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Klamath River Dam Removal and Restoration

The Klamath River Basin (**Figure 1**)—a 12,000 square mile area on the California-Oregon border—is a focal point for discussions on water allocation and species protection. These issues have generated conflict among farmers, federally recognized tribes (hereinafter, *Tribes*), fishermen, federal water project and wildlife refuge managers, environmental groups, hydropower facility operators, and state and local governments. Congress has been involved in efforts to resolve these ongoing conflicts.

Four privately owned hydroelectric dams were recently removed from the river as part of a multi-decadal effort to resolve some of the basin's conflicts; this dam removal project was the largest and most complex project of its kind to date in the United States and involved coordination among local, tribal, state, and federal stakeholders.

Background

Multiple people and species rely on Klamath Basin waters. Irrigated agriculture in the Upper Klamath Basin is supported by water from the federal Bureau of Reclamation's (Reclamation's) Klamath Project. Six national wildlife refuges also rely on basin waters to sustain migratory bird habitat. Several Tribes (including the Klamath Tribes, the Yurok Tribe, the Karuk Tribe, and the Hoopa Valley Tribe) historically have used lower and upper basin fish species for subsistence and other purposes.

Historically, seven dams on the Klamath River and its tributaries (including six dams owned by PacifiCorp, a regulated utility) have generated low-cost hydroelectric power for the basin (including Klamath Project irrigators). The original Federal Energy Regulatory Commission (FERC) license to operate these dams (collectively referred to as the Klamath Hydroelectric Project, or KHP) expired in 2006. In 2004, PacifiCorp applied to relicense the project, and, in 2007, FERC analyzed various alternatives for the application. FERC ultimately recommended a new license with mandatory prescriptions to create fish ladders that were projected to result in net operating losses for the project. Based on the interest in dam removal among some basin stakeholders, PacifiCorp entered into settlement negotiations while continuing to operate the KHP under temporary annual licenses.

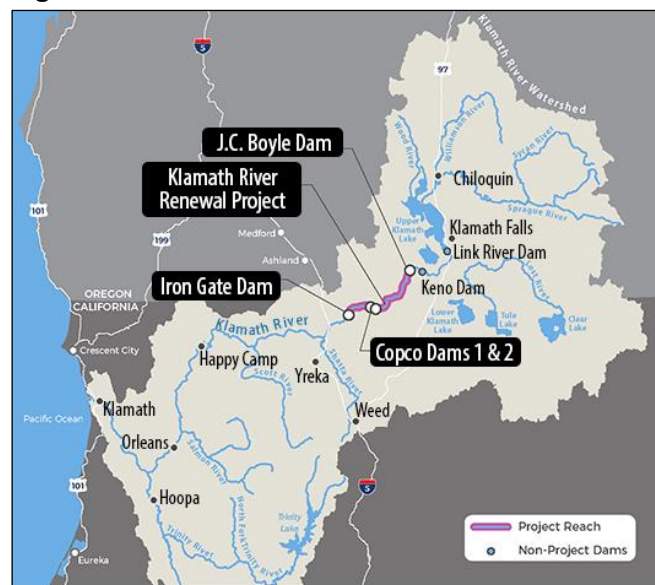
Klamath River Basin Conflicts

Mitigating the effects of water management, habitat alteration, and other factors on listed species under the Endangered Species Act (ESA; 16 U.S.C. §§1531 et seq.) is a perennial issue in the basin. Two species of upper basin fish are currently listed as endangered under the ESA—the Lost River sucker and the shortnose sucker. In the lower basin, the coho salmon is listed as threatened.

These ESA listings require federal actions or prohibit certain activities, which may conflict with local priorities. Conflicts in the basin came to a head in 2001, when Reclamation made significant curtailments to water deliveries from the Klamath Project to provide more water for endangered fish as prescribed in ESA biological opinions. Following a major fish kill of Chinook salmon in the Lower Klamath River in 2002, settlement talks to resolve issues were initiated among federal and state governments and basin stakeholders.

In 2010, the Secretary of the Interior, governors of Oregon and California, PacifiCorp, and 44 other parties announced two companion settlement agreements intended to resolve long-standing issues in the basin: the Klamath Basin Restoration Agreement (KBRA) and the Klamath Hydroelectric Settlement Agreement (KHPA). The KBRA proposed actions to restore Klamath fisheries and provided assurances for water deliveries to wildlife refuges and irrigators, among other things. The KHPA laid out a process for removal of four of the KHP's dams (**Figure 1**) on the Klamath River, freeing up an estimated 425 miles of previously inaccessible habitat for fish species. A third agreement involving off-project irrigators in the Upper Klamath Basin was finalized in 2014.

