

Klamath Basin Restoration Agreement Revised Cost Estimates

June 17, 2011

This document provides an overview of the cost estimates for the Klamath Basin Restoration Agreement. It describes recent updates to the original costs estimates and the basis for those changes.

The Klamath Agreements

The Klamath Basin Restoration Agreement (KBRA) and the Klamath Hydroelectric Settlement Agreement (KHSA) (collectively “The Klamath Agreements”) address myriad issues and actions planned to restore one of most economically important rivers of the West Coast. The Klamath River provides for a significant farm economy in southern Oregon and northern California, and makes the United States’ west coast commercial salmon industry viable. The Klamath River basin has significant potential for aquatic habitat restoration and improvements for salmonid fisheries. Together, The Klamath Agreements address the aquatic habitat and fisheries issues over time and provide more immediate certainty and predictability for water deliveries to the Klamath Reclamation Project and other farmers and ranchers. In addition:

- The Klamath Agreements provide for the resolution of decades-old conflicts over water allocation, restoration of the fisheries in the Klamath River and Upper Klamath Lake, improvement of water quality, a reliable water supply for irrigators and communities, economic stability, and restoration of Tribal economies and resources.
- With the execution of The Klamath Agreements on February 18, 2010, the representatives of over 40 organizations including the States of Oregon and California, counties, three Tribes, Basin irrigators, and conservation groups agreed to this comprehensive solution, to stop fighting, and to solve water crises in the Klamath Basin through future collaboration and cooperation.
- The Klamath Agreements will guide the parties’ cooperative efforts to restore the basin, its fishery, and secure its economic future.

Federal Nexus

The Federal government has a significant interest in the Klamath River Basin, including: the protection and restoration of fish species listed under the Endangered Species Act (ESA); improving aquatic habitat and water quality for salmonid and resident fish populations important to Native American tribes; and restoring the economic viability of the commercial and sport fishing industries. The Klamath Basin historically supported one of the most abundant salmon fisheries in the nation, with an estimated pre-development run size of up to a million salmon per year. As a result of multiple stressors, these fisheries have declined steeply in the Klamath Basin. Fall-run Chinook

salmon are now estimated to be 14 percent of their highest historic estimated abundance; and coho salmon abundance is at an estimated 2 percent. Two species of suckers that reside in and around Upper Klamath Lake are listed as endangered under the ESA and coho salmon in the Klamath River are listed as threatened.

The U.S. Department of the Interior's (Interior) Bureau of Reclamation (Reclamation) manages the Klamath Reclamation Project (authorized in 1905) that diverts water from the Klamath River for irrigated agriculture. Interior's U.S. Fish and Wildlife Service (FWS) manages six National Wildlife Refuges in the Klamath Basin that depend on diversions of water from the Klamath River. The U.S. Department of Agriculture's U.S. Forest Service and Interior's Bureau of Land Management (BLM) manage other public and Federal lands along the Klamath River and on tributaries to the river. The United States has trust obligations for the Federally-recognized tribes that use the river. The Yurok, Karuk, and Klamath Tribes are parties to the KBRA as well as KHSA. The U.S. Department of Commerce's NOAA Fisheries Service manages the west coast commercial salmon fishery under the Magnuson-Stevens Fishery Conservation and Management Act which relies on healthy Chinook stocks from the Klamath River.

The Non-Federal Parties to the KBRA estimate that agricultural production in the Upper Klamath Basin contributes \$600 million per year in farm-gate and other commercial revenues. Farming is one of the leading sustainable businesses within this region and is relied upon for household income, property and other taxes, and 4,500 jobs. Salmon fisheries reliant on fish from the Klamath River result in more than \$150 million per year in economic benefits in Oregon and California. In addition, six National Wildlife Refuges provide habitat for most of the migratory waterfowl on the Pacific Flyway. Representatives of Interior, including the Secretary's office, the Solicitor's office, the Bureau of Indian Affairs, BLM, Reclamation, and FWS, the NOAA Fisheries Service and the Forest Service worked with 44 State, Tribal, irrigation, commercial fishing, conservation organizations and business entities to develop the Klamath Agreements.

