SAN JOAQUIN RIVER
RESTORATION PROGRAM

ANNUAL REPORT 2012

The San Joaquin River Restoration Program is a comprehensive, long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River restoring a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from restoration flows.

Cover and Back Cover Art: Left - Title: Dinuba Avenue Canal (Collage), Artist: Various Student Artists. Middle - Title: The Inner City Meets the River (Mixed media), Artist: Jessica Ketchum and Margarita Diaz. Right - Title: Fresno Canal (Acrylic), Artist: Deanna Martinez (see page 37 for more information on the art by McLane High School students)

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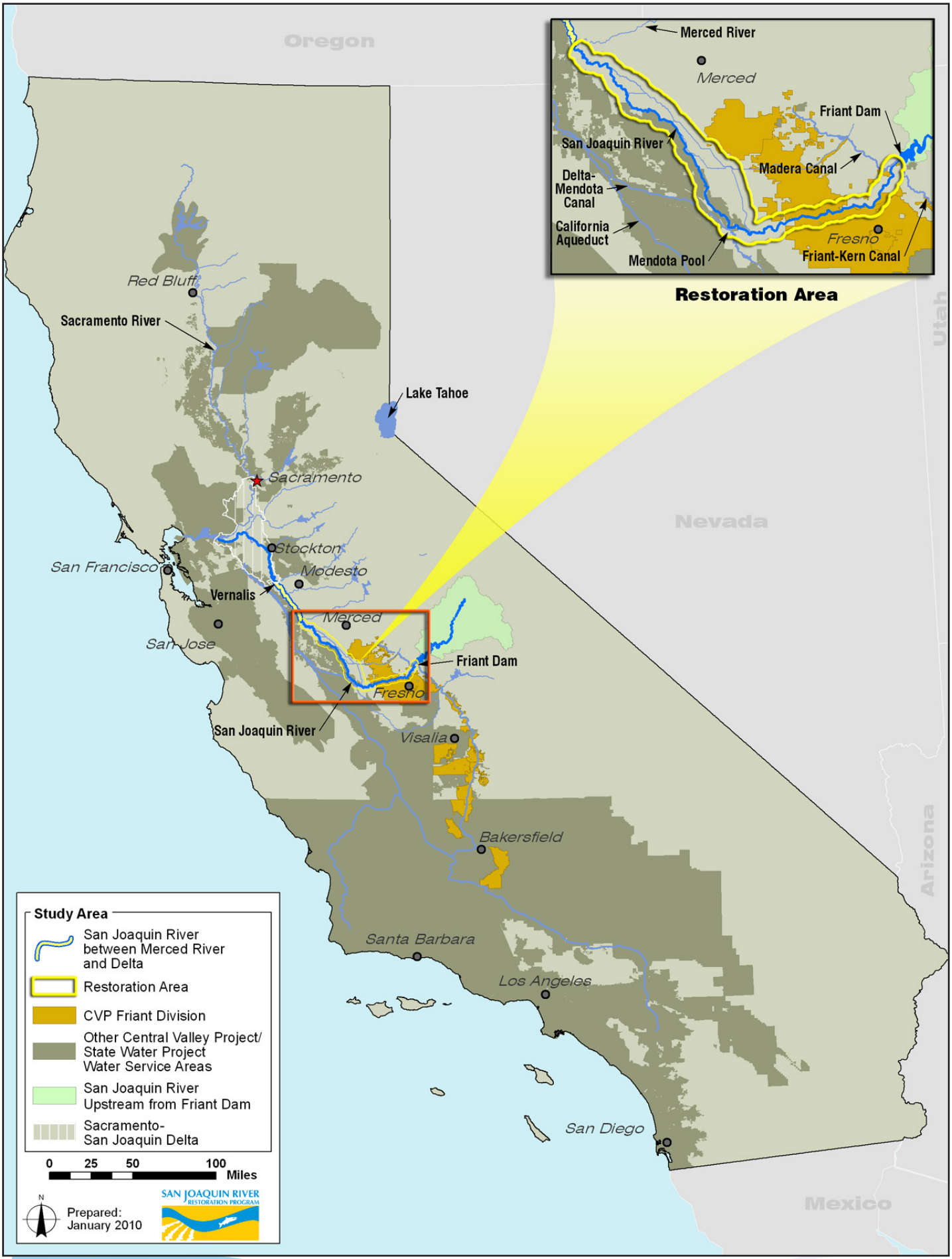

FIGURE 1 - MAP OF RIVER RESTORATION AREA

Introduction

The San Joaquin River Restoration Program (SJRRP or Program) 2012 Annual Report describes 2012 Program activities and accomplishments and planned activities for 2013. The SJRRP was established upon court acceptance of a Stipulation of Settlement in *Natural Resources Defense Council, et al., v. Kirk Rodgers, et al.*, in October 2006 on litigation related to the renewal of long-term water supply contracts in the Friant Division of the Central Valley Project, California.

San Joaquin River

In 2007, the Implementing Agencies including Reclamation, U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the California Department of Water Resources (DWR) and Department of Fish and Wildlife (DFW, formerly Dept. of Fish and Game) established the structure for the SJRRP and began work on the Program Environmental Impact Statement/Environmental Impact Report (PEIS/R). In 2008, progress continued towards supporting the PEIS/R. In 2009, the SJRRP released the first Interim Flows on October 1, began development of operational guidelines for releasing Restoration Flows, initiated site-specific work on three of the highest priority Phase I channel improvements projects identified in the Settlement, and developed a draft plan to recirculate water to the Friant Division long-term contractors.

In 2010, the SJRRP completed a variety of activities including the following: completed the first year of Interim Flows including extensive physical and biological monitoring activities; executed new contracts with 27 Friant Division long-term contractors; submitted a permit application for the reintroduction of salmon to the San Joaquin River by USFWS to NMFS; began formulating alternatives and environmental compliance strategies for the site-specific projects; recaptured and recirculated Interim Flows to Friant Division long-term contractors and made water available under the Recovered Water Account; and continued development of operational guidelines.

In 2011, the Draft PEIS/R was completed and released publicly. A series of public meetings were held to solicit public comments. The Seepage Management Plan was updated and a new Seepage and Conveyance Technical Feedback Group began meeting. Towards the Water Management Goal, more than 680,000 acre-feet of credits were allocated and more than 350,000 acre-feet of Recovered Water Accout water was delivered. The second year of Interim Flows concluded, and more than 29,600 acre-feet of those flows were recaptured.

REACHES OF THE SAN JOAQUIN RIVER UNDER EVALUATION INCLUDE:

- Reach 1 – Friant Dam to Gravelly Ford
- Reach 2 – Gravelly Ford to Mendota Dam
- Reach 3 – Mendota Dam to Sack Dam
- Reach 4 – Sack Dam to the confluence of Bear Creek and the Eastside Bypass
- Reach 5 – Eastside Bypass/Bear Creek confluence to the Merced River confluence

In 2012, progress continued across all areas, including:

- Completed the third year of Interim Flows and initiated the fourth year.
- Recaptured and recirculated about 102,000 acre-feet of Interim Flows during the 2012 water contract year, which runs from March 1, 2012, through February 2013.
- Released the final PEIS/R and signed a Record of Decision and Notice of Determination.
- Progressed on site-specific projects in Reaches 2B, 4B and at the Arroyo Canal and Sack Dam.

The geographic area for the SJRRP includes California's Central Valley from the Sacramento-San Joaquin Delta (Delta) to the base of the Tehachapi Mountains south of Bakersfield (see **Figure 1**). This area includes the San Joaquin River from Friant Dam to the Delta, the Friant Division of the Central Valley Project (CVP), other water service areas potentially affected by changes in water deliveries or restoration of the San Joaquin River, and tributaries to the San Joaquin River downstream of the river restoration area. The river restoration area is 153 miles long and reaches from Friant Dam to the confluence of the Merced River. This stretch of river crosses the counties of Fresno, Madera, Merced, and Stanislaus. For the purposes of the Program, the river has been divided into five primary reaches (see **Figure 2**). The Program will also evaluate the Eastside and Mariposa bypasses for the potential to convey Interim and Restoration flows and perform physical improvements to support fisheries.

Agricultural land in Reach 4 of the SJRRP area

THE SETTLEMENT

In 1988, a coalition of environmental groups, led by the Natural Resources Defense Council (NRDC), filed a lawsuit 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 of this lawsuit, known as *NRDC, et al., v. Kirk Rodgers, et al.*, a Stipulation of Settlement (Settlement) was reached. On September 13, 2006, the Settling Parties reached agreement on the terms and conditions of the Settlement, subsequently approved by the Court on October 23, 2006. The "Settling Parties" include the NRDC, Friant Water Users Authority (now the Friant Water Authority, FWA), the U.S. Department of the Interior and the U.S. Department of Commerce.

