BAY AREA COUNCIL ECONOMIC INSTITUTE

February 2023

The Economic Benefits of Removing the Potter Valley Project Dams

The Potter Valley Project is a hydroelectric facility constructed in the upper Eel River watershed 20 miles northeast of Ukiah in 1908. Its two aging dams are costly to operate and maintain, lack modern fish passage mechanisms, and are seismically unsound. This analysis examines the economic impacts of removal of the Scott Dam and Cape Horn Dam.

Scott Dam / Lake Pillsbury

Scott Dam, the upper dam, blocks 288 miles of potential spawning and rearing habitat for the Eel River's salmon and steelhead populations, both of which are listed as threatened under the Endangered Species Act. There are two alternatives for the removal of the Scott Dam:

Alternative 1 – Rapid Removal

Estimated Cost: $106 million

Rapid removal involves drilling a tunnel through the base of the spillway and leaving a plug intact; lowering the dam and reservoir during the low flow season with controlled water releases; opening the tunnel plug and releasing sediments during a high flow season; and completing dam removal and channel rehabilitation during the following low flow season.

Alternative 2 – Phased Removal

Estimated Cost: $118 million

Phased removal of Scott Dam would draw the reservoir down and flush sediment over four high flow seasons. This approach includes progressively notching the dam at lower points to evacuate sediment and drain the reservoir.

Cape Horn Dam / Van Arsdale Diversion

Cape Horn Dam, located 12 miles downstream from Scott Dam, has inadequate fish passage facilities and the power generation facility is currently inoperable due to an equipment failure. There are three alternatives for the removal of the Cape Horn Dam:

Alternative 1 – Control Section and Pump Station

Estimated Cost: $28 million

This alternative entails partial dam removal to create a control section. The control section would ensure adequate flow depths, while a new intake pump station would convey water to the Van Arsdale Diversion facility.

Alternative 2 – Roughened Channel

Estimated Cost: $49 million

This alternative includes lowering the entire concrete gravity portion of Cape Horn Dam. A new roughened channel would resemble a boulder cascade, which would provide channel stability to withstand extremely high flows and support fish passage.

Alternative 3 – Upstream Diversion

Estimated Cost: $66 million

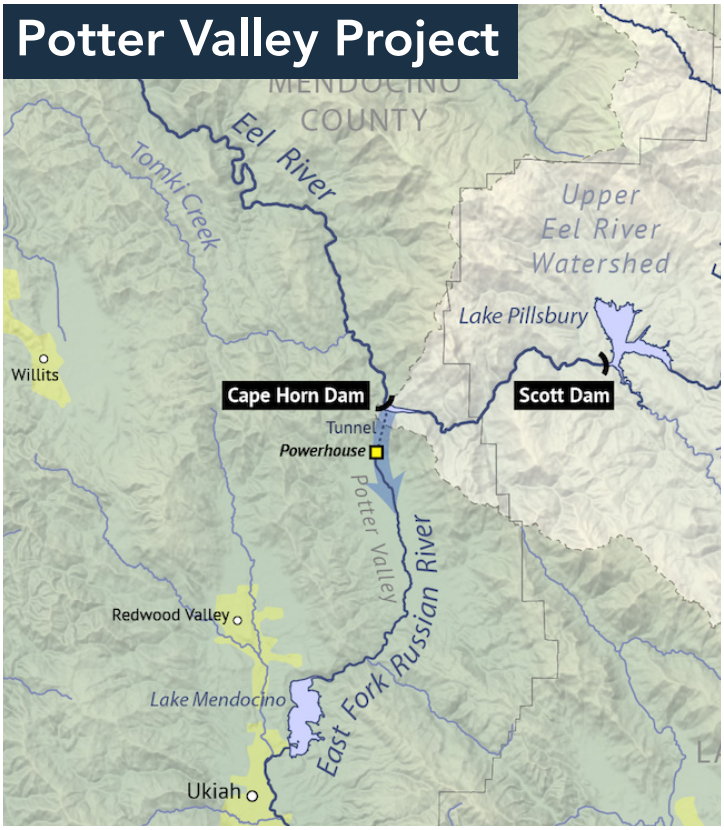
This alternative would include removing the entire concrete gravity portion of Cape Horn Dam down to bedrock. The existing fish hotel, exclusion barrier, and fish ladder would also be removed. Conveyance infrastructure would then connect to the existing Van Arsdale Diversion.

