

The Provincial Fisheries Report for 1917

Value of British Columbia Fisheries Last Year was \$14,637,346 and 37.33% of Dominion—Review of Valuable Papers—Serious Situation for Sockeye Salmon on Fraser River.

The Provincial Fisheries Report for 1917, which has just been issued by the King's Printer, contains a review of the fisheries of the Province for that year, reports from the salmon spawning areas and several valuable special papers, including "Contributions to the Life History of the Sockeye Salmon," "The Native Oyster of B.C.," "The Sockeye Run on the Fraser," "The Salmon Fishery of the Fraser," "Contributions to the Life History of the Edible Crab," and statistics of the fishery products of the Province. This report was submitted by the Hon. Wm. Sloan, Commissioner of Fisheries, at the last session of the Legislature in April last. Its publication has been delayed owing to the demands upon the King's Printer.

The report proper deals extensively with the salmon fisheries, reviews the report of the Special Fisheries Commission that sat in the Province in 1917, and contains a digest of the reports of the scientific investigation conducted by the Commissioner. It fully maintains the high standard set by former reports of this Department. The Hon. Wm. Sloan, the Commissioner of Fisheries, is to be congratulated on issuing so valuable a report.

The value of fishery products of the Province for the year ending March 31st, 1917, totalled \$14,637,346, or 37.33 per cent. of the fishery products of the Dominion of Canada, which totalled \$39,208,378. As in recent years the Province again leads the Provinces of the Dominion in the value of its fishery products. British Columbia exceeded Nova Scotia by \$4,544,444.00 and equalled the total combined fishery products of all the other provinces of the Dominion.

The total value for the year shows an increase in prices. The salmon and halibut both show a decrease in the catch. The decrease in the salmon catch was slight, but the decrease in halibut was 7,182,000 pounds.

The number of persons engaged in the fishery totalled 18,355, as against 17,820 in the previous year. The value of shore plants, vessels, gear, etc., totalled \$10,376,303.

The salmon catch of the province in the year 1917 produced a pack of 1,557,485 cases. It exceeded the pack of the previous year by 203,584 cases, notwithstanding the serious shortage in the run of sockeye to the Fraser River. The gain is due to an increased pack of pink and chum salmon in all sections save the Fraser.

The failure of the sockeye to run to the Fraser as abundantly as in former big years was the most serious feature of the 1917 season, in both the Province and the State of Washington. The pack in provincial waters of the District totalled but 148,164 cases, as against 736,661 cases in the previous big year, 1913; 585,434 cases in 1909 and 837,489 cases in 1905. The catch of sockeye in the State of Washington waters of the Fraser District produced a pack of 411,538 cases, as against 1,664,827 cases in 1913 and 1,005,120 cases in 1909. The pack of the district in 1917 totalled 559,702, or 1,841,789 cases less than in 1913, a decrease of 76 per cent. The total pack of sockeye in the entire district in 1917 was 176,959 cases less than the pack in provincial waters of that district in 1913. The remarkable decline in the run of sockeye to the district in 1917 was unquestionably due to the failure of the run of 1913 to reach the spawning area of the Fraser basin. The condition in that section described in the report for 1913 are quoted to show that the decline was due to the blockade of the Hell's Gate Canyon in that year. The following concluding paragraph in the 1913 report forecasted the decrease. "These facts warrant the conclusion that the number of sockeye which spawned in the Fraser River water-

shed this year was not sufficient to make the run four years hence even approximate the run of either 1905, 1909 or 1913."

Conditions in the Fraser River District are dealt with at length in the Commissioner's report and in greater detail in the special papers in the appendix of the report. The importance of the matter fully warrants the details given. The case is a clear one and demands the attention which the Provincial Department has always given it, and which it is now receiving by both the Canadian and United States Governments.

The reports from the spawning grounds of the principal salmon streams of the Province indicate favourable conditions in all save that of the Fraser. In the latter basin it is shown that there were far less fish than in 1913, and few, if any, more than in some recent "lean years." Mr. Babcock, the Commissioner's assistant, who made the investigation of the Fraser, concludes his report with these words: "In comparing conditions this year, with those of 1913, I am of the opinion that the number of sockeye which spawned on the Fraser watershed this year was much smaller, and not sufficient to produce a run four years (1921) hence, that will equal in numbers those caught this year."

The appendix of the report contains three valuable additions to the life history of our salmon, oysters and crabs, as well as two very able papers on the condition of the Fraser River salmon fishery, that add materially to the literature on this subject. Dr. Gilbert's fourth contribution to the life history of the sockeye salmon, given in the appendix of the present report, adds two additional years to the record of the salmon runs to the principal streams of the Province. The present paper contains a graphic analysis of the runs of sockeye to the Fraser, Skeena and Naas Rivers, and Rivers and Smith Inlets in 1916 and 1917, throw many sidelights on the life of these important food fishes, adds materially to the evidence of their remarkable homing instincts, indicates the data necessary to follow the question of sectional racial difference to a conclusion, deals with the significance of the run of grilse to the Fraser in 1916 and adds force to the statement that the runs of salmon to the rivers of the Province have received a close and discriminating study, unequalled in any other state.

As a result of the Department's study of the runs to the Fraser River, the conviction seems inescapable that they consist of a number of sub-races, each bound for its own spawning area within that basin. If this be true, Dr. Gilbert points out, not only do sockeye return to their own river basin at maturity; they predominately return to the particular part of the river basin in which they were reared as fingerlings, in which case their homing instinct is far more rigid in its workings than has heretofore been accepted. Do the salmon which develop from eggs deposited in the gravel of the Horsefly River, a tributary of Quesnel Lake, return at maturity not only to the Quesnel, but also to the Horsefly? Data contained in Dr. Gilbert's present paper makes such a suggestion appear by no means improbable. This problem has such an important bearing on hatchery propagation, as well as the forecasts of future runs, that the Department will press it to a conclusion.

The crab investigations of 1916 and 1917 add materially to the data already published by the Department. The present report presents facts bearing on cooking and marketing, notably the so-called "light" and "black" crabs that are of economic importance.

Dr. Joseph Stafford, of McGill University, contributes to the appendix of the report a valuable paper on the Native Oyster of B.C., in which he treats at length on the selection of location for growth, apparatus and construction work, operations of culture, planting, harvesting and shipping that affords the oyster-grower a hand-book of great value.