CONSERVATION

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Canada's Supply of Coal

Depending on Uncle Sam to large Extent, especially for Anthracite—Peat and Electricity as Substitutes.

Central Canada is constantly within measurable distance of a coal famine; nor are the the conditions which may precipitate such a famine in any considerable degree within the country's control. This is due to the fact that all Eastern and Central Canada is dependent on the Pennsylvania fields for their supplies of anthracite coal. In view of the threatened strike of the Pennsylvania miners, this situation is of unusually grave importance to Canadians. It is only when such strikes occur that the public actually realizes how dependent it is upon supplies of United States coal. Again, very few seem to realize the fact that the supplies of United States coal, both anthracite and bituminous, may be entirely denied us at any time. Mr. George Otis Smith, of the U.S. Geological Survey, says: "Let us keep our coal at home, and with it manufacture whatever the world needs". Should this happen, can we say that we are prepared to get along wihout it?

Dependence on United States for Anthracite

According to a recent estimate, anthracite coal in the United States will be exhausted in less than two hundred years. Long before that time the cost will increase and the United States Government will see to it that the coal is not exported, but kept at home for its own needs. Let us see to what extent United States coal is sold in Canada. Enquiries sent out by the Commission of Conservation show that the following provinces are supplied with anthracite coal from the United States:

Province.	Cost to Consumer.
Nova Scotia	$6.50 to $7.00
Cape Breton	6.50 to 8.00
Prince Edw. Island	6.00 to 6.50
New Brunswick	7.00 to 8.00
Quebec	6.50 to 7.50
Ontario (East of Port Arthur)	6.00 to 7.75
Ontario (West of Port Arthur)	8.00 to 11.00
Manitoba	11.00 to 12.50
Saskatchewan	12.50 to 15.00

Our Bituminous Coal Supply

With regard to bituminous coal, Ontario, west of Cornwall, is supplied entirely from the United States. Owing to the low freight rate on United States coal, Nova Scotia cannot compete with United States coal west of Cornwall. The bituminous coal consumed in Manitoba is almost entirely from the United States, although coal mined in the Crowsnest and Lethbridge districts finds a ready market in western Manitoba.

From the above, it can be seen that one of the most important questions we have in Canada, at least in the Province of Ontario and the Prairie Provinces, is the question of fuel. The fuel for the Prairie Provinces will necessarily be supplied in the form of coal and

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Railways Liable for Fires Set

New Legislation Passed at Instance of Commission of Conservation Holds Them Liable—Provision Made for Use of Fire Prevention Appliances—Railway Commission Now Drafting Regulations.

At the instance of the Commission of Conservation and other organizations the Federal Government last year passed an Act with respect to the prevention of fires along lines of railways. (1-2 George V, chap. 22). By it, the railways, whether guilty of negligence or not, are made liable for damages from fires set by their locomotives. It is provided, however, that the amount of damages is not to exceed $5000 if the most modern and efficient fire prevention appliances have been used. The Act took the form of an amendment

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Protest Against Chicago Diverting Water from the Great Lakes

Commission of Conservation Urges on U.S. Secretary of War Not to Allow Chicago to Divert 10,000 Second Feet from Great Lakes—65,000,000 Tons of Shipping Affected—Power Development at Niagara Would be Decreased—Chicago Should Purify her Sewage and Use Less Water.

A strong protest was registered by the Commission of Conservation before the United States Secretary of War, at Washington on March 27, against allowing the Sanitary District of Chicago to divert additional water from lake Michigan. Hon. Clifford Sifton, Chairman, and James White, Secretary, presented the case for the Commission. Chicago now has permission to divert 4167 cubic feet per second from the Great Lakes system for sanitary purposes and wishes to increase this amount to 10,000 cubic feet per second. Such a diversion would seriously affect the levels of the Great lakes and of the St. Lawrence canals. This would decrease the amount of power generated at Niagara and on the St. Lawrence, and would affect most adversely the shipping of the Great lakes, which annually carries freight valued at over $650,000,000. In view of these facts, and also because the increased diversion is unnecessary for sanitary purposes and is clearly in violation of the Boundary Waters Treaty of 1909, the Commission of Conservation placed itself on record as being strongly opposed to the granting of the application.

