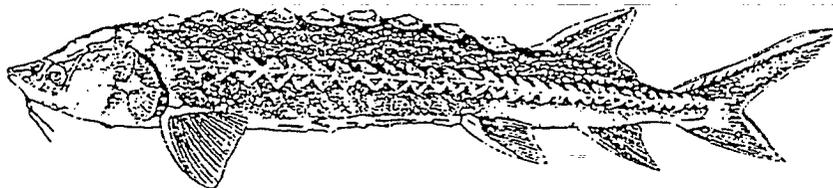
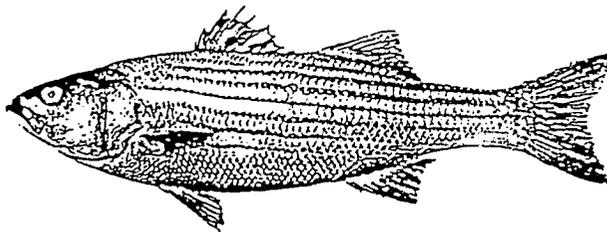
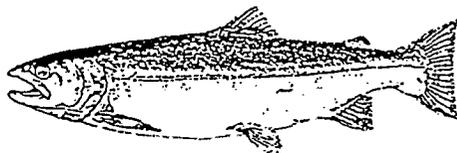
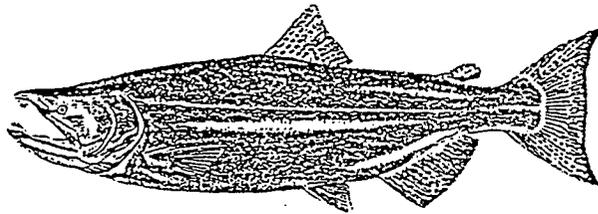
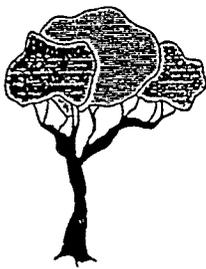


**RESTORING CENTRAL VALLEY STREAMS:
A PLAN FOR ACTION**

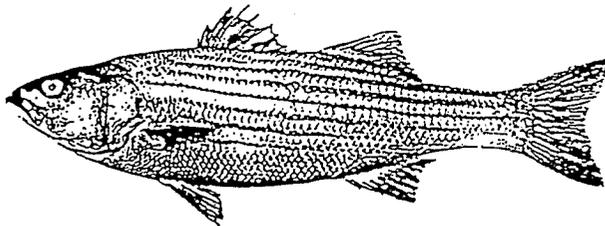
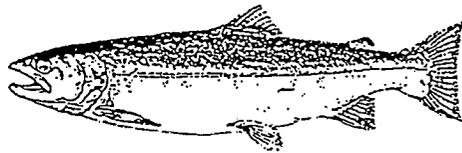
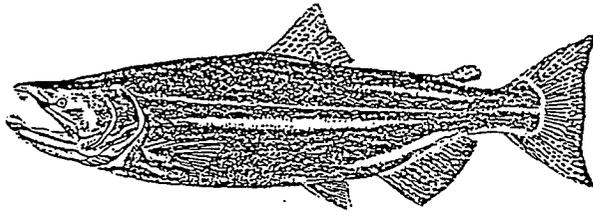
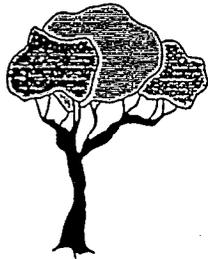
STATUS OF ACTIONS FOR SPRING-RUN CHINOOK SALMON



July 20, 1995

**RESTORING CENTRAL VALLEY STREAMS:
A PLAN FOR ACTION**

STATUS OF ACTIONS FOR SPRING-RUN CHINOOK SALMON



July 20, 1995



State of California
Resources Agency
DEPARTMENT OF FISH AND GAME

**RESTORING CENTRAL VALLEY STREAMS:
A PLAN FOR ACTION**

STATUS OF ACTIONS FOR SPRING-RUN CHINOOK SALMON

prepared by:

Terry J. Mills
Senior Biologist
Inland Fisheries Division

July 20, 1995

C - 0 4 9 8 1 8

C-049818

**RESTORING CENTRAL VALLEY STREAMS:
A PLAN FOR ACTION**

STATUS OF ACTIONS FOR SPRING-RUN CHINOOK SALMON

This summary report provides concise descriptions of completed and ongoing activities linked to implementation of the actions required to restore spring-run chinook salmon populations in Central Valley streams. This brief report is a condensed version of the the Department's June 1995 report *Restoring Central Valley Streams: A Plan For Action Status of Implementation*.

