Draft CVPIA Fiscal Year 2011 Annual Work Plan

January 31, 2011

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

Responsible Entities

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

Program Goals and Objectives for FY 2011

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 different fish 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 not to proceed with any further 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.

Performance measures have been established for the program that include the identified 23 actions that were formally developed as a result of the CPAR process. The CPAR process measured a program's performance against each provision of the CVPIA and as a result 23 actions were identified to mitigate fish passage for this program. Subsequent to working on CPAR and release of the most recent CVP OCAP biological opinions, five (5) action items were added to the program's action item list. These items were added based primarily on that requirement. Most are consistent with the most recent NMFS CVO OCAP B.O. (dated June 4, 2009).

Another significant component was added to the program in FY2009 with initiation of the *2-Gates Fish Protection Demonstration Project* (Project). The Project was developed and is proposed by the Metropolitan Water District of Southern California and the San Luis & Delta Mendota Water Authority as a five year experiment to test alternative ways of protecting delta smelt. The Project 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 proponents that critical aspects of the science and monitoring program, as well as navigational and economic issues, remain unresolved and must be resolved before the Project proceeds forward. Scientific work is currently under way by the Interagency Ecological Program, U.S. Geological Survey, and others to provide valuable data to inform future steps with regard to the project. In addition, Reclamation is working with the California Department of Water

Resources to develop the *Plan of Action – Delta Water Solutions* (POA). The POA carries forward the evaluation of the Project and other additional interim actions that could provide the same benefits at a potentially lower cost.

FY 2010 Accomplishments:

Specific research activities conducted in 2010 included the following:

1. Continuation of whole facility efficiency evaluations for delta smelt and sturgeon
2. Continuation of debris management assessments and improvements
3. Continuation of fish predation management assessments and improvement
4. Continuation of facility hydraulic evaluations for improved operations
5. Commencement of larval fish entrainment experiments at the TFCF
6. Completion of study to look at fish friendly vacuum pump system to potentially remove fish from the holding tanks at the TFCF
7. Completion of study to assess effects of fin clipping for DNA sampling of Chinook salmon
8. Completion of study to assess holding tank screen efficiency for juvenile delta smelt
9. Published Tracy Research Volume Series No.27, 44, & 45 and Technical Bulletins 2010-1 & -2.
10. Ongoing development of Tracy Fish Facility Improvement Program technical web site and enhanced data accessibility, including implementation of metadata principles.

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. Installation of additional monitoring stations in the Delta, improving the quality of information relied upon by decision makers.
2. Establishment of Interagency Ecological Program Turbidity Work Team, made up of

state and Federal agencies.
3. Abbreviated delta smelt field study, which provided exceptional data and improved our understanding of delta smelt.
4. Development of the *Plan of Action – Delta Water Solutions*, providing for the continued evaluation of the Project and other additional interim actions.

Prior Year Accomplishments:

