

January 8, 2024

Mr. Paul Souza
Regional Director, Pacific Southwest Region
U.S. Fish and Wildlife Service
2800 Cottage Way, Suite W-2606
Sacramento, CA 95825

Mr. Wade Crowfoot
Secretary
California Natural Resources Agency
715 P Street, 20th Floor
Sacramento, CA 95814

Ms. Jennifer Quan
Regional Administrator, West Coast Region
National Marine Fisheries Service
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802

Mr. Charlton “Chuck” Bonham
Director
California Department of Fish and Wildlife
715 P Street
Sacramento, CA 95814

Mr. Ernest Conant
Regional Director, California-Great Basin
Region
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Ms. Karla Nemeth
Director
California Department of Water Resources
715 P Street
Sacramento, CA 95814

Mr. Dereck Wilson
District Manager
Northern California District
Bureau of Land Management California
6640 Lockheed Drive
Redding, CA 96080

Ms. Jennifer Norris
Executive Director
Wildlife Conservation Board
P.O. Box 944209
Sacramento, CA 94244-2090

RE: Battle Creek Salmon Recovery Working Group

Dear Regional Director Souza, Regional Administrator Quan, Regional Director Conant, District Manager Wilson, Secretary Crowfoot, Director Bonham, Director Nemeth, and Executive Director Norris:

The Battle Creek Salmon Recovery Working Group was formed in January 2023 to take a comprehensive look at Chinook salmon recovery in Battle Creek and provide a forum to share ideas, promote projects and coordinate actions. Battle Creek is recognized by fishery biologists for its great potential to increase and diversify Chinook salmon habitat in the Sacramento Valley. Battle Creek is also an instrumental element of the [Holistic Approach to Healthy Rivers and Landscapes](#).

This voluntary group is open to all individuals and entities interested in advancing salmon recovery in Battle Creek through the implementation of habitat projects, hatchery improvements, science, and monitoring activities. The primary purpose of the group is to identify restoration

projects in Battle Creek and share information to ensure restoration practitioners are informed of all projects on the creek and help expedite funding and permitting. Members of the working group represent state and federal fishery, water management and land management agencies (which include your respective agencies), local governments, water agencies, conservation organizations, an electric utility, a Resource Conservation District, fishing interests, and a watershed protection group.

The Working Group meets every other month to share information, received detailed presentations on issues of interest for salmon recovery in the creek, update the project summary list (see attached) and further develop our common understanding of the work that needs to occur to benefit Chinook salmon.

We will continue to meet and advance work to recover Chinook salmon in Battle Creek through the implementation of the projects on this list. We welcome your review of the list and any edits or additions you may have and thank you for your leadership in improving conditions for Chinook salmon in Battle Creek.

