Draft CVPIA Fiscal Year (FY) 2012 Annual Work Plan

October 19, 2011

Program Title:

Red Bluff Fish Passage- CVPIA Section 3406(b)(10).
-Construction
-Planning

Responsible Entities:

Staff Name	**Agency**	**Role**
Paul Freeman	*Bureau of Reclamation*	*Lead-Construction and Planning*
Jim Smith	*US Fish & Wildlife Service (Service)*	*Co-Lead-Planning*

Program Goals and Objectives for FY 2012

- ***Construction****:*

  Close out the contract for construction of the canals, siphon, and bridge, and substantially complete work under the contract for building the pumping plant and fish screen (i.e. deliver 1125-cubic-feet-persecond flow to the Tehama-Colusa Canal by May 2012). Begin work under the Terrestrial Mitigation contract (as required by the USACE 404 permit) or accomplish alternative mitigation, complete an acquisition contract for dredge equipment, and execute a general construction cleanup contract upon completion of the major construction contracts.

- ***Planning:***

  Overall Fish Passage Goal: Substantially improve the long-term ability of fish to pass upstream and downstream.

  Continue studies of the Southern Distinct Population Segment of the green sturgeon (*Acipenser medirostris*) in the Sacramento River. In FY 2012, monitoring of returning

adult green sturgeon, as well as other acoustically tagged green sturgeon tagged by other researchers elsewhere, will be conducted to determine their movements in the vicinity of the Red Bluff Diversion Dam (RBDD).

The program's CPAR goals include both outcome and output measures. The outcome goals are passage of 80-100% of adult spring-run Chinook and passage of 50-100% of adult green sturgeon and the outcome goal is completion of infrastructure improvements to supply 115,000 acre-feet of refuge water to the Sacramento National Wildlife Refuge. The construction of the new fish screens and pumping plant is also one of the 73 structural actions identified as a PART goal and is currently scheduled for completion in the summer of 2012.

Continue green sturgeon egg and larval surveys in support of the directives of the 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) OCAP Biological Opinion (BO).

Source Documents and Plans that Guide the Program

Section 3406(b)(10) of the CVPIA directs the Secretary of the Interior to "Develop and implement measures to minimize fish passage problems for adult and juvenile anadromous fish at the RBDD in a manner that provides for the use of associated Central Valley Project conveyance facilities for the delivery of water to the Sacramento Valley National Wildlife Refuge complex." The Anadromous Fish Restoration Plan also asks that efforts "continue the evaluation to identify solutions to passage at RBDD, including measures to improve passage when the RBDD gates are in the raised position from September 15 through at least May 14." Additionally, the program goals include compliance with the mandates of the 2009 NMFS OCAP BO by replacing dam-based gravity diversions with a screened pumping plant, while continuing to deliver water to the Tehama Colusa Canal Authority's customers. The NMFS 2009 OCAP BO also provides objectives and a number of RPA's and monitoring studies designed to improve fish passage at RBDD.

Status of the Program

- ***Construction Progress:*** Construction of the pumping plant and fish screen is underway; the fore bay has been excavated, the fish screen and pumping plant are 60% complete and other portions of the contract are on schedule. The construction of the canals, bridge, and siphon is nearing substantial completion. The contract providing pumps and motors has been completed, permanent power is installed, and all right of way acquisitions have been completed with the exception of alternate access easements. Completion of this work is expected to complete the fisheries' requirements of 3406(b)(10). Completion of the refuge supply requirements occurred some years ago with the construction of the Stony Creek Siphon on the Glenn Colusa Canal, which was determined to be the most effective way to convey water to the Sacramento Valley National Wildlife Refuges.