Priority of Actions

The activities proposed in each stream action plan fall into three general categories: habitat restoration, administrative, and evaluation. Habitat restoration actions are defined as those activities involving direct manipulation and modification of habitat or physical instream structures through the use of construction tools or heavy equipment. Administrative activities include negotiating streamflow agreements, developing and enforcing existing laws and regulations, coordinating water management operations in tributaries and in the main stem rivers above the Delta as they pertain to the aquatic environment and the associated resources, and participating in legal or administrative proceedings to obtain improved water quality or increased streamflow. Evaluation activities include developing and refining resource information necessary to implement habitat restoration or administrative actions. They also include evaluating completed habitat restoration or administrative actions.

All recommended actions have been ranked according to an alpha-numeric rating system. The alpha designator indicates whether the action is for the benefit of special status fish, for multiple species, or for minor populations. The numeric designator indicates the anticipated permanence or significance of the action. The alpha rating criteria are as follows: (A) The action principally benefits the habitat of threatened or endangered anadromous fish species or habitat of anadromous fish species and races in decline that may become threatened. These species include the State endangered and federally threatened winter-run chinook salmon, or species of special concern such as the spring-run and San Joaquin fall-run chinook salmon. (B) The action principally benefits habitat for aquatic communities which can produce large numbers of anadromous fish or provide benefits for multiple species (species diversity). The American and lower Sacramento rivers would be included in this classification. The action principally benefits habitat of relatively small populations of anadromous fish species in categories other than in A or B, but which are of sufficient merit to receive consideration. Therefore, according to these criteria, all actions are classified as A, B, or C in descending order of importance.

Habitat restoration and administrative activities are further rated according to their permanence or significance and their anticipated benefit to habitat of the target resource.

CENTRAL VALLEY ACTION PLAN: IMPLEMENTATION REPORT

Within each priority level, individual habitat restoration and administrative actions are placed into one of three numeric categories. The numeric rating criteria are as follows: (1) Actions having significant long-term or permanent benefits, (2) Actions having significant short-term benefits, or a moderate long-term benefits, and (3) Actions having relatively minor benefits, but are required to complete the restoration program.

Evaluation recommendations are similarly assigned numeric rankings, but with somewhat different criteria. Category 1 evaluation actions are needed prior to implementing a specific habitat restoration or administrative action. Category 2 evaluation actions follow the implementation of a habitat restoration or administrative action.

The rating and category for each recommendation were combined to determine a priority for each recommended action (Table 1). Highest priority, A-1, was given to those actions which would result in long-term benefits to an endangered or threatened species or species of special concern. Actions which did not affect listed species or species of special concern and did not result in long-term benefits to these species, were assigned lesser priorities.

The items listed in the following tables address habitat conditions in the streams used by spring-run chinook salmon. **The actions do not address habitat conditions or water management operations or strategies in the Sacramento-San Joaquin Delta.** Restoration of spring-run chinook salmon can be partially successful by addressing habitat conditions in the tributary streams, but for full restoration a watershed/ecosystem approach is required. This will entail consideration of conditions in the main stem Sacramento River in the reaches below the confluences with Clear, Antelope, Big Chico, Mill, Deer, and Butte creeks as well as Delta conditions and operations, and ocean harvest.

CENTRAL VALLEY ACTION PLAN: IMPLEMENTATION REPORT

TABLE 1. Criteria Used for Developing Priority Ratings for Recommended Action Items in the Central Valley Stream Action Plans.