Sincerely,

Trey Hiller
BATTLE CREEK WATERSHED
CONSERVANCY

Jacob Katz
CALIFORNIA TROUT

James Stone
NOR-CAL GUIDES & SPORTSMEN'S
ASSOCIATION

Todd Manley
NORTHERN CALIFORNIA WATER
ASSOCIATION

Lewis Bair
RECLAMATION DISTRICT 108

Jon Barrett
RESOURCE CONSERVATION DISTRICT
OF TEHAMA COUNTY

Julie Rentner
RIVER PARTNERS

Jane Dolan
SACRAMENTO RIVER FORUM

Roger Cornwell
SUTTER MUTUAL WATER COMPANY

Caitrin Chappelle
THE NATURE CONSERVANCY

Matt Clifford
TROUT UNLIMITED

Battle Creek

Project	Description	Targeted Habitat/ Acreage	Instream Habitat (ac)	Spawning Habitat (ac)	Rearing Habitat (ac)	Floodplain Habitat (ac)	Tidal Habitat (ac)	Fish Food Production (ac)	Fish Passage	Estimated Cost	Implementation Lead	CEQA Lead	Year Shovel Ready	Primary Funding Source(s)
Rancho Breisgau Side Channel	Side channel restoration including removal of fill blocking the upper section including inlet, placement of a large culvert to maintain access for private land owner, and mitigating impacts to irrigation distribution system that currently draws water from Battle Creek and distributes through the side channel for agricultural use. Project includes spawning habitat within channel and potentially on the Sacramento River or lower Battle Creek. Increased water quality (lower water temperature) in 1.9-miles of lower Battle Creek.			2	4.2	0.5				~\$9.2M	Chico State Enterprises	TBD. Waterboard	TBD. 2026	Reclamation
Battle Creek Wildlife Area	Side channel construction for salmonid habitat restoration requiring the removal of a farmer berm. Project includes woody debris placement, replanting, contouring of a new floodplain while increasing activation of an existing, adjacent floodplain. Project team includes Chico State, Sacramento River Forum, DWR, Yurok Tribe, River Partners, Tussing Ecological Sciences.			-	1.3	5				TBD	Chico State Enterprises	TBD. Waterboard or DFW.	TBD. 2025	Reclamation
Battle Creek Levee	Side channel restoration including eliminating existing stranding pool, removing a farmer berm, excavating floodplain, replanting and woody debris placement. Project team includes Chico State, Sacramento River Forum, DWR, Yurok Tribe, River Partners, Tussing Ecological Sciences.			-	1.7	27				TBD	Chico State Enterprises	TBD. Waterboard.	TBD. 2024	Reclamation
CDFW Tompkins Unit Phase II	Restore +/- 60 acres of floodplain habitat, to complete the Tompkins Unit Restoration Plan	Riparian				60				\$1,500,000	River Partners	CDFW - Complete	2011	CDFW (pre-app submitted)
Restoring Landscape Resiliency for Sacramento River Salmon	Pilot test a project to utilize existing CDFW ponds at the Oak Tree Trail for fish food production and/or juvenile rearing habitat	Fish food production						5		\$500,000	CaTrout	TBD	2024-25	CDFW Funded
Rancho Breisgau Habitat Restoration Phase 1 Field 1	Restore 130 acres of floodplain habitat at BLM's Rancho Breisgau Unit	Riparian				130				\$4,900,000	River Partners	Western Shasta RCD - Complete	2023	WCB -awarded
Rancho Breisgau Habitat Restoration Phase 2, Fields 2-4	Restore 176 acres of floodplain habitat at BLM's Rancho Breisgau Unit	Riparian				157				TBD	River Partners	Western Shasta RCD-Complete	2023	TBD
Rancho Breisgau Floodplain Expansion	Conserve and Restore an additional 90 acres to be added to BLM's Rancho Breisgau Unit	Riparian				90				\$3,800,000	River Partners	Western Shasta RCD	Land Acquisition 2023; Restoration 2025	BLM (secure); DWR (Secure); Requires additional funds
McBartlett Restoration	Planning and restoration on newly acquired parcel along the Sacramento River just north of Rancho Breisgau	Riparian				45+				TBD	River Partners	TBD	TBD	TBD
Jelly's Ferry Mitigation at Rancho Breisgau	Tehama County mitigation for the Jelly's Ferry Bridge potentially occurring at Rancho Breisgau. Mitigation would include 19.21 acres- 9.04 acres of riparian and 10.17 oak woodland habitats	Riparian & Oak Woodland				19.21				TBD	River Partners	Western Shasta RCD-Complete	2023	Mitigation Funds
CNFH Infrastructure Review and Alternatives Analysis (CNFH IR&AA)	With decommissioning of PG&E hydropower system, CNFH will require infrastructure alterations to maintain operations. Potential intakes, fish screening, holding capacity, and facility upgrades will be explored in the alternatives analysis. The document produced will be used to apply for BIL funding in FY25. Implementation of any alternative is contingent on securing BIL funding. The project has commenced, and the deliverable will be received in Spring 2025. BIL FY25 applications are projected to be due in the Summer of 2025.								Downstream passage	TBD	USFWS/USBR		TBD	TBD (contingent on securing BIL funds)
Fish-safe water supply for CNFH in the interim (now -> implementation of new water source)	Need interim solution while long term water supply is being developed.								Downstream passage	\$1M	USFWS/USBR		TBD	
Improved salvage efforts for unscreened diversions	Need interim solution while long term water supply is being developed.								Downstream passage	\$200,000	USFWS/USBR		TBD	
Winter-run Chinook Reintroduction Plan implementation	After restoration project is complete and MOU flows are achieved the formal reintroduction plan would begin, funding needed for all aspects of the reintroduction effort									TBD			TBD	
Battle Creek Salmon and Steelhead Restoration Project - Phase 2 (Note: Phase 2 is the final phase of the project. Phase 1A and Phase 1B have been completed.)	Removal of two diversion dams on South Fork Battle Creek, two diversion dam on tributaries to South Fork Battle Creek, and a canal system.	Spring-run Chinook salmon and Central Valley steelhead habitat restoration	24 miles							Funded	Reclamation	NEPA/CEQA completed in 2009. SWRCB - CEQA lead for EIR.	2024	Federal and State Funding
Eagle Canyon Lower Barrier Fish Passage Project	Reconfiguration of rock fall barrier on NF Battle Creek. Objectives are to increase water depth at low flows; reduce channel velocity, vertical drops, and slope of channel; increase existing pools or create new pools; and create variable swim paths. Engineering/design complete.	fish passage							Upstream	\$5M	CaTrout	TBD	TBD - pending landowner access	TBD
Prioritizing levee and revetment modifications on lower Battle Creek	2-D Hydraulic modeling to prioritize floodplain reconnection actions on lower Battle Creek. The project will develop priority actions, and advance at least one action through permitting	TBD								500000	CaTrout w DU, River Partners	TBD	2025	TBD

