Clear Creek Work Plan for Fiscal Year 2002

I Program Title.

CVPIA § 3406 (b)(12), Clear Creek Restoration

II Responsible Entities.

	Agency	Staff Name	Role
Lead	USBR	Jim De Staso	Program Manager
Co-Lead	USFWS	Matt Brown	Program Manager

III Program Objectives for FY 2002 and Project Status

A Provide fish passage at Saeltzer Dam to optimize access to upstream habitat.
B Restore stream channel form and function necessary to optimize habitat for salmon and steelhead and to the aquatic and terrestrial communities on which they are dependent
C Provide flows of adequate quality and quantity to meet the requirements of all life stages of chinook salmon and steelhead trout
D Provide spawning gravel to replace supply blocked by Whiskeytown Dam
E Reduce watershed erosion and sedimentation
F Monitor project results

Source documents supporting each of the above objectives includes the following: 1) CVPIA Section 3406 (b)(12); 2) Record of Decision, Central Valley Project Improvement Act; 3) CALFED Bay-Delta Program Programmatic Record of Decision, proposed Ecosystem Restoration Program stage 1 actions; 4) CALFED Ecosystem Restoration Program Strategic Plan For Ecosystem Restoration, action 3, page D-23; and 5) Biological Opinion, Effects of the Central Valley Project and State Water Project Operations from October 1998 through March 2000 on Steelhead and Spring-run Chinook Salmon.

Program Status:

To achieve above objectives, the strategy is to develop an interdisciplinary team that works directly with local entities. The Clear Creek Coordinated Resource Management Planning group comprised of local landowners and stakeholders, and the Clear Creek Technical Team have met since 1995 to plan, implement, and monitor projects using a multi-disciplinary restoration approach to benefits anadromous salmonids and the ecosystems upon which they depend. Many of the projects are implemented by the Western Shasta Resource Conservation District with technical assistance from a dozen Federal, State and local agencies. The restoration groups are adopting an adaptive management approach to improve learning through active experimentation.

Removing McCormick-Saeltzer diversion dam, augmenting the supply of spawning-sized gravel, filling instream and isolating floodplain mining pits, providing scouring flows, refining and implementing a watershed management plan to reduce the transport of fine sediment to the creek, and evaluating the need to augment flows are all identified as draft Stage 1 actions for Clear Creek in Appendix D of the CALFED Strategic Plan for Ecosystem Restoration and the CVPIA Anadromous Fish Restoration Program. In addition, implementing large-scale restoration projects on Clear Creek and improving fish passage through removal of McCormick-Saeltzer diversion dam are commitments made in the Record of Decision for the CALFED Bay-Delta Program.

Increased minimum flows during the winter are largely responsible for the average 4 fold increase in fall chinook spawning escapement in Clear Creek over the baseline period. The benefit of increased summer flows for threatened spring chinook and steelhead were demonstrated in rotary screw trap catches and in snorkel counts of adult spawners and their redds. Spawning gravel augmentation has occurred on at least an annual basis at two or more locations since 1996. Spawning gravel introductions have created high density spawning areas in areas once bereft of spawning gravel. Three stream channel improvement projects were completed in 1998, 1999 and 2001. The success of riparian revegetation efforts have greatly exceeded expectations. McCormick-Saeltzer Dam was removed in November 2000.

The current instream flow prescriptions for the creek, based on 1983 conditions, will be updated in the next few years to include temperature concerns, analysis of barriers to fish passage, recent developments in minimum

flow setting methodology and changes in the stream channel that have been ongoing since Whiskeytown Dam was closed in 1963. Other ongoing monitoring and research studies involve juvenile salmonid use of restored habitats, fish stranding, juvenile salmonid out-migration, adult population estimates, redd mapping, neotropical migratory bird populations, riparian vegetation, wetlands, groundwater, stream flows, water temperatures, bedload movement, geomorphology, and spawning gravel quality.

Use of gold mining tailings for restoration projects may liberate mercury which could have negative impacts on the environment and human uses. Extensive gold mining in Clear Creek has produced tailings potentially contaminated with mercury. Three teams of interdisciplinary mercury experts will evaluate the potential risk of using the tailings in future restoration projects.

