

# Draft CVPIA Fiscal Year 2013 Annual Work Plan

July 30, 2012

## **Program Title:**

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

## **Responsible Entities:**

Staff Name	Agency	Role
Dan Meier	USFWS	Lead
Tim Rust	Reclamation	Co-Lead
Fred Jurick	CDFG	State Partner

The U. S. Fish and Wildlife Service (USFWS) and the Bureau of Reclamation (Reclamation) jointly implement the Anadromous Fish Screen Program (AFSP), with the California Department of Fish and Game (CDFG) acting as the lead state partner. The AFSP implements Section 3406 (b) (21) which directs and authorizes the Secretary of the Interior, in consultation with other State and Federal agencies, Indian tribes, and affected interests, to:

*assist the State of California in efforts to develop and implement 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 the Suisun Marsh. Such measures shall include but shall not be limited to construction of screens on unscreened diversions, rehabilitation of existing screens, replacement of existing non-functioning screens, and relocation of diversions to less fishery-sensitive areas. The Secretary's share of costs associated with activities authorized under this paragraph shall not exceed 50 percent of the total cost of any such activity.*

## **Program Goals and Objectives for FY 2013**

The AFSP goals are:

- (A) To assess fish screen benefits and to prioritize diversions for screening.
- (B) To improve fish screen effectiveness and efficiency.
- (C) To coordinate and collaborate with other agencies and entities involved in fish screening.
- (D) To develop and share fish screen information.
- (E) To reduce fish screen project costs.

AFSP objectives are to:

- (A) Provide funding and/or technical assistance for fish screen projects.
- (B) Conduct and assess fish entrainment monitoring at unscreened diversions.
- (C) Coordinate with the Anadromous Fish Restoration Program (AFRP) to assess fish screen project priorities consistent with the Final Restoration Plan for the AFRP.
- (D) Support and evaluate screen/diversion related research to help determine:
  - Fish screen design elements that may contribute to predation of juvenile anadromous fish at existing fish screens, and potential design changes to reduce any effects.
  - Lower cost options for minimizing fish losses at diversions such as the use of behavioral devices at small diversions rather than more expensive positive barrier screens.
  - Cost-effective fish screen design improvements.
- (E) Conduct post-construction monitoring of fish screens

The AFSP's key performance goal is to assist the State of California in developing and implementing measures to avoid juvenile anadromous fish losses resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin rivers, their tributaries, the Delta, and the Suisun Marsh. This goal is measured in the number of fish screens constructed, and the amount of water screened (in cfs), with a target of screening the priority unscreened diversions on prescribed streams. In this effort, the AFSP is also closely coordinating with the AFRP to identify the priority diversions to be screened consistent with the required fish screen actions identified in the AFPR Final Restoration Plan.

The AFSP provides up to 50% of a fish screen project's cost, pursuant to CVPIA Section 3406(b)(21). The remaining amount (50% or greater) must be from state and/or local contributions. In past years, the State of California through the Ecosystem Restoration Program (ERP) has provided the majority of non-federal cost-share funds for AFSP fish screen projects.

The AFSP "Program Description" (January 1999) outlines the AFSP's 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 cost-share funding availability. In addition, the AFSP's "Guidelines for Developing Post-Construction Evaluation & Assessment Plans, and Operation & Maintenance Plans" (March 1999) provides guidance for: a) developing and implementing a study plan for fish screen post-construction hydraulic evaluations, and b) developing a fish screen operations and maintenance plan.

### ***Status of the Program***

Since 1994, the AFSP has screened 33 high priority diversions ranging from 11 cubic feet/second (cfs) up to 960 cfs. Cumulatively, the AFSP has screened over 4,800 cfs in the Central Valley of California and the Sacramento-San Joaquin Delta. The AFSP is providing technical assistance (feasibility, design, environmental, and/or permitting) to several ongoing large fish screen projects. These fish screen projects include Reclamation District 2035 (400

cfs), Natomas Mutual Water Company (Phase 2 and 3) (210 cfs), Meridian Farms Water Company (Phase 2) (135 cfs) and West Stanislaus Irrigation District (347 cfs).

