

FINAL

Fiscal Year 2014 Annual Work Plan

SAN JOAQUIN RIVER
RESTORATION PROGRAM

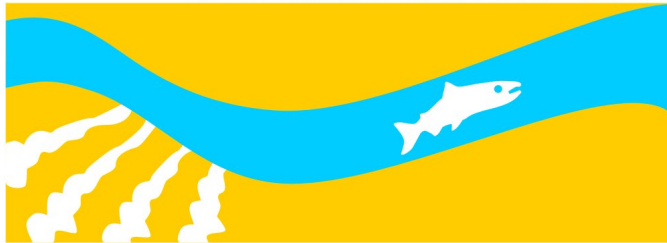


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List of Abbreviations and Acronyms

| | |
|----------------|---|
| ATR | Annual Technical Report |
| AWP | Annual Work Plan |
| BY | Brood-year |
| Bypass | Eastside Bypass |
| BDCP | Bay-Delta Conservation Plan |
| 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 |

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| | |
|----------------|--|
| 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 |
| SCARF | Salmon Conservation and Research Facility |
| 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 2014 (FY 14) 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 14 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 Restoration Area, which spans the San Joaquin River from Friant Dam to the Merced River confluence.

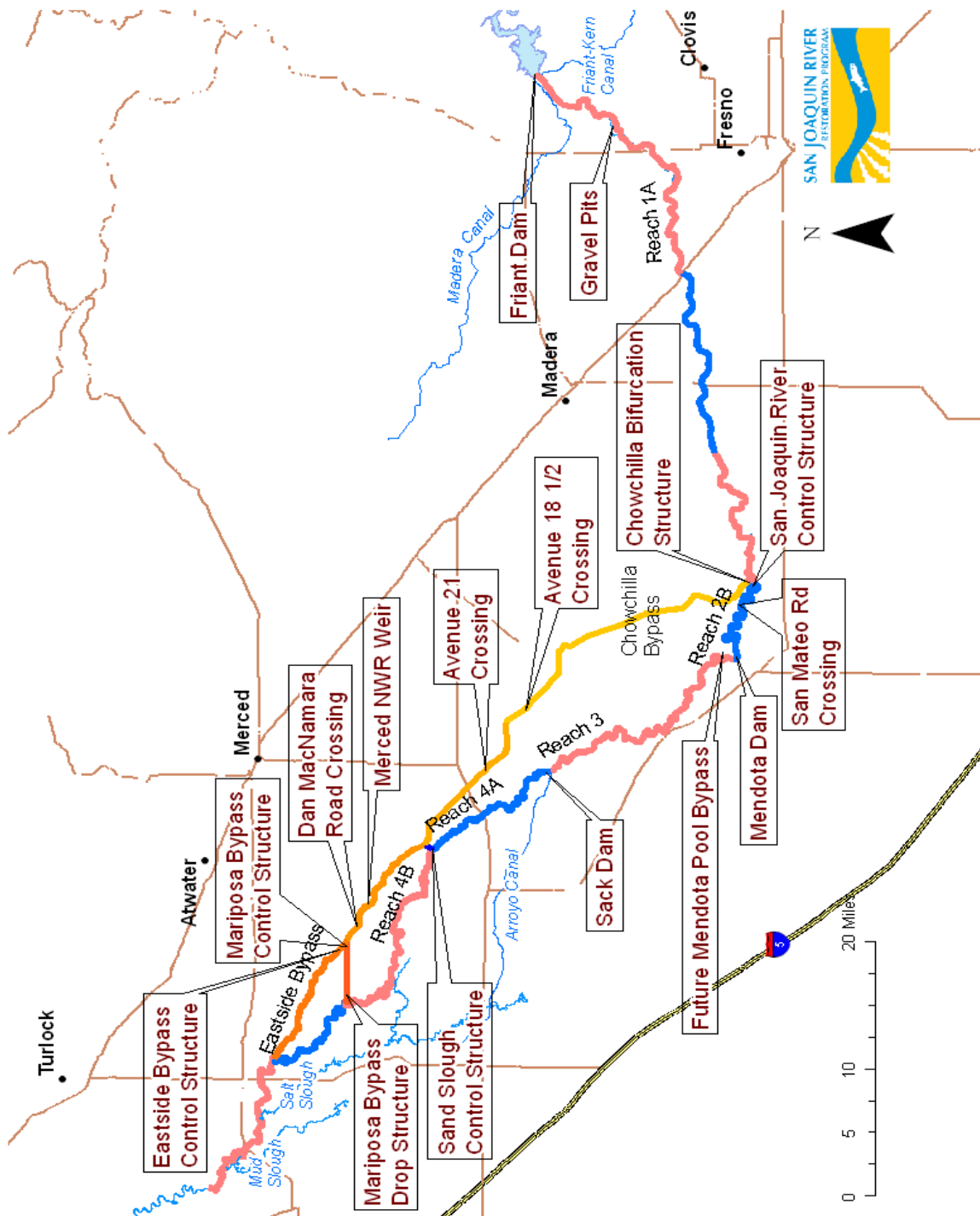


Figure 1-1 San Joaquin River Restoration Program Restoration Area

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 |
| <p>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.</p> <ol style="list-style-type: none"> 1. Estimated based on capital repayment to date, negotiated repayment contracts, 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 DWR and DFW under Prop 84 by State FY 16/17. DWR and DFW are 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 activities 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 activities 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 activities, 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 3. Detailed descriptions of each planned project 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 projects are provided in Section 4. The projects listed herein represent the reasonable levels of effort the Program believes can be accomplished in fiscal years 14, 15 and 16 and the estimated costs associated with those levels of effort. These estimated costs do not represent the total costs to complete those projects. The total estimated costs to complete each individual project are beyond the scope of this document and are not provided.

2.0 FY 14 Program Funding

For FY 14, approximately \$51 million in Federal funds were requested for the SJRRP. The State of California is adding approximately \$9 million dollars from various sources. The breakdown of appropriated/requested funds for FY 14 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 Estimated SJRRP FY 2014 Funding

| Funding Source | Estimated FY 14 Funding |
|---|-------------------------|
| Federal Funds | |
| San Joaquin River Restoration Fund ¹ | \$22,552,084 |
| Central Valley Project Restoration Fund | \$2,000,000 |
| Reclamation Discretionary Fund Request | \$26,000,000 |
| NMFS Funding | \$130,725 |
| Total Federal Funds | \$50,682,809 |
| State Funds² | |
| Proposition 13 | \$1,100,369 |
| Proposition 84 | \$7,844,197 |
| Proposition 1E | \$0 |
| Total State Funds | \$8,944,566 |
| Total Funds | \$59,627,375 |
| <p>¹ The President's FY 14 budget identifies \$19,325,000 in mandatory funds from the San Joaquin River Restoration Fund. The approximately \$3.2 million over the President's budget identified are funds within the \$88 million in mandatory funding that was not obligated in previous years.</p> <p>² Based on \$5.0 million from DWR and \$3.94 million from DFW.</p> | |

The Federal FY 14 budget had not passed and been signed into law at the time of preparation of this Annual Work Plan. If the enacted budget is different than the President's budget, the FY 14 activities will necessarily be modified. In addition, if a Federal FY 14 budget is not passed and Reclamation operates on a continuing resolution for a portion or all of the fiscal year, the FY 14 activities may be modified to fit within the funding levels provided to the Program in the continuing resolution.

3.0 Program Activities

In order to implement the Settlement consistent with the Settlement Act, the Program has undertaken required and necessary activities to meet the Restoration and Water Management goals. Table 3-1 lists the activities the Program has undertaken, completed, and currently plans to undertake. The list does not include sub-activities related to the primary activities. Expected completion dates are subject to change due to funding availability and other factors.

Table 3-1 San Joaquin River Restoration Program Implementation Activities

| | Date Begun | Expected Completion Date | Date Completed |
|---|-------------------|---------------------------------|-----------------------|
| Program Support Activities | | | |
| Program EIS/R | February 2007 | 2009 | September 2012 |
| Program-wide Public Outreach | 2007 | Ongoing | Ongoing |
| Reclamation Data Management | 2009 | September 2015 | Ongoing |
| Reclamation Program Support | 2009 | Ongoing | Ongoing |
| Flow Actions | | | |
| Channel Capacity Annual Assessment | April 2013 | 2030 | Ongoing |
| Flow Management | 2009 | Ongoing | Ongoing |
| Invasive Vegetation Monitoring | October 2010 | December 2020 | Ongoing |
| Lower San Joaquin Levee District Financial Assistance | October 2009 | 2016 | Ongoing |
| Mapping Waters of the US | January 2013 | November 2013 | Ongoing |
| Monitoring and Analysis Plan | 2010 | Ongoing | Ongoing |
| Riparian Habitat Mapping | November 2011 | April 2014 | Ongoing |
| Sand Slough Flow Conveyance | September 2011 | September 2014 | Ongoing |
| Seepage Management | March 2009 | December 2023 | Ongoing |
| Steelhead Monitoring | Late 2012 | 2017 | Ongoing |
| Water Rights Compliance | October 2009 | Ongoing | Ongoing |

San Joaquin River Restoration Program

| Channel and Structural Improvements | | | |
|---|----------------|---|---------|
| Arroyo Canal Fish Screen and Sack Dam Fish Passage | September 2009 | September 2016 | Ongoing |
| Mendota Pool Bypass and Reach 2B Improvements | 2009 | October 2020 | Ongoing |
| Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements | September 2009 | September 2023 | Ongoing |
| Salt and Mud Sloughs Seasonal Barriers | 2012 | Unknown | NA |
| Fish Reintroduction Actions | | | |
| EDT Modeling Effort | October 2011 | September 2014 | Ongoing |
| Fall-run Chinook Salmon Trap and Haul | Fall 2012 | Ongoing | Ongoing |
| Fisheries Activities Peer Review | October 2013 | September 2014 | Ongoing |
| Salmon Conservation and Research Facility | October 2012 | Construction complete, June 2015; O&M funding ongoing | Ongoing |
| Salmon Genetics Monitoring | October 2013 | Ongoing | Ongoing |
| Spring-run Chinook Salmon Collection and Tagging | Spring 2013 | Ongoing | Ongoing |
| Water Management Actions | | | |
| Part III Financial Assistance | 2009 | Ongoing | Ongoing |
| Friant-Kern Canal Capacity Restoration Project | 2009 | December 2016 | Ongoing |
| Madera Canal Capacity Restoration Demonstration Project | 2009 | December 2016 | Ongoing |
| Restoration Operations Assessment Model | October 2014 | September 2016 | Ongoing |
| Water Management Support | 2007 | Ongoing | Ongoing |

4.0 Planned Activities FY 2014 - FY 2016

4.1 Summary of Planned Activities and Estimated Costs for FY 2014 - FY 2016

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 FYs 14 - 16. This table constitutes a rollup of the estimates in Tables 4-2 through 4-6. For estimate details see the individual project descriptions in this chapter.

Table 4-1 Estimated Costs by SJRRP Action

| Action | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|---|-----------------------|-----------------------|-----------------------|
| Program Support | \$13,161,701 | \$27,128,686 | \$13,790,529 |
| Flow-related Actions | \$21,079,204 | \$11,541,352 | \$9,541,352 |
| Channel and Structural Improvements | \$10,024,328 | \$58,216,527 | \$48,577,540 |
| Fish Reintroduction | \$4,562,142 | \$ 1,803,236 | \$ 1,803,236 |
| Water Management | \$10,800,000 | \$22,259,764 | \$18,106,563 |
| Total | \$59,627,375 | \$120,949,565 | \$91,819,220 |
| 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 Actions.

