



FOREWORD

California has more than 1,400 large dams and tens of thousands of smaller impoundments on its rivers and streams. These dams have created barriers to fish movement, altered natural seasonal flow patterns in rivers, and are a primary cause of native fish population declines in the state. While dams will continue to play an essential role in managing water in California, many aging dams have outlived their functional lifespan. These include dams with sediment-filled reservoirs, those with non-functional hydropower facilities, and those at risk of failure, threatening downstream communities and ecosystems. The removal of such dams has the potential to bring substantial environmental benefits, while also supporting the economic and recreational activities associated with free-flowing rivers.

However, the removal of dams is time consuming, expensive, and can be politically charged. That is why a science-based approach for prioritizing dams for removal is critical. In this report, CalTrout has identified 5 dams that are ripe for removal. The selection of these dams was informed by the review of past scientific studies, understanding of their impact on salmon and steelhead, awareness of their regulatory context, and sustained engagement with the communities in which of the dams are located. By strategically pursuing opportunities for dam removal where economic, social, and environmental interests strongly align, CalTrout offers a model for restoring the health of the state's rivers for the benefit of fish and people.



Foreword by Ted Grantham, Professor of Cooperative Extension, UC Berkeley and former CalTrout/PPIC Fellow.



Left: 'Undam the Klamath'. Photo: Dominic Bruno. Cover: Copco #1, Klamath Dams. Photo: Dave Meurer

INTRODUCTION

The 1930s to the 1960s was an era of large-scale hydroelectric dam building across the United States. The construction of these dams was important for electricity production and flood control, but today, many have outlived their useful lifespans. We have now entered a new era in which we must reevaluate the utility of aging infrastructure-and take down those dams that are no longer useful or safe.

Dam removal is far from unprecedented. Between 1912 and 2020, 1797 dams were removed in the United States. In 1999, the dam removal movement began with the removal of Edwards Dam in Maine. In 2011, the giant Elwha River dams in Washington state came down. In 2015, the 106-foot tall San Clemente Dam on the Carmel River was removed. The removal of these dams, and others that have outlived their useful lifespans, can have tremendous benefits for fish populations, watershed health, and people.

Water supply and storage in California are crucial today in the face of extreme drought and widespread wildfires. However, maintaining a large number of dams and their subsequent reservoirs is not always the best option.

In some California watersheds, when large dams were built following the construction of smaller dams, this created a redundancy: more storage space than water exists in these watersheds. In this situation, more water is lost to evaporation from the reservoir surfaces than would be lost if the water storage were concentrated to fewer reservoirs. This means that, for some watersheds, the most effective way to supply and store water is to decommission some of those dams.

Instead of focusing solely on dams, there are many other options for water storage. Recycling water, including treated sewage, graywater, or stormwater can help meet non-potable needs such as irrigation and fire protection. Groundwater recharge is another water supply solution.

Many dams in California do provide benefits to Californians including flood control, water supply, and hydroelectric power. However, the dams included in this report have been carefully selected as dams that have outlived their functional lifespans. The cost of leaving these dams in place far outweighs the ecosystem and economic benefits of removal.

California Trout's 2022 **Top 5 California Dams Out Report** highlights five dams that are ripe for removal and that must, for the health of the ecosystem and communities around them, come out. The five dams were selected by analyzing information found in several studies to assess the overall benefits that removing the dam would present to native fish, water, and people.

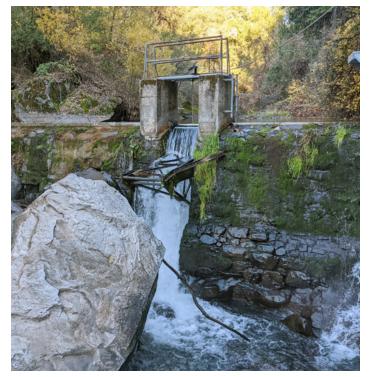
Dams were selected based on the following criteria:

- The dam blocks access to habitat for salmon and steelhead species listed as critical or high concern in the State of Salmonids II Report (written by UC Davis and California Trout scientists).
- The dam no longer serves its original purpose, whether generating hydroelectric power, increasing water supply, or managing flood control, and may now pose a public safety threat.
- A dam removal opportunity is present.
- The primary purpose of the dam is not flood control or water supply for people.