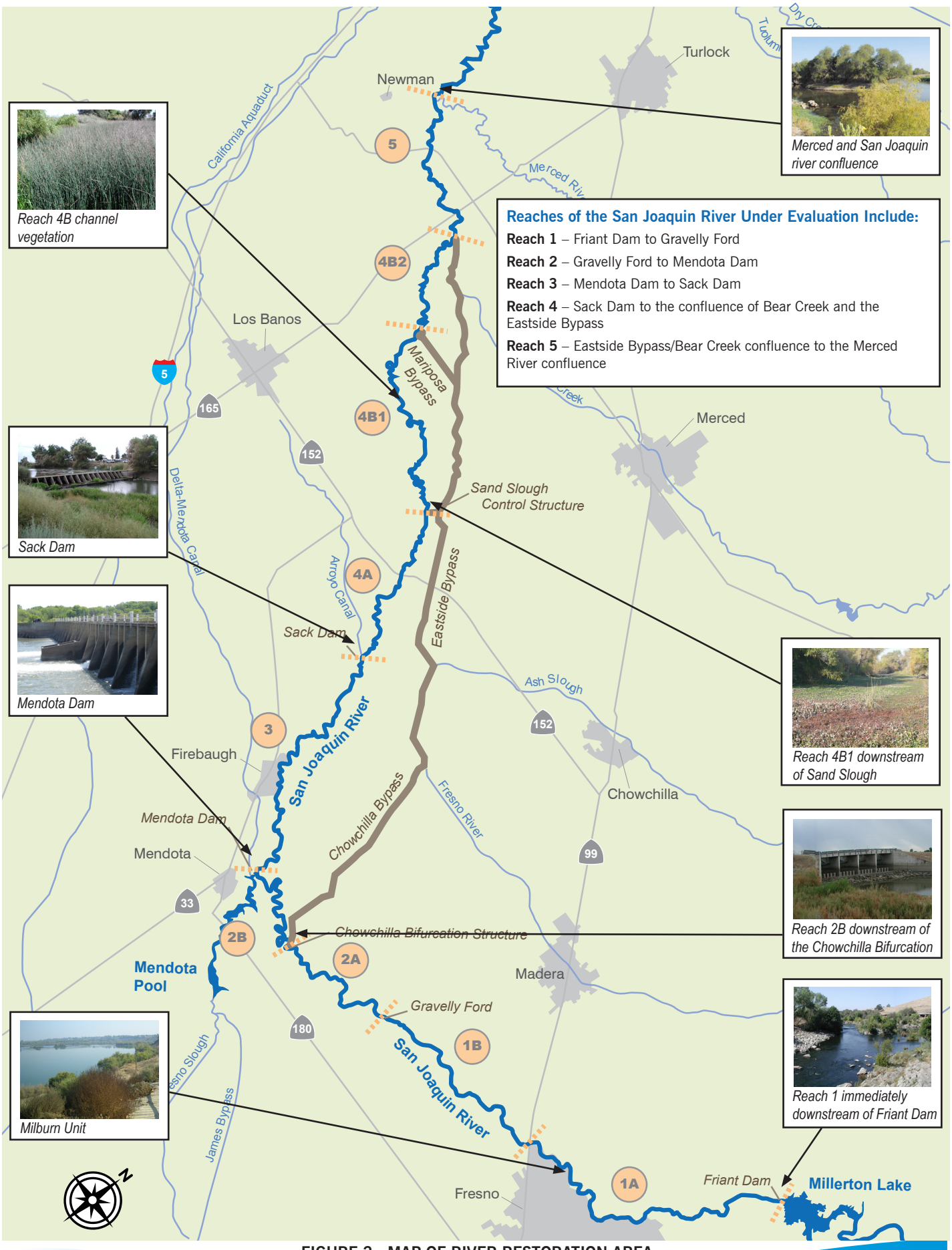

FIGURE 2 - MAP OF RIVER RESTORATION AREA

San Joaquin River

The Settlement's two primary goals are:

- Restoration Goal – 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 Goal – 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.

SETTLEMENT IMPLEMENTATION

The Settlement states that the U.S. Secretary of the Interior (Secretary) will implement the terms and conditions of the Settlement. Additionally, the Settling Parties agreed that implementation of the Settlement will also require participation of the State of California (State). Concurrent with the execution of the Settlement, the Settling Parties entered into a Memorandum of Understanding (MOU) with the State by and through the California Natural Resources Agency, DWR, DFW, and the California Environmental Protection Agency (CalEPA) regarding the State's role in the implementation of the Settlement.

The program established to implement the Settlement is the San Joaquin River Restoration Program (SJRRP or Program), and the "Implementing Agencies" responsible for the management of the Program include Reclamation, USFWS, NMFS, DWR, and DFW.

AUTHORIZATION AND FUNDING

Federal participation in the SJRRP is authorized under the Central Valley Project Improvement Act (CVPIA) and the San Joaquin River Restoration Settlement Act (SJRRS Act), part of the Omnibus Public Land Management Act of 2009, Public Law 111-11. The CVPIA, signed in 1992, included provisions for the potential restoration of the San Joaquin River and authorized planning and environmental compliance for such activities. The SJRRS Act, signed in March 2009, authorizes and directs the Secretary of the Interior to implement the Settlement. Federal funding obligated for the SJRRP in Fiscal Year (FY) 2012 for planning and environmental compliance activities was approximately $32.5 million.

The State of California has committed its support of the Settlement by entering into the State MOU with the Settling Parties that outlines a collaborative role for the State in planning, design, funding and implementation of the actions set forth in the Settlement. In the November 2006 election, State propositions 84 and 1E were passed by the California voters and should provide about $200 million of State bond funds for projects that will directly contribute to the restoration efforts. Of that amount, approximately $14.1 million was obligated in State FY 2012.

PROGRAM MANAGEMENT STRUCTURE

Court approval of the Settlement initiated a series of actions that resulted in a program structured to provide for effective oversight, management and transparency of the SJRRP. Key among these actions was the development of MOUs with the State of California and Third Party Stakeholders.

- State MOU – Signed at the same time as the Settlement, the State MOU recognizes that through DFG, DWR, the Natural Resources Agency, and

CalEPA, it will play a major, collaborative role in the planning, design, funding, and implementation of the actions on the San Joaquin River called for by the Settlement.

- Third Party Stakeholders MOU – Signed in February 2007, this MOU recognizes that the Third Parties will play a collaborative role in the planning, design, implementation, and potential adaptation of the actions on the San Joaquin River called for by the Settlement and in the implementing legislation.

The following Program Organizational Chart **(Figure 3)** reflects the provisions of the Settlement and subsequent MOUs.

The SJRRP Team is a multi-tiered group that includes staff from the Implementing Agencies. Roles and responsibilities of this group include:

- Program Management Team - Includes executives from the Implementing Agencies and is responsible for overall direction and coordination of the SJRRP.
- Program Manager - Provides direction and management of the Technical Work Groups (TWG) and serves as chair of the Program Management Team.
- Technical Work Groups - The SJRRP includes four primary Technical Work Groups (TWGs), each supported by various subject matter-specific sub-groups, as described later in this report. The four TWGs are:
  - Water Management
  - Engineering and Design
  - Environmental Compliance and Permitting
  - Fisheries Management