- ***Planning Progress*:** Spawning periodicity of green sturgeon has been determined to be 3 to 5 years, and in FY 2012, these returning green sturgeon and acoustically tagged green sturgeon tagged by other researchers elsewhere, will be monitored to determine their movements near the RBDD. In FY 2011, telemetric studies indicated that 15 acoustically tagged adult green sturgeons were within the Sacramento River near the RBDD. Fourteen of these adult green sturgeon migrated upstream of the RBDD prior to gates closing. Eleven of these green sturgeon emigrated downstream pass the RBDD before the gates closed on June 15th. Two green sturgeons successfully passed underneath the gates, one on June 17th and the other on June 21st. One adult green sturgeon, tagged in 2005, lost battery power and was last detected upstream of the RBDD on June 21st. One tagged green sturgeon was detected at the RBDD on May 9th, but did not pass upstream of the dam.

- Given that the expected start of operation of the new fish screens and pumping plant is in the late spring of 2012, hydraulic evaluations will begin during that summer and will followed by biological monitoring in FY 2013. These evaluations, mandated in the NMFS 2009 pumping plant construction BO, will support efforts to determine the adequacy of fish screens in meeting screen and biological criteria.

- The Service and Reclamation will continue to conduct green sturgeon egg and larval surveys, begun in 2008, in support of the directives of the2009 NMFS OCAP BO.

Adaptive Management

- **Construction Management**:

  The water delivery date of May 2012 has dictated the construction schedule. The Terrestrial Mitigation contract and construction cleanup contract work will follow the completion of the main construction contracts.
- **Planning**:

- In response to the mandates set forth by the 2009 NMFS BO, Reclamation will continue to cooperate with the Service and the University of California - Davis in conducting green sturgeon studies, specifically, Task 2: Characterization of Green Sturgeon Spawning Grounds, and Task 3: Juvenile Green Sturgeon Movements and Identification of Critical Rearing Habitat. Stationary receivers will be deployed at strategic locations upstream and downstream of the RBDD to determine spatial and temporal movements of tagged green sturgeon. In addition, monitoring of acoustically tagged green sturgeon will determine the timing and success of any downstream movements under the gates of the RBDD should they be lowered.

- Any adaptive management activities at the new fish screens and pumping plant, as mandated in the NMFS 2009 pumping plant construction BO. are not expected to begin until FY 2013, after initial evaluations of the adequacy of the new screens are complete.

Table 1. FY2012 Activities and Costs

	CVPIA Section: 3406 (b)(10)
	CVPIA Program: Red Bluff Diversion Dam

	2012 Requested Funding					
	State Cash	State In-Kind	Restoration Fund	Water and Related Resources	Other Sources*	Total All Sources
Total Funding	$0	$0	$0	$34,516,000	$0	$34,516,000
Reclamation			$0	$34,286,868	$0	$34,286,868
Service			$0	$229,132	$0	$229,132
CA DFG	$0	$0			$0	$0
CA DWR	$0	$0			$0	$0
Other	$0	$0			$0	$0

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	Agency	NMFS OCAP RPA#	Performance Metric	Performance Target	2012 Requested Funding: State Cash	State In-Kind	Restoration Fund	Water and Related Resources	Other Sources*	Total All Sources
1.1	**Program Management**												
1.1.1		1.00	Lead: Paul Freeman: Chief, RBO&M,Construction-1.Canals, Siphon and Bridge Contract; 2.Pumping Plant and Fish Screen Contract, Planning, project oversight of fisheries and RBO&M pumping plant and maintenance of RB facility	BOR	-	-		$0	$0	$0	$274,868	$0	$274,868
1.1.2		-	Co-lead: Jim Smith: Project Leader for FWS, Red Bluff	FWS	-	-		$0	$0	$0	$0	$0	$0

	Anticipated Funding: State Cash	State In-Kind	Restoration Fund	Water and Related Resources	Other Sources*	Total All Sources
Subtotal Funding	$0	$0	$0	$274,868	$0	$274,868
Reclamation			$0	$274,868	$0	$274,868
Service			$0	$0	$0	$0
CA DFG	$0	$0			$0	$0
CA DWR	$0	$0			$0	$0
Other*	$0	$0			$0	$0

