FINAL

Fiscal Year 2013 Annual Work Plan

SAN JOAQUIN RIVER
RESTORATION PROGRAM

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List of Abbreviations and Acronyms

AWP	Annual Work Plan
Bypass	Eastside Bypass
CCAG	Channel Capacity Advisory Group
CDEC	California Data Exchange Center
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
cfs	cubic feet per second
DGS	California Department of General Services
DFW	California Department of Fish and Wildlife
DOI	Department of Interior
DWR	California Department of Water Resources
EA/IS	Environmental Assessment/Initial Study
EA/MND	Environmental Assessment/Mitigated Negative Declaration
EDT	Ecosystems Diagnosis and Treatment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
EIR	Environmental Impact Report
EIS/R	Environmental Impact Statement/Report
FAA	Financial Assistance Agreement
FKC	Friant Kern Canal
FOA	Funding Opportunity Announcement
Framework	Draft Framework for Implementation of the SJRRP
FWA	Friant Water Authority
FWCAR	Final Fish and Wildlife Coordination Act Reports
FY	Fiscal Year
GO	Grant Officer
Levee District	Lower San Joaquin Levee District
MAP	Monitoring and Analysis Plan
MC	Madera Canal

MCWPA	Madera and Chowchilla Water & Power Authority
MOU	Memo of Understanding
MPCO	Mid-Pacific Region Construction Office
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
O&M	Operations and Maintenance
PAT	Public Affairs Team
PEIS/R	Program Environmental Impact Statement/Report
PIP	Public Involvement Plan
PJD	Preliminary Jurisdictional Determination
PMT	Program Management Team
RA	Restoration Administrator
RHSNC-2(a)	Riparian Habitat and other Sensitive Natural Communities
ROD	Programmatic Record of Decision
Settlement Act	The San Joaquin River Restoration Settlement Act (Public Law 111-11)
Secretary	Secretary of Interior
SJRRP	San Joaquin River Restoration Program
TAC	Technical Advisory Committee
TIPAR	Technical Implementation and Planning Approach Reports
TM	Technical Memorandum
TSC	Reclamation's Technical Services Center
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
USGS	U. S. Geological Survey

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1.0 Introduction

This Annual Work Plan (AWP) for Fiscal Year 2013 (FY 13) both describes and sequences the activities proposed by the Bureau of Reclamation (Reclamation), U.S. Fish and Wildlife Service (USFWS), the National Marine Fishery Service (NMFS), the California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (DFW); (collectively, Implementing Agencies or Agencies) to undertake during FY 13 to implement the San Joaquin River Restoration Program (SJRRP or Program).

1.1 Background

In 1988, a coalition of environmental groups led by the Natural Resources Defense Council (NRDC) filed a lawsuit (*Natural Resources Defense Council, et al., v. Kirk Rodgers, et al.)* challenging the renewal of the long-term water service contracts between the United States and the Central Valley Project Friant Division Contractors. After more than 18 years of litigation, the NRDC, Friant Water Authority (FWA), and the Departments of the Interior and Commerce (collectively, Settling Parties) reached agreement on terms and conditions of a settlement (Stipulation of Settlement or Settlement). The court approved the Settlement on October 23, 2006. The San Joaquin River Restoration Settlement Act (Settlement Act), Title X of Public Law 111-11, signed into law on March 30, 2009, authorizes and directs the Secretary of the Interior (Secretary) to implement the Settlement.

The Settlement includes two parallel goals:

- Restoration - To restore and maintain fish populations in "good condition" in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish
- Water Management - To reduce or avoid adverse water supply impacts to all of the Friant Division long-term Contractors that may result from the Interim Flows and Restoration Flows provided for in the Settlement.

To achieve the Restoration Goal, the Settlement calls for the release of water from Friant Dam to the confluence of the Merced River (referred to as Interim and Restoration flows), a combination of channel and structural modifications along the San Joaquin River below Friant Dam, and reintroduction of Chinook salmon. To achieve the Water Management Goal, the Settlement calls for recirculation, recapture, reuse, exchange, or transfer of the Interim and Restoration flows and a Recovered Water Account and program for the purpose of reducing or avoiding impacts on water deliveries to all of the Friant Division long-term contractors caused by the Interim and Restoration flows. In addition to the Settlement, Part III of the Settlement Act authorizes and directs the Secretary of the Interior (Secretary) to conduct additional Water Management Goal actions to further reduce or avoid impacts to water deliveries caused by the Interim and Restoration flows. The Settlement and Settlement Act, collectively, are being implemented as the SJRRP.

The Settlement includes milestone dates for completion of certain activities. These milestones dates include the following:

- Initiation of Interim Flows in 2009;
- Completion of a permit application for the collection of spring-run Chinook salmon in 2010;
- Reintroduction of spring-run and fall-run Chinook salmon in 2012;
- Completion of the Paragraph 11(a) highest priority channel and structural improvement projects in 2013; and
- Initiation of Restoration Flows in 2014.

The Agencies initiated Interim Flows and completed the permit application for the collection of spring-run Chinook salmon on schedule. However, some actions, such as the completion of Paragraph 11(a), highest priority channel and structural improvement projects are unavoidably behind schedule. Additionally, the Agencies have collected substantially more data and information since the Settlement was signed, and have a fuller understanding of necessary steps to meet the Settlement and Settlement Act. To address this situation, in June 2012 the Program developed a Draft Framework for Implementation for the SJRRP (draft Framework), which makes use of new information to provide a revised schedule and budget to guide SJRRP activities, and a revised approach to implementing the Settlement and Settlement Act.

Figure 1 shows the Program restoration area, which runs along the San Joaquin River from Friant Dam to the Merced River confluence.

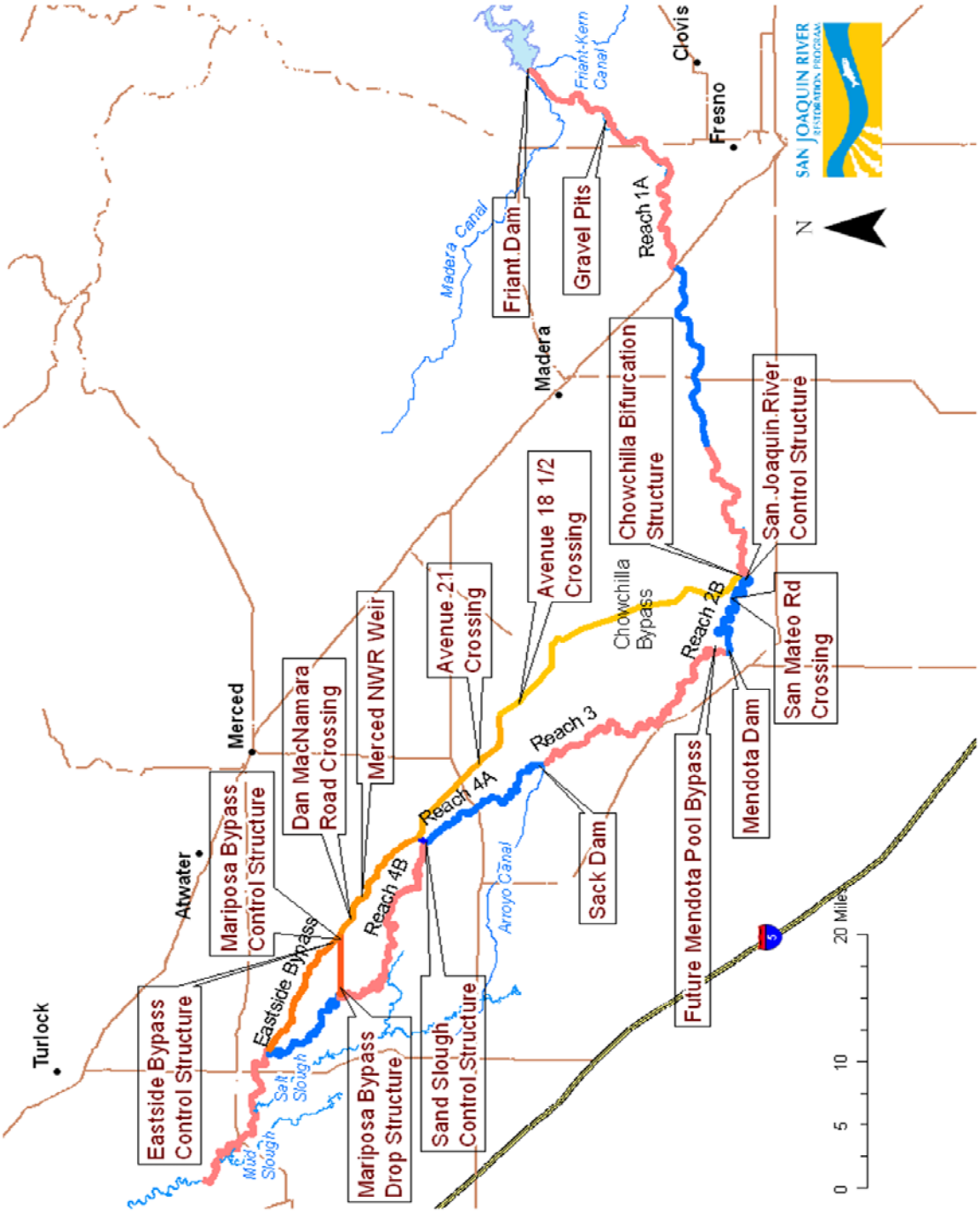

Figure 1-1 San Joaquin River Restoration Program Locations

1.1.1 Program Funding

Funding to implement the Program, as specified in the Settlement Act, comes from several sources. Table 1-1 provides the anticipated funding for the Program available through FY 2025 and is provided for informational and background purposes only. All funding, with the exception of $88 million from the San Joaquin River Restoration Fund, is subject to further appropriation.

Table 1-1 Anticipated Annual Funding Through 2025

Funding Source	Total Anticipated Funding Available
San Joaquin River Restoration Fund	
Friant Capital Repayment (1)	$245,149,000
Friant Surcharge (2)	$89,356,000
Receipts from Sales of Water or Land (3)	$21,552,000
Central Valley Project Restoration Fund (4)	$45,000,000
New Federal Appropriations (5)	$300,000,000
State Bond Funds (6)	$200,000,000
Total	**$892,056,000**

Notes: For the purposes of this analysis, funding available includes funds authorized by Federal and State law. All of this funding, with the exception of $88 million from the San Joaquin River Restoration Fund, is subject to further appropriation.

1. Estimated based on capital repayment to date, negotiated repayment contacts, and anticipated repayment amounts prior to negotiated repayment contracts along with anticipated amounts from the contractors that did not execute repayment contracts.
2. Assumes long-term average Class 1 and Class 2 water sales of 800,000 acre-feet. Includes actual collections from FY 2010 and 2011. Future collections are estimated at $5.6 million per year until FY 2019, when they reduce to $3.2 million per year (surcharge rate changes from $7/acre-foot to $4/acre-foot).
3. Assumes ramp-up of water sales over time to a long-term average of $1.5 million collected per year.
4. Includes actual funding provided from FY 2007 to FY 2011 and an anticipated $2 million from FY 2012 to 2025.
5. Includes funding provided in Section 10009(b)(1) and Section 10203(c) of Public Law 111-11.
6. Current agreement with Resources Agency will exhaust $40M available to DFW under Prop 84 by State FY 16/17. DFW is seeking additional funding opportunities to maintain support through 2025 but those funding sources have yet to be identified. Note that original planning for Prop 84 anticipated available funds through State FY 11/12. That budget has been extended an additional 5-years (through FY 16/17).

1.2 Purpose of this Document

In July 2012, the Program completed the *SJRRP Program Environmental Impact Statement/Environmental Impact Report* and in October published its *Program Record of Decision* (ROD).

In the ROD, Reclamation committed to the annual development of this AWP and to the successful and expeditious implementation of the Restoration and Water Management goals of the Settlement consistent with the Settlement Act. With this commitment in mind, the Settlement activities described in this AWP are being implemented in a sequence in which some activity-types are necessarily initiated before others. Consistent with the requirements set forth in the Settlement and Settlement Act, and in consideration of available resources, the following Program activity-types are being expedited:

- Activities that provide for naturally-reproducing and self-sustaining populations of salmon including reintroduction actions for spring-run and fall-run Chinook salmon, and, if necessary, an interim trap and haul program.
- Activities to implement the Water Management Goal.
- Activities in Paragraph 11(a) of the Settlement that prevent entrainment of fish by installation of a fish screen at Arroyo Canal, provide for fish passage over Sack Dam, and prevent straying of fish into Mendota Pool, by use of fish screens or other measures determined to be appropriate.
- Activities that provide for the release of Interim and Restoration flows in the San Joaquin River, including actions to address seepage management, levee stability, and channel capacity constraints (including the Mendota Pool Bypass).