IV FY 2001 Accomplishments.

A Removed McCormick-Saeltzer Dam creating 12 miles of new stream habitat primarily for spring-run and steelhead
B Added approximately 4,000 tons of spawning gravel to each of three locations including Whiskeytown Dam, Placer Bridge and City of Redding injection sites
C Provided flows suitable for all life stages of anadromous fish
D Completed Phase 2B of the Lower Clear Creek Floodplain Channel Rehabilitation Project
E Began field surveys and draft designs for Phase 3A of the Lower Clear Creek
F Ongoing monitoring involves salmonid use of restored habitat, fish stranding, juvenile salmonid out-migration, adult population estimates, redd mapping, neotropical migratory bird populations, riparian vegetation, wetlands, groundwater, stream flows, water temperatures, bedload movement, channel geomorphology, and spawning gravel quality
G Continued public involvement through the Clear Creek Coordinated Resource Management Group

V Tasks, Costs, Schedules and Deliverables.

A Narrative Explanation of Tasks.

1 Program Management

2 Implement and maintain Lower Clear Creek Floodplain Channel Rehabilitation Project (objective B)

2.1. Implement Phase 2B fill projects

2.2. Implement Phase 2B revegetation experiments

2.3. Maintain Phases 2A and 2B riparian and wetland vegetation to meet requirements established by the U.S. Army Corp of Engineers

2.4. Monitor and evaluate overall outcome of experimental revegetation program, and geomorphic variables including meander wavelength, floodplain inundation rate, streambed elevation, and substrate composition

2.5. Begin design process for Phase 2C / 3A, including preparation of draft floodplain grading plans, on the ground surveys, additional geomorphic investigation and clay hardpan location determination

2.6 Implement Phase 2C / 3A of the Lower Clear Creek Floodplain Channel Rehabilitation Project, with CALFED cost share funding.

3 Implement Spawning Gravel Augmentation and Monitoring Program (objective D)

3.1. Implement spawning gravel augmentation at the Whiskeytown Dam, Placer Road, and City of Redding injection locations

3.2. Monitor geomorphic characteristics of spawning gravel downstream movement

3.3 Inject gravel at several new gravel augmentation sites

4 Provide baseline flows for all life stages of anadromous fish, and pursue winter and spring pulse flows (objective C)

4.1. Recommend flows between June and September to maintain water temperature that meet standards established by the NMFS for the protection of endangered spring-run chinook and steelhead

4.2. Recommend flows between October and May to provide spawning and rearing habitat for chinook and steelhead

5 Monitoring (objective F)

5.1. Monitor anadromous fishery including juvenile salmonid use of restored habitats, fish stranding, juvenile salmonid out-migration, adult population estimates, and redd mapping

5.2. Monitor to validate stream flows, water temperatures, spawning gravel and stream substrate quality

5.3. Monitor response of fishery to proposed winter and spring pulse

flows

6 Update instream flow prescriptions (objective C)

6.1. Update 1983 IFIM study to include temperature concerns and current modeling results, analysis to barriers to fish passage, recent developments in minimum flow setting methodology, and changes in the stream channel since Whiskeytown Dam was completed in 1963 and in response to all restoration activities in the watershed which began in 1995.

