

Eel River stakeholders hear history and concerns from Russian River side of diversion

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The Eel River Forum, a coalition of Eel River stakeholders including public agencies, conservation organizations, tribes, and others gathered at the Cal Fire training station south of Willits last Wednesday, May 29, to learn as much as possible about the controversial Potter Valley Project, which diverts water from the upper main stem Eel River's annual flow into the Russian River watershed.

Representatives of Pacific Gas and Electric (PG&E), the Potter Valley Irrigation District (PVID), the Sonoma County Water Agency (SCWA), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW) made presentations to a roomful of representatives from Friends of the Eel River (FOER), the Environmental Protection Information Center (EPIC), the Eel River Recovery Project (ERRP), the Salmonid Restoration Foundation (SRF), the Pacific Coast Federation of Fisherman's Associations (PCFFA), and others, as well as a few unaffiliated concerned citizens.

The Potter Valley Project (PVP) originated in the early 20th century to provide hydroelectric power to the growing city of Ukiah, as well as water for agricultural use. The Eel River Power and Irrigation Company, later re-organized as Snow Mountain Water and Power, built Cape Horn Dam on the Eel River at a point east of Potter Valley and diverted the water through an eight-foot in diameter redwood-lined tunnel under the hills to the hydroelectric plant in Potter Valley.

The plant began producing power in 1908, but the Van Arsdale reservoir behind Cape Horn Dam was capable of holding only enough water for power generation during the rainy season.

After some false starts, the much larger Scott Dam was constructed 12 miles upstream from Cape Horn, forming Lake Pillsbury in an area once known as Gravelly Valley. Scott Dam was completed in 1923, and was raised for additional capacity in 1925. At that time two sets of gates were added to allow release of water from the top of the reservoir as well as from the needle valve at the bottom.

The Federal Power Commission, which later became the Federal Energy Regulation Commission (FERC) gave PVP its first license in 1922. The 50-year license required the operators to release a minimum of only two cubic feet per second back into the Eel River.

PG&E acquired PVP in 1930.

In the meantime, some residents of Potter Valley, who mostly dry-farmed a small amount of hay, pears, and melons for seed, watched the flow of the East Fork Russian River, which regularly dried up in the summer before the Potter Valley Project was completed, flow abundantly through their valley.

In 1924 they formed the PVID and contracted with Snow Mountain Water and Power for the use of up to 40 cubic feet per second (cfs) during the dry months. In 1936 PVID contracted with PG&E for 50 cfs. This contract was eventually extended and will expire in 2022, the same year that PG&E's current operating license from FERC expires.

PVID director Janet Pauli described the benefits of the diverted water to Potter Valley farmers, who now produce crops valued at over \$13 million per year, including wine grapes, hay, cattle, pears, and a smattering of other crops.

Eel River advocates have suggested that PVID should store water in local reservoirs rather than depend on the diversion. But Potter Valley has no alternative source to provide water for storage, neither sizable streams nor adequate groundwater. Geological studies showed it to be a "pull apart valley" incapable of holding enough groundwater to sustain more than minimal agricultural production.

Following a disastrous flood that inundated the Ukiah Valley in 1935, Congress authorized a flood control project proposed by the Army Corps of Engineers, leading to the construction of Coyote Dam to impound the waters of the East Fork Russian River in Lake Mendocino.

This dam was completed in 1959 but a final phase of the project, approved by Congress but not enacted, is to raise Coyote Dam an additional 36 feet, expanding the lake's capacity from 122,000 acre feet to 199,000 acre feet when there is a need

for more water. (An acre foot is approximately 326,000 gallons or 43,000 cubic feet.)

Water released from Coyote Dam joins the main stem of the Russian River just east of Ukiah. The main stem Russian River originates from small streams east of Willits. After the confluence, the river continues south to approximately Healdsburg where it receives water from Lake Sonoma, a reservoir west of the town, and then turns west toward the coast.

Towns and agriculture between Ukiah and Healdsburg are dependent on the Russian River - and therefore the diversion of Eel River water. The total value of agricultural products from this area came to approximately \$67 million in 2012, according to Pauli's presentation.

The Russian River enters Sonoma County just north of Cloverdale. The Sonoma County Water Agency, which wholesales potable water to water providers in Mendocino, Sonoma, and Marin Counties, holds rights to 37,000 acre feet of water in Lake Mendocino, according to SCWA's representatives, environmental resource coordinator David Manning and principal engineer Don Seymour.

