

Draft CVPIA Fiscal Year 2010 Annual Work Plan

October 1, 2009

Program Title

Anadromous Fish Screen Program - CVPIA Section 3406 (b)(21)

Responsible Entities

Staff Name	Agency	Role
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Program Goals and Objectives for FY 2010

The major Anadromous Fish Screen Program (AFSP) goals are:

- (A) To protect juvenile anadromous fish including Chinook salmon, steelhead trout, and green and white sturgeon from entrainment at priority water diversions throughout the Central Valley and the Sacramento-San Joaquin Delta.
- (B) To assess the potential benefits of fish screening and determine the highest priority diversions for screening.
- (C) To improve the effectiveness and efficiency of fish screens.
- (D) To coordinate and collaborate with other agencies and entities involved in fish screening and to encourage the dissemination of information relating to fish screening.
- (E) To reduce the overall costs of fish screens (e.g., costs per cubic feet per second screened).

Specific objectives of the AFSP are to:

- (A) To provide funding and/or technical assistance for fish screen projects.
- (B) To conduct and assess fish entrainment monitoring at unscreened diversions.
- (C) To support and evaluate screen/diversion related research to help determine:
 - Critical factors resulting in fish losses at water diversions.
 - Potential lower cost options for minimizing fish losses at diversions such as the use of behavioral devices at some diversions rather than use of more expensive positive barrier screens.
 - Cost-effective improvements to fish screen design.
- (D) To conduct post-construction monitoring of fish screens to assure the effective operation of installed fish screens.

Section 3406(b)(21) of the Central Valley Project Improvement Act (CVPIA) requires the Secretary of the Interior to assist the State of California in developing and implementing measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin Rivers, their tributaries, the Sacramento-San Joaquin Delta, and Suisun Marsh. All AFSP projects also contribute to the primary goal stated in the Anadromous Fish Restoration Plan (AFRP), as defined under Section 3406(b)(1) of CVPIA, which requires the Department of the Interior to make all reasonable efforts to double natural production of anadromous fish in Central Valley streams.

The AFSP Program Description (January 1999) outlines the AFSP program purpose, scope, organization, and prioritization guidelines. The guidelines for prioritizing AFSP funded projects include consideration of biological benefits, size and location of the diversion, project cost, and availability of cost-share funding. In addition, current AFSP fish screening project priorities are coordinated with CALFED to support the goals and objectives of CALFED's Ecosystem Restoration Program (ERP).

In past years, the CALFED ERP Program has provided the majority of non-federal cost-share funds for the AFSP fish screen project participants. The CALFED funds contribute to the required 50 percent minimum non-federal cost share for AFSP funded fish screen projects. Pursuant to Section 3406(b)(21) of CVPIA, the AFSP can only provide up to 50% of the cost share of a fish screen project. Representatives of the CALFED ERP have indicated that future CALFED funding for fish screens will be reduced from historical levels. In the near term, CALFED is focusing its fish screen related efforts on planning activities, and support for obtaining fish entrainment monitoring data at unscreened diversions.

Status of the Program

Currently, there are approximately 750 unscreened agricultural diversions in the Sacramento River system, 950 in the San Joaquin River system, 2,500 in the Sacramento-San Joaquin Delta, and 360 in the Suisun Marsh basin. Since 1994, the AFSP has assisted irrigation districts and water companies with fish screening at 24 priority diversions ranging from 17 cubic feet/second (cfs) up to 960 cfs. Cumulatively, the AFSP has cost shared on fish screen projects resulting in the screening of over 4,500 cfs.

The AFSP provides assistance to diverters through two primary means. First, the AFSP Technical Team, comprised of experts from federal and State agencies, provides fish screen design review and technical guidance to the diverter and their consultants throughout a project. The AFSP may also provide funding support to diverters to install fish screens on their diversions.

The AFSP has provided significant funding and technical resources that are essential in implementing fish screen projects. Lack of adequate funding is often an impediment to diverters

in constructing a fish screen for their unscreened diversion(s). Fish screen projects are typically complex projects that are constructed in phases over several years. The key project phases are typically a feasibility study, preliminary design, final design, and construction. There are also significant permitting and environmental compliance requirements that must be met. Upon completion of the project, the diverter becomes the owner of the constructed facilities and is solely responsible for the operation and maintenance of the fish screen.

The AFSP is currently providing technical assistance (design, environmental, and/or permitting) for several large fish screen projects which have not yet secured full construction funding from federal and non-federal funding sources. These fish screen projects include Natomas Mutual, Meridian Farms, Patterson, RD 2035, Yuba City and Pleasant Grove-Verona. The AFSP has indicated to these project applicants that additional construction funding from the AFSP may not be available, and that any federal funding would be contingent on the applicant securing matching non-federal cost share funding.