Dams that are part of the State Water Project or federal Central Valley Project were not considered for inclusion in this report due to their vital role in California's water supply system. Similarly, dams designed to protect people and property from catastrophic floods also were not considered.

The report highlights removal opportunities, such as dam license renewal or new funding opportunities to support the removal process, and status of work being conducted to that end. It also identifies partners involved in removal efforts and provides opportunities for the public to take action on behalf of each dam listed.





Top: Eagle Canyon Dam. Photo: Damon Goodman. Above: Scott Dam. Photo: Darren Mierau

"By strategically pursuing opportunities for dam removal where economic, social, and environmental interests strongly align, CalTrout offers a model for restoring the health of the state's rivers for the benefit of fish and people."

 Ted Grantham, Professor of Cooperative Extension, UC Berkeley and former CalTrout/PPIC Fellow





CalTrout begins work on Eagle Canyon barrier removal. Photos: Pusher

Sources for Introduction: 1. https://watershed.ucdavis.edu/files/biblio/Null%20et%20al_JEMA_
Optimizing%20the%20dammed.pdf 2. <a href="https://www.keet.org/redefine/5-reasons-dam-removal-stillmakes-sense-despite-the-drought 3. https://www.americanrivers.org/threats-solutions/restoring-damaged-rivers/dams-wont-solve-water-needs/

KLAMATH DAMS

OWNER: Klamath River Renewal Corporation upon federal license transfer (likely July 2022)

COMPLETED: 1922 (Copco #1), 1925 (Copco #2), and 1964 (Iron Gate)

LOCATION: Klamath River - the 4th dam, JC Boyle, is located in Oregon

FISH SPECIES AFFECTED: 7 species including: Upper Klamath-Trinity Rivers spring-run Chinook salmon, SOS II status: CRITICAL; Southern Oregon/ Northern California Coast coho salmon, SOS II status: CRITICAL; Klamath Mountains Province summer steelhead, SOS II status: CRITICAL

SIZE: Iron Gate H 189 ft./L 540 ft., Copco #1 H 250 ft./L 415 ft., Copco #2 H 63 ft./L 278 ft.

CAPACITY: Iron Gate 58,000 acre ft., Copco #1 60,000 acre ft., Copco #2 73 acre ft. (diversion dam)

STAKEHOLDERS: Yurok Tribe, Karuk Tribe, Klamath Tribes, Trout Unlimited, American Rivers, Pacific Coast Federation of Fisherman's Association, Northern California Federation of Fly Fishers, Salmon River Restoration Council, Sustainable Northwest, state and federal agencies, CalTrout, and more

LAND ACKNOWLEDGEMENT: The Klamath dams are on the ancestral tribal lands of the Yurok, Karuk, Klamath, Shasta, and Hoopa Tribes

Copco #1, Copco #2, Iron Gate and J.C. Boyle (in Oregon) are four aging hydroelectric dams on the mainstem Klamath River, which flows through parts of Southern Oregon and Northern California. Removal of the dams has been the subject of national attention for nearly two decades. Over 40 organizations, irrigation districts, and many tribes support taking the dams out. Tribal leadership has been a central component of the dam removal effort. The Yurok, Karuk and Klamath River Tribes have led the effort to restore part of their cultural heritage and subsistence fishing for salmon and lamprey.

THE PROBLEM

The Klamath dams block salmon and steelhead from reaching more than 300 miles of spawning and rearing habitat in the upper basin. Historically, the Upper Klamath-Trinity Rivers spring-run Chinook salmon was the most abundant run on the river. Today less than 3% remain, in large part because they cannot access historical habitat in the Upper Klamath Basin. The four dams have been in a perpetual Federal Energy Regulatory Commission (FERC) relicensing process since 2000, originally started by then-owner PacificCorp.