Table 4-2 Estimated Project Costs for Program Support Actions

| Action | Project | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|-----------------|------------------------------|---------------------|---------------------|---------------------|
| Program Support | DFW | \$3,944,566 | \$16,010,867 | \$2,844,197 |
| | DWR | \$5,000,000 | \$6,800,000 | \$6,800,000 |
| | NMFS | \$1,145,806 | \$1,105,834 | \$1,109,739 |
| | Program-wide Public Outreach | \$520,896 | \$569,005 | \$622,118 |
| | Reclamation Data Management | \$435,897 | \$435,897 | \$133,872 |
| | Reclamation Program Support | \$736,688 | \$736,688 | \$736,688 |
| | USFWS | \$1,377,848 | \$1,470,395 | \$1,543,915 |
| Total | | \$13,161,701 | \$27,128,686 | \$13,790,529 |

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 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------|---|---------------------|---------------------|--------------------|
| Flow Actions | Channel Capacity Annual Assessment | \$600,000 | \$600,000 | \$600,000 |
| | Flows Management Project | \$271,918 | \$221,148 | \$221,148 |
| | Invasive Vegetation Monitoring | \$511,000 | \$511,000 | \$511,000 |
| | Lower San Joaquin Levee District Financial Assistance | \$285,000 | \$295,000 | \$295,000 |
| | Mapping Waters of the US | \$125,000 | \$0 | \$0 |
| | Monitoring and Analysis Plan | \$1,775,082 | \$1,600,000 | \$1,600,000 |
| | Riparian Habitat Mapping | \$50,000 | \$0 | \$0 |
| | Sand Slough Flow Conveyance | \$965,000 | \$0 | \$0 |
| | Seepage Management | \$16,210,000 | \$8,028,000 | \$6,028,000 |
| | Steelhead Monitoring | \$228,000 | \$228,000 | \$228,000 |
| | Water Rights Compliance | \$37,000 | \$37,000 | \$37,000 |
| Wolfsen Litigation | \$21,204 | \$21,204 | \$21,204 | |
| Total | | \$21,079,204 | \$11,541,352 | \$9,541,352 |

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

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

| Action | Project | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|-------------------------------------|---|-----------------------|-----------------------|-----------------------|
| Channel and Structural Improvements | Arroyo Canal Fish Screen and Sack Dam Fish Passage | \$1,746,890 | \$20,450,000 | \$20,450,000 |
| | Mendota Pool Bypass and Reach 2B Improvements Project | \$5,584,140 | \$12,766,527 | \$12,127,540 |
| | Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project | \$2,693,298 | \$25,000,000 | \$16,000,000 |
| | Salt and Mud Sloughs Seasonal Barriers | \$0 | \$0 | \$0 |
| Total | | \$10,024,328 | \$58,216,527 | \$48,577,540 |

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

Table 4-5 Estimated Project Costs for Fish Reintroduction Actions

| Action | Project | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|---------------------|---|-----------------------|-----------------------|-----------------------|
| Fish Reintroduction | EDT Modeling Effort | \$457,899 | \$0 | \$0 |
| | Fall-run Chinook Salmon Trap and Haul | \$592,236 | \$592,236 | \$592,236 |
| | Fisheries Activities Peer Review | \$275,000 | \$0 | \$0 |
| | Salmon Conservation and Research Facility | \$2,881,007 | \$865,000 | \$865,000 |
| | Salmon Genetics Monitoring | \$276,000 | \$266,000 | \$266,000 |
| | Spring-run Collection and Tagging | \$80,000 | \$80,000 | \$80,000 |
| Total | | \$4,562,142 | \$1,803,236 | \$1,803,236 |

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

Table 4-6 Estimated Project Costs for Water Management Actions

| Action | Project | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|------------------|---|-----------------------|-----------------------|-----------------------|
| Water Management | Part III Financial Assistance | \$100,000 | \$9,100,000 | \$5,100,000 |
| | Friant-Kern Canal Capacity Restoration Project | \$7,000,000 | \$8,414,764 | \$8,261,563 |
| | Madera Canal Capacity Restoration Demonstration Project | \$3,000,000 | \$3,000,000 | \$3,000,000 |
| | Restoration Operations Assessment Model | \$0 | \$700,000 | \$700,000 |
| | Water Management Support | \$700,000 | \$1,045,000 | \$1,045,000 |
| Total | | \$10,800,000 | \$22,259,764 | \$18,106,563 |

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

Start Date

2006

Expected Completion Date and Major Milestones

Not Applicable

Project Lead

DFW, Gerald Hatler

Project Authority

The State of California entered into a Memorandum of Understanding with the Settling Parties in September 2006 and pledged support by assisting in implementation of the Settlement consistent with the State Agencies' authorities, resources and broader regional resource strategies and working collaboratively in the planning design, funding and implementation of appropriate aspects of the Settlement.

Project Description

As an implementing agency in the SJRRP, the Department of Fish and Wildlife (DFW) provides biological support, regulatory oversight, and jurisdiction over the public trust, land use, ecosystem, species and habitat restoration and water quality to assist the Program in achieving the Settlement's Restoration Goal consistent with DFW's authorities, resources and broader regional resource strategies. 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, and 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 the California Environmental Quality Act (CEQA), 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 helps to ensure 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 in the implementation of the Program.

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 interim fish rearing facilities for fish reintroduction
- Develop, implement and operate a full-scale Salmon Conservation and Research Facility (SCARF)
- 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 facility 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 CEQA documents for the Program

Activities Completed in FY 13

- Conducted fish and habitat studies to inform restoration
- Coordinated and collaborated with other Implementing Agencies, Settling Parties, the TAC, as well as other entities
- Initiated public scoping and development of a draft Environmental Impact Report (DEIR) for SCARF Construction and Operation and Restoration Activities
- Completed design and environmental review of the new SCARF

- 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 14 Activities

- Coordination for planning, environmental compliance and design for modifications to Arroyo Canal and Sack Dam, Mendota Pool Bypass, and channel/structural improvements in reaches 2B/4B, Eastside Bypass, and Mariposa Bypass channels
- Continue 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
- Continue management and participation in technical and SJRRP management working groups
- Continue planning and begin moving towards implementing restoration actions of off-channel ponds to enhance recreational fishing opportunities along the San Joaquin River corridor
- 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
- Initiate experimental activities at the interim conservation 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
- Continue planning and coordination with the Department of General Services (DGS) to construct the SCARF
 - Complete the SCARF construction, which will produce preliminary plans
- Continue developing a DEIR for SCARF Construction and Operation and Restoration

Activities

- Certify EIR for SCARF Construction and Operation, and Restoration Activities
- Begin funding support to the Restoration Administrator and TAC members
- Continue regular attendance at various SJRRP working group and stakeholder meetings, and
- Continue general SJRRP administration and support

Projected FY 15 Activities

- Continue Coordinating 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
- Continue progress in developing details for fish reintroduction strategies
- Continue 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
- Continue planning and implementing restoration actions of off-channel ponds to enhance recreational fishing opportunities along the San Joaquin River corridor.
- Continue 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
- Continue experimental activities at the interim conservation facility supporting small-scale salmon experiments, broodstock production for release in the San Joaquin River and supporting fish tagging and handling experiments
- Continue planning and coordination with the DGS to construct the SCARF
 - Complete the second phase of SCARF construction, which will produce working drawings and begin third phase construction
- Continue funding support to the Restoration Administrator and TAC members
- Continue regular attendance at various SJRRP working group and landowner meetings, and

- Continue general SJRRP administration and support

Projected FY 16 Activities

- Continue coordinating planning, environmental compliance and design for site-specific restoration actions
- Continue progress in development of details for fish reintroduction strategies
- Continue 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
- Continue 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
- Continue planning and coordination with the DGS to complete construction of the SCARF
- Begin shifting activities at the interim conservation facility to full-scale facility operations and begin initial full-scale broodstock production at the new facility
- Seek opportunities to fund support to the Restoration Administrator and TAC members
- Continue regular attendance at various SJRRP working group and stakeholder meetings, and
- Continue general SJRRP administration and support

Table 4-7 DFW Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate¹ | FY 16 Estimate |
|---|-----------------------|-----------------------------------|-----------------------|
| DFW (Prop 84) ² | \$2,844,197 | \$15,718,000 | \$2,844,197 |
| DFW (Prop 13) | \$1,100,369 | \$292,867 | \$0 |
| Total | \$3,944,566 | \$16,010,867 | \$2,844,197 |
| Notes: Activities and budget estimates align with the State of California FY, which runs from July 1 through June 30 of the following year. | | | |
| ¹ Increase in funding in FY 15 Estimate corresponds with the obligation of funds for the construction of the SCARF. | | | |
| ² Includes approximately \$900,000 to fund Restoration Administrator (RA) and Technical Advisory Committee (TAC) through FY's 14 and 15. | | | |

4.2.2 California Department of Water Resources

Start Date

2006

Expected Completion Date and Major Milestones

Not Applicable

Project Lead

DWR, Paul Romero

Project Authority

The State of California entered into a Memorandum of Understanding with the Settling Parties in September 2006 and pledged support by assisting in implementation of the Settlement consistent with the State Agencies' authorities, resources and broader regional resource strategies and working collaboratively in the planning design, funding and implementation of appropriate aspects of the Settlement.

Project 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.

Project Deliverables

- Final 1-D and 2-D hydraulic models and documentation
- Technical memoranda related to channel capacity and flood risk management for SJRRP actions
- Geotechnical Data and Evaluation Reports for prioritized levee segments
- Technical engineering memoranda of various studies on hydraulics, sediment transport, fish passage, and other technical studies DWR is leading
- Project and environmental documentation review comments for site-specific projects
- Preliminary and final design memoranda for elements of site-specific projects

- 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 13

- Completed hydraulic evaluation and prioritization of levees for geotechnical evaluation to identify potential flood risks
- Collected geotechnical data on highest priority levees in Reach 2A, Reach 4A, and Eastside Bypass and initiated geotechnical analyses
- Assisted in the planning for final design and data collection of the Reach 2B and 4B site-specific projects
- Finalized 1-D hydraulic models for the main stem San Joaquin River and flood bypasses
- Constructed modifications to the Chowchilla Bifurcation gates to address gate vibration problems
- Installed water quality monitoring station at the Eastside Bypass Control Structure
- Conducted flow and water quality monitoring at the San Joaquin River at Sack Dam and Washington Road stations
- Maintained flow and water quality stations on the San Joaquin River at Sack Dam and Washington Road
- Evaluated bed mobility at key riffles in Reach 1A to better predict gravel mobility for spawning habitat
- Developed a work plan to continue monitoring sand supply sites in Reach 1 and evaluate Reach 1 sand budgets and sand supply to Reach 2.
- Evaluated sediment transport in Reach 2A to assess flow capacity changes
- Completed Task 2 fish passage evaluations in the Eastside and Chowchilla Bypasses
- Assisted in the development of the Project Description for the Reach 2B and 4B site-specific projects
- Assisted in the development of the draft 2013 Channel Capacity Report
- Collaborated with DWR's Central Valley Flood Management Planning Program including the Regional Flood Management Planning effort, Basin-wide Feasibility Studies, and the Central Valley Flood System Conservation Strategy on San Joaquin

River activities

- Collaborated with the San Joaquin River Conservancy and DFW program activities on the San Joaquin River
- Maintained regular attendance at various SJRRP working group and stakeholder meetings, and
- Funded California State Lands Commission, Restoration Administrator, and TAC members activities to support the SJRRP

