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*Issues in Klamath River Dam Relicensing*

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**Abstract.** PacifiCorp, a large utility in the western United States, owns and operates seven hydroelectric dams in the Klamath River basin. The dams produce 151 megawatts of electricity but they have blocked fish passage in the river, which has led environmental and fishing interests to oppose the dams. The dams' operating license expired on March 1, 2006. As part of the new license application, under the Federal Power Act (16 U.S.C. 811) the Departments of Interior and Commerce submitted preliminary prescriptions on dam operations and fishway construction to allow upstream and downstream fish passage at four of the dams. However, as allowed by 241 of the Energy Policy Act of 2005 (P.L. 109-58), PacifiCorp has proposed alternatives to the federal fishway preliminary prescriptions that include trapping and transporting fish around the dams. FERC will base its final licensing decision on the result of the 241 hearing and comments received on its draft environmental impact statement. This case was the first to go through the new hearing process under P.L. 109-58, 241. A judge ruled that the government's preliminary prescriptions would benefit species in the basin. The Departments of Commerce and the Interior have since issued final mandatory conditions requiring fishways at the Klamath dams. The 110th Congress may examine the results of this case, and might consider legislation on the 241 process and on Klamath River basin management.

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## CRS Report for Congress

# Issues in Klamath River Dam Relicensing

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### Summary

PacifiCorp, a large utility in the western United States, owns and operates seven hydroelectric dams in the Klamath River basin. The dams produce 151 megawatts of electricity but they have blocked fish passage in the river, which has led environmental and fishing interests to oppose the dams.

The dams' operating license expired on March 1, 2006. As part of the new license application, under the Federal Power Act (16 U.S.C. §811) the Departments of Interior and Commerce submitted preliminary prescriptions on dam operations and fishway construction to allow upstream and downstream fish passage at four of the dams. However, as allowed by §241 of the Energy Policy Act of 2005 (P.L. 109-58), PacifiCorp has proposed alternatives to the federal fishway preliminary prescriptions that include trapping and transporting fish around the dams. FERC will base its final licensing decision on the result of the §241 hearing and comments received on its draft environmental impact statement. This case was the first to go through the new hearing process under P.L. 109-58, §241. A judge ruled that the government's preliminary prescriptions would benefit species in the basin. The Departments of Commerce and the Interior have since issued final mandatory conditions requiring fishways at the Klamath dams. The 110<sup>th</sup> Congress may examine the results of this case, and might consider legislation on the §241 process and on Klamath River basin management.