Priority	Criteria
A-1	Actions to improve habitat of species that are threatened, endangered, or of special concern. Restoration or administrative actions having significant long-term benefits or evaluations needed prior to implementing restoration or administrative actions.
A-2	Actions to improve habitat of species that are threatened, endangered, or of special concern. Restoration or administrative actions having moderate long-term or significant short-term benefits or evaluations needed after completing restoration or administrative actions.
A-3	Actions to improve habitat of species that are threatened, endangered, or of special concern. Restoration or administrative actions resulting in incremental improvements to the habitat for these species at a level less than for priority A-2.
B-1	Actions to improve habitat that supports large populations of anadromous fish or for rivers with multiple species of anadromous fish. Restoration or administrative actions resulting in significant long-term benefits or evaluations needed prior to implementing restoration or administrative actions.
B-2	Actions to improve habitat that supports large populations of anadromous fish or for rivers with multiple species of anadromous fish. Restoration or administrative actions resulting in moderate long-term or significant short-term benefits or evaluations needed after completing restoration or administrative actions.
B-3	Actions to improve habitat that supports large populations of anadromous fish or for rivers with multiple species of anadromous fish. Restoration or administrative actions resulting in incremental habitat improvements at a level less than for priority B-2.
C-1	All other actions that improve habitat for anadromous fish. Restoration or administrative actions resulting in significant long-term benefits or evaluations needed prior to implementing restoration or administrative actions.
C-2	All other actions that improve habitat for anadromous fish. Restoration or administrative actions resulting in moderate long-term or significant short-term benefits or evaluations needed after completing restoration or administrative actions.
C-3	All other actions that improve habitat for anadromous fish. Restoration or administrative actions resulting in incremental habitat improvements at a level less than for priority C-2.

The status of spring-run chinook salmon habitat restoration actions, ranked in priority order, are presented in Table 2. The status of administrative actions necessary to restore spring-run chinook salmon stream habitat, ranked in priority order, are listed in Table 3, and the status of evaluation actions needed for spring-run chinook salmon, also ranked in priority order, are listed in Table 4.

Central Valley Action Plan: Status of Actions for Spring-run Chinook Salmon

C-049822

TABLE 2. Status of Spring-run Chinook Salmon Habitat Restoration Actions.

Priority	Anadromous Fish Habitat Restoration Action	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Remove Clough Dam on Mill Creek and move the existing diversion to allow salmon and steelhead unimpaired access to spawning areas.	DFG	Unfunded.	Limited action. Legal issues regarding water rights.	No Estimate
A-1	Relocate the M&T diversion in Big Chico Creek to the Sacramento River and install fish screens.	USBR	CVPIA. Requires 25% State cost share.	Feasibility study due March 1, 1995, \$30,000 provided by USBR.	\$2,500,000
A-1	Acquire Butte Creek water rights from willing sellers.	DFG	Unfunded.	Purchase of water right related to removal of Point Four Dam in 1992. Other negotiations in progress.	\$133,000
A-1	Identify and correct fish passage problems at diversions in Butte Creek through dam removal or improvements to existing fish ladders. <i>(Project modified to emphasize dam removal and consolidation of points of water diversion.)</i>	DFG	Parrott-Phelan Dam fishway \$375,000 (WCB).	Design and engineering nearly complete. Construction scheduled summer 1995.	\$318,000
	Western Canal Irrigation District Siphon Project <i>(This is a new project not described in Central Valley Action Plan. This project may facilitate the removal of additional dams and the consolidation and elimination of diversions in Butte Creek.)</i>	Western Canal DFG USBR	Unfunded. Potential funding from Western Canal, USBR (Tracy Pumping Plant Agreement), Four Pumps, and CVPIA.	Preliminary feasibility study complete. Expanded feasibility study available in March 1995. Probable benefits for multi-species and human interests. May allow the removal of up to 5 dams and the consolidation of 5 unscreened diversions.	\$15,000,000

C-049821

Central Valley Action Plan: Status of Actions for Spring-run Chinook Salmon

C-049823

TABLE 2. Status of Spring-run Chinook Salmon Habitat Restoration Actions.