To help sequence these Program activity-types, this AWP draws on the Program's draft Framework, which grouped potential activities into the three categories: Core, Secondary, and Improvement. For this AWP, the Agencies focus on those activities identified in the draft Framework as belonging to the Core category. Core activities are those considered essential to the success of the Program, where the Agencies are certain that the action will result in a positive outcome and where the absence of action would result in Program failure. The Core activities are subdivided into sets of actions. These sets of actions are: Program Support, Flow Actions, Channel and Structural Improvements, Fish Reintroduction, and Water Management. These actions are then further broken down into individual projects, which are listed in Section 4. Detailed descriptions of each planned project activity is beyond the scope of this document and may be found in the individual project descriptions as they are developed.

The estimated costs associated for implementing the listed project activities and support for the individual projects are also listed in Section 4. The activities listed herein represent the reasonable levels of effort the Program believes can be accomplished in fiscal years 13, 14 and 15 and the estimated costs associated with those levels of effort. These estimated costs do not represent the total costs to complete those activities or the projects. The total estimated costs to complete each individual project are beyond the scope of this document and are not provided.

2.0 FY 13 Program Funding

For FY 13, approximately $54.66 million in Federal funds were requested for the SJRRP. However, a FY 13 Federal budget was not enacted, but instead a Continuing Resolution Authority (CRA) was signed by the President into law, limiting the Program to its FY 12 Authorizations. Additionally, with Sequestration in effect, the Program's Discretionary Fund request was reduced by 5%. However, Reclamation added an additional $4 million (subject to the 5% Sequestration reduction) to the Program's Discretionary Fund from Reclamation's Federal budget. This brings the total Federal funds to approximately $53.33 million dollars. The State of California is adding approximately $16.8 million dollars from various sources. The breakdown of appropriated/requested funds for FY 13, with CRA and Sequestration considered, and State funding, is shown in Table 2-1. This request supplements the funding already obligated to Program actions from previous years' authorizations.

Table 2-1 SJRRP FY 2013 Funding

Funding Source	FY 13 Funding
Federal Funds	
San Joaquin River Restoration Fund	$34,660,000
Central Valley Project Restoration Fund	$2,000,000
Reclamation Discretionary Fund Request	$15,530,000*
San Joaquin River Restoration Trust Fund	$1,015,581
NMFS Funding	$124,500
State Funds	
Proposition 13	$1,022,000
Proposition 84	$10,792,000
Proposition 1E	$5,000,000
Total	**$70,144,081**
*The Program requested $12M. Reclamation added $4M, bringing the total to $16M, but this was reduced 5.2% for Sequestration. This will equate to a reduction of approximately $470,000.	

3.0 Accomplishments and Lessons Learned from Previous Fiscal Year Actions

Beginning with the AWP for FY14, the new AWP will include sections on accomplishments and lessons learned from the previous FY's actions. Individual project action accomplishments are included in the action descriptions beginning with FY13.

4.0 Planned Activities FY 2013-FY 2015

4.1 Summary of Planned Activities and Estimated Costs for FY 2013-FY 2015

As detailed in Section 1.2, the Agencies focused on those activities identified in the draft Framework as belonging to the Core category, which are subdivided into sets of actions. These sets of actions are: Program Support, Flow Actions, Channel and Structural Improvements, Fish Reintroduction, and Water Management. These actions are further broken down into individual projects. The cost estimates for project activities in this AWP were developed by the Agencies for reasonable expected levels of effort for Agency personnel and using known and estimated contracting costs for services and construction. These estimates were rolled up into total expected costs per action. Estimated costs provided throughout this AWP are not a reflection of or estimate of future funding requests in the President's budget or the State budget.

Table 4-1 summarizes the annual estimated costs of SJRRP actions for FY 13 to FY 15. This table constitutes a rollup of the estimates in tables 4-2 through 4-6. For estimate details see the individual project descriptions in Section 4.

Table 4-1 Estimated Costs by SJRRP Action

Action	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Program Support	$20,962,690	$26,877,543	$12,720,248
Flow-related Actions	$13,772,710	$12,468,704	$11,081,204
Channel and Structural Improvements	$7,651,444	$15,206,575	$34,205,086
Fish Reintroduction	$1,875,421	$1,048,245	$2,881,007
Water Management	$24,369,452	$19,424,146	$22,158,312
Total	**$68,631,717**	**$75,025,213**	**$83,045,857**
Note: Estimated costs are not a reflection of or estimate of future funding requests in the President's budget or the State budget.			

Each SJRRP action is subdivided into individual projects designed to meet commitments in the ROD, Core category needs and requirements of the Settlement. The following tables summarize the estimated project costs grouped by action. Project specific details, such as planned activities, are detailed through the rest of this chapter. Program Action categories are listed pursuant to the draft Framework and not in priority order.

Table 4-2 summarizes the projects and their estimated costs for the Agency and SJRRP Support action.

Table 4-2 Estimated Project Costs for Program Support Actions

Action	Project	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Program Support	DFW	$3,814,000	$15,718,000	$2,543,000
	DWR	$13,000,000	$7,000,000	$6,000,000
	NMFS	$1,140,081	$1,173,698	$1,105,834
	Program-wide Public Outreach	$458,176	$342,865	$354,914
	Reclamation Data Management	$435,897	$435,897	$435,897
	Reclamation Program Support	$736,688	$736,688	$736,688
	USFWS	$1,377,848	$1,470,395	$1,543,915
Total		**$20,962,690**	**$26,877,543**	**$12,720,248**

Table 4-3 summarizes the projects and their estimated costs for Flow Actions.

Table 4-3 Estimated Project Costs for Flow Actions

Action	Project	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Flow Actions	Channel Capacity Annual Assessment	$1,100,000	$600,000	$600,000
	Invasive Vegetation Monitoring	$1,011,000	$511,000	$0
	Lower San Joaquin Levee District Financial Assistance	$325,000	$285,000	$295,000
	Mapping Waters of the US	$351,000	$0	$0
	Monitoring and Analysis Plan	$4,206,006	$4,100,000	$4,100,000
	Riparian Habitat Mapping	$262,000	$86,500	$0
	Sand Slough Interim Flow Conveyance	$62,000	$800,000	$0
	Seepage Management	$6,360,500	$6,028,000	$6,028,000
	Water Rights Compliance	$74,000	$37,000	$37,000
	Wolfsen Litigation	$21,204	$21,204	$21,204
		$13,772,710	**$12,468,704**	**$11,081,204**

Table 4-4 summarizes the projects and their estimated costs for the Channel and Structural Improvements Action.

Table 4-4 Estimated Project Costs for Channel and Structural Improvement Actions

Action	Project	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Channel and Structural Improvements	Arroyo Canal and Fish Screen and Sack Dam	$2,471,890	$1,746,890	$1,746,890
	Mendota Pool Bypass and Reach 2B Improvements	$1,445,704	$9,903,502	$13,305,826
	Reach 4B, Eastside Bypass and Mariposa Bypass	$3,418,298	$2,693,298	$18,000,000
	Salt and Mud Sloughs Seasonal Barrier	$315,552	$862,885	$1,152,370
Total		**$7,651,444**	**$15,206,575**	**$34,205,086**

Table 4-5 summarizes the projects and their estimated costs for the Fish Reintroduction Action.

Table 4-5 Estimated Project Costs for Fish Reintroduction Actions

Action	Project	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Fish Reintroduction	EDT Modeling Effort	$743,306	$0	$0
	San Joaquin River Conservation Facility	$1,132,115	$1,048,245	$2,881,007
Total		**$1,875,421**	**$1,048,245**	**$2,881,007**

Table 4-6 summarizes the projects and their estimated costs for the Water Management Action.

Table 4-6 Estimated Project Costs for Water Management Actions

Action	Project	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Water Management	Part III Financial Assistance	$10,050,000	$5,100,000	$9,100,000
	Friant-Kern Canal Capacity Restoration Project	$5,915,563	$8,414,764	$8,261,563
	Madera Canal Capacity Restoration Demonstration Project	$3,818,889	$3,814,382	$3,596,749
	Restoration Operations Assessment Model	$350,000	$1,050,000	$700,000
	Water Management Support	$4,235,000	$1,045,000	$500,000
Total		**$24,369,452**	**$19,424,146**	**$22,158,312**

4.2 Program Support

Program Support actions include the support to the SJRRP from the Implementing Agencies and SJRRP staff not captured in individual projects. Program Support actions are listed in this AWP in alphabetical order.

4.2.1 California Department of Fish and Wildlife

Project Leads

DFW, Gerald Hatler

Project Description:

As an implementing agency in the SJRRP, the Department of Fish and Wildlife (DFW) provides biological and environmental support to assist Reclamation in achieving the Settlement's Restoration goal. DFW performs various aspects of the planning and design of activities, including providing technical assistance to the Settling Parties on actions related to the release of flows, the design and construction of facilities to provide for fish passage and to prevent fish entrainment as identified in the Settlement. DFW also provides technical assistance in the manner of reintroducing, monitoring and evaluating fish in the main stem of the San Joaquin River, and establishing and maintaining appropriate riparian habitat. DFW provides support for State incidental take permits under California Endangered Species Act (CESA), regulatory support for the State Streambed Alteration Agreement process and other aspects of Fish and Game code. DFW ensures consistency and integration of SJRRP activities by coordinating with other entities and programs working on the San Joaquin River. DFW also participates as a member of the Technical Advisory Committee (TAC), Program Management Team (PMT), Public Affairs Team (PAT) and various workgroups to assist Reclamation in the implementation of the SJRRP.

Project Deliverables

- Provide technical and regulatory oversight for SJRRP activities as appropriate
- Develop and implement studies for flow and water quality monitoring, fish passage, fish habitat, temperature monitoring and modeling, fish reintroduction, and fisheries modeling for survival and habitat
- Maintain regular attendance at Engineering, Water Management, Environmental, and Fisheries Workgroups, and PMT and TAC meetings
- Provide support for site-specific restoration projects
- Write and review draft documents
- Attend public meetings
- Collaborate with local entities, including but not limited to: the San Joaquin River Conservancy, sport fishing interests, and others
- Develop, implement and operate temporary fish rearing facilities for fish reintroduction

- Develop, implement and operate a full-scale conservation hatchery facility
- Implement near and long-term fish reintroduction actions
- Plan, prepare and complete California Environmental Quality Act (CEQA) and permitting documents for studies and site specific projects; plan and prepare CEQA and permitting documents supporting conservation hatchery construction, water supply, operations, and fish reintroduction
- Coordinate with National Marine Fisheries Service (NMFS) authorizations for fish reintroduction and National Environmental Policy Act (NEPA) review
- Administer, manage, and track funding, budgets, contracts and agreements
- Serve as CEQA Responsible and Trustee agency, and
- Review and coordinate all CEQA documents for the Program.

Activities Completed in FY 12

- Conducted fish and habitat studies to inform restoration
- Coordinated and collaborated with other Implementing Agencies, settling parties, the TAC, as well as other entities
- Provided regulatory oversight of implementation actions, and
- Reviewed and provided oversight for technical aspects of implementation actions as the State trustee for fish and wildlife resources. Implementation actions included land use, water quality, ecosystem, species, and habitat restoration projects associated with the SJRRP

Expected FY 13 Activities

- Coordination for planning, environmental compliance and design for modifications to Sack Dam and the Arroyo Canal, Mendota Pool Bypass, and channel/structural improvements in reaches 2B/4B, Eastside Bypass, and Mariposa Bypass channels
- Continued progress in developing details for fish reintroduction strategies under the 10(a)(1)(A) permit application for the Reintroduction of Central Valley Spring-Run Chinook Salmon into the San Joaquin River
- Planning and implementing monitoring activities and studies including: temperature, habitat, macroinvertebrate bioassessment, fish community assessment, adult trap and haul, egg survival/gravel suitability study, and juvenile Chinook salmon survival rates while migrating from Friant Dam to the mouth of the Merced River
- Continued management and participation in technical and SJRRP management working groups
- Attend and support public workshops, interagency workshops and public tours

- Assist with and complete appropriate environmental disclosure documents associated with CEQA and permits necessary for site-specific actions and monitoring activities
- Implement continued experimental activities at the temporary hatchery facility supporting small-scale salmon experiments in the San Joaquin River with rearing fall-run broodstock Chinook salmon from the Merced River Hatchery and spring-run broodstock from the Feather River Hatchery, broodstock production for eventual release in the San Joaquin River and supporting fish tagging and handling experiments
- Continued design and environmental review of a new salmon conservation hatchery and research facility
- Continued planning and coordination with the Department of General Services (DGS) to construct the full-scale conservation facility
  - Complete the first phase of conservation facility construction, which will produce preliminary plans
- Initiate public scoping and development of a draft Environmental Impact Report (EIR) for conservation hatchery operations and fish reintroduction
- Maintain regular attendance at various SJRRP working group and stakeholder meetings, and
- General SJRRP administration and support.

