Draft CVPIA Fiscal Year 2010 Annual Work Plan

October 1, 2009

Program Title: CVPIA Section 3406(b)(4) - Tracy (Jones) Pumping Plant Mitigation Program

Responsible Entities

Staff Name	Agency	Role
Ron Silva	USBR	Lead
Dan Meier	USFWS	Co-Lead

Program Goals and Objectives for FY 2010

A. Improve Fish Protection and Fish Salvage at Tracy Fish Collection Facility (TFCF). Action is in compliance with CVPIA 3406(b)(4), and Central Valley Project (CVP) OCAP Biological Opinions for Winter-Run Chinook salmon, Delta smelt, Central Valley Steelhead and Green Sturgeon."

B. Determine Best Practical Fish Protection Technology for making Long-term Future Improvements at Tracy and Other South Delta Facilities Proposed by CALFED - Integral to CALFED's South Delta Program and is in conformance with the Record of Decision (ROD) and Framework documents released previously and the CALFED South Delta Fish Facilities Forum recommendations.
* Species benefited - Chinook salmon, Steelhead, Delta smelt, Splittail, Sacramento blackfish, Longfin smelt, Striped bass, Threadfin shad and American shad.

Status of the Program

The initial focus of 3406(b)(4) starting in early 1990s was construction of the Tracy Fish Test Facility (TFTF). The TFTF as originally proposed was intended to be a new fish screening technology development and evaluation facility located adjacent to the existing TFCF in the South Delta. The TFTF was to develop critical information for new fish screens and salvage technology for the South Delta export facilities at Tracy and at Clifton Court Forebay, and a possible screened through Delta facility on the Sacramento River. The TFTF was to allow for the testing and evaluation of new facilities for fish screening, holding, sorting, and transportation in the South Delta which is influenced by tides, heavy debris loads, and a mix of 51 species. The TFTF was to be designed by Reclamation with

the oversight and assistance of a multi-agency coalition of fish facility experts pursuant to a "Project Management and Organization Agreement" signed by involved regulatory and water interests. The original TFTF Project was to be implemented as part of Section 3406(b)(4) of the CVPIA, and would have been integral to CALFED's South Delta and Conveyance Programs. Funding sources would have and did include appropriations from Reclamation, the State of California, and CALFED.

However, due primarily to exorbitant construction cost concerns, it had been recommended by the CALFED South Delta Fish Facilities Forum (SDFF) in 2005 to not proceed any further with construction of a large scale fish test facility (TFTF) but to instead to focus on fixing and improving the existing fish collection facilities located at the export pumps in the South Delta as best as possible to meet original design criteria and minimize loss of fish. The SDFF also recommended implementing other alternative actions outside of new fish screens to improve fish populations and assist in meeting agency fish population goals. Included in the SDFF recommendations was improvements in debris and predation management (e.g. new debris cleaning equipment and regular predator removals), phasing in replacement of a new secondary screening system, and continued facility research activities to better assess the existing facilities for current conditions and to implement and evaluate operational improvements. In essence, the existing facilities themselves will be used as the "test facility" to develop and evaluate improvements in technology and fish protection. It is expected that it will take approximately six to nine years to complete facility assessment and research efforts and phase in improvements to the existing facilities.

To date, Reclamation has identified 23 "actions" related to improving fish protection at the existing TFCF. Implementation of these actions has been ongoing since 1992 at TFCF and full implementation is not expected until 2013 at the earliest. Additional actions could be added to the program as needed, in response to any unforeseen issues or concerns that may require further analysis, assessment and improvements. The program has not defined fish loss reduction targets; rather, the program's present goal is to implement and complete the 23 identified actions. To date, the program has completed 14 of 23 actions, or 61 percent of the program's present goal.

Another significant component was added to the program in FY2009 with initiation of the *2-Gates Fish Protection Demonstration Project*. The 2-Gates Fish Protection Demonstration Project was developed by the Metropolitan Water District of Southern California and the San Luis & Delta Mendota Water Authority (SLDMWA) to test alternative ways of protecting Delta Smelt. The 5-year experiment is designed to modify flows in the Sacramento-San Joaquin Delta to reduce entrainment of smelt and other sensitive aquatic species in CVP and State Water project export pumps. Reclamation advised the project proponents that critical aspects of the science and monitoring program, as well as the project impacts, remain unresolved and must be resolved before the project proceeds forward. Scientific work is currently under way by the U.S. Geological Survey and other to provide valuable data to inform future steps with regard to the Demonstration Project.