While there is broad support for the removal of these defunct dams, there is some local opposition to the project, including from landowners around the current reservoirs and some local ranchers and farmers.





Top: Copco #1. Above: Copco Lake. Photos: Mike Wie

CURRENT SITUATION

A non-profit organization, the Klamath River Renewal Corporation (KRRC), was formed in 2016 to take ownership of four PacifiCorp-owned dams (Copco #1, Copco #2, Iron Gate and JC Boyle), for the purpose of overseeing the dam removal process. That work will include restoring formerly inundated lands and implementing required mitigation measures in compliance with all applicable federal, state, and local regulations. PacifiCorp will continue to operate the dams until FERC approves a license transfer to KRRC. KRRC is currently working to secure permits, develop deconstruction plans, secure bids for the work of removing dams and restoring the lands under the reservoirs, and contract with a designbuild firm to run the majority of the deconstruction project.

One important remaining step is the transfer of the FERC license from PacifiCorp to KRRC. This is currently pending before FERC and is expected to be completed by summer of 2022.



Iron Gate Dam. Photo: Mike Wier

POTENTIAL FOR REMOVAL

All the pieces are in place for these dams to be removed by 2023 pending the license transfer. Funding for the projects is set, with up to \$450 million secured from PacifiCorp ratepayers and the state of California through the 2014 Proposition 1 Water Bond. An independent group of expert consultants have assessed whether existing funding is sufficient for KRRC to complete the dam removal project. The consultants determined that the KRRC's methodology and approach to assessing costs and risk is generally sound and it is likely that there will be sufficient funding within the cost cap of \$450M to complete the project.

Removing the Klamath dams will be the largest dam removal project in the United States, restoring river health and fish abundance and providing social justice to tribal people who have relied on salmon for subsistence for thousands of years.





Iron Gate Dam. Photo: Mike Wier

EEL RIVER DAMS

OWNER: Pacific Gas & Electric (Current license expires April 2022)

COMPLETED: Cape Horn Dam 1907, Scott Dam 1921

LOCATION: Upper Mainstem Eel River

FISH SPECIES AFFECTED: California Coast Chinook salmon, SOS II status: HIGH; Southern Oregon/Northern California Coast coho salmon, SOS II status: CRITICAL; Northern California summer steelhead, SOS II status: CRITICAL; Northern California winter steelhead, SOS II status: MODERATE

SIZE: Cape Horn Height: 96ft Length: 515ft, Scott Height: 138 ft, Length: 850 ft

CAPACITY: Total designed capacity: 80,600 acre ft. Forms Lake Pillsbury

STAKEHOLDERS: PG&E, Sonoma Water, Mendocino County Inland Water and Power Commission, Round Valley Indian Tribes, Humboldt County, Wiyot Tribe, CalTrout, Friends of the Eel River, Trout Unlimited, The Nature Conservancy, Russian Riverkeeper, California Hydropower **Reform Coalition**

LAND ACKNOWLEDGEMENT: Yuki and Pomo



Cape Horn Dam, Photo: Rob Badger

Two dams make up the Potter Valley Project. The Project, owned by PG&E, consists of Scott and Cape Horn dams, two reservoirs, a diversion tunnel that sends water through a mountain to the Russian River watershed, and a hydroelectric powerhouse located in Potter Valley. The Federal Energy Regulatory Commission (FERC) license for the Project expires on April 14, 2022, and will not be renewed. Project owner PG&E will thus likely be directed by FERC to prepare a Surrender and Decommissioning Plan for the Project.

THE PROBLEM

Fish populations in the Eel River are severely depressed. Although the Eel River once boasted some of the largest salmon runs in California, the river's salmon and steelhead populations are all listed as threatened under the Federal Endangered Species Act. Water quality throughout the Eel River is listed as impaired under the Clean Water Act for excessive sedimentation and high temperatures. The river's mainstem and estuary are also negatively affected by habitat loss from agricultural land conversions, the introduction of non-native pikeminnow, and poor water quality.