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. 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		0.7	USBR. Program management consists of planning and implementation for all 3406(b)(4) activities, including implementationa and oversight of all Research and Assessment activites, through periodic internal and interagency meetings, completion of annual w ork plans, accomplishment reports, CPAR and PART documents, Activity Plans, CVPIA w orkshops, etc.				N	$180,000	$0	$180,000	$0	$180,000
						Subtotal Funding		$180,000	$0	$180,000	$0	$180,000
						Reclamation		$180,000	$0	$180,000	$0	$180,000
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0
1.2	**Program Support**											
1.2.1		0	USFWS					$0	$0	$0	$0	$0
						Subtotal Funding		$0	$0	$0	$0	$0
						Reclamation		$0	$0	$0	$0	$0
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0
1.3	**Technical Support**											
1.3.1		0.75	USBR Denver TSC - Publishes various Tracy Research Volume Series and Technical Bulletins. Attend technical meetings.				N	$190,000	$0	$190,000	$0	$190,000
1.3.2		0.27	USBR Denver TSC - Updates and maintains the Tracy Research w ebsite. Also metadata.				N	$50,000	$0	$50,000	$0	$50,000
						Subtotal Funding		$240,000	$0	$240,000	$0	$240,000
						Reclamation		$240,000	$0	$240,000	$0	$240,000
						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
1.5	**Evaluations, Studies, Investigations, Research**											
1.5.1		0.2	USBR Denver TSC - TFCF Salvage Efficiency for Delta Smelt (Report)		Research to assess/evaluate TFCF	Complete the study/assessment and publish	Y	$36,000	$0	$36,000	$0	$36,000
1.5.2		1	USBR Denver TSC (- TFCF Salvage Efficiency for Chinook Salmon	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$100,000	$0	$100,000	$0	$100,000
1.5.3		0.31	USBR Denver TSC - Effects of Loading Densities and Transport Water Volume on Survival of Delta Fishes	IV.4.3	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$62,000	$0	$62,000	$0	$62,000
1.5.4		0.25	USBR Tracy - Juvenile Salmon and Adult Delta Smelt Salvage Efficiency during VAMP. Effects of Primary Bypass Ratio	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$35,000	$0	$35,000	$0	$35,000
1.5.5		0.35	USBR Tracy - Evaluation of Abundance of Large Striped Bass in the Primary Channel of the TFCF	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$70,000	$0	$70,000	$0	$70,000
1.5.6		0.1	USBR Tracy - Evaluation of Holding Tank Screen Efficiency for Juvenile Delta Smelt		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$20,000	$0	$20,000	$0	$20,000
1.5.7		0.15	USBR Tracy - Evalaution of Debris Removal from the Circular Holding Tanks by Lifting the Screens	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$30,000	$0	$30,000	$0	$30,000
1.5.8		0.25	USBR Tracy - Evaluation of CO_2 as an Alternative Predator Removal Technique	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$50,000	$0	$50,000	$0	$50,000
1.5.9		0.1	USBR Tracy - Low Cost Solution to Retain More Larval Fish: Effectiveness of Using a Fine Mesh Screen in the Holding Tanks		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$20,000	$0	$20,000	$0	$20,000
1.5.10		1	USBR Denver TSC - Density, Distribution, and Dietary Analysis of Predators Located in the Secondary Channel at the TFCF	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	Y	$100,000	$0	$100,000	$0	$100,000
1.5.11		0.25	USBR Tracy - Effects of Fish Density on Water Quality in the New Haul Out Bucket and Fish Haul Trucks	IV.4.3	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$50,000	$0	$50,000	$0	$50,000

