

Printable version: Thursday, May 31, 2007

1. SALMON: Northwest plan sets new targets for fish survival but keeps dams

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As difficult as it is for Pacific Northwest salmon to complete their round trip journey from the upper reaches of the Columbia River and Snake River systems to the Pacific Ocean and back to spawn a next generation, it is proving nearly as hard for federal agencies to establish a consensus plan to protect the iconic fish from depletion.

Hoping to overcome decades of contention and litigation, the Bonneville Power Administration, Army Corps of Engineers and Bureau of Reclamation have offered a third version of a proposed action that will be vetted by a federal judge and run through a gauntlet of scrutiny from states, tribes and environmental groups before being turned over to the National Marine Fisheries Service as the basis for a new biological opinion (BiOp) that would guide salmon recovery efforts for the next decade.

Previous BiOp's from 2000 and 2004 have been declared invalid by U.S. District Court Judge James Redden, in large part because actions proposed by the agencies have not had sufficient resources behind them to ensure fish recovery. Two years ago, Redden also found that the 2004 BiOp was "arbitrary and capricious" because it purposefully did not consider the effects of federal hydroelectric dams and irrigation projects on the survivability of salmon -- many subspecies of which are listed as endangered or threatened under the Endangered Species Act. Redden also ordered the agencies to increase water spills at five Columbia system dams in spring and summer to assist juvenile salmon and steelhead migrating to the ocean.



An adult salmon leaps up a fish ladder at a Columbia River system dam. Federal agencies have spent over \$8 billion on Pacific salmon recovery efforts and are committing to even more in a new 10-year plan. Photo courtesy of www.salmonrecovery.gov.

Bonneville officials have estimated that the increased spills will cost some \$60 million in lost power generation sales.

The [Northwest hydroelectric system](#), which includes eight large "main stem" dams on the Columbia system, is operated by the Army Corps of Engineers with the energy sold by Bonneville to utilities and large end-users in the Northwest and California. Multiple lawsuits over the years have targeted hydro operations as a main culprit in the deterioration of wild fish runs, and Bonneville and the Army Corps in particular have borne the financial responsibility of balancing power generation with fish protections -- not always successfully in the opinion of courts and activists.

Bonneville's share of the cost comes from charges to its customers, while the other agencies depend on budget appropriations from Congress each year.

All told, the agencies have spent well over \$8 billion on salmon recovery efforts, and the new plan extends that financial commitment for another 10 years to provide for improvements to what are called the "H's": hydro operations, habitat, hatcheries and harvesting, as well as a special emphasis on predator control, said Rock Peters, fish program manager for the corps.

"This plan has all new actions for all the H's," he said. There will also be a deeper commitment to research, monitoring and evaluation programs, with checkpoints to measure progress in 2009, 2012 and 2015.

The corps usually spends as much as \$140 million per year on capital and operations for fish programs on the Columbia River system. Bonneville currently spends \$20 million per year on habitat programs but under the new plan expects to ramp that up to about \$45 million annually, said Lorri Bodi, Bonneville's senior policy adviser.

"We don't have a consolidated cost estimate," Bodi told *Land Letter* this week. But the new habitat commitment will entail spending about a half billion dollars over the next decade, she said.

Also, there will be a new push on hatcheries to augment the dwindling numbers of certain highly threatened fish, such as Snake River sockeye salmon. Currently about 130,000 sockeye smolts are released each year, but the new plan would increase that to about 1 million per year.

The goal of all these programs is to improve the survival rates of juvenile salmon as they run down the river to the sea and maintain the survival of adults that make the return trip to their natural breeding grounds.

Bodi said the new plan contains specific goals of achieving 95 percent survival of the fish that pass through each of the main stem dams. That goal is already being hit for many of the adult species, said the corps' Peters. "Our current survival rate is very high at each of the projects," he said. At each dam about 2 percent of the adults are lost, leading to a cumulative survival rate of about 88 percent, he said.

Juvenile survival is somewhat more of a challenge. Peters said that cumulative survival for chinook salmon last year was 61 percent, but 42 percent for steelhead, as measured from the head of Lower Granite Dam down to Bonneville Dam.

Habitat programs in the new plan will focus on the areas where chinook and steelhead are most vulnerable, especially the Snake River in eastern Oregon and Washington. The plan also considers acquiring more water from Canada to augment flows, beyond amounts currently called for in international treaties.

