Conservation

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A Prophecy Fulfilled

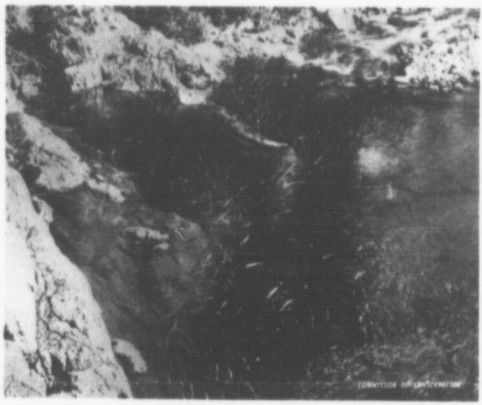
Fraser River Salmon Threatened with Extinction—A Fateful Rockslide—American Inactivity

Although reports from British Columbia indicate that the salmon pack last year was the largest on record, it must not be inferred therefrom that the salmon industry is still as flourishing as ever. The facts are, as reported by J. P. Babcock, Asst. Commissioner of Fisheries for the province, that the large pack is due entirely to the increase from, and the utilization of, the "pinks" and "chums," varieties of the salmon, for which there was no sale until the sockeye became scarce. The run to the Fraser during 1918, was "very much the smallest ever known. The river may be said to be fished out of sockeye, and the run of spring salmon, which was not used previous to the war, is fast disappearing." The sockeye commands a higher price than any other Pacific salmon and it is the salmon that made the Fraser River fisheries famous. The destruction of this valuable fish is exactly in line with a prediction made by Mr. Babcock before the Commission of Conservation in 1917.

In the year 1913, a big rockslide, incident to railway construction work, occurred in Hellgate cañon in the Fraser river. This slide was nothing short of a calamity to the sockeye salmon-fishing industry in British Columbia. All familiar with the conditions there know that the phenomenon known as the "big slide" takes place every four years. Big runs occurred in 1905, 1909 and again in 1913, the fateful year of the big slide. In each of these years the run of sockeye was very much greater than in the intervening years. The phenomenon of the "big year" is due to the fact that the sockeye takes four years to mature. Thus, the fish of 1913 were abundant because of the abundant spawning in the year 1909.

The slide above-mentioned unfortunately occurred during a "big slide" year. It so narrowed the river (see illustration on page 30) that the force of the water was too great for even the sockeye to overcome and they were unable to reach their spawning beds. The situation on page 27 gives a

(*Continued on page 30*)



SPAWNING SALMON FORCED INTO MOUTH OF SPUZZUM CREEK
Courtesy Mr. John P. Babcock — Cut No. 188

UNITED STATES WILL PROTECT THE BIRDS

Constitutionality of U. S. Migratory Birds Treaty Act Affirmed in Recent Decision

Federal Judge Trieber, of the Eastern District of Arkansas, has recently handed down a decision upholding the constitutionality of the United States Migratory Bird Treaty Act. He held that, while the Migratory Bird Act of 1913 was unconstitutional, the new law is constitutional, inasmuch as it is based on a treaty. This decision is based upon the Constitution of the United States which provides, in effect, that, unless the provisions of the treaty contravene the principles of the Constitution, the treaty becomes a part of the supreme law of the United States.

All who have at heart the best interests of game, insectivorous and other migratory birds, will rejoice that the laws of the United States will protect the wild life that Canada and the Republic share in common.—*J.W.*

When you hear a motor horn, make up your mind immediately what to do. Either stop or proceed, but *do not hesitate*. The chauffeur reads your intentions by the first move you make. If you then change your mind, an accident is very liable to result.

HELP PREVENT FIRES—FOLLOW THESE RULES

1. *Matches*—Be sure your match is out. Pinch it before you throw it away.

2. *Tobacco*—Throw pipe ashes and cigar or cigarette stumps in the dust of the road and stamp or pinch out the fire before leaving them. Don't throw them into brush, leaves, or needles.

3. *Making Camp*—Build a small campfire. Build it in the open, not against a tree or log or near brush. Scrape away the trash from all around it.

4. *Leaving Camp*—Never leave a campfire, even for a short time, without quenching it with water and then covering it with earth.

5. *Bonfires*—Never build bonfires in windy weather or where there is the slightest danger of their escaping from control. Don't make them larger than you need.