California Statewide Economic Impacts of Potter Valley Dam Removals

Project Component	Total Spending (millions in 2021 dollars)		Economic Output (millions)		Employment (Full-time equivalent job-years)	
	Low Bound	High Bound	Low Bound	High Bound	Low Bound	High Bound
Scott Dam	$105.97	$118.13	$199.81	$219.56	977	1,062
Cape Horn Dam	$27.51	$66.50	$51.90	$125.51	246	575
TOTAL IMPACT	**$133.48**	**$184.63**	**$251.71**	**$345.07**	**1,223**	**1,637**

Analysis: Bay Area Council Economic Institute using IMPLAN

Potter Valley Project



Economic Impacts

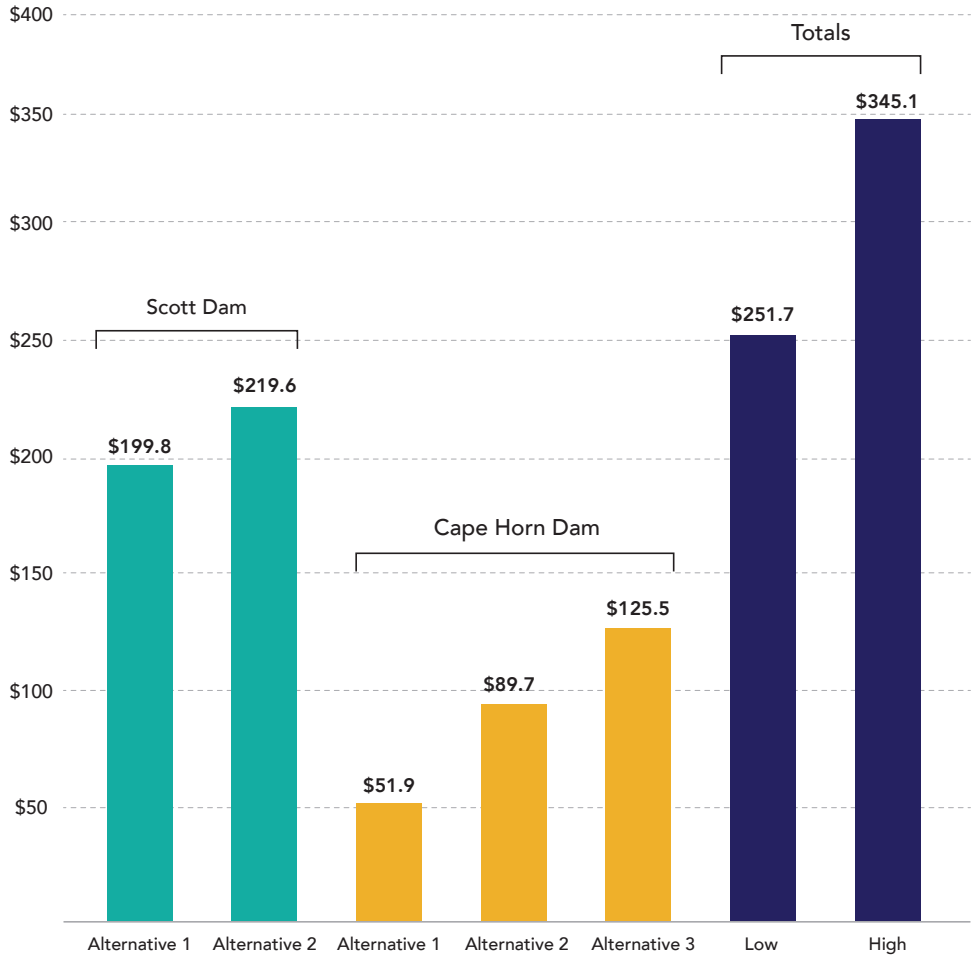
Total Estimated Spending for Removal of Scott Dam and Cape Horn Dam: $133 to $185 million

These investments will yield an economic multiplier of **1.88x** across California, and they will support a total of **9.0 jobs** for every million dollars spent.

The dam removal projects would support **1,223 to 1,637 full-time equivalent job-years** in the State of California, **1,037 to 1,332** of which would be within the five-county Northern California area of study.

In addition to jobs, the dam removal and river restoration projects would provide an estimated **$252 million to $345 million** in total economic output for California, **$203 million to $278 million** of which would stay in the five-county region of study.

Total Economic Impacts in California (in Millions)



Fishery Impacts

Today, the Eel River sees less than 10,000 salmonids returning annually, meaning the river has experienced a 97% drop in population over the last century.

By reconnecting the headwater habitats to the lower river, fish populations are likely to increase and present new opportunities for commercial and recreational fishing in the region. A previous study estimated economic benefits of more than $5 million annually to the region. Inflated to 2022 dollars, that figure would stand at over $8 million annually today.

Other dam removal projects provide potential fishery benefit scenarios for the Eel River. The removal of two large dams on the Elwha River in Washington restored 75% of the previously inaccessible spawning habitat. From 2014 to 2017, the Coho salmon smolts increased their population from 9,000 to 17,000 following dam removal.