FY 2009 Accomplishments:

Specific research activities conducted in 2009 included the following:

1. Ongoing whole facility evaluations for delta smelt, Chinook salmon, and sturgeon
2. Completion of recessed holding tank stress tests for different species of delta fish
3. Completion of efforts to determine appropriate loading and hauling densities for fish species of the Sacramento-San Joaquin Delta
4. Ongoing debris management assessments and improvements
5. Ongoing fish predation management assessments and improvement
6. Ongoing facility hydraulic evaluations for improved operations
7. Completed distribution of Tracy Research Volume Series No.13 (revised) and Technical Bulletins 2008-1, -2, & -3.
8. Ongoing water quality analysis at the TFCF
9. Ongoing development of Tracy Fish Facility Improvement Program technical web site and enhanced data accessibility

Prior Year Accomplishments:
Additional accomplishments are included to facilitate reviewer's understanding of this complex and comprehensive program for developing new fish facility technology for the Delta area of California.

In 1999 the Tracy Pumping Plant Mitigation (b)(4) program accomplished the following goals:

1. February 19, the (b)(4) program became classified as Notice Of Intent in Federal Register
2. Between March 17-18, the program held Public Scoping Meetings
3. On April 6, CALFED's Policy Group agreed that Reclamation should proceed with the planning of a 500cfs fish screen facility for testing and evaluating new technologies.
4. In June, the CALFED Bay Delta Program Draft EIS included the proposed 500 cfs structure
5. During September, the Agreement on Project Management and Organization for the TFTF and Clifton Court Fish Facility was signed by Reclamation, Service, Department of Water Resources, CALFED, California Department of Fish and Game (CDFG), and National Marine Fisheries Service (NMFS).
6. Tracy Technical Advisory Team (TTAT) meetings have been held periodically since November 1998 which has resulted in a preferred option for the test facilities

In 2000, the Tracy Pumping Plant Mitigation (b)(4) program accomplished the following goals:

1. A Value Engineering Study conducted February 10th, identified a number of actions to reduce costs
2. Project Management Plan was completed May 15 to serve as a road map to all activities and tasks for the Program and established 12 task teams
3. Draft EA/IS released for public comments July 28
4. Framework and Agreements Document provides a continuous record of all decisions

agreed to by the TTAT, Central Valley Fish Facilities Review Team and Coordination Team

5. Participation in Site Infrastructure Workshop in May, which covered building, additions, upgrades, staffing, and resources
6. Completed a Site Infrastructure Workshop Final Report and recommendations on Final Feasibility Report on August 14
7. Completed 30% and 60%, and preliminary 90% Design Reports
8. Public Workshops for the Environmental Assessment Impact Statement were conducted August 15-16
9. Developed Fishery Engineering Flumes at Denver where TFTF Research and Technology Development has been ongoing since 1998
10. Research Studies at Tracy Site for TFTF including leaky louver efficiencies , traveling screens for debris control, and fish friendly pumping tests, etc., have been ongoing since 1998
11. Research Studies for TFTF at Red Bluff Pumping Plant on fish friendly lifts and screens that have been ongoing since 1995 have now been completed
12. Completed work with the University of California Davis (UCD) to cooperate on laboratory studies needed to refine facilities to be built at the TFTF
13. Ongoing California Department of Fish and Game (CDFG) Studies are exploring new fish handling, transportation, and release strategies to compliment the new facilities

Biological Benefits – The data and information generated is invaluable towards understanding present day operation and efficiencies of the existing TFCF for multiple species of fish. Without this information, decisions on how to improve the existing TFCF could not be made. The data generated is also valuable to both the USBR and Department of Water Resources (DWR) towards improving existing fish salvage facilities in the South delta and/or if the decision is ever made to move forward with new fish screening facilities in the South Delta.

The results so far have shown the existing TFCF to be significantly less efficient towards screening and salvaging fish as originally designed in the 1950s. Monitoring of results is incorporated into the study plan efforts and will be evaluated as improvements are implemented and further tests conducted.

2-Gates Fish Protection Demonstration Project

1. Establishment of joint State-Federal teams to expedite the review and processing of the Demonstration Project.
2. Completed CALFED Science Program Independent Review Panel evaluation of the Demonstration Project.
3. Ongoing development of Draft Environmental Assessment and FONSI.
4. Ongoing development of Biological Assessment and Biological Opinions.
5. Establishment of a Demonstration Project web site and enhanced public interaction.

