stream, and the fish can be seen dashing in all directions at each other, inflicting severe and deadly wounds. Often two male fish become inextricably interlocked, like the red deer and moose in the forest and die miserably from wounds and starvation. The tails and fins become greatly worn, and scars and fungus disfigure their bodies. Some of the male fish become so soft and degenerate as to be almost putrid in odour and appearance. It does not appear that any real nest is made by the sockeye, hump-back and smaller Pacific salmon. When depositing her eggs, the female fish twists her body like an inverted letter U, in sidewise fashion, and the ripe eggs are extruded rapidly in batches. They fall promiscuously amongst the gravel, the rushing waters carrying them into interstices and secure hiding places. The fish, in the act of depositing the eggs, often is quite exposed above the surface of the water, while the male fish, close by, fertilizes them by actively scattering the milt over the eggs as they fall. Frequently, at the moment the eggs are thrown into the water, the male fish rushes away with open mouth and gleaming teeth to attack a rival. There must, in consequence, be enormous waste of ova. After the spawning is done, the emaciated fish drop gradually down from pool to pool on their return to the sea. These lean, black, degenerate fish are called "kelts," and, as Buckland says, they are "in a wretched and miserable condition, many dying on the road." In Scottish rivers, quite a large number of fish are found dead annually, the majority being male fish, the dead females being very much rarer; the record on one Scottish river showing that 71,000 dead salmon were found in 12 years. On account of the vastly greater number of individuals in the Pacific rivers, the dead fish observed, subsequent to the spawning period, is enormous and has given rise to the popular notion that none of them ever return to the sea alive. "Probably none of them ever return to the ocean, and a large proportion fail to spawn," said Professor Jordan. In this view many authorities agree, though the grounds for the opinion are not fully conclusive. Thus, an authority says of the Pacific salmon:

"They grow less comely in appearance, more slimy to the touch, more unsymmetrical in form; parasites collect by thousands in their gills and under their fins; their tails and fins fray off; a white and loathsome fungus gathers over all parts of them, frequently destroying their eyesight; and swarms of suckers—the carrion-birds among fishes—wait about them to feed upon their lifeless bodies when they die. For some unknown and strange reason, the salmon in the higher tributaries do not hasten back to the salt water, which would clean their bodies of the parasites and fungus and restore their appetite, and with it their health and vigour; but they linger, with a strange indifference to their fate, around the spots where they have deposited their eggs, waiting patiently for the only possible relief from their wretchedness, which is death. Some uninformed persons, who have never seen these fish in their natural habits, have expressed some incredulity in regard to their all dying after they have spawned.

The same authority goes on to say that it is probably true that those that spawn near the ocean return to the ocean and recover their vitality, but others never do. In order to make sure whether I was mistaken in my views about it, I took the testimony, a year ago, of all the white men who have lived or worked on the river, and of all the Indians I could reach. It was the unanimous testimony of all that 'the salmon which pass the McCloud station in the summer, on their way up the river to spawn, die in the river and never return to the ocean.'"

The fish, especially the female fish, in multitudes of cases, are full of vigour after spawning and quite capable of accomplishing the migration to the sea. Indeed, one of the ablest authorities in British Columbia, Mr. Ashdowne Green, of Victoria, B.C., says, "I have every reason to believe that some individuals do survive and even recuperate in the fresh water before returning to the sea. I have taken spent fish in the North Thompson that were strong enough to make a good fight, and I could see nothing to prevent these from returning. At one time it was supposed that no salmon ever did so, but of late this opinion seems to be much modified," especially, Mr. Green adds, with regard to the spring salmon, or quinnat. My own experience with regard to sockeyes and humpbacks would indicate that they do not by any means all die, they are, in a large number of cases, very vigorous, and when secured by hook and line, by being hooked in the ridge of the back, they exhibit extraordinary strength and gameness, though, of course, such