

The Commission further found that there were specific levels of the river during which the salmon were unable to get up through the terrific rush of water at Hell's Gate Canyon and that these impassable levels occurred during the salmon season, but varied greatly in time, length, and seriousness from year to year. In some years practically all the runs which had survived to that year got through. In other years the entire season was nearly impassable (in 1941 it is estimated that one million fish were unable to ascend the Canyon, dropped down below and died). In some years certain runs were affected; others were not.

It was also found that, although Hell's Gate Canyon was by far the most serious obstruction of this character, there were other places in the river system, each of which took its toll. Some forty such obstructions were specifically noted, of greatly varying importance, but a much more thorough survey of the seriousness of each, and of conditions at other points where difficulty may exist than the Commission has thus far been able to make, is essential. Moreover, the Commission found large areas apparently suitable to salmon spawning which never had been utilized because of some natural obstruction, and that it was probable that an adequate survey and proper remedial action would be the means of opening up such areas, thereby increasing the productivity of the system beyond what it had ever been.

A most important consideration is that a depleted run of sockeye salmon if given a reasonable opportunity recuperates rapidly. There are, however, great areas to which the runs of certain years have been completely destroyed. Such areas require distinctive treatment. Moreover, any measure of redress, in order to be effective, will require the aid of regulation of the catch.

Viewing the entire field, the Commission found that it would be uneconomical and unsound, if not wholly futile, to attempt to resort to any recuperative or regulatory measure if the same might in any year be rendered fruitless by reason of the restored runs being again depleted by being obstructed in their attempted passage up Hell's Gate Canyon or other points of difficulty.

Accordingly, it is essential that as a first step in an orderly rehabilitation of the sockeye salmon of the Fraser River system as a whole that this continuous threat of destruction at Hell's Gate Canyon be removed. After that, many runs will promptly proceed to restore themselves and this natural process can be going on while the Commission effectuates its plan to bring back lost runs as well as those so close to extinction as to require artificial stimulation, and to produce runs into new areas. Gradual removal of minor obstructions can also be carried on concurrently, as biological and engineering studies indicate the corrective action necessary.

These facts and conclusions are the result of six years of intensive investigation of every available source of information from official and commercial records and from one of the largest fish tagging experiments ever conducted, many thousands of fish having been tagged in salt water and at different parts of the river with observable celluloid tags these then having been collected by means of rewards and otherwise, also by the use of trained observers systematically stationed throughout the area.

Submitted herewith is a biological report from the Commission's scientific staff which presents a remarkable record of investigation and analysis. (1) Dr. W. F. Thompson, until he came to this Commission, had been Scientific Director of the International Fisheries Commission (Halibut) and was largely responsible for the accomplishments of that Commission which have justly won world-wide recognition. He is now the Scientific Consultant for this Commission.

(1) Identical copies of the Reports were presented to each Government by the Commission. It was therefore deemed unnecessary to attach them to the note of the Canadian Charge d'Affaires of July 21, 1944.