

complicated interrelations between the various uses—*e. g.*, for power, irrigation, navigation, fisheries, domestic supplies, etc.—drawing on the experience of the United States as well as that of Canada, and showing the need for common organization and communal supervision of the various users. A second chapter deals with "Water Power Data," and under this head are given facts showing the recent tendency, particularly marked in the United States, for the control of water-power to become concentrated in the hands of a few great and related groups of financial interests. Succeeding chapters describe the history and present position of legislative control, and most of the remaining part of the volume is devoted to the present utilization and the possibilities of water-power in the Province, and the physical conditions which determine them, *viz.*, relief (including storage facilities) and climate. In this connection a detailed description of the physical geography of each of the river systems is given, and numerous tables of stream-flow, precipitation, and temperature. The scope of the volume is therefore wider than its title would suggest. It may be noted that the surveyed sites give a total of about 3,000,000 H.P., but although this is an advance on earlier estimates, it does not take into account the fact that very large and important areas have been only superficially surveyed or are virtually unknown, nor does it allow for storage improvements.

Another publication of the commission deals with "Power in Alberta—water, coal and natural gas." It first enumerates the water-powers of the Province, which are mainly on the Bow River above Calgary and on the Athabasca River about 150 miles above Lake Athabasca, and then discusses the relative costs and advantages of water-power and steam-power. This leads to a consideration of the coal resources of Alberta. These are enormous, and the report states that they form 87 per cent. of the coal of Canada, and to show what that means one may add that, according to Memoir 59 of the Geological Survey of Canada, the total supply of the Dominion is 1,234,000 million tons, while that of the British Isles is only

190,000 million tons. Allowance has to be made for the facts that of the Canadian total about three quarters consists of sub-bituminous coal or lignite, and that three fifths of the Alberta supply belongs to this group. Making allowance for this, it still remains true that the fuel resources of Alberta are very much greater than those of Britain. Natural gas is at present locally important, but it has an uncertain future. The report ends with a note comparing various methods for the fixation of nitrogen by electricity, a matter which will be of importance when the prairie lands need cheap artificial manures.

FUR SEALS OF THE PRIBILOF ISLANDS

THE regular sealing operations at the Pribilof Islands closed for the season on August 10. The Bureau of Fisheries reports that telegraphic information is to the effect that in the current calendar year through August 10 there were taken on St. Paul Island 21,936 pelts, and on St. George Island, 4,042, a total of 25,978. Of the skins taken, 721 were from seals 7 years of age or older. The figures given are subject to slight correction when final reports are made. The fall killings, made chiefly to supply food for the natives, will add somewhat to the year's total.

The by-products plant which was operated in connection with the sealing operations on St. Paul Island produced approximately 1,800 gallons of oil and 29,000 pounds of meat or fertilizer. The operations of the plant were curtailed because of inability to secure a sufficient number of laborers from the Aleutian Islands.

During the present sealing season the bureau has utilized on St. Paul Island a number of native workmen from St. George Island. This was done without curtailing the proper take of sealskins on St. George. The transfer of the men from St. George to St. Paul was effected by the Coast Guard cutter *Bear* and the bureau's vessel *Eider*.

The Bureau of Fisheries further states that misrepresentations have recently gained currency to the effect that pelagic sealing operations are to be permitted shortly in the North

Pacific Ocean and Bering Sea. It has been alleged that the United State government is about to remove the restrictions on pelagic sealing and that great activity will soon be witnessed in the outfitting of vessels for carrying on the work. A newspaper has recently published an item which purports to give minute details. The statements therein are so misleading in character as to give rise to the impression that they were fabricated solely for the purpose of creating a sensation or of encouraging uninformed persons to engage in an illegal enterprise.

The truth of the matter is that pelagic sealing in the North Pacific Ocean, north of the thirtieth parallel of north latitude and including the seas of Bering, Kamchatka, Okhotsk, and Japan, is prohibited by an international agreement entered into in 1911 by the United States, Great Britain, Japan and Russia. The agreement is in perpetuity unless one or more of the parties thereto dissent. With the well-demonstrated benefits which accrue to all the governments concerned from the rational management of the fur-seal herds, there is little likelihood that any one will permit its citizens or subjects to resume at any time in the future the disastrous practise of pelagic sealing.

The United States and Canada cooperate fully in patrolling and protecting the Alaska fur-seal herd. U. S. Coast Guard vessels are ever on the alert to detect violations of the international agreement, and it is safe to say that any clandestine operations would come to grief in short order.

In the fiscal year 1920 the revenue to the United States government from the sale of fur-seal skins was \$1,457,790. Aside from the revenue to this government, the governments of Great Britain and of Japan share in the annual take of Alaska fur-seals to the extent of 15 per cent. each.

THE PROPOSED CALIFORNIA ANTI-VIVISECTION LEGISLATION

THE board of regents of the University of California and the trustees of Stanford University have united in a protest against the anti-vivisectionist initiative. They say:

The advance of sanitation, modern medicine and physiology and the teaching of biology all rest on animal experimentation. The control of epidemic diseases, the management of surgical operations and of childbirth, and the certification of milk and water supplies would be impossible without the knowledge gained by such studies. In fact, the whole structure of the present-day protection of the public from disease rests upon animal experimentation.

The University of California and Stanford University are vitally interested in this initiative measure since its passage would stop the research work now going on in their medical schools, hospitals and laboratories, and in the Bureau of Animal Industry. The studies on botulism in olives, which will not only save the ripe olive industry of the state, but many lives, would cease, as would likewise the manufacture of serum for the prevention of hog cholera, the preparation of vaccine for anthrax, and the various other measures that annually save millions of dollars and prevent great suffering among domestic animals. Even feeding on animals would be impossible.

No worse attack on the welfare of the state and on the right of the university to seek and teach the truth could be made. Every man, woman and child, every unborn babe, every domestic animal in the state will be affected if this measure becomes a law. It is unnecessary special legislation due to prejudice and misinformation. No one will tolerate cruelty to animals. The present laws of the state are drastic and quite sufficient to control any abuse. We know that there is no cruelty to animals in the laboratories of the universities. They are in charge of men and women of the highest character, who are unselfishly working to better the lot of their fellow men. Anesthetics are always used for animals in the laboratory in exactly the same way that they are used by surgeons in the operating room. The real object of the antivivisectionist is not the prevention of cruelty to animals, but the prevention of progress in science and medicine.

THE SIXTEENTH ANNUAL NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL EXCURSION

THE sixteenth annual New England Intercollegiate Geological Excursion will be held in the vicinity of Middletown, Connecticut, October 8 and 9, 1920. There will be two parts to the excursion. Friday afternoon the Strickland pegmatite quarry, Collins Hill, Portland,