Expected FY 14 Activities

- Begin data collection and sediment transport, fish passage, and flow capacity technical studies to refine designs to assist Reclamation in the Reach 4B site-specific project
- Begin sediment transport, fish passage and, flow capacity technical studies and data collection to refine designs of the Reach 4B site-specific project
- Begin data collection and refining designs of elements to assist Reclamation in the Reach 4B site-specific project
- Begin 1-D hydraulic modeling for various program needs
- Continue flow and water quality monitoring at the San Joaquin River at Sack Dam and Washington Road stations and Eastside Bypass Control Structure station
- Continue maintenance of flow and water quality stations on the San Joaquin River at Sack Dam and Washington Road and the Eastside Bypass Control Structure
- Continue gravel monitoring and evaluate bed mobility at all riffles in Reach 1A to help quantify spawning habitat
- Initiate identification and characterization of Reach 1 gravel pits
- Continue monitoring sand supply sites in Reach 1 and evaluate Reach 1 sand budgets and sand supply to Reach 2.
- Continue sediment transport monitoring in Reach 2A to understand long-term trends and evaluate future flow capacity changes
- Begin preparing conceptual designs for fish passage modifications to structures in the San Joaquin River and flood bypasses
- Review environmental compliance documents for the Reach 2B and Reach 4B site-specific projects
- Assist in the development of the final 2013 Channel Capacity Report and draft 2014 Channel Capacity Report
- Continue environmental compliance and monitoring of all DWR studies and projects
- Continue collaborating with DWR's Central Valley Flood Management Planning

Program including the Regional Flood Management Planning effort, Basin-wide Feasibility Studies, and the Central Valley Flood System Conservation Strategy on San Joaquin River activities

- Continue collaborating with other entities and programs working on the San Joaquin River including the San Joaquin River Conservancy and DFW, and
- Continue regular attendance at various SJRRP working group and stakeholder meetings

Expected FY 15 Activities

- Begin data collection and evaluation of secondary priority levees to identify potential flood risk
- Begin developing preliminary designs and costs of potential strategies to maintain acceptable flood risk management in high priority levees
- Continue assisting Reclamation in monitoring channel capacity and flood control features to maintain acceptable flood risk management from SJRRP actions
- Perform final evaluation and design of elements to assist Reclamation in the Reach 4B site-specific project
- Continue 1-D hydraulic modeling for various program needs
- Continue conducting flow and water quality monitoring at the San Joaquin River at Sack Dam and Washington Road stations and the Eastside Bypass Control Structure station
- Continue maintaining flow and water quality stations on the San Joaquin River at Sack Dam and Washington Road and Eastside Bypass Control Structure
- Begin identifying and implementing pilot studies on high priority riffles in Reach 1A to evaluate methods to enhance spawning habitat
- Begin evaluating and preparing preliminary designs to isolate highest priority Reach 1 gravel pits
- Continue monitoring sand supply sites in Reach 1 and evaluate Reach 1 sand budgets and sand supply to Reach 2.
- Continue monitoring sediment transport in Reach 2A to understand long-term trends and evaluate future flow capacity changes
- Continue preparing feasibility designs for fish passage modifications to 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
- Continue assisting the development of the final 2014 Channel Capacity Report and draft 2015 Channel Capacity Report

- Continue performing environmental compliance and monitoring of all DWR studies and projects
- Continue collaborating with other entities and programs working on the San Joaquin River including the San Joaquin River Conservancy, DFW, and DWR, and
- Continue regular attendance at various SJRRP working group and stakeholder meetings

Expected FY 16 Activities

- Begin data collection and evaluation of third priority levees to identify potential flood risk
- Begin developing preliminary designs and costs of potential strategies to maintain acceptable flood risk management in secondary priority levees
- Continue developing final designs and costs to remediate high priority levees
- Continue assisting Reclamation in monitoring channel capacity and flood control features to maintain acceptable flood risk management from SJRRP actions
- Complete final evaluation and design of elements to assist Reclamation in the Reach 4B site-specific project
- Continue 1-D hydraulic modeling for various program needs
- Continue conducting flow and water quality monitoring at the San Joaquin River at Sack Dam and Washington Road stations and the Eastside Bypass Control Structure station
- Continue maintaining flow and water quality stations on the San Joaquin River at Sack Dam and Washington Road and Eastside Bypass Control Structure
- Begin preliminary design of projects in Reach 1A to enhance spawning habitat
- Begin final designs to isolate highest priority Reach 1 gravel pits
- Continue monitoring sand supply sites in Reach 1 and evaluate Reach 1 sand budgets and sand supply to Reach 2.
- Continue sediment transport monitoring in Reach 2A to understand long-term trends and evaluate future flow capacity changes
- Begin final designs for fish passage modifications to structures in the San Joaquin River and flood bypasses
- Continue reviewing project and environmental compliance documents for various site-specific projects
- Continue assisting in the development of the final 2015 Channel Capacity Report and draft 2016 Channel Capacity Report
- Continue environmental compliance and monitoring of all DWR studies and projects

San Joaquin River Restoration Program

- Continue collaborating with other entities and programs working on the San Joaquin River
- Continue regular attendance at various SJRRP working group and stakeholder meetings, and
- Begin funding Restoration Administrator and TAC members activities to support the SJRRP

Table 4-8 DWR Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--|-----------------------|-----------------------|-----------------------|
| DWR (Prop 84) | \$5,000,000 | \$6,800,000 | \$6,800,000 |
| DWR (Prop 1E) | \$0 | \$0 | \$0 |
| DWR Total | \$5,000,000 | \$6,800,000 | \$6,800,000 |
| 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

Start Date

2006

Expected Completion Date and Major Milestones

Not Applicable

Project Lead

NMFS, Rhonda Reed

Project Authority

Public Law 111-11, Section 10011

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 for listed anadromous fish, as well as taking the lead role for the development 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 provides guidance and technical support to the SJRRP on salmonid monitoring and management and 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. In 2024, NMFS will report to Congress on the status of the reintroduction of spring-run Chinook salmon.

Program Deliverables

- Biological consultations on actions affecting listed anadromous fish
- Attend various SJRRP working group and stakeholder meetings
- Conduct, support, and attend public meetings
- Provide written recommendations for monitoring activities for reintroduced salmon
- Provide recommendations for monitoring and management activities for reintroduced salmon, provided in coordination with the Fisheries Management Workgroup, Restoration Flows Guidelines
- Conduct ESA rules, permits, and associated NEPA compliance efforts in support of spring-run reintroduction

- Provide technical support for population parameters, informing model development to simulation life stage fish abundance
- Provide written comments on simulation models in support of ESA-listed species
- Provide regulatory compliance and technical support for program and project-level SJRRP actions, and
- Provide other technical guidance as necessary for all anadromous fisheries related aspects of the SJRRP

Key Activities Completed in FY 13

- Conducted public outreach to Central Valley stakeholders on spring-run reintroduction and regulatory requirements
- Released for public review and comment, a proposed rule package to designate an experimental population of spring-run Chinook salmon on the San Joaquin River, and associated ESA section 4(d) take exemptions for the reintroduction.
- Provided guidance to the SJRRP to allow for transfer of spring-run Chinook salmon captive broodstock juveniles to the San Joaquin River interim Conservation Facility without incurring ESA take liability to third parties.
- Provided recommendations for monitoring and management activities for reintroduced salmon, in coordination with the Fisheries Management Workgroup, Restoration Flows Guidelines Workgroup, Monitoring and Analysis Plan (MAP) small work teams, EDT-Fishery modeling work team, and others.
- Provided population parameters to inform ESHE, spreadsheet, and EDT model development for assessment life stage fish abundance and habitat relationships
- Completed ESA section 7 consultation on Arroyo Canal Fish Screen and Sack Dam Fish Passage Project
- Reviewed and commented on drafts of the project description for the Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project
- Provided technical assistance on anadromous fish considerations for Mendota Pool Bypass and Reach 2B Improvements Project
- Provided technical assistance to Reclamation on anadromous fish considerations for the Reach 2A/Napa Avenue Bank Stabilization Project, and
- Maintained regular attendance and participation at various SJRRP working group and stakeholder meetings

Expected FY 14 Activities

- Complete ESA regulatory requirements to allow release of Central Valley spring-run

Chinook salmon to the San Joaquin River

- Begin internal and external outreach for roll-out of final ESA rules for the reintroduction of Central Valley spring-run Chinook salmon to the San Joaquin River
- Continue attending and supporting public workshops, interagency workshops, and public tours for the SJRRP
- Continue technical assistance for completing Restoration Flows Guidelines, EDT model, and technical support for modeling regarding salmonid and habitat needs
- Continue technical support to and regulatory compliance for multiple small-scale projects including fish studies, species surveys, monitoring well installations, seepage management projects, soil surveys, and other investigations.
- Continue technical assistance related to salmon reintroduction and modeling activities
- Continue regular attendance at various SJRRP working group and stakeholder meetings
- Initiate stakeholder discussions regarding voluntary and collaborative options for salmon and steelhead protection
- Begin processing USFWS ESA section 10(a)(1)(A) permit application, if received, for approval to implement Multi-stock Hatchery and Genetics Management Plan for operation of the SCARF
- Continue technical assistance as needed during construction of Arroyo Canal Fish Screen and Sack Dam Fish Passage Project
- Prepare 4(d) take exemption requests for listed salmonids that may be affected by MAP studies and other SJRRP actions
- Prepare to review and provide 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
- Prepare ESA and EFH consultations on geotechnical surveys for levee stability, SCARF operations and maintenance, 2014-15 MAP studies on seepage and other projects as needed, and
- Prepare 2014 technical memorandum for calculation of excepted take for reintroduced spring-run at the CVP and SWP facilities, in coordination with Reclamation, DWR, and interested stakeholders

Projected FY 15 Activities

- Complete approvals for Multi-stock HGMP for operation of Salmonid Conservation and Research Facility

- Continue processing 4(d) take exemption requests for listed salmonids that may be affected by MAP studies and other SJRRP actions
- Continue reviewing or preparing project and environmental compliance documents for various site-specific projects
- Begin preparing annual technical memo for calculation of take exemption of reintroduced spring-run at the CVP and SWP facilities in the Delta, in coordination with Reclamation, DWR, and interested stakeholders
- Begin coordinating development of ESA consultations for CVP and SWP operations with Bay-Delta Conservation Plan (BDCP) development ensure SJRRP recapture activities and accounting for reintroduced spring-run Chinook salmon at the Delta facilities meet the *de minimus* requirement for impacts to water supply, storage releases, and bypass flows by unwilling persons or entities diverting or receiving water pursuant to applicable State and Federal laws
- Continue stakeholder discussions regarding voluntary and collaborative options for salmon and steelhead protection
- Continue 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 16 Activities

- Continue reviewing or preparing project and environmental compliance documents for various site-specific projects
- Continue stakeholder discussions regarding voluntary and collaborative options for salmon and steelhead protection
- Begin processing applicable donor stock collection documents for timely broodstock collection actions.
- Continue processing 4(d) take exemption requests for listed salmonids that may be affected by MAP studies and other SJRRP actions
- Continue preparing annual technical memo for calculation of take exemption of reintroduced spring-run at the CVP and SWP facilities in the Delta, in coordination with Reclamation, DWR, and interested stakeholders
- Continue coordinating development of ESA consultations on CVP and SWP operations with BDCP development ensure SJRRP recapture activities and accounting for reintroduced spring-run Chinook salmon at the Delta facilities meet the *de minimus* requirement for impacts to water supply, storage releases, and bypass flows by unwilling

persons or entities diverting or receiving water pursuant to applicable State and Federal laws

- Continue regular attendance at various SJRRP working group and stakeholder meetings
- Begin 5-year review of information collected on Chinook salmon actions and studies in collaboration with Fisheries Management Working Group
- Continue technical assistance related to salmon reintroduction, and
- Continue technical and regulatory compliance assistance

Table 4-9 NMFS Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|---|-----------------------|-----------------------|-----------------------|
| Reclamation Funding | \$1,015,081 | \$971,187 | \$971,187 |
| NMFS Funding | \$130,725 | \$134,647 | \$138,552 |
| Total | \$1,145,806 | \$1,105,834 | \$1,109,739 |
| 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

2006

Expected Completion Date

Not applicable.

