

Commission of Conservation CANADA

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CONSERVATION is published monthly. Its object is the dissemination of information relative to the natural resources of Canada, their development and proper conservation, and the publication of timely articles on housing and townplanning.

The newspaper edition is printed on one side of the paper only, for convenience in clipping for reproduction.

The Commission of Conservation was created in 1909, by Act of Parliament, to promote the economic use of Canada's natural resources. Authentic information respecting the character and extent of such resources, and with reference to the problems associated with their efficient development and their conservation, is freely available on request to the Commission.

OTTAWA, JANUARY, 1921

Dangers of Celluloid

Celluloid is being used to a greater extent than formerly for the manufacture of toilet articles, including combs and backs of hair brushes, and for children's toys. The very inflammable nature of this material represents a serious fire hazard, and one which has received much attention from insurance and fire protection associations. Stringent regulations are laid down for safety of employees and property during processes of manufacture, while very little attention is paid to the dangerous nature of celluloid in the hands of the public.

The Professional Fire Brigades Association of England at a meeting recently dealt with this subject. It was suggested that legislation should be passed prohibiting the use of celluloid for children's toys, owing to its inflammability. The National Fire Protection Association in its quarterly bulletin, refers to the ignition of a celluloid comb through friction while combing hair.

Owing to processes of manufacture many products are placed on sale which are imitations of non-hazardous materials, such as tortoise shell, ivory, etc. These should be distinctly marked, to prevent accidents. It is of the utmost importance that care be exercised in the use of celluloid or similar inflammable substances under a variety of names.

Power Development From Waste Coal

Conservation of Fuel Demands the
Utilization of Unmarketable Coal
for Power Purposes

The efficient use of the slack resulting from the mining and screening of coal to marketable sizes, has been and is one of the problems of the mine manager. Canadian conditions are not unlike those of other countries, apart from the fact that our coal mines are somewhat distant from large centres of population. The Brit-

ish Association of Mining Electrical Engineers has considered this question from the fuel conservation standpoint, due to the fact that in many Scottish collieries the percentage of unmarketable fuel is increasing, the result of many of the thicker and better seams giving out.

The consensus of opinion appears to be that the most economical use for this fuel is in the generation of steam at large steam-electric power plants situated at the colliery. The colliery would thus become a power centre, around which power-consuming industries could congregate, or from which the power could be distributed by transmission lines.

On account of the high ash content of the coal refuse the water-tube boiler has been found the most satisfactory, with a stoker equipment which will automatically discharge the ash without the admission of an excess of air. A high combustion efficiency is thus secured, and satisfactory evaporation conditions are easily maintained.

In certain sections of Canada, notably Alberta, the fuel situation and power requirements suggest the introduction of super-power plants at mining centres. In a pamphlet, "Power in Alberta," by Mr. James White, the author emphasizes the importance of utilizing the waste coal at the collieries for the development of steam-electric power. While this pamphlet deals especially with Alberta conditions, an investigation of other areas would probably demonstrate the feasibility of steam-electric super-power stations at points where a cheap fuel supply is available.

With increasing freight rates and the higher cost of mining, it becomes of vastly greater importance that waste of fuel and waste in the handling and transportation should be reduced to the minimum in order that the cost to the consumer may be maintained at the lowest point possible.

Fur Breeders Association

An important meeting of fur farmers was held in Montreal during the recent exhibition of live silver foxes. Representatives were present from both Eastern and Western Canada and a national organization, to be called the Canadian Fur Breeders Association, was formed. It will have much the same relation to the fox-farming industry as the several National Live Stock Associations have to their respective branches of animal husbandry. National records for pedigreed foxes will be kept in future by the Live Stock Records Branch of the Dominion Department of Agriculture.

The catch of salmon, cod, lobsters, halibut, haddock and mackerel showed increases in 1919 over 1918, while herring, whitefish, trout smelts and scardines showed decreases.