7 Reduce fine sediment input into stream channel (objective E)

7.1. Conduct erosion control

7.2. Prevent wildfires by reducing fuel loading and constructing shaded fuel breaks

8 Provide forum local stakeholder participation

8.1. Conduct biannual Coordinate Resource Management Meetings

8.2. Mail quarterly Clear Creek Restoration Newsletters to interested parties

8.3. Conduct biannual watershed field tours focusing on implemented and proposed restoration projects

0.1. **Schedule and Deliverables.**

#	Task	Dates		Deliverable
		Start	Complete	
1	Program Management	10/01/01	09/30/02	
2	Implement Lower Clear Creek Floodway Channel Rehabilitation Project	10/01/01	09/30/02	Western Shasta Resource Conservation District (WSRCD) complete Phase 2B fill and revegetation of the Lower Channel Project. Reclamation provide as-built CAD drawings. Cost shared with CALFED.
3	Implement spawning gravel augmentation and monitoring program	10/01/01	09/30/02	Inject a total of 4,000 tons of spawning gravel. WSRCD provide final report for injections and post-injection monitoring.
4	Provide baseline flows for fall-, late-fall and spring-run chinook salmon and steelhead-FWS b(2) program	10/01/01	09/30/02	
5	Monitor anadromous fishery-FWS	10/01/01	09/30/02	FWS provide annual monitoring report.
6	Provide up-to-date instream flows prescriptions- FWS	10/01/01	09/30/02	FWS provide input to BOR operators and CVPIA b(2) water managers
7	Reduce fine sediment input into stream channel	10/01/01	09/30/02	WSRCD provide annual report.
8	Provide forum for local stakeholder participation	10/01/01	09/30/02	Conduct stakeholder meetings, prepare newsletters, and conduct weekend field tours. Unfunded due to budget cuts in FY 2002.

Explanatory Notes: None

Summary of Program Costs and Funding Sources. -

#	Task	Total Cost	Funding Sources	
			W&RR	RF
1	Program Management	$ 150,000	$ 100,000	$ 50,000
2	Implement Lower Clear Creek Floodway Channel Rehabilitation Project- Cost share for Phase 2C / 3A (USBR)	$ 200,000	$ 0	$ 200,000
3	Implement spawning gravel augmentation and monitoring program (USBR)	$ 75,000	$ 0	$ 75,000
4	Provide baseline flows for fall-, late-fall and spring-run chinook salmon and steelhead- (USFWS b(2) program funding)	$ 0	$ 0	$ 0
5	Monitor anadromous fishery- (USFWS)	$ 160,000	$ 0	$ 160,000
6	Provide instream flows prescriptions- (USFWS)	$ 15,000	$ 0	$ 15,000
7	Reduce fine sediment input into stream channel	$ 0	$ 0	$ 0
8	Provide forum for local stakeholder participation	$ 0	$ 0	$ 0
Total Program Budget		**$ 600,000**	**$ 100,000**	**$ 500,000**

Explanatory Notes: None

Program Costs and Funding Sources - Additional Funding Needs.

#	Task	Total Cost	Funding Sources			
			RF	W&RR	Prop 204	CALFED
2.6	Implement Phase 3A of the Lower Clear Creek Floodway Channel Rehabilitation Project	$ 1,030,000	$ 0	$ 200,000	$ 0	$ 830,000
Total Program Budget		**$ 1,030,000**		**$ 200,000**		**$ 830,000**

Explanatory Notes: None

0.2. CVPIA Program Budget.

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
1	Program Management						
	BOR	1.0	$ 83,333			$ 16,667	**$ 100,000**
	FWS	0.5	$ 34,722	$ 0	$ 6,945	$ 8,333	**$ 50,000**
	Total by Category						**$ 150,000**

Explanatory Notes: None

0.3. **Quarterly Obligation/Expenditures.**

#	Task	Quarter 1	Quarter 2	Quarter 3	Quarter 4
1	Program Management	$ 37,500	$ 37,500	$ 37,500	$ 37,500
2	Implement and Lower Clear Creek Floodway Channel Rehabilitation Project	$ 0	$ 0	$ 200,000	$ 0
3	Implement spawning gravel augmentation and monitoring program	$ 0	$ 0	$ 75,000	$ 0
4	Provide baseline flows for fall-, late-fall and spring-run chinook salmon and steelhead-FWS b(2) program	$ 0	$ 0	$ 0	$ 0
5	Monitor anadromous fishery-FWS	$ 40,000	$ 40,000	$ 40,000	$ 40,000
6	Provide up-to-date instream flows prescriptions- FWS	$ 3,750	$ 3,750	$ 3,750	$ 3,750
7	Reduce fine sediment input into stream channel	$ 0	$ 0	$ 0	$ 0
8	Provide forum for local stakeholder participation	$ 0	$ 0	$ 0	$ 0
Total CVPIA Budget by Quarter		**$ 81,250**	**$ 81,250**	**$ 356,250**	**$ 81,250**

Explanatory Notes: None
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