Project Lead

Reclamation, Margaret Gidding

Project Authority

Public Law 111-11, Section 10011

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

- Public 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 and quarterly updates
- Program web support
- Coordination with landowners in the Restoration Area
- Attend public meetings and workshops
- Produce articles and provide graphic support for the SJRRP quarterly update
- Coordinate access to private property including executing and managing Temporary Entry Permits, and
- Provide strategic advice on specific activities across the Program and overall Program issues

Activities Completed in FY 13

- Provided public 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

San Joaquin River Restoration Program

- 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 14 Activities

All of the deliverables completed in FY 13 will be expected in FY 14

Projected FY 15 Activities

Same as for FY 14

Projected FY 16 Activities

Same as for FY 14

Table 4-10 Program-wide Public Outreach Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$38,889 | \$38,889 | \$38,889 |
| Contracting | \$482,007 | \$530,208 | \$583,229 |
| Total | \$520,896 | \$569,005 | \$622,118 |

4.2.5 Reclamation Data Management Project: Software Development

Start Date

2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Database design (October 2011)
- Database Server Acquisition (January 2012)
- Cloud Server Acquisition (July 2012)
- Data access testing completion (October 2013)
- Publish Data in Cloud Server (November 2013)
- Biological Database Development (October 2014)
- Biological Data Loading and Testing (July 2015)
- Project Completion, not including Operations and Maintenance (August 2015)

Project Lead

Reclamation, Apurba Borah

Project Authority

This project supports the Water Management Goal by providing information for the Restoration Flows to monitor and ensure compliance with the Exhibit B hydrographs and other applicable flow releases at six different locations mandated by the Settlement. It will also provide other project related water quality and biological data for analysis to support the Restoration Goal.

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 Department of the Interior (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, hydraulic, and biological data
- Develop Software to display data in Cloud Server, and
- Temperature Atlas

Activities Completed in FY 13

- Produced data collection toolkit software configuration for 34 hydrologic stations
- Began temperature atlas development, and
- Began development and testing software to present data in Cloud Server for public viewing

Expected FY 14 Activities

- Develop data management software
- Complete Temperature Atlas
- Transfer telemetry data to SJRRP server, and
- Publish SJRRP data in Cloud Server

Projected FY 15 Activities

- Continue data management and quality control

Projected FY 16 Activities

- Continue data management and quality control

Table 4-11 Reclamation Data Management Project: Software Development Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|---|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$435,897 | \$435,897 | \$133,872 |
| Notes: FY 15 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

2006

Expected Completion Date

Not Applicable

Project Lead

Reclamation, Alicia Forsythe

Project Authority

Public Law 111-11, Title X, and Central Valley Project Improvement Act, Public Law 102-575, Section 3406(c)(1)

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 for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$736,688 | \$736,688 | \$736,688 |

4.2.7 U.S. Fish and Wildlife Service

Start Date

Not Applicable

Expected Completion Date and Major Milestones

Not Applicable

Project Lead

USFWS, Bob Clarke

Project Authority

Public Law 111-11, Title X, and Central Valley Project Improvement Act, Public Law 102-575, Section 3406(c)(1)

Project Description

USFWS will support the Program by conducting compliance and fish reintroduction activities consistent with the MAP and Annual Technical Report (ATR) processes and participate in the PMT, Settling Party Coordination, and Technical Advisory Committees. USFWS personnel will support the Program on outreach with Third Parties and the public, and attend or lead 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 ATR
- Permitting documents
- Document review
- Annual donor stock collection plan
- Fish reintroduction protocols and Implementation Plan [Brood Year (BY) 13 Operations Plan]
- Draft and final Fish and Wildlife Coordination Act Reports (FWCAR)
- ESA consultations, and
- Technical support for permitting and compliance document

Activities Completed in FY 13

- Coordinated fisheries elements of the FY 13 SJRRP MAP
- Completed ESA consultation and FWCAR for the Friant-Kern Canal Capacity Restoration Project

- Continued coordination of regulatory compliance and technical 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 including fisheries modeling support.
- Coordinated efforts for the ESA Section 4(d) and 10(j) rule making process
- Prepared and submitted to NMFS a 10(a)(1)(A) permit application for spring-run translocation
- Continued to facilitate access to Federal wildlife refuges for SJRRP purposes

Expected FY 14 Activities

- Coordinate fish reintroduction activities for both fall-run and spring-run BY13 and BY14 initiation
- Provide fishery technical support for SJRRP projects
- Begin fish reintroduction technical support and document preparation
- Continue to facilitate access to Federal wildlife refuges for SJRRP purposes
- Coordinate fisheries elements of the FY 14 SJRRP MAP
- Continue outreach activities related to wild donor stock collections, permitting and rule-making to support reintroduction actions
- Develop BY 13 Operations Plan (for fall-run and spring-run)
- ESA concurrence and biological opinions for several SJRRP projects
- Begin FWCAR preparation and review for several SJRRP projects
- Continue general permitting support for SJRRP activities
- Prepare and submit 10(a)(1)(A) permit application for wild stock collection and submit to NMFS

Projected FY 15 Activities

- Coordinate fish reintroduction activities for both fall-run and spring-run BY14 and BY15 initiation
- Coordinate fisheries elements of the FY 15 SJRRP MAP
- Prepare and submit additional, if necessary, 10(a)(1)(A) permit applications for wild stock collection and submit to NMFS
- Provide ESA concurrence and biological opinions for several SJRRP projects
- Provide fishery technical support for SJRRP projects

- Continue FWCAR preparation and review for several SJRRP projects
- Continue fish reintroduction technical support and document preparation
- Continue general permitting support for SJRRP activities
- Continue to facilitate access to Federal wildlife refuges for SJRRP purposes
- Begin fisheries modeling support for site specific project alternatives evaluation
- Conduct outreach activities related to wild donor stock collections, permitting and rule-making to support reintroduction actions

Projected FY 16 Activities

- Coordinate fish reintroduction activities for both fall-run and spring-run BY15 and BY16 initiation
- Coordinate fisheries elements of the FY 16 SJRRP MAP
- Prepare and submit additional, if necessary, 10(a)(1)(A) permit applications for wild stock collection and submit to NMFS
- Provide ESA concurrence and biological opinions for several SJRRP projects
- Provide fishery technical support for SJRRP projects
- Continue FWCAR preparation and review for several SJRRP projects
- Continue Fish reintroduction technical support and document preparation
- Continue to facilitate access to Federal wildlife refuges for SJRRP purposes
- Continue fisheries modeling support for site specific project alternatives evaluation
- Continue general permitting support for SJRRP activities
- Conduct outreach activities related to wild donor stock collections, permitting and rule-making to support reintroduction actions

Table 4-13 USFWS Staffing Agreement Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 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

April 2013

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Draft Annual Channel Capacity Report (each fall)
- Final Annual Channel Capacity Report (Prepared at beginning of the Restoration Year)
- Assessments will continue annually through Water Year 2030 unless channel capacity issues are resolved earlier. Yearly assessments are anticipated to be completed in January of each year.

Project Leads

Reclamation, Michelle Banonis

Project Authority

The Program Environmental Impact Statement/Report (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.

Project Description

As described above, the PEIS/R calls for Reclamation to determine then-existing channel capacity and to establish the 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 13

- Awarded consultant contract and established the CCAG, and
- Prepared draft Annual Channel Capacity Report for Restoration Year 2014

Expected FY 14 Activities

- Continue facilitating CCAG and prepare the Final Annual Channel Capacity Report for Restoration Year 2014
- Prepare draft Annual Channel Capacity Report for Restoration Year 2015

Projected FY 15 Activities

- Continue facilitating CCAG and prepare the Final Annual Channel Capacity Report for Restoration Year 2015
- Prepare draft Annual Channel Capacity Report for Restoration Year 2016

Projected FY 16 Activities

- Continue facilitating CCAG and prepare the Final Annual Channel Capacity Report for Restoration Year 2016
- Prepare draft Annual Channel Capacity Report for Restoration Year 2017

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 for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|---|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$100,000 | \$100,000 | \$100,000 |
| Reclamation Contracts and Assistance Agreements | \$500,000 | \$500,000 | \$500,000 |
| Total | \$600,000 | \$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 Flows Management Project

Start Date

2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Complete Final Restoration Flows Guidelines (RFGs) (January 1, 2014)
- Complete Final Gravelly Ford Compliance Protocols (January 1, 2014)
- Gravelly Ford Compliance monitoring during non-flexible flow periods, Flexible Flow Period (Spring and Fall Pulse) management, daily flow tracking, coordinating with RA for flow allocations and recommendations, and reviewing RA recommendations for RFG compliance, will be ongoing through the life of the Program.

Project Leads

Reclamation, Michael Mitchener

Project Authority

The Settlement stipulates in Paragraph 13 that “In addition to the channel and structural improvements identified in Paragraph 11, release of water from Friant Dam to the confluence of the Merced River shall be made to achieve the Restoration Goal...” These releases are termed the Restoration Flows, and are required to begin no later than January 1, 2014. The Settlement also stipulates that “prior to the commencement of Restoration Flows as provided in this Paragraph 13, the Secretary, in consultation with the Plaintiffs and Friant Parties, shall develop guidelines...”

Project Description

The RFGs, stipulated in the Settlement, describe procedures developed to comply with Paragraph 13(j), and Paragraphs 13(a), (c), (e), (f) and (i). The RFGs are not limited to the items enumerated under Paragraph 13(j) of the Settlement. Where necessary, they will be amended to include relevant guidelines not anticipated by the Settlement.

The primary purpose of this activity is to produce and implement the RFGs, which will guide the program’s Restoration Flows releases, to create and implement the Gravelly Ford Compliance protocols, and to allocate, release and manage flows consistent with the RFGs, the State Board Order, the Settlement, and the Act.