6. *Fighting Fires*—If you find a fire, try to put it out. If you can't, get word of it to the nearest forest ranger at once.

The above rules for the prevention of fires, prepared by the United States Forest Service, are equally applicable to Canada. Their observance would go far towards lessening the tremendous toll taken each year by the forest fire fiend.

Super-Power Plants in Great Britain

Project has Only Limited Application to Canada—Proposed Centralization in Saskatchewan

The recent decision to proceed with the super-power station scheme for electric supply in Great Britain calls to our notice what should be done along these lines on a more modest scale in certain portions of Canada.

The British plan to improve the supply of electricity throughout Britain contemplates the replacement of the numerous small stations now in operation, by fewer but much larger stations supplying extensive districts through high tension transmission networks. There will be a gain both in economy and fuel conservation and, in many cases, the quality of service will be much improved. This national electric supply operates under the supervision of five commissioners appointed by the Board of Trade; these, in turn, appoint District Boards which include representatives of electric undertakings, of large consumers and of labour.

Lancashire is to be one of the first areas dealt with, the county being divided into three districts. Some of the smaller stations will probably be shut down immediately, the energy transmitted from larger existing stations being substituted. Following the building of the new super-power plants, the Commissioners will eliminate the remaining small stations and, also, the moderate-sized plants.

A similar situation, however, does not occur in Canada, as by far the larger portion of the capacity of our hydro-electric stations is to be found in what may be called "super-power" stations; many of them are also interconnected to allow more efficient operation.

There is, however a portion of Canada where the absence of water power makes it necessary to supply power from steam or other fuel agencies. This area, which comprises southern Saskatchewan and adjacent portions of Manitoba and Alberta, is becoming of much importance through its rapid agricultural expansion and its future needs should be anticipated so far as possible.

(*Continued on page 29*)

Japanese Water Power Survey

Progress in Hydro-electric Undertakings in Nippon—Comparison with Canada

The value of water power as an indispensable adjunct to industrial development is being universally recognized. Japan has lately set aside a sum equivalent to over $400,000 or the investigation of sites for hydro-electric power plants and for the collection of reliable data for use in connection with future hydro-electric undertakings in that country. The programme of work includes the selection of 635 power sites; the only sites to be surveyed at present are those where more than 1,000 h.p. can be obtained by economical exploitation. There is also provision for the establishment of numerous stream-gauging stations and of new meteorological observatories. This work is to be completed by the end of next September.

Canada is justly proud of her water power resources, both latent and developed, and, in this connection, it is of interest to note the progress made in Japan. Hydro-electric plants in that country already utilize more than 1,000,000 horse power and a further 2,000,000 horse power is under lease for development. Construction work for about one-half of the latter quantity is now being proceeded with and it is estimated that some 5,000,000 horse power is capable of development on commercial lines.

In Canada, the total hydro-electric power developed is over 1,800,000 h.p. A single plant now under construction to utilize Niagara power will have a capacity of 300,000 h.p. It has been estimated that the total possible water power, capable of development in Canada, is more than 18,000,000 h.p.—*L G.D.*

Hay-box Used as Fireless Cooker

Cheaply Made Article which will Economize Time and Heat

A convenient aid for summer cookery, which economizes both time and heat, may be cheaply made in the following manner:

Obtain a box of a suitable size from the grocer or the fruit store, line the inner surfaces and lid with felt, flannel, or sacking and newspaper, then place enough hay inside to form a nest for a saucepan. This completes the apparatus.

It is used by partly cooking the dish in course of preparation over a gas stove, then immediately placing the saucepan in the hollow in the hay, putting some hay over it and fastening down the lid tightly with a weight or strap. After a little experimenting, a woman may prepare her dinner, before engaging in other household work, or before going out, and find it hot and ready some hours later.

It is possible to cook more than one dish at a time, but on no account must the box be opened until the food which requires the most cooking is ready. All meat dishes require a good start.

A calculation should be made as to the length of time they would take in the ordinary way; they should then be cooked for half that time on the gas or fire, and finished in the box. After a little experience many things can be left on the gas one-third or even less of the time required in the ordinary way.

The following are some of the things which may be cooked in the hay-box:

Boiled Chickens—Half the usual time on the fire, three hours in the box.

