

Reclamation Project for Fraser River Salmon

Mr. J. P. Babcock Shows Extermination of Sockeye Salmon Is Near Unless Both Canadian and American Governments Adequately Handle Problem—Likens Solution to a Reclamation Project.

Mr. John Pease Babcock, assistant to the Commissioner of Fisheries, the Honorable William Sloan, Victoria, is the author of a brochure entitled "Fraser River Salmon Situation; a Reclamation Project," which is issued as appendix five to the report of the Commissioner of Fisheries for 1919, and is recently off the press of the King's Printer, Victoria. Due to lack of space we can only present a summary of his statement of facts and his conclusion, which calls for a drastic restriction on the part of both Canada and the United States of the fishing of sockeye salmon.

Mr. Babcock traces the sockeye salmon runs to the Fraser River and the history of the industry to date. He presents a summary of the life history of the specie contributed by the Department's expert, Dr. C. H. Gilbert, of Stanford University, and presents a tabulation of the pack of sockeye from the year 1891, when the pack began to assume commercial importance, to and including 1919, giving the number of cases packed in Canadian water and American waters, the outstanding features of which he states as follows: (1) The great packs made every fourth year; (2) the comparatively small packs made in the three intervening years; (3) the gradual but pronounced decline in the runs in the small years; and (4) the startling decline in the pack in the last big year, 1917.

Mr. Babcock also exhibits in comparison the Alaskan and Fraser River packs for the big years and shows that the sockeye salmon pack of Alaska was smaller every fourth year with one exception up to 1917, than that made in northern waters. The assistant to the Commissioner reviewed the disastrous effect of the Canadian Northern Pacific slide in the canyon of the Fraser River at Hell's Gate in 1913, which prevented the sockeye salmon from ascending the river to their spawning beds and records his conclusion again as published in the British Columbia Fisheries report for 1913. While the failure of the 1917 run was predicted by Mr. Babcock in 1913 and was amply justified by the results when the catch produced a pack of 559,732 cases in 1917, as against 2,401,488 cases in 1913, he states that over fishing even in that year will result in a great impairment, in all likelihood, in the 1921 run, which he anticipates will be much less than even that of 1917. In addition the run of sockeye to the Fraser River in the small years he states, are no longer of commercial importance.

But let Mr. Babcock present his own conclusions in his own words:

The evidence of the decline in the runs of sockeye in the Fraser River system is overwhelming. The runs in all years have already become so depleted that it is evident that under existing conditions the sockeye will be exterminated within a short period.

The Fraser River basin has an area of 90,903 square miles. It contains sixteen great lakes that have a total area of 2,351 square miles. No other river on the Pacific Coast drains so extensive an area of lake water adapted to the propagation and rearing of sockeye. In the past it has produced greater runs of sockeye than any other river because this great spawning area was abundantly seeded every fourth year. It has been shown that sockeye spawn in streams tributary to lakes and on the shoals of lakes, and that their young remain in the lake-waters for a year or more after hatching and then migrate to the sea. Knowing that the sockeye were bred in the watershed of the Fraser, we therefore know that the great runs of sockeye in the big years 1901, 1905, 1909 and 1913 originated there. The runs of those years produced an average pack of 1,927,602 cases and at the same time afforded in the first three

named years a sufficient number to seed the entire spawning area. Therefore the amount of the average pack of the big years 1901, 1905, 1909 and 1913 may be safely taken from the run without an overdraft, whenever the spawning-beds are as abundantly seeded as they were in 1901, 1905, and 1909. The spawning area of the Fraser has not been lessened or injured. Its spawning-beds have not been damaged or interfered with by settlement, factories, mining or irrigation. Its gravel-beds and shoals are as extensive and as suitable for spawning as they ever were. Its lake-waters are as abundantly filled as ever with the natural food for the development of young sockeye. The channels of the Fraser are open and free to the passage of fish. All that is required to reproduce the great runs of the past is a sufficient number of spawning fish to seed the beds as abundantly as they were seeded in 1901, 1905 and 1909, and in former big years. The fishery cannot be restored in any other way.

Neither Canada nor the United States acting singly can provide measures that will ensure the seeding of the spawning-beds of the Fraser. That can only be done by concurrent action. Joint and uniform regulations that will afford free passage for the fish through both Canadian and American waters must be provided and made effective. Sufficient fish must be permitted to pass through the fishing-waters and to reach and seed the beds. The interests of both Canada and the United States in this question are great. It is not alone a Canadian question. It is not alone an American question. It is an international question, and cannot be dealt with except in an international way. Recognizing these facts, both Great Britain and the United States, as far back as 1908, signed a convention dealing with the Fraser River situation. This convention failed to receive the approval of the United States Senate and was withdrawn. But, as we have already seen, in the years that followed matters went from bad to worse, and in 1918 an International Commission was established, consisting of the Honorable Sir J. D. Hazen, Chief Justice of New Brunswick, G. J. Desbarats, Deputy Minister of Naval Service, Ottawa, and William A. Found, Superintendent of Fisheries for the Dominion of Canada, representing Great Britain; and the Honorable Wm. C. Redfield, Secretary of Commerce and Labor of the United States, Edward F. Sweet, Assistant Secretary of Commerce and Labor, Washington, D.C., and Dr. Hugh M. Smith, Commissioner of Fisheries for the United States, representing the United States. The Commission held sittings in Seattle, Wash., and Vancouver, B.C., during the summer of 1918, and in the fall of that year embodied in a report to their respective Governments their unanimous findings, which resulted in the convention of 1919. That convention provides for "the times, seasons and methods of sockeye-salmon fishing in the Fraser River system" and for "the conduct of investigations into the life-history of the salmon, hatchery methods, spawning-ground conditions, and other related matters" by an International Fisheries Commission, to consist of four persons, two to be named by each of the high contracting parties, and that the convention shall remain in force for fifteen years, and thereafter for two years from the date when either shall give notice of desire to terminate it. The convention has been signed by both Governments, approved by the Canadian Government, and is now awaiting the approval of the United States Senate.

The American Government up to 1918 had expended \$125,000,000 on capital account to reclaim 1,100,000 acres of arid lands. The 100,000 persons that lived on the 25,000 farms of that area in 1917 produced a crop worth \$50,000,000. The lake-waters of the Fraser River basin cover an area of 1,514,000 acres that when seeded by spawning sockeye as abundantly as they were seeded in 1897, 1901, 1905