Figure 1. Klamath River Basin and Dam Removal



Source: Klamath River Renewal Corporation, 2018.

Notes: Dams in black were removed in 2023 and 2024.

Originally, the settlement agreements assumed that a Department of the Interior (DOI) study of dam removal would proceed under existing authorities and Congress would then consider authorizing a formal determination on

dam removal and any related transfer of the dams to DOI, if necessary, to oversee decommissioning. The DOI dam removal study was completed in 2013.

Legislation that would have approved the Klamath Settlement Agreements, including authorization of federal dam removal and restoration actions, was introduced and received hearings in the 113th and 114th Congresses but was not enacted. Congress eventually enacted limited Klamath River Basin-related provisions in the form of amendments to the Klamath Water Enhancement Act of 2000 (P.L. 106-498) in 2018 (§4308 of P.L. 115-270) and 2020 (P.L. 116-191). These bills authorized activities to respond to drought and align water supplies and demand in the Klamath Basin (e.g., conservation and efficiency measures, demand limitation/management, and groundwater use), as well as studies of potential mechanisms to mitigate the effects of increased power costs to users that were expected to result from the removal of the hydroelectric dams.

The KBRA expired in 2015 with no congressional action on most of its provisions that required authorization. A new agreement, the Klamath Power and Facilities Agreement (KPFA), was executed in 2016 with an intent to address issues that remained unresolved after expiration of the KBRA. An amended version of the KHSA, which no longer assumed congressional authorization for federal removal of the dams (and thus did not require congressional approval), was executed by nonfederal parties in 2016.

FERC Transfer, Removal of Klamath River Dams

The amended KHSA laid out a process for PacifiCorp to transfer the dams slated for removal to a new nonprofit entity, the Klamath River Renewal Corporation (KRRRC), which is funded by PacifiCorp surcharges in Oregon (\$184 million) and California (\$16 million), as well as bond funding from the State of California (\$250 million). KRRRC is led by a 15-member board appointed by the governors of California and Oregon, the Karuk and Yurok Tribes, and conservation and fishing groups.

In 2016, PacifiCorp and KRRRC applied for FERC approval to (1) transfer and (2) surrender the license for the KHP. The new transfer application was formally approved by FERC on June 17, 2021, and the surrender application was approved on November 17, 2022.

The plan for the removal of the Klamath dams is laid out in a *Definite Plan Report* in KRRRC's amended 2020 surrender application. Under the plan, the KHP reservoirs were drawn down and the four facilities were removed concurrently in 2023 and 2024, with the last of the Klamath dams removed in summer 2024. Restoration activities are expected to occur over at least the next five years.

Congressional Activity and Considerations

Several bills have been introduced in the 118th Congress to support the process of removing the dams and restoring the Klamath River's ecosystem, among other things. S. 482, the Klamath Power and Facilities Agreement Support Act, would support ongoing implementation of the KHSA and the KPFA by amending earlier legislation authorizing activities in the Klamath Basin (i.e., P.L. 106-498, as amended). The bill would authorize the Secretary of the Interior to plan, construct, operate, and maintain restoration projects in the Klamath Basin watershed; include facilities that would reduce fish entrainment (i.e., unwanted passage through water intakes); mitigate impacts of irrigation facilities on aquatic resources; and conduct other habitat restoration projects in the Klamath Basin. The legislation would authorize the Secretary to implement these restoration activities with state, tribal, local, and private entities. The legislation also would expand on the Secretary's existing authority to enter into agreements to align basin water supplies and demand, while also authorizing previously studied steps to replace low-cost power in the basin. The legislation would formally authorize Reclamation to operate Link and Keno Dams (neither of which was slated for removal under the KHSA) on a nonreimbursable basis.

In the House, H.R. 7938, the Klamath Basin Water Agreement Support Act of 2024, would authorize largely similar activities to S. 482, except the House bill would prohibit modification of Keno Dam for fish passage and any related upstream reintroduction of species until certain actions pursuant to the amended KHSA are completed. The bill also states that any costs for protecting the environment that are not explicitly identified in contracts between the United States and Klamath Project contractors may not be passed on to said contractors.

With removal of the Lower Klamath Project dams now complete, attention has shifted to the recovery prospects for Klamath River fish species and the long-term restoration of this newly opened riverine ecosystem. Congressional interest in restoration has centered on what role, if any, the federal government should have in studying and executing restoration projects associated with dam removal. Congress also may consider what role the federal government should play in aligning basin water supplies and demand, responding to ongoing drought, and reducing increased costs for power users due to removal of Klamath River dams. While many of these issues are specific to the Klamath Basin, other observers are closely tracking this issue because it is a precedent for future dam removal projects.

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