### Background

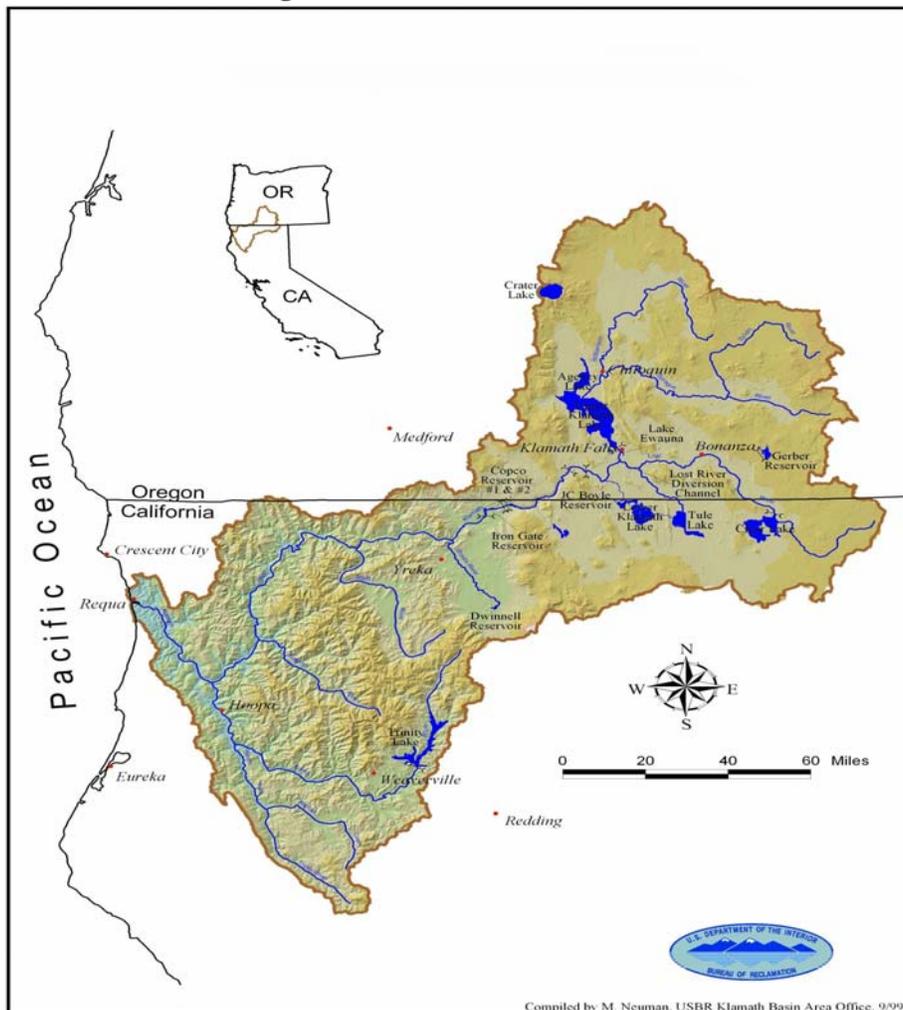
The Klamath River basin (see **Figure 1**) has garnered national attention due to a series of complex natural resource issues that are related to water allocation, water quality, and threatened and endangered species.<sup>1</sup> At one time, the Klamath River was the third-largest producer of salmon on the West Coast of the United States, along with the Sacramento and Columbia Rivers. Over time, increased human activity in the region — including hydropower development, irrigated agriculture, and commercial and

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<sup>1</sup> See CRS Report RL33098, *Klamath River Basin Issues and Activities: An Overview*, by Kyna Powers, Pamela Baldwin, Eugene H. Buck, and Betsy A. Cody.

recreational fishing — have reduced fish populations. In 2002, a die-off of more than 33,000 adult salmon on the Klamath River brought renewed attention to this area.<sup>2</sup>

**Figure 1. Klamath River Basin**



**Source:** [[http://www.usbr.gov/mp/kbao/maps/1\\_basin.jpg](http://www.usbr.gov/mp/kbao/maps/1_basin.jpg)].

Federal agencies with interest in the Klamath include the Bureau of Reclamation (BOR), which administers irrigation contracts; the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), which oversee threatened and endangered species in the basin; the Federal Energy Regulatory Commission (FERC), which is responsible for hydropower licenses on the river; and the Bureau of Land Management (BLM) and Forest Service, which oversee much of the federal land in the region. The 110<sup>th</sup> Congress may consider several legislative issues related to the Klamath River, such as assistance to mitigate the economic losses caused by declining salmon populations in the basin — including agricultural and energy losses as well as impacts from restricted fishing opportunities — or a research and recovery plan for Klamath River salmon. In the past, fishing has been curtailed in the region to protect Klamath River salmon.

<sup>2</sup> See [<http://www.epa.gov/region9/water/watershed/klamath.html>].

PacifiCorp, a utility in the western United States and subsidiary of MidAmerican Energy Holdings Company, owns and operates seven hydroelectric dams in the Klamath River basin, known collectively as the Klamath River Hydroelectric Project. The dams (FERC license #2082) were built between 1908 and 1962 and produce 151 megawatts of electricity.<sup>3</sup> The BOR operates Link River Dam, which PacifiCorp operates in coordination with the company's projects. The Link River Dam, located upstream of PacifiCorp's projects, forms Upper Klamath Lake, the largest freshwater lake in Oregon. In addition to providing water for PacifiCorp hydroelectric generation, water releases through Link River Dam from Upper Klamath Lake fulfill other objectives, including irrigation, flood control, and in-stream flows for anadromous fish.<sup>4</sup>

The Klamath River Project's FERC license expired on March 1, 2006. Until a new license (typically valid for 30-50 years) is approved, the project will operate under annually renewed temporary licenses. As part of the FERC licensing process, regulatory agencies may prescribe actions to improve conditions for fish and wildlife.