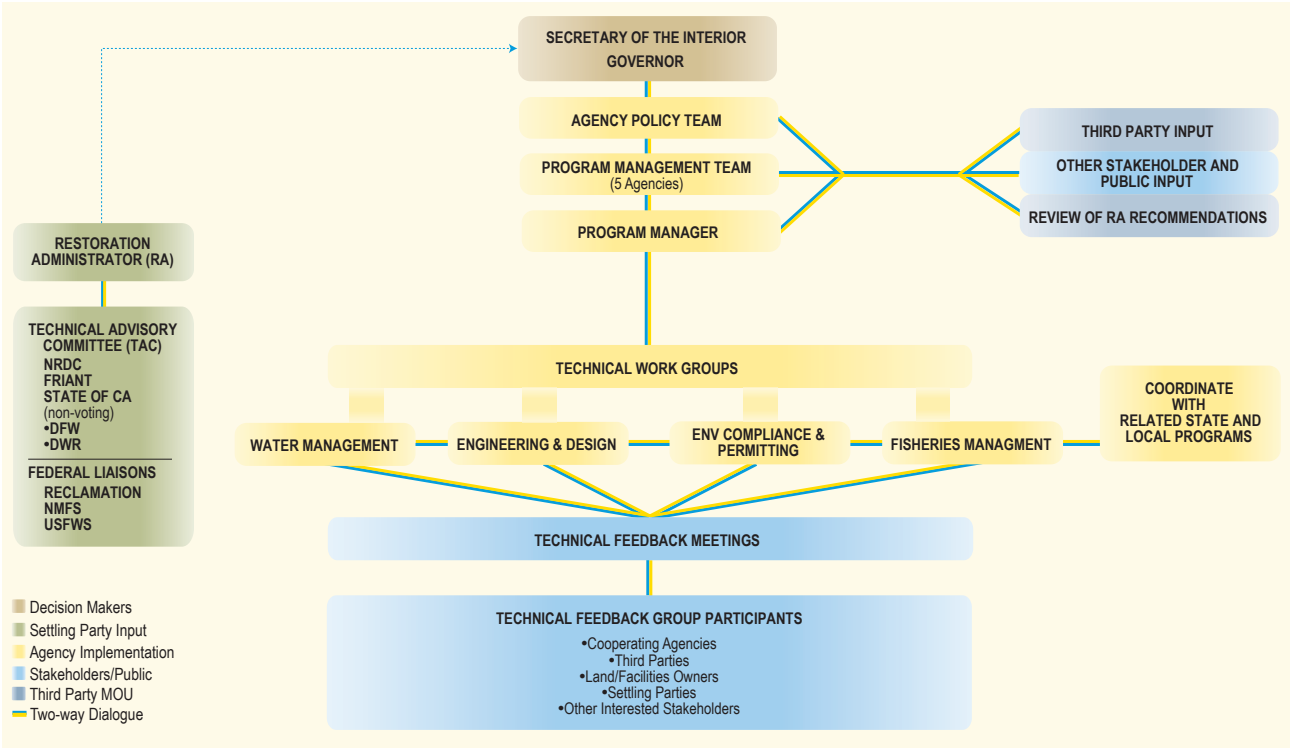

FIGURE 3 – PROGRAM ORGANIZATIONAL CHART

Alicia Forsythe,
SJRRP Program Manager

PROGRAM MANAGEMENT TEAM

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robert_clarke@fws.gov

NATIONAL MARINE FISHERIES SERVICE (U.S. DEPARTMENT OF COMMERCE)
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Program Manager
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rreed@noaa.gov

CALIFORNIA DEPARTMENT OF WATER RESOURCES (CALIFORNIA NATURAL RESOURCES AGENCY)
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DWR Program Manager
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559-230-3300
promero@water.ca.gov

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE (Agency Name Change as of January 2013; Formerly Dept. of Fish and Game), CALIFORNIA NATURAL RESOURCES AGENCY
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Environmental Program Manager
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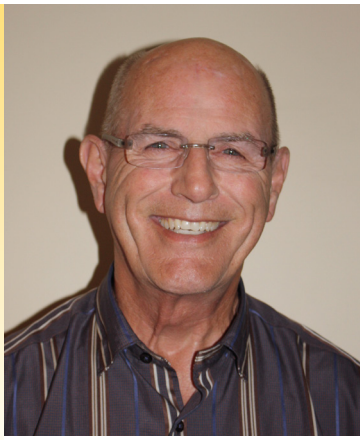
Fresno, CA 93710
559-243-4014
ghatler@wildlife.ca.gov

Restoration Administrator and Technical Advisory Committee

The Settlement specified the roles and responsibilities for a Restoration Administrator who is supported by a Technical Advisory Committee. The SJRRP management structure integrates these resources to obtain timely input on technical issues related to the Restoration Goal.



Rod Meade, Restoration Administrator

- ***Restoration Administrator*** – The Restoration Administrator (RA), selected jointly by the NRDC and Friant Water Authority (FWA), provides recommendations to the Secretary, in consultation with the Technical Advisory Committee, regarding specific elements of the Settlement and certain issues related to the SJRRP's Restoration Goal.
- ***Technical Advisory Committee*** – The Technical Advisory Committee (TAC) includes six voting members selected by FWA and NRDC. Voting members of the TAC assist and advise the RA regarding areas outlined in the Settlement, have relevant technical or scientific background or expertise in fields related to river restoration or fishery restoration, and serve for three years. Two non-voting members representing the State agencies serve as liaisons to the RA and TAC. The Federal agencies have three liaisons to the TAC to ensure coordination and information-sharing with the Implementing Agencies.
- ***Recommendations in 2012*** - In accordance with the Settlement, the RA submitted the following recommendations to the SJRRP, after consultation with the TAC:
  - RA Recommendation for Rescheduled Interim Flows - November 9, 2012
  - Monitoring and Analysis Plan – September 2012
  - RA 2011 Annual Report - June 2012
  - Updated RA Recommendation for WY 2012 - May 21, 2012
  - Updated RA Recommendation for WY 2012 - May 2, 2012
  - RA Recommendation update for WY 2012 - April 27, 2012
  - RA Update to Interim Flow Releases for 2012 - April 4, 2012
  - Re-scheduling Deficit Interim Flow Releases Resulting from the Friant Power Authority Power Outage - February 10, 2012
  - 2012 RA Interim Flow Program Recommendations, January 31, 2012

Rene Henery, Trout Unlimited, talks with a WEF tour participant

RESTORATION ADMINISTRATOR AND TECHNICAL ADVISORY COMMITTEE

RESTORATION ADMINISTRATOR

Rod Meade

TECHNICAL ADVISORY COMMITTEE

Voting Members

Monty Schmitt – Senior Water Resources Scientist, NRDC
Bill Luce – Resources Manager, Friant Water Authority
Scott McBain – McBain and Trush
Chuck Hanson – Hanson Environmental
Rene Henery – Trout Unlimited
Mark Tompkins – Newfields

Non-voting Members

Kevin Faulkenberry - DWR
Gerald Hatler - DFW

Federal Liasions

Alicia Forsythe – Reclamation
Rhonda Reed – NMFS
Robert Clarke – USFWS

Third Party Stakeholders

Third Parties are persons or entities diverting or receiving water pursuant to applicable State and Federal laws and include Central Valley Project water contractors outside of the Friant Division of the Central Valley Project and State Water Project.

Randy Houk, Columbia Canal Compay, addressed the WEF tour participants

THIRD PARTY MOU SIGNATORS

ENTITIES ALONG THE SAN JOAQUIN RIVER

- San Joaquin River Exchange Contractors Water Authority
- Central California Irrigation District
- Firebaugh Canal Water District
- San Luis Canal Company
- Columbia Canal Company
- San Joaquin River Resource Management Coalition

DOWNSTREAM TRIBUTARY WATER USERS

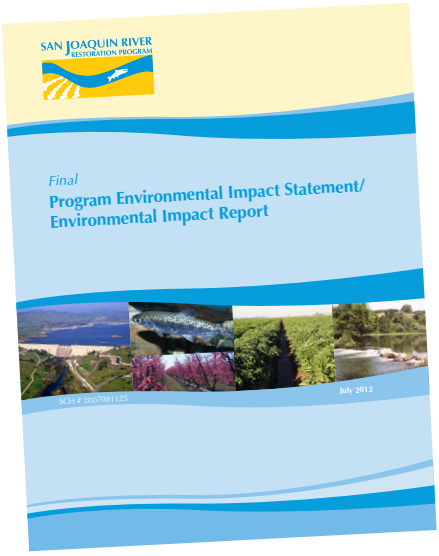
- Merced Irrigation District
- Turlock Irrigation District
- Modesto Irrigation District
- Oakdale Irrigation District
- South San Joaquin Irrigation District
- San Joaquin Tributaries Association

OTHER CVP WATER USERS

- Westlands Water District
- San Luis & Delta-Mendota Water Authority

2012 Progress and Accomplishments

The following section summarizes progress and accomplishments toward meeting the Program's goals. These 2012 accomplishments emphasize the Program's commitment to an open and transparent process through extensive public involvement throughout the year.