FY 2009 Accomplishments

Accomplishments in FY 2009 included the following:

1. Continued to support the construction of the Meridian Farms Phase I Fish Screen Project that was initiated in 2008. This project will result in the screening of a 35 cfs diversion at the New Grimes diversion on the Sacramento River, and is expected to be completed in calendar year 2009. AFSP is currently providing oversight of construction activities for this Phase I fish screen project. This fish screen project protects out-migrating spring, fall, and winter-run Chinook salmon and Central Valley steelhead as well as resident game and non-game fish from entrainment. Design of a Phase II Fish Screen Project (130 cfs) has been completed but additional funding is needed in order to initiate construction. (Objective A)
2. Completed fish screen design and environmental compliance activities for the Natomas Mutual Water Fish Screen consolidation project located in Sacramento County. This project would consolidate five diversions on the Natomas Cross Canal and Sacramento River totaling 630 cfs into two screened diversions on the Sacramento River. (Objective A)
3. Continued to support fish screen design, environmental compliance, and permitting activities for the Reclamation District 2035 Fish Screen project located north of the City of Sacramento to screen a 400 cfs diversion on the Sacramento River. (Objective A)
4. Continued to provide technical and funding support for the Patterson Fish Screen to screen a 190 cfs diversion on the San Joaquin River. Partial construction funding was provided in 2009. (Objective A)
5. Continued to support fish screen design, environmental compliance and permitting activities for the City of Yuba City Fish Screen project in Yuba County for a 74 cfs

diversion on the Feather River. Partial construction funding was provided in 2009. (Objective A)

6. Participated in and supported CALFED ERP Fish Screen Forum workshops to enhance agency coordination on fish screen projects and share technical information pertaining to fish screening. (Objective A)
7. Continued implementation of a four-year screening and monitoring program in partnership with the Family Water Alliance and funded by AFSP and CALFED ERP. This program includes collection of fish loss data prior to installation of fish screens, in order to assess the biological benefits of fish screening and to help prioritize future fish screening efforts. The 2009 activities included fish entrainment monitoring at three first-year projects which will be monitored in 2009 and 2010 before being screened in 2010. (Objective B)
8. In November 2008, the AFSP issued a final study report, “Literature Search and Data Analysis of Fish Loss at Unscreened Diversions in California’s Central Valley”. The results of the literature search and data analysis will be used, in conjunction with field monitoring results, to help set AFSP fish screen priorities. (Objectives B and C)
9. In December 2008, the AFSP issued a final study report, “Evaluation of Unscreened Diversions 2007-2008”, that evaluated fish losses at unscreened diversions at RD 108 and Feather Water District. (Objective B)
10. In December 2008, the AFSP issued a final study report (and accompanying database), “Surveys of Water Diversions in the Sacramento River – 2008”, resulting from a 2008 survey of Sacramento River diversions using the latest technologies to measure bathymetry, hydraulic, physical, and biological characteristics at water diversions between Red Bluff (Tehama County) and Verona (Sutter County). This information will improve understanding of which diversions are the most important to screen by allowing correlation of site-specific characteristics to fish entrainment data from past and future monitoring efforts. (Objective C)
11. Completed post-construction hydraulic tests at Sutter Mutual and RD 108 (Poundstone) Fish Screens. (Objective D)