Project Deliverables

- Draft and Final RFGs
- Draft and Final Gravelly Ford Compliance Protocols
- Annual Gravelly Ford Compliance Report

- Allocation and Default Flow Schedule (submit to RA and review RA recommendations for RFG compliance)
- Post flows-related notices to Program website

Activities Completed in FY 13

- Continued drafting RFGs
- Drafted Gravelly Ford Compliance Protocols
- Completed annual Gravelly Ford Compliance Report
- Monitored Gravelly Ford Compliance during non-flexible flow periods
- Submitted flow allocations to RA and reviewed RA recommendations for draft RFG compliance
- Completed daily flow tracking spreadsheets
- Coordinated weekly flow scheduling conference call
- Coordinated with Mendota Pool operators
- Posted flows-related notices to Program website, and
- Managed Flexible Flow Periods (Spring and Fall Pulse)

Expected FY 14 Activities

- Complete and implement RFGs
- Complete and implement Gravelly Ford Compliance Protocols
- Produce annual Gravelly Ford Compliance Report
- Continue monitoring Gravelly Ford Compliance during non-flexible flow periods
- Submit flow allocations to RA and review RA recommendations for RFG compliance
- Complete daily flow tracking spreadsheets
- Coordinate weekly flow scheduling conference calls
- Coordinate with Mendota Pool operators
- Post flows-related notices to Program website, and
- Continue managing Flexible Flow Periods (Spring and Fall Pulse)

Projected FY 15 Activities

- Continue implementing RFGs

- Continue implementing Gravelly Ford Compliance Protocols
- Produce annual Gravelly Ford Compliance Report
- Continue monitoring Gravelly Ford Compliance during non-flexible flow periods
- Continue submitting flow allocations to RA and review RA recommendations for RFG compliance
- Complete daily flow tracking spreadsheets
- Continue coordinating weekly flow scheduling conference calls
- Continue coordinating with Mendota Pool operators
- Continue posting flows-related notices to Program website, and
- Continue managing Flexible Flow Periods (Spring and Fall Pulse)

Projected FY 16 Activities

- Continue implementing RFGs
- Continue implementing Gravelly Ford Compliance Protocols
- Produce annual Gravelly Ford Compliance Report
- Continue monitoring Gravelly Ford Compliance during non-flexible flow periods
- Continue submitting flow allocations to RA and review RA recommendations for RFG compliance
- Complete daily flow tracking spreadsheets
- Continue coordinating weekly flow scheduling conference calls
- Continue coordinating with Mendota Pool operators
- Continue posting flows-related notices to Program website, and
- Continue managing Flexible Flow Periods (Spring and Fall Pulse)

Table 4-15 Flows Management Project Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$271,918 | \$221,148 | \$221,148 |
| Total | \$ 271,918 | \$221,148 | \$221,148 |

4.3.3 Invasive Vegetation Monitoring and Management

Start Date

October 2010

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Management season when herbicide spraying is permitted (refer to Invasive Vegetation EA) (April 1st – October 30 each year)
- Annual Monitoring and Management Report (December 31st each year)
- This activity may continue through the life of the Program

Project Leads

Reclamation, Erin Rice

Project Authority

The project fulfills environmental commitments in the PEIS/R and conditions to Water Rights Orders for release of Interim Flows.

Project Description

Invasive riparian plant species have the potential to substantially reduce the effectiveness of restoration actions. 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 13

- Monitored and managed invasive vegetation on the San Joaquin River, and
- Prepared annual report for FY12 activities

Projected FY 14 Activities

- Complete scheduled invasive vegetation monitoring on the San Joaquin River and prepare annual report

Projected FY 15 Activities

- Complete scheduled invasive vegetation monitoring on the San Joaquin River and prepare annual report

Projected FY 16 Activities

- Complete scheduled invasive vegetation monitoring on the San Joaquin River and prepare annual report

Table 4-16 Invasive Vegetation Cost Estimate for FY 2014 to FY 2016

| | FY14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$11,000 | \$11,000 | \$11,000 |
| Reclamation Contracts | \$500,000 | \$500,000 | \$500,000 |
| Total | \$511,000 | \$511,000 | \$511,000 |

4.3.4 Lower San Joaquin Levee District Financial Assistance

Start Date

October 2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Financial Assistance Agreement (FY 14 through October 31, 2016)
- Anticipated completion in 2016

Project Leads

Reclamation, Michelle Banonis

Project Authority

The project fulfills commitments made by Reclamation in the Program PEIS/R and ROD

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 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

Annual report of activities completed by Levee District

Activities Completed in FY 13

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 14 Activities

- Award Financial Assistance Agreement to include costs for the Water Year 2013 Interim Flows
- Begin flap gate inspection: verifying that each flap-gate is closed prior to the release of Interim and Restoration flows that would flow through the flap-gate and flood surrounding lands. Patrols should be conducted according to standard Levee District practices
- Begin levee patrols: Levee patrols when inundation due to Interim and Restoration flows reaches the toe of a levee. Patrols will be conducted to identify potential issues with

levee stability that may require adjusting the flows. Results will be reported directly to Friant Operations Staff according to emergency procedures developed during flood control operations

- Begin maintenance assessments: inspection of flap-gates, structures, and channels to identify potential increases in needs as a result of Interim and Restoration flows
- Begin debris removal: removal and disposal of debris transported into flap-gates or control structures as a result of Interim and Restoration flows following standard Levee District practices
- Begin vegetation Control: spraying or mechanical removal as a result of an increase in vegetation growth and the associated impacts on flood control stage from Interim and Restoration flows. The Levee District will follow industry standard practices to manage vegetation in impacted areas
- Begin sand excavation: Mobilization of sand into constricted areas from the Interim and Restoration flows can reduce flood control capacity and require excavation to maintain capacity. The Levee District will excavate material according to standard maintenance, and
- Prepare Reports and Coordinate with Program staff: documentation of the activities undertaken for maintenance as a result of Interim and Restoration flows and a meeting with SJRRP program staff at the Levee District headquarters at least once per year to present activities and incorporate comments

Projected FY 15 Activities

Continued activities listed in FY 14

Projected FY 16 Activities

Continue activities listed in FY 14

Table 4-17 Lower San Joaquin Levee District Financial Assistance Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|---|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$25,000 | \$25,000 | \$25,000 |
| Reclamation-Funded Financial Assistance Agreement | \$260,000 | \$270,000 | \$270,000 |
| Total | \$285,000 | \$295,000 | \$295,000 |

4.3.5 Mapping Waters of the United States

Start Date

January 2013

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Draft Mapping Waters of the United States Delineation Report to USACE (October 2013)
- Final Mapping Waters of the United States Delineation Report (December 2013)

Project Leads

Reclamation, Michelle Banonis

Project Authority

The project fulfills commitments made by the Program in the PEIS/R and ROD.

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 13

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

Expected FY 14 Activities

All deliverables are anticipated to be completed in FY 14.

Projected FY 15 Activities

None, unless activities in FY 14 take longer than anticipated

Projected FY 16 Activities

None

Table 4-18 Mapping Waters of the United States Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|-----------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$50,000 | \$0 | \$0 |
| Other Agencies Staff and Expenses | \$15,000 | \$0 | \$0 |
| Reclamation Contracts | \$60,000 | \$0 | \$0 |
| Total | \$125,000 | \$0 | \$0 |

4.3.6 Monitoring, Analysis, Planning, and Reporting

Start Date

2010

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Annual Monitoring and Analysis Plan (MAP; completed November each year)
- Data reporting updates on the SJRRP website following fall and spring flow pulses (March and July each year)
- ATR
- MAP activities will continue through 2020

Project Leads

Reclamation, Erin Rice

Project Authority

The project supports implementation the Settlement Paragraph 15 Interim Flows Program, and informs uncertainties associated with Paragraphs 11-14 actions to achieve the Restoration Goal.

Project Description

The MAP is an annual update to SJRRP strategy to resolve uncertainties associated with flow management, channel improvements, fish 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

Project deliverables are produced annually and include the following:

- Draft and final MAP
- Studies implemented by Reclamation or USFWS in the MAP
- Environmental compliance actions for Reclamation and USFWS studies in the MAP
- ATR
- Reports related to ATR
- Data related to ATR

- Restoration Goal Technical Feedback meetings

Activities Completed in FY 13

- Conducted juvenile salmon migration and survival – Telemetry study
- Conducted mine pits predator study
- Conducted PIT tag monitoring
- Conducted Egg Survival study
- Studied vegetation transects
- Studied effects of riparian forest on water temperature
- Provided sedimentation and river hydraulics support
- Conducted Millerton Cold Water Pool study, and
- Produced 2013 ATR and 2014 MAP

Expected FY 14 Activities

- Produce 2014 ATR and 2015 MAP, and
- Complete the study efforts lead by Reclamation and USFWS in the MAP

Projected FY 15 Activities

- Produce 2015 ATR and 2016 MAP
- Complete the study efforts lead by Reclamation and USFWS in the MAP

Projected FY 16 Activities

- Produce 2016 ATR and 2017 MAP
- Complete the study efforts lead by Reclamation and USFWS in the MAP

Table 4-19 Monitoring, Analysis, Planning, and Reporting Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$1,086,276 | \$1,086,276 | \$1,086,276 |
| Reclamation Funded Contracts | \$513,724 | \$513,724 | \$513,724 |
| Total | \$1,775,082 | \$1,600,000 | \$1,600,000 |

Note: Reclamation staff and expenses include funding for USFWS to carryout study activities. Annual funding amounts for USFWS will be determined based on the annual MAP studies and will vary from year to year.

4.3.7 Riparian Habitat Mapping, Monitoring, and Mitigation Plan

Start Date

November 2011

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- First Administrative Draft Riparian Habitat Mapping, Monitoring, and Mitigation Plan (January 1, 2014)
- Second Administrative Draft Riparian Habitat Mapping, Monitoring, and Mitigation Plan (February 14, 2014)
- Final Riparian Habitat Mapping, Monitoring, and Mitigation Plan (March 24, 2014)

Project Leads

Reclamation, Michelle Banonis

Project Authority

The project fulfills commitments made in the PEIS/R and ROD.

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 13

- Completed first Administrative Draft, Second Administrative Draft, and Final TIPARs
- Coordinated property access and execute temporary entry permits
- Completed field verification surveys, draft and final Field Survey Reports, and
- Conducted meetings with regulatory agencies to discuss crediting mechanism and approach

Expected FY 14 Activities

- Produce first Administrative Draft, Second Administrative Draft, and 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

Projected FY 15 Activities

None

Projected FY 16 Activities

None

Table 4-20 Riparian Habitat Mapping, Monitoring, and Mitigation Plan Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|-----------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$25,000 | \$0 | \$0 |
| Other Agencies Staff and Expenses | \$25,000 | \$0 | \$0 |
| Total | \$50,000 | \$0 | \$0 |

4.3.8 Sand Slough Flow Conveyance Project

Start Date

September 2011

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Project Description (September 2013)
- Design Drawings (April 2014)
- Draft Environmental Assessment (November 2013)
- Final Environmental Assessment and Finding of No Significant Impact (March 2014)
- Contracting Complete (May 2014)
- Construction (June through September 2014)

Project Lead

Reclamation, Mario Manzo

Project Authority

Settlement Act, Title X

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 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, if determined necessary, 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

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- Construction (sand removal and crossing)
- Project Management Activities including invoicing, cost estimating; bid-ready design; bid documents and documenting project close-out

Activities Completed in FY 13

- Developed Project Description
- Coordinated with landowners
- Completed channel surveys and reports
- Continued permitting and environmental compliance activities
- Continued Clean Water Act Section 401 and 404 permit applications
- Designed alternative evaluation and selection criteria
- Planned Section 106 compliance
- Initiated engineering report, and
- Developed cost estimates

Expected 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.

Projected FY 16 Activities

None anticipated.