Effect on Lake Levels

Although Chicago has permission to divert only 4167 cubic feet per second, she has taken it upon herself to use 10,000 cubic feet per second. When the waters of the Great lakes are at an average level, diversions of 7000, 10,000, and 14,000 cubic feet per second, would lower the waters of the various lakes (in inches) as shown in the following table:

Lowering of Lake Levels by Diversion at Chicago

	7000 c.f.s.	10000 c.f.s.	14 000 c.f.s.
Huron-Mich.	4.25	6.25	8.5
Erie	3.87	5.5	7.75
Ontario	3	4.25	6
St. Lawrence	3.37	4.75	6.75

That is under average conditions. For low-water conditions, these reductions in level would be larger, thus increasing the injury to navigation. In 1911, for example, when lakes Huron and Michigan were at a lower level than usual, a diversion of 10,000 cubic feet per second would lower the level 7.25 inches. The average annual range of these lakes is 1.21 feet, and the proposed diversion would thus affect their levels to the extent of 50 per cent. of the annual range. The Commission of Conservation contended, therefore, that such a diversion was in contravention of Article VIII of the Boundary Waters Treaty of 1909, which forbids the construction of works that "materially" affect the level of international boundary waters.

Would Decrease Cargo Capacity

How such a lowering of levels would affect shipping is evident from the fact that the United States Board of Engineers estimates that a loss of draught of 6 inches will decrease the cargo capacity of a vessel of 20 feet draught by 6 per cent., and of a vessel of 12 feet draught by 8 per cent. About 65,000,000 tons of freight annually pass over the Great lakes and the effect on navigation of a diversion of 10,000 cubic feet per second at Chicago would thus be enormous. Furthermore, the Canadian Government, at great expense, has completed a waterway for vessels of 14 feet draught at low water from Fort William to Montreal, and for vessels of 30 feet draught, from Mon-

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In Explanation

Leading Canadian journalists have stated that there is a dearth of authentic news on conservation matters. Although reports on various natural resources have been published, yet much of the material thus compiled is not in sufficiently available form for the busy newspaperman. With a view, therefore, to satisfying this want, the Commission of Conservation has decided to issue a monthly bulletin to the press of Canada. Only the most authentic information will be used, the articles will be short and to the point, and as far as possible, suitable for republication in whole or in part. Briefly, CONSERVATION is designed to assist especially the busy editor, who has not the time to study lengthy reports. If this end can be attained, then a real step forward will have been made in establishing a true conception of conservation in the minds and hearts of the people.

The Commission of Conservation is a purely advisory body, and is dependent to a large extent for the adoption of its recommendations on the support of the press and public opinion in general. In the past, this support has not been found wanting, and it is hoped that the Commission may receive in future the same generous assistance.

Tuberculosis in Cattle

How it is Transmitted to People—Extent of Disease and How to Guard Against it—Cleanliness and Ventilation of Stables

Tuberculosis is one of the most common diseases that attack cattle. It is also the most common, and perhaps most dreaded malady with which man has to contend. Further, the disease is contagious, and is readily transmitted from cow to cow in a herd, or from cattle to man. Its ravages are generally slow and for a considerable time may be imperceptible, so that it is frequently well advanced before any symtoms are noticeable. Bovine tubercules usually gain entrance to the human system through the eating of diseased meats, or the drinking of milk obtained from cows whose udders are tuberculous. As a consequence, pulmonary tuberculosis, the most common form in man, is not usually transmitted from cattle. Nevertheless, medical authorities state that very many cases of tuberculosis may be traced directly to this source of infection.