Projected FY 14 Activities

- Coordinate planning, environmental compliance and design for modifications to Sack Dam and the Arroyo Canal, Mendota Pool Bypass, and channel/structural improvements in reaches 2B/4B, Eastside Bypass, and Mariposa Bypass channels
- Continued progress in developing details for fish reintroduction strategies
- Continued planning and implementing monitoring activities and studies including: temperature, habitat, fish community assessment, adult trap and haul, egg survival/gravel suitability study, and juvenile Chinook salmon survival rates while migrating from Friant Dam to the mouth of the Merced River
- Continued management and participation in technical and program management working groups
- Attend and support public workshops, interagency workshops and public tours
- Assist with and complete appropriate environmental disclosure documents associated with CEQA and permits necessary for site-specific actions and monitoring activities
- Implement continued experimental activities at the temporary hatchery facility supporting small-scale salmon experiments, broodstock production for release in the San Joaquin River and supporting fish tagging and handling experiments
- Continued planning and coordination with the DGS to construct the full-scale conservation facility

  - Complete the second phase of conservation facility construction, which will produce working drawings and begin third phase construction

- Certify EIR for conservation hatchery operations and fish reintroduction
- Fund support to the Restoration Administrator and TAC members
- Maintain regular attendance at various SJRRP working group and landowner meetings, and
- General SJRRP administration and support.

Projected FY 15 Activities

- Coordination for planning, environmental compliance and design for site-specific restoration actions
- Continued progress in development of details for fish reintroduction strategies
- Continued planning and implementing monitoring activities and studies including: temperature, habitat, egg survival/gravel suitability study, and juvenile Chinook salmon survival rates while migrating from Friant Dam to the to the mouth of the Merced River
- Continued management and participation in technical and program management working groups
- Attend and support public workshops, interagency workshops and public tours
- Assist with and complete appropriate environmental disclosure documents associated with CEQA and permits necessary for site-specific actions and monitoring activities
- Continued planning and coordination with the DGS to complete construction of the full-scale conservation facility
- Begin shifting activities at the temporary hatchery facility to full-scale facility operations and begin initial full-scale broodstock production at the new facility
- Fund support to the Restoration Administrator and TAC members
- Maintain regular attendance at various SJRRP working group and stakeholder meetings, and
- General SJRRP administration and support.

Table 4-7 DFW Cost Estimate FY 2013 to FY 2015[1]

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
DFW (Prop 84)	$2,792,000	$15,718,000	$2,543,000
DFW (Prop 13)	$1,022,000[2]	$0	$0
Total	**$3,814,000**	**$15,718,000**	**$2,543,000**

Notes: [1]Activities and budget estimates align with the State of California FY, which runs from July 1 through June 30 of the following year.
[2]Includes approximately $900,000 to fund RA and TAC through FY's 14 and 15.

4.2.2 California Department of Water Resources

Program Leads
DWR, Paul Romero

Program Description

As an implementing agency in the SJRRP, the DWR provides engineering and environmental support to assist Reclamation in achieving the Settlement's Restoration goal. DWR performs engineering and environmental studies, data collection, and design, in a lead and supporting role for site-specific implementation projects and for general program execution. DWR also supports Reclamation to ensure actions of the SJRRP maintain acceptable flood risks by evaluating program actions, coordinating program activities with DWR's FloodSAFE programs, collecting data, performing technical studies and participating in the Channel Capacity Advisory Group (CCAG). DWR ensures consistency and integration of program activities by coordinating with other entities and programs working on the San Joaquin River. DWR also participates as a member of the TAC, PMT, PAT and various workgroups to assist Reclamation in the implementation of the SJRRP.

Program Deliverables

- San Joaquin River Capacity Analysis report
- Geotechnical Data Report for priority levees
- Geotechnical Overview Report for priority levees
- Project and environmental documentation review comments for site-specific projects
- Preliminary and final design memoranda for elements of site-specific projects
- Technical engineering memoranda of various studies
- Then-existing channel capacity summary report
- Final 1-D hydraulic models and documentation
- Levee Remediation and Cost Estimation memorandum
- Environmental documentation for CEQA compliance on SJRRP and DWR studies and projects
- Annual reporting of DWR monitoring and maintenance programs
- Annual reporting of expenses, and
- Funding support to California State Lands Commission, Restoration Administrator, and TAC members

Activities Completed in FY 12

- Worked with Reclamation to finalize the SJRRP Program Environmental Impact Statement/Report (PEIS/R)
- Performed initial evaluation and prioritization of levees to identify potential flood risk
- Conducted appraisal-level design and data collection for alternatives development of the Reach 2B site-specific projects
- Performed planning for final design and data collection of the Reach 2B and 4B site-specific projects
- Developed initial 1-D hydraulic models for the main stem San Joaquin River and flood bypasses
- Designed modifications to the Chowchilla Bifurcation gates to address gate vibration problems
- Conducted flow and water quality monitoring at San Joaquin River at Sack Dam and Washington Road stations
- Maintained flow and water quality stations at San Joaquin River at Sack Dam and Washington Road
- Conducted gravel monitoring in Reach 1A to evaluate spawning habitat
- Monitored sediment transport in Reach 2A to evaluate flow capacity changes
- Completed Phase 2 fish passage evaluations for the San Joaquin River and flood bypasses
- Participated in benthic macroinvertebrate bioassessment study to evaluate the impact of SJRRP actions on ecological integrity and water-quality conditions
- Assisted in the development of project description documents for the Reach 2B site-specific project
- Collaborated with the San Joaquin River Conservancy, DFW, and DWR's Regional Flood Management Planning program activities
- Maintained regular attendance at various SJRRP working group and landowner meetings, and
- Funded support to California State Lands Commission, Restoration Administrator, and TAC members

Expected FY 13 Activities

- Data collection and evaluation of high priority levees in Reach 2A, Reach 4A, and Eastside Bypass
- Sediment transport, fish passage and, flow capacity technical studies and data collection for final design of the Reach 2B and Reach 4B site-specific projects

- Begin final design of elements of the Reach 2B and 4B site-specific projects
- Finalize 1-D hydraulic models for the main stem San Joaquin River and flood bypasses
- Construct modifications to the Chowchilla Bifurcation gates to address gate vibration problems
- Flow and water quality monitoring at San Joaquin River at Sack Dam and Washington Road stations
- Maintenance of flow and water quality stations at San Joaquin River at Sack Dam and Washington Road
- Installation of water quality monitoring station at the Eastside Bypass Control Structure
- Gravel monitoring in Reach 1A to evaluate spawning habitat
- Sediment transport monitoring in Reach 2A to evaluate flow capacity changes
- Fish passage evaluations of structures in the Chowchilla and Eastside Bypasses to support upstream migration pathway studies
- Review project and environmental compliance documents for the Reach 2B and Reach 4B site-specific projects
- Environmental compliance and monitoring of all DWR studies and projects
- Collaborate with other entities and programs working on the San Joaquin River including the San Joaquin River Conservancy, DFW, and DWR's Regional Flood Management Planning program
- Initiate identification and characterization of Reach 1 gravel pits
- Maintain regular attendance at various SJRRP working group and landowner meetings, and
- Fund support to California State Lands Commission, Restoration Administrator, and TAC members.

Expected FY 14 Activities

- Begin data collection and evaluation of secondary priority levees
- Develop preliminary designs and costs of potential strategies to maintain acceptable flood risk management in high priority levees
- Assist in identifying performance and monitoring standards for flood control features to ensure that flood risks are not increased as a result of restoration flows
- Final evaluation and design of elements of the Reach 2B and 4B site-specific projects
- 1-D hydraulic modeling for various program needs

- Flow and water quality monitoring at San Joaquin River at Sack Dam, Washington Road, and other stations
- Maintenance of flow and water quality stations at San Joaquin River at Sack Dam and Washington Road
- Studies and data collection in Reach 1A to evaluate spawning habitat
- Sediment transport monitoring in Reach 2A to evaluate flow capacity changes
- Preliminary design of fish passage modification of structures in the San Joaquin River and flood bypasses
- Review project and environmental compliance documents for the Reach 2B, Reach 4B, and other site-specific projects
- Environmental compliance and monitoring of all DWR studies and projects
- Collaborate with other entities and programs working on the San Joaquin River including the San Joaquin River Conservancy, DGW, and DWR's Regional Flood Management Planning program
- Begin data collection and agency coordination to prioritize Reach 1 gravel pits
- Maintain regular attendance at various SJRRP working group and landowner meetings, and

Expected FY 15 Activities

- Complete data collection and evaluation of secondary priority levees
- Develop preliminary designs and costs of potential strategies to maintain acceptable flood risk management in secondary priority levees
- Develop final designs and costs to remediate high priority levees
- Assist the program in monitoring flood control features to ensure that flood risks are not increased as a result of restoration flows
- Final design of elements of the Reach 2B and 4B site-specific projects
- 1-D hydraulic modeling for various program needs
- Flow and water quality monitoring at San Joaquin River at Sack Dam, Washington Road, and other stations
- Maintenance of flow and water quality stations at San Joaquin River at Sack Dam and Washington Road
- Preliminary design of projects in Reach 1A to enhance spawning habitat
- Sediment transport monitoring in Reach 2A to evaluate flow capacity changes

- Final design of fish passage modification to structures in the San Joaquin River and flood bypasses
- Review project and environmental compliance documents for various site-specific projects
- Environmental compliance and monitoring of all DWR studies and projects
- Collaborate with other entities and programs working on the San Joaquin River, and
- Maintain regular attendance at various SJRRP working group and landowner meetings

Table 4-8 DWR Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
DWR (Prop 84)	$8,000,000	$7,000,000	$6,000,000
DWR (Prop 1E)	$5,000,000	$0	$0
DWR Total	**$13,000,000**	**$7,000,000**	**$6,000,000**
Notes: Activities and budget estimates align with the State of California's FY which runs from July 1 through June 30 of the following year.			

4.2.3 National Marine Fisheries Service

Project Leads

NMFS, Rhonda Reed

Project Description

NMFS is providing scientific expertise as well as regulatory and policy guidance for the reintroduction of Chinook salmon and for the restoration of flows and habitat. NMFS policy staff and technical staff support the SJRRP's efforts by providing input and developing compliance strategies for efficient Endangered Species Act (ESA) and essential fish habitat (EFH) compliance as well as taking the lead role for the review and implementation of a ruling under the ESA for the reintroduction of spring-run Chinook salmon to the San Joaquin River, consistent with the Settlement and Public Law 111-11. NMFS ensures consistency and integration of program activities by coordinating with other entities and programs that may affect migrating salmonids on the San Joaquin River and through the Delta. NMFS also participates as a Federal liaison to the TAC. NMFS leads the Fisheries Reintroduction and Regulatory Team, and participates in the PMT, Fisheries Management Work Group, PAT, and various workgroups to assist Reclamation in the implementation of the SJRRP.