Implementation of The Klamath Agreements would generate significant economic benefits in the four counties in the Basin. The KBRA Non-Federal Parties estimate that these measures would provide an estimated 707 jobs in Oregon, increase business revenues by \$40 million per year, and increase personal income by \$29 million per year. In California, these measures would provide 465 jobs, increase business revenues by \$30 million per year, and increase personal income by \$24 million per year. In addition, improved Klamath salmon runs would support an additional 4,300 jobs in the ocean fishing industry.

Summary of Changes to KBRA Appendix C-2 (the cost estimates):

As of May 2011, the KBRA Non-Federal Parties have revised the estimated costs for these activities that were originally set forth in the 2010 KBRA. The revised total cost estimate for implementing the KBRA is \$799 million for 2012 through 2026 (see Table 1); this is an 18 percent reduction from the cost estimates in the 2010 KBRA. The

revised estimated costs now average \$53 million per year for Federal funding for the KBRA.

The Non-Federal Parties have also identified the non-federal funding for implementing parts of the KBRA and the KHSA. For example, the states of California and Oregon will fund the counties program, the state regulatory activities, and certain of the fisheries activities that would not be funded by Federal agencies. In addition, PacifiCorp will fund the interim measures prior to the potential removal of the four PacifiCorp dams and ratepayers in California and Oregon and taxpayers in California would fund the removal of the dams under the KHSA. These non-federal activities total \$550 million and average \$61 million per year through 2020 (see Table 2). The costs related to the KHSA end in 2020 because the dams would be removed by that year if the Secretary of the Interior makes an affirmative determination under provisions of the KHSA. These non-federally funded activities are in addition to the cost estimates for Federal funding of the KBRA.

In 2011, the Non-Federal Parties to The Klamath Agreements pursued these cost estimate revisions in part to update the preliminary estimates created in 2007, and in part based on the desire to ensure cost efficiencies, budget feasibility, and consistency with current circumstances.

KBRA Section 4.1.2.B provides a process for the Klamath Basin Advisory Council (KBAC) or the Klamath Basin Coordinating Council (KBCC) to amend Appendix C-2, which contains the implementation budget estimates, based on changed circumstances:

The KBAC or KBCC, as applicable, shall amend estimated funding in Appendix C-2 or any successor as appropriate if any event occurs that materially affects the cost, feasibility, or benefits of performance of an obligation under this Agreement, including adaptive management pursuant to Section 5.4.1.

The KBCC is the Klamath Basin Coordinating Council, formed by the parties to guide KBRA implementation. A broadly representative workgroup has been meeting since January to review the cost estimates made in 2007 and recommend changes in the schedule, funding reductions, and in some cases, the elimination of funding for some measures. The Revised Appendix C-2 was approved by the KBCC on May 10, 2011.

The budget revisions are based on various factors. First, the KBRA Appendix C-2 line-by-line cost estimates no longer include all funding called for by KBRA, but only Federal funding through the Federal entities that would be Parties to the agreement if approved by Congress (*see* KBRA Section 1.1.2). As a result, items that were previously shown in Appendix C-2 that would be funded by states have been removed. This change does not, for example, change the state funding commitments to Counties that other parties will support. Similarly, items currently fully funded by Non-Party Federal agencies (such as the U.S. Environmental Protection Agency) are excluded in the revised Appendix C-2 on the assumption that this funding would continue. If funding changes in the future, the Non-Federal Parties may adjust Appendix C-2 again.

Second, the KBRA cost estimates have been revised to reflect a 15-year implementation plan (rather than the 10 years assumed in the original KBRA Appendix C-2). This change harmonizes the KBRA implementation with the companion KHSA (the original cost estimates were developed with the assumption that the dams would be removed earlier than 2020) and results in a more focused and realistic schedule for implementing habitat restoration.