The AFSP provides assistance with fish screens to agricultural and M&I water diverters through two primary means. First, the AFSP Technical Team, comprised of federal and state agencies' experts, provides fish screen design review and technical guidance to the diverters and their consultants throughout a project. The AFSP may also provide funding support to diverters to install fish screens on their diversions. The diverter is the owner of the constructed facilities and is solely responsible for the operation and maintenance of the fish screen.

### ***Adaptive Management***

The AFSP has been using adaptive management to assess the need for additional fish screening on the Sacramento River. The larger diversions over 150 cfs in size on the mainstem Sacramento River have already been screened or are currently proposed for screening. However, there are many small and moderate sized unscreened diversions (up to 150 cfs) on the Sacramento River. Since there is a general lack of data on the potential effects of these diversions on existing fish populations, the AFSP and ERP initiated an effort in 2009 to screen 12 diversions (ranging from 9 to 154 cfs) on the Sacramento River over a four year period, while obtaining critical fish entrainment monitoring data at each diversion site.

Pre-project fish entrainment monitoring data are being collected at each diversion site for two diversion seasons (typically April through September each year) prior to fish screen installation. The fish screens are installed at the end of the second year of fish entrainment monitoring. At the end of 2011, monitoring had been completed at 7 diversion sites and fish screens installed at each of these sites.

This monitoring will provide important information on the effect of site-specific physical, hydraulic, and habitat characteristics on fish entrainment. The information obtained will lead to a better understanding of the fish screen benefits, and help prioritize diversions for future screening. At this time, the fish entrainment monitoring results collected in 2009 through 2012 have not been fully analyzed to assess the empirical evidence regarding the primary factors affecting fish entrainment. However, it is anticipated that study results, to be finalized in the spring of 2013, will lead to a significantly improved understanding about fish entrainment factors, and will help the AFSP and ERP prioritize future fish screening efforts on the Sacramento River.

Table 1. FY2013 Proposed Activities and Costs

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

	3406 (b)(21) Requested Funding for Fiscal Year 2013				
	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
<b>Total Funding</b>	\$3,200,000	\$0	\$0	\$0	\$3,200,000
<b>Reclamation Service</b>	\$2,891,974	\$0			\$2,891,974
<b>CA DFG</b>	\$308,026	\$0			\$308,026
<b>CA DWR</b>			\$0	\$0	\$0
			\$0	\$0	\$0

1.1 Program Management												
AWP Activity Number	Activity Name	Activity Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (b)(21) Requested Funding for Fiscal Year 2013					
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
1.1.1	Program Lead	Provide leadership and overall management of the Anadromous Fish Screen Program (AFSP), including oversight of the AFSP Technical Team. (FRFR48330832SP0)	FWS	1.00			\$218,663					\$218,663
1.1.2	Program Co-Lead	Co-Manage the AFSP including oversight of program budget, contracts and environmental compliance. (H30-0214-2040-000-00-0-0)	BOR	0.40			\$78,619					\$78,619
							Sub-Total for Program Management, FY2013					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
<b>Subtotal Funding</b>							\$297,282	\$0	\$0	\$0	\$297,282	
<b>Reclamation Service</b>							\$78,619	\$0			\$78,619	
<b>CA DFG</b>							\$218,663	\$0			\$218,663	
<b>CA DWR</b>									\$0	\$0	\$0	
									\$0	\$0	\$0	