*** List other funding source here:** None

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	Agency	NMFS OCAP RPA#	Performance Metric	Performance Target	2012 Requested Funding: State Cash	State In-Kind	Restoration Fund	Water and Related Resources	Other Sources*	Total All Sources
1.2	**Program Support**												
1.2.1		0.10	Fish and Wildlife Coordination Act implementation support from the Sacramento Office	FWS	-	-		$0	$0	$0	$13,050	$0	$13,050

	Anticipated Funding: State Cash	State In-Kind	Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
Subtotal Funding	$0	$0	$0	$13,050	$0	$13,050
Reclamation			$0	$0	$0	$0
Service			$0	$13,050	$0	$13,050
CA DFG	$0	$0			$0	$0
CA DWR	$0	$0			$0	$0
Other*	$0	$0			$0	$0

*** List other funding source here:** None

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	Agency	NMFS OCAP RPA#	Performance Metric	Performance Target	2012 Requested Funding					
								State Cash	State In-Kind	Restoration Fund	Water and Related Resources	Other Sources*	Total All Sources
1.5	**Research (Evaluations, Studies, Investigations)**												
1.5.1		1.00	Characterizations of Green Sturgeon spawning grounds. Movements and identification of critical rearing habitat.	BOR	I.3.4	b10:Fish Passage Rate (Adult Spring-run Chinook) %	80% - 100%	$0	$0	$0	$272,000	$0	$272,000
1.5.2		0.25	Capturing and accoustically tagging adult Southern Distinct Population Segment green sturgeon in the Sacramento River. Monitoring to determine movements in the vicinity of the RBDD. Stationary receivers will be deployed upstream and downstream of the RBDD to determnine spatial and temporal movements.	BOR	I.3.4	b10:Fish Passage Rate (Adult Green Sturgeon) %	50% - 100%	$0	$0	$0	$70,000	$0	$70,000
1.5.3		0.25	Support alternative dam gate operations, as needed and adaptive facilities management	BOR	I.3.4	b10:Fish Passage Rate (Adult Green Sturgeon) %	50% - 100%	$0	$0	$0	$70,000	$0	$70,000
1.5.4		2.10	Green sturgeon egg and larval surveys, with emphasis on locating new spawning sites above and below RBDD and collecting larvae and juveniles; assist with TBD new fish screen evaluations	FWS	I.3.4	b10:# Infrastructure Improvements for fish passage	unspecified	$0	$0	$0	$216,082	$0	$216,082

	Anticipated Funding					
	State Cash	State In-Kind	Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
Subtotal Funding	$0	$0	$0	$628,082	$0	$628,082
Reclamation			$0	$412,000	$0	$412,000
Service			$0	$216,082	$0	$216,082
CA DFG	$0	$0			$0	$0
CA DWR	$0	$0			$0	$0
Other*	$0	$0			$0	$0

*** List other funding source here:** None

1.11	**Construction**												
1.11.1		0.15	Red Bluff Fish Passage Improvement Project	BOR	-	b10:# Infrastructure Improvements for fish passage	unspecified	$0	$0	$0	$33,600,000	$0	$33,600,000
1.11.2		0.10	-	BOR	-	-	-	$0	$0	$0	$0	$0	$0
1.11.3		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.4		0.15	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.5		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.6		0.35	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.7		0.02	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.8		0.69	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.9		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.10		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.11		0.46	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.12		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0

AWP Activity Number	Type of Activity	# of FTE's	Activity Name & Description	Agency	NMFS OCAP RPA#	Performance Metric	Performance Target	2012 Requested Funding					
								State Cash	State In-Kind	Restoration Fund	Water and Related Resources	Other Sources*	Total All Sources
1.11.13		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.14		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.15		0.38	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.16		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.17		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.18		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.19		0.23	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.20		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.21		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.22		1.00	-	BOR	-	-		$0	$0	$0	$0	$0	$0
1.11.23		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.24		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.25		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.26		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.27		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.28		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.29		-	-	-	-	-		$0	$0	$0	$0	$0	$0
1.11.30		-	-	-	-	-		$0	$0	$0	$0	$0	$0