Stew—Prepare in the usual way, stew gently for forty-five minutes on the gas or fire, leave in the box for three or four hours.

Boiled Beef—Half the usual time on the gas or fire, and in the box as long as possible.

Potatoes—Put into cold water, boil one minute. Leave in the box for two or two and a half hours.

Dried peas, beans and porridge, etc.—May be boiled and put in the box over night and be ready for use in the morning.

Problems of the Lumber Industry

Factors Causing State of Instability —Effects of Reckless Forest Destruction

The fundamental economic situation that has heretofore kept the lumber industry in a state of unstable equilibrium still exists. Labour problems, in considerable part due to the unsound industrial situation, loom up with no permanent adjustment in sight. The dissipation of our forests goes on with no let-up, and still for the most part without any provision for the continuance of the forests after lumbering. Exhaustion of local forest supplies, the closing of industries dependent on them, the embarrassment for supplies of the pulp mills and other consumers using special classes of forest products, the generally mounting prices to consumers, are other factors which are calling sharp attention to the effect of forest destruction, and are causing increasing public uneasiness.

Lumbermen are giving thoughtful study to the needs of the industry; and they recognize that many things of a helpful and constructive character can be done within the industry itself in the way of cost accounting, adaptation of manufacture to the needs of the trade, scientific merchandizing, economies in manufacture, conservatism in finance, diffusion of information about production, markets, price movements, existing stocks and shipments, and so on. I judge that progressive steps are very generally under way in such matters, and that lumbermen are going as far as they can to improve the internal situation. There are other things that can be accomplished through co-operation with existing public agencies, as in economic, industrial, and technical research, and in demonstration of technical methods. I believe that a great many valuable things for the lumber industry can thus be brought about.

But neither the lumber industry nor the public can ignore the fact that the great fundamental problems, which not only involve the permanence and stability of the interests dependent on our forests but also gravely affect the national welfare, are not being solved. These problems fall into four general groups: those relating to the causes of over-production, those that concern the supply, character, well-being, and stability of labour, the problem of the continuance of private forests and of stumpage supply, and certain questions relating to our public forests.—*H. S. Graves, Chief, U.S. Forest Service.*

Canada's Dependence on Electric Power

Many Resources can Only be Developed through Use of Hydro-electric Energy

Few realize the important relation which Canada's wealth in water power bears towards reaping the full benefit from her numerous other natural resources. It is true that these other resources would not otherwise be entirely lost to the country, but they would have to be exported as raw material in its most primary state with a minimum return to us. The presence of cheap power which is almost invariably found side by side with these other resources, facilitates their development, while their full industrial value is retained in being able to deliver them as a fully manufactured product.

It may be even permitted to predict that this cheap power will soon attract raw material from other countries. For instance, the large aluminium plant on the United States side of Niagara Falls is operating largely from hydro-electric energy exported from Canada. Had it been physically or economically impossible to export this energy, as the question of power is of utmost importance, these works would have doubtless been attracted to use it on the Canadian side.

In Canada, the pulp and paper industry has been greatly expanded through the proximity of abundant water power to our forest resources. A recent census bulletin on this industry shows that there is a total of 524,252 h.p. installed to operate pulp and paper mills in Canada. From other figures given it is fair to estimate that at least 475,000 h.p. of this is derived directly or indirectly from water power.

If we consider pulp mills alone the figures from the bulletin also demonstrate the important part which power holds in connection with this industry. The Canadian mills producing pulp exclusively are stated to have a yearly output of 490,615 tons, for which it is necessary to use 95,463 h.p. In other words one horse-power will produce approximately five tons of pulp yearly. This one horse-power usually costs from $8 to $10 with water power, while if other sources of energy had to be used, the corresponding cost might be from $30 to $50. This would mean an increase in cost of at least $4 per ton, or, in all probability, if the water power had not been available, the pulp would not have been manufactured.—*L G.D.*

Regeneration of Waste Paper

How the Saving of Paper can Relieve the Heavy Drain upon our Forests

During the war, in many places in Canada, organizations of patriotic workers undertook the collection of waste-paper, with a two-fold object, namely, the revenue derived therefrom and relieving the shortage of raw material.

It would be difficult to secure an estimate of the value of the waste paper collected but it amounted to many thousands of tons.