Joint Ownership of Water Rights

Interference with Development May
Result from Lack of Common
Interests

The possibilities of injury by one or more users to other users of water-power on the same stream is attracting much attention, owing to the serious effect which it may have in retarding the full development of our water resources. The interference may assume many aspects. For instance, one user may so operate his water-power as to render it practically useless to another power-user situated below on the same stream; unless sufficient local storage were available in connection with the lower site, the lower power must adjust itself to that at the upper site, and under certain reasonably possible conditions, all the available water may pass the lower site during the night, while, during the day, the stream might be practically dry. These possibilities also open the door for malicious injury by the upper user.

Interference may also occur where a water-power site is jointly operated by users on each side of the river; one user may wish to utilize his share, while the interests of the other apparently point in the opposite direction, either to retard competition, to force the other owner to pay an unreasonable price, or for similar reasons.

Cases of this character have, up to the present, practically all been settled, and properly so, by the common law. The use of our water-powers is rapidly extending, and such cases will become increasingly numerous and intricate; unless guided by authoritative and accepted general principles, there will always be the danger that our courts may underestimate the effect on the general welfare and development of a community of taking too strong a view respecting the sanctity of acquired rights.

The Commission of Conservation recently undertook an investigation to ascertain how the problem was being dealt with in Canada and in the United States. In a number of instances, progress towards the solution of the difficulty was reported.

In Ontario, it is provided by statute that the Lieutenant-Governor may declare any stream under the control of the Minister of Lands. The Minister may then regulate its flow in the best interests of all parties concerned, this being particularly applicable in case of difficulty between interests on the same stream.

In the United States the respective rights of owners are often defined by "reasonable use" of the water, and the state of Maine offers the following judicial explanation in this regard:

"In determining what is a 'reasonable use,' regard must be had to the subject matter of the use; the occasion and manner of its application; the object, extent,

necessity and duration of the use; the nature and size of the stream; the kind of business to which it is subservient; the importance and necessity of the use claimed by one party, and the extent of the injury to the other party; the state of improvement of the country in regard to mills and machinery, and the use of water as a propelling power; the general and established usages of the country in similar cases; and all the other and every varying circumstances of each particular case, bearing upon the question of the fitness and propriety of the use of the water under consideration."—*L. G. Denis.*

Sockeye Salmon Pack On the Fraser River

Limited Seeding of Spawning Grounds
in 1917 will be Reflected
in 1921 run

In 1920, the Fraser River canneries contributed 44,598 cases of sockeye to the British Columbia pack. This was one of what are known as the "lean" years, in comparison with the "big" years, which, formerly, occurred every fourth year. In 1916, four years previous, the sockeye catch of Canadian fishermen on the Fraser river was but 32,146 cases, showing a considerable improvement for a comparative year.

According to precedent, 1921 should be a "big run" year, but, owing to the small run of 1917, due to the inability of the fish to reach the spawning beds in 1913, following the rock slide into the Fraser river in that year, it is difficult to estimate what the run may be. In 1913, the Fraser River pack in Canada was 719,796 cases, whereas, due to the above handicap, but 148,164 cases of sockeye were put up in 1917. Mr. J. P. Babcock, Assistant Commissioner of Fisheries of British Columbia, and a member of the Commission of Conservation, speaking at the meeting of the Commission in November, 1917, stated that "in 1917 there were 2,600 gill nets fishing as hard as they could, and there was not an available point in the Puget Sound district in which they could drive a trap or use a purse seine that they were not doing so. They are now trying to use gill nets in the clear waters there. . . . So great a proportion of the fish that sought the Fraser watershed in 1917 was taken by the fishermen that the spawning beds were no better seeded that year than in recent 'off' years. The spawning of 1917 cannot produce greater results in 1921 than were produced by the spawning of 1913 (148,164 cases in 1917), and there can be little hope that it will produce a result even approximately as great."

In the year ending Sept. 30th, 1919, 249,626 apple trees, 50,662 pear, 46,880 plum, 32,535 peach, and 55,612 cherry trees were sold by nursery men in Canada.