

Water Review

A Perspective On Western Water Issues Prepared By The Family Farm Alliance And Its Members

CALIFORNIA

Water Supplies And Fish

Tehama-Colusa Looks For Fish Passage, Reliability Solutions

BACKGROUND

Water users in the California's Sacramento Valley have long been recognized for their commitment to environmentally responsible farming. The Sacramento Valley's initiative and effort to help protect salmon and other aquatic species is now recognized as one of the most exciting and progressive voluntary salmon restoration efforts in the United States. Nearly 75% of all agricultural water from the Sacramento Valley will soon flow through new, state-of-the-art fish screens designed to protect salmon and other fish. In addition to providing on site fishery protection, these water-user driven improvements greatly enhance the value of upstream fishery habitat investments.

One of the most important remaining structures identified by fishery agencies as a place where further gains are possible to improve fish passage on the Sacramento River is the Red Bluff Diversion Dam (RBDD). The Tehama-Colusa Canal Authority (TCCA), which serves 18 water districts in the western Sacramento Valley, is pushing forward with an innovative approach that will improve fish passage, restore water supply reliability to farmers, and allow important community recreational activities to continue.

PROJECT DESCRIPTION

The RBDD is a key component of the Central Valley Project and is owned and operated by the U.S. Bureau of Reclamation (Reclamation) to deliver water to TCCA districts. It also provides a backup means for delivery of water to several federal wildlife refuges in the Sacramento Valley. Construction of RBDD, which is located just downstream from the City of Red Bluff, was completed by Reclamation in 1964 and placed in operation two years later. The dam has a series of spillway bays, each 60 feet wide, separated by eight-foot wide piers. When the spillway gates



Tehama-Colusa Canal Authority photo
Northern California's Red Bluff Diversion Dam on the Sacramento River with the gates closed.

are fully open, no significant head differential occurs from headwater to tailwater at the dam. When the dam gates are closed, an artificial lake is formed, extending approximately six miles upstream through the City of Red Bluff. RBDD raises the elevation of water in the river so that a portion of the flows can be diverted to the Tehama-Colusa Canal through a headworks structure consisting of six radial gates and drum-type fish screens. The lake is considered a major recreational feature in the City of Red Bluff, in large part due to speed boat races that are held on holiday weekends during summer months.

AG-ECONOMIC SIGNIFICANCE

Red Bluff Diversion Dam and the Tehama-Colusa and Corning Canals are key features of a water delivery system that supplies over 120,000 acres of farm and ranch land and supports crops valued at \$100 million annually. The canals

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California District Deals With Fish Passage Issues

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are a combined total of about 140 miles long and spans four Northern California counties. Crops grown on these lands are primarily rice, tomatoes, vine, seeds, corn and sunflowers, but every year, more of these lands are being converted to permanent uses like vineyards and almond and walnut orchards. As more of the service area is devoted to permanent crops, the importance of having a reliable water supply dramatically increases.

Unfortunately for TCCA customers, fishery agencies have diminished the operational flexibility at RBDD to avoid jeopardizing fish species protected by the Endangered Species Act (ESA) to a point where any restriction causes direct adverse impact on the TCC and its customers.

THE ISSUES

A majority of Sacramento River spawning habitat for listed fishes occurs upstream of RBDD, and fishery agencies believe the dam impedes some aspects of fish passage both upstream and downstream.

A biological opinion for endangered winter run Chinook salmon issued in 1993 by the National Marine Fisheries Service (NMFS) requires that the dam gates be kept in a raised (non-diverting) position ("gates out") eight months of the year. The only time that the gates can be in, to make maximum use of RBDD diversion capability, is May 15 until September 15 each year.

The rest of the time, TCCA customers must depend upon a fragile combination of temporary and experimental pumps and a temporary diversion at Stony Creek. The periods that the gates are out at RBDD has significantly improved fish passage, but has adversely impacted the facility's ability to serve its water users.

"We deliver most of our water during the summer months when the gates are in," said David Bird, TCCA general manager. "Our problems occur when the gates are out, with the biggest restriction on water occurring in the spring, just before the gates go in. We have had occasions where we have been unable to keep up with demand during this period, and undoubtedly face these same problems in years to come."

Bird and other leaders at TCCA believe that if the "gates in" period could be extended 30 days more in the spring back to the middle of April, the combination of the existing pumps at the dam and other smaller diversions would be enough to satisfy most if not all agricultural demands.

However, with the ESA requirements, other biological considerations and the possibility that additional species may be listed as threatened or endangered, it is much more likely that there will be pressure to keep the gates out for a longer period of time.

In fact, NMFS is finalizing the first stage of a listing of the green sturgeon as a threatened species, and TCCA has been alerted that this could lead to further operational restrictions at RBDD.

"Any further reduction of the gates in period would be a disaster for agriculture," said Bird.

SOLUTIONS

In 2002 TCCA culminated work it had been doing in partnership with the Bureau of Reclamation when TCCA adopted a policy to improve fish passage at RBDD and enhance water supply reliability by reducing or eliminating reliance on the dam.

That policy builds upon a considerable body of work that the authority has undertaken in recent years. Well over 100 alternatives were refined down to a few that represented the most feasible alternatives, including one option that would move away from gravity diversion and instead pump the water out of the river through state-of-the-art fish screens.

FAMILY FARM ALLIANCE

P.O. Box 216
Klamath Falls, Oregon 97601



Tehama-Colusa Canal Authority photo
At the heart of all the concern and effort: A California Department of Fish and Game staff member holds a returning salmon at Red Bluff.

TCCA is working with the local community and fishery agencies to seek a compromise that would allow "gates in" during those weekends where boat races are traditionally held. As part of adoption of its policy, TCCA selected a preferred alternative for the project, but Reclamation has delayed taking similar action. Together TCCA and Reclamation will select a preferred alternative, and by mid-2007, TCCA hopes that they will be ready to pursue funding and start design and construction.

"We want to permanently fix fish passage and solve our agricultural water diversion reliability problems," said Ken LaGrande, TCCA Chairman of the Board. "Our highest priority is to remedy the Red Bluff situation."

Sources: Tehama-Colusa Canal Authority, CH2M Hill, Northern California Water Association.

For more information, please contact David Bird at TCCA. Phone: (530) 934-2125. E-mail: dbird@tccanalauthority.org