As a forest conservation measure, this work was a tremendous success. Every ton of waste paper sold relieved the forest of supplying raw material to take its place. Eight trees of 9-inch butt are required to make one cord of pulpwood, and one cord of pulpwood makes one ton of pulp. We are proud of our rapidly growing pulp and paper industry, but few realize what a drain this means to the forest.

Dr. C. D. Howe, in reporting on the Commission survey of forest regeneration at the last annual meeting of the Commission of Conservation, said:

"The studies of the past summer corroborate the results of the previous summer, namely, that the young balsam and spruce under the cover of the hardwoods grow very slowly. For example, the average 4-inch balsam was found to be 55 years old, the average 8-inch tree 70 years old, and it was 80 years old at 10 inches in diameter breast-high. This statement is based on the growth analysis of about 300 trees. The spruce grows even more slowly. At 4 inches in diameter breast-high, the average tree was found to be 80 years old, at 8 inches in diameter, 120 years old, and at 12 inches in diameter, 165 years old."

Thus, to supply the raw material for one ton of pulp will require eight balsam trees of 75 years growth, or eight spruce trees of 130 years growth, or 600 and 1,040 years, respectively, of tree growth.

To-day, the market price of waste paper is somewhat lower than during the war, but there is a steady demand for it, and by organized gathering, a good revenue may be derived, the drain on our forests may be partially relieved, and, in a measure, the reputation of Canadians as a nation of wasters, may be discredited.—*J.D.*

Commission of Conservation
CANADA

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CONSERVATION is published the first of each month. 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 town-planning and public health.

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OTTAWA, JULY, 1919

COMPULSORY TOWN PLANNING

Town planning in Great Britain has so far advanced beyond the experimental stage that it has now been decided to make it compulsory for every town, having 20,000 inhabitants or more, to submit a town planning scheme for its own area to the Local Government Board, not later than 1926. Such a scheme must embrace the limitation of population densities per acre, define the portion of a site area to be covered with buildings, the character of the buildings, the lines of arterial roads and the provision of open spaces.

The British people realize that haphazard growth of towns leads to serious evils and they are determined to control it. In future, land will have to be developed so as best to serve the interests of the community, which, in the long run, is usually in the interests of the landholders themselves. Only the land speculator is adversely affected. If the public wish to put that individual out of business, they cannot do it more effectively than by actively promoting proper schemes of town planning.

In Canada, the province of Nova Scotia took the lead in making town planning compulsory in 1915. The only other province which has a compulsory act is Saskatchewan. These are therefore the only two provinces abreast of the Old Country in town-planning progress, though most of our provinces have enabling acts in force.

ELECTRICITY AND CIVILIZATION

The subject of water power is one of great interest in Canada. The benefits which we have a right to anticipate from our wealth in this valuable resource are being more and more truly appreciated in this country.

In connection with the value of water powers, the *Electrical World*, commenting on remarks by Dr. George Otis Smith, Director of the United States Geological Survey, states that, in the long run, the utilization of water power means the saving of human energy for purposes to which power-driven machinery is not yet adapted. The mere change from steam power to water power is not only significant of lower costs in manufacturing and of the saving of the earth's stored fuel for its more important uses, but it relieves the labour necessary in mining the coal and the still greater burden of transporting it. Every water power harnessed and displacing steam power implies, therefore, a great band of labourers in the mine and on the railways freed from this particular necessity of toil for other and more useful work. Now that the price of labour has risen beyond the wildest dreams of a few years ago, we are approaching an era when, wherever possible, human energy will be replaced by mechanical or electrical power.

If we are to attain a condition of production that will give us a chance of successful competition in the world's market, it must be through the most determined efforts at cheap power production and all possible saving in the field of human labour. The great power enterprises of the present day give opportunities such as have not yet been realized.—*L. G. D.*

KEEP THE WEEDS DOWN

Weeds will grow where anything else will grow. If they are not destroyed they will ruin any crop. Survival of the fittest is an inexorable law of nature, and the weed, being propagated by natural methods, has an immense advantage in competition with a cultivated crop.

Constant attention is the only remedy. Once the crop is sufficiently above ground to be distinguishable, cultivation of the soil to kill the weeds should be commenced and should be continued till the crop is high enough to crowd the weeds out. This cultivation is also necessary for good growth as it permits the soil to retain moisture during dry weather and leaves the surface in better condition to absorb rainfall.