However, a critical factor is that only a tiny percentage of fish that spawn each year will ever return to the rivers -- ranging from less than 1 percent to

about 4 percent for the healthiest stocks. There are so many factors out of the agencies' control, ranging from the presence of sea lions at the bottom of dams to the amount of commercial fishing in non-territorial waters.

Peters said the new plan will also try to reduce the effects of avian predators, such as cormorants and terns that feast on young salmon. There is even a possibility of relocating terns to the San Francisco area, he said.

Going backward?

But for environmental activists, the crucial element of salmon survival is the operation of the hydro system, and for many the actions being proposed in the new plan are not only insufficient but an apparent reversal of preferred strategies. Many of these groups are pushing hard for increased levels of water spills during spring and summer fish runs and for the removal of four dams on the lower Snake River that they claim are most harmful to the sockeye.

Todd True, an attorney with Earthjustice who represents the coalition of groups that successfully challenged previous BiOps before Judge Redden, said the plan is "going backwards."

"There appear to be no new significant measures for the operation of the hydro system. There will be less spill than what the court has ordered, and standards for survival at each dam are actually less stringent," he argued. "It's a cause for concern that we're going backwards." And nowhere do the agencies contemplate Snake River dam removal, he said.

Peters countered that spill levels will actually increase compared to the prior BiOp levels, with spills occurring 24 hours per day during spring runs and in some summer periods -- although the spills could be reduced if survival targets are met.

Bodi also countered the notion that spills are the defining element of a plan. "There is no one silver bullet solution," she said. "You could increase spills and not increase survival. Even dam breaching only benefits Snake River fish." Instead the plan emphasizes performance goals and novel technologies such as removable spillway weirs, with the intent of using less water to accomplish the same result -- or as she put it "spill smarter and get better performance."

As complex as the 900-page proposed action is, it will be scrutinized in fine detail by representatives of states, tribes and environmental groups. Judge Redden has scheduled a June 20 hearing in Portland to review the proposal before it goes to Fisheries for completion of the BiOp process.

And the agencies have told the judge that there might be more changes, as they continue negotiations with parties on specifics. "We've tried to respond to the court and hopefully we've narrowed the differences," Bodi said.



Lower Granite Dam on the Snake River is one of several hurdles that salmon must pass through on their journey to the ocean. It is one of four dams that environmental groups would like to see removed from the hydroelectric system. Photo courtesy of U.S. Army Corps of Engineers.

Redden slaps Bonneville's wrist over spring generation

Further emphasizing that salmon protections are primary under the Endangered Species Act and power generation a secondary consideration, Judge Redden last week chastised Bonneville and the corps over a violation of agreements with Indian tribes related to power generation and operational efficiency this past April. In doing so, Redden ruled that dam operation agreements meant to minimize fish kills in hydro turbines will now be considered part of mandatory federal orders.

On April 10, Redden received an anonymous telephone call saying that Bonneville and the corps had intentionally violated terms of the operational agreements in order to satisfy power sales commitments "and sought to declare a system emergency to conceal the variance," he wrote.

He found that on April 3, "a combination of required flood control drafts, higher than forecast demand for power, marketing commitments and human error" all combined to make it difficult for Bonneville to meet both its power sales commitments and fish protection measures as spelled out in the operational agreements.

According to a declaration by Bonneville's vice president for generation asset management, Steve Oliver, the situation caused the agency to buy additional power at a cost of \$1 million to meet \$380,000 of sale requirements for the day and to fall outside of operational efficiency parameters. "BPA did not intentionally make marketing decisions and operate the system to lose \$700,000," Oliver testified.

He also declared that the action did not reduce spills committed to benefit migrating fish, because that regime did not take effect until April 10.

Still, Judge Redden wrote that while Bonneville did not intend to violate the operations agreements or harm listed fish, he was concerned that the agencies do not view their commitments as binding legal obligations. To correct that, he put the agencies on notice that they shall operate the system within the terms of the agreements, or notify him in advance of any departure from practice. Bonneville was also told to circulate the order among all employees with authority and duties for operating the Columbia River system.

"This opinion and order is not a product of anger, but frustration," Redden wrote. Quoting the seminal 1978 decision affirming the ESA in *Tennessee Valley Authority v. Hill*, he added that federal agencies "must afford first priority to the declared policy of saving endangered species."

The issue has been litigated and reaffirmed by federal courts across the country, he declared, and "proposed amendments to the Act have repeatedly failed, and its regulations stand firm. We may as well get it right."

[Click here](#) to view the Columbia hydroelectric system map.