Program Deliverables

- Biological opinions
- Informal consultation concurrences
- Maintain regular attendance at various SJRRP working group and stakeholder meetings
- Attend public meetings
- Written recommendations for monitoring activities for reintroduced salmon
- Provide recommendations for monitoring activities for reintroduced salmon, provided in coordination with the Fisheries Management Workgroup
- White paper providing population data informing modeling simulations on life stage fish abundance
- ESA rule and associated NEPA compliance efforts in support of spring-run reintroduction
- Provide written comments on simulation models in support of ESA-listed species
- Continued regulatory compliance and technical support of program and project-level SJRRP actions, and
- Provide other technical guidance as necessary for all fisheries related aspects of the SJRRP

Activities Completed in FY 12

- Prepared the Programmatic Biological Opinion and EFH consultation for the SJRRP
- Issued ESA section 10(a)(1)(A) permit to USFWS to allow initial collection of spring-run from Feather River Fish Hatchery for captive broodstock development
- Conducted public outreach to Central Valley stakeholders on spring-run reintroduction and regulatory requirements
- Reviewed and commented on the first and second administrative draft project descriptions for the Mendota Pool Bypass and Reach 2B Channel and Structural Improvements Project
- Attended and supported public workshops, interagency workshops, and public tours for the SJRRP
- Reviewed and commented on the first administrative draft project description for the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project, and
- Provided technical support to and regulatory compliance for multiple small-scale projects including fish studies, species surveys, monitoring well installations, soil surveys, and other investigations.

Expected FY 13 Activities

- Complete ESA regulatory requirements to allow release of Central Valley spring-run Chinook salmon to the San Joaquin River
- Review Project and environmental compliance documents for various site-specific projects
- Maintain regular attendance at various SJRRP working group and stakeholder meetings
- Continue technical assistance related to salmon reintroduction
- Prepare Biological Opinion and EFH consultation for Arroyo Canal Fish Screen and Sack Dam Fish Passage Project
- Provide ESA and EFH consultations on geotechnical surveys for levee stability, conservation hatchery operations and maintenance, 2013-14 Monitoring and Analysis (MAP) studies on seepage projects as needed, and
- Provide review and technical assistance for revisions of environmental documentation prepared in support of the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project and of the Mendota Pool Bypass and Reach 2B Channel and Structural Improvements Project

Projected FY 14 Activities

- Review Project and environmental compliance documents for various site-specific projects
- Maintain regular attendance at various SJRRP working group and stakeholder meetings
- Continue technical assistance related to salmon reintroduction, and
- Continue technical and regulatory compliance assistance

Projected FY 15 Activities

- Review Project and environmental compliance documents for various site-specific projects
- Maintain regular attendance at various SJRRP working group and stakeholder meetings
- Continue technical assistance related to salmon reintroduction, and
- Continue technical and regulatory compliance assistance

Table 4-9 NMFS Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Funding	$1,015,581	$1,042,973	$971,187
NMFS Funding	$124,500	$130,725	$134,647
Total	**$1,140,081**	**$1,173,698**	**$1,105,834**
Note: Reclamation funding are funds provided by Reclamation to NMFS for support to the SJRRP. NMFS funding are those funds provided by NMFS to support the SJRRP.			

4.2.4 Program-wide Public Outreach

Start Date
2009

Expected Completion Date
Not applicable.

Project Leads
Reclamation, Margaret Gidding

Project Description

Reclamation developed an extensive public outreach program for the SJRRP Public Involvement Plan (PIP) in 2007. The goal of the PIP is to create an open and visible process through which the public can track SJRRP activities and progress as well as participate in the identification of issues and formulation of alternatives.

Project Deliverables

- Meeting and workshop design and delivery to include stakeholder support through Technical Feedback Group meetings and support
- Research and writing public information pieces including an annual report
- Program web support
- Coordination with landowners in the restoration area
- Attendance at landowner meetings and workshops
- Articles and graphic support for the SJRRP quarterly update
- Coordinate access to private property including executing and managing Temporary Entry Permits, and
- Strategic advice on landowner participation processes, public information and public participation processes.

Activities Completed in FY 12

- Provided meeting and workshop designs and deliveries, to include stakeholder support, through attending Technical Feedback Group meetings
- Researched and wrote public information pieces including an annual report
- Provided Program web support
- Coordinated with landowners in the restoration area
- Attended landowner meetings and workshops

- Wrote articles and provided graphic support for the SJRRP quarterly update
- Coordinated access to private property, including executing and managing Temporary Entry Permits, and
- Provided strategic advice on landowner participation processes, public information and public participation processes

Expected FY 13 Activities

All of the project deliverables above will be expected in FY 13

Projected FY 14 Activities

Same as for FY 13

Projected FY 15 Activities

Same as for FY 13

Table 4-10 Program-wide Public Outreach Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$38,889	$38,889	$38,889
Contracting	$419,287	$303,976	$316,025
Total	**$458,176**	**$342,865**	**$354,914**

4.2.5 Reclamation Data Management Project: Software Development

Start Date
2009

Expected Completion Date
2015

Project Leads
Reclamation, Apurba Borah

Project Description

The Data Management Project provides storage, quality control, and presentation of SJRRP related data. Data will be made available to public through cloud computing storage outside the DOI network infrastructure. All the hydrologic and hydraulic data related to Restoration Program will be stored in one centralized server.

Project Deliverables

- Database server and associated software
- Design database to store hydrologic and hydraulic data
- Software to display data in cloud server, and
- Temperature atlas

Activities Completed in FY 12

- Designed relational database
- Purchased independent database server for the SJRRP
- Purchased data collection toolkit for transferring California Data Exchange Center (CDEC) data to SJRRP server
- Began development of a temperature atlas, and
- Began developing and testing software to present data in cloud server for public viewing

Expected FY 13 Activities

Develop data management software; transfer telemetry data to SJRRP server; Publish SJRRP data in cloud server.

Projected FY 14 Activities

Continue data management and quality control.

Projected FY 15 Activities

Continue data management and quality control.

Table 4-11 Reclamation Data Management Project: Software Development Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$435,897	$435,897	$435,897
Notes: FY14 and FY15 activities have yet to be fully evaluated; estimate may be lower if no software program development work is required.			

4.2.6 Reclamation Program Management and Support

Start Date
2009

Expected Completion Date
Not Applicable

Program Leads
Reclamation, Alicia Forsythe

Project Description

This project includes all direct costs to Reclamation for travel, office space rental, office equipment, training, awards, and other costs associated with program management and support. Salaries include those portions of the program and deputy program manager, budget analyst, program secretary, and service costs from Reclamation's Technical Service Center not covered under support to individual project activities.

Table 4-12 Reclamation Program Management and Support Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$736,688	$736,688	$736,688

4.2.7 U.S. Fish and Wildlife Service

Project Leads

USFWS, Bob Clarke

Project Description

USFWS will support the Program by conducting compliance and reintroduction activities consistent with the MAP and ATR processes and participate in the Program Management Team, Settling Party Coordination, and Technical Advisory Committees. USFWS personnel will support the Program on outreach with 3rd parties and the public, and attend technical workgroups and feedback group meetings as necessary. USFWS will also mobilize staff to support implementing the Program and resolving Program issues.

Project Deliverables

- Fisheries elements of the MAP and the Annual Technical Report
- Permitting documents
- Document review
- Annual donor stock collection plan
- Fish reintroduction protocols
- Adaptive management plan consistent with the Fisheries Management Plan
- Draft and final Fish and Wildlife Coordination Act Reports (FWCAR)
- Endangered Species Act consultations, and
- Technical support for permitting and compliance document

Activities Completed in FY 12

- Completed FWCAR for Arroyo Canal Fish Screen and Sack Dam Fish Passage Project
- Completed FWCAR for the entire SJRRP
- Coordinated fisheries elements of the FY 12 SJRRP MAP
- Prepared the Programmatic Biological Opinion for the entire SJRRP
- Prepared and submitted to NMFS a 10(a)(1)(A) permit for spring-run broodstock collection
- Coordinated efforts for the Endangered Species Act Section 4(d) and 10(j) rule making process
- Reviewed the Friant-Kern Canal Capacity Restoration Environmental Assessment (EA) and prepared a draft FWCAR

- Continued to facilitate access to Federal wildlife refuges for SJRRP purposes, and
- Continued coordination of regulatory compliance and review for the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project and the Mendota Pool Bypass and Reach 2B Improvements Project

Expected FY 13 Activities

- ESA concurrence and biological opinions for several SJRRP projects
- Provide fishery technical support for SJRRP projects
- FWCAR preparation and review for several SJRRP projects
- Fish reintroduction technical support and document preparation, and
- General permitting support for SJRRP activities

Projected FY 14 Activities

Same as 2013

Projected FY 15 Activities

Same as 2013

Table 4-13 USFWS Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Funding	$1,377,848	$1,470,395	$1,543,915
Notes: Reclamation funds all of USFWS' efforts for the SJRRP.			

4.3 Flow Actions

4.3.1 Channel Capacity Annual Assessment

Start Date
October 2012

Expected Completion Date
Assessments will continue through Water Year 2030 unless channel capacity issues are resolved earlier. Yearly assessments are due by September 27th of each year.

Project Leads
Reclamation, Michelle Banonis

Project Description

The PEIS/R calls for Reclamation to determine then-existing channel capacity and to establish the Channel Capacity Advisory Group (CCAG) with representatives from agencies with flood management responsibilities to review Reclamation's assessments of then-existing channel capacities. This activity provides consultant and agency support for the determination and review of channel capacities.

Project Deliverables

This activity will develop an annual report on then-existing channel capacities, erosion, and the activities undertaken during the year to address channel capacity and erosion. Facilitation of the CCAG will result in formal comments and responses to the annual report and meeting notes from CCAG meetings that are anticipated to occur quarterly.

Activities Completed in FY 12

No activities were completed in FY 12. The project began in FY 13.

Expected FY 13 Activities

Award consultant contract and establish the CCAG.

Projected FY 14 Activities

Continued facilitation of the CCAG and develop an Annual Channel Capacity Report for Restoration Year 2014.

Projected FY 15 Activities

Continued facilitation of the CCAG and develop an Annual Channel Capacity Report for Restoration Year 2015.

Notes

Project deliverables listed above are only for expected planning activities. Design, land acquisition, and construction activities to address channel capacity concerns have yet to be fully evaluated and are not known at this time.

Table 4-14 Channel Capacity Annual Assessment Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$100,000	$100,000	$100,000
Reclamation Contracts and Assistance Agreements	$1,000,000	$500,000	$500,000
Total	**$1,100,000**	**$600,000**	**$600,000**
Notes: Reclamation anticipates that DWR will contribute in-kind services to perform data collection and analysis to determine channel capacity. These costs are included in DWR's cost estimates.			

4.3.2 Invasive Vegetation Monitoring and Management

Start Date
October 1, 2010

Expected Completion Date
December 31, 2020

Project Leads
Reclamation, Erin Rice

Project Description

Invasive riparian plant species have the potential to substantially reduce the effectiveness of San Joaquin River restoration actions mandated by the Settlement. Accessible areas of the San Joaquin River between Friant Dam and the Merced River will be monitored once every 2 years for nonnative invasive plants. The purpose of the monitoring is to determine whether invasive species have spread to areas that previously were not infested with nonnative invasive plants, to assess the effectiveness of control measures, and to help guide new control efforts. Invasive nonnative riparian plants have the potential to spread in response to the additional flows released as the result of the SJRRP (Attachment to SJRRP PEIS/R Attachment L, PDF Pages 184-197)

Management activities will be conducted as described in the SJRRP Invasive Vegetation Monitoring and Management Environmental Assessment and Finding of No Significant Impact (October 2012). Although monitoring activities will occur once every two years, management activities will occur as often as annually depending on the monitoring results and success of past treatment efforts.

Project Deliverables

Annual Reports by December 31 each year describing invasive vegetation monitoring and management results

Activities Completed in FY 12

Environmental Compliance

Expected FY 13 Activities

- Invasive vegetation monitoring and management on the San Joaquin River and
- Annual report for FY13 activities by December 31, 2013

Projected FY 14 Activities

Conduct management activities and complete annual report by December 31, 2014

Projected FY 15 Activities

Scheduled invasive vegetation monitoring on the San Joaquin River and complete annual report by December 31, 2015

Table 4-15 Invasive Vegetation Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$11,000	$11,000	$0
Reclamation Contracts	$1,000,000	$500,000	$0
Total	**$1,011,000**	**$511,000**	**$0**

4.3.3 Lower San Joaquin Levee District Financial Assistance

Start Date
October 2009

Expected Completion Date
Ongoing

Project Leads
Reclamation, Michelle Banonis

Project Description

Financial assistance to the Lower San Joaquin Levee District (Levee District) provides for additional activities undertaken as a result of the release of Interim and Restoration Flows to assist the Levee District in transitioning to the new flow regime. The SJRRP Program Environmental Impact Statement/Report states that erosion management actions identified through monitoring of levee stability may fall without the routine maintenance of the Levee District. If increased maintenance activities and costs are required as a result of implementing the Settlement, including additional erosion management actions identified through the monitoring activities, Reclamation would conduct or enter into an agreement with the Levee District to conduct these maintenance activities. The financial assistance agreement is intended to assist the Levee District in adapting to changes in operations and maintenance activities, as needed, to maintain the existing level of flood management under release of Interim and Restoration flows.