Extent of Disease

Bovine tuberculosis statistics are necessarily incomplete, and perhaps this partly explains the apathy and scepticism of farmers as to the danger of the disease. It is known, however, that dairy cattle and pure bred cattle are more susceptible to the disease than are the beef types, especially if they are housed for some months every year. It is known, too, that the disease may be found in every agricultural community in America, and in a number of European countries. In the United States, Government experts assert that ten per cent. of dairy animals, and one per cent. of beef animals are affected by tuberculosis. This means an estimated economic loss annually to the farmers of the United States of $14,000,000. There is no reason to suppose that the loss in Canada is any less proportionally.

In fact, there is every reason to suppose that conditions are much worse in Canada. Canada has no effective system of inspecting meats for home consumption; the tuberculin test is quite unknown in many districts; and cattle are frequently housed for half the year in dark, ill-ventilated stables. Is it to be supposed where such primary safeguards are neglected that the economic loss will not be much greater than in a country where care is taken? Is it not of vital importance to Canadians to stop the sale of millions of dollars worth of diseased meat and dairy products every year? Of course, the country can ill afford to have such tremendous losses in its food supply. The logical remedy is, therefore, to take steps to stamp out the disease.

The Remedies

What then can be done to remedy such an evil? In the first place, there is an almost general need for better lighted and better ventilated stables. In the second place, the tuberculin test should come into universal use. This should be followed by the segregation of animals reacting from the test, and if the cases are advanced, their slaughter may be advisable. And thirdly, a comprehensive system of meat inspection for the home market is an immediate necessity.

In so far as the first question is concerned, what is chiefly required is a little more common sense along with additional window glass, and some simple system of bringing fresh air into the stables. Concerning the tuberculin test, it is an almost unfailing indication of the presence of tuberculosis, if it is carefully and skillfully used. As an illustration of its accuracy the results obtained by the United States Bureau of Animal Industries may be cited. During fifteen years some 400,000 cattle were tuberculin tested. In this number there were 37,000 reactions,— that is, diseased cattle—the large majority of which were dairy cattle. In all 24,784 of these animals were slaughtered, and in 98·39 per cent. of them were found lesions of tuberculosis. A number of the States report even higher percentages. The tuberculin test is therefore an almost unfailing indication of the presence of the disease; it is inexpensive, and it is harmless.

Railways Liable For Fires

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to the Railway Act and placed considerable powers in the hands of the Board of Railway Commissioners. Thus the Board was empowered to formulate and enforce regulations with respect to such matters as the following: (1) The use and inspection of fire protective appliances on steam locomotives; (2) the reporting of fires by employees of the railway companies; (3) the maintenance of efficient fire patrols along railway lines, during the summer months, except in cases where oil locomotives are used; (4) the keeping of railway rights-of-way clean, and where necessary, providing fire guards; (5) the providing of free passes during the summer for fire rangers and patrols; (6) the screening of the windows of smoking cars and compartments; (7) the removal of coals from ashpans of locomotives; and other minor matters.

Plainly, the drafting of such regulations is of great importance. To make them unnecessarily burdensome to the railway, would be an injustice, which, in the end, might render the law obsolete; while to formulate regulations that would require cumbersome administrative machinery might make the law equally ineffective. The services of the Commission of Conservation were therefore offered to Chairman Mabee of the Board of Railway Commissioners, to aid in the preparation of such regulations. The offer was accepted, and Dr. B. E. Fernow, Dean of the Faculty of Forestry at the University of Toronto, was appointed special representative of the Commission of Conservation for this work. A Committee composed of Hon. Clifford Sifton, Hon. Senator Edwards and Dr. Fernow, will also further as much as possible the general work of the Railway Commission in this regard.

Hon. Clifford Sifton also urged very strongly the necessity for appointing an officer of rather high rank and professional qualifications, to act as Chief Fire Inspector for the Dominion. Such an official would have charge of the administration of the forest fire law.