1.2		Program Support										
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (b)(21) Requested Funding for Fiscal Year 2013					
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
1.2.1	Program Coordination and Support	Provide day-to-day program coordination and support including program budget and contracting activities. (H30-0214-2040-000-00-0-0)	BOR	1.00			\$159,336					\$159,336
1.2.2	BOR Supervisory Support	Provide division management oversight of program activities. (H30-0214-2040-000-00-0-0)	BOR	0.19			\$36,109					\$36,109
1.2.3	BOR Administrative Support	Provide division administrative support for program activities. (H30-0214-2040-000-00-0-0)	BOR	0.19			\$21,850					\$21,850
1.2.4	FWS Supervision Support	Provide coordination support for CVPIA planning, implementation and reporting requirements. (FRFR48330832SP0)	FWS	0.25			\$54,666					\$54,666
1.2.5	FWS Regional Program Administration	Provide regional management and administration oversight of program activities. (FRFR48330832SP0)	FWS	0.04			\$8,318					\$8,318
1.2.6	FWS Financial Support	Provide acquisition, budget and finance services for program activities. (FRFR48330832SP0)	FWS	0.03			\$6,379					\$6,379
							<b>Sub-Total for Program Support, FY2013</b>					
							<b>Restoration Fund</b>	<b>Water and Related Resources</b>	<b>State Cash</b>	<b>State In-Kind</b>	<b>Total All Sources</b>	
							<i>Subtotal Funding</i>	\$286,658	\$0	\$0	\$0	\$286,658
							<i>Reclamation</i>	\$217,295	\$0			\$217,295
							<i>Service</i>	\$69,363	\$0			\$69,363
							<i>CA DFG</i>			\$0	\$0	\$0
							<i>CA DWR</i>			\$0	\$0	\$0

1.3 Technical Support											
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (b)(21) Requested Funding for Fiscal Year 2013				
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
1.3.1	NMFS Technical Support	Provide NMFS technical and engineering support for AFSP activities in FY 2014 including: review of project feasibility, design and construction activities ; performing necessary field work for pre-construction site evaluations, construction inspections, and post-construction hydraulic evaluations. In FY2014, NMFS staff will provide 0.75 FTE to support the AFSP under this AFSP work plan, and 0.25 FTE to support the Anadromous Fish Restoration Program (AFRP) under the AFRP work plan. Work to be performed by NMFS Santa Rosa Office staff with the interagency funding agreement managed by USBR Regional. (H30-0214-2040-000-00-0)	BOR	0.00			\$168,669				\$168,669
1.3.2	Environmental Compliance Services	Provide primary program support for NEPA/CEQA and ESA compliance, and permitting for fish screens at RD 2035, Family Water Alliance, Meridian Farms - Phase 2, Feather WD, South Sutter WD, Colusa-Compton ID, Tisdale ID, West Stanislaus ID, Pritchard Lake and for field testing of fish deterring device @ Sycamore WD. (H30-0214-2040-000-00-0)	BOR	0.70			\$113,688				\$113,688
1.3.3	Engineering Services	Provide primary BOR engineering services including review of engineering drawings and specifications for fish screens at Natomas Mutual WD, RD 2035, West Stanislaus ID and Family Water Alliance. (H30-0214-2040-000-00-0)	BOR	0.40			\$72,542				\$72,542
1.3.4	Environmental Compliance & Cultural Support	Provide primary support for cultural resources, and additional support for NEPA/CEQA and ESA compliance for fish screens and field testing of fish deterring device. (H30-0214-2040-000-00-0)	BOR	0.06			\$5,000				\$5,000
1.3.5	Engineering Support	Provide additional BOR engineering support for fish screens and field testing of fish deterring device. (H30-0214-2040-000-00-0)	BOR	0.03			\$2,900				\$2,900
1.3.6	Public Information Services	Provide public information distribution and noticing. (H30-0214-2040-000-00-0)	BOR	0.02			\$2,000				\$2,000
1.3.7	Acquisition Services	Provide primary acquisition services to fund fish screen projects and related research. (H30-0214-2040-000-00-0)	BOR	0.13			\$10,000				\$10,000
1.3.8	Fisheries Modeling for Field Test of Fish Deterring Device	Provide a Biological Assessment of the potential take of Federal Endangered Species Act (ESA) listed fish due to proposed fish entrainment monitoring associated with work plan activity 4.2.1. (Field Test of Fish Deterring Device). This information supports a ESA Section 10 request to NMFS for the fish entrainment monitoring. (H30-0214-2040-000-00-0)	BOR	0.02			\$2,000				\$2,000