Science and Monitoring

Genetics for spring-run Chinook salmon	There is a need to run genetics to better understand thiamine treatment and handling impacts (winter-run has funding but not spring-run)	Goal is specific to fish health								~\$200,000	USFWS			USFWS/BOR
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Battle Creek Spring Chinook snorkel survey	This long-term monitoring project, conducted annually since 2001, is essential to document the annual trend of abundance of the spring Chinook spawning population in Battle Creek and to evaluate ecological responses to restoration activities, including dam/barrier removal, improvements to fish ladders, and instream flow management. Information from this project also contributes to the real-time adaptive management of the Battle Creek Restoration Project by monitoring ecological responses to flow management; for example, to avoid redd dewatering during restoration project construction and operations of PG&E hydropower system. Water temperature data are also collected to evaluate impacts to listed fish and inform water temperature models, as identified in the Battle Creek Adaptive Management Plan. Tissue samples are collected for genetic identification of run, measure intervention success (such as thiamine injection and translocation), and otoliths are collected to assess management practices that lead to successful juvenile life history strategies; this information has been used and continues to be used for the Spring run JPE program. Combined with the intensive monitoring of the winter run and juvenile Chinook on Battle Creek, data collected from this project serve as a vital role to understanding evolution of closely related life history strategies in not only Battle Creek, but the larger Sacramento Valley.									\$120,000	USFWS			Iron Mountain Mine
Battle Creek Restoration Project Adaptive Management Plan Implementation	Requires MOU partners (Mangement-level) to agree with the initiation of the Adaptive Management Teams; Consider hiring a facilitator to assist with the implementation of these teams									\$50,000	MOU Partners		Could be as soon as 2023 since Phase 1 of the restoration is complete	
CNFH Adaptive Management Plan implementation	Requires MOU partners (Mangement-level) to agree with the initiation of the Adaptive Management Teams; Consider hiring a facilitator to assist with the implementation of these teams									\$50,000	MOU Partners		Could be as soon as 2023 since Phase 1 of the restoration is complete	
Battle Creek Monitoring Program Staffing Location	Office building and warehouse for staff currently housed in trailer at CNFH									\$700,000	USFWS/USBR?		TBD	