Table 1. FY2010 Tasks, Costs, Schedules and Deliverables

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.1	**Program Management**							
1.1.1		0.7	USBR. Program management consists of planning and implementation for all the 3406(b)(4) activities through periodic interagency (TTAT) and internal planning meetings, completion of annual work plans, accomplishment reports, CPAR and PART documents, Activity Plans, CVPIA workshops, etc. – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$184,000	$0	$184,000
	Subtotal Costs	0.7			$0	$184,000	$0	$184,000
1.2	**Program Support**							
1.2.1		0	USFWS	9/30/2010	$0	$0	$0	$0
	Subtotal Costs	0			$0	$0	$0	$0
1.3	**Technical Support**							
1.3.1		0.8	USBR Denver TSC – Publishes Various Tracy Research Volume Series. Attend Technical Meetings.	9/30/2010	$0	$160,000	$0	$160,000
1.3.2		0.3	USBR Denver TSC – Updates and Maintains the Tracy Research Website.	9/30/2010	$0	$43,000	$0	$43,000
1.3.3		0	USBR Tracy - Onsite Consultant/Ichtyologist (Contract)	9/30/2010		$70,000		$70,000
	Subtotal Costs	1.1			$0	$273,000	$0	$273,000
1.5	**Evaluations Studies Investigations Research**							
1.5.1		0.25	USBR Denver TSC – TFCF Collection Efficiency for Delta Smelt	9/30/2010	$0	$50,000	$0	$50,000
1.5.2		0.45	USBR Denver TSC – TFCF Collection Efficiency for Chinook Salmon – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$85,000	$0	$85,000
1.5.3		0.5	USBR Denver TSC – TFCF Collection Efficiency for White Sturgeon – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$95,000	$0	$95,000
1.5.4		0.6	USBR Denver TSC – Effects of Loading Density and Transport Water Volume and Ammonia Production, Stress, and Survival – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$107,000	$0	$107,000

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.5.5		0.2	USBR Denver TSC – Evaluate Modifications to Bypass System to Improve Hydraulic Control – 2009 NMFS OCAP BO (page 655)	9/30/2010	$0	$35,000	$0	$35,000
1.5.6		0.25	USBR Tracy – Chinook Salmon and Delta Smelt Efficiency at the TFCF during VAMP – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$35,000	$0	$35,000
1.5.7		0.35	USBR Tracy – Evaluation of Abundance of Large Striped Bass in the Primary Channel of the TFCF – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$70,000	$0	$70,000
1.5.8		0.25	USBR Tracy – Evaluation of TFCF Holding Tank Screen Efficiency for Juvenile Delta Smelt	9/30/2010	$0	$40,000	$0	$40,000
1.5.9		0.25	USBR Tracy – Evaluation of Debris Removal from the Circular Holding Tanks at the TFCF by Lifting of the Screens – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$30,000	$0	$30,000
1.5.10		0.25	USBR Tracy – Evaluation of CO2 as an Alternative Predator Removal Technique – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$50,000	$0	$50,000
1.5.11		0.5	USBR Tracy – Fish Taxonomy. Update Fishes of the Delta Manuscript.	9/30/2010	$0	$70,000	$0	$70,000
1.5.12		0.2	USBR Tracy – Low Cost Solution to Retain More Larval Fish: Effectiveness of Using a Fine Mesh Screen in the Holding Tanks	9/30/2010	$0	$30,000	$0	$30,000
1.5.13		0.2	USBR Tracy – Density, Distribution, and Dietary Analysis of Predators Located in the Secondary Channel of the TFCF – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$30,000	$0	$30,000
1.5.14		0.25	USBR Tracy - Effects of Fish Density on Water Quality in the New Haul Out Bucket and Fish Haul Trucks – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$30,000	$0	$30,000
1.5.15		0.6	USBR Denver TSC - Larval Fish Entrainment, Spatial and Temporal Patterns of Distribution and Abundance	9/30/2010	$0	$152,000	$0	$152,000
1.5.16		0.6	USBR Denver TSC - Laboratory Evaluation of Vegetative Debris Removal Techniques within the Circular Holding Tanks – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$145,000	$0	$145,000
1.5.17		0.15	USBR Denver TSC - Evaluation of Hydrolox Traveling Louver Screen to be Located in the Secondary Channel – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$25,000	$0	$25,000
1.5.18		0.45	USBR Denver TSC – Laboratory Design and Evaluation of an Electric Pulse Fish Crowder – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$81,000	$0	$81,000
1.5.19		0.45	USBR Denver TSC - Predator Impacts on Salvage Rates of Juvenile Chinook Salmon – 2009 NMFS OCAP BO (page 654)	9/30/2010	$0	$80,000	$0	$80,000
1.5.20		0.2	USBR Denver TSC - Evaluation of Fish Behavior Upstream and Downstream of the Mitten Crab Traveling Screen	9/30/2010	$0	$30,000	$0	$30,000