The 96 ft tall Cape Horn Dam has a poorly functioning fish ladder; 12 miles upstream from Cape Horn, 130 ft Scott Dam, which creates Lake Pillsbury, has no fish passage and blocks 288 miles of potential salmon and steelhead rearing habitat. Scott Dam is the largest barrier to native salmon habitat on the north coast and blocks access to high elevation, climate change resilient habitat in Mendocino National Forest and Snow Mountain Wilderness.

CURRENT SITUATION

The Eel represents perhaps the greatest opportunity in California to restore an entire watershed and abundant populations of wild salmon and steelhead.

PG&E's decision not to relicense the project means a FERC mandated decommissioning process is all but guaranteed once the license expires this April. CalTrout and our Partners recognize a unique opportunity to steer the future of the Eel River toward robust fisheries and a healthy watershed by removing both Eel River dams. We also recognize the opportunity to reverse the long-lasting impacts to Native American Tribes from a century and a half of habitat degradation and other impacts.

Over the past two years CalTrout, water users including Sonoma Water and Mendocino County Inland Water and Power Commission, Round Valley Indian Tribes, and Humboldt County have worked within the FERC relicensing process to find a proactive, science-driven approach to resolving the fate of this outdated water infrastructure.

The Two-Basin Solution Partners worked toward a project developed, in part, by Congressman Jared Huffman's Ad Hoc Committee-one that would maintain a winter diversion of Eel River water to the Russian River while restoring migratory access to habitat above the dams.

However, the Partners were unable to raise the substantial funds needed to begin work on the project and PG&E was unsupportive. It is clear now that the only path forward for a two-basin solution is via the license surrender and decommissioning process where FERC will order PG&E to submit a plan to decommission the project. PG&E will remain liable for the project and all associated costs until FERC says decommissioning is complete.

CalTrout and our partners will continue work to ensure that a free flowing Eel River is the ultimate outcome of the decommissioning process and that dam removal happens expeditiously.

POTENTIAL FOR REMOVAL

Our recently completed Feasibility Study and Phase 2 Studies (www. pottervalleyproject.org) have demonstrated that dam removal coupled with a run-of-the-river winter diversion can meet the needs of water users and conservation interests, while enhancing the ecological resilience of the Eel River.

From analyzing water supply needs to evaluating multiple fish passage technologies, these Studies have provided foundational information for a negotiated settlement among all the interested parties and PG&E.

Resolving the fate of PG&E's Potter Valley Project in a timely manner will benefit the environment and also improve the long-term water security for Russian River water interests.





MATILIJA DAM

Matilija Creek north of Ojai, is a concrete arch dam built in 1947. Infamous for the scissors painted on the dam by graffiti artists in 2011 that have become an iconic symbol for dam removal, it was originally designed for water storage and flood control.

Matilija Dam, located in the Ventura River watershed on

OWNER: Ventura County Watershed Protection District

COMPLETED: 1947

LOCATION: Ventura River

FISH SPECIES AFFECTED: Fish species affected: Southern California steelhead, SOS II status: CRITICAL, federally listed endangered species

SIZE: 168 ft, Length: 620 ft, Total designed capacity: 7,018 acre ft.

CAPACITY: Currently less than 500 acre ft. Projected capacity by 2020: 0 acre ft.

STAKEHOLDERS & PARTNERS:

Ventura County Watershed Protection District, California Department of Fish and Wildlife, Matilija Coalition, Patagonia, CalTrout, State Coastal Conservancy, Surfrider Foundation, National Marine Fisheries Service, Wildlife Conservation Board, Pew Charitable Trust, Resource Legacy Fund, Ojai Valley Land Trust

LAND ACKNOWLEDGEMENT: Matilija Dam is on the ancestral lands of the Chumash Tribe including the Barbareño Band of the Chumash Tribe and the Barbareño/ Ventureño Band of Mission Indians



atilija Dam. Photo: Mike Wie

THE PROBLEM

The reservoir behind Matilija Dam is nearly completely clogged with sediment, significantly reducing storage capacity to the point that the dams is rendered non-functional. With no fish ladder or bypass structure present, it is a complete barrier to the migration of endangered Southern California steelhead. The dam also causes degraded water quality, an altered flow system, and a disorder to the sediment flows going to the lower watershed, the estuary, and beaches, which they need to replenish themselves. Matilija Dam has impounded approximately 8 million cubic yards of sediment; the physical condition of the dam continues to deteriorate.