Project Deliverables

The Levee District will undertake actions to account for changes in operations and management of the flood control project through the Restoration Area due to Interim and Restoration flows. This management could include controlling potential erosion and levee underseepage, control of vegetation, operation of flood control structures, removal of sediment, or other changes as needed to maintain the functionality of the system. The Levee District submits a report of activities with each invoice and an annual report of activities undertaken for the year.

Activities Completed in FY 12

Reclamation pursued a financial assistance agreement with the Levee District in 2012 and is continuing to work with the district to obtain a mutually acceptable agreement for changes in operations and maintenance as a result of the SJRRP.

Expected FY 13 Activities

Award Financial Assistance Agreement to include costs for the Water Year 2012 Interim Flows

Projected FY 14 Activities

Continued financial assistance

Projected FY 15 Activities

Continued financial assistance

Table 4-16 Lower San Joaquin Levee District Financial Assistance Cost Estimate for FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$25,000	$25,000	$25,000
Reclamation-Funded Financial Assistance Agreement	$300,000[1]	$260,000	$270,000
Total	**$325,000**	**$285,000**	**$295,000**
Notes: [1]Includes activities undertaken as a result of Water Year 2012 Interim Flows.			

4.3.4 Mapping Waters of the United States

Start Date
January 2013

Expected Completion Date
November 2013

Project Leads
Reclamation, Michelle Banonis

Project Description

This project is intended to successfully complete the mapping of waters of the United States as identified in the SJRRP Conservation Strategy in the PEIS/R. The Conservation Strategy states in part:

(i) Before SJRRP actions that may affect waters of the United States or waters of the State, Reclamation will map the distribution of wetlands (including vernal pools and other seasonal wetlands) in the Eastside and Mariposa bypasses.

(ii) The project proponent will determine, based on the mapped distribution of these wetlands and hydraulic modeling and field observation, the acreage of effects, if any, on waters of the United States.

(iii) If it is determined that vernal pools or other seasonal wetlands will be affected by the SJRRP, the project proponent will conduct a delineation of waters of the United States, and submit the delineation to the United States Corps of Engineers (USACE) for verification. The delineation will be conducted according to methods established in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Arid West Supplement (Environmental Laboratory, 2008).

This project includes a delineation of waters of the United States via aerial photograph interpretation in order to successfully support the following:

- Preliminary Jurisdictional Determination (PJD) and impact assessment for project-level permits issued by the U.S. Army Corps of Engineers (USACE) under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act

- Project-level permits such as Water Quality Certifications and Construction General Permits (National Pollutant Discharge Elimination System or NPDES) issued by the Central Valley Regional Water Quality Control Board under Section 401 and 402 of the Clean Water Act

- Determinations made by these agencies to demonstrate avoidance, minimization and where necessary the appropriate level of mitigation needed to off-set project-level impacts to waters of the United States.

Project Deliverables

- Presentations for Restoration Technical Feedback Group meetings or similar interests
- Meeting agendas and notes
- Administrative draft and final technical approach memoranda
- Acquire and interpret aerial photography
- Field work for ground-truthing
- Acquire temporary entry permits and negotiate entry terms to needed properties
- Draft and Final Waters of the United States Report and supporting information, and
- Submit final report to the USACE including request for determination of jurisdiction

Activities Completed in FY 12

Submitted and advertised a Request for Proposal through General Services Administration Federal Acquisition Service.

Expected FY 13 Activities

All deliverables are anticipated to be completed in FY 13.

Projected FY 14 Activities

None, unless activities in FY 13 take longer than anticipated

Projected FY 15 Activities

None

Table 4-17 Mapping Waters of the United States Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$71,000	$0	$0
Other Agencies Staff and Expenses	$10,000	$0	$0
Reclamation Contracts	$270,000	$0	$0
Total	**$351,000**	**$0**	**$0**

4.3.5 Monitoring, Analysis, Planning, and Reporting

Start Date
2006

Expected Completion Date
Ongoing

Project Leads
Reclamation, Erin Rice

Project Description

The Monitoring and Analysis Plan (MAP) is an annual update to SJRRP strategy to resolve uncertainties associated with flow management, channel improvements, fisheries reintroduction, and water management on the San Joaquin River. The Annual Technical Report is an incremental update on monitoring results from physical and biological studies on the San Joaquin River. This activity also includes funding and carrying out the studies that are implemented by Reclamation and USFWS that are part of the MAP.

Project Deliverables

- MAP
- Studies implemented by Reclamation or USFWS in the MAP
- Environmental compliance actions for Reclamation and USFWS studies in the MAP
- Annual Technical Report
- Reports related to MAP
- Data related to MAP
- Attend Restoration Goal Technical Feedback meetings

Activities Completed in FY 12

2011 Annual Technical Report and 2012 Monitoring and Analysis Plan

Expected FY 13 Activities

2012 Annual Technical Report and 2013 Monitoring and Analysis Plan

Projected FY 14 Activities

2013 Annual Technical Report and 2014 Monitoring and Analysis Plan

Projected FY 15 Activities

2014 Annual Technical Report and 2015 Monitoring and Analysis Plan

Table 4-18 Monitoring, Analysis, Planning, and Reporting Cost Estimate FY 2013 to FY 2015[1]

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$1,740,342	$1,600,000	$1,600,000
Reclamation Funding for Other Agencies Staff and Expenses[2]	$1,964,560	$2,000,000	$2,000,000
Reclamation Contracts	$501,105	$500,000	$500,000
Total	**$4,206,006**	**$4,100,000**	**$4,100,000**

Notes: [1]DFW and DWR activities related to Monitoring, Analysis, Planning, and Reporting are included in Sections 4.2.1 and 4.2.2, respectively.

[2]Includes funding for US Geologic Survey and USFWS support.

4.3.6 Riparian Habitat Mapping, Monitoring, and Mitigation Plan

Start Date
November 2011

Expected Completion Date
April 2014

Project Leads
Reclamation, Michelle Banonis

Project Description

The project is the planning and development of the Riparian Habitat Mapping, Monitoring, and Mitigation Plan. In order to implement the SJRRP, a comprehensive strategy for the conservation of listed and sensitive species and habitats was prepared in the form of the Conservation Strategy. The Conservation Strategy's purpose is to serve as a tool built into the project description provided in the Draft PEIS/R to minimize and avoid potential impacts on sensitive species and habitats. The Conservation Strategy consists of management actions that would result in a net benefit for riparian and wetland habitats in the Restoration Area. One of the specific measures, Riparian Habitat and other Sensitive Natural Communities (RHSNC-2(a)), states that a "Riparian Habitat Mitigation and Monitoring Plan for the SJRRP will be developed and implemented in coordination with DFW. Credits for increased acreage or improved ecological function or riparian and wetland habitats resulting from the implementation of the SJRRP actions will be applied as compensatory mitigation before additional compensatory measures are required." The intent of the monitoring and mapping is to track the changes in riparian vegetation over time and document these increases and to develop a methodology for a crediting mechanism that would benefit future SJRRP activities.

Project Deliverables

- Project Management Plan
- Meeting agendas and notes
- Presentations for Restoration Goals Technical Feedback Group meetings and/or other meetings
- First and second administrative draft Technical Implementation and Planning Approach Reports (TIPAR)
- Final TIPAR, field verification surveys (including acquiring access and temporary entry permits for all field activities)
- Notify landowners of field survey activities
- Draft and final Field Survey Reports, first and second administrative draft Riparian Habitat Mapping, Monitoring, and Mitigation Plan
- Final Riparian Habitat Mapping, Monitoring, and Mitigation Plan, and

- Formally submit Final Riparian Habitat Mapping, Monitoring and Mitigation Plan to USFWS and DFW, including negotiated "banking" ratios and crediting/debiting mechanism included in cover letters

Activities Completed in FY 12

- Kickoff meeting November 2012 with Reclamation, USFWS, DFW, NMFS, and project contractor
- Draft Project Management Plan
- Began work on first administrative draft TIPAR

Expected FY 13 Activities

- First Administrative Draft, Second Administrative Draft, and Final TIPARs
- Coordinate property access and execute temporary entry permits
- Field verification surveys, draft and final Field Survey Reports
- Meetings with regulatory agencies to discuss crediting mechanism and approach

Projected FY 14 Activities

- First Administrative Draft, Second Administrative Draft, and Final Riparian Habitat Mapping, Monitoring, and Mitigation Plan
- Formally submit Final Riparian Habitat Mapping, Monitoring and Mitigation Plan to USFWS and DFW, including negotiated "banking" ratios and crediting/debiting mechanism included in cover letters

Projected FY 15 Activities

Table 4-19 Riparian Habitat Mapping, Monitoring, and Mitigation Plan Cost Estimate for FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$60,750	$20,250	$0
Other Agencies Staff and Expenses	$10,000	$2,500	$0
Reclamation Contracts	$191,250	$63,750	$0
Total	**$262,000**	**$86,500**	**$0**

4.3.7 Sand Slough Interim Flow Conveyance Project

Start Date
September 2011

Expected Completion Date
September 2013

Project Lead
Reclamation, Steve Tighe

Project Description

Complete all activities necessary to remove accumulated sediments and construct a low flow channel in the Eastside Bypass (Bypass), remove an inoperable culvert structure, and construct a low flow crossing at El Nido Road to allow passage of Interim and Restoration flows and fish.

Project activities include project management and coordination, evaluating alternatives, completing the NEPA process, including preparing an Environmental Assessment/Initial Study (EA/IS), obtaining all permits and clearances, contracting, engineering design plan development, demolition, sand removal, and crossing construction activities, and construction management oversight.

Project Deliverables

- Project Description
- Biological survey reports
- Land access permits and NEPA documents
- ESA Section 7, Clean Water Act Section 401 and 404 Permit, Section 106 compliance and obtain other permits as required
- Engineering design plans and construction reports
- Construction (sand removal and crossing)
- Write the Performance Work Statement
- Write performance reports
- Project Management Activities including invoicing, cost estimating; bid-ready design; bid documents and documenting project close-out

Activities Completed in FY 12

- Coordinated with landowners
- Began channel surveys and reports
- Initiated permitting and environmental compliance activities

- Initiated Clean Water Act Section 401 and 404 permit applications
- Designed alternative evaluation and selection criteria
- Initiated engineering report, and
- Began to developed cost estimates

Expected FY 13 Activities

- Develop Project Description
- Coordinate with landowners
- Complete channel surveys and reports
- Continued permitting and environmental compliance activities
- Continued Clean Water Act Section 401 and 404 permit applications
- Plan Section 106 compliance
- Initiate engineering report, and
- Develop cost estimates

Projected FY 14 Activities

- Complete NEPA compliance activities
- Complete land access and construction permitting activities
- Award construction contracts
- Complete stakeholder coordination
- Construction bid and management
- Finalize construction surveys
- Remove sand and complete crossing construction, and
- Project management oversight

Projected FY 15 Activities

None anticipated.

Notes

Additional sand removal activities in subsequent FYs are only expected to be required after long duration high flow events that result in significant additional sand deposition at the site.

Table 4-20 Sand Slough Interim Flow Conveyance Project Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$59,000	$175,000	$0
Reclamation Funded Other Agencies Staff and Expenses	$3,000	$35,000	$0
Reclamation Contracts	$0	$590,000[1]	$0
Total	**$62,000**	**$800,000**	**$0**

Notes: [1]The contractor's cost estimate is based on a design contingency of 15% and a construction contingency of 25%. These contingency estimates, although appropriate for other construction projects, are high for this project since the project consists of sand removal activities and construction of a low flow crossing that includes rock and gravel materials only.

4.3.8 Seepage Management Projects

Start Date
March 2009

Expected Completion Date
December 2023

Project Leads
Reclamation, Katrina Harrison

Project Description

The PEIS/R commits to limiting flow releases that are within then-existing channel capacities, which includes levee stability, levee seepage, and groundwater seepage affecting agricultural crops. Reclamation developed a Seepage Management Plan (updated in 2011) in coordination with the landowners. It lays out a groundwater monitoring network and identifies thresholds in wells within the monitoring network. Reclamation limits the release of Interim and Restoration flows to flow rates that do not cause groundwater levels to rise above thresholds. Channel capacities must meet the most restrictive of seepage constraints and levee constraints. Seepage constraints vary by season and by hydrology below Sack Dam. Implementation of physical or real-estate related seepage projects will allow higher flow rates without groundwater levels rising above thresholds.

