



Restoration of the Klamath River Salmon Populations

Decommission and remove the four most seaward dams on the Klamath River

Background

The Klamath River extends from its upper reaches at Upper Klamath Lake in Oregon to the Pacific Ocean in California. It is the third largest river in the western U.S. It was once also the third most productive river for Pacific salmon. Since the early 1900s agriculture has been developed with support from the Bureau of Reclamation throughout the Klamath River basin. The Klamath Project was authorized in 1905 with the first water deliveries occurring in 1907. As the terrain is generally flat in the agricultural areas, water for irrigation and drainage must be pumped, thereby requiring electrical power to run the pumps.

In 1917, Copco, the power company that was the predecessor to the current owner/operator, PacifiCorp, sought to build dams for hydropower production across the main stream of the Klamath. As a result of concerns raised by agricultural interests who claimed the rights to the water, the approval of the dams was based on Copco providing electric power, at cost, to the agricultural interests. In 1951, Copco applied to construct the Big Bend Dam (now known as J.C. Boyle). As a result of this effort, the Klamath River Compact, an interstate compact among the states of Oregon and California and the United States, was adopted and approved by both states and Congress.

This agreement provides that agricultural interests be provided with the "lowest power rates which may be reasonable for irrigation and drainage pumping, including pumping from wells." Copco was issued a fifty year license for J.C. Boyle and renewal of older licenses in 1956. In 1962, Iron Gate Dam was constructed below Copco 1 and 2. This dam moderated the extreme fluctuations in flow caused by Copco 1 and 2, and added 20 megawatts of electrical generation capacity. In all, PacifiCorp operates six dams on the Klamath River. The four lower dams, starting closest to the ocean, are Iron Gate, Copco 1 and Copco 2, and J.C. Boyle.

The dams have had a devastating effect on the salmon populations in the Klamath River. Once the third most productive salmon fishery in the west, the Klamath's populations have been reduced to the point where the population of one species, the Coho, is now listed as threatened under the Endangered Species Act. Another species' population, the Chinook, has been severely depleted as well. The fall Chinook, were further devastated by a diversion of water for agriculture in 2002 that resulted in very low flows and warm water in the areas that the salmon were able to reach. This combination led to the deaths

of a substantial portion of the returning adult spawners. Estimates of the fish kill range from 33,000 to 68,000, but in any event were substantial.

The dams effectively eliminate all salmon spawning area above the Iron Gate Dam. The reservoirs that retain the flow also allow for warming of the water and deterioration of water quality. Warm water has been blamed for the increase in parasites that contributed to the 2002 massive fish kill. A number of stretches of the Klamath River have been listed in California's 303(d) list of impaired waters under the Clean Water Act. The causes of the impairment are generally cited as agriculture and hydropower. A free flowing river is less likely to accumulate sediments that contain nutrients and organic matter that can depress oxygen levels.

It is also important to note that the dams have no value other than for power generation. They do not provide navigation, flood control or irrigation benefits. Therefore, the impacts of decommissioning will not impact the agricultural interests other than the impact on the cost of power.

Current Events

After fifty years, the Federal Energy Regulatory Commission (FERC) licenses for the Iron Gate, Copco 1 and 2, and the J.C. Boyle Dams are up for renewal. This renewal presents an opportunity to re-examine the dams and their impacts as well as their benefits. Among the issues, in addition to salmon access to spawning grounds, are water quality, water flow regimes and other environmental factors. Numerous agencies reviewed and recommend that the license be approved, denied or approved only with certain conditions. Some of these reviews are advisory only and not binding on FERC. However, others could prevent renewing the dams' licenses.

It is important to remember that since the 1956 licensing, broad changes in society's view of the environment have been reflected in a wide range of environmental laws. These new laws include the National Environmental Policy Act, the Endangered Species Act, the Clean Water Act and the Magnuson-Stevens Sustainable Fisheries Act, all of which apply to the license renewal process in some way.

Also important are a greater recognition of the treaty fishing rights of the Native American tribes along the River.

The underlying power issue for the area affects a number of interests. The two most obvious are PacifiCorp and the agricultural interests who are represented by the Klamath Water Users Association (KWUA). The KWUA has weighed in as a proponent of license renewal only if they continue to receive subsidized power from the dams as contemplated by the Klamath River Compact. Since that compact was part and parcel of the 1956 approval for license renewals for Copco 1 and 2 and the licensing of Iron Gate, it is unclear to what degree it should continue to be recognized. The KWUA has protested PacifiCorp's stated intention to significantly raise power rates to agricultural users and has also made efforts to investigate other sources of power.

In sum, the groups who have the most direct stake in the outcome of this licensing process are PacifiCorp, KWUA and its members, tribes and the commercial and recreational fishing community.

PacifiCorp's interest is in continuing to make money generating power. KWUA's interest is in low cost power for irrigation. The tribes' interests are in restored salmon populations and thus harvests. The commercial and recreational fishing interests are in restored salmon populations and thus harvests. A particular twist to the fishing interests is that despite the abundance in the ocean of other species of populations and species of salmon, the harvest has been severely restricted to avoid incidental harvest of the depleted Klamath populations. The question then becomes: can these interests be met in partial or to the full extent if the dams' licenses are not renewed?