1.3 Technical Support												
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (b)(21) Requested Funding for Fiscal Year 2013					
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
1.3.9	Environmental Compliance and Research Support	Provide primary program support for NEPA/CEQA and ESA compliance, and provide research support for fish screen hydraulic tests and fish predation assessments. The fish predation assessments are associated with work plan activity 4.2.2 (Predation Studies at Existing Fish Screens). (FRFR48330832SP0)	FWS	0.09			\$20,000					\$20,000
							<b>Sub-Total for Technical Support, FY2013</b>					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
							<i>Subtotal Funding</i>	\$396,799	\$0	\$0	\$0	\$396,799
							<i>Reclamation Service</i>	\$376,799	\$0			\$376,799
							<i>CA DFG</i>	\$20,000	\$0			\$20,000
									\$0	\$0	\$0	
									\$0	\$0	\$0	

2.7 Construction/Implementation												
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (b)(21) Requested Funding for Fiscal Year 2013					
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
2.7.1	RD 2035/Woodland Davis Clean Water Agency (WDCWA) Joint Intake and Fish Screen	Provide construction funding to RD 2035 for a state-of-the art fish screen at an existing unscreened 400 cfs diversion on the Sacramento River owned by RD 2035. The new intake would also accommodate WDCWA pumping facilities to be separately funded by the WDCWA. Work to be performed by RD 2035 and subcontractors with the funding agreement managed by USBR Regional. The estimated total project construction cost of the RD 2035 facilities is \$35,174,160 with \$16,707,968 expected to be provided by AFSP and \$1,758,744 to be provided by the WDCWA. The remaining cost share funds would be provided through a local cost share and/or by the State of California. Construction is expected to be complete in 2014 or 2015.(H30-0214-2040-000-00-0-0)	BOR	0.00	Assist CA in screening unscreened diversions	Funding towards project construction.	\$1,984,261					\$1,984,261
							<b>Sub-Total for Construction/Implementation, FY2013</b>					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
							<i>Subtotal Funding</i>	\$1,984,261	\$0	\$0	\$0	\$1,984,261
							<i>Reclamation Service</i>	\$1,984,261	\$0			\$1,984,261
							<i>CA DFG</i>	\$0	\$0			\$0
									\$0	\$0	\$0	
									\$0	\$0	\$0	

4.2		Research (Evaluations, Studies, Investigations)										
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (b)(21) Requested Funding for Fiscal Year 2013					
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
4.2.1	Field Test of Fish Deterring Device	Field test a fish deterring device--a widened box-type with louvers--during portions of the 2013 and 2014 irrigation seasons, at an existing agricultural diversion site (Sycamore Mutual) on the Sacramento River to determine its effectiveness at reducing fish entrainment. The AFSP is interested in evaluating the effectiveness of a fish deterring device to determine if it could provide a lower cost option for minimizing fish losses at certain unscreened diversions rather than more expensive positive barrier screens. Work to be performed by Family Water Alliance (FWA) and subcontractors with the funding agreement managed by USBR Regional. (H30-0214-2040-000-00-0-0)	BOR	0.00			\$185,000					\$185,000
4.2.2	Predation Studies at Existing Fish Screens	NMFS to provide technological and biological expertise to assist in evaluation of potential predation associated with existing Central Valley fish screens. Assistance may involve use of sonar technology, fish tagging and tracking, and report writing. Work to be performed by the NMFS Science Center (Santa Cruz) with the funding agreement managed by USBR Regional. (H30-0214-2040-000-00-0-0)	BOR	0.00			\$50,000					\$50,000
							<b>-Total for Research (Evaluations, Studies, Investigations), FY2</b>					
							<b>Restoration Fund</b>	<b>Water and Related Resources</b>	<b>State Cash</b>	<b>State In-Kind</b>	<b>Total All Sources</b>	
							<i>Subtotal Funding</i>	\$235,000	\$0	\$0	\$0	\$235,000
							<i>Reclamation</i>	\$235,000	\$0			\$235,000
							<i>Service</i>	\$0	\$0			\$0
							<i>CA DFG</i>			\$0	\$0	\$0
							<i>CA DWR</i>			\$0	\$0	\$0



Table 2 – Intentionally left blank