Reclamation has developed a process to increase the non-damaging conveyance capacity for the conveyance of Interim and Restoration flows. Seepage projects may include physical projects, such as interceptor lines, drainage ditches, slurry walls, shallow groundwater pumping, or raising the ground surface. There may also be real estate actions, such as license agreements, easements, or acquisition. The program staff would coordinate with the landowners to select the specific project for each location after an evaluation of the site. The groundwater seepage portion of the project involves 93 individual parcel groups, sections of property divided by groundwater conditions and ownership, with more than 29,596 acres. Reclamation estimates that it will take approximately 10 months from project initiation to completion of analysis and selection of alternatives and an additional three to nine months for real estate and contracting actions for final design and construction. A construction action can require an additional one or two years. Reclamation has begun work on several of the high priority seepage parcel groups.

Project Deliverables

- Updated Seepage Management Plan
- Various study reports, including model documentation and Site Evaluation and Appraisal Level Design Report (one for each project, up to 93 projects)
- Project Report including 30-60% design (one for each project, up to 93 projects)
- Completed NEPA document and associated permits (one set for each project, up to 93 projects), and

- 90% designs, plans and specifications (from contractor, one set for each project, up to 93 projects)

Activities Completed in FY 12

- Initiated nine seepage projects
- Operated in accordance with the Seepage Management Plan including restrictions on flows, monitoring of groundwater wells, soil salinity, river stage, hydraulic conductivity and surveying, and
- Completed a *Seepage Project Handbook* detailing the process for seepage projects

Expected FY 13 Activities

- Peer review of the seepage management plan and an updated plan with modifications to groundwater level thresholds and operations based on additional studies and the recommendations of the peer review panel
- Develop and document the SJRRP groundwater model from the USGS
- Fieldwork and study report on geophysical investigation of paleochannels, and
- Various ongoing activities, including data management, monitoring and reporting of over 180 groundwater wells, and operations to avoid seepage impacts

For seepage projects, a site evaluation report, project report, and completed NEPA documentation for the first three parcel groups are anticipated in FY13. Depending on environmental compliance and permitting timeframes, construction may also occur in 2013. In addition, Reclamation will host a plan formulation and other meetings with landowners to facilitate selection of a preferred alternative and subsequent design and construction. A site evaluation report is anticipated for the second set of three parcel groups in summer or fall 2013, followed by a project report after the selection of the preferred alternative.

Projected FY 14 Activities

- Additional updates to the Seepage Management Plan, if necessary
- Ongoing work, including monitoring, analysis, modeling and reporting, and
- Construct additional 6-10 seepage projects including related deliverables.

Projected FY 15 Activities

- Additional updates to the Seepage Management Plan, if necessary
- Ongoing work, including monitoring, analysis, modeling and reporting, and
- Construct additional 6-10 seepage projects including related deliverables.

Table 4-21 Seepage Management Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$1,888,000	$1,708,000	$1,708,000
USGS Staff and Expenses	$472,500	$320,000	$320,000
Reclamation Funded Construction	$2,000,000	$2,000,000	$2,000,000
Reclamation Funded Contract	$2,000,000	$2,000,000	$2,000,000
Total	**$6,360,500**	**$6,028,000**	**$6,028,000**

4.3.9 Water Rights Compliance

Start Date
October 1, 2009

Expected Completion Date
Annually, for the life of the Program

Project Leads
Reclamation, Erin Rice

Project Description

Report on compliance with each condition of the Water Rights Order at the completion of each Water Year.

Project Deliverables

Annual compliance report required by State Water Resources Control Board Water Rights Order each Water Year (WY).

Activities Completed in FY 12

WY 2011 Compliance Report

Expected FY 13 Activities

WY 2012 Compliance Report and compliance report for the short-term petition in June 2013.

Projected FY 14 Activities

WY 2013 Compliance Report

Projected FY 15 Activities

WY 2014 Compliance Report

Table 4-22 Water Rights Compliance Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$64,000	$27,000	$27,000
Reclamation Funded Contracts	$10,000	$10,000	$10,000
Total	**$74,000**	**$37,000**	**$37,000**

4.3.10 Wolfsen v. U.S. Litigation

Start Date
August 2010

Expected Completion Date
To be determined.

Project Leads
Reclamation, Alicia Forsythe

Project Description

In August 2010, Wolfsen Land and Cattle Company and others filed suit under the Fifth Amendment of the United States Constitution to recover just compensation for alleged takings of land, buildings, crops, and appurtenant water rights as a result of the implementation of the Restoration Program. In December 2010, the parties entered into alternative dispute resolution.

As part of the alternative dispute resolution process, the parties have agreed to confidential discussions. Therefore, no additional details are provided for deliverables, annual activities, or activities completed in FY 12.

Table 4-23 Wolfsen v. U.S. Litigation Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$21,204	$21,204	$21,204
Total	**$21,204**	**$21,204**	**$21,204**
Notes: Budget estimate provided for Reclamation's anticipated labor and travel expenses only. All other potential costs, including a settlement, if one is reached, are confidential at this time.			

4.4 Channel and Structural Improvements

4.4.1 Arroyo Canal Fish Screen and Sack Dam Fish Passage Project

Start Date
September 2009

Expected Completion Date
September 2015

Project Leads
Reclamation, Steve Tighe

Project Description

Complete all activities necessary to screen the Arroyo Canal irrigation diversion to prevent entrainment of anadromous fish and modify Sack Dam to ensure fish passage consistent with Paragraph 11(a)(6) and 11(a)(7) of the Settlement. Project activities include:

- Project management and coordination
- Evaluating design alternatives
- Completing the NEPA and California Environmental Quality Act (CEQA) process, including the preparation of an Environmental Assessment/Initial Study (EA/IS)
- Obtaining all permits and clearances
- Conducting all engineering design services
- Constructing the project.

The project includes implementing all activities to construct a new 700 cubic feet per (cfs) second V-configuration profile bar fish screen in the Arroyo Canal, a new Sack Dam, and a fish passageway adequate to pass salmon and other fish, and associated infrastructure.

Project Deliverables

- Technical Memoranda (TMs) including an Initial Options TM, Data Needs TM, Field Survey Methods and Results TM, Analysis Approach TM, Alternatives TM, and a Regulatory Compliance TM
- Public outreach materials
- Project Description
- Protocol-level surveys for sensitive species and habitats and subsequent survey reports
- Public Draft and Final EA/IS and all related notices
- Support for permitting, including:

  - ESA Section 7 compliance
  - California Endangered Species Act (CESA) compliance
  - Clean Water Act Section 401 and 404 compliance
  - Section 408, Section 10, Clean Air Act and California Clean Air Act conformity
  - Section 106 compliance
  - State Lands Land Use Lease applicability determination
  - County Encroachment Permit
  - Central Valley Flood Protection Board Permit
  - Lake and Streambed Alteration Permit
  - Incidental Take Permit
  - Other permits as required
- Memorandums of Understanding (MOU) for environmental permitting, engineering design, construction, and long-term operations and maintenance
- Engineering reports
- 30%, 60%, and 90%, and 100% design plans and cost estimates
- Bid ready design
- Value engineering report
- Design, estimating, and construction review report
- Bid documents
- Construction reports, including as-built construction reports
- Completed fish screen, passageway, dam, and associated infrastructure

Activities Completed in FY 12

Include:

- Developed Technical Memoranda (TMs), including Initial Options TM, Data Needs TM, Field Survey Methods and Results TM, Analysis Approach TM, Alternatives TM, and a Regulatory Compliance TM
- Developed Public outreach materials
- Developed Project Description
- Completed protocol-level surveys for sensitive species and habitats and subsequent survey reports

- Prepared first and second administrative draft EA\IS
- Prepared public draft EA/IS and all related notices
- Prepared first and second administrative final EA/IS
- Prepared and supported permitting, including:
  - ESA Section 7 compliance
  - California Endangered Species Act (CESA) compliance
  - Clean Water Act Section 401 and 404 compliance
  - Section 408, Section 10, Clean Air Act and California Clean Air Act conformity
  - Section 106 compliance
  - State Lands Land Use Lease applicability determination
  - County Encroachment Permit
  - Central Valley Flood Protection Board Permit
  - Lake and Streambed Alteration Permit
  - Incidental Take Permit
  - Other permits as required
- Performance reports and invoice review and processing
- Developed engineering reports
- Developed 30% and 60 design plans and cost estimates
- Responded to value engineering report
- Completed Design, estimating, and construction review report
- Developed partial bid document

Expected FY 13 Activities

- Ongoing permitting, environmental compliance, and engineering design activities
- Analyze subsidence project impacts
- Analyze dressinid mussel impacts
- Prepare final EA/IS and complete public notice activities
- Negotiate and develop Financial Assistance Agreement (FAA) to modify ongoing permitting, environmental compliance, and engineering design activities
- Negotiate and develop FAA for construction activities

- Project management oversight

Projected FY 14 Activities

- Develop and execute MOU for construction activities
- Construction bid and management
- Pre-construction surveys
- Begin permitting, environmental compliance, and engineering design and construction activities
- Potential FAA modification negotiation and development (if needed)
- Construction project management and oversight

Projected FY 15 Activities

- Ongoing permitting, environmental compliance, and engineering design and construction activities
- Construction project management and oversight
- Construction revegetation
- Project close-out activities

Table 4-24 Arroyo Canal Fish Screen and Sack Dam Fish Passage Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$246,890	$246,890	$246,890
Reclamation Funded Financial Assistance Agreements	$2,225,000	$1,500,000	$1,500,000
Total	**$2,471,890**	**$1,746,890**	**$1,746,890**
Notes: Design construction activity schedule and deliverables may be revised upon determination of future project impacts resulting from subsidence as additional subsidence data becomes available and is evaluated.			

4.4.2 Mendota Pool Bypass and Reach 2B Improvements Project

Start Date
2009

Expected Completion Date
September 2019

Project Leads
Reclamation, Michael Mitchener

Project Description

The Mendota Pool Bypass and Reach 2B Improvements Project includes the construction, operation, and maintenance of the Mendota Pool Bypass and improvements in the San Joaquin River channel in Reach 2B to convey at least 4,500 cfs. The project area extends from approximately 0.3 miles above the Chowchilla Bypass Bifurcation Structure to approximately 1.0 mile below the Mendota Dam. The project area is in Fresno and Madera counties, near the town of Mendota, California. Specifically, the project will include completing the NEPA and CEQA process including the preparation of an EIS/R), obtaining permits, and support for the Mendota Pool Bypass and Reach 2B Improvements Project under the Program. Future activities will also include design, land acquisition, and construction of levees, river channels, and flow and fish passage structures.

Project Deliverables

Include:

- Public outreach via public and stakeholder meetings and public outreach materials
- Project Description Technical Memorandum
- Protocol-level surveys for sensitive species and habitats and subsequent survey reports
- Public Draft EIS/R and related notices
- Final EIS/R and related notices
- ROD and Notice of Determination
- Support permitting, including:
  - ESA Section 7 compliance
  - CESA compliance
  - Clean Water Act Section 401 and 404 compliance
  - Section 408, Section 10
  - Clean Air Act and California Clean Air Act conformity

  - Section 106 compliance
  - State Lands Land Use Lease
  - County encroachment permits
  - Central Valley Flood Protection Board Permits
  - Section 1600 permit
  - Other permits as required
- Memorandums of Understanding (MOU) for environmental permitting, engineering design, construction, and long-term operations and maintenance
- Engineering reports
- 30%, 60%, and 90%, and 100% design plans and cost estimates
- Bid ready design
- Value engineering report
- Design, estimating, and construction review report
- Bid documents
- Construction reports, including as-built construction reports
- Completed fish screens, passageways, dam (if part of final alternative), and associated infrastructure

Activities Completed in FY 12

- Reconnaissance-level surveys for sensitive species and habitats
- Reconnaissance-level surveys for cultural resources
- Developed project alternatives
- Conducted stakeholder meetings
- Developed Existing Environmental Conditions Data Needs and Survey Approach Technical Memorandum
- Developed Draft Project Description Technical Memorandum
- Developed Regulatory Compliance Technical Memorandum
- Developed outline for project EIS/R document

Expected FY 13 Activities

- Finalize the Project Description Technical Memorandum

- Conduct public outreach
- Analyze resource area impacts for EIS/R
- Prepare first and second administrative Draft EIS/R documents

Projected FY 14 Activities

- Public Draft EIS/R and all related notices
- Public meetings for public draft EIS/R
- Select preferred alternative and sign ROD and Notice of Determination
- Begin land acquisition activities
- Begin preparing final designs and construction plans

Projected FY 15 Activities

- Continue land acquisition activities
- Complete final designs and construction plans

Table 4-25 Mendota Pool Bypass and Reach 2B Improvements Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$591,691	$1,582,823[1]	$1,251,814[1]
Reclamation Funded Contracts	$854,012	$854,012[2]	$854,012[2]
Land Acquisition Costs	$0	$7,466,667	$11, 200,000
Total	**$1,445,704**	**$9,903,502**	**$13,305,826**

Notes: [1]Reclamation labor for FY 2014 and 2015 would include increased involvement from the construction branch, including review from design and engineering staff, and Reclamation's Technical Service Center personnel. Labor rates would also include significant involvement from real estate personnel.