Historically inhabiting the Ventura River watershed, Southern California steelhead are an incredibly important species because they evolved in seasonally disconnected river systems and are an adaptable species, able to survive in warmer waters than other steelhead populations. With only an estimated 500 individual species remaining, this unique life history trait makes them a particularly valuable population to protect in the face of climate change and shifting weather patterns. Removal of Matilija Dam will reconnect access for steelhead to their important prime habitat, 17 miles in fact of spawning, rearing, and foraging locations above the dam.

CURRENT SITUATION

Spanning 20 years of effort, a broad coalition of community groups and resource agencies have advocated for Matilija Dam removal, working together to develop a comprehensive strategy to restore the Ventura River.

Today's Matilija Dam Ecosystem
Restoration Project will cost millions
of dollars and lacks dedicated funding,
a major impediment to action. Other
factors, such as determining an
appropriate release strategy for all the
sediment build-up, needing to modify
downstream roads, levees, and bridges,
and impacts from the Thomas fire on
the surrounding landscape, have all
added to the challenges of the dam
removal undertaking.

In 2021, however, we saw immense progress. With funds from California Department of Fish and Wildlife (CDFW), construction began to replace Santa Ana Bridge, a downstream structure that must be modernized before the river can be set free. The new bridge will improve the ability to transport the sediment, while also expanding fish migration opportunities for Southern steelhead at a critical location and providing greater flood flows passage. This pre dam removal work is moving forward and onschedule for completion in 2022.

Ventura County also is in the process of finalizing funding awards with the State Coastal Conservancy and the Wildlife Conservation Board to fully fund final designs to update Camino Cielo. This part of the project will replace an undersized box culvert with a full span bridge, achieving similar ecologic and community benefits as the Santa Ana Bridge replacement.

POTENTIAL FOR REMOVAL

With no uncertainty, Matilija Dam is set to come down; with each of the construction projects downstream, we are creating the pathway to achieve total dam removal. Removing Matilija Dam will restore a free-flowing river from the headwaters to the ocean, re-establish access for steelhead trout to required habitat, revitalize a healthy, native ecosystem, and expand opportunities for outdoor recreation. Ventura County made the decision in 1998 to officially remove the dam. In March 2016, a removal plan was approved.

The removal plan will use two bore holes at the base of the dam to remove and transport the impounded sediment. This concept represents a "natural transport" alternative that concentrates the downstream movement of the built-up sediment during the first storm events that follow. This alternative will minimize ecological impact downstream and lower the overall project cost by reducing the need to truck material in and out of the reservoir. In 2020, Ventura County was awarded \$5 million from the Wildlife Conservation Board to fully fund securing Final Designs and engineering approval. Current projections estimate that once the bore holes are opened, complete dam removal and a free-flowing river will be achieved in 2 to 5 years.





Matilija Dam from above. Photo: Bernard Yin

RINDGE DAM

OWNER: California Department of Parks and Recreation

COMPLETED: 1926 LOCATION: Malibu Creek DECOMMISSIONED: 1967

FISH SPECIES AFFECTED: Southern California steelhead, SOS II status: CRITICAL, federally listed endangered species

SIZE: Height: 100 ft.