RESTORATION AND WATER MANAGEMENT GOAL 2012 ACCOMPLISHMENTS

Overall Program Accomplishments:

- Released the Final PEIS/R, Record of Decision (ROD) and Notice of Determination selecting the preferred alternative, Alternative C1. This alternative includes the use of the river channel and bypass system to convey restoration flows and allows for recapture of these flows at existing facilities in the Sacramento-San Joaquin Delta and in the San Joaquin River upstream of the Delta at existing facilities or a new facilities that may be constructed in the future. It provides the greatest flexibility in implementing the Settlement and the greatest opportunity to fulfill the purpose and need of the SJRRP.
- Released a draft Framework for Implementation describing how the Implementing Agencies may implement the Settlement based on the current status of projects and knowledge gained since the signing of the Settlement in 2006.
- Submitted a change petition for water rights at Friant Dam to the State Water Resources Control Board.

Restoration Goal Accomplishments:

- Continued progress on the planning, environmental compliance, and design efforts for the Mendota Pool Bypass and Reach 2B Channel Improvements Project and the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project.
- Released a draft Environmental Assessment/Mitigated Negative Declaration for the Arroyo Canal Fish Screen and Sack Dam Fish Passage Improvements Project.
- Completed Water Year 2012 Interim Flow releases including related monitoring and water recapture and recirculation activities.
- Submitted all required documentation for, and began Water Year 2013 Interim Flows.
- Released a Draft 2012 Annual Technical Report in April 2012 summarizing monitoring and analysis results to date related to Interim Flows.
- Conducted several study activities vetted in the 2012 Monitoring and Analysis Plan collecting needed data for management decisions to support Settlement goals.

Mendota Dam

- Released a Draft Monitoring and Analysis Plan presenting studies, monitoring network changes, and development of analytical tools scheduled for 2013 implementation of the Interim Flows.
- Completed a Seepage Project Handbook detailing a process for installing projects to increase flows in the San Joaquin River while avoiding material adverse groundwater seepage impacts.
- Monitored spring and fall Interim Flow releases with: 23 flow gages and 30 additional locations recording river stage; 180 monitoring wells; and approximately 100 hourly temperature monitoring locations, with information disseminated in the Annual Technical Report.
- Continued to monitor shallow groundwater wells to address seepage concerns and installed an additional 35 wells in 2012. These installations expanded the extensive groundwater monitoring network on public and private property to better understand changes in shallow groundwater conditions in response to Interim Flow releases.
- Released a Minimum Floodplain Habitat Area for Fall- and Spring-run Chinook Salmon Report recommending a minimum amount of juvenile rearing habitat necessary to meet fall-and spring-run Chinook salmon targets for the SJRRP.
- Received NMFS 10(a)(1)(A) permit allowing the Program to start the broodstock efforts at the interim conservation facility.

Water Management Goal Accomplishments:

- Recaptured and recirculated about 102,000 acre-feet of Interim Flows in water contract year 2012, which runs from March 1, 2012, through February 2013.
- Released a Final Environmental Assessment and Finding of No Significant Impact in April 2012 for the recirculation of recaptured Water Year 2012 SJRRP Interim Flows.
- Released Part III Guidelines for Financial Assistance for Local Projects in August 2012. Held workshops to present the Guidelines with local districts through September 2012.
- Continued progress on the following:
  - Development of specific operational guidelines for releasing Restoration Flows and the framework for a Recovered Water Account.
  - Long-term recapture and recirculation planning to return water to the Friant Division long-term contractors including coordination with other water users.
  - Final designs for the Friant-Kern Canal Capacity Restoration Project.
  - Feasibility Study for the Madera Canal Capacity Restoration Project.

FALL-RUN CHINOOK SALMON TRAP AND TRANSPORT STUDY

In fall 2012, the SJRRP conducted a trap and transport study to capture stray fall-run Chinook salmon and transport them to a spawning area in Reach 1 of the Restoration Area. Salmon that were able to get past the Hills Ferry Barrier (HFB) near the confluence of the Merced River and excess adult males from the Merced River Fish Hatchery were used. From October 1 to December 15, 2012, a total of 116 Chinook salmon were transported and 34 of those fish were acoustically tagged. Fifty-nine additional Chinook males were transported from the Merced River Fish Hatchery. These numbers exceeded initial estimates resulting in a very successful study for 2012.

The study is evaluating the feasibility of and developing protocols for using trap and haul to transport adult Chinook salmon around existing barriers to suitable holding and spawning habitat in the San Joaquin River. The 34 acoustically tagged fish were tracked with mobile receiving equipment, while all transported salmon were externally tagged and monitored to see where they go, the habitat they use, and if they would spawn. This focused study effort will help the Program to adaptively manage future efforts for more effective implementation of the Restoration Goal.

Another objective of the study, streamside spawning, was also conducted. Three pairs of fish were artificially spawned. When the fish reach a size large enough for tagging, they will be released in the Restoration Area of the San Joaquin River or held until they are large enough to be used for other studies.

Because salmon die after spawning, for the first time in many years the carcasses could be seen in the river. Some were tagged with the Program's hotline phone number, and anyone who came across a carcass with a tag listing the phone number was encouraged to call and report its location. As part of the life cycle, the carcasses break down and return nutrients and other beneficial products to the river.

RECOGNITION

- The Arroyo Canal Fish Screen and Sack Dam Fish Passage Project is one of 15 priority Federal infrastructure projects highlighted on the White House Office of Management and Budget's Federal Infrastructure Projects Dashboard.
- In November 2011, the Department of the Interior released its America's Great Outdoors Fifty-State Report summarizing two project ideas in each state for federal agencies to partner with state and local governments and other stakeholders on a shared conservation and recreation agenda. For California, the SJRRP was recognized as part of a national blueway, restoration, and recreation effort along the San Joaquin River from its headwaters to the Sacramento-San Joaquin and San Francisco Bay Delta. The blueway is anticipated to become a regional and statewide asset that fosters health, strengthens community ties, enhances learning, and supports restoration and conservation efforts. Go to http://americasgreatoutdoors.gov/ for more information on President Barack Obama's America's Great Outdoors initiative.

Friant-Kern Canal

TECHNICAL WORK GROUPS AND 2012 ACTIVITIES

The four Technical Work Groups (TWGs) of the SJRRP and their related sub-groups contributed their areas expertise towards the development and implementation of Program activities. Listed below is a summary of each TWG's focus and accomplishments for 2012.

Water Management TWG

Working in collaboration with all TWGs, the Water Management TWG addresses water operations and activities for accomplishing the Restoration and Water Management goals. In 2012, this group continued work on the following: development of Restoration Flows Guidelines; implementation of the recapture and recirculation of Interim Flows for the benefit of Friant Division long-term contractors; development and management of the Recovered Water Account; canal improvement projects; and, financial assistance for local projects.

Accomplishments in 2012:

- Completed quarterly Water Management public Technical Feedback Group (TFG) meetings.
- Implemented a project management approach to completing the Restoration Flows Guidelines by January 2014.
- Allocated more than 680,440 acre-feet of water since beginning the Program, and delivered more than 356,200 acre-feet of Recovered Water Account water to date.
- Recaptured and recirculated about 102,000 acre-feet of Interim Flows in water contract year 2012, which runs from March 1, 2012, through February 2013).
- Completed the final Part III Guidelines for Financial Assistance to Local Projects. Held workshops to present the Guidelines with local districts through September 2012.
- Continued progress on the:
  - Development of specific operational guidelines for releasing Restoration Flows and the framework for a Recovered Water Account.
  - Long-term recapture and recirculation planning to return water back to the Friant Division long-term contractors including coordination with other water users.
  - Final designs for the Friant-Kern Canal Capacity Restoration Project.
  - Feasibility Study for the Madera Canal Capacity Restoration Project.

Fisheries Management TWG

The Fisheries Management TWG is responsible for planning and coordination efforts to implement the fisheries components of the Restoration Goal. Work during 2012 consisted of document preparation and submission, study development and implementation, and technical input to various Program efforts.

Accomplishments in 2012:

- Continued a study on juvenile Chinook salmon survival rates while migrating from Friant Dam to the to the confluence of the Merced River.
- Released Interim Flows monitoring and analysis results in the 2011 Annual Technical Report and the Draft 2012 Annual Technical Report.
- Provided technical support for the Mendota Pool Bypass and Reach 2B Channel Improvements Project, the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project, the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project, and the Final PEIS/R regarding fish passage, screening, and floodplain habitat development.
- Continued providing input and guidance for an Ecosystem Diagnosis and Treatment quantitative model for the SJRRP.
- Provided technical support for the water quality monitoring portion of the Program.
- Provided fisheries support for the development of the Restoration Flow Guidelines.

