

Reconnecting the Deschutes River Basin

Our long-term efforts to restore salmon and steelhead runs to a thriving ecosystem

For half a century, dams on the Deschutes River blocked the migration of ocean-going salmon and steelhead. In 2005, when it came time to relicense the Pelton Round Butte hydropower project, the Confederated Tribes of Warm Springs and Portland General Electric began an ambitious effort to change that.

Today, PGE and the Tribes work together with the Pelton Round Butte Fish Committee – an active group of local, Tribal, state, federal and non-governmental organizations – to advance science-based strategies that benefit Deschutes Basin fish and wildlife, while continuing to generate emissions-free power for Oregon.

HISTORIC CHALLENGES

More than 50 years without fish passage

Three dams on the Deschutes River were built in the 1950s and '60s with the best intentions of providing clean power while maintaining the river's natural health – including the preservation of salmon and steelhead runs. But the technology of the day fell short, and fish couldn't find their way downstream through the systems in place, preventing them from completing their migration to the ocean.

Unnatural temperatures

Three very different tributaries feed the Lower Deschutes River. They merge in Lake Billy Chinook behind Round Butte Dam, where the coldest water sinks to the bottom and warmer water rises closer to the surface. For about 50 years, the dam pulled water from only the coldest depths of the reservoir. This made the water temperatures below the dams unnaturally cold in the spring and early summer, and then too warm in the late summer and fall as the colder water was depleted. These temperatures disrupted the river's ecosystem, stunting the growth of juvenile fish and altering the fish and wildlife's natural patterns.

COLLABORATIVE SOLUTIONS

An innovative fish collection facility

In 2010, we began operating a unique facility called the Selective Water Withdrawal (SWW) - the centerpiece of our fish passage plan. This structure creates an attractant flow in the surface of Lake Billy Chinook, allowing biologists to capture juvenile fish and release them downstream. The facility also mixes water from the surface and bottom of Lake Billy Chinook, so water released below the dams more closely matches what we'd expect temperatures to be without the dams' presence. This approach allows us to release the available cold water more strategically, when fish need it most.



Habitat and watershed support

Together, the Confederated Tribes of Warm Springs and PGE have awarded more than \$27.5 million to projects enhancing fish habitat and water quality in the Deschutes River Basin. These projects have helped remove fish passage barriers, stabilize stream banks, restore floodplains, and protect instream flow for fish.



CELEBRATING PROGRESS TOWARD LONG-TERM GOALS

Restoring fish runs

While we have not yet reached our long-term goals for self-sustaining, harvestable runs of salmon and steelhead, we are seeing incremental progress. The science suggests we're on the right track.

- Each year we collect between 38,000 and 480,000 juvenile fish at the SWW – and we expect these numbers to continue rising over time.
- Adult Chinook, sockeye and steelhead now have access to 250 miles of their historic habitat that were blocked for nearly 50 years. We have located spawning fish near Bowman Dam on the Crooked River, in Whychus Creek at Camp Polk and upstream of Camp Sherman on the Metolius River.
- In 2022, more than 700 adult spring Chinook salmon were released above Round Butte Dam – the highest number since the reintroduction effort began. These fish were observed spawning in nature, and their offspring passed through the SWW in 2024 on their way to the ocean, starting the cycle over again.
- In 2024, more than 800 adult steelhead were released upstream of Round Butte Dam, including 573 reintroduction fish – the largest steelhead return since dams were completed on the Deschutes River in the 1960s. The improved returns are likely a result of better ocean conditions, as well as changes we've implemented over time in response to the science, such as acclimating young fish in-stream to adjust to the river's conditions and releasing fish at night when predators are less active.

Learning from the science

Together with the Fish Committee and our regulators, we evaluate our progress and make thoughtful course corrections when the science supports them – an approach known as “adaptive management.”

For example, we now generate power at night during peak fish migration to attract salmon and steelhead to the SWW when they're most active. In recent years, we've installed a net that guides fish toward our collection area, as well as a stress relief pond to allow fish more time to recover after handling. These changes have shown positive results, and we expect to see more over time.

Patience is essential when making and evaluating our decisions because anadromous fish life cycles last four to eight years. This means it may take several years for us to see the results of our most recent changes.

Learn more at portlandgeneral.com/healthydeschutes

Pelton Round Butte by the numbers

3 hydroelectric dams located on the Deschutes River near Madras, Oregon

467 MW generated at max output

150,000 homes served by emissions-free power

4+ decades of CTWS & PGE co-management

1.6 million juvenile fish passed downstream since 2010

\$27.5 million invested in habitat enhancement through the Pelton Round Butte Fund

250 miles of historic habitat in the Upper Deschutes Basin reopened for salmon and steelhead

