydro-electric development in Canada requires strict control and present conditions cannot be adequately dealt with by the legislation and the ideas of twenty years ago. The water-power wealth of Canada is one of the principal assets of the country and it is most urgent that not only the governments but also individuals interested in water-power schemes should recognize the importance of expert regulation and control of our streams. Water conservation and storage has ceased to be looked upon as a sentimental idea only, and its immediate economic value has become clearly recognized.

Every cubic foot of water as it passes over falls and rapids in large and small streams on its journey to the sea, has an element of power which is lost forever if not used at the time of its passage. All have noted the difference between the enormous volume of water rushing down our streams during the spring floods and the much diminished flow at the end of summer, which in the majority of our streams, is further reduced during the winter months. Most water-power enterprises have been planned to utilize only this low, winter flow and allow the large additional volume available at other times to pass without obtaining a single horse-power of useful work from it, thus utilizing the full amount of power only during four months in the year. For comparison and to furnish an idea of the amount of power going to waste during the remaining eight months, it may be stated that one cubic foot of water per second passing over a ten foot fall during the remaining period represents 14 tons of coal during that period.

A similar illustration is given by considering the waste at points where water-power is being used. With the exception of Niagara and the St. Lawrence river, whose flow is exceptionally well regulated by nature, the average yearly flow of our streams is from two to ten times their minimum flow. As, in most cases, developments provide only for the minimum flow of streams, it follows that the water wasted is from one to nine times that used. Taking the lowest figure, that is, assuming that the power wasted is equal to the power used, and taking the total power developed in Canada exclusive of Niagara and the St. Lawrence as 1,000,000 h. p., we find a yearly non-use of water-power in Canada equivalent to 12,000,000 tons of coal due to non-storage of water.

In our present stage of development we, of course, cannot utilize this vast power but the figures demonstrate its enormous value of this natural resource.—L.G.D.

Cut No. 100

TRAIL CONSTRUCTED BY DOMINION FORESTRY BRANCH, BOW RIVER FOREST, ALBERTA

The construction of trails greatly facilitates communication and thus assists materially in forest fire protection.

Past Neglect of Forests

Many Eastern Settlements are Languishing due to Loss of Forest Resources

The future forest industries, which are almost the only industries possible on three-fifths of the area of Eastern Canada, must be supported by the timber grown on the logged-over and burned-over non-agricultural lands. Looking at these lands we should see, not wastes, holding no promise for the future, but productive lands, needing only protection from fire to enable them to support logging camps, pulp mills, rural and industrial communities of a type which has done much for Canada. If the young forest growth on the non-agricultural lands of Eastern Canada had been protected from fire during the past twenty years, railways would not now be importing railway ties, and saw-mills in Western Ontario, each the centre of a thriving community, would now be supplying the markets with lumber, which, because of lack of forest protection in the past, is being supplied from British Columbia and the United States.—H.R.M.

Forest Destruction Due to Carelessness

Grand Jury Recommendation Takes Cognizance of Forest Fires

At the Summer Assizes, recently concluded at Parry Sound, Ont., two suits were entered against railway companies for damage to standing timber from fires caused by sparks from locomotives. At the conclusion of the session, the Grand Jury of the District Court for the district of Parry Sound took the opportunity in making its presentment to the presiding judge, to protest against the negligence of the officers, appointed for the purpose of preserving forests from fire, in bringing guilty parties to justice. The necessity of checking the enormous fire wastes of Canada was pointed out in very forcible manner, and the action of the Grand Jury, in taking this method of arousing public opinion on the subject, merits the highest commendation. The following quotation is taken from the text of the presentment:

"One of the important matters taken into consideration by the Grand Jury at this session was the awful destruction of our timber wealth by fire.

"Your Grand Jury, which is mostly composed of yeoman of the district, has come to the conclusion that unless the present laws enacted are enforced, and enforced with vigor, in the course of a few years the uncultivated portion of our district will be one vast brulé.

"We are of the opinion that the laws governing the preservation of the timber are adequate if enforced and we will advise those in authority to see that in future this shall be done.

"We have made enquiry regarding prosecutions and find that not a single criminal case has been instituted and the settler as a rule is not in a position financially to proceed in the civil courts.

"The blame of forest fires may be attached to careless settlers, careless tourists, careless bushmen and careless brushmen and careless railwaymen, but in our opinion this carelessness will continue till the officers appointed for the purpose of preserving the forests from fire wake up to their responsibilities and bring the delinquent parties to justice by criminal proceedings."

To the foregoing indictment, a word should be added respecting the great improvement of recent years in the railway fire situation. As a result of the thorough system of fire prevention measures required of the railway by the Railway Commission, and of the effective co-operation of the railways themselves, the latter can no longer be singled out as the arch offenders in connection with our annual forest fire record.

Spraying With Poison Solutions

When using paris green, keep the solution off your hands and entire person. A break in the skin, such as a scratch, pimple, or sore will permit it to enter the blood and cause a severe sore or even blood poisoning. When paris green is used in the dry form, be careful to get it only on the plant for which it is intended. Consider the direction of the wind when doing this kind of work.

In spraying with paris green or Bordeaux mixture it is advisable to protect the face. A veil or false face is often used for this purpose.

In spraying with lime-sulphur rubber gloves should be used. This solution is very corrosive and may cause very painful sores on the fingers where exposed for some length of time. It takes over two months for these sores to heal. Vessels that have been used to contain these poisons should not again be used for any other purpose.

FORESTRY BRANCH ACTIVE

The Dominion Forestry Branch has seven parties in the field this summer, in various portions of Alberta, Saskatchewan and Manitoba, engaged in forest exploration work. These parties will determine the timber resources of the sections in which they operate and will endeavor to locate all large bodies of strictly non-agricultural land in those sections, in order that such areas may serve their best permanent use to the country by being devoted to the continuous production of wood crops.—C.L.