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.5.21		0.55	USBR Denver TSC - Effects of Fin Clipping for DNA Sampling on Physiological Stress, Swimming, and Survival of Chinook Salmon	9/30/2010	$0	$117,000	$0	$117,000
1.5.22		0	USBR Tracy - Purchase of Delta Smelt from UC Davis to be Used in Select Delta Smelt Evaluations (Contract)	9/30/2010	$0	$288,000	$0	$288,000
1.5.23		0.1	USBR MP-700 – DEC Review of 2-Gates Project	9/30/2010	$0	$50,000*	$0	$50,000*
	Subtotal Costs	7.6			$0	$1,725,000	$0	$1,725,000
1.6	**Land, Water, and Conveyance Acquisitions**							
1.6.1		0.1	Lease of land related to 2-Gates Project (USBR)	9/30/2010	$0	$10,000*	$0	$10,000*
	Subtotal Costs	0.1			$0	$10,000	$0	$10,000
1.7	**Outreach and Public Involvement**							
1.7.1		0.2	Conduct periodic interagency/stakeholder meetings (TTAT) to discuss program accomplishments and goals. Attend CVPIA Public meetings and Workshops. Conduct tours of TFCF and explain operation and improvement program. Issue Press Releases and update internet website. (USBR)	9/30/2010	$0	$60,000	$0	$60,000
1.7.2		0.2	Issue public notices, conduct public workshops, issue news releases, etc., related to 2-Gates Project (USBR)	9/30/2010	$0	$25,000*	$0	$25,000*
	Subtotal Costs	0.4			$0	$85,000	$0	$85,000
1.8	**Planning**							
1.8.1		0.4	Planning costs related to 2-Gates Project (USBR)	9/30/2010	$0	$125,000*	$0	$125,000*
	Subtotal Costs	0.4			$0	$125,000	$0	$125,000
1.9	**Environmental Compliance**							
1.9.1		0.1	Comply with requisite environmental compliance related to 2-Gates Project. Obtain requisite permits, biological opinions, etc. (USBR)	9/30/2010	$0	$25,000*	$0	$25,000*
	Subtotal Costs	0.1			$0	$25,000	$0	$25,000

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	State or Other Sources Anticipated	Total All Sources Anticipated
1.11	**Construction**							
1.11.1		0.2	Construct New Secondary Channel Screening, Holding, and Transport System. Location will be at the TFCF. USBR will be performing the work. Need to do an engineering feasibility study for the project before USBR can commence with design. – 2009 NMFS OCAP BO (page 654)		$225,000	$0	$0	$225,000
1.11.2			Complete Construction of New Biologist Building (Interior Painting, Furniture, Appurtenant Equipment, etc)(Contract)		$0	$119,000	$0	$119,000
	Subtotal Costs	0.2			$225,000	$119,000	$0	$344,000
1.12	**Monitoring**							
1.12.1		0.5	USBR (MP-157) Conduct water quality monitoring at the intake to the Delta Mendota Canal (located on the trashrack structure at the TFCF). Water quality data is of interest to the 3406(b)(4) researchers and outside parties.	9/30/2010	$0	$50,000	$0	$50,000
	Subtotal Costs	0.5			$0	$50,000	$0	$50,000
	Total Tracy	**10.2**			**$225,000**	**$2,361,000**	**$0**	**$2,586,000**
	Total 2-Gates	**0.9**			**$0**	**$235,000***	**$0***	**$235,000***
	Service Total	0			$0	$0	$0	$0
	Reclamation Total	11.1			$225,000	$2,596,000	$0	$2,821,000
	*2-Gates funding is separate from other Tracy activities							