Some environmental, tribal, and fishing interests are concerned that the dams are a barrier to fish passage, a concern shared by the federal agencies responsible for fish in the Klamath River. NMFS, FWS, BOR, and BLM have issued preliminary conditions for the dams' license renewal. BOR's and BLM's conditions focus on operation and maintenance of Keno and Link River Dams, water rights, consultation for actions on federal land, river corridor management, recreation, and cultural sites near the dams.<sup>5</sup> PacifiCorp has requested hearings on issues of material fact associated with the each agency's prescriptions. (See "FERC Licensing Proceedings and Settlement," below.)

## Fish Prescriptions

As part of the license renewal under the Federal Power Act (16 U.S.C. §811), the FWS and NMFS have prescribed the construction of fishways to allow upstream and downstream fish passage at the dams. An analysis by the California Energy Commission has estimated that the cost of implementing the NMFS and FWS preliminary license prescriptions may reach \$300 million.<sup>6</sup> PacifiCorp has concerns that this expense may still not resolve the basin's fishery issues due to poor water quality upstream of the PacifiCorp dams.<sup>7</sup>

The federal agencies state that the fishway prescriptions would restore access to 58 miles of habitat for chinook salmon, steelhead trout, and lamprey while improving connectivity for resident fish, such as trout. This would include 46 miles of habitat for

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<sup>3</sup> PacifiCorp indicated that 151 megawatts is enough energy to supply 70,000 customers. See [<http://www.klamathforestalliance.org/Newsarticles/newsarticle20060408.html>].

<sup>4</sup> See [<http://www.pacificorp.com/Article/Article1152.html>].

<sup>5</sup> Available at [<http://www.fws.gov/yreka/DOIFiling.htm>].

<sup>6</sup> M. Cubed for California Energy Commission, *Economic Modeling of Relicensing and Decommissioning Options for the Klamath Basin Hydroelectric Project*, Report Number CEC-700-2006-010 (Nov. 2006), p. 35. See [<http://www.energy.ca.gov/2006publications/CEC-700-2006-010/CEC-700-2006-010.PDF>].

<sup>7</sup> See [<http://www.klamathforestalliance.org/Newsarticles/newsarticle20060408.html>].

coho salmon, which are listed as threatened under the Endangered Species Act (P.L. 93-205; 16 U.S.C. §§1531, et seq.). They also state that fish passage would create the opportunity for returning salmon, steelhead, and lamprey to occupy more than 300 miles of historic habitat above the dams.<sup>8</sup>

Because some environmental and tribal stakeholders see the Klamath River dams as responsible for the decline of fish populations in the basin, they are pushing for dam removal to improve habitat and river flows for fish, even though PacifiCorp has not considered dam removal in its license renewal application.<sup>9</sup> In this case, dam removal might cost half as much as installing fish ladders.<sup>10</sup> However, in addition to PacifiCorp, some members of the academic community are concerned that expected benefits of dam removal may be too high, citing poor water quality in the upper basin due to phosphorus in agricultural runoff, as well as other pollution.<sup>11</sup> The issues at play in the region regarding natural resources — such as endangered salmon, tribal fishing rights, and the human benefits from the power provided by the dams — and the potentially high cost of modifying the dams should the preliminary prescriptions be adopted in the final license, are typical of the complex problems to be weighed when considering river management choices.

