Draft CVPIA Fiscal Year 2011 Annual Work Plan

January 31, 2011

Program Title

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

Responsible Entities

Staff Name	Agency	Role
Dan Meier	USFWS	Lead
Tim Rust	USBR	Co-Lead

Program Goals and Objectives for FY 2011

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 .

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. Typically CALFED ERP funds are provided through the California Department of Fish and Game (DFG). 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 likely be reduced from historical levels. In the near term, CALFED is focusing its fish screen related efforts on completing on-going fish screens projects and supporting fish entrainment monitoring 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, 2,300 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 29 diversions ranging from 11 cubic feet/second (cfs) up to 960 cfs. Cumulatively, the AFSP has cost shared on fish screen projects resulting in the screening of over 4,800 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 (Phase II and III), Meridian Farms (Phase II), RD 2035, Yuba City and Pleasant Grove-Verona. The AFSP has indicated to these project applicants that 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 2010 Accomplishments

Accomplishments in FY 2010 included the following:

1. Constructed three cylindrical fish screens at the following diversions: Sutter Mutual State Ranch (154 cfs), Davis Ranches Site #2 (65 cfs) and River Garden Farms at Missouri Bend (32 cfs). These fish screens were constructed as part of an on-going four-year (2009-2012) fish 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 2010 activities included fish entrainment monitoring at seven diversion sites, in addition to screening three diversion sites. (Objectives A and B)
2. Installed a cone screen (11 cfs) at the Lake California diversion on the Sacramento River. This fish screen replaced an old fish screen that was deemed inadequate to protect juvenile salmonids and which did not meet current fish screen design criteria. 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. Cost share partners for this fish screen included DFG and the National Fish Passage Program. (Objective A)
3. Initiated construction of the Phase I Natomas Mutual Fish Screen Project for a screened diversion (389 cfs) on the Sacramento River that replaces two existing diversions on the Natomas Cross Canal. The constructed fish screen will be a state-of-the-art vertical flat plate screen that meets NMFS and DFG fish screening criteria. This project also results in the removal of an anadromous fish migration barrier (seasonal diversion dam) on the Natomas Cross Canal. (Objective A)
4. Initiated construction of the Patterson Fish Screen consisting of a 195 cfs capacity vertical flat plate fish screen on the San Joaquin River. This fish screen protects out-migrating Chinook salmon and Central Valley steelhead as well as resident game and non-game fish from entrainment. (Objective A)

5. 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)

6. 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. (Objective A)

7. Initiated a two year (2010-2011) hydraulics and fish behavioral study at the U.C. Davis J. Amorocho Hydraulics Laboratory that includes: 1) characterizing flow fields associated with unscreened water diversions, and 2) evaluating and quantifying fish behavioral responses and entrainment for juvenile Chinook salmon for a range of diversion sizes and configurations, and flow conditions, and with application of behavioral "screening" devices. The purpose of the study is to identify critical factors resulting in fish losses at water diversions, and to identify potential lower cost options for minimizing fish losses at smaller diversions such as the use of behavioral devices at some diversions rather than use of more expensive positive barrier screens. (Objective C)