Priority	Anadromous Fish Habitat Restoration Action	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Install fish screens on 11 agricultural diversions in Butte Creek that range in capacity from 70 to 1,100 cfs. <i>(Implementation of the Western Canal Irrigation District Siphon Project may reduce the number of diversions requiring screening.)</i>	DFG	Multi-party funding of Parrott-Phelan Fish Screen--DFG, USFWS, Parrot Investment Company, M&T Ranch.	DFG is constructing the civil works. Screen to be installed and operating in late spring 1995. The foundation and earth work was completed by Parrott Ranch, M&T Ranch, and USFWS. <i>(Western Canal siphon project feasibility study will address consolidation and elimination of up to 5 unscreened diversions and removal of additional dams.)</i>	\$150,000
A-1	Provide flows from Whiskeytown Dam on Clear Creek to allow provide adequate spawning, incubation, rearing, and emigration habitat for salmon and steelhead.	USBR DFG	Allocated among project purposes per CVPIA Section 3406(b)(12).	Streamflow studies completed by State. Request to implement recommended flow regime in negotiation.	\$1,000,000 No Estimate
A-1	Restore spawning gravel in Clear Creek for salmon and steelhead.	None	Unfunded. May qualify for CVPIA funding.	DFG, DWR, USBR team assigned to develop CVPIA cost sharing agreement. Design work complete for one site.	No Estimate \$50,000
A-1	Repair or rebuild the water control structures in Big Chico Creek at Five Mile Dam and Lindo Channel following completion of the hydrologic study.	None	Unfunded.	City of Chico conducting feasibility study.	No Estimate

C - 0 4 9 8 2 2

Central Valley Action Plan: Status of Actions for Spring-run Chinook Salmon

TABLE 2. Status of Spring-run Chinook Salmon Habitat Restoration Actions.

Priority	Anadromous Fish Habitat Restoration Action	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Inspect and repair existing fish ladders in Big Chico Creek.	DFG	DFG.	Preliminary engineering complete. Construction scheduled for summer 1995.	\$10,000
A-1	In the absence of a water exchange program, install fish screens on the agricultural diversion in Battle Creek.	DFG	Unfunded.	Region 1 in discussions with PG&E and the USFWS regarding long-term project operations and potential changes related to FERC relicensing. This issue has been linked to possible mitigation for Iron Mountain Mine.	No Estimate
A-1	Improve fish passage at Eagle Canyon in Battle Creek.	DFG	Unfunded.	Action may not be necessary if sufficient flow is restored.	\$5,000
A-1	Screen all unscreened hydropower diversions in Battle Creek.	DFG	Unfunded.	Fishery agencies in discussions with PG&E regarding long-term project operations and necessary changes for fishery restoration via the FERC process.	\$900,000
A-2	Correct fish passage and flow fluctuation problems at Anderson-Cottonwood Irrigation District's diversion dam on the Sacramento River.	USBR	CVPIA. Requires 50% State cost share.	Interagency team developing a CVPIA Task Order for resolution of ACID dam. Operations study completed by District.	No Estimate \$10,000
A-2	Screen the larger diversions along the Sacramento River. (See below for individual actions.)	DFG	CVPIA. Requires 50% State cost share	DFG and CVPIA Unscreened Diversion active. (See below)	No Estimate

Central Valley Action Plan: Status Actions for Spring-run Chinook Salmon

C-049825

TABLE 2. Status of Spring-run Chinook Salmon Habitat Restoration Actions.