Paul Adelizi, DFW, prepares to release juvenile fall-run Chinook salmon into the San Joaquin River

Scientific Studies Conducted in 2012

Results will be reported in 2012 in the ATR at **www.restoresjr.net**

- Third and final year of Benthic Macroinvertebrate Bioassessment using Surface Water Ambient Monitoring Program protocols
- Year 2 of Juvenile Salmon Migration and Survival Study
- Year 2 of Egg Survival Study and Evaluation of Spawning Habitat in Hyporheic Zone
- Recreational Fishery Impacts Evaluation
- Fish Passage Barrier Evaluation
- Broodstock Captive Rearing Study
- Fall-run Collection Techniques Study
- Evaluation of Reach 1A Bed Mobility Study
- Fish Assemblage Inventory and Monitoring
- Assessment of Predator Abundance and Distribution in Mine Pit Habitat
- Passive Integrated Transponder Tag Monitoring and Technology Assessment
- Steelhead Monitoring

Engineering and Design TWG

The Engineering and Design Technical Workgroup leads the development of the plans and specifications for channel and structural improvements to meet the Restoration and Water Management goals of the Settlement including formulating approaches, evaluating performance, and estimating costs. The Engineering and Design TWG is also responsible for the monitoring of physical and biological parameters (Monitoring Subgroup), developing numerical modeling tools (Modeling Subgroup), and implementing the seepage management and levee stability projects (Seepage and Conveyance Subgroup).

Accomplishments on the site-specific projects in 2012 include:

- Mendota Pool Bypass and Reach 2B Channel Improvements Project
  - Completed:
    - Design Estimating and Construction (DEC) Review
    - Value Planning Review
    - Final Project Description Technical Memorandum
- Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project
  - Completed:
    - DEC Review
    - Value Planning Review
- Arroyo Canal Screening and Sack Dam Passage
  - Completed:
    - DEC Review
    - Value Engineering Review

The Engineering and Design TWG also: completed a guidance memo on minimum floodplain rearing habitat requirements by reach; and initiated the development of design guidance memos to incorporate the consideration of subsidence and overall fish passage into projects.

Eastside Bypass Bridge

Installation of a monitoring well

MONITORING SUBGROUP

The Monitoring Subgroup, consisting of monitoring leads from the Implementing Agencies, met during 2012 to plan, coordinate, and implement monitoring activities as well as discuss the Annual Technical Report and Monitoring and Analysis Plan. Information acquired through these activities will help to form and refine the scientific basis for actions taken in fulfillment of the Settlement including Friant Dam operations, San Joaquin River channel and facilities improvements, and Chinook salmon reintroduction.

Accomplishments in 2012:

- Allocated and operated Interim Flow releases for 2012.
- Disseminated data collected in 2011 through the 2011 Annual Technical Report (February 2012) and 2012 data through the Draft 2012 Annual Technical Report (July 2012).
- Announced 2013 data collection efforts through a Monitoring and Analysis Plan.
- Monitored the spring and fall Interim Flows including hourly recorded or periodic measured values at 23 flow gages and 30 additional locations recording river stage, 187 individual groundwater monitoring wells, 48 locations measuring groundwater temperature, and approximately 100 surface water temperature monitoring locations.
- Conducted surveys including vegetation transects, water surface elevation surveys in Reaches 4A, 4B2, 5 and the Eastside Bypass, and detailed surveying at potential fish passage barriers.
- Took samples and conducted testing that included bi-monthly water quality parameters including turbidity, pH, selenium, boron and mercury on the San Joaquin River; and soil salinity sampling at approximately 48 locations.
- Installed 35 monitoring wells in 2012, extending the total well network to 187 wells that includes 15 wells re-monitored from the 2002 pilot project, 12 private wells, and several CCID monitored regularly by the SJRRP.
- Installed a new stage gaging station at the Merced National Wildlife Refuge weir to inform SJRRP projects and reduce trips to measure the stage for refuge staff, which has been operational since October 26, 2012.
- Collected suspended sediment and bed-load samples at five locations in Reaches 1 through 3 as well as bed-material samples as part of fisheries habitat assessments in Reach 1.

A fall-run Chinook salmon transported from the Hills Ferry Barrier to Camp Pashayan and released as part of the Trap and Haul Study in the fall 2012

MODELING SUBGROUP

The Modeling Subgroup, consisting of modeling team members from the Implementing Agencies, other agencies and associated consultants, coordinated modeling efforts for site-specific projects and overall planning efforts in 2012. Information acquired through these activities will help to predict future conditions for potential actions taken in fulfillment of the Settlement including Friant Dam operations, San Joaquin River channel and facilities improvements, and Chinook salmon reintroduction.

In addition to supporting the site-specific projects, accomplishments in 2012 included:

- Refinements to the Riverware Daily Operations Model to incorporate flow flexibility and flood management actions.
- Framework for calculating the reductions in water deliveries for the Recovered Water Account.
- Determination of minimum suitable floodplain habitat requirements by reach to meet population targets.
- Ecosystems Diagnostics and Treatment (EDT) preliminary simulation of the minimum restoration condition of the San Joaquin River.
- Development of a draft quarter-mile grid-size MODFLOW- based groundwater model (SJRRPGW) for within five miles on either side of the San Joaquin River and bypasses including the farm process methodology developed for the Central Valley Hydrologic Model.

SEEPAGE AND CONVEYANCE SUBGROUP

The Seepage and Conveyance Subgroup, consisting of team members from Reclamation, DWR and consultants, coordinates efforts related to groundwater monitoring, groundwater analysis, and projects to protect landowners from seepage impacts when increasing river flows. In 2012, the subgroup focused on seepage projects and has initiated 10 of the 11 projects necessary to increase flows in the San Joaquin River below Sack Dam to 1,300 cubic feet per second (cfs).

Accomplishments in 2012:

- Hosted two Seepage and Conveyance TFG meetings with an average of 20 participants at each. Participants included irrigation district managers, local landowners, agency staff, non-profits, and congressional staffers.
- Completed a Seepage Project Handbook which provides expectations, processes and timelines for implementing seepage projects to increase the channel capacity of the river channel.
- Initiated 10 seepage projects including working with landowners to obtain land access permissions, conduct site visits, and complete records reviews.
- Completed six methods reports for the purpose of informing landowners of future monitoring needs.
- Completed drafts of three site evaluations and appraisal level designs to allow flow to pass below Sack Dam.

The Seepage Project Handbook and the Seepage Management Plan are available on the website here: **www.restoresjr.net/flows/Groundwater/index.html#SMP**. They were distributed to the Seepage and Conveyance TFG attendees at multiple meetings for purposes of providing comments.

Environmental Compliance and Permitting TWG

This TWG plans and coordinates efforts to implement elements of the Settlement in relation to environmental studies, permits, alternative formulation, and other requirements necessary for actions needed to meet the Restoration and Water Management goals.

Accomplishments in 2012:

- Completed the Endangered Species Act (ESA) consultation and obtained Biological Opinions for NMFS- and USFWS-listed species for the entire SJRRP.
- Completed the SJRRP PEIS/R, including the preparation and signature of the ROD and NOD.
- Obtained appropriate State and Federal compliance for multiple projects, including invasive plant management, monitoring well installation, Water Year 2012 Recirculation of Interim Flows, and Monitoring and Analysis Plan studies.
- Began the Riparian Habitat Mapping, Monitoring, and Mitigation Project that is part of the PEIS/R Conservation Strategy.
- Completed the Public Draft Environmental Assessment/Initial Study for the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project; Initiated consultation for ESA-listed species; Submitted or obtained necessary State and Federal permits for project implementation.

A newly installed monitoring well

- Completed cultural resources review for all implemented projects.
- Completed the first year of the Steelhead Monitoring Plan and published findings.
- Completed the Mendota Pool Bypass and Reach 2B Improvements Project Description Technical Memorandum that forms the basis for analysis in the project's EIS/R.
- Continued to work on an SJRRP Programmatic Agreement for cultural resources.

KEY DOCUMENTS AND TECHNICAL MEMORANDA RELEASED IN 2012

The SJRRP developed numerous key program documents and Technical Memoranda (TMs) in 2012. These documents and TMs were posted on the Program website to facilitate early coordination with the Settling Parties, Third Parties, other stakeholders, and interested members of the public regarding initial concepts and approaches under consideration. While the Program Team does not request formal comments on the TMs, to the extent possible, all comments received are considered in refining the concepts and approaches in the TMs and in future Program documents.