Table 1. FY 2011 Activities and Costs

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	NMFS OCAP RPA#	Performance Metric	Performance Target	Complete this FY? Y/N	Total Project Cost	FY2011 Anticipated Funding			
									Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
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.	I.5	Contributes to #of structural actions for CVPIA Program			$218,663	$218,663	$0	$0	$218,663
						Subtotal Funding		$218,663	$218,663	$0	$0	$218,663
						Reclamation		$0	$0	$0	$0	$0
						Service		$218,663	$218,663	$0	$0	$218,663
						Other		$0	$0	$0	$0	$0
1.2	**Program Support**											
1.2.1		0.3	Reclamation, MP-400; Co-manages AFSP including oversight of program budget, contracts and environmental compliance.	I.5				$64,000	$64,000	$0	$0	$64,000
1.2.2		1	Debra Lindsay, Reclamation, MP-400; Provides overall program coordination including day-to-day implementation of program budget and contracts.	I.5				$184,000	$184,000	$0	$0	$184,000
1.2.3		0.25	U.S. Fish and Wildlife Service, Provides management oversight of program activities.	I.5				$54,667	$54,667	$0	$0	$54,667
1.2.4		0.009	Region 8 Management/Administration, U. S. Fish and Wildlife Service (ARD, Fisheries program manager, and support staff). [See Unfunding Needs Section 1.16.1) for additional Management & Administration costs.]	I.5				$1,976	$1,976	$0	$0	$1,976
1.2.5		0.027	Regional contracting, budget and finance support, U.S. Fish and Wildlife Service, Jennifer Stephens.	I.5				$5,988	$5,988	$0	$0	$5,988
						Subtotal Funding		$310,631	$310,631	$0	$0	$310,631
						Reclamation		$248,000	$248,000	$0	$0	$248,000
						Service		$62,631	$62,631	$0	$0	$62,631
						Other		$0	$0	$0	$0	$0
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.	I.5				$233,000	$233,000	$0	$0	$233,000

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									Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
1.3	**Technical Support (continued)**											
1.3.2		**0.08**	Reclamation, MP-200, Provides engineering support and review for design and construction of fish screen projects.	I.5				$13,000	$13,000	$0	$0	$13,000
1.3.3		**0.3**	Reclamation, MP-400; Provides environmental compliance support for fish screen projects.	I.5				$55,000	$55,000	$0	$0	$55,000
1.3.4		**0.3**	Reclamation, MP-400; Provides environmental compliance support for fish screen projects.	I.5				$55,000	$55,000	$0	$0	$55,000
1.3.5		**0.03**	MP-150, Reclamation; Provides environmental compliance and modeling support for fish screen projects.	I.5				$3,100	$3,100	$0	$0	$3,100
1.3.6		**0.08**	MP-3800, Reclamation; Provides contracting support for fish screen projects.	I.5				$10,000	$10,000	$0	$0	$10,000
1.3.7		**0.091**	U.S. Fish and Wildlife Service: Provides program management, environmental compliance and monitoring support.	I.5				$20,000	$20,000	$0	$0	$20,000
						Subtotal Funding		$389,100	$389,100	$0	$0	$389,100
						Reclamation		$369,100	$369,100	$0	$0	$369,100
						Service		$20,000	$20,000	$0	$0	$20,000
						Other		$0	$0	$0	$0	$0
1.5	**Evaluations, Studies, Investigations, Research**											
1.5.1			**Fish Screen/Barrier Evaluations and Studies:** Development and testing of non-positive barrier "fish screens" for purposes of providing less expensive screening alternatives for certain sized water diversions. Work to be performed by Reclamation's Technical Service Center in Denver with funding agreement managed by USBR Regional. [Supports Action A6 (Mainstem Sacramento River) and Evaluation E11 (Central Valley Wide) of the AFRP Plan.]	I.5			Y	$100,000	$100,000	$0	$0	$100,000
						Subtotal Funding		$100,000	$100,000	$0	$0	$100,000
						Reclamation		$100,000	$100,000	$0	$0	$100,000
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	NMFS OCAP RPA#	Performance Metric	Performance Target	Complete this FY? Y/N	Total Project Cost	FY2011 Anticipated Funding			
									Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
1.10	**Design**											
1.10.1			**RD 2035;** 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.]	I.5			Y	$1,165,600	$1,165,600	$0	$0	$1,165,600
						Subtotal Funding		$1,165,600	$1,165,600	$0	$0	$1,165,600
						Reclamation		$1,165,600	$1,165,600	$0	$0	$1,165,600
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0
1.11	**Construction**											
1.11.1			Natomas Mutual Phase I Fish Screen (389 cfs); Provides cost-share funding for a screened diversion (389 cfs) on the Sacramento River that replaces two existing diversions on the Natomas Cross Canal. The constructed fish screen will be a state-of-the-art vertical flat plate screen that meets NMFS and DFG fish screening criteria. This project also results in the removal of an anadromous fish migration barrier (seasonal diversion dam) on the Natomas Cross Canal. Work performed by Natomas Mutual and subcontractors with funding agreement managed by USBR regional. [Supports Action A6 (Mainstem Sacramento River) of the AFRP Plan.]	I.5			N	$1,528,006	$1,528,006			$1,528,006
						Subtotal Funding		$1,528,006	$1,528,006	$0	$0	$1,528,006
						Reclamation		$1,528,006	$1,528,006	$0	$0	$1,528,006
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	NMFS OCAP RPA#	Performance Metric	Performance Target	Complete this FY? Y/N	Total Project Cost	FY2011 Anticipated Funding			
									Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
	TOTAL FUNDING							**$3,712,000**	**$3,712,000**	**$0**	**$0**	**$3,712,000**
	Total Funding Breakdown by Agency:											
	Reclamation							$3,410,706	$3,410,706	$0	$0	$3,410,706
	Service							$301,294	$301,294	$0	$0	$301,294
	Other							$0	$0	$0	$0	$0
1.16	**Unfunded Needs**											
1.16.1		0.049	Region 8 Management/Administration, U. S. Fish and Wildlife Service (ARD, Fisheries program manager, and support staff).	I.5			Y	$10,739	$10,739	$0	$0	$10,739
1.16.2	**Construction**		Yuba City Fish Screen; 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.]	I.5			Y	$5,180,000	$250,000	$0	$0	$250,000
	Total Unfunded Need								$260,739	$0	$0	$260,739