Priority	Anadromous Fish Habitat Restoration Action	Lead Agency	Project Funding	Project Status	Estimated Cost
	Completed and in-progress screening projects include: Reclamation District 108 Reclamation District 1004 Wilson-Newhall Ranch Maxwell Irrigation District Canell-1000 Acre Ranch Provident Irrigation District Princeton-Cordova Irrigation District Sutter-Mutual Irrigation District Pelgar-Mutual Water Agency	DFG USBR	CVPIA and non-federal funding (State or local).	Status: Studies in progress. Studies in progress. Completed April 1994. Completed March 1994. To be installed spring 1995. Feasibility study in progress. Feasibility study in progress. Feasibility study in progress. Completed April 1994.	\$100,000 \$50,000 \$26,000 \$1,500,000 No Estimate \$45,000 \$45,000 \$100,000 \$60,000
A-2	Purchase land adjacent to Clear Creek to preserve remaining sources of spawning gravel.	BLM DFG	Unfunded.	Land exchange in progress through efforts by BLM.	\$1,000,000
A-2	Manage agricultural return flows from Colusa Drain and Sutter Slough to control water temperatures in the Sacramento River, and install barriers to upstream migration.	None	Unfunded.	No action.	No Estimate
A-2	Improve spawning and rearing habitat in Butte Creek.	DFG	Unfunded.	No action.	\$200,000
B-3	Assist the City of Chico in eliminating siltation problems at One Mile Dam on Big Chico Creek.	City of Chico	Unfunded.	Feasibility study completed recommending a pipe bypass.	\$80,000 Revised estimate
C-1	Screen, as needed, any diversion on Cow Creek (each diversion < 5 cfs) that entrains juvenile salmon or steelhead.	None	Unfunded.	No action.	\$180,000
C-2	Fence riparian corridors to exclude livestock from Cow Creek.	None	Unfunded.	No action.	\$800,000
C-2	Renovate existing spawning gravel in Mill Creek.	None	Unfunded.	No action.	\$100,000

C-049824

Central Valley Action Plan: Status of Actions for Spring-run Chinook Salmon

C-049826

TABLE 2. Status of Spring-run Chinook Salmon Habitat Restoration Actions.

Priority	Anadromous Fish Habitat Restoration Action	Lead Agency	Project Funding	Project Status	Estimated Cost
C-2	Construct gravel detention structures in Mill Creek to provide new or additional spawning areas.	DFG	DFG.	Structures installed below Clough Dam, Phase I.	\$500,000
C-2	Restore spawning gravel in the North Fork of Battle Creek.	PG&E DFG	PG&E.	PG&E places gravel removed from their hydro structures into stream channels.	\$50,000
C-3	Restore spawning gravel in the lower reach of Deer Creek.	None	Unfunded.	No action.	\$100,000
C-3	Dredge behind Saeltzer Dam on Clear Creek to provide a sediment trap.	DFG	Proposition 99.	Feasibility and preliminary engineering completed by DWR.	\$25,000

C-049825

TABLE 3. Status of Administrative Actions Required for Spring-run Chinook Habitat Restoration.

Priority	Administrative Action to Improve Anadromous Fish Habitat	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Through negotiations, obtain instream flows for salmon and steelhead in the lower reach of Deer Creek.	DFG DWR	Four Pumps.	Water exchange project approved for funding by Four Pumps Fish advisory Committee. Estimated completion date July 1997.	\$1,600,000
A-1	Continue to provide recommendations to the USFS for developing land use policies to protect spring-run chinook salmon habitat in Mill Creek. <i>(Recommendations provided to landowners along Mill and Deer creeks.)</i>	DFG CVRWQCB local RCD	SWRCB Section 319 grants.	Watershed planning process instituted and local watershed groups formed on Mill and Deer creeks.	No Estimate
A-1	Obtain increased flow in Mill Creek to allow adult and juvenile salmon and steelhead unimpaired up- and downstream passage.	DFG	Four Pumps DFG.	Mill Creek water exchange program (phase I and II are complete). Water right acquires from Jones Orchard, Inc.	\$899,389
A-1	Prepare a multi-agency Comprehensive Resource Management Plan for Clear Creek to address excessive erosion in the watershed.	NRCS	NRCS and option 9 of Forest Plan.	CRMP formed and several public meetings held. Negotiations underway for implementing recommended flows.	\$10,000 \$200,000
A-1	Obtain increased streamflow below Whiskeytown Dam on Clear Creek to improve migration, spawning, and rearing habitat.	USBR	Allocated among CVP purposes.	Required by CVPIA. Negotiations underway for implementing recommended flows.	No Estimate
A-1	Prepare a salmon and steelhead management and habitat restoration plan for Butte Creek.	DFG	Unfunded.	Actions and efforts undertaken by Ad Hoc Spring-run Chinook Salmon Committee.	No Estimate

TABLE 3. Status of Administrative Actions Required for Spring-run Chinook Habitat Restoration.