[2]The contractor cost for late FY 2014 and FY 2015 would most likely include land acquisition-related contractor work, such as title searches, Phase I Environmental Site Assessments, and/or other work that would be typical of investigation prior to governmental acquisition of property.

4.4.3 Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements

Start Date
September 2009

Expected Completion Date
September 2019

Project Leads
Reclamation, Michelle Banonis

Project Description

The Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project supports key elements in Section 11(a) and 11(b) of the Settlement, specifically:

- Modifications in San Joaquin River channel capacity to the extent necessary to ensure conveyance of at least 475 cubic feet per second (cfs) through Reach 4B
- Modifications at the Reach 4B Headgate on the San Joaquin River channel to ensure fish passage and enable flow routing of between 500 cfs and 4,500 cfs into Reach 4B, consistent with the Settlement
- Modifications to the Sand Slough Control Structure to ensure fish passage
- Modifications to structures in the Eastside and Mariposa bypass channels, to the extent needed to provide anadromous fish passage on an interim basis until completion of the Phase 2 improvements projects identified in the Settlement
- Modifications in the Eastside and Mariposa bypass channels to establish a suitable low-flow channel, if the Secretary of the Interior in consultation with the Restoration Administrator determines such modifications are necessary to support anadromous fish migration through these channels
- Modifications in the San Joaquin River channel capacity (incorporating new floodplain and related riparian habitat) to ensure conveyance of at least 4,500 cfs through Reach 4B, unless the Secretary, in consultation with the Restoration Administrator and with the concurrence of NMFS and USFWS, determines that such modifications would not substantially enhance achievement of the Restoration Goal

Project Deliverables

- Public outreach via public and stakeholder meetings
- Public outreach materials
- Project Description Technical Memorandum

- Protocol-level surveys for sensitive species and habitats and subsequent survey reports
- Significance criteria
- Resource area analyses for EIS/R
- First administrative draft EIS/R
- Second administrative draft EIS/R
- Public draft EIS/R
- Notices for public draft EIS/R
- Collect, review, and respond to public comments
- Additional modeling runs, as needed, based on public comment
- First administrative final EIS/R
- Second administrative final EIS/R
- Distribute final EIS/R
- Notices for final EIS/R
- ROD, and
- Support permitting, including:
  - ESA Section 7 compliance
  - CESA compliance
  - Clean Water Act Section 401 and 404 compliance
  - Section 408, Section 10
  - Clean Air Act and California Clean Air Act conformity
  - Section 106 compliance
  - State Lands Land Use Lease
  - County encroachment permits
  - Central Valley Flood Protection Board Permits
  - Section 1600 permit
  - Other permits as required
- Memorandums of Understanding (MOU) for environmental permitting, engineering design, construction, and long-term operations and maintenance
- Engineering reports

- 30%, 60%, and 90%, and 100% design plans and cost estimates
- Bid ready design
- Value engineering report
- Design, estimating, and construction review report
- Bid documents
- Construction reports, including as-built construction reports

Activities Completed in FY 12

- Reconnaissance-level surveys for sensitive species and habitats
- Reconnaissance-level surveys for cultural resources
- Developed project alternatives
- Conducted stakeholder meetings
- Developed Existing Environmental Conditions Data Needs and Survey Approach Technical Memorandum
- Developed Draft Project Description Technical Memorandum
- Developed Regulatory Compliance Technical Memorandum, and
- Developed outline for project EIS/R document

Expected FY 13 Activities

- Finalize the Project Description Technical Memorandum
- Conduct public outreach
- Analyze resource area impacts for EIS/R
- Prepare first and second administrative draft EIS/R documents

Projected FY 14 Activities

- Prepare Draft EIS/R and all related notices
- Hold public meetings for public Draft EIS/R
- Prepare Final EIS/R

Projected FY 15 Activities

- Complete Final EIS/R
- Select preferred alternative and sign ROD and Notice of Determination

- Begin land acquisition activities
- Prepare final designs and construction plans

Table 4-26 Reach 4B, Eastside Bypass, and Mariposa Bypass Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation	$1,193,298	$1,193,298[1]	$3,000,000[1]
Contractors	$2,225,000	$1,500,000[2]	$15,000,000[2]
Total	**$3,418,298**	**$2,693,298**	**$18,000,000**

Notes: [1]Reclamation labor for FY 2014 and 2015 would include increased involvement from the construction branch and 60% and 90% design plans from the TSC, including review from design and engineering staff. Labor rates would also include significant involvement from real estate personnel.

[2]The contractor cost for FY15 would most likely include land acquisition-related contractor work, such as title searches, Phase I Environmental Site Assessments, and/or other work that would be typical of investigation prior to governmental acquisition of property.

Per the Working Draft Framework for Implementation, construction is anticipated to begin in 2016. The total construction cost is estimated to be between $133 and $234 million dollars. Land acquisition costs are anticipated to range from $2.6 to $39 million dollars. Both the construction costs and the land acquisition will vary depending on the alternative that is selected for the ROD. For the purposes of showing costs here, an average of alternatives was selected.

4.4.4 Salt and Mud Sloughs Seasonal Barrier Project

Start Date
2012

Expected Completion Date
Not determined at this time

Project Leads
Reclamation, Apurba Borah

Project Description

The Salt and Mud Sloughs Seasonal Barriers project is to provide temporary barriers to prevent adult anadromous fish from entering false migration pathways in the area of Salt and Mud Sloughs. This project is identified in Paragraph 11(a)(10) of the Settlement as a Phase 1 Improvement and is authorized and funded by Sections 10004 and 10009 of the SJRRS Act. Fish barriers will be deployed near the Mud Slough- San Joaquin River confluence (approximately river mile (RM) 121, and the Salt Slough-San Joaquin confluence (approx. RM 129), which are upstream from the Merced- San Joaquin confluence (approx. RM 118). This study will evaluate different types of fish barriers to prevent adult anadromous fish from entering into Salt and Mud Sloughs. Barrier effectiveness will be evaluated under different hydraulic conditions, along with their ease of operation. The No-Action Alternative will determine if seasonal barriers are required at the project locations, and it will be the basis of comparison for all other alternative plans. Existing fish trapping data, along with biological models, will be used to evaluate without-project conditions. Once a final fish barrier design document is developed, construction work will begin at the two sites.

Project Deliverables

- Biological survey report
- First Administrative Draft EA/MND
- Second Administrative Draft EA/MND
- Public Draft EA/MND
- Notices for Public Draft EA/MND
- Collect, review, and respond to public comments
- Preliminary and final design of fish barriers; and prepare associated permits

Activities Completed in FY 12

- Project Charter
- Draft Project Management Plan
- Preliminary Schedule, and

- Work Breakdown Structure

Expected FY 13 Activities

- Finalize Project Management Plan
- Prepare Engineering and Environmental Work Plans
- Obtain and execute all temporary entry permits
- Conduct biological survey and prepare First Admin Draft EA/Mitigated Negative Declaration (EA/MND)
- Prepare preliminary design of fish barrier

Projected FY 14 Activities

- Prepare Second Administrative Draft EA/MND
- Prepare Public Draft EA/MND
- Prepare Notices for Public Draft EA/MND and all required notices
- Prepare Fish and Wildlife Coordination Act Report
- Prepare Final EA/MND and all required notices
- Sign Finding of No Significant Impact
- Finalize Fish Barrier Design and construction plans
- Obtain associated permits for construction
- Begin construction

Projected FY 15 Activities

Continue construction.

Design, land acquisition, and construction activities have yet to be fully evaluated and are speculative at this time.

Table 4-27 Salt and Mud Sloughs Seasonal Barrier Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$65,552	$362,885	$265,900
Reclamation Funded Contracts	$250,000	$500,000	$886,470
Total	**$315,552**	**$862,885**	**$1,152,370**

4.5 Fish Reintroduction

4.5.1 Ecosystems Diagnosis and Treatment Modeling Effort

Start Date
October 2011

Expected Completion Date
September 2013

Project Leads
Reclamation, Katrina Harrison

Project Description

The Program's draft Framework provides schedules and budgets for a variety of actions, several of which are clearly necessary to meet the Restoration Goal, including fish passage over large structures such as Mendota Dam. Decisions for passage and floodplain widths within these "Phase 1" projects could benefit from a fisheries analysis. Other actions may be in "Core" or "Improvement" actions in the draft Framework, but prioritization between them may not be clear (for example: floodplain habitat, gravel pit separation, culverts for low-flow road crossings). It may not be clear which of these actions will provide the greatest increase in Chinook salmon to meet targets. A tool was needed to quantitatively evaluate fish performance for a variety of restoration actions in order to prioritize Program actions given limited time and budget.

The Program identified the modeling platform Ecosystems Diagnosis and Treatment (EDT) supported by ICF Jones & Stokes as the preferred application for simulating the performance of the San Joaquin River under Fisheries Management and Restoration Actions. Initial development resulted in a "proof of concept" model to demonstrate potential functionality and establish a baseline for evaluating and comparing potential actions. This effort applies the EDT model to fish management questions and site-specific planning and evaluation needs.

Project Deliverables

Deliverables include a working model, appendices to the Reach 2B and Reach 4B Environmental Impact Statement/Reports (EIS/Rs), as well as technical memoranda for various phase 2 or miscellaneous projects to compare actions and projects. Deliverables also include training sessions for agency staff and users manuals.

Activities Completed in FY 12

Activities completed in FY 12 included two training sessions, parameterization of fisheries life stages, channel and floodplain width input data, temperature and flow input data, and attribute changes with minimum restoration.

Expected FY 13 Activities

Complete all deliverables.

Table 4-28 Ecosystems Diagnosis and Treatment Modeling Effort Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY 14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$66,583	$0	$0
Other Agencies Staff and Expenses	$472,500	$0	$0
Reclamation Funded Contracts	$210,621	$0	$0
Total	**$743,306**	**$0**	**$0**

4.5.2 San Joaquin River Conservation Facility

Start Date
October 2012

Expected Completion Date
June 2015 (construction complete), operations and maintenance will be ongoing

Project Lead
Reclamation, Erin Rice

Project Description

DFW will construct and operate the Conservation Facility to develop and maintain a genetically diverse brood stock of spring-run Chinook salmon, and potentially fall run Chinook, to meet the annual production targets set by the SJRRP in support of the restoration of spring and fall-run Chinook to self-sustaining levels. Reclamation will fund operations and maintenance for 10 years, construct water supply infrastructure, and complete other actions to convey 20 cfs to the facility.

This section addresses Reclamation's actions to fund operations and maintenance, construct water supply infrastructure, and complete other actions to convey 20 cfs to the facility. DFW's efforts to construct the facility are addressed in Section 4.2.1.

Project Deliverables

- Construction MOU
- NEPA documents
- O&M funding via a Cooperative Agreement
- Water service contract, and
- Construct water supply infrastructure on federal property

Activities Completed in FY 12

Reclamation worked with DFW to define the 20 cfs water supply need for the Conservation Hatchery and assembled a Reclamation environmental compliance and engineering team, which began holding weekly calls in June 2012. Draft deliverables included an O&M scope of work, a draft MOU, and an administrative draft EA.