Program documents can be found on the SJRRP website at:
www.restoresjr.net/program_library/02-Program_Docs/index.html

SUMMARY OF DOCUMENTS RELEASED IN 2012	
February	**SJRRP Funding Information for Fiscal Year 2007 to 2011** This report presents the approved, obligated and expended funds for implementing the SJRRP from fiscal year (FY) 2007 through FY 2011. **Recirculation of Recaptured Water Year 2012 SJRRP Interim Flows Environmental Assessment and Finding of No Significant Impact – Draft February; Final April** Reclamation estimates the recirculation of approximately 20,000 to 80,000 acre-feet, based on 90 and 50 percent exceedance levels, of recaptured water from south-of-Delta facilities as a result of SJRRP Water Year 2012 Interim Flows. The recaptured water will be recirculated back to the listed Friant Division long-term contractors whose supplies are impacted by Water Year 2012 Interim Flow releases.
April	**Seepage Project Handbook** The Seepage Project Handbook establishes the process Reclamation will use to coordinate with landowners on evaluation, design and construction of projects to reduce or avoid adverse material impacts from groundwater seepage as part of the SJRRP.
June	**Working Draft Framework for Implementation** This Framework for Implementation (Framework) describes how the Implementing Agencies) may implement the Settlement based on the current status of projects and knowledge gained since the signing of the Settlement in 2006. The Implementing Agencies intend this to be a "living" document, subject to revision as more information is gained and milestones reached. This Framework represents a path forward in compliance with the Settlement and the Act but may not encompass all actions that may ultimately be taken to implement the SJRRP. **Draft Environmental Assessment/Initial Study for the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project** The project includes installation of a fish screen on the Arroyo Canal to prevent entrainment of juvenile Chinook salmon in the canal and modifications to Sack Dam to allow for fish passage around the structure. **Final Environmental Assessment and Proposed Finding of No Significant Impact for Invasive Vegetation Monitoring and Management – Draft June; Final October** Reclamation prepared an Environment Assessment (EA) and FONSI to analyze the impacts of monitoring and management of invasive vegetation in the SJRRP Restoration Area. A draft EA was released to the public in June 2012; comments were due in July 2012. The Final EA and FONSI were released and available in late October 2012.

SUMMARY OF DOCUMENTS RELEASED IN 2012	
July	**Final SJRRP Program Environmental Impact Statement/Environmental Impact Report (PEIS/R)** Reclamation and DWR (lead agencies) released the Final PEIS/R in July 2012. It was prepared in accordance with the requirements of NEPA and CEQA and responds to comments received during the agency and public review period for the Draft PEIS/R. It also presents corrections, revisions, and other clarifications to the Draft PEIS/R. **Planned Fall 2012 and Spring 2013 Fall-run and Spring-run Chinook Salmon Activities** Consistent with the Stipulation of Settlement and the Settlement Act, this document outlines the planned series of activities using fall-run and spring-run Chinook salmon for fall 2012 and spring 2013. These activities will help the Program continue to learn how the different runs behave in the San Joaquin River and study survival and habitat use in the river. These near-term activities will rely on a variety of methods and techniques to overcome current channel capacity and fish passage impediments. **Central Valley Steelhead Monitoring Plan for SJRR Area** 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 of the mouth of the Merced River. This study is part of the requirements for Interim Flows. **2012 Mid-Year Technical Report** This Mid-Year Technical Report (MYTR) is a part of the annual planning and reporting process for the SJRRP. The MYTR and the Annual Technical Report (ATR) report on results and conclusions from the previous year's data collection and studies. The MYTR presents the incremental results of ongoing monitoring and analysis to agencies and stakeholders to address SJRRP needs and to solicit feedback. This MYTR presents a mid-year update on monitoring and analysis from the first half of calendar year 2012. The MYTR is intended to inform the Restoration Administrator (RA) of the status of monitoring and analyses in advance of developing the 2013 monitoring and spring flow recommendations.
August	**Part III Guidelines for the Application of Criteria for Financial Assistance for Local Projects** This document provides guidelines for obtaining Federal financial assistance for Friant Division groundwater recharge and banking projects as authorized by Part III of the San Joaquin River Restoration Settlement Act. **U.S. Fish and Wildlife Biological Opinion (BO)** This BO was submitted in response to Reclamation's November 30, 2011, request for formal consultation with the USFWS on the proposed SJRRP in Fresno, Madera, Merced, Stanislaus and San Joaquin Counties.
September	**National Marine Fisheries Service BO** NMFS Biological Opinion was submitted to Reclamation in September 2012 concluding that the SJRRP, as presented by Reclamation, is not likely to jeopardize the continued existence of the listed species or permanently destroy or adversely modify designated critical habitat for Federally listed endangered and threatened species in the Program's areas in accordance with section 7 of the Endangered Species Act of 1973. **2013 Draft Monitoring and Analysis Plan** The Annual Technical Report (ATR) documents all of the previous year's monitoring and includes studies to guide the next year's monitoring efforts. The Monitoring and Analysis Plan (MAP), formerly known as the Agency Plan, describes upcoming monitoring and analysis to manage Interim and Restoration Flows for the next year of the SJRRP.
October	**Record of Decision (ROD)/Notice of Determination (NOD) for SJRRP** The ROD and NOD document Reclamation and DWR's decision to implement the Preferred Alternative for SJRRP, as proposed by Reclamation and DWR and described in the PEIS/R. **Mendota Pool Bypass and Reach 2B Improvements Project Description** This Technical Memorandum documents the process and results of the Draft and Final Alternatives formulation to implement the Project. The project will create a bypass channel around the Mendota Pool (approximately 0.5 to 1.5 miles of new river channel, depending on the route) and will expand Reach 2B capacity to convey at least 4,500 cubic feet per second. The project will develop 11 miles of new levee and flood plain habitat.
November	**Minimum Floodplain Habitat Area For Spring and Fall-Run Chinook Salmon** This study recommends a minimum amount of juvenile rearing habitat necessary to meet fall-and spring-run Chinook salmon targets for the SJRRP. Rearing habitat includes both main channel and floodplain habitat and provides physical parameters such as food and shelter to support the development and growth of juvenile fish. The results from this report will inform tradeoffs between impacts and benefits on ongoing floodplain alternative work (i.e. levee setbacks) for Phase 1 and 2 projects and long-term restoration efforts.

Paul Romero, DWR, briefs WEF tour participants about levee activities in the Eastside Bypass

PUBLIC INVOLVEMENT AND OUTREACH

The SJRRP includes a variety of public outreach activities creating an open and transparent process that the general public, stakeholders, affected Third Parties, and other interested parties can monitor and participate in. The Program developed a Public Involvement Plan (PIP) that describes how the five Federal and State agencies implementing the Program inform and involve all levels of leaders, managers, stakeholders, and the general public. Effective communication and coordination with all interested and affected parties helps ensure that stakeholders and the public are informed, have an opportunity to provide input, and Program actions are implemented efficiently and effectively. Outreach activities conducted in 2012 included:

Technical Feedback Group Meetings

Technical Feedback Group (TFG) meetings continued throughout 2012 to assist Program staff in soliciting input from technical experts, interested stakeholders, and the public in the development of key Program documents and implementation activities. The meetings also provide a public process for the various steps of Program development and implementation. There are currently four TFGs: Water Management, Restoration Goals, Fisheries Management, and Seepage and Conveyance. Participation in TFG meetings is open to the public, including the Settling Parties, RA, Third Parties, landowners and any stakeholders with an interest in the topic(s) being discussed.

TECHNICAL FEEDBACK GROUP MEETING DATES (2012)

Technical Feedback Group	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Water Management							20		28			13
Restoration Goals			15		17		19		20		13	
Fisheries Management	20				18						2	
Seepage and Conveyance				26					13			

Landowner Meetings

To support progress in developing site-specific studies and communicating Program-level accomplishments, the SJRRP held several public meetings for landowners or their representatives. Meetings were held in Los Banos and Dos Palos, closer to site-specific projects and surrounding landowners. These meetings complemented Field Survey and Investigation Coordination (see below) activities implemented to support site-specific technical studies, data collection and other management activities.

Two meetings were held for Reach 3 and 4A landowners and representatives March 1 at the Los Banos Community Center, Los Banos, California. The first meeting was conducted by California State Lands Commission staff who presented draft administrative plat maps associated with lands sovereign to the State of California in Reaches 3 and 4A. Approximately 40 people attended. Landowners had the opportunity to review and provide additional information on the presented materials. The maps are among several being developed by the Commission, under contract to DWR. The Commission began the mapping activities for Reaches 2B, 3, 4A, 4B1 and 4B2 in November 2009. The administrative maps for Reach 2B were completed and approved during an August 14, 2012, Commission meeting.