Priority	Administrative Action to Improve Anadromous Fish Habitat	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Seek amendments to existing water rights and power licenses to provide additional Butte Creek flow for salmon and steelhead.	DFG	Unfunded.	Potential PG&E actions are under discussion. This could lead to modification of Desabla-Centerville Project and provide access to additional spawning and rearing habitat. Negotiations with M&T Ranch are beginning which could increase flows below Parrott-Phelan Dam.	No Estimate
A-1	Through the FERC and water rights processes, obtain increase releases from PG&E power plant diversions in Battle Creek to provide for anadromous fish.	DFG	Unfunded.	Discussions with PG&E are ongoing. Outside funding sources sought to assist in instituting flows.	No Estimate
A-1	Negotiate with the Los Molinos Mutual Water Company for additional flow in Antelope Creek for salmon and steelhead.	None	Unfunded.	No Action.	No Estimate
A-1	Establish a program to exchange Antelope Creek surface water for ground water with landowners with existing wells.	None	Unfunded.	No Action.	No Estimate
A-1	Evaluate the benefit of drilling new wells to establish a water exchange program with private landowners who divert Antelope Creek water.	None	Unfunded.	No Action.	No Estimate
A-1	Consider administrative or legal remedies to obtain streamflows in Antelope Creek to ensure restoration of habitat for salmon and steelhead.	DFG	Unfunded.	No Action.	No Estimate

TABLE 3. Status of Administrative Actions Required for Spring-run Chinook Habitat Restoration.

Priority	Administrative Action to Improve Anadromous Fish Habitat	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Prepare and implement a comprehensive plan to restore habitat in Battle Creek for winter- and spring-run chinook salmon and steelhead.	DFG USFWS	Iron Mountain Mine Settlement and CVPIA.	Region negotiating with PG&E, USFWS, NMFS, and others regarding possible Iron Mountain Mine settlement applications.	No Estimate
A-2	Prepare a watershed management and restoration plan for Big Chico Creek.	DFG DWR RWQCB Chico	EPA.	EPA has provided funding for a watershed analysis	\$50,000
B-1	Implement RWQCB waste discharge requirements for operation of the One Mile Recreation Area in Big Chico Creek.	Chico DFG RWQCB	Unfunded.	Feasibility study complete. Recommend installation of pipe bypass.	\$80,000
B-1	After installation of an effective water treatment system at Coleman National Fish Hatchery, allow fall-run salmon to migrate past the hatchery to spawn naturally in Battle Creek.	USFWS	CVPIA.	Coleman Hatchery development plan completed design. 25% of necessary treatment system completed.	\$15-20,000,000
B-3	Prepare a gravel management plan for Big Chico Creek.	DFG DWR Chico	Unfunded.	Agreement being negotiated between City of Chico, Butte County, and DFG.	No Estimate.
C-1	Establish a riparian corridor protection zone for Cow Creek.	County DFG Private Property Owners	Unfunded.	No Action.	No Estimate.

C-049828

TABLE 3. Status of Administrative Actions Required for Spring-run Chinook Habitat Restoration.

Priority	Administrative Action to Improve Anadromous Fish Habitat	Lead Agency	Project Funding	Project Status	Estimated Cost
C-1	Obtain 50 cfs for fish migration in Cow Creek through an agreement with private water right holders.	DFG Water Right Holders	Unfunded.	No Action.	No Estimate

C-049829

TABLE 4. Status of Evaluation Actions Required for Restoration of Spring-run Chinook Salmon Habitat.

Priority	Evaluation Action to Determine Habitat Needs for Anadromous Fish	Lead Agency	Project Funding	Project Status	Estimated Cost
A-1	Install an electronic fish counter on one of the diversion dams on Deer Creek.	DFG	DFG	Counter to be installed at Vina Dam and operated March through June.	\$10,000
A-1	Conduct an instream flow study on the lower reach of Deer Creek.	DFG	DFG.	Instream flow study to be conducted summer 1995 addressing rearing and migration flow requirements.	\$75,000
A-1	Conduct a stream flow study on Mill Creek.	DFG	DFG.	Study completed, final report on migration flow requirements available in March 1995.	\$25,000
A-1	Install a stage recorder to monitor flows in Mill Creek.	DWR	DWR.	Installed in 1994.	\$10,000
A-1	Conduct an instream flow study on Clear Creek.	DFG DWR	DFG DWR.	Completed Instream Flow Study and preliminary temperature studies.	\$1,000,000
A-1	Conduct a Butte Creek water quality study.	DFG DWR	Unfunded.	No action.	\$100,000
A-1	Complete the instream flow study on Battle Creek.	DFG	DFG.	Field studies completed, final report in preparation.	\$100,000
A-2	Evaluate fish passage problems throughout the Deer Creek drainage.	DFG	Unfunded.	No Action.	\$25,000
A-2	Monitor adult salmon and steelhead passage at Saeltzer Dam on Clear Creek.	DFG	DFG.	Spot observations conducted. Full implementation needed.	\$10,000