At the present time these regulations are being drafted and will, no doubt, be put in force during the coming summer.

Decline of Shad Fishery

The shad fishery of the Maritime Provinces is dwindling away to very small proportions. Some idea of the falling off in catch may be had when it is stated that the quantity caught has declined from 10,036 barrels in 1903 to 5,242 barrels in 1910.

The fishery is confined to the bay of Fundy and its tributary waters. The chief causes of the decline are the catching of the fish when they go up the rivers in the spring to spawn, and the lack of fishways in dams on streams flowing into the Bay—a circumstance which prevents the fish going up into fresh water to deposit their spawn. The catching of the spawning shad is the more indefensible because, when the fish are ready for spawning, their flesh is foul and unfit for human consumption.

The Dominion Government appointed the Dominion Shad Fishery Commission to enquire into the cause of the decline in the fishery in 1908. This Commission made a thorough investigation of the subject and recommended what steps should be taken to rehabilitate the fishery, but so far no action has been taken by the Government.

Grants of Water-Powers

The water-powers of Canada are among the most valuable possessions the country has. To safeguard the rights of the public, the Commission of Conservation has adopted the following principles to guide it in formulating the opinions it gives on questions relating to the disposal of water-powers:

No unconditional titles shall be given to water-powers, but every grant or lease of powers shall be subject to the following conditions:

(*a*) Development within a specified time.

(*b*) Public control of rates.

(*c*) A rental charge subject to revision from time to time.

Tripling the Yield

"Here, listen to this quoted verbatim from the latest bulletin on the subject published by the Department of Agriculture at Washington:]

'The Farmers' Co-operative Demonstration Work now carried on in twelve States, employs 375 travelling agents, and has many thousands of demonstration farms. It is proving by results on thousands of farms that preparation of the soil so as to make the best seed bed adds 100 per cent. to the average crop on similar lands with an average preparation in the old way; that the planting of the best seed makes a further gain of 50 per cent.; and that shallow, frequent cultivation produces an increase of another 50 per cent., making a total gain of 200 per cent., or a crop three times the average crop produced on those farms where the plan and methods of demonstration work have not been adopted.'

Think of it. *A crop three times the average.* And all you have to do is to make a little better seed bed, exercise a little more care in the selection of your seed, and do a little cultivating. But the seed bed must be properly prepared. It is more than half way to the production of a three-times-better crop. Remember—*the proper preparation of the seed bed.*"—From *Canada Monthly*, April, 1911.

Federal Health Department

The Federal Government expended $377,485 for public health service in 1910. Of this sum the Department of Agriculture spent $146,781; the Department of Indian Affairs $125,121; the Department of the Interior $66,969, and the Department of Inland Revenue $38,613. It has been suggested that the public health service be placed under one department. This would undoubtedly make for economy and greater efficiency.

The Commission of Conservation will, during 1912, add to the effectiveness of its annual agricultural survey of the Dominion by selecting illustration farms in several localities in each of the provinces. With the co-operation of the farm owners, the Commission hopes to illustrate the direct advantages attained by practising scientific farming. The personal-contact method of assisting the farmer is rapidly growing in favour.

The eastern slope of the Rocky Mountains is rich in minerals. The Geological Survey of Canada estimate that 22,200,000,000 tons of coal may be mined from that region. Anthracite coal is now being mined near Banff, on the eastern slope.

Canada's Supply of Coal

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briquettes from mines in British Columbia, Alberta and Saskatchewan. But this does not apply to the Province of Ontario, and for economic reasons stated before, Nova Scotia coal cannot find a market in Ontario.