Table 2. FY 2011 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	$179,231	$39,432	$0	$0		$218,663
	USBR		$0		$0		$0	$0
1.2 Program Support	FWS	0.29	$51,337	$11,294	$0	$0		$62,631
	USBR	1.3	$248,000		$0		$0	$248,000
1.3 Technical Support	FWS	0.09	$16,393	$3,607	$0	$0		$20,000
	USBR	0.79	$136,100		$0		$0	$136,100
	NMFS (USBR Contract)	1	$0		$233,000		$0	$233,000
1.5 Evaluations, Studies, Investigations, Research	FWS		$0	$0	$0	$0		$0
	USBR		$0		$100,000		$0	$100,000
1.1 Design	FWS		$0	$0	$0	$0		$0
	USBR		$0		$1,165,600		$0	$1,165,600
1.11 Construction	FWS		$0	$0	$0	$0		$0
	USBR		$0		$1,528,006		$0	$1,528,006
Administrative Total - FWS			$246,961	$54,333		$0	$0	$301,294
Contracts, Grants and Agreements Total - FWS					$0			$0
FWS Total Costs		1.38	$246,961	$54,333	$0	$0		$301,294
Administrative Total - USBR			$384,100				$0	$384,100
Contracts, Grants and Agreements Total - USBR					$3,026,606			$3,026,606
USBR Total Costs		3.09	$384,100		$3,026,606		$0	$3,410,706
TOTAL ALL		**4.47**	**$631,061**	**$54,333**	**$3,026,606**	**$0**	**$0**	**$3,712,000**

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 2012 – 2014

($ amounts in thousands)

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
2012	Approximately $1.0 million for Program Management (Tasks 1.1, 1.2 and 1.3) and remainder for Construction projects (Task 1.11). Construction projects could include fish screens at Reclamation District 2035, Natomas Mutual (Phase II and III) Meridian Farms (Phase II) and Pleasant-Grove Verona.	5,240	10,000
2013	Approximately $1.05 million for Program Management (Tasks 1.1, 1.2 and 1.3) and remainder for Construction projects (Task 1.11). Construction projects could include fish screens at Reclamation District 2035, Natomas Mutual (Phase II and III) Meridian Farms (Phase II) and Pleasant-Grove Verona.	5,240	10,000
2014	Approximately $1.1 million for Program Management (Tasks 1.1, 1.2 and 1.3) and remainder for Construction projects (Task 1.11). Construction projects could include fish screens at Reclamation District 2035, Natomas Mutual (Phase II and III) Meridian Farms (Phase II) and Pleasant-Grove Verona.	5,240	10,000

Note: The FY 2012 – 2014 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.

Construction Projects - Task 1.11- 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 (Phase II and III), Reclamation District 2035, Meridian Farms (Phase II), 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 2012 to 2014 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.