But because the lake was originally created for flood control, the needs of SCWA to provide water for its customers are at odds with the Army Corps' need to maintain lake levels conducive to flood control. This is particularly acute in the spring, when the Army Corps wants to see low lake levels to accommodate potential flooding, and SCWA wants to see high lake levels to ensure water availability throughout the dry season.

In the last three decades, PG&E has been required not only to release more water to the Eel River but also to follow complicated protocols with almost daily adjustments to flow releases to maximize fisheries protection.

This has made SCWA increasingly dependent on the least dependable factor, the weather - and specifically spring rainfall - to make sure it will have enough water for its customers, Seymour said.

Further complicating SCWA's problems is a biological opinion issued by NMFS stating that chinook and steelhead in the Russian River are jeopardized by unnaturally high flows of water in the summer time.

NMFS has directed the water agency to considerably reduce its summer flows in both the upper and lower reaches of the Russian River.

FERC renewed the Potter Valley Project's operating license for 50 years in 1983 (the project operated on yearly licenses between 1977 and 1982), after extensive negotiations. Additional studies were required to develop flow regimes that would provide more protection for the three Eel River salmonid species, chinook, coho, and steelhead.

This resulted in major changes to the fish ladder at Van Arsdale Dam, an agreement to "block release" water from Lake Pillsbury to assist fish migration when directed to do so by the California Department of Fish and Game, and an increase in the amount of water that had to be released back into the Eel.

The minimum dry season release was raised from only 2 cfs to between 12 and 200 cfs, and releases to the Eel now have to mimic the timing and pattern of natural flows. "It's incredibly complicated," said PG&E senior biologist Paul Kubicek.

During the 1980s, 1990s, and the early years of this century, various agencies and stakeholders did different studies with different results, culminating in a proposal from NMFS called the "Reasonable and Prudent Alternative" (RPA), which was finally approved and incorporated into an amendment to the FERC operating license in 2004.

The Potter Valley Project has been operating under the RPA since then, with all parties making regular reports to the Eel-Russian River Commission, a group made up of county supervisors from Humboldt, Mendocino, and Sonoma Counties. Second district supervisor Estelle Fennell represents Humboldt County on the commission.

In May of 2012, following an order from the California Department of Fish and Game (now the Department of Fish and Wildlife), PG&E released block water from Lake Pillsbury in a series of pulses to encourage young salmonids in Van Arsdale Reservoir to migrate downstream before conditions in the lower Eel River became inhospitable.

Warmer water was released from the gates at the top of Scott Dam because higher water temperature is a trigger for migration. This appeared to be successful, as DFW staff counted not only an increase in chinook migrating downstream but, to their surprise, a huge increase in Pacific lamprey migrating upstream. (Lamprey typically migrate upstream in spring and downstream in fall, the opposite of salmon species.)

Since there was almost no spring rain in Northern California in 2013, water levels in the reservoirs began dropping earlier than usual. PG&E asked DFW if they could forego the use of block water.

Instead, they released some warm water from the top of Lake Pillsbury instead of colder water from the needle valve at the

bottom of the dam to encourage migration from early April until mid-May when lake levels dropped below the gates.

PG&E also added a trap at the mouth of Tomki Creek, the first major tributary just a few miles below Cape Horn Dam, for comparison.

NMFS biologist Jeffrey Jahn reported that final results have not been compiled, but so far it appears that while there were "good numbers" of chinook at both Tomki Creek and the DFW fish counting station at Van Arsdale, there were fewer fish than the previous year.

A full report will be available by the time the Eel-Russian River Commission meets again. Currently that meeting is scheduled for July 24 in Eureka.

An almost overwhelming amount of information was presented at last week's Eel River Forum, raising many questions from participants dedicated to protecting and restoring fisheries in the Eel River.

The discussion of Eel River issues will continue at the next Eel River Forum, which will be held on Wednesday, June 19, at River Lodge in Fortuna. The public is welcome to attend and time will be made available for questions and comments.

For more information, see <http://caltrout.org/regions/north-coast-region/eel-river/eel-river-forum/>, or go to www.caltrout.org and search for "Eel River Forum."