Third, the Non-Federal Parties refined prior estimates to create a more focused and tighter budget. For example, a thorough cost estimate review produced changes in the assumptions about the quantity of aquatic habitat that would be restored and the costs of those actions and resulted in savings. This review also resulted in cost savings by removing overlaps between proposed KBRA programs and expenditures for interim measures in the KHSA that are being funded by PacifiCorp. Additional savings since the execution of KBRA in February 2010 were also identified.

Fourth, consistent with the terms of the KBRA and letters of support received from the Secretaries of the Interior, Agriculture, and NOAA, a limited number of existing budgetary resources have been identified that can be redirected or reprogrammed to enhance the efficiency of the existing Federal effort in the basin and reduce needed funding.

The KBRA Parties are developing an extensive monitoring and evaluation program. The results of the monitoring information will be used to adaptively manage the implementation of the program. If changes in the program are needed or if there is new information that affects costs, feasibility, or benefits of actions under the KBRA, the KBCC would revise the agreement or amend the estimated funding in Appendix C-2 in the future.

KBRA Costs Compared to Current Federal Spending

Based on updated analysis, Federal agencies are currently spending approximately \$17 million per year in base funding in the Klamath Basin specifically related to the activities called for in the KBRA. This available Federal funding analysis was based on the President's Fiscal Year 2012 budget. If this funding were available over the next 15-years, it would cover one-third of the Federal cost estimates described above and the new funding needed to implement the KBRA would average \$36 million per year and the total additional funding needs would be approximately \$537 million.

The Federal government has also provided significant funding for emergencies (shutdowns of agriculture or fishing) over the past ten years. For example, according to the Congressional Research Service, emergency funding to commercial fishermen in 2006 under Public Law 110-28 totaled \$60.4 million. The activities in the KBRA and KHSA are designed to reduce the emergency funding over the long term by comprehensively addressing the problems in the Basin; however, it is possible that some emergency costs may be incurred during the implementation.

**Table 1: Revised Appendix C-2 Cost Estimates for Federal Funding to Implement the Klamath Basin Restoration Agreement
Summary by Program
June 17, 2011
(\$2007 Millions)**

Program	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Coordination	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 1.5
Fisheries																
Restoration	\$ 0.9	\$ 7.9	\$ 10.7	\$ 12.5	\$ 14.5	\$ 16.6	\$ 21.9	\$ 44.4	\$ 44.0	\$ 21.7	\$ 15.4	\$ 13.4	\$ 11.5	\$ 9.9	\$ 8.3	\$ 253.4
Reintroduction	\$ 0.4	\$ 1.3	\$ 1.9	\$ 2.4	\$ 2.6	\$ 4.2	\$ 13.9	\$ 5.3	\$ 8.5	\$ 4.8	\$ 3.6	\$ 3.6	\$ 3.6	\$ 3.6	\$ 3.6	\$ 63.4
Monitoring	\$ 0.1	\$ 5.9	\$ 6.3	\$ 5.9	\$ 5.9	\$ 6.2	\$ 6.7	\$ 7.3	\$ 8.2	\$ 8.3	\$ 8.8	\$ 8.8	\$ 9.2	\$ 8.9	\$ 8.6	\$ 104.7
Water Resources	\$ 10.4	\$ 30.7	\$ 36.8	\$ 31.7	\$ 33.2	\$ 29.4	\$ 29.7	\$ 30.5	\$ 14.3	\$ 3.7	\$ 1.5	\$ 1.5	\$ 1.5	\$ 1.5	\$ 1.5	\$ 257.8
Regulatory Assurances	\$ -	\$ -	\$ -	\$ 0.4	\$ 1.0	\$ 0.8	\$ 1.0	\$ 12.4	\$ 14.3	\$ 0.5	\$ 0.5	\$ -	\$ -	\$ -	\$ -	\$ 30.7
Counties*	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tribes	\$ 12.3	\$ 16.3	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 4.5	\$ 87.0
TOTAL KBRA COSTS*	\$ 24.2	\$ 62.1	\$ 60.4	\$ 57.4	\$ 61.8	\$ 61.8	\$ 77.7	\$ 104.4	\$ 93.9	\$ 43.5	\$ 34.2	\$ 31.9	\$ 30.4	\$ 28.4	\$ 26.5	\$ 798.5

*This is not a Federal budget product, it was developed by the states, agency representatives, tribes, and other non-federal parties to the KBRA.