Notes

No FY 15 and FY 16 estimates are included because the sand removal is projected to be completed in FY 14. 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 4-21 Sand Slough Flow Conveyance Project Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--|------------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$375,000 | \$0 | \$0 |
| Reclamation Contracts | \$590,000 ¹ | \$0 | \$0 |
| Total | \$965,000 | \$0 | \$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. | | | |

4.3.9 Seepage Management Projects

Start Date

March 2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Seepage Management Plan, Public Review Draft (March 26, 2013)
- Seepage Project Handbook (December 14, 2011)
- Site Evaluation and Appraisal Level Design Reports (one for each project, up to 93 projects)
- NEPA documents and associated permits (one set for each project, up to 93 projects)
- Project completion (up to 93 projects) (December 2023)

Additionally, the project includes the following major milestones in terms of flow rates in the river:

| Flow Rate (cfs) | Number of Projects | Duration | Completion Year |
|-----------------|--------------------|----------|-----------------|
| 300 | 3 | 1 | 2013-14 |
| 700 | 1 | 2 | 2015 |
| 1,300 | 7 | 2 | 2015 |
| 2,000 | 12 | 2 | 2016 |
| 3,000 | 36 | 3 | 2019 |
| 4,000 | 26 | 3 | 2022 |
| 4,500 | 8 | 1 | 2023 |

Project Leads

Reclamation, Katrina Harrison

Project Authority

The San Joaquin River Restoration Act (Act), Title X, Subtitle A of the Omnibus Lands Bill (Public Law 111-11) authorizes actions for the SJRRP. The Act, passed in 2009, requires the Department of the Interior to “reduce Interim Flows to the extent necessary to address any material adverse impacts to third parties from groundwater seepage” caused by Interim or Restoration Flows identified by SJRRP monitoring, and requires mitigation actions to reduce impacts.

Project Description

In response to PEIS/R commitments, Reclamation developed a Seepage Management Plan (updated in 2013) 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 13

- Initiated two more 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,
- Revised the Seepage Management Plan groundwater level thresholds with new information about effective crop root zone and historical groundwater levels per a peer review
- Completed first admin draft site evaluation and appraisal level design reports for 3 parcel groups
- Initiated appraisals, environmental site assessments, legal descriptions and title reports for 3 parcel groups and 6 additional landowners owning property in the Eastside Bypass

Expected FY 14 Activities

- Update Seepage Project Handbook with revised timelines and additional detail learned from first 3 projects
- Long-term study on historical groundwater levels
- Complete plan formulation and project reports for first 3 parcel groups
- Construction of projects or realty agreements for first 3 parcel groups
- Obtain flowage easements in the Eastside Bypass
- Initiation of site evaluation and appraisal level designs for next round of parcel groups
- Document ¼ mile grid and ~300 feet grid size SJRRP groundwater models from the USGS
- 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

Projected FY 15 Activities

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

Projected FY 16 Activities

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

Table 4-22 Seepage Management Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$2,127,171 | \$1,708,000 | \$1,708,000 |
| USGS Staff and Expenses | \$420,000 | \$320,000 | \$320,000 |
| Reclamation Funded Construction | \$6,452,829 | \$2,000,000 | \$0 |
| Reclamation Funded Contract | \$2,000,000 | \$2,000,000 | \$2,000,000 |
| Realty Agreements / Land Acquisition | \$5,210,000 | \$2,000,000 | \$2,000,000 |
| Total | \$16,210,000 | \$8,028,000 | \$6,028,000 |

4.3.10 Steelhead Monitoring

Start Date

Winter 2012

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Steelhead Monitoring (Winters, Ongoing)
- Steelhead Monitoring Report (Each May)

Project Leads

Reclamation, Erin Rice

Project Authority

Reclamation committed to the Steelhead Monitoring Plan in environmental documents for Interim and Restoration Flows.

Project Description

Steelhead abundance and distribution in the San Joaquin River Basin have substantially decreased, and steelhead are now believed to be extirpated from the Restoration Area. Central Valley (CV) steelhead distinct population segment includes tributaries to the San Joaquin River and therefore the presence of CV steelhead must be monitored. Interim and Restoration flows could attract adult steelhead into the Restoration Area and attracted fish would not have access to appropriate spawning habitat due to a number of impassable barriers. The Bureau of Reclamation implemented a steelhead monitoring and detection plan for the San Joaquin River upstream of the Merced River confluence that would, in the event of a capture, document and transport the fish to suitable habitats downstream from the mouth of the Merced River. Electrofishing, fyke traps, and trammel netting collection methods were used for detection of CV steelhead from approximately 3.5 miles upstream of Highway 165 Bridge to the confluence of the Merced River and adjoining sloughs.

Project Deliverables

- Steelhead monitoring activities documented in Steelhead Monitoring Reports

Activities Completed in FY 13

The SJRRP conducted steelhead monitoring in late 2012/early 2013 and completed a report in spring 2013.

Expected FY 14 Activities

Continued implementation of the Steelhead Monitoring Plan

Projected FY 15 Activities

Continued implementation of the Steelhead Monitoring Plan

Projected FY 16 Activities

Continued implementation of the Steelhead Monitoring Plan

Table 4-23 Steelhead Monitoring Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$228,000 | \$228,000 | \$228,000 |
| Total | \$228,000 | \$228,000 | \$228,000 |

4.3.11 Water Rights Compliance

Start Date

October 1, 2009

Expected Completion Date and Major Milestones

Annual reports due June 30, for the life of the Program

Project Leads

Reclamation, Erin Rice

Project Authority

Reporting is a requirement of the short term and long term Water Rights Orders from the State Water Resources Control Board for release of SJRRP Interim and Restoration flows.

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 13

Completed WY 2012 Compliance Report and compliance report for the SJRRP's September 2012 Temporary Urgency Change Petition

Expected FY 14 Activities

Complete compliance report for the SJRRP's March 2013 Temporary Urgency Change Petition

Projected FY 15 Activities

Complete compliance report for any additional Temporary Urgency Change Petition and/or WY 2014 Compliance Report

Projected FY 16 Activities

Complete WY 2015 Compliance Report

Table 4-24 Water Rights Compliance Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$27,000 | \$27,000 | \$27,000 |
| Reclamation Funded Contracts | \$10,000 | \$10,000 | \$10,000 |
| Total | \$37,000 | \$37,000 | \$37,000 |
| Note: Reclamation funded contracts is anticipated funding needed by the State Board. Reclamation provides funding to the State Board for actions taken to process and administer its water rights. | | | |

4.3.12 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 13.

Table 4-25 Wolfsen v. U.S. Litigation Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 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 and Major Milestones

The project includes the following major milestones:

- Construction begin (2015)
- Construction complete (2016)

Project Leads

Reclamation, Steve Tighe

Project Authority

Settlement Paragraph 11(a)(6) stipulates: Screening the Arroyo Canal water diversion immediately upstream of Sack Dam to prevent entrainment of anadromous fish, and Paragraph 11(a)(7) stipulates: Modifications to Sack Dam adequate to ensure fish passage.

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, and
- Constructing the project.

The project includes implementing all activities to construct a new 700 cubic feet per second (cfs) 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, and
 - 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, and
- Completed fish screen, passageway, dam, and associated infrastructure

Activities Completed in FY 13

- 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 final EA/IS and completed public notice activities
- 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, and
 - 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, and
- Initiated and continued subsidence monitoring activities

Expected FY 14 Activities

- Ongoing permitting, environmental compliance, and engineering design activities
- Analyze the impacts of subsidence on the project
- Analyze dressinid mussel impacts
- Negotiate and develop Financial Assistance Agreement (FAA) to modify ongoing permitting, environmental compliance, and engineering design activities
- Negotiate and develop FAA for construction activities, and
- Continue project management oversight
- Complete 90%, 100%, and bid ready designs

Projected FY 15 Activities

- Develop and execute MOU for construction activities
- Construction bid and management
- Begin pre-construction surveys
- Begin construction activities
- Begin potential FAA modification negotiation and development (if needed), and
- Begin construction project management and oversight

Projected FY 16 Activities

- Complete construction activities
- Continue construction project management and oversight
- Begin construction revegetation
- Begin project close-out activities

Table 4-26 Arroyo Canal Fish Screen and Sack Dam Fish Passage Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|---|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$246,890 | \$450,000 | \$450,000 |
| Reclamation Funded Financial Assistance Agreements | \$1,500,000 | \$20,000,000 | \$20,000,000 |
| Total | \$1,746,890 | \$20,450,000 | \$20,450,000 |
| 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 and Major Milestones

The project includes the following major milestones:

- Public Draft EIS/R (January 2014)
- Final EIS/R (March 2015)
- Record of Decision (May 2015)
- Land Acquisition Begin (May 2015)
- Final Design Complete (May 2016)
- Land Acquisition Complete (November 2016)
- Construction Start (November 2016)
- Construction Complete (October 2020)
- Project Complete, not including Operations and Maintenance (October 2020)

Project Lead

Reclamation, Michael Mitchener

Project Authority

This project meets the following stipulation from the Settlement, Paragraph 11(a)(1) Creation of a bypass channel around Mendota Pool to ensure conveyance of at least 4,500 cfs from Reach 2B downstream to Reach 3. This improvement requires construction of a structure capable of directing flow down the bypass and allowing the Secretary to make deliveries of San Joaquin River water into Mendota Pool when necessary; and (2) Modifications in channel capacity (incorporating new floodplain and related riparian habitat) to ensure conveyance of at least 4,500 cfs in Reach 2B between the Chowchilla Bifurcation Structure and the new Mendota Pool bypass channel.

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. 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 processes, including the preparation of an EIS/R), obtaining permits, and support for the Mendota Pool Bypass and Reach 2B Improvements Project. Future activities will also include design, land acquisition, and construction of levees, river channels, and flow and fish passage structures.

Project Deliverables

- 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, and
 - 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, and
- Completed fish screens, passageways, dam (if part of final alternative), and associated

infrastructure

Activities Completed in FY 13

- Finalized the Project Description Technical Memorandum
- Conducted public outreach
- Analyzed resource area impacts for EIS/R
- Prepared First Administrative Draft EIS/R document, and
- Developed Field Exploration Requests for geotechnical data collection to inform the engineering design

Expected FY 14 Activities

- Prepare Second Administrative Draft EIS/R document
- Public Draft EIS/R and all related notices
- Public meetings for public draft EIS/R
- Begin land acquisition activities
- Begin preparing designs and construction plans, and
- Begin geotechnical investigations to support design

Projected FY 15 Activities

- Select preferred alternative and sign ROD and Notice of Determination
- Continue land acquisition activities
- Continue designs and construction plans, and
- Continue geotechnical investigations to support design

Projected FY 16 Activities

- Continue land acquisition and associated activities
- Complete geotechnical investigations to support design
- Complete final designs and construction plans, and
- Begin construction procurement activities

Table 4-27 Mendota Pool Bypass and Reach 2B Improvements Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--|-----------------------|----------------------|--------------------------|
| Reclamation Staff and Expenses ¹ | \$4,168,117 | \$3,750,130 | \$1,118,399 ² |
| Reclamation Funded Contracts ³ | \$1,416,023 | \$1,016,397 | \$342,414 |
| Land Acquisition Costs | \$0 | \$8,000,000 | \$10,667,000 |
| Total | \$5,584,140 | \$12,766,527 | \$12,127,540 |
| <p>Notes: ¹ Reclamation labor for FYs 14-16 include design and engineering staff from Reclamation's Technical Service Center and costs for efforts to gather geotechnical data to support design.</p> <p>² Reclamation labor for FY 16 includes increased involvement by construction branch and decreased involvement by geotechnical staff and design staff.</p> <p>³ The contractor costs for FY 14 - 16 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.</p> | | | |

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

Start Date

September 2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Draft EIS/R (Fall 2014)
- Final EIS/R (Fall 2015)
- ROD (Fall 2015)
- Land Acquisition (after 2016-2017)
- Construction (after 2016)

Project Leads

Reclamation, Michelle Banonis

Project Authority

The Reach 4B Project has key elements in Paragraph 11(a) and 11(b) of the Settlement. Phase 1 improvements refer to the improvements specified in Paragraph 11(a) of the Settlement, while Phase 2 improvements refer to the improvements specified in Paragraph 11(b). Specifically, Paragraph 11(a) of the Settlement stipulates:

- 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 any determination made in Paragraph 11(b)(1).
- 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.
- 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 RA determines such modifications are necessary to support anadromous fish migration through these channels.