PacifiCorp

Of PacifiCorp's generating capacity, only 6.2 percent comes from hydro-power. Of the power generated on the Klamath, 15 percent goes to agricultural interests at subsidized rates. PacifiCorp has stated its intent to raise the agriculture rates by 2,500 percent.

KWUA

The removal of the dams will not directly affect the availability of water for irrigation, as that water is upstream of the dams. Rather, the need for power to pump the water is the key aspect with regard to agriculture. The courts recently rejected the agriculture group's lawsuit to keep discounted power rates under the new license. Therefore, agriculture will not have a rate advantage tied to the dams. If agriculture successfully finds other reasonable sources of power, they may not oppose the dam removal.

Tribes and Recreational and Commercial Fishing Interests

These are the interests that would benefit the most from dam removal. The removal is the necessary catalyst for the restoration of the salmon fishery and the lifting of harvest restrictions. These restrictions affect not just river and inshore fishing, but also fishing in federal waters more than three miles offshore.

Regulatory Requirements

Although there are numerous regulatory requirements, there are several environmental requirements that must be met in order for the license to be issued.

Federal Power Act

The Federal Power Act states that each license shall include conditions for such protection, mitigation, and enhancement of wildlife based on Fish and Wildlife Service recommendations pursuant to the Fish and Wildlife Conservation Act. FERC must attempt to resolve differences and make findings where it does not adopt all or part of a recommendation.

NEPA

A federal agency must review the impacts of any major federal action that has a significant impact on the human environment. There is no question that a fifty year

license renewal of these dams would have a significant impact. However, the review does not dictate the outcome and a decision to renew the licenses would be still within FERC's discretion.

ESA

Because the Klamath Coho salmon population is listed as threatened under the Endangered Species Act, the licensing authority may not issue the license if the project would jeopardize the continued existence of an endangered or threatened species. The agencies that review this aspect are the Fish and Wildlife Service and the National Marine Fisheries Service. To date, both have approved the project subject to the condition that fish passage around the dams is provided to protect the threatened Coho salmon. If this provision is not met, the license could be blocked. To some degree this would depend on the language of the findings by these agencies if they find jeopardy to the species without the passage, the license cannot be issued.

Clean Water Act

Under the Clean Water Act, a federal license cannot be issued if the affected states do not certify, under section 401 of the clean water act that the project meets applicable water quality standards. Without such certification, the license cannot be issued. Considering that both California and Oregon have listed a number of sections of the Klamath River as impaired by both hydropower and by agriculture, this may be an avenue to pursue to prevent license renewal.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires that FERC consult with the Fish and Wildlife Service on the conservation of wildlife resources and requires that adequate provision be made for use for the conservation, maintenance and management of wildlife resources. The act specifically defines fish as wildlife. However, court cases considering this provision have rejected an assertion that the analysis must consider the historical wildlife in the water body and that FERC may use existing conditions as the baseline or "status quo" condition.

Magnuson-Stevens Sustainable Fisheries Act

Although the Magnuson-Stevens Act only governs the management of fisheries in federal waters, the Pacific Fishery Management Council has examined the situation and has implicated the dams as the impediment to Klamath Salmon recovery. This has no regulatory effect, but can influence the decision making process.

Economic Considerations

As mentioned above, those interests that are affected economically by the outcome of the license renewal process are PacifiCorp, agricultural interests, tribes and fishing interests, both recreational and commercial.

PacifiCorp has few assets (less than seven percent) in hydropower. The dams on the Klamath account for approximately 1.8 percent of PacifiCorp's generating capacity and approximately 1 percent of its actual generation. The vast majority of all their power

sales are in other states. Therefore, in the entire economic picture for the company, these four dams play only a minor part. In the economic picture of MidAmerican Energy Holdings Company, PacifiCorp's parent company, these four dams are even smaller.

One factor that has not been sufficiently considered is the economic losses suffered as a result of the severe declines in the Klamath salmon populations. Both recreational and commercial fisheries along the northwest coast have been greatly impacted by the restrictions placed on harvest. The irony is that a number of other salmon populations have recovered to the point where a reasonable harvest can be sustained. However, because the Klamath salmon mingle with these other populations in the sea, the overall harvest is restricted to prevent impacts on the Klamath population.

Salmon fishing in California alone generates \$170 million for the state's economy annually; is responsible for \$83 million in direct expenditures each year and over 1,500 California jobs. California has 2.4 million anglers who contribute \$4.9 billion to the economy annually. In addition to recreational angling, commercial fisheries have long depended on the salmon harvest for their livelihood. The past two years the commercial harvest has been severely reduced with a near total shut down in 2006.

The potential economic impacts of a healthy Klamath salmon population are enormous. Studies have shown that increased availability of fish leads to more sportfishing with its attendant economic benefits. Although less significant in economic impact, the commercial salmon fishery is also an important element in many coastal communities.

In Conclusion

California and Oregon are now faced with one of the most significant opportunities for restoration in history. The removal of the four dams in the Klamath would open up an additional 300 miles of spawning habitat and provide the cool free flowing water that salmon need to survive. This measure would benefit the tribes along the river, sportfishing, commercial fishing and restore a historical natural resource that is emblematic of the Northwest.