CAPACITY: 600-acre ft. completely filled with sediment

STAKEHOLDERS: California Dept of Parks and Rec, Santa Monica Mountains National Recreation Area, Santa Monica Mountains Resource Conservation District, City of Malibu, Mountains Restoration Trust, California Trout, Surfrider, Army Corps of Engineers, National Marine Fisheries Service, California Department of Fish and Wildlife, Las Virgenes Municipal Water District

LAND ACKNOWLEDGEMENT: Rindge Dam is located on the ancestral lands of the Santa Ynez Band of Chumash Indians and the Gabrielino-Tongva Indian Tribe

The 100-foot-tall Rindge Dam in Malibu Creek is located in the Santa Monica Mountains, about three miles upstream from Southern California's Malibu coastline. Construction of the concrete dam and spillway structure was completed in 1926 on the Rindge family property and provided water for irrigation and household use in Malibu. The reservoir filled entirely with sediment by the 1940s, and the dam was decommissioned in 1967. It was purchased shortly thereafter by California State Parks and is now part of Malibu Creek State Park.

THE PROBLEM

Rindge Dam has altered the natural geomorphic, riparian, and aesthetic character of Malibu Creek. The dam has trapped over 780,000 cubic yards of sediment that was naturally destined for the coastline, where it would support beach nourishment and reduce coastal erosion. After the reservoir behind Rindge Dam completely filled with sediment less than 30 years after its construction, it was decommissioned 54 years ago.

The lower three miles of Malibu Creek below Rindge Dam are designated critical habitat for the federally endangered Southern California steelhead. The dam is a barrier to Southern California steelhead and blocks their access to high-quality spawning and rearing habitat. Moreover, Rindge Dam prevents steelhead from accessing more than 18 miles of historic spawning and rearing habitat in Malibu Creek and tributaries.



Malibu Creek. Photo: Bernard Yin

CURRENT SITUATION

The removal of Rindge Dam represents a unique opportunity for systemic and sustainable ecosystem restoration in highly urbanized Southern California. Rindge Dam was deemed obsolete due its lack of function as a water storage facility and has been the subject of removal planning for decades.

While there is little disagreement about the need to remove Rindge Dam, progress has been incremental given the science and engineering complexities of the project. The dam removal process was formalized when the U.S. House of Representatives commissioned the "Malibu Creek **Ecosystem Restoration Feasibility** Study" in 1992, which requested a solution to improve the Malibu Creek watershed and Malibu shoreline. The U.S. Army Corps of Engineers and California Department of Parks and Recreation co-led this study to evaluate ecosystem restoration opportunities to improve aquatic and riparian ecosystem habitat connectivity and restore more natural sediment transport to the coast.

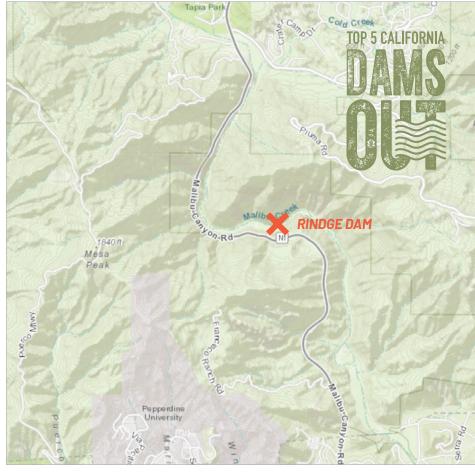
The Locally Preferred Plan (LPP) was selected as the preferred alternative for dam removal. The LPP calls for the removal of the concrete arch dam and spillway; removal or modification of eight smaller upstream fish passage barriers; and removal of ~780,000 cubic yards of impounded sediment.

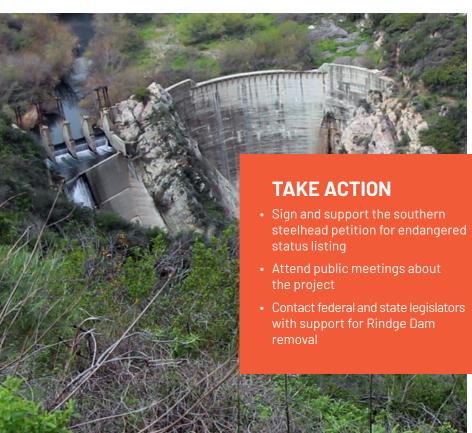
Approximately 76,000 cubic yards of sediment would be placed along the Malibu shoreline and nearshore areas. The remaining sediment will be transported to a local landfill.