The second meeting was conducted by Program staff and geared to engage property owners in the implementation of seepage projects on properties in Reaches 3 and 4A. Program staff provided an overview of the Seepage Management Plan Project Handbook, an update on the activities of the Seepage and Conveyance TFG, and engaged attendees in a question and answer session. Thirty-one people attended. Two attendees signed up for follow-up site visits with Program staff (see Seepage Project Coordination for additional details).

Two landowner meetings were held for the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project. Both meetings were hosted by Dos Palos-based San Luis Canal Company. The February 23 meeting reviewed action items from the prior 2011 meeting and results of a Value Planning Study conducted by Reclamation, and received a presentation of current Reach 4B levee alignment alternatives, fishery and geomorphology sediment transport evaluations. The meeting was attended by 20 people. The September 27 meeting focused on the following: a progress report of Reach 4B study activities; an update of California State Lands Commissions surveys for Public Trust lands; and findings of a Reclamation Design, Cost Estimating, and Construction (DEC) independent review of the project. The meeting was attended by 21 people.

Well Agreements and Temporary Entry Permit Coordination

In 2010, SJRRP management reached an agreement with local landowners and Third Parties, including the San Joaquin River Resource Management Coalition (RMC), in distribution and execution of a Comprehensive Temporary Entry Permit (TEP) for pre-construction surveys and investigations on private property. This permit replaced a version release by Reclamation in 2008. Attachment A of the Comprehensive TEP authorizes: field reconnaissance surveys, sediment sampling, soil surveys, terrain surveys, water surface and flow measurements, biological resource surveys, cultural surveys, and vegetation mapping. Another permit, referred to as the Geologic Investigation TEP, was released in 2009 to support installation of groundwater monitoring wells. The 2009 and 2010 formats continue to be used by the SJRRP.

Since 2008, the SJRRP has executed 23 Comprehensive and 37 Geologic Investigation TEPs with individual landowners in Reach 2A through 5 and the Eastside Bypass. In 2012, three Comprehensive TEPs and three Geologic Investigation TEPs were executed. Two Geologic Investigation TEPs issued in 2012 are pending landowner signature. As the term of permits do not sunset until major construction, the SJRRP has used these permits for prioritization of certain field surveys and for the installation of groundwater monitoring wells where authorized

Mariposa Bypass Drop Structure

by the landowner. Twenty-nine groundwater monitoring wells were installed on properties of six individual landowners in 2012. Eleven additional wells are planned for installation in the spring of 2013.

Seepage Project Coordination

Since the March 1 landowner meetings, Program staff have met in the field or initiated contact with 13 landowners in Reaches 3, 4A and the Eastside Bypass to begin implementation of seepage management projects at 22 properties believed to be affected at river flows of up to 2,000 cfs. Projects to address the highest priority locations are slated for implementation in 2013. Coordination with owners of the remaining nine properties will be initiated as projects are implemented and completed at higher priority locations.

DFW personnel tracking growth and maturation of fall-run Chinook salmon raised at the interim fish facility near Friant

Field Survey and Investigation Coordination

To support the conduct of field surveys and investigations on private and public lands in 2012, the Program initiated the preparation and distribution of Field Advisories and performed one-on-one coordination with individual landowners for field activities. Field Advisories are developed to inform landowners and other interested parties of upcoming activities.

In 2012, the following Field Advisories were developed and posted to the website in the month indicated below:

- **March** – U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (DFW) fish telemetry study for juvenile fall-run Chinook salmon.
- **April** – Reclamation Passive induced Transponder (PIT) tag monitoring, evaluation and site-specific technology assessment; Reclamation river temperature monitoring; Reclamation and Department of Water Resources (DWR) biological and cultural resource field surveys in Reach 4B and Eastside and Mariposa Bypasses; and Reclamation terrestrial and aquatic invertebrate sampling.
- **May** – DWR and DFW benthic macroinvertebrate bioassessment study; Reclamation, USFWS, DWR and DFW inventory and monitoring of fish abundance and diversity survey; continued Reclamation and DWR biological and cultural resource field surveys in Reach 4B and Eastside and Mariposa Bypasses.
- **June** – Reclamation fishery predator assessment survey; Reclamation vegetation monitoring survey; Reclamation hydraulics and sedimentation survey; and DWR Reach 2A and Chowchilla Bypass levee and ground topographic surveys.
- **September** – DWR Eastside and Mariposa Bypasses levee, ground and structure topographic surveys; continued Reclamation and DWR Reach 4B and Eastside Bypass biological and cultural resource field surveys.
- **October** – Reclamation, USFWS and DFW inventory and monitoring of fish abundance and diversity; Reclamation, USFWS and DFW trap and haul of adult fall-run Chinook salmon; and Reclamation and DWR Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project traffic surveys; Reclamation thermal refugia surveys of Reaches 4B2 and 5, and the Eastside Bypass.

San Joaquin River in Reach 2

- **November** – DWR Eastside Bypass and Reach 2A geotechnical investigations; and updated Reclamation, USFWS and DWR trap and haul and streamside spawning of adult fall-run Chinook salmon.
- **December** – California State Lands Commission Reach 3 and 4A high water line verification surveys.

Other field surveys and investigations conducted in 2012 with direct permission and/or coordination with landowners included:

- **Monthly** – DFW water temperature data-logger site visits for download and service; Reclamation groundwater monitoring well site visits for download and service.
- **February** – Reclamation Year 2 and 3 soil salinity data collection on properties in Reaches 1B, 2A, 2B, 3, 4A, 4B1 and Eastside Bypass.
- **February** – U.S. Geological Survey Reach 1A tributary flow monitoring of Cottonwood Creek and Dry Creek.
- **July** – Reclamation Round 7 installation of groundwater monitoring wells in Reaches 3 and 4A and Eastside Bypass.
- **August** – Reclamation electromagnetic survey of Reach 3, 4A and Eastside Bypass properties for existence and duration of river-connected sand stringers.
- **October** – Vegetation roughness survey at selected Reaches 1B and 2A sites by the University of New Mexico staff.
- **November** – Reclamation Reach 2A Bank Stabilization Project initial site evaluation and landowner consultation; Reclamation installation of drive point wells at existing vegetation monitoring transects to track vegetation growth to changing shallow groundwater levels; Reclamation water temperature data logger service in Reaches 2A and 2B.


SAN JOAQUIN RIVER RESTORATION PROGRAM

Program Update

February 2013

The San Joaquin River Restoration Program (SJRRP) is a comprehensive long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from restoration flows.

In November 2012, an adult male fall-run Chinook salmon was caught, tagged, and released into reach 1 below Friant Dam as part of the SJRRP Trap and Transport study.

Looking Ahead in 2013

Throughout 2013, Program activities will continue across all aspects of the San Joaquin River Restoration Program (SJRRP). While continuing flow releases and data collection activities, Program staff will monitor the shallow groundwater levels and work closely with landowners to address potential seepage concerns related to Interim Flows and future Restoration Flows. Two major channel improvement projects in Reach 2B and 4B will release draft Environmental Impact Statements/Reports for public comment later this year. Once constructed, the projects will significantly improve the ability to move water through the river system and sustain fish habitat. The Friant-Kern Canal Capacity Restoration Project is expected to start construction in 2013, followed by the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project. Extensive public outreach will continue with public meetings that include Technical Feedback Group meetings on focused topics, constant updates on the website, www.restoreSJ.net, and written materials mailed and posted on the website, to help interested parties stay updated on Program activities and continue active participation and input.

Fall-run Chinook Salmon Trap and Transport Study

In fall 2012, the SJRRP conducted a trap and transport study to capture stray fall-run Chinook salmon and transport them to a spawning area in reach 1 of the Restoration Area. Salmon that were able to get past the Hills Ferry Barrier (HFB) near the confluence of the Merced River and excess adult males from the Merced River Hatchery (MRH) were used. Between the dates of October 1 and December 15, 2012, a total of 116 Chinook salmon were transported and 34 of those fish were acoustically tagged. Fifty-nine additional Chinook males were transported from the Merced River Fish Hatchery. These numbers exceeded initial estimates resulting in a very successful study effort for 2012.