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
1.5	**Evaluations, Studies, Investigations, Research continued**											
1.5.12		0.4	USBR Denver TSC - Larval Fish Entrainment - Spatial and Temporal Patterns of Distribution and Abundance		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$75,000	$0	$75,000	$0	$75,000
1.5.13		0.80	USBR Denver TSC - TFCF Debris evaluation - Report		Research to assess/evaluate TFCF	Complete the study/assessment and publish	Y	$17,000	$0	$17,000	$0	$17,000
1.5.14		1.2	USBR Denver TSC - Design and Evaluation of an Electric Pulse Fish Crowder	IV.4.1	Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$130,000	$0	$130,000	$0	$130,000
1.5.15		0.12	USBR Denver TSC - Evaluation of Fish Behavior Upstream and Downstream of the Mitten Crab Traveling Screen (Report)		Research to assess/evaluate TFCF	Complete the study/assessment and publish	Y	$240,000	$0	$240,000	$0	$240,000
1.5.16		0.5	USBR Denver TSC - Effects of Fin Clipping for DNA Sampling on Physiological Stress, Swimming, and Survival of Chinook Salmon		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$100,000	$0	$100,000	$0	$100,000
1.5.17		0.17	USBR Denver TSC- Publish results of Vertical Separator tests (Report)		Research to develop new technologies for	Complete the study/assessment and publish	Y	$34,000	$0	$34,000	$0	$34,000
1.5.18		1.45	USBR Tracy - Purchase of Delta Smelt from UC Davis to be Used in Select Delta Smelt Research and Evaluation Efforts		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$290,000	$0	$290,000	$0	$290,000
1.5.19		0.15	USBR Tracy - Influence of acoustic tags on susceptibility of Chinook Salmon to predation		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$25,000	$0	$25,000	$0	$25,000
1.5.20		0.15	USBR Tracy - Evacuation rates of acoustic tags in Striped Bass		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$25,000	$0	$25,000	$0	$25,000
1.5.21		0.15	USBR Tracy - Effect of negative pressure on selected fishes salvaged at TFCF		Research to assess/evaluate TFCF	Complete the study/assessment and publish	N	$25,000	$0	$25,000	$0	$25,000
1.5.22		2.25	USBR MP-150 - Delta Smelt Movement and Sediment Study		Research to assess/evaluate how delta smelt react to sediment movement in the delta	Complete the study/assessment and publish results	Y	$2,400,000	$0	$2,400,000	$0	$2,400,000
						Subtotal Funding		$3,934,000	$0	$3,934,000	$0	$3,934,000
						Reclamation		$3,934,000	$0	$3,934,000	$0	$3,934,000
						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
1.7	**Outreach and Public Involvement**											
1.7.1		0.1	Conduct periodic interagency/stakeholder meetings (TTAT) to discuss program accomplishments and goals. Attend CVPIA Public meetings and Workshops. Conduct tours of the TFCF and explain operations and improvement program. Issue Press Releases and update internet site.				N	$47,000	$0	$47,000	$0	$47,000
						Subtotal Funding		$47,000	$0	$47,000	$0	$47,000
						Reclamation		$47,000	$0	$47,000	$0	$47,000
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0
1.12	**Monitoring**											
1.12.1		0.3	USBR MP157 - Conduct water quality monitoring at the intake to the Delta Mendota Canal/TFCF.		Provides background data for research efforts and other requests		N	$50,000	$0	$50,000	$0	$50,000
						Subtotal Funding		$50,000	$0	$50,000	$0	$50,000
						Reclamation		$50,000	$0	$50,000	$0	$50,000
						Service		$0	$0	$0	$0	$0
						Other		$0	$0	$0	$0	$0
	TOTAL FUNDING							**$4,451,000**	**$0**	**$4,451,000**	**$0**	**$4,451,000**
	Total Funding Breakdown by Agency:											
	Reclamati	**11.17**						$4,451,000	$0	$4,451,000	$0	$4,451,000
	Service	**0**						$0	$0	$0	$0	$0
	Other	**0**						$0	$0	$0	$0	$0
1.16	**Unfunded Needs**											
1.16.1	Constructi on	0.5	Install fish friendly pumps inline with bypass pipeline and construct additional large,rectangular holding tank - Design Costs	IV.4.1	Would improve ability to operate the TFCF proficently and handle large influxes of fish	More fish salvaged satisfactorially	N		$225,000	$0	$0	$225,000
	Total Unfunded Need								$225,000	$0	$0	$225,000