In recent years, dam removal has come to be seen as one of several choices that may be made about the river systems, and is sometimes considered a reasonable and cost-effective choice.<sup>12</sup> In some cases, dam removal may provide greater benefits than the maintenance, modification, and

### **PacifiCorp Removal of the Condit Dam**

Although PacifiCorp did not address removal of its Klamath River dams in its license renewal application for the projects, the company has considered removing dams in the past. It decided to remove its 14.7 megawatt Condit Dam on the White Salmon River (WA) because the cost of environmental upgrades to the structure outweighed the value of the power. In 1991, the company applied to renew the dam's operating license. FERC issued its final EIS for the project in 1996, recommending fish passage facilities with an estimated \$30 to \$50 million cost. Rather than continue with relicensing, and invest that amount of money in the project, PacifiCorp agreed to consider dam removal, since the estimated cost was \$17 million. The company reached a settlement agreement with interested parties, and plans to begin removing the dam in 2008.

**Sources:** [<http://www.pacificorp.com/Article/Article54814.html>], [<http://www.pacificorp.com/Article/Article46835.html>], and [<http://www.pacificorp.com/File/File54880.pdf>].

<sup>8</sup> [<http://news.fws.gov/newsreleases/showNews.cfm?newsId=6C01A8E7-91EC-AD92-7D2BC18A63DB61DD>].

<sup>9</sup> Available at [<http://www.klamathforestalliance.org/Newsarticles/newsarticle20060408.html>].

<sup>10</sup> “U.S. Acts to Help Wild Salmon in Klamath River,” *Los Angeles Times*, Mar. 30, 2006 (Sect.: California, Metro, Metro Desk), p. B1.

<sup>11</sup> *Ibid.*, citing Peter Moyle, Univ. of California, Davis.

<sup>12</sup> See [[http://www.americanrivers.org/site/PageServer?pagename=AMR\\_content\\_997d](http://www.americanrivers.org/site/PageServer?pagename=AMR_content_997d)].

upkeep of an existing dam (see box).<sup>13</sup> However, removal may also have results that society deems unacceptable, such as the loss of flood protection for critical areas, the destruction of wetlands created by the dam, or the loss of energy from a hydropower project.

## FERC Licensing Proceedings and Settlement

Energy Policy Act of 2005 (P.L. 109-58) §241 allows applicants to propose alternatives to federal agencies' preliminary licensing conditions. An applicant for a FERC license, or any other party to the proceedings, may formally dispute issues that arise in the relicensing process. Specifically, applicants or other involved parties have the right to request a hearing to resolve disputes regarding fishways and issues of material fact relating to adequate resource protection on federal lands. These hearings are conducted by the agency responsible for the resource in question. Additionally, whenever the relevant management agencies indicate specific conditions that are required for resource protection (e.g., fishways), license applicants or other parties involved may propose alternatives that cost less to implement or improve hydropower production. As long as proposed alternatives provide adequate resource protection — such as providing benefits equal to fishways — the management agencies must accept them.

The hearing process granted by §241 places significant demands on all parties. The schedule requires the case to be concluded and a decision issued within 90 days of case referral; this short timeframe requires expedited proceedings. Within the 90-day window, parties must file any motions, complete discovery, submit direct and rebuttal testimony, and submit witness and exhibit lists, as well as any stipulations or objections to witnesses. FERC will issue a final license based in part on the outcome of the trial-type hearings under §241. A final FERC licence for hydropower project operation may be the subject of litigation.

This case was the first to go through the new hearing process permitted by §241 of P.L. 109-58. On April 25, 2006, PacifiCorp submitted requests to the Departments of Commerce and the Interior pursuant to §241 for a hearing on matters of material fact in the relicensing proceedings. PacifiCorp proposed alternatives to the federal government's fishway provisions that include trapping and transporting fish around the dams.<sup>14</sup> The administrative law judge found that the prescriptions of the Departments of the Interior and Commerce would benefit salmon, steelhead, and lamprey by providing access to an estimated 58 miles of habitat between PacifiCorp dams.<sup>15</sup> Tribal and environmental interest groups in the region see this as a positive development with the potential to make dam removal a viable alternative to expensive fishway construction.