Paragraph 11(b)(1) of the Settlement includes additional language on long-term flows in Reach 4B of the San Joaquin River:

- 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 of the Interior, in consultation with the RA and with the concurrence of NMFS and USFWS, determines that such modifications would not substantially enhance achievement of the Restoration Goal.

The Act contains the following language requiring a report on the long-term flows in Section 10009(f)(2):

- Secretary of the Interior shall submit a report to Congress on whether to expand the channel conveyance to 4,500 cfs in Reach 4B of the San Joaquin River, or use an alternative route for pulse flows.
- Secretary of the Interior shall make the high-flow routing determination prior to undertaking “any substantial construction work” to increase capacity in Reach 4B of the San Joaquin River.

The Reach 4B Project will address Paragraph 11(a) requirements of at least 475 cfs capacity in the San Joaquin River. It may also meet the requirements in Paragraph 11(b)(1) of the Settlement. As stipulated in the Act, no substantial construction work can occur to increase capacity in Reach 4B of the San Joaquin River until the high-flow routing determination is made, which includes the Secretary of the Interior’s report to Congress regarding the high-flow routing determination.

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 Head gate 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

San Joaquin River Restoration Program

- County encroachment permits
- Central Valley Flood Protection Board Permits
- Section 1600 permit, and
- 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, and
- Construction reports, including as-built construction reports

Activities Completed in FY 13

- 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 14 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 15 Activities

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

Projected FY 16 Activities

- Complete Final EIS/R
- Select preferred alternative and sign ROD and Notice of Determination
- Prepare final designs and construction plans

Table 4-28 Reach 4B, Eastside Bypass, and Mariposa Bypass Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|---|--------------------------|---------------------------|-----------------------|
| Reclamation | \$1,193,298 ¹ | \$20,000,000 ¹ | \$11,000,000 |
| Contractors | \$1,500,000 | \$5,000,000 | \$5,000,000 |
| Total | \$2,693,298 | \$25,000,000 | \$16,000,000 |
| Notes: ¹ Reclamation labor for FY's 14 - 16 would include increased involvement from the construction branch and 60% and 90% design plans from Reclamation's TSC, including review from design and engineering staff. Labor rates would also include significant involvement from real estate personnel. The costs will further include land acquisition in years past the anticipated Record of Decision in 2015. | | | |

4.4.4 Salt and Mud Sloughs Seasonal Barriers Project

Start Date

2012

Expected Completion Date and Major Milestones

Expected project completion date and major milestones are not determined at this time. The project is on hold due to budget constraints.

Project Leads

Reclamation, Apurba Borah

Project Authority

This project meets the following stipulation from the Settlement, Paragraph 11(a) Phase 1 Improvements: (10) Modifications to enable the deployment of seasonal barriers to prevent adult anadromous fish from entering false migration pathways in the area of Salt and Mud Sloughs. It is authorized and funded by Sections 10004 and 10009 of the SJRRS Act.

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. Fish barriers will be deployed near the Mud Slough- San Joaquin River confluence (approx. RM 121), and the Salt Slough- San Joaquin confluence (approx. RM129), 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 works 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 13 Activities

- Project Management Plan Update
- Fish Barriers Design Activity Plan
- Environmental Management Project Plan

Expected FY 14 Activities

No activities are planned.

Projected FY 15 Activities

No activities are planned.

Projected FY 16 Activities

No activities are planned.

Table 4-29 Salt and Mud Sloughs Seasonal Barriers Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$0 | \$0 | \$0 |
| Reclamation Funded Contracts | \$0 | \$0 | \$0 |
| Total | \$0 | \$0 | \$0 |

4.5 Fish Reintroduction

4.5.1 Ecosystems Diagnosis and Treatment Modeling Effort

Start Date

October 2011

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Completed Reach 2B evaluation estimated September 30, 2013
- Completed Reach 4B evaluation estimated February 30, 2014

Project Leads

Reclamation, Katrina Harrison

Project Authority

The project supports implementation the Settlement Paragraph 15 Interim Flows Program, and informs uncertainties associated with Paragraphs 11-14 actions to achieve the Restoration Goal.

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 EIS/R's, 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 13

Activities completed in FY 13 included one training sessions, channel width, floodplain area, flow routing and volumes, and temperature inputs for Reach 2B scenarios, which include evaluation of the major decisions: Fresno Slough Dam or Compact Bypass; Narrow or Wide Floodplain; and delivery option to Mendota Pool. These actions were evaluated at Dry, Normal-Wet and Wet year types.

Expected FY 14 Activities

Complete all deliverables.

Table 4-30 Ecosystems Diagnosis and Treatment Modeling Effort Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|-----------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$66,583 | \$0 | \$0 |
| Other Agencies Staff and Expenses | \$262,500 | \$0 | \$0 |
| Reclamation Funded Contracts | \$135,214 | \$0 | \$0 |
| Total | \$457,899 | \$0 | \$0 |

4.5.2 Fall-run Chinook Salmon Trap and Haul

Start Date

Fall 2012

Expected Completion Date and Major Milestones

- Trap and Haul Reports (September, each year of activity for the preceding fall activities)
- Fall-run Trap and Haul Operations (October 1 – December 15 each year of activity)

Project Leads

Reclamation, Erin Rice

Project Authority

The project supports the Restoration Goal by providing information about the feasibility of trap and haul operations, and salmon spawning habitat selection in Reach 1.

Project Description

The SJRRP will trap adult fall-run Chinook salmon in Reach 4B/5, haul fish to Reach 1, and monitor spawning behavior.

Project Deliverables

- Fall-run Trap and Haul Reports

Activities Completed in FY 13

The SJRRP trapped fall-run in Reach 5 transported fish to Reach 1, and monitored spawning activity.

Expected FY 14 Activities

The SJRRP will trap fall-run in Reach 5, transport fish to Reach 1, and monitor spawning activity.

Projected FY 15 Activities

The SJRRP will trap fall-run in Reach 5, transport fish to Reach 1, and monitor spawning activity.

Projected FY 16 Activities

The SJRRP will trap fall-run in Reach 5, transport fish to Reach 1, and monitor spawning activity.

Table 4-31 Fall-run Chinook Salmon Trap and Haul Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$592,236 | \$592,236 | \$592,236 |
| Total | \$592,236 | \$592,236 | \$592,236 |

4.5.3 Fisheries Activities Peer Review

Start Date

October 1, 2013

Expected Completion Date and Major Milestones

The review is expected to be completed in September 2014. Major milestones include a draft and final peer review report on the Program's fisheries activities.

Project Leads

Reclamation

Project Authority

Paragraph 14 of the Settlement

Project Description

The Fisheries Activities Peer Review will complete an independent peer review of the fisheries activities of the Restoration Program. An independent reviewer team and questions/review areas for the independent review team will be selected by the Implementing Agencies and parties to the Settlement. The independent review team will complete a draft peer review report that addresses the review questions and review areas. Based on comments and questions from the Implementing Agencies and parties to the Settlement, the independent review team will complete a final peer review report.

Project Deliverables

Draft and final independent review reports

Activities Completed in FY 13

None. Project not started.

Expected FY 14 Activities

All project deliverables

Projected FY 15 Activities

None, project is anticipated to be completed in FY 14

Projected FY 16 Activities

None

Table 4-32 Fisheries Activities Peer Review Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|---------------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$275,000 | \$0 | \$0 |
| Total | \$275,000 | \$0 | \$0 |

4.5.4 Salmon Conservation and Research Facility

Start Date

October 2012

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- NEPA complete (August 2014)
- Water Supply Infrastructure Construction on Reclamation property (December 2014 – April 2015)
- Construction complete (June 2015)
- Operations and maintenance will be ongoing

Project Lead

Reclamation, Erin Rice

Project Authority

The USFWS submitted an enhancement of species permit application under Section 10 of the Endangered Species Act (ESA) for the reintroduction of spring-run Chinook salmon on September 30, 2010. The application described specific criteria, guidelines, and measures to be followed by USFWS during reintroduction of spring run Chinook salmon to the San Joaquin River. Recognizing the status of spring-run Chinook salmon and the limited availability of donor fish from other populations in the Central Valley, artificial propagation was an essential component of USFWS's reintroduction approach described in the application. The application identified the Interim Facility and the future Salmon Conservation and Research Facility (SCARF) as the primary captive rearing facility for spring run Chinook salmon. Without the Interim Facility and the future SCARF, the USFWS would not be able to achieve the Settlement's requirement to establish a naturally-reproducing and self-sustaining population.

On October 11, 2012, NMFS issued Section 10(a)(1)(A) Permit 14868. This permit authorizes USFWS to collect, transport, rear, handle, and tag individuals to establish a broodstock of spring-run at the Interim Facility and the future SCARF located on the grounds of the existing San Joaquin Fish Hatchery in Friant, California. No other rearing facilities are authorized in the permit.

Project Description

DFW will construct and operate the SCARF 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 13

During FY 13, Reclamation completed appraisal-level design for water supply infrastructure and started final design including design data collection. Reclamation completed the Interim San Joaquin River Conservation and Research Facility Operations and Maintenance Funding EA, and a financial assistance agreement to funding DFW operations and maintenance.

Projected FY 14 Activities

Reclamation will start negotiations for a water service contract with DFW for the 20 cfs water supply to the SCARF. Reclamation and DFW will enter into a MOU for SCARF construction. Reclamation will complete final design and NEPA for water supply infrastructure.

Projected FY 15 Activities

Reclamation will complete construction of water supply infrastructure.

Projected FY16 Activities

Reclamation will fund DFW operations and maintenance.

Table 4-33 Salmon Conservation and Research Facility Cost Estimate for FY 2014 to FY 2016

| | FY14 Estimate | FY 15 Estimate | FY 16 Estimate |
|---|--------------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$2,216,007 ¹ | \$200,000 | \$200,000 |
| Reclamation-Funded Financial Assistance Agreement ² | \$665,000 | \$665,000 | \$665,000 |
| Total | \$2,881,007 | \$865,000 | \$865,000 |
| Notes: ¹ The FY14 Reclamation budget includes a \$1.8 million order-of-magnitude estimate for pipeline construction costs. Actual construction activities are planned to occur during FY15. ² Reclamation-Funded Financial Assistance Agreements are with DFW to fund Operations and Maintenance of the SCARF. | | | |

4.5.5 Salmon Genetics Monitoring

Start Date

October 2013

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Submit Procurement Request (October 1, 2013)
- Award contract (Mid-2014)
- Finalize Milestone Schedule (Late 2014)

Project Leads

Reclamation, Erin Rice

Project Authority

The project supports salmon broodstock and population management as part of implementation of Settlement Paragraph 14, and the Hatchery and Genetic Management Plan.

Project Description

SJRRP Salmon Genetics include activities to monitor genetics for fall and spring run Chinook salmon in the San Joaquin River, collected from donor streams, and captive reared in the Interim Facility.

Project Deliverables

- Genetics Monitoring Annual Report

Activities Completed in FY 13

The SJRRP collected tissue samples during monitoring and fish rearing activities for later analysis.

Expected FY 14 Activities

The SJRRP will execute a Genetics Contract for monitoring of spring and fall run Chinook salmon.

Projected FY 15 Activities

The SJRRP will conduct genetics monitoring and analysis per the future Genetics Contract Scope of Work.

