North Fork Fish Ladder

By George Kramer

At two miles in length, the North Fork Fish Ladder on the Clackamas River is among the longest such features in the world. Built as part of Portland General Electric's (PGE) North Fork project, the fish ladder was completed in 1958.

In the early years of hydroelectric generation, during the late nineteenth and early twentieth centuries, there was little attempt to mitigate damage to fish passage; and dams of all sorts—including those built for hydroelectric power, irrigation, and flood control—were viewed as necessary improvements, even where they eliminated fish migration. As dams grew in scale, however, so did their impacts on fish populations, and sports and commercial fishing interests began to press utilities and irrigators for improved fish protection measures. Many early dams were retrofitted with fish ladders, and other efforts, from operating hatcheries to transporting fish around river obstacles, became a standard part of dam construction and operation.

By the 1950s, business concerns, sports fishers, environmentalists, and tribes with treaty rights—all of whom had an interest in protecting migrating salmon, steelhead, and other species—had spurred increased regulation and, with that, scientific advances in fish management. The Federal Power Commission (FPC), which licensed dams on federally owned waterways, began to require applicants to address fish protection.

In 1956, working with the Oregon State Fish Commission, the Oregon State Game Commission, and the Fish and Wildlife Department of the Department of the Interior, PGE developed a plan to construct fish facilities at North Fork to protect salmon and steelhead and to allow migration between upriver spawning areas and the Pacific Ocean. When the FPC issued PGE its license for the North Fork Project in February 1957 (Project No. 2195), the agency plan for fish was adopted and became a requirement of the company's license.

PGE's plan for fish migration at North Fork included the construction of a concrete-sided fish ladder, which begins just below the dam and hugs the eastern bank of the river for two miles downstream to the Cazadero Diversion Dam. The April 1, 1962, Oregonian reported: "The North Fork fish ladder is the highest and second longest in the world. In the downstream section of the system is a five-mile long pipe which carries fingerlings around two downstream dams before depositing them into the river."

The North Fork Fish Ladder consists of a series of water "steps" between its concrete walls that allow migrants to gradually swim upstream. The entrance to the ladder, at the foot of the Faraday Diversion Dam, relied on "attraction water" to help fish find it. Downstream migration also relied on attraction facilities, located above the dam at the edge of the spillway. Fish swimming downstream used the ladder and approximately five miles of pipeline that carried them around River Mill Dam.

PGE, in consultation with management agencies like ODFW, continued to modify the North Fork fish management plan to improve its effectiveness. By 1963, a fish-viewing station had been built into the side of the ladder, just below the North Fork dam, so that the public could watch fish moving along the river.

Information on steelhead, Chinook, trout, and other species using the ladder were identified in a mural painted by Alex Schomburg, an illustrator and cartoonist for Marvel Comics and science fiction magazines. Until 2001, when it was closed, the North Fork Fish Viewing Station was a popular field trip for schoolchildren and other visitors.

In 2010, as part of the renewal of its federal license to generate power on the Clackamas River, PGE began planning major improvements in fish management, including the construction of a $4.3 million adult fish trap and sorting facility, gravel placements, and a surface water collector. As the science of fish management improves, fish ladders, including the one at North Fork, have become part of far more complex and efficient systems that include collection and transport as well as more beneficial opportunities for upstream and downstream migration. The recent improvements at North Fork, designed and approved in agreement with ODFW, U.S. Fish and Wildlife, and more than thirty organizations, were operational by May 6, 2013.

During construction, Schomburg’s mural was removed from the viewing station and carefully restored. In 2014, it was placed on display at the Museum of the Oregon Territory in Oregon City.

Sources

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