

Klamath Basin Pilot Water Bank

The Klamath Project Water Bank is a mechanism designed to meet water supply requirements through transfer of water from one entity to another.

In its January 2002 Biological Assessment (BA) of the Klamath Project, Reclamation first recommended the establishment of a Water Bank, a compensated demand reduction program, to meet the needs of endangered species by providing specific flows. Subsequently, in May 2002, the National Marine Fisheries Service (NOAA-Fisheries) Biological Opinion (BO) required Reclamation to establish a Water Bank in addition to providing flows for endangered fish in the Klamath River downstream of the Project.

The term Water Bank implies a body of available water. Because there is no place to store Water Bank water, in this case it is a procedure to account for water not used by farmers and ranchers on an annual basis. This water is purchased by Reclamation from willing sellers and released to increase Klamath River flows for the benefit of Coho salmon.

Traditional methods of developing Water Bank include storing excess water, idling land normally farmed and substituting well water (groundwater substitution) for water normally provided by Reclamation. As previously noted, the Klamath Project doesn't have carry-over storage available. Carry-over storage refers to storage for longer than one season. Annual storage refers to water stored for a single season.

The Klamath Project relies on Upper Klamath Lake (UKL) for annual storage, which has complications. First, UKL doesn't fill in some years, as evidenced by the last several drought years. Second, Reclamation must meet UKL lake level requirements, established by another BO, written by the US Fish and Wildlife Service (FWS), to maintain minimum levels to support Lost River and shortnose suckers. Reclamation has been exploring the use of increased annual storage opportunities and if conditions allow, water may be stored during the winter for Water Bank use.

The goals of the Water Bank are established in the NOAA BO as baseline flows that will reduce the threats to habitat conditions for the endangered species. This helps ensure that Project operations do not interfere with a healthy fish population. In some years, the requirements of the two BOs combined with hydrologic conditions may prevent the Project from fulfilling its agricultural obligations.

Reclamation has turned to land idling and groundwater substitution to accomplish the NOAA BO requirements. Early analysis of the Water Bank demonstrated that water from idling land accrues gradually to the Water Bank throughout the irrigation season in the same pattern and rate as it would normally be diverted for irrigation. Therefore, it is not available in the spring, at the time of the high river flow requirements envisioned in the BO. Because of the inability to meet the flow requirements using idled land, Reclamation has pumped large volumes of ground water to meet irrigation demands. This has freed UKL water to meet downstream flows. Neither method is sustainable on a long-term basis, especially during drought periods.

Annual Water Bank Requirements

By March 31 of each year, NOAA-Fisheries and Reclamation determine the Water Bank distribution and release periods.

The requirement was 50,000 acre-feet in 2003 and 75,000 acre-feet in 2004, and levels off at 100,000 acre-feet annually from 2005-March 2011. The operation of the Klamath Project has evolved to help meet escalating obligations and mitigate costs as Reclamation has gained more experience.

In order to ensure that all flow requirements were met, the 2003 and 2004 Water Bank reached nearly 59,000 acre-feet and 81,000 acre-feet, respectively.

The 2003 water bank consisted of idling approximately 14,400 acres of Project land and substituting well water for Project water on about 11,000 acres. Reclamation offered fixed payments of \$187.50 per acre for idling and \$75 per acre-foot for groundwater substitution. The total cost of the 2003 Water Bank was approximately \$4.4 million, and the average cost was \$76 per acre-foot. Because of uncertainty regarding the amount of water accrued from land idling, Reclamation relied more heavily on groundwater in 2004.

The 2004 Water Bank consisted of idling about 4,400 acres of Project and non-Project land and groundwater substitution on about 6,900 acres. In addition, Reclamation purchased water from individuals and entities which could pump groundwater on an as-needed basis. Rather than offer fixed prices as in 2003, Reclamation used a bidding process. The total cost of the 2004 Water Bank was approximately \$5.3 million, with an average cost of approximately \$65 per acre-foot.

The Water Bank requirement for 2005 is 100,000 acre-feet of water. Reclamation announced selections for all Water Bank programs on March 16 and has executed all contracts for 2005. The Klamath Project received 257 applications for land idling, representing 39,900 acres. Of these, 158 applicants were selected, representing about 25,600 acres, to produce 40,000 acre-feet of water from land idling.

Reclamation received 38 applications from farmers willing to use groundwater instead of surface water, equivalent to reserving approximately 17,300 acre-feet of Project water for the Water Bank. Of these, Reclamation selected 22, equivalent to about 13,900 acre-feet. In addition, Reclamation has contracted with three groups of well pumpers to produce 50,000 acre-feet for the Water Bank in order to provide flexibility for mitigating third party impacts.

Through an agreement with the Fish and Wildlife Service, the Lower Klamath National Wildlife Refuge is also storing 15,000 acre-feet of water for Water Bank use. In total, Reclamation contracted for 118,738 acre-feet of water for its 2005 Water Bank program.