BARN FIRES

During the past two haying seasons many fires have occurred in barns, and these have been traced directly to the storing of hay in the barns before it has been thoroughly dried. The moisture in the hay has caused a fermentation and heating which has resulted in spontaneous combustion, and the loss of the hay crop and the buildings.

Hay should be properly cured before being stored. It may take a little longer and may sometimes be done at the risk of unfavourable weather, but it is much better to be sure than sorry.

A western mother writes respecting the business section of her town:

"Back of almost all of our stores are found horrible conditions; piles of trash composed of papers, packing boxes, sweepings and sometimes garbage, are found. These eventually constitute a rat harbour, fly-producing conditions and also a fire hazard."

UNSIGHTLY BILLBOARDS

Advertising, when properly directed, is no doubt a means of creating additional business for the advertiser. How the advertiser spends his appropriation—from the standpoint of securing results—is his own concern.

The medium by which he reaches the public however, concerns the public, and the people are awakening to the fact.

Appearance counts. For this reason and for no other, all modern daily newspapers, notwithstanding that the greater proportion of their revenue comes from advertising, have excluded display advertising from their front pages.

When a private industry, so dependent upon its advertisers, can take a stand on behalf of appearances, how much more important is it that our public streets, the front pages of our city, should be protected.

The more public a situation is, the more eagerly is it seized upon for the erection of a billboard, and this regardless of the fact that it constitutes a deteriorating influence upon surrounding property, in many cases is a hiding place for a "dump" and often creates a fire menace of no mean proportion.

Cities are spending enormous sums in the construction of good roads and sidewalks; merchants and residents, largely for the sake of appearances, improve their property fronting on same, that the eye of the travelling public may not be offended. Yet billboards and signs are permitted without control as to location.

It is high time our municipal authorities recognized their duty towards public amenities, and regulated the erection of signs and billboards.—*J.D.*

SLUMS AND UNEMPLOYMENT

"Only the other day I saw a skilled Birmingham artisan working in his garden, and I asked him if he had a day's holiday; he said 'No, I have been out of work for three months, and I am enjoying my garden, the fresh air, flowers, the sun and the birds.' I said 'What would you do with your time if you were living in the slums?' (as he had done at one time). He said 'I should be dead!' This brought home to me the hopeless condition of men out of work living in a great city, with a small house, no comfort and no garden.

"I do rejoice in the work you are doing in Canada."—*Extract from letter from Mr. George Cadbury of Bourneville, to the Commission of Conservation, May 19, 1919.*

We are better off in all ways not to have measles, whooping cough, scarlet fever, etc., in childhood, just as we are better off not to have lost a finger, an eye or even a toe.

Parents should be ever careful to protect their children in all known ways against every sickness.

Forest Protection on Ottawa River

The report of the Ottawa River Forest Protective Association for the year 1918 shows that protection was afforded an area of 33,000 square miles, at a cost of slightly under $3 per square mile, or less than one-half cent per acre. The total of licensed timber lands within the Association limits is approximately 25,000 square miles, there being over 6,300 square miles of unlicensed Crown lands, in consideration of whose protection the Provincial Government made the Association a grant of $3,500. The year 1918 was favourable for forest protection in the district in question, the total loss of timber on Association territory being 275,500 feet of timber scorched, and damage to other property valued at $5,140.

The beneficial results of organization, special training and modern equipment in forest fire protection work are rapidly justifying themselves.—*C. L.*

Super-Power Plants

(*Continued from page 27*)

As pointed out in a report on *Electric Generation and Distribution in Canada*, recently published by the Commission of Conservation, adequate supply of electric energy in this section is confined to a few large centres. The smaller municipalities have installed small electric plants which are usually very expensive to operate and only give a night service. The rates which have consequently to be charged and the limited service prevent the full benefit which should otherwise be enjoyed from the various uses of electric energy. All these small plants through concerted action could be replaced by a few large and more efficient ones, each supplying a fairly extensive district by means of electric transmission lines. The cost of production would be reduced to about one-third and a better service supplied.