Projected FY 16 Activities

The SJRRP will conduct genetics monitoring and analysis per the future Genetics Contract Scope of Work.

Table 4-34 Salmon Genetics Monitoring Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| Reclamation Staff and Expenses | \$10,000 | \$0 | \$0 |
| Reclamation Contracts | \$266,000 | \$266,000 | \$266,000 |
| Total | \$276,000 | \$266,000 | \$266,000 |

4.5.6 Spring-run Chinook Salmon Collection and Tagging

Start Date

Spring 2013

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Receipt of ESA 10(a)(1)(A) permit for collection of spring-run Chinook broodstock from Feather River Fish Hatchery (FRFH) (December, 2012)
- Completion of NEPA compliance for releases (November, 2013)
- Receipt of ESA 10(a)(1)(A) permit for collection and translocation spring-run Chinook for release in the San Joaquin River (March 2014)
- First of annual releases of spring-run Chinook to the San Joaquin River (March, 2014)

Project Leads

USFWS, John Netto

Project Authority

The Settlement states in Paragraph 14 (a): "the Secretary, through the FWS, and in consultation with the Secretary of Commerce, the DFG, and the Restoration Administrator, shall ensure that spring and fall run Chinook are reintroduced at the earliest practical date after commencement of sufficient flows and the issuance of all necessary permits." This project is part of meeting the program's commitment to reintroduce spring-run Chinook salmon.

Project Description

The SJRRP will collect and tag spring run Chinook salmon from donor sources and transport them to the Interim Conservation Facility.

Project Deliverables

- Spring-run Collection and Tagging Reports

Activities Completed in FY 13

The SJRRP collected spring-run Chinook salmon from the Feather River Fish Hatchery (FRFH) to begin a captive broodstock program and transported them to the Interim Conservation Facility.

Expected FY 14 Activities

The SJRRP will collect a second year of spring-run Chinook salmon broodstock and transport them to the Interim Conservation Facility.

Projected FY 15 Activities

The SJRRP will collect a third year of spring run Chinook salmon broodstock and transport them to the Interim Facility.

Projected FY 16 Activities

The SJRRP will collect a fourth year of spring run Chinook salmon broodstock and transport them to the Interim Facility.

Table 4-35 Spring-run Chinook Salmon Collection and Tagging Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY 15 Estimate | FY 16 Estimate |
|---|-----------------------|-----------------------|-----------------------|
| Reclamation Funding for Other Agencies Staff and Expenses ¹ | \$80,000 | \$80,000 | \$80,000 |
| Total | \$80,000 | \$80,000 | \$80,000 |
| Notes: ¹ Funding by Reclamation to USFWS to support project. DFW's support to project is captured in description of their activities supporting the Program. | | | |

4.6 Water Management

4.6.1 Part III Financial Assistance

Start Date

March 30, 2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Award FY13 financial assistance agreements with local agencies (August 30, 2013)
- Monitor agreements established in FY13 (September 1, 2013 – December 31, 2016)
- Milestones for future Funding Opportunity Announcements and Awards are subject to congressional appropriations, to a maximum of \$50,000,000

Project Leads

Reclamation, Erin Rice

Project Authority

Settlement Act, Section 10202.

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, and
- Environmental compliance for groundwater projects

Activities Completed in FY 13

Reclamation released a FOA and awarded \$10,000,000 in financial assistance agreements to local agencies.

Projected FY 14 Activities

Reclamation will work with local agencies to complete NEPA and other permitting activities. As the lead Federal agency Reclamation will initiate consultation with other federal agencies. Reclamation will conduct post-award monitoring and administration for agreements reached in 2013.

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 FOA and awarding financial assistance, subject to appropriations.

Projected FY 16 Activities

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

Table 4-36 Part III Financial Assistance Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$100,000 | \$100,000 | \$100,000 |
| Reclamation Funded Financial Assistance | \$0 | \$9,000,000 | \$5,000,000 |
| Total | \$100,000 | \$9,100,000 | \$5,100,000 |
| Notes: Amount in FY 15 is the estimate from the draft Implementation Framework and does not reflect future requests in the President's budget. | | | |

4.6.2 Friant-Kern Canal Capacity Restoration

Start Date

2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Feasibility Study (January 2014)
- Environmental Documentation (January 2014)
- Construction Agreements (June 2014)
- Initiation of Construction (June 2014)
- Completion of Construction (September 2019)

Project Leads

Reclamation, Erika Kegel

Project Authority

Settlement Act, Section 10201(a)(1)

Project Description

The Friant Kern Canal (FKC) is a Reclamation-owned facility, operated and maintained by the FWA. 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. 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 2014.

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
- 30%, 60%, 90%, and bid ready designs
- Value Engineering Review
- Award Co-Operative Agreement/Construction Bid Package
- Construction
- Project closeout

Activities Completed in FY 13

- Completed a CEC for geotechnical site investigation study
- Phase one (1) geotechnical site investigation study completed
- Initiated BA and Section 106 compliance
- Completed a draft project management plan

Expected FY 14 Activities

- Complete final Feasibility Report
- Complete CEC for geotechnical site investigation study
- Complete Phase one (2) geotechnical site investigation study
- Complete BA and Section 106 compliance, and NEPA compliance

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- Draft and finalize project management plan, environmental documentation, designs/specifications, award Cooperative Agreement, and
- 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.

Projected FY 16 Activities

Continue construction.

Table 4-37 Friant-Kern Canal Capacity Restoration Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|---|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$395,563 | \$548,764 | \$395,563 |
| Reclamation Funded Financial Assistance Agreement | \$6,604,437 | \$7,866,000 | \$7,866,000 |
| Total | \$7,000,000 | \$8,414,764 | \$8,261,563 |

4.6.3 Madera Canal Capacity Restoration Project

Start Date

2009

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Demonstration Project (December 2015)
- Feasibility Study (December 2016)

Project Leads

Reclamation, Erika Kegel (Feasibility Study and Overall Project Lead), Reclamation, Sean Frische (Demonstration Project Lead)

Project Authority

Settlement Act, Part III, Section 10201(a)(1)

Project Description

The purpose of the Madera Canal Capacity Restoration Project (Project) is to reduce or avoid the adverse water supply impacts to Chowchilla Irrigation District and Madera Irrigation District that may result from implementation of the Interim Flows and Restoration Flows. Reclamation is working with the MCWPA to evaluate restoring the Madera Canal to the flow rates provided in Reclamation's Contract No. 6-FC-20-03680 (1985), along with other actions that could reduce or avoid the adverse water supply impacts to these districts. In order to accomplish this, Reclamation is working with the MCWPA to complete a Demonstration Project and a Feasibility Study.

The purpose of the Demonstration Project is to construct test fixes in strategic locations to evaluate their effectiveness and inform the alternatives selection process for the Feasibility Study. The Demonstration Project 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, and similar) 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 capacity, 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 and sedimentation), and overall appearance.

The purpose of the Feasibility Study is to provide recommendations for best reducing or avoiding the adverse water supply impacts to the Chowchilla Irrigation District and Madera Irrigation District that may result from implementation of the Interim Flows and Restoration

Flows. The Feasibility Study will be initiated in FY 2014, informed by the results of the Demonstration Project, and completed in FY 2017.

Project Deliverables

Demonstration Project

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

Feasibility Study

- Contract Award
- Administrative Draft Feasibility Study
- Draft Feasibility Study
- Final Feasibility Study
- Closeout

Activities Completed in FY 13

Demonstration Project

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

Expected FY 14 Activities

Demonstration Project

- Finalize the Project Management Plan
- Initiate environmental documentation
- Complete site investigation work (geotechnical study) and designs/specifications
- Initiate construction.

Feasibility Study

- Award contract and initiate feasibility study process.

Projected FY 15 Activities

Demonstration Project

- Continue construction.

Feasibility Study

- Alternatives Technical Memorandum
- Administrative Draft Feasibility Study

Projected FY 16 Activities

Demonstration Project

- Complete construction and closeout.

Feasibility Study

- Draft Feasibility Study

Table 4-38 Madera Canal Capacity Restoration Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$601,382 | \$601,382 | \$601,382 |
| Reclamation Funded Contracts | \$2,398,618 | \$2,398,618 | \$2,398,618 |
| Total | \$3,000,000 | \$3,000,000 | \$3,000,000 |

4.6.4 Restoration Operations and Assessment Model

Start Date

August 2013

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Final model (?)

Project Leads

Reclamation, Mario Manzo

Project Authority

Settlement, Paragraphs 13(j), 16(a), and 16(b).

Project Description

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 Reclamation 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 the 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 13

No activities were completed in FY 13. The project will begin in FY 15.

Expected FY 14 Activities

No activities will be undertaken in FY 14. The project will begin in FY 15.

Projected FY 15 Activities

Award a financial assistance agreement and initial kick-off meetings

Projected FY 16 Activities

Draft model developments and potential operations scenarios

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 4-39 Restoration Operations and Assessment Model Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$0 | \$200,000 | \$200,000 |
| Contract | \$0 | \$500,000 | \$500,000 |
| Total | \$0 | \$700,000 | \$700,000 |

4.6.5 Water Management Support

Start Date

2006

Expected Completion Date and Major Milestones

The project includes the following major milestones:

- Quarterly Technical Feedback Meetings (Ongoing)
- Annual Recapture and Recirculation Support (Ongoing)
- Annual Recovered Water Account (RWA) Support (Ongoing)
- RWA Methodology (January 2014)
- Recapture and Recirculation Plan (March 2014)
- Investment Strategy (December 2015)
- Long-Term Recirculation Environmental Analysis (December 2017)

Project Lead

Reclamation, Mario Manzo

Project Authority

Settlement Act, Part III and Settlement, Paragraph 16

Project Description

Water management activities reduce or avoid adverse water supply impacts to all of the Friant Contractors that may result from the Interim and Restoration flows. This activity supports the overall Water Management Goal by: providing a coordinated effort to accomplish activities; hosting technical feedback meetings; and, completing various analyses, technical documents, and reports on the implementation of Paragraph 16 and Part III 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
- Recapture and Recirculation Plan
- Long-Term Recirculation Environmental Impact Statement/Report (EIS/R)

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- Recovered Water Account Methodology
- Water Management Goal Investment Strategy, and

Activities Completed in FY 13

- Completed Technical Feedback Meeting
- Continued progress on Standard Operating Procedures and Investment Strategy, and
- Implemented annual Recapture and Recirculation Program

Expected FY 14 Activities

- Complete Technical Feedback Meeting
- Complete Standard Operating Procedures
- Continue progress on Investment Strategy
- Implement annual Recapture and Recirculation Program
- Complete Recapture and Recirculation Plan
- Initiate Recirculation EIS/R development

Projected FY 15 Activities

- Complete Technical Feedback Meetings
- Implement annual Recapture and Recirculation Program
- Continue progress on Investment Strategy,
- Continue progress on Recirculation EIS/R

Projected FY 16 Activities

- Complete Technical Feedback Meetings
- Implement annual Recapture and Recirculation Program
- Complete Investment Strategy
- Continue progress on Recirculation EIS/R

Table 4-40 Water Management Support Cost Estimate for FY 2014 to FY 2016

| | FY 14 Estimate | FY15 Estimate | FY 16 Estimate |
|--------------------------------|-----------------------|----------------------|-----------------------|
| Reclamation Staff and Expenses | \$700,000 | \$700,000 | \$700,000 |
| Reclamation Funded Contracts | \$0 | \$0 | \$0 |
| Total | \$700,000 | \$1,045,000 | \$1,045,000 |