	Anticipated Funding					
	State Cash	State In-Kind	Restoration Fund	Water and Related Resources	State or Other Sources*	Total All Sources
Subtotal Funding	$0	$0	$0	$33,600,000	$0	$33,600,000
Reclamation			$0	$33,600,000	$0	$33,600,000
Service			$0	$0	$0	$0
CA DFG	$0	$0			$0	$0
CA DWR	$0	$0			$0	$0
Other*	$0	$0			$0	$0

*** List other funding source here:** None

Table 2. Three-Year Budget Plan FY 2013 – 2015

Table 2. Three-Year Funding Plan FY 2013 – 2015 **($ amounts in thousands)**						
FY	**Description of Activities**	**Funding Needs**				
		RF	**W&RR**	**Other**	**DFG**	**DWR**
2013	1.1 Manage, support, restoration and compliance; Project Oversight, Construction and Planning----------$434 1.5 Continuation of Green Sturgeon spawning grounds. Support and provide biological information as needed to guide the engineering work and assist in the design process to extent unanticipated issues arise. Green sturgeon capturing and tagging along with continued operations----------$500 1.11 Terrestrial Mitigation/Hydraulic Performance Study/Biological Monitoring/Construction Cleanup Contract----------$2,198 **Total**		$3,132			
2014	1.1 Manage, support, restoration and compliance; Project Oversight, Construction and Planning----------$460 1.5 Continuation of Green Sturgeon spawning grounds. Support and provide biological information as needed to guide the engineering work and assist in the design process to extent unanticipated issues arise. Green sturgeon capturing and tagging along with continued operations----------$550 1.11 Terrestrial Mitigation Monitoring--$1,002 **Total**		$2,012			

2015	1.1 Manage, support, restoration and compliance; Project Oversight, Construction and Planning----------$500 1.5 Continuation of Green Sturgeon spawning grounds. Support and provide biological information as needed to guide the engineering work and assist in the design process to extent unanticipated issues arise. Green sturgeon capturing and tagging along with continued operations----------$600 1.11 Terrestrial Mitigation Monitoring--$1,002 **Total**		$2,102			

Note: The FY 2013 – 2015 Budget Plan provides estimates of capability only. The amounts displayed are those that might be reasonably appropriated each year. These figures do not reflect the future Congressional appropriations process. All of these estimates and the associated activities will be adjusted pending appropriations and annual restoration fund collections are realized.

Table 3. Monitoring

Table 3 – Proposed Monitoring Activity	
Project Description:	Monitoring of the efficacy of the new fish screens and mitigation measures for the new Red Bluff Pumping Plant
FY 2012 Project Complete?	The construction project will be completed in May 2012, but monitoring is expected for two to three years thereafter.
CVPIA annual work plan subtask number:	Fish Screens – 1.1 Mitigation – 1.11
Scope of the monitoring effort:	The scope of monitoring is to be determined but it is clear that no monitoring of the new screens will occur before they begin operation in May 2012. No monitoring of mitigation measures would begin before early FY 2013 as the mitigation measures will not begin before construction is completed.
Product/deliverable:	To be determined
Cost:	To be determined. Amounts in budget now are place holders.
Questions posed:	Fish Screens: Are screening criteria met? If not, what are the problems and what measures might be required. Mitigation Site: Are the target vegetation establishment targets being met? If not, what measures appear to be appropriate?
Objectives:	Screens: To meet NMFS/Department of Fish and Game criteria during operation of the pumps. Mitigation: To create enough riparian habitat in East Sand Slough to replace that lost during construction ot the new pumping plant.
Results – expected or actual:	We expect to meet our goals.
Data collection methods:	To be determined
Data management:	To be determined
Assessment:	To be determined
Use of information in future decision making:	To be determined