

of the upper section of the Fraser basin, for the reason that the river's channel at Hell's Gate was blocked by a great slide of rock following the construction of the Canadian Northern Pacific Railway through the canyon of the Fraser. A tunnel was driven through the rock cliff that overhangs the narrow channel immediately above Hell's Gate. During the spring of 1913 the action of frost caused a section of that cliff, including a portion of the tunnel, to slide into the river's channel, which formed an obstruction that the main portion of the run of fish could not get over. After frantic and continued efforts to surmount the obstruction the fish became exhausted, and were swept downstream by the rapid current, where they died in the channels below without having spawned.

The British Columbia Fisheries Report for 1913 states that the number of sockeye that escaped capture on the fishing-grounds, and that later reached Hell's Gate that year, was fully as great, if not greater, than in the four preceding big years. The conditions created at the principal spawning-beds of the Fraser by the obstruction is told in the following excerpt from the report of John P. Babcock, in the British Columbia Fisheries Report for 1913:—

"I feel fully justified from my investigations in concluding that the number of sockeye which passed above the fishing limits was as great this year as any preceding big year of which we have a record, and I think even greater. The sockeye made their appearance in the canyon above Yale in June, and during the high waters of that month and July large numbers passed through to Quesnel and Chilko Lakes. The greater proportion of the run of sockeye in late July, and in August and September, was blockaded in the canyon by rock obstructions placed in the channel, incident to the construction of the Canadian Northern Pacific Railroad, so that few were able to pass through during that time. No humpbacks succeeded in passing through the canyon. The blasting of temporary passage-ways enabled a large proportion of the sockeye run of October and November to pass through the canyon. In August sockeye were seen drifting downstream, between Hell's Gate and Yale; the movement was very pronounced in September, and continued until the middle of October. The streams which enter the Fraser between Hell's Gate and Agassiz were filled with sockeye from the middle of August until the end of October, while they had not been observed in those streams in previous years. Very few sockeye spawned in any of these streams and most of them died without spawning. Great numbers of dead sockeye, which had died without spawning, were found on the bars and banks