Table 1. FY2010 Tasks, Costs, Schedule and Deliverables

Task or Subtask Number	Name of Activity	FTE	Description of Activity	Completion Date	Restoration Fund Anticipated	Water and Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.1	Program Management							
1.1.1		1	U.S. Fish and Wildlife Service; Provides leadership and overall management of the Anadromous fish Screen Program (AFSP), including oversight of the AFSP Technical Team.	9/30/2010	\$210,000			\$210,000
	<u>Subtotal Costs</u>	1			\$210,000	\$0	\$0	\$210,000
1.2	Program Support							
1.2.1		0.3	Reclamation, MP-400; Co-manages AFSP including oversight of program budget, contracts and environmental compliance.	9/30/2010	\$61,000			\$61,000
1.2.2		1	Reclamation, MP-400; Provides overall program coordination including day-to-day implementation of program budget and contracts.	9/30/2010	\$175,000			\$175,000
1.2.3		0.25	U.S. Fish and Wildlife Service, Provides management oversight of program activities.	9/30/2010	\$53,000			\$53,000
1.2.4		0.08	Regional contracting, budget and finance support, U.S. Fish and Wildlife Service.	9/30/2010	\$15,000			\$15,000
	<u>Subtotal Costs</u>	1.63			\$304,000	\$0	\$0	\$304,000
1.3	Technical Support							
1.3.1		1	National Marine Fisheries Service (NMFS); Provides engineering and environmental support for review and oversight of fish screen projects. Includes representing NMFS on the AFSP Technical Team, performing necessary field and technical work involving pre-construction site evaluation, construction oversight for contract compliance and quality control, performance tests, and post-construction evaluation of screened diversions.	9/30/2010	\$210,000			\$210,000
1.3.2		0.12	Reclamation, MP-200, Provides engineering support and review for design and construction of fish screen projects.	9/30/2010	\$17,000			\$17,000
1.3.3		0.5	Reclamation, MP-400; Provides environmental compliance support for fish screen projects.	9/30/2010	\$88,000			\$88,000
1.3.4		0.25	Reclamation, MP-400; Provides environmental compliance support for fish screen projects.	9/30/2010	\$44,000			\$44,000
1.3.5		0.1	Reclamation, MP-400; Provides environmental compliance support for fish screen projects.	9/30/2010	\$18,000			\$18,000
1.3.6		0.05	MP-150, Reclamation, Provides environmental compliance and modeling support for fish screen projects.	9/30/2010	\$7,000			\$7,000
1.3.7		0.08	MP-3800, Reclamation, Provides contracting support for fish screen projects.	9/30/2010	\$10,000			\$10,000

Task or Subtask Number	Name of Activity	FTE	Description of Activity	Completion Date	Restoration Fund Anticipated	Water and Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.3.8		0.08	Reclamation, MP-400, Provides engineering support and review for design and construction of fish screen projects.	9/30/2010	\$10,000			\$10,000
1.3.9		0.15	U.S. Fish and Wildlife Service, Provides program management, environmental compliance and monitoring support.	9/30/2010	\$32,000			\$32,000
	Subtotal Costs	2.33			\$436,000	\$0	\$0	\$436,000
1.5	Evaluations, Studies, Investigations, Research							
1.5.1			Fish Screen/Barrier Evaluations and Studies; Development and testing of non-positive barrier fish screens including literature review of non-positive fish screens for purposes of providing less expensive screening alternatives for certain sized water diversions. Value planning and engineering studies and design support for AFSP fish screen projects. Work to be performed by Reclamation's Technical Service Center in Denver. [Supports Action A6 (Mainstem Sacramento River) and Evaluation E11 (Central Valley Wide) of the AFRP Plan.]	9/30/2010	\$150,000	\$0	\$0	\$150,000
	Subtotal Costs		Funded Needs		\$150,000	\$0	\$0	\$150,000
	Total Costs	4.96			\$1,100,000	\$0	\$0	\$1,100,000
	Reclamation Total	3.48						\$790,000
	Service Total	1.48						\$310,000
	Unfunded Needs							
1.9.1	Environmental Compliance		M & T Ranch Fish Screen¹; Provides cost-share funding for environmental compliance work for a fish screen on the Sacramento River. Work to be performed by M & T Ranch and their subcontractors with the funding agreement managed by USBR regional. [Supports Action A1 (Big Chico Creek) of the AFRP Plan.] The original project to relocate the M&T Ranch diversion from Big Chico Creek and screen it on the Sacramento River was implemented. However, the current screened diversion has a limited life span due to unanticipated sedimentation issues associated with river meander on this reach of the Sacramento River. This project was assigned a high priority because relocating the diversion and associated water rights from Big Chico Creek to the Sacramento River resulted in an additional 40 cfs in the upper reaches of Butte Creek providing a significant benefit to spring-run Chinook salmon production. Potential alternatives could include fish screen relocation, periodic dredging and/or installation of spur dikes.	12/31/2010	\$250,000	\$0	\$1,350,000	\$1,600,000

Task or Subtask Number	Name of Activity	FTE	Description of Activity	Completion Date	Restoration Fund Anticipated	Water and Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.10.1	Design		RD 2035 ² ; Additional cost share funding to complete design and environmental work for a project to screen a 400 cfs diversion on the Sacramento River. Work performed by RD 2035 and subcontractors with the funding agreement managed by USBR Regional. [Supports Action A6 (Mainstem Sacramento River) of the AFRP Plan.]	12/31/2010	\$1,000,000	\$0	\$500,000	\$2,000,000
1.4.1	Restoration (Construction)		Yuba City Fish Screen ³ ; Provides cost-share funding for a fish screen on a replacement diversion that Yuba City has on the Feather River just upstream of the confluence with the Yuba River. Work performed by Yuba City and subcontractors with funding agreement managed by USBR regional. [Supports Action A6 (Mainstem Sacramento River) of the AFRP Plan.]	12/31/2010	\$250,000	\$0	\$4,030,000	\$5,180,000
	Total Unfunded Need				\$1,500,000	\$0	\$5,880,000	\$8,780,000
Footnotes								
1	Preliminary cost estimate is \$1,600,000. Actual costs may be substantially less depending on number and complexity of alternatives analyzed in the environmental documents.							
2	AFSP previously provided \$500,000 for design. Total preliminary cost estimate is for \$2,000,000. Actual costs may be less.							
3	AFSP previously provided \$900,000 for construction.							