POTENTIAL FOR REMOVAL

The Malibu Creek Ecosystem Restoration Study Final Integrated Feasibility Report was completed in November 2020 and signed by Commanding General Scott Spellmon in December 2020. The design phase of the project will begin in 2022. The 2021-2022 California State Budget allocates \$12.5 million for CDPR to advance planning, design, and technical studies leading to removal of the dam. Over the next four years, CDPR will lead the design phase of this project, which will include additional technical studies; dam removal design; environmental permitting; and public outreach and education.

Trucking the impounded sediment to its end destination is a particularly complex piece of the project. Approximately one-third, or 276,000 cubic yards, of the impounded sediment would be trucked to Ventura Harbor, placed on barges, and deposited along the Malibu shoreline or nearby areas that have been sediment-starved since Rindge Dam was built. The remaining two-thirds of the sediment would be deposited at a local landfill. The timeframe to transport all the sediment is estimated eight years due to seasonal construction and daily trucking restrictions. The estimated total cost of the LPP is \$279 million, with significant cost savings if sediment transport costs can be economized.





Rindge Dam. Photo: Mike Wier

BATTLE CREEK DAMS

OWNER: Originally built by Keswick Power Company and now owned by Pacific Gas & Electric (PG&E)

COMPLETED: Hydroelectric development began in the early 1900's with the first power produced in late 1901. PG&E acquired the facility in 1919 and the fifth and final powerhouse was added in 1980

LOCATION: Battle Creek, tributary to the Sacramento River near Red Bluff, CA

FISH SPECIES AFFECTED: Central Valley spring-run Chinook salmon, SOS II status: CRITICAL; Central Valley winter-run Chinook salmon, SOS II status: CRITICAL; Central Valley steelhead, SOS II status: MODERATE

SIZE: 12 to 56 feet in height

CAPACITY: Water storage capacity totals 3,827 acre-feet (range by reservoir from 15 to 1,827 acre-feet)

STAKEHOLDERS: Battle Creek Watershed Conservancy, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, NOAA Fisheries, California Department of Fish and Wildlife, PG&E, California Bay-Delta Authority, California State Water Resources Control Board, FERC, The Nature Conservancy, California Wildlife Conservation Board, Greater Battle Creek Watershed Working Group and CalTrout

LAND ACKNOWLEDGEMENT: The Battle Creek Dams are on the ancestral lands of the Yana Tribe and the Paskenta Band of Nomlaki Indians

The project was originally developed to support the power demand of mineral extraction in Shasta County including Iron Mountain Mine near Redding. The drainage was seen as an ideal drainage for hydropower generation due, in part, to its spring-fed water supply. The project included 8 low-head dams within anadromous reaches, an additional 4 dams outside of the anadromous habitat, and a complex network of 20 diversion canals and pipelines.

THE PROBLEM

Historically, Battle Creek was home to a diverse assemblage of anadromous and resident fishes adapted to its specific hydrology and habitats. North Fork Battle Creek is spring-fed with water originating from the flanks of Mt. Lassen and provided ideal spawning, holding and rearing habitats for winterrun Chinook salmon. This run or ecotype is unique to California and is one of the most endangered salmon.

The South Fork Battle Creek hydrograph is storm driven and has deep holding pools that provide habitats for spring-run Chinook salmon which are listed as threatened on the Endangered Species Act.

Anadromous steelhead trout, Pacific Lamprey and a host of native resident fish species reside in the drainage. The construction of the Battle Creek Project virtually eliminated access to 42 miles of anadromous habitat as well as connectivity for resident fish populations.