Expected FY 13 Activities

During FY 13, Reclamation will complete appraisal-level design for water supply infrastructure and start final design including design data collection. Reclamation will complete a NEPA document analyzing operations and maintenance of the Interim Facility, and a financial assistance agreement to fund five years of DFW operations and maintenance. Reclamation will

start negotiations for a water service contract with DFW. Reclamation and DFW will enter into a MOU for Conservation Hatchery construction.

Projected FY 14 Activities

Reclamation will complete final design and NEPA for water supply infrastructure and start construction, water rights, and water service contract actions.

Projected FY 15 Activities

Reclamation will complete construction of water supply infrastructure.

Table 4-29 San Joaquin River Conservation Hatchery Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$467,115	$383,245	$2,216,007[1]
Reclamation-Funded Financial Assistance Agreement[2]	$665,000	$665,000	$665,000
Total	**$1,132,115**	**$1,048,245**	**$2,881,007**

Notes: [1] The FY15 Reclamation budget includes a $1.8 million order-of-magnitude estimate for pipeline construction costs.

[2]Reclamation-Funded Financial Assistance Agreements are with DFW to fund Operations and Maintenance of the facility.

4.6 Water Management

4.6.1 Part III Financial Assistance

Start Date
March 30, 2009

Expected Completion Date
Subject to congressional appropriation of $50,000,000.

Project Leads
Reclamation, Erin Rice

Project Description

Reclamation is authorized to provide $50,000,000 in financial assistance to local agencies within the Central Valley Project for planning, design, environmental compliance, and construction of facilities. These projects will improve groundwater conditions and will be designed to reduce, avoid, or offset the quantity of expected water supply impacts to Friant Division long-term contractors caused by Interim and Restoration Flows.

Project Deliverables

Include:

- Guidelines for financial assistance
- Funding Opportunity Announcements (FOA) for financial assistance
- Financial assistance agreements with local agencies
- Environmental compliance for groundwater projects

Activities Completed in FY 12

Reclamation finalized the Part III Guidelines and held workshops with local districts to present the Guidelines.

Expected FY 13 Activities

Reclamation plans to release a FOA and award $10,000,000 in financial assistance agreements to local agencies. Reclamation will also complete the NEPA and Federal permitting required for the selected projects.

Projected FY 14 Activities

The Program will complete remaining compliance and permitting activities for the FY 13 awards and administrating those awards. Reclamation anticipates releasing a second FOA and awarding financial assistance, subject to appropriations.

Projected FY 15 Activities

The Program will complete remaining compliance and permitting activities for previous years' awards and administrating those awards. Reclamation anticipates releasing a third FOA and awarding financial assistance, subject to appropriations.

Table 4-30 Part III Financial Assistance Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$50,000	$100,000	$100,000
Reclamation Funded Financial Assistance	$10,000,000	$5,000,000	$9,000,000
Total	**$10,050,000**	**$5,100,000**	**$9,100,000**
Notes: Amounts in FY 14 and FY 15 are estimates from the draft Implementation Framework and do not reflect future requests in the President's budget.			

4.6.2 Friant-Kern Canal Capacity Restoration

Start Date
2012

Expected Completion Date
December 2016

Project Leads
Reclamation**,** Edward Salazar

Project Description

The Friant Kern Canal (FKC) is a Reclamation-owned facility, operated and maintained by the FWA, pursuant to Contract No. 8-07-20-X0356, as amended and supplemented, dated March 1, 1998. The FKC carries water over 151.8 miles in a southerly direction from Millerton Lake to the Kern River, four miles west of Bakersfield. The water is primarily used as supplemental and irrigation supplies in Fresno, Tulare, and Kern Counties. Construction of the FKC began in 1945 and was completed in 1951. The FKC originally had a maximum capacity of 5,000 cubic feet per second (cfs) that gradually decreased to 2,500 cfs at its terminus in the Kern River. In the late 1970s, Reclamation raised the FKC's concrete lining from the headworks to the Kings River Siphon, increasing the maximum capacity to 5,300 cfs. Since completion of construction in 1951, the FKC has lost its ability to fully meet its previously designed and constructed capacity, resulting in restrictions, at times, on water deliveries to the FKC Contractors. The reduction in capacity is a result of several factors, including original design limitations, subsidence, increased canal roughness, and changes in water delivery patterns.

As authorized in the Settlement Act, Reclamation funded a feasibility study and prepared a draft Feasibility Report. The draft Feasibility Report, which recommends the restoration of the capacity of the FKC from Milepost 29.92 to 88.20, and applicable environmental documents, were released for public review in June 2011 and are expected to be finalized in spring 2013.

Pursuant to the FKC Feasibility Report, Reclamation will implement the Settlement through two phases. Phase one will include completing the environmental planning, documentation, permitting, and all of the engineering design for the FKC Capacity Restoration Project. Phase 2 will be the construction of multiple improvements, which will be determined in the FKC Feasibility Report and further refined in Phase 1.

Project Deliverables

- Project management plan and project schedule
- Draft and Final EA and related notices
- Finding of No Significant Impact
- Support permitting, including:
    - ESA Section 7 compliance

  - Clean Water Act Section 401 and 404 compliance
  - Clean Air Act and California Clean Air Act conformity
  - Section 106 compliance
  - County encroachment permits
  - Other permits as required
- Draft and Final Feasibility Report
- Permitting and environmental compliance, including Section 106 of the
- 30%, 60%, 90%, and bid ready designs
- Value Engineering Review
- Award Co-Operative Agreement/Construction Bid Package
- Construction
- Project closeout

Activities Completed in FY 12

- Draft Feasibility Report
- CEC for geotechnical site investigation study
- Phase one (1) geotechnical site investigation study completed
- Initiate BA and Section 106 compliance
- Draft project management plan

Expected FY 13 Activities

Finalize the Project Management Plan, environmental documentation, site investigation work (geotechnical study), designs/specifications, award Cooperative Agreement

Projected FY 14 Activities

Award and start construction for such design-affected crossings as bridges, pipe crossings, utilities, over-chutes and block houses

Projected FY 15 Activities

Continue construction.

Table 4-31 Friant-Kern Canal Capacity Restoration Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$395,563	$548,764	$395,563
Reclamation Funded Financial Assistance Agreement	$5,520,000	$7,866,000	$7,866,000
Total	**$5,915,563**	**$8,414,764**	**$8,261,563**

4.6.3 Madera Canal Capacity Restoration Demonstration Project

Start Date
2012

Expected Completion Date
December 2016

Project Leads
Reclamation, Ed Salazar

Project Description

The Demonstration Project is a current study to develop methods and designs to restore the hydraulic properties of the Madera Canal (MC) to the original design values. For this study, the flow rates used for the MC designs will be those specified in Reclamation Contract No. 6-FC-20-03680 (1985). Additionally, the designs will include features that set the freeboard heights and other safety related details for the canal to be compliant with current Reclamation Design Standards. At the conclusion of the current study, a series of (drawings, specifications, cost estimates, etc. – to be determined based on TSC deliverables) will be delivered to the Reclamation Mid-Pacific Region Construction Office (MPCO) to support construction of a set of canal restoration sections. These restoration sections will then be evaluated over a period of time (current proposal is one year) to determine which restoration method provides the highest benefit to the canal, when compared against the project cost, seepage reduction, embankment and canal stability, anticipated O&M costs, reduction of other negative effects (animal burrows, invasive vegetation growth, scour & sedimentation), and overall appearance.

A previous preliminary study performed by the Reclamation Technical Service Center (TSC) created a series of approximately 10 designs, which could be used as restoration sections. From this initial set of designs, four were chosen to be developed further based on cost, constructability, and site specific applicability. After discussions with the Madera & Chowchilla Water & Power Authority four sites were chosen for these restoration sections.

Project Deliverables

This project is established to maximize the restoration of capacity to the Madera Canal through demonstration construction contracts using the funding made available for the Madera Canal Capacity Restoration Feasibility Study. It is phased as follows:

- Phase 1 – Develop Scope
- Phase 2 – Design and Environmental Documentation
- Phase 3 – Acquisition
- Phase 4 – Construction
- Phase 5 – Closeout

Activities Completed in FY 12

- Draft project management plan
- Development of project team and site visit
- Preliminary study performed to create potential projects for further investigation

Expected FY 13 Activities

Finalize the Project Management Plan, initiate the environmental documentation, and complete the site investigation work (geotechnical study) and designs/specifications.

Projected FY 14 Activities

Award construction contract and start demonstration construction project.

Projected FY 15 Activities

Continue construction and closeout of project

Table 4-32 Madera Canal Capacity Restoration Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$605,889	$601,382	$383,749
Reclamation Funded Contracts	$3,213,000	$3,213,000	$3,213,000
Total	**$3,818,889**	**$3,814,382**	**$3,596,749**

4.6.4 Restoration Operations and Assessment Model

Start Date
August 2013

Expected Completion Date
September 2015

Project Leads
Reclamation, Mario Manzo

Project Description

Implementing the Settlement calls for an increase in the releases from Friant Dam to meet specific physical and biological objectives while reducing or avoiding water supply impacts to all of the Friant Division long-term Contractors. Achieving the physical and biological objectives requires forecasting and accounting for flood management requirements while the change to a perennially wet river below Friant Dam may provide water supply opportunities during the flood season. Current tools lack the ability to sufficiently coordinate operations for the SJRRP and flood management. This activity provides for updated forecasting and modeling by U.C. Davis and the TSC to assist in flow scheduling and potential new water supply opportunities.

Project Deliverables

Anticipated deliverables include a forecasting and operations tool that will assist the agencies and Restoration Administrator in allocating and scheduling Restoration Flows in addition to supporting potential operational practices that may increase Friant Division water supplies.

Activities Completed in FY 12

No activities were completed in FY 12. The project began in FY 13.

Expected FY 13 Activities

Award a financial assistance agreement and initial kick-off meetings.

Projected FY 14 Activities

Draft model developments and potential operations scenarios.

Projected FY 15 Activities

Create final model and operations guidance document.

Notes

The Program anticipates substantial involvement in this project by the Restoration Administrator, Friant Division Contractors, and Westside Contractors to establish model credibility and support for potential operations.

Table 4-33 Restoration Operations and Assessment Model Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$100,000	$300,000	$200,000
Contract	$250,000	$750,000	$500,000
Total	**$350,000**	**$1,050,000**	**$700,000**

4.6.5 Water Management Support

Start Date
October 2012

Expected Completion Date
On-going

Project Leads
Reclamation, Mario Manzo

Project Description

Water management activities seek to reduce or avoid impacts to water deliveries as a result of Interim and Restoration flows. This activity supports the Water Management Goal through technical feedback meetings and various analyses, technical documents, and reports on the implementation of Paragraph 13 Restoration Flow Guidelines; Paragraph 16(a) Recapture and Recirculation; Paragraph 16(b) Recovered Water Account; and Part III Section 10202 Financial Assistance for Local Projects.

Project Deliverables

Anticipated deliverables include:

- Water Management Technical Feedback Meetings and Materials
- Standard Operating Procedures for the Recovered Water Account
- Standard Operating Procedures for Recapture and Recirculation
- Restoration Flow Guidelines
- Recapture and Recirculation Plan
- Water Management Goal Investment Strategy, and
- Part III Guidelines Technical Support

Activities Completed in FY 12

- Technical Feedback Meeting
- Progress on Standing Operating Procedures and Restoration Flows Guidelines, and
- Implement 2012 Recapture and Recirculation Program

Expected FY 13 Activities

- Technical Feedback Meeting

- Implement 2013 Recapture and Recirculation Program
- Complete Standard Operating Procedures
- Initiate Recapture and Recirculation Environmental Impact Statement development, and
- Continue progress on the other project deliverables

Projected FY 14 Activities

- Complete Restoration Flow Guidelines
- Technical Feedback Meeting
- Implement 2014 Recapture and Recirculation Program
- Complete Recapture and Recirculation Plan, Investment Strategy
- Complete remaining project deliverables

Projected FY 15 Activities

- Technical Feedback Meeting
- Implement 2015 Recapture and Recirculation Program
- Complete remaining project deliverables

Table 4-34 Water Management Support Cost Estimate FY 2013 to FY 2015

	FY 13 Estimate	FY14 Estimate	FY 15 Estimate
Reclamation Staff and Expenses	$500,000	$500,000	$500,000
Reclamation Funded Contracts	$3,735,000	$545,000	$0
Total	**$4,235,000**	**$1,045,000**	**$500,000**