Table 2. Budget Breakout

Task	Agency	FTE	LABOR		CONTRACTS		USBR Only Misc. Costs	Total Costs
			Direct Salary and Benefits Costs ^{1/}	FWS Only Overhead Assess: 22% of Direct Salary and Benefits Costs ^{2/}	Contract, Grant, and Agreement Costs	FWS Only Overhead Assess: 6% Contract Costs ^{2/}		
1.1 Program Management	FWS	1	\$172,131	\$37,869	\$0	\$0		\$210,000
	USBR		\$0		\$0		\$0	\$0
1.2 Program Support	FWS	0.33	\$55,738	\$12,262	\$0	\$0		\$68,000
	USBR	1.3	\$236,000		\$0		\$0	\$236,000
1.3 Technical Support	FWS	0.15	\$26,230	\$5,770	\$0	\$0		\$32,000
	USBR	1.18	\$194,000		\$0		\$0	\$194,000
	NMFS (USBR Contract)	1	\$0		\$210,000		\$0	\$210,000
1.5 Evaluations, Studies, Investigations, Research	FWS		\$0	\$0	\$0	\$0		\$0
	USBR		\$0		\$150,000		\$0	\$150,000
Administrative Total - FWS			\$254,099	\$55,901		\$0		\$310,000
Contracts, Grants and Agreements Total - FWS					\$0			\$0
FWS Total Costs		1.48	\$254,099	\$55,901	\$0	\$0		\$310,000
Administrative Total - USBR			\$430,000				\$0	\$430,000
Contracts, Grants and Agreements Total - USBR					\$360,000			\$360,000
USBR Total Costs		3.48	\$430,000		\$360,000		\$0	\$790,000
TOTAL ALL		4.96	\$684,099	\$55,901	\$360,000	\$0	\$0	\$1,100,000

^{1/} For FWS only: The FWS develops a bio-rate which is the combination of both the salary/benefit and related administrative costs. The FWS simple definition reads, "It is an average \$\$ rate that is developed and used for estimating project costs. It incorporates a biologists' salary and benefits, supervisory, clerical and biologist support costs and all other office operating costs related to completing project tasks.

^{2/} FWS assesses an O/H Burden charge of 6% on all contracts/agreements related to budget object codes starting with 25, 41, and 32, and a charge of 22% on costs under all other budget object codes.

Table 3. Three Year Budget Plan FY 2011 – 2013

(\$ amounts in thousands)

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
2011	Approximately \$997 thousand for Program Management (Tasks 1.1, 1.2 and 1.3) and remainder for Restoration Actions (Task 1.4). See narrative for a description of anticipated restoration actions.	5,240	10,000
2012	Approximately \$1.05 million for Program Management (Tasks 1.1, 1.2 and 1.3) and remainder for Restoration Actions (Task 1.4). See narrative for a description of anticipated restoration actions.	5,240	10,000
2013	Approximately \$1.1 million for Program Management (Tasks 1.1, 1.2 and 1.3) and remainder for Restoration Actions (Task 1.4). See narrative for a description of anticipated restoration actions.	5,240	10,000

Note: The FY 2011 – 2013 Budget Plan provides estimates of capability only. The W&RR Appropriations are displayed as amounts that might be reasonably appropriated each year. These figures do not reflect the future Congressional Appropriations process. All of these estimates will be adjusted annually as RF collections are realized.

Restoration Actions - Task 1.4 - Program capabilities as stated in the 3-Year Budget Plan table are those funds that could be expended on an annual basis for construction of fish screen projects including screens for diversions operated by Natomas Mutual, Meridian Farms, Reclamation District 2035, Patterson, and Pleasant-Grove Verona Water Company, or other fish screen projects. The identified fish screen projects are currently in the planning phase and are anticipated to be ready for construction during the 2011 to 2013 period. These fish screen projects protect out-migrating spring, fall, and winter-run Chinook salmon and Central Valley steelhead as well as resident game and non-game fish from entrainment. Determination of which fish screen project(s) to fund annually would be made based on the most currently available information. Factors to be considered include: availability of non-federal cost share funding, degree of biological benefits, and project costs relative to biological benefits.