C-049830

TABLE 4. Status of Evaluation Actions Required for Restoration of Spring-run Chinook Salmon Habitat.

Priority	Evaluation Action to Determine Habitat Needs for Anadromous Fish	Lead Agency	Project Funding	Project Status	Estimated Cost
A-2	Monitor fish passage on Butte Creek.	DFG	Unfunded.	No action.	\$50,000
A-2	Conduct instream flow study on Butte Creek.	DFG	Unfunded.	No action.	\$150,000
A-2	Develop hydrologic model for Butte Creek.	DFG	Unfunded.	No action.	No Estimate
A-2	Monitor salmon and steelhead passage on Big Chico Creek.	DFG	Unfunded.	No action.	\$50,000
A-2	Investigate flow-temperature relationship in Mill Creek.	DFG	DFG.	Flow and temperature monitoring ongoing.	\$25,000
A-2	Evaluate existing spring-run chinook salmon and steelhead holding, spawning, and rearing habitat in Antelope Creek to identify opportunities for habitat restoration.	DFG	Unfunded.	No action.	No Estimate
A-2	Conduct a fish passage problem survey in lower Antelope Creek.	DFG	Unfunded.	No action.	\$15,000
A-2	Reestablish the abandoned USGS gauging station upstream of the existing agricultural diversion dam on Antelope Creek.	DWR USGS	Unfunded.	No action.	\$25,000
A-2	Conduct annual spring-run chinook salmon snorkel surveys in Antelope Creek.	DFG	DFG.	Completed in 1994	\$10,000
A-2	Continue to install and monitor thermographs in the headwaters of Antelope Creek to record summer water temperatures in spring-run chinook salmon holding area.	DFG	DFG.	No Action.	\$5,000

TABLE 4. Status of Evaluation Actions Required for Restoration of Spring-run Chinook Salmon Habitat.

Priority	Evaluation Action to Determine Habitat Needs for Anadromous Fish	Lead Agency	Project Funding	Project Status	Estimated Cost
A-2	Install and operate a thermograph and streamflow gauge near the mouth of Antelope Creek to determine flow-temperature relationships.	DFG	Unfunded.	No Action.	No Estimate
A-2	Conduct surveys in Antelope Creek for fall-run and late-fall-run chinook spawning habitat.	DFG	Unfunded.	No Action.	\$5,000
A-2	Reestablish the Upper Bidwell Park USGS streamflow gauge in Big Chico Creek.	DWR City of Chico	DWR.	Presently being installed.	\$25,000
A-2	Complete a sediment transport and hydrologic study for Big Chico Creek.	DWR DFG	Unfunded.	No Action.	\$100,000
A-2	Install and monitor thermographs in Big Chico Creek.	DFG	DFG.	Presently being operated at 3 sites.	\$10,000
B-2	Monitor and evaluate spawning gravel quality and quantity in Clear Creek.	DFG	DFG.	One stream reach evaluated and environmental documentation completed.	\$50,000
B-2	Conduct a temperature modeling study in Deer Creek below existing diversions.	DFG	DFG.	In progress.	\$20,000
B-2	Identify spawning gravel restoration sites in Big Chico Creek.	DFG	Unfunded.	No Action.	\$10,000
C-1	Conduct an instream flow study in Cow Creek to determine migration, spawning, and rearing needs for fall- and late-fall-run chinook salmon and steelhead.	DFG	Unfunded.	No Action.	No Estimate