Peat as a Substiute

The other sources of heat, light and power are peat, wood and hydro-electric power. Of these, peat and hydro-electric power only can be considered as substitutes for coal. With regard to peat, the Mines Branch of the Departemnt of Mines has demonstrated the fact that peat can be succes fully and economically used for fuel and power purposes. Estimating the cost per ton of peat at the bog, $2.00, and the cost of soft coal $4.00 per ton, in car lots f.o.b., the fuel cost per brake horse-power year (3,000 hours) would be as follows:

Peat producer gas plant*	$7.50
Coal producer gas plant	9.00
Steam plant	36.00

Mr. B. F. Haanel of the Mines Branch, in commenting on the foregoing, states that when peat is manufactured on a large scale with machines provided with mechanical excavators and other labour-saving devices, the cost per ton of peat at the bog will be considerably less than $2.00.

While power generated from peat may be successfully used in certain localities in different parts of the country, owing to the low cost of hydro-electric power and the abundance of water-power, the chief substitute for coal which will make Ontario almost entirely independent of United States coal, will be hydro-electric energy. The Hydro-Electric Power Commission has done much to further the use of hydro-electric power by distributing this power to different centres, and vigilance must be exercised to see that the sources of this energy are not disposed of in such a manner as to deprive the people of power at reasonable rates.

*Paper by B. F. Haanel, Journal of the Canadian Peat Society, No. 1, page 11.

Protest Against Chicago Diverting Water From the Great Lakes

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treal to the sea. Every inch subtracted from the available depth represents a loss of cargo capacity and a loss of income that is aggravated in low-water years such as 1911.

Lessens Power at Niagara

The Commission contended, that every cubic foot of water abstracted at Chicago, would reduce the amount of power that could be generated at Niagara falls and in the rapids of the St. Lawrence river. This would injure the provinces of Ontario and Quebec, and the state of New York. The Chicago Drainage District contemplated using the water diverted from lake Michigan for generating power near Chicago, but this would involve an economic waste, because of the lower head available there. The amount of water used to produce one horse-power at Lockport, Ill., would generate from 5 to 7 horse-power at Niagara.

Diversion Not Necessary

It was further contended that Chicago did not need, for sanitary purposes, the amount of water she was asking permission to divert. The charter of the Chicago Sanitary District provides for a dilution of the sewage effluent of 333.3 cubic feet per second for every 100,000 of population. This is double the dilution considered necessary by the British Rivers Pollution Commission. The Commission of Conservation held that Chicago should be compelled to treat its sewage to reduce the bacterial content before emptying it into the Drainage Canal. With a bacterial reduction of one-half, the present permitted diversion of 4,167 cubic feet per second would provide for a population 600,000 greater than the present one of 2,185,283. A bacterial reduction of two-thirds would suffice for a population of 4,157,000 people. The additional diversion, therefore, could not be said to be needed for sanitary purposes.

Power Development

As a matter of fact, the promoters of the Chicago Drainage Canal have not been backward in stating openly that they intended to develop and sell power from the Drainage Canal to reimburse themselves for expenditures made. Lyman E. Cooley, late Chief Engineer of the Sanitary District and one of the principal promotors of the project, declared it was his "hope and intention" to excavate a channel having a capacity of 16,667 cubic feet per second, and this he estimated "will produce 173,000 horse-power, and, with the revenue therefrom, the State of Illinois proposes eventually to recoup itself for its expenditures and contribution to the deep water-way." From this it would seem that the present application was only the beginning of the demands for permission to divert more and more water.

The Commission of Conservation argued that this diversion, for the purposes of water power development, of waters, belonging essentially to international boundary waters, could not, on the ground of international law, be justly sanctioned.

Concluding, the protest says: "The Executive of the Commission of Conservation expresses the opinion that the application is without even the semblance of necessity, and desires to place on record its unqualified opposition to the proposition which is before you."