Table 1: Detailed Cost Estimates for the Klamath Basin Settlement Agreement

(\$2007 Thousands)

#	Project	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	SUM
89	Interim Flow and Lake Level Program	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	-	-	-	-	-	-	-	44,000
90	Keno Reservoir KIP Screening	-	-	-	-	-	151	151	11,021	13,839	-	-	-	-	-	-	25,162
91	Federal GCP/HCP	-	-	-	350	1,000	650	800	1,350	450	450	450	-	-	-	-	5,500
92	California Laws	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	Oregon Laws	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
94	Klamath County Study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	Klamath County (Oregon funding)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	Siskiyou County	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
97	Humboldt County	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	Del Norte County	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99	Fisheries Management HVT**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	Fisheries Management Karuk	500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	14,500
101	Fisheries Management Klamath	500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	14,500
102	Fisheries Management Yurok	500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	14,500
103	Conservation Management HVT**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
104	Conservation Management Karuk	250	500	500	500	500	500	500	500	500	500	500	500	500	500	500	7,250
105	Conservation Management Klamath	250	500	500	500	500	500	500	500	500	500	500	500	500	500	500	7,250
106	Conservation Management Yurok	250	500	500	500	500	500	500	500	500	500	500	500	500	500	500	7,250
107	Economic Development Study HVT**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	Economic Development Study Karuk	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	250
109	Economic Development Study Klamath	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	250
110	Economic Development Study Yurok	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	250
111	Klamath Tribes: Mazama Forest Project	10,000	11,000	-	-	-	-	-	-	-	-	-	-	-	-	-	21,000
112	Fishing Sites	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Recognizes there is further discussion of additional funding potentially available, including reallocated funds and provisions of KBRA Section 19.5.2.

** Upon becoming a Party to the KBRA in accordance with Section 38, the Hoopa Valley Tribe will be eligible for funding in categories and amounts for each of the other tribes in line items 99 through 110.

Table 2: Non-Federal Funding to Implement the Non-Federally Funded Activities in the Klamath Agreements
June 17, 2011 (\$2007 Millions)

Matching Funding	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Counties Program*					\$ 3.2			\$ 20.0								\$ 23.2
Other CA & OR Funding**	\$ 5.4	\$ 6.5	\$ 6.8	\$ 7.1	\$ 6.3	\$ 6.6	\$ 6.3	\$ 5.9	\$ 0.6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51.4
California/Oregon rates	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0	\$ 25.0								\$ 200.0
California Bond KHSA									\$ 250.0							\$ 250.0
PacifiCorp Funding***	\$ 9.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	\$ 2.0	***	***	***	***	***	***	\$ 25.0
TOTAL	\$ 39.4	\$ 33.5	\$ 33.8	\$ 34.1	\$ 33.3	\$ 33.6	\$ 33.3	\$ 32.9	\$ 252.6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 549.6

* California and Oregon are funding Counties Program

** California and Oregon funding for fisheries restoration, and regulatory assurances and funding and tax credits for renewable energy

*** PacifiCorp is voluntarily funding interim measures under the KHSA. Numbers include estimated capital costs in 2009-2011 and estimated ongoing O&M for years 2011-2020, including 14 KHSA Appendix D measures only. Estimated capital costs and annual O&M for 5 Interim Conservation Plan Interim Measures described in Appendix C of the KHSA and hatchery operations for 2020-2028 have not been estimated and cannot be determined pending regulatory approvals