

# THE CONCRETE HERALD

Formerly the Hamilton Herald Established Nov. 23, 1901. Oldest Paper in the Upper Skagit.

July 15, 1926

## WHERE SALMON SCALE LADDER AT BAKER RIVER DAM

CONCRETE, BLAINE COUNTY, WASHINGTON, THURSDAY, JULY 15, 1926

### WHERE SALMON SCALE LADDER AT BAKER RIVER DAM

These pictures show: 1. The fish ladder near Baker river power house. Each fall is two feet high. 2. The car and incline railway which carries fish unharmed to top of dam. 3. The last pool of the fish ladder and the incline railway. 4. Baker River power house with dam in the distance. Salmon enter the forebay through opening in the rack bars. 5. Young migrating salmon by thousands tumble down the waterfall made by the Baker River dam.

### First Device Ever Built for Lifting Fish Over High Dams in Spawning Streams is Now in Successful Operation at the Baker River Project at Concrete.

The above pictures of the fishway of the Baker river dam, near this E. Mayhall, state superintendent of hatcheries, cannot return. The ladder begins at this point and goes by easy stages up going over the dam on their way to salt water. While this involved a

## **FIRST DEVICE EVER BUILT FOR LIFTING FISH OVER HIGH DAMS IN SPAWNING STREAMS IS NOW IN SUCCESSFUL OPERATION AT THE BAKER RIVER PROJECT AT CONCRETE**

The above pictures of the fishway of the Baker river dam, near this city, show the first device ever perfected for raising fish over an obstruction over 50 feet high. The fishway has been proven successful during the past month while the sockeye salmon run was on, when thousands of salmon on their way to the spawning grounds at Baker Lake were lifted over the dam.

About two years ago three important power developments were under way in this state, each of which would apparently close an important spawning stream to the propagation of salmon. The Baker river project was the first that would be completed and as the Baker is the only stream in the state in which the sockeye salmon spawn, the problem here was the first to be considered. A conference between state and government fisheries officials and representatives of the power companies was called and at this meeting various means for lifting the salmon spawn, the problem here was the first to be considered. A conference between state and government fisheries officials and representatives of the power companies was called, and at this meeting various means for lifting the salmon over the dam were taken up and considered. From the many plans, submitted, the fishway now in operation was worked out and was installed by the Puget Sound Power & Light company at a cost of about \$75,000. The plans finally worked out by the engineers of the power company, with the assistance and cooperation of Chase Pollock, state supervisor of fisheries, and L. E. Mayhall, state superintendent of hatcheries.

During the course of construction and while experiments were being made with a run of steelhead salmon, it developed that if this could be retained at each point of his journey up the fish ladder, one of the difficulties of handling the fish would be solved. This led to

the construction of a trap, known as the "Mayhall trap," by which the fish could ascend from one pool of the ladder to the next, but could not return. It is now believed that by using the type of fishway installed here, fish can be raised to any reasonable height.

It was also believed at first that the jumps between the pools should be a maximum, in which the salmon might have to try several times to make it. The engineers believed that the jump should be the minimum, so the jump could be made the first time and the fish conserve its strength to continue its way up the ladder. For this reason, a ladder was constructed when an elevation of only two feet between the pools. The pools have also been built of ample size so that the fish can rest awhile before making another jump.

The whole scheme of the Baker river ladder consists of a huge forebay where a fish can fight the swift water and when tired enter the traps on the upstream side of the fishbay, and once entering one of these traps, cannot return. The ladder begins at this point and goes by easy stages up the canyon walls until it reaches a series of flumes built along the river channel. The length of the flume is about 700 feet. The last ladder has for a pool a moveable car. When a quantity of fish of sufficient number has negotiated the last pool of the ladder, the car, which is fitted with a door, is then pulled up a steel incline where the salmon and water combined are emptied into a trough leading to Lake Shannon above. The salmon, therefore, do not at any time leave the water and are simply transported in a large tank full of water to the lake above.