The example given in the above-mentioned report illustrates the possibilities in the Estevan district. A central power plant at Estevan would supply transmission lines radiating in various directions covering a total length of 150 miles. The estimated demand, based on the requirements of the near future, shows a total of some 600 h.p. outside of Estevan. As the lines would only carry a light load they could be built cheaply with light conductors and at a cost possibly not exceeding $2,500 per mile. If we allow a load factor of 40 per cent the cost of transmission would average 2½ cents per k.w.h. The cost of production in the central plant would be from 2½ cents to 3 cents per k.w.h., so that the electricity could be delivered for an average of from 5 cents to 5½ cents per k.w.h. at the various small centres supplied. With a small plant, the present cost runs as high as from 15 cents to 19 cents per k.w.h. Numerous other districts, if treated in the same way, would probably show advantageous results.—*L. G. D.*

Flies from Halifax to Grand'Mere

Aircraft to be Used for Forest Patrol on St. Maurice River Watershed

The feasibility of an aircraft patrol for the discovery and location of forest fires is to receive a thorough try-out this summer, in both Canada and the United States.

In Canada, the sponsor for the experiment is the St. Maurice Forest Protective Association, which protects an area of some 13,000 square miles of forest country on the watershed of the St. Maurice river, Quebec.

The Provincial Government of Quebec is assisting the project by a cash grant. Through the generous co-operation of the Department of Marine, two hydroplanes, belonging to the Dominion Government, have been loaned to the Association. An experienced aviator has been secured, together with mechanics and other necessary staff.

The headquarters of the new scheme of patrol will be near Grand'mere. It is expected that Lieut. Stuart Graham, the aviator, will maintain a daily patrol, covering the entire area of Association territory once every two days. This patrol will supplement the efforts of the regular patrolmen, who will still continue to travel by canoes, by motor cycle, by automobile, by railway power speeder, or on foot, in the old-fashioned way.

Lieut. Graham has himself flown the two machines through from Halifax to Grand'mere, this being the first journey of the kind undertaken in Canada.

The application of aircraft to forest protection is new, and the experiment will be observed with the closest interest. It is expected that work will also be done in the direction of aerial photography of timber limits with a view to securing accurate information relative to drainage, forest types, etc., including the ascertainment of areas burned-over, cut-over, and reproducing to young growth, as contrasted with virgin forest.

That an experiment of this kind should be undertaken this summer is a strong tribute to the progressiveness of the St. Maurice Forest Protective Association, the Provincial Government of Quebec, and the Dominion Government.

In the United States, arrangements have been made for close co-operation between the War Department and the Forest Service. Definite routes have been laid out for the patrol of National Forest areas, particularly in the western states. Observation balloons are also being used as forest fire look-outs. A case has already occurred where a specific fire was discovered in this way at the foot of the Sierra Madre mountains. Within seven minutes after the fire was discovered, enlisted men in a special fire truck had arrived, and the fire was promptly extinguished. The forest patrol planes are equipped with wireless and maintain communication with permanent stations. Emergency landings have been provided.—*C. L.*

ROCKSLIDE, HELLGATE CAÑON, FRASER RIVER, B.C.

Cut No. 189

A Prophecy Fulfilled

(*Continued from page 27*)

glimpse of the crowds of fish held back by the obstacle. Although the slide was removed before 1914, it was too late to allow many fish of the 1913 run to ascend the river, and, in consequence, most of the sockeye of that year failed to spawn.

It was feared, therefore, that the run in 1917 would be seriously reduced. The fear was only too well-founded. The pack for that year in the Fraser River district was only about one-fifth of that in 1913, and there is little doubt that the pack for 1921 will be still less. In fact, the phenomenon of the "big run" has been wiped out and, now, all years are lean years for sockeye, so far as that district is concerned.

Another factor enters into the situation. The fishery might be perpetuated and in some degree restored if conservative fishing were practised and if sufficient fish were permitted to pass up to the spawning grounds. Unfortunately, Canada cannot of herself limit the fishing, as the sockeye, in its course from the ocean, passes through waters under the jurisdiction of the state of Washington. Canada has repeatedly manifested her willingness to enforce remedial measures.

Following an investigation in 1905, by a joint Commission representing Canada and the state of Washington, the Dominion offered to suspend all sockeye fishing in the Fraser River district during 1906 and 1908 conditional upon identic action by that state. The State Legislature refused to take the desired action.

In 1908, Great Britain and the United States concluded a convention providing for the protection, preservation and propagation of the sockeye, but the United States Senate, after years of delay, refused to approve the treaty.

This year, a new treaty is awaiting action by the United States Senate. It provides for an international commission of two Canadians and two Americans to make investigations and to make such recommendations governing the fishing as may appear desirable.

It is earnestly to be hoped that this proposed treaty will go into effect and that the recommendations will be acted upon. Otherwise, the Fraser River sockeye is simply threatened with extermination. Canada has done and will do all she can to preserve this valuable food fish. The fate of the sockeye lies in the hands of the state of Washington.

British Columbia Slash Burning

Amendment to Forest Act Provides for Reduction of Fire Hazard

The province of British Columbia is becoming alive to the fire hazard which threatens its great asset, the forests. An amendment to the Forest Act, now before the Provincial Legislature, makes it compulsory in future for operators to burn their logging slash in a manner satisfactory to the Forestry Department. In the case of lands in respect of which an annual tax is payable to the Forest Protection Fund, the expenses incurred in disposing of the slash are to be borne half by the person or corporation carrying on the operations and half by the Fund.

In the case of neglect to comply with the Act, the Government's forestry officials may dispose of the slash and the expense of so doing will be recoverable from the person or corporations concerned.

It is also proposed to burn old slash, created by former logging operations to save the cost of patrolling such fire hazards.

Alpaca from Waste Wool

Mr. (later Sir Titus) Salt, who had been for some years connected with the woollen manufacture, happened one day in 1836 to notice at Liverpool some three or four hundred sacks of alpaca wool that had been imported from time to time from South America, in the hope of finding a manufacturer who might buy them for some purpose. Several men had tried to work up this new material, but without success, so there it lay for years, no one seeming to want it, till Mr. Salt came across it and, after a number of trials, in which he modified his wool machinery to suit it, adapting it afresh and overcoming many obstacles, he finally solved the problem by adopting cotton warps, and soon after put on the market a new material, *alpaca*, a soft, glossy, elegant fabric, which so took the fancy of the public that, in some fifteen years, Mr. Salt amassed an enormous fortune, which thus enabled him to carry on the great philanthropical work which made him famous.

Detection of Water Waste

Striking Possibilities Illustrated in United States Water Works System

The absolute necessity and great value of taking means to detect and control water waste in a water supply system are being more and more clearly demonstrated. The special means now available for this purpose when applied to a system operated as was customary in the past, invariably reveal and locate numerous wastages and losses, allowing these to be easily checked and curtailed.

A striking example of what conditions may exist in other systems is given by a municipality of some 30,000 population in the state of Ohio. A recent survey by professional water savers resulted in the curtailment of the total water pumped by more than one-half. This may at first seem an exaggerated statement but an analysis of the various losses revealed and stopped shows that it is quite within reason.

As is usually the case, the losses were principally due to leakage and illegal consumption. The illegal use detected was very large and practically confined to one consumer, a bottle works, the water being taken through a covered connection to the fire line for the property. The Company disclaimed any knowledge of the connection although it was being used by them regularly for cooling purposes.

The following shows how the daily consumption was reduced:

	gals.
Consumption before survey	3,932,000
Consumption after survey	1,845,000
Decrease	2,087,000

The decrease was made up as follows:

	gals.
Leakage detected and stopped	392,000
Illegal use stopped	805,000
Unaccounted for	500,000

The "unaccounted for" decrease of 500,000 gallons was attributed by the experts to the voluntary action of an illegal user who feared detection. That is, it was assumed that another large consumer became aware of the investigation and discontinued the illegal use of water before detection.

The costs in connection with the above-mentioned survey are also interesting to note. The contract price for the entire work by the experts was $2,600, while the extra expense incurred by the municipality in connection with the survey is estimated at $2,600 more. On the other hand, the Company caught using water illegally offered to settle for $6,700 in payment for the water used, but the municipality is suing them for $4,000.—*L. G. D.*

The owner of a timber tract may say that it is none of the public's business what he does with his property, but as a matter of fact it is the business of the public to take a watchful interest in forests and lumbering because of the influence which the forest has upon climate, water supply, fuel supply, building operations and upon bird and game life.—*The Conservationist, New York.*