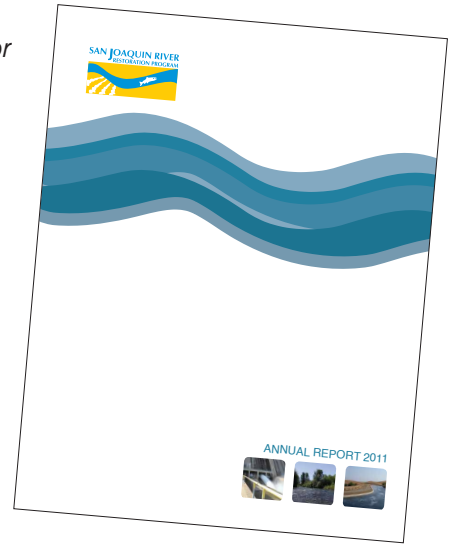
The study is evaluating the feasibility of and developing protocols for using trap and haul to transport adult Chinook salmon around existing barriers to sustain holding and spawning habitat in the San Joaquin River (SJR). The 34 acoustically tagged fish were tracked with mobile receiving equipment, while all transported salmon were externally tagged and monitored to see where they go, the habitat they use, and if they would spawn. This focused study effort will help the Program in adaptively manage future efforts for more effective implementation of the Restoration Goal.

Another objective of the study, streamside spawning, was also conducted. Three pairs of fish were artificially spawned. When the fish reach a size large enough for tagging, they will be released in the Restoration Area of the SJR or held until they are large enough to be used for other studies.

Because salmon die after spawning, for the first time in many years the carcasses of these fish can be seen in the river. Some will be tagged with the Program's hotline phone number. Anyone who comes across a carcass with a tag listing the phone number is encouraged to call and report where the carcass was located. As part of the life cycle, the carcasses break down and return nutrients and other beneficial products back into the river.

Program Information Distribution/Mailings

- ***Program Mailing List:*** To provide targeted information to individuals and groups, the Program actively maintains a mailing list of individuals, organizations, and public agencies who want to receive notifications of Program activities. Interested individuals may submit their contact information at meetings, on printed material, and on the website. As of December 2012, the list included approximately 3,200 contacts.
- ***Program Updates:*** Three four-page Program Updates were developed for distribution to the mailing list and were posted on the Program website in January, June and October 2012.
- ***Fact Sheet:*** SJRRP Fact Sheets are developed to disseminate specific information on certain components of the Program.
- ***Press Releases*** distributed for the following events:
  - Reclamation Releases Draft Environmental Documents of Recirculation of Recaptured Water Year 2012 SJRRP Interim Flows (February 7).
  - Reclamation Releases Final Environmental Documents for Recirculation of Recaptured Water Year 2012 SJRRP Interim Flows (April 3).
  - Reclamation Releases Draft Environmental Documents for Arroyo Canal Fish Screen and Sack Dam Fish Passage Project (June 1).
  - Reclamation Releases Draft Environmental Documents for SJRRP Invasive Plant Monitoring and Management (June 19).
  - SJRRP Final Environmental Document Available (July 31).
  - Reclamation and Dept. of Water Resources Issue Decision Documents for the SJRRP; Agencies Select the Preferred Alternative (October 4).
  - Reclamation Releases Final Environmental Documents for SJRRP Invasive Plant Monitoring and Management (October 15).
- ***2011 SJRRP Annual Report*** released and publicly available in April 2012.
- ***2012 Interim Flows Notifications***
  - *Email-Blast Notifications of Changes or Updates:*
    - May 1, 2, 7, and 23
    - August 29, 30
    - September 24
    - October 10, 31



- *Phone Calls to Interim Flows Recreation Contacts*
  - March 29-30
  - April 5
  - May 24
  - October 31
- *Mailings*
  - September 26

Other

- The website, updated frequently, includes a general Program fact sheet in Spanish, *Programa de Restauración del Río San Joaquín*. Visit the website at **www.restoresjr.net**.

San Joaquin River Restoration Tour

For the fifth year, the SJRRP co-sponsored a two-day San Joaquin River Restoration Tour organized by the Water Education Foundation. On November 8-9, 2012, this 2-day, 1-night tour explored challenges associated with restoring flows and a Chinook salmon fishery to the San Joaquin River from below Friant Dam to the confluence with the Merced River. Tour stops included the San Joaquin fish hatchery, Mendota pool, diversion structures, and the Merced National Wildlife Refuge. Participants saw firsthand the progress being made and learned about the coordination taking place among the various agencies to implement one of the largest river restoration projects in California.

Landowner Pat Manning hosted a tour stop at Gravelly Ford Ranch and shared her vast historical knowledge with the tour participants

PROGRAM COSTS AND FUNDING

Funding for the SJRRP is provided by the Federal government and the State of California, as summarized below. These funds are used to support the implementation of actions outlined in the Settlement and San Joaquin River Restoration Settlement Act.

SUMMARY OF APPROVED, OBLIGATED AND EXPENDED – ALL SOURCES

	APPROVED FY 2007 TO 2012	OBLIGATED FY 2007 TO 2012	EXPENDED FY 2007 TO 2012
Federal	$83,301,927	$89,659,382	$49,127,731
State			
DWR	$46,723,492	$30,915,455	$30,915,455
DFW	———	———	$13,989,396
Subtotal	$46,723,492	$30,915,455	$44,904,851
Total	***$130,025,419**	***$120,574,837**	**$94,032,582**

Note: Federal approved, obligated, and expended provided in Federal fiscal years, October 1 to September 30. State approved, obligated, and expended provided in State fiscal years, July 1 to June 30.
Approved – Amount of funds (budget) approved.
Obligated – Funds encumbered for specific activities.
Expended – Payment for goods or services, or a charge against available funds.
* Total number does not include DFW funds; data unavailable at time of print.

ANNUAL BUDGET TABLE FOR 2012 AND 2013

SOURCE	FISCAL YEAR 2012[2]	FISCAL YEAR 2013[3]
Federal Funds		
Reclamation[1]		
Central Valley Project Restoration Fund	$2,599,325	$2,000,000
San Joaquin River Restoration Fund	$20,544,411	$27,929,000
California Department of Water Resources	$555,696	$1,105,444
Federal Appropriations	$8,899,476	$12,000,000
National Marine Fisheries Service		
Protected Resources – Salmon		
Federal Sub-total	**$32,598,908**	**$43,034,444**
State Funds		
Dept. of Water Resources		
Proposition 1E		
Proposition 13	$224,471	
Proposition 84	$5,378,979	$3,279,873
Dept. of Fish and Wildlife		
Proposition 13	$1,188,093	$1,022,215
Proposition 84	$5,057,319	$2,792,000
State Sub-total	**$11,848,862**	**$7,094,088**
Total	**$44,447,770**	**$50,128,532**

1. Includes funding for FWS and NMFS participation.
2. Fiscal Year 2012 represent total funds obligated.
3. Fiscal Year 2013 represents total dollar amounts approved.

State Fiscal Year is from July 1-June 30; Federal fiscal Year is from October 1-September 30.

Looking Ahead: Program Activities for 2013 and Beyond

Throughout 2013, Program activities will continue across all aspects of the San Joaquin River Restoration Program (SJRRP). While continuing flow releases and data collection activities, Program staff will monitor the shallow groundwater levels and work closely with landowners to address potential seepage concerns related to Interim Flows and future Restoration Flows. Environmental documents will move forward on two major channel improvement projects in Reach 2B and 4B. Once constructed, the projects will significantly improve the ability to move water through the river system and sustain fish habitat. The Friant-Kern Canal Capacity Restoration Project is expected to start construction in 2013, followed by the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project. Extensive public outreach will continue with public meetings that include Technical Feedback Group meetings on focused topics, frequent updates on the website, **www.restoresjr.net**, and written materials mailed and posted on the website, to help interested parties stay updated on Program activities and continue active participation and input.

Listed below are key documents and activities that are anticipated to happen in 2013 for the overall Program.

A PIT tag array in the San Joaquin River for fish monitoring

2013 ACTIVITIES

- Continue Interim Flows to collect a range of information regarding river and channel characteristics, including flows, temperatures, fish needs, seepage losses, and water recirculation, recapture, and reuse.
- Continue with the following site-specific planning, engineering, environmental review, and other activities required to implement the actions called for in Paragraph 11(a) of the Settlement:
  - **Mendota Pool Bypass and Reach 2B Channel Improvements Project**

    The project will create a bypass channel around the Mendota Pool (approximately 0.5 to 1.5 miles of new river channel, depending on the route) and will expand Reach 2B capacity to convey at least 4,500 cubic feet per second. The project will develop 11 miles of new levee and flood plain habitat.

    As part of the analytical and evaluation support to prepare the Reach 2B site-specific EIS/R document, the Reach 2B team has been conducting scientific, economic, environmental, engineering, technical, cultural, and social impact