Coleman Dam. Photo: Damon Goodmai

CURRENT SITUATION

There is new hope on the horizon to provide volitional passage to all historical fish habitats in Battle Creek and restore it's natural hydrograph. PG&E was in the process of renewing a federal (FERC) hydropower license before its expiration on July 31st, 2026. Over 2 decades of planning and restoration efforts were underway to balance the needs of native fishes with hydropower generation.

In 2020, PG&E filed notice of its intent to not file an application for a new license and no other party filed a notice of intent to assume responsibility of the project, which will likely lead to decommissioning. Restoration efforts have now pivoted to preparing for project decommissioning and maximizing the benefit for native fishes.

CalTrout is a member of a team that is leading the way to restore Battle Creek. In 2021, CalTrout and others completed a project on North Fork Battle Creek to restore access to 4 miles of winterrun Chinook Salmon habitat. This project created a foundation for future progress in Battle Creek and other rivers in California.

The USFWS Coleman National Fish Hatchery is the largest federal Chinook Salmon production facility in the lower 48. Coleman's fish production compensates for the loss of production in the Sacramento River caused by extensive hydropower and water delivery infrastructure.

The hatchery is currently reliant on water delivery from the Battle Creek Hydroelectric Project. CalTrout in collaboration with USFWS, BOR and others are working together to find ways to secure the water supply needs of Coleman Hatchery independently from the project and paving the way for improved fisheries in Battle Creek.



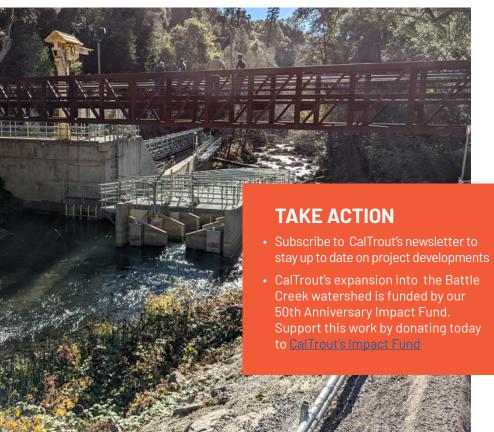


Top: Eagle Canyon Dam. Above: North Fork feeder dam. Photos: Damon Goodman

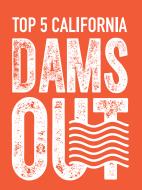
POTENTIAL FOR REMOVAL

There is a high likelihood that anadromous fish access could be restored to Battle Creek. This will include multiple dam removals. Removal of several dams are already underway through the Battle Creek Salmon and Steelhead Restoration Project. The first dam removal occurred in 2010 with the removal of Wildcat Dam on the North Fork which opened miles of anadromous fish habitat. Efforts are now in progress to initiate the removal all dams in the South Fork as well as provide passage beyond the remaining North Fork Dams.





North Fork feeder dam. Photo: Damon Goodman



THE RECONNECT HABITAT INITIATIVE

Reconnecting Habitat is one of California
Trout's five key initiatives in its effort
to return native fish to resilience. The
initiative focuses on giving salmon and
steelhead access to diverse habitat by
removing barriers and getting obsolete
DAMS OUT. Dams and barriers block
migration upstream to high quality habitat
and restrict migration of juvenile fish to
the ocean.

We are working to remove barriers and get obsolete dams out to give native salmon and steelhead access to the clean, cold water of their native spawning and rearing habitats once again.

With over 15 projects in four regions across California, CalTrout values our Reconnect Habitat work and we hope you will aid us in this work by supporting the initiative today. Together, we can get DAMS OUT.

To learn more visit caltrout.org.

ABOUT CALIFORNIA TROUT

Founded in 1971, California Trout is a non-profit conservation and advocacy organization that is dedicated to solving California's complex resource issues while balancing the needs of wild fish and people.

The organization focuses on science-based, scalable solutions to California's most complex water management challenges. CalTrout has six regional offices throughout the state with headquarters in San Francisco.

Donate today to reconnect California rivers and get DAMS OUT. Scan the QR code below.



CALIFORNIA TROUT