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<sup>13</sup> See CRS Report RL33480, *Dam Removal: Issues, Considerations, and Controversies*, by Nic Lane.

<sup>14</sup> PacifiCorp requests for hearings and alternative proposals are available at [<http://ferris.ferc.gov/idmws/common/OpenNat.asp?fileID=11016830>], [<http://ferris.ferc.gov/idmws/common/OpenNat.asp?fileID=11016831>], [<http://ferris.ferc.gov/idmws/common/OpenNat.asp?fileID=11016769>], and [<http://ferris.ferc.gov/idmws/common/OpenNat.asp?fileID=11016770>].

<sup>15</sup> Decision of administrative law judge in the matter of Klamath Hydroelectric Project, Docket Number 2006-NMFS-0001 (Sept. 27, 2006). See [[http://www.fws.gov/yreka/P2082/20060927/2Klamath\\_DNO\\_Final.pdf](http://www.fws.gov/yreka/P2082/20060927/2Klamath_DNO_Final.pdf)].

Although PacifiCorp did not consider dam removal in its relicensing application, the company issued a press release on August 2, 2006, stating that it:<sup>16</sup>

continues to believe that the settlement process is the right place to work on and resolve the complex issues in the Klamath Basin. Thus, PacifiCorp does not oppose settlement opportunities, including dam removal, as long as any settlement safeguards the economic interests of our customers and respects the company's ownership rights in the project facilities.

Tribal representatives reportedly have indicated that this position is a shift in the message that they have received from PacifiCorp.<sup>17</sup> The tribes are hopeful that the States of California and Oregon will develop a package of grants and tax incentives to assist with dam removal costs, because one of the issues of concern to PacifiCorp is its customers' power rates. If parties in the region agree on settlement terms that include removal of four dams on the Klamath River, it would be the largest dam removal project undertaken in the United States to date.<sup>18</sup> In January 2007, the Departments of Commerce and the Interior issued final mandatory terms and conditions for the relicensing of the PacifiCorp dams that require fish passage.<sup>19</sup> Environmental interests see this action as paving the way for dam removal because the costs of fish passage structures at the dams are estimated to be more expensive than removing them.<sup>20</sup>

FERC licensing cannot be finalized until state water quality certificates are issued for the project by both Oregon and California. Additionally, ESA consultation with both NMFS and FWS is still pending on issues regarding anadromous and resident fish.

## Conclusion

As more FERC license applicants exercise the rights granted under §241 of P.L. 109-58 by requesting hearings on issues of fact or proposing alternatives to preliminary conditions, the scheduling constraints imposed by the law may give parties an incentive to reach settlement agreements. The test case provided by PacifiCorp's relicensing on the Klamath River may be a bellwether of future outcomes under §241. The 110<sup>th</sup> Congress may examine the results of this case, and might consider legislation on the §241 process and on Klamath River basin management.

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<sup>16</sup> See [[http://www.pacificorp.com/Press\\_Release/Press\\_Release67038.html](http://www.pacificorp.com/Press_Release/Press_Release67038.html)].

<sup>17</sup> "PacifiCorp Says it Could Agree to Removal of Klamath Dams," *Seattle Post-Intelligencer*, Aug. 2, 2006.

<sup>18</sup> See [<http://www.washingtonpost.com/wp-dyn/content/article/2006/04/01/AR2006040101112.html>].

<sup>19</sup> FWS and NMFS, *Section C: Modified Fishway Prescriptions of the Fish and Wildlife Service and National Marine Fisheries Service pursuant to Section 18 of the Federal Power Act*, (Jan. 26, 2007). See [[http://www.fws.gov/yreka/P2082/20070126/070126DOIMOD\\_Sectionc.pdf](http://www.fws.gov/yreka/P2082/20070126/070126DOIMOD_Sectionc.pdf)].

<sup>20</sup> "U.S. Acts to Help Wild Salmon in Klamath River," *Los Angeles Times*, Mar. 30, 2006 (Sect.: California, Metro, Metro Desk), p. B1.