Retaining the Fertility of the Soil

Investigation Shows Yields are Decreasing—Crop Rotation Will Help to Increase Them—What English Experiments Show

The most important source of this country's wealth is in her soils. Upon their continued productiveness will depend in large measure, the density of our population and the future welfare of the people. If they are maintained in fertility, the coming generations will be prosperous; if they are depleted by unwise soil management, it will bring disaster to great numbers of people. Unfortunately, the present methods of soil management on many of our farms are not maintaining the fertility. They are exhausting it. In the Prairie Provinces the single cropping system to a large extent prevails. Grain follows grain, with little or no thought of the effect upon the soil.

Yields In Manitoba

This excessive cropping to grain robs the soil of the available plant food, and surely and steadily diminishes its productiveness. A very good example of this was brought out by the Agricultural Survey of the Committee on Lands of the Commission of Conservation, in 1911. In Manitoba, one hundred farms in three representative districts were visited. In comparing the yields of to-day with those of ten and twenty years ago, it was found that not a single farmer reported an increase but that 46 per cent. reported their yields to be 11 per cent. less than ten years ago and 50 per cent. reported their yields to be 14 per cent. less than twenty years ago. Nearly every farmer visited in Manitoba stated that the farms were not giving the yields they did or should.

Bad Crop Systems

In the older provinces there are very few who are following a systematic rotation of crops. The tendency is toward a system having too many years of hay and pasture in it with not enough roots or other hoe crop. Grain followed by hay and pasture for from six to eight years is the system too often followed. This long grain, hay and pasture rotation, where the hay is sold, does not maintain the fertility of the soil and has the additional disadvantage of allowing noxious weeds of all kinds to make great headway.

It is, of course, true that many men who are following a rational system of crop rotation and live stock feeding are maintaining the fertility of the soil and, in some instances, are increasing it; but these men are few in comparison with the number whose soils are diminishing in productiveness.

There are two principal ways in which our soil is being abused. The first is by the use of the single-cropping system of grain after grain, and the neglecting to fertilize the soil by some wise means. We may well include under the single-cropping system the long-course rotation of grain followed by hay for many years. The two principal remedies for these abuses are the systematic rotation of crops, and the paying of proper attention to the production, care and use of manures and fertilizers of various kinds.

Rotation of Crops

Rotation of crops means that the crops grown on each field are changed from time to time, so that there will be a succession of crops which will regularly repeat itself each time the course is run. It is desirable to arrange the rotation so that the same land will not have the same crop twice in succession.

All crops do not use the same amount of the various plant foods found in the soil. Some are shallow feeders; some are deep feeders. Some crops use up the nitrogen in the soil, while others have the power to store up nitrogen in the soil.

In the experiments at Rothamsted, England, conducted by Lawes and Gilbert, potatoes were grown on a piece of land continuously for a long series of years, until it finally refused to produce potatoes. But when it was sown to barley it yielded a crop of seventy-five bushels to the acre. This was probably because different plants select different food from the soil. Potatoes are potash-lovers, and in the years they had been grown on the land, they had so reduced the potash content in it that potatoes could no longer be grown; but there was still enough to produce a fine crop of barley, the food requirements of which are very different.

The foregoing clearly illustrates one of the great essentials of crop rotation, namely, the planting of crops that feed on different food. Another essential is the planting of crops that will allow or assist Nature to repair her waste places. An example of this is to be found where continuous wheat crops have to a large extent, exhausted the nitrogen. The soil will no longer give satisfactory yields of wheat, but will grow a leguminous crop, such as cowpeas, beans, or clovers, which does not require as much nitrogen as the wheat, and which also has the power to get it for itself from the air and store it in tubercles on its roots for the benefit of succeeding crops.

