

CASE STUDIES – ECOSYSTEM RESTORATION

Narrows 2 Project

The Narrows 2 Bypass is part of the Yuba River Development Project, owned and operated by Yuba County Water Agency (YCWA). The facility is capable of generating up to 50 megawatts of carbon free, renewable hydroelectric power – or enough electricity for 20,000 California homes.

Largely financed by the CALFED Bay-Delta Program's Ecosystem Restoration Program through an \$8.5 million grant, the \$12.5 million Narrows 2 Bypass allows for continuous cold water to flow from adjacent Englebright Dam into the lower Yuba River, even when the dam's hydroelectric plant is off-line due to uncontrollable events, such as lightning strikes to electrical transmission lines. This prevents river flows from lowering or warming to the point of becoming harmful to native salmon and steelhead. The bypass was commissioned into service in January 2007.



The Yuba River supports significant, naturally-spawning populations of anadromous fish, including federally and state-listed Central Valley fall/late fall run Chinook salmon, spring run Chinook salmon and steelhead trout. Prior to this project, anadromous fish in the lower Yuba River could be adversely affected by normal maintenance, emergency operations or catastrophic failure of the Narrows 2 power plant or Pacific Gas & Electric transmission system.

Due to the construction of Englebright Dam, water cannot be released except through over-topping or electrical generation. To permanently avoid the negative impacts of non-operation of the power plant, the Bypass was developed to immediately operate if the power plant shut down. Thus, the Bypass offers uninterrupted releases of up to 3,000 cfs, substantially reducing flow fluctuations and the associated negative biological impacts to eggs, alevin and juvenile salmonids. Because Englebright Dam's spillway is located at the top of the dam, any summer or fall season water released from that point is warmer than the water pulled from the lower depth of the reservoir through the Bypass. Thus, by pulling water from the depths of the reservoir rather than the surface, the Bypass can also provide colder water for the lower Yuba River's fisheries, eliminating stress from the warmer water that can be harmful to fisheries.

The Bypass project directly addresses two strategic goals of the CALFED Ecosystem Restoration Program: to achieve recovery of "at-risk species" and to protect or restore functional habitat types; and to support and maximize the effectiveness of ongoing and future ecosystem restoration actions in the lower Yuba, Feather and Sacramento rivers; Delta; and Suisun and San Francisco bays. The project is also consistent with the Central Valley Project Improvement Act goals of providing direct benefits to species and habitats determined to have the highest biological priority at this time (spring-run Chinook salmon and steelhead) and which will contribute most to achieving the anadromous fish restoration goals.