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		$0	$0	$0	$0		$0
	USBR	0.7	$180,000		$0		$0	$180,000
1.3 Technical Support	FWS		$0	$0	$0	$0		$0
	USBR	1.02	$240,000		$0		$0	$240,000
1.5 Evaluations, Studies,	FWS		$0	$0	$0	$0		$0
	USBR	11.3	$3,644,000		$290,000		$0	$3,934,000
1.6 Land, Water, and Conveyance	FWS		$0	$0	$0	$0		$0
	USBR	0	$0		$0		$0	$0
1.7 Outreach and Public Involvement	FWS		$0	$0	$0	$0		$0
	USBR	0.1	$47,000		$0		$0	$47,000
1.8 Planning	FWS		$0	$0	$0	$0		$0
	USBR	0	$0		$0		$0	$0
1.9 Environmental Compliance	FWS		$0	$0	$0	$0		$0
	USBR	0	$0		$0		$0	$0
1.11 Construction	FWS		$0	$0	$0	$0		$0
	USBR	0	$0		$0		$0	$0
1.12 Monitoring	FWS		$0	$0	$0	$0		$0
	USBR	0.3	$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			$0				$0	$0
Contracts, Grants and Agreements Total - USBR					$290,000			$290,000
USBR Total Costs		11.17	$4,161,000		$290,000		$0	$4,451,000
TOTAL ALL TRACY		**11.17**	**$1,761,000**	**$0**	**$290,000**	**$0**	**$0**	**$2,051,000**
TOTAL ALL 2-GATES		**0**	**$2,400,000**	**$0**	**$0**	**$0**	**$0**	**$2,400,000**

*2-Gates funding is separate from other Tracy activities

Table 3. Three Year Budget Plan FY2012-2014

($ amounts in thousands)

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
2012	**1.1** Program Management		$150
	1.3 Technical Support – Continue to publish research volume series and update and maintain the Tracy Research website.		$200
	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.		$1,070
	1.7 Outreach and Public Involvement – Continue to conduct periodic interagency/stakeholder meetings, attend public meetings, and conduct tours of the Tracy facilities.		$20
	1.11 Construction – Install New Holding Tank install fish friendly pumps inline with the bypass pipeline and at the TFCF.	$250	
	1.12 Monitoring – continue to conduct water quality monitoring at the intake to the DMC/TFCF.		$52
	TOTAL	$250	$1,492
2013	**1.1** Program Management		$160
	1.3 Technical Support – Continue to publish research volume series and update and maintain the Tracy Research website.		$200
	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 and further studying and implementing ways to handle debris and predator fish buildup better and operating the TFCF more efficiently.		$1,102
	1.7 Outreach and Public Involvement – Continue to conduct periodic interagency/stakeholder meetings, attend public meetings, and conduct tours of the Tracy facilities.		$20
	1.11 Construction - Install New Holding Tank install fish friendly pumps inline with the bypass pipeline and at the	$10,000	

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
	TFCF. **1.12** Monitoring – continue to conduct water quality monitoring at the intake to the DMC/TFCF. **TOTAL**	 $10,000	 $55 $1,537
2014	**1.1** Program Management **1.3** Technical Support – Continue to publish research volume series and update and maintain the Tracy Research website. **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. **1.7** Outreach and Public Involvement – Continue to conduct periodic interagency/stakeholder meetings, attend public meetings, and conduct tours of the Tracy facilities. **1.11** Construction - Install New Holding Tank install fish friendly pumps inline with the bypass pipeline and at the TFCF. **1.12** Monitoring – continue to conduct water quality monitoring at the intake to the DMC/TFCF. **TOTAL**	 $2,000 $2,000	$160 $200 $1,115 $20 $58 $1,553

Note: The FY 2012 – 2014 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.

Table 4. FY 2011 CVPIA Monitoring Projects

Project Description:	CVPIA Section 3406(b)(4) - Tracy Fish Facility Improvement Program (TFFIP)
FY 2010 Project Complete?	Ongoing
CVPIA annual work plan subtask number:	1.12.1
Scope of the monitoring effort:	Conduct water quality monitoring at the intake to the Delta Mendota Canal/TFCF.
Product/deliverable:	Water Quality Data
Cost:	$50,000
Questions posed:	N/A
Objectives:	To provide background data for research efforts and other requests for water quality information
Results – expected or actual:	History of water quality data at the TFCF
Data collection methods:	Hydrolab sensors
Data management:	Data placed in excel files and stored locally. Some historical data available on the Tracy Research website.
Assessment:	N/A
Use of information in future decision making:	Will help guide future facility improvements
NMFS OCAP BO RPA	N/A