EDITOR'S NOTE: *The specific benefits and advantages of a systematic rotation of crops will be dealt with in subsequent numbers. In the April issue the subject will be Crop Rotation in Relation to the Control of Weeds.*

Permanent Forest Reserve Now

Rocky Mountains Reserve Set Aside by Parliament—One of Largest in Existence—A Haunt of Game—Adequate Appropriation Essential to Administer It

Two years ago the Commission of Conservation began agitating for the establishment of the Rocky Mountains Forest Reserve. This involved the setting aside in perpetuity of nearly 18,000 square miles of forest territory on the Eastern slope of the Canadian Rockies. During the spring of 1911, this Reserve was formally established by Act of Parliament. It extends from the International boundary northward for 600 miles, and includes all lands on the Eastern slope above an altitude of 4,000 feet. It thus covers the headwaters of the Prairie rivers which rise in the Rocky Mountains. Owing to the great altitude of much of the Reserve, much of the timber is scrubby and of little commercial value. It, however, makes excellent forest cover, and so is of the greatest value in preserving a relatively uniform flow for the rivers that flow across the prairies. If it were not for this regulating factor, the great wheat lands of Alberta and Saskatchewan would be subject to alternate floods and drouth.

A Game Preserve

Further, the Rocky Mountains Forest Reserve is one of the largest national parks in the world. It is annually growing in favour as a resort for tourists and hunters. It abounds in a great variety of game, which is being wisely protected. Thousands of people visit the Reserve every year to enjoy the Mountain scenery, the fishing and the hunting. It is not improbable that in a few years the Reserve will be provided with numerous chalets such as are found in the Swiss Alps, for the convenience and safety of tourists.

Adequate Appropriation Needed

It is obviously of great importance that the Reserve should be carefully protected from fire, and be otherwise administered so as to maintain the forest growth. With this end in view the Forestry Branch of the Department of the Interior is organizing an effective administrative force, and is planning to cut trails and construct telephone lines through the Reserve. The Forestry Branch, however, has been hampered by lack of funds. Mr. R. H. Campbell the Director of Forestry, stated recently, that while he had asked for an appropriation of $110,000, or about one cent an acre, to administer the Reserve, the Government had reduced the amount to about $80,000. Commenting on this at the recent annual meeting of the Commission of Conservation, Hon. Clifford Sifton said:

"It is quite possible that if this matter were represented to the Government a little more strongly, it might be willing to increase the amount. I do not know how you feel about it, but, for myself, I do not think that the Government is spending money for any purpose that is more important than that; and it seems to me that this is one of the occasions when we can come in contact with the Government for the benefit of the public."

Acting on this suggestion the following resolution was later passed by the meeting and afterwards presented to the Government: "That in view of the enormous importance of this object, the Commission of Conservation recommends that an appropriation of not less than $110,000 be provided for forest protection in the Rocky Mountains Forest Reserve during the fiscal year, 1912-13."

Commercial Peat

After Many Failures Peat Can Now Be Produced on a Commercial Basis—Support Needed to Ensure Further Development

"There is no possible source from which cheap fuel can be procured to take the place of what is now being used which, in any respect, compares with peat. Ontario has an enormous area of peat bogs. The trouble heretofore has been that, until a very short time ago, the method of treatment was not economically successful; and it does not appear to be realized that, at the present time, that difficulty has been overcome and that an economically successful method of treating peat is now in existence and has been practically demonstrated within a few miles of Ottawa within the last two years. So, it is now a fact that, economically and commercially, the immense peat bogs of the Province of Ontario are available for fuel if a very small amount of commercial enterprise is used in connection with the subject.

"I am bringing this matter before you especially because of its great economic importance and because of the fact that I think the movement requires a little support at our hands. It quite frequently happens that in important branches of work of this kind you get to the point of doing very valuable work when, for some reason or other, you are shut off. There is obviously some little movement being made at the present time to shut off the activity in the development of peat fuel, and I think this is a proper case for the Commission of Conservation to exert what little influence it may have, to declare its position on this question and to use its influence on the Government to induce them to carry on this important work."—*Hon. Clifford Sifton at Third Annual Meeting of the Commission of Conservation.*

ADDRESSES GIVEN ON CONSERVATION

Addresses are given from time to time by the officials of the Commission of Conservation before public organizations interested in the development and conservation of natural resources. Since the beginning of the year, the following addresses have been given:—

By Dr. Chas. A. Hodgetts, Medical Adviser of the Public Health Committee:

"Tuberculosis", a series of four lectures before the Halifax Anti-Tuberculosis League on Jan. 25-26.

