

THE TROUBLE WITH DAMS

Dams can provide flood control, hydro power, irrigation and recreation, but dams get old, are expensive to repair under new rules and are under increased scrutiny as biologists, engineers and other experts refine their understanding of what happens when the natural flow of water is impeded:

- Dams can fail with age, earthquakes or sabotage — with potentially catastrophic results downstream.
- Migrating fish passage is reduced or eliminated, affecting the entire ecosystem and its nutrient cycle. Insects, birds and mammals are also affected.
- Dams can also affect Native American sacred sites and traditional fishing practices.
- Miles of natural gravel spawning beds are no longer accessible above the dams, and spawning beds below the dams suffer from lack of fresh gravel, woody debris and nutrients. Diminished spawning beds can hurt commercial and recreational fishing, both in rivers and in the ocean.
- Dams can conflict with newer state and federal mandates regarding native fish restoration. Trapping and trucking salmon around dams on their up-river journeys is difficult and expensive, and dams can interfere with smolts trying to swim downstream to the ocean. Remediation projects, such as elaborate floating fish traps above dams, can cost millions to design, build and maintain.
- Some smaller dams can accommodate fish ladders, but many large concrete and rockfill dams that provide irrigation, such as Hills Creek and Cougar, cannot due to fluctuating reservoir levels of up to 100 feet. Fall Creek Dam is unique in that the reservoir can be drained entirely through a gated spillway when smolts are ready to go downstream to the ocean. But returning salmon need to be trapped and hauled around the dam by truck.
- Water flows and temperatures are altered, with impacts on sensitive species. Towers in reservoirs can be used to control water temperature outflows, but are expensive.
- Massive sediments build up behind dams and eventually reduce their holding capacity. When dams are breached, the rapid erosion of reservoir sediments can be very destructive downstream. *National Geographic* has a video of the 100-year-old Condit Dam being breached at wkly.ws/1og.

PacifiCorp conceded that the “watershed analysis concluded that the best way to benefit native anadromous fish near the North Umpqua project was to remove Soda Springs Dam,” wrote project manager Monte G. Garrett in a statement published in 2010 on RenewableEnergyWorld.com. “Removing the dam, however, would require PacifiCorp to provide the dam’s re-regulating function in another manner or discontinue the valuable peaking nature of the project.” Peaking refers to the ability to meet high demands for the sale of electricity.

In other words, dam removal didn’t pencil out for the multi-billion dollar corporation. But keeping the dam has turned out to be very expensive, compared to the estimated \$5 million to \$10 million to remove it. And PacifiCorp had earlier estimated the \$60 million fish ladder would only cost about \$12 million. Garrett said the company expects to lose about \$370 million during the 35 years of this license “due to increased bypass flows, as well as \$125 million in capital construction projects.” PacifiCorp has estimated the project will result in a 1 percent rate increase.

Several groups who felt snubbed in the settlement process, including Audubon and Steamboaters, filed a lawsuit to try to stop the relicensing agreement. “The lawsuit was totally *not* worth it,” Vejtasa says. “Even if we had won, it did not guarantee the removal of the dam. It only required the Forest Service to do their own Environmental Impact Statement of the project. It just gave PacifiCorp two more years to operate the hydro project without any mitigation.”

The relicensing agreement did force PacifiCorp to commit to about \$125 million worth of modifications throughout its North Umpqua hydro system over the next decades. The system includes multiple dams and generators and 44 miles of canals and flumes. So far, elaborate screens have been installed to keep small fish from getting sucked into turbines, a huge tailrace barrier was installed at the Slide Creek powerhouse upriver from Soda Springs to keep fish from getting injured in turbine outflows, water flows have been increased at other bypasses, thousands of tons of gravel have been added to enhance spawning beds downstream, logs have been installed across the riverbed

to slow gravel erosion, leaky canals have been fixed, some wildlife passages were built over canals and escape steps were built to reduce the number of deer and elk that get trapped and die in the canals each year.

Getting regional attention

The fight over relicensing went mostly unnoticed in media outside of Roseburg, but it did get the attention of environmental groups around the Northwest, and at least one group went looking to twist the arms of people in high places.

“We were involved early in the relicensing but we pulled out when it was clear that dam removal was not an option,” says John Kober, executive director of Pacific Rivers Council (PRC). “We did, in fact, make a last-ditch effort to reach out to Warren Buffett prior to the building of the enormous fish passage facility. We had a connection to a woman who is his bridge-playing partner, but alas he was not receptive to our overtures.” (Buffett bought controlling interest in PacifiCorp from Scottish Power in 2005 for \$5.1 billion.)

Kober says PRC is “highly skeptical of the bypass and still believes the Soda Springs Dam should have been removed. Nonetheless, our focus will be to track the performance of the bypass, and we will insist that they fulfill their obligations under their new license.”

PacifiCorp has shown some cooperation, says Kober. “I have high regard for their fish biologist, Rich Grost, who serves with me on the board of directors of the North Umpqua Foundation. I believe he is doing everything he can to make sure they are doing what they promised.”

Penny Lind, executive director of Umpqua Watersheds, wrote an op-ed in the *Roseburg News-Review* during the relicensing process, saying, “It will be in the many details that we determine how ‘innovative, historic, balanced and victorious’ this agreement is. The claim that balance has been struck with this agreement appears to be displayed through dollars for access and continued use.”

Lind continues, “Scottish Power/PacifiCorp retains their generating capabilities, exports the energy to the highest bidder, not local residents, and the profits go to a multinational corporation. What a deal!”



The fish ladder at Soda Springs Dam has 59 steps and pools