Table 2. Budget Breakout

Task	Agency	FTE	LABOR		CONTRACTS		USBR Only Misc. Costs	Total Costs
			Direct Salary, Benefits, and Admin 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		$0	$0	$0	$0		$0
	USBR	0.7	$184,000		$0		$0	$184,000
1.3 Technical Support	FWS		$0	$0	$0	$0		$0
	USBR	1.1	$203,000		$70,000		$0	$273,000
1.5 Evaluations, Studies, Investigations, Research	FWS		$0	$0	$0	$0		$0
	USBR	7.6	$1,437,000		$288,000		$0	$1,725,000
1.6 Land, Water, and Conveyance Acquisitions	FWS		$0	$0	$0	$0		$0
	USBR	0.1	$10,000		$0		$0	$10,000
1.7 Outreach and Public Involvement	FWS		$0	$0	$0	$0		$0
	USBR	0.4	$85,000		$0		$0	$85,000
1.8 Planning	FWS		$0	$0	$0	$0		$0
	USBR	0.4	$125,000		$0		$0	$125,000
1.9 Environmental Compliance	FWS		$0	$0	$0	$0		$0
	USBR	0.1	$25,000		$0		$0	$25,000
1.11 Construction	FWS		$0	$0	$0	$0		$0
	USBR	0.2	$225,000		$119,000		$0	$344,000
1.12 Monitoring	FWS		$0	$0	$0	$0		$0
	USBR	0.5	$50,000		$0		$0	$50,000
Administrative Total - FWS			$0	$0		$0		$0
Contracts, Grants and Agreements Total - FWS					$0			$0
FWS Total Costs		0	$0	$0	$0	$0		$0
Administrative Total - USBR			*$2,344,000*				*$0*	*$2,344,000*
Contracts, Grants and Agreements Total - USBR					*$477,000*			*$2,821,000*
USBR Total Costs		*11.1*	*$2,344,000*		*$477,000*		*$0*	*$2,821,000*
TOTAL ALL TRACY		**10.2**	**$2,109,000**	**$0**	**$477,000**	**$0**	**$0**	**$2,586,000**
TOTAL ALL 2-GATES		**0.9**	**$235,000***	**$0**	**$0**	**$0**	**$0**	**$235,000***

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.

*2-Gates funding is separate from other Tracy activities

Table 3. Three Year Budget Plan FY2011-2013

($ amounts in thousands)

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
2011	**1.1** Program Management		$190
	1.3 Technical Support – Continue to publish research volume series and update and maintain the Tracy Research website.		$120
	1.5 Evaluations, Studies, Investigations, Research - Continue to conduct/complete research, assessment, and improvement activities at the federal TFCF commensurate with 3406(b)(4) objectives and goals. Included in activities will be efforts related to further assessing the TFCF for current fish salvage efficiencies and further studying and implementing ways to handle debris and predator fish buildup better and operating the TFCF more efficiently.		$1,683
	1.7 Outreach and Public Involvement – Continue to conduct periodic interagency/stakeholder meetings, attend public meetings, and conduct tours of the Tracy facilities.		$60
	1.11 Construction - Construct New Secondary Channel Screening, Holding, and Transport System. Location will be at the TFCF.	$250	
	1.12 Monitoring – continue to conduct water quality monitoring at the intake to the DMC/TFCF.		$52
	TOTAL	$250	$2,105
2012	**1.1** Program Management		$200
	1.3 Technical Support – Continue to publish research volume series and update and maintain the Tracy Research website.		$125
	1.6 Evaluations, Studies, Investigations, Research - Continue to conduct/complete research, assessment, and improvement activities at the federal TFCF commensurate with 3406(b)(4) objectives and goals. Included in activities will be efforts related to further assessing the TFCF for current fish salvage efficiencies		$1,720

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
	and further studying and implementing ways to handle debris and predator fish buildup better and operating the TFCF more efficiently.		
	1.7 Outreach and Public Involvement – Continue to conduct periodic interagency/stakeholder meetings, attend public meetings, and conduct tours of the Tracy facilities.		$65
	1.11 Construction - Construct New Secondary Channel Screening, Holding, and Transport System. Location will be at the TFCF.	$12,530	
	1.12 Monitoring – continue to conduct water quality monitoring at the intake to the DMC/TFCF.		$55
	TOTAL	$12,530	$2,165
2013	**1.1** Program Management		$210
	1.3 Technical Support – Continue to publish research volume series and update and maintain the Tracy Research website.		$130
	1.7 Evaluations, Studies, Investigations, Research - Continue to conduct/complete research, assessment, and improvement activities at the federal TFCF commensurate with 3406(b)(4) objectives and goals. Included in activities will be efforts related to further assessing the TFCF for current fish salvage efficiencies and further studying and implementing ways to handle debris and predator fish buildup better and operating the TFCF more efficiently.		$1,117
	1.7 Outreach and Public Involvement – Continue to conduct periodic interagency/stakeholder meetings, attend public meetings, and conduct tours of the Tracy facilities.		$65
	1.11 Construction - Construct New Secondary Channel Screening, Holding, and Transport System. Location will be at the TFCF.	$7,515	
	1.12 Monitoring – continue to conduct water quality monitoring at the intake to the DMC/TFCF.		$58
	TOTAL	$7,515	$1,580

Note: The FY 2011 – 2013 Budget Plan provides estimates of capability only. The amounts are displayed are those 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.