"Conservation", on Feb. 8, before the Canadian Club at Woodstock, Ont.

"Relationship of the Medical Practitioner to Public Health" on Feb. 29, before the Academy of Medicine, Toronto.

By M. J. Patton, M.A., Assistant Secretary:

"Conservation and the Engineer" at Annual Engineering Dinner, School of Practical Science, Toronto, on Jan. 18.

By F. C. Nunnick, B.S.A., Agriculturist:

"Work of the Lands Committee of the Commission of Conservation," on Feb. 21, before the Ottawa branch of the Canadian Society of Civil Engineers; on March 8, before Farmers' Club at Perth, Ont.

"Crop Rotation in relation to the Conservation of Soil Fertility", on Mar. 5, before a farmers' meeting at Lachute, Que; on Mar. 6, before a farmers' meeting at Hemmingford, Que.

"Agricultural Education and the Improvement of Rural Social Conditions," on March 5, before farmers' meeting at Lachute, Que.; on March 19, before Farmers' Club at Beech Ridge, Que.

Publications of the Commission of Conservation

1910

First Annual Report.
Pure Water and the Pollution of Waterways.
Report of International Commission on Control of Bovine Tuberculosis.

1911

Second Annual Report.
Agriculture in Ontario and Unsanitary Housing.
Ottawa Typhoid Fever Epidemic.
Lands, Fisheries, Game and Minerals.
Animal Sanctuaries in Labrador.
Water-Powers of Canada.
Prevention of the Pollution of Surface Waters.

The following pamphlet offprints from *Lands, Fisheries, Game and Minerals*, have also been published:
North Atlantic Fisheries Dispute.
Canadian Oyster Industry.
Agriculture in Canada, 1911.
Articles on Fisheries.
Game and Game Fish.

Water-Powers on Georgian Bay Canal

Commission of Conservation Makes Recommendation Regarding the Development and Disposal of Surplus Power on the Canal

In January last, the Railway Committee of the House of Commons referred to the Commission of Conservation for its opinion, the bill to extend the charter of the Montreal, Ottawa and Georgian Bay Canal Company. This Company, which was incorporated in 1894, proposed to build a canal between the St. Lawrence river and the navigable waters of Georgian Bay by way of the Ottawa river. Under the charter which was about to expire the Company was empowered to generate and dispose of hydraulic, electric and other kinds of power produced in connection with the canal, but which was not required for canal purposes.

The Chairman of the Commission of Conservation suggested the following amendment to the bill extending the charter:

"The development and sale of power otherwise than for the operation of the canal shall be carried on by the Company only when authorized by the Governor-in-Council, and upon such terms as to rental to be paid by the Company and prices to be paid by consumers, as may be prescribed by the Board of Railway Commissioners for Canada."

The bill as finally passed provided that the prices charged for power disposed of should be fixed by the Railway Commission, but did not include the other proviso suggested by the Commission of Conservation, *viz.*, that the Company could proceed with the development of surplus power only after being so authorized by Order-in-Council and after terms as to rental had been determined upon by the Railway Commission.

Meat Inspection is Urgently Needed

Canadian Dealers Cannot Export Diseased Meat But Can Sell It For Home Consumption.

In the matter of meat inspection, Canada is much behind the times. The Government, some years ago very properly made arrangements for the inspection of meats for export. No diseased meat may now be *shipped out* of Canada, but it can be *sold in* Canada. Why should Canadians be content to consume impure and dangerous food products such as these?

Developed Water-Powers

As a result of investigations undertaken by the Commission of Conservation, it has been ascertained that there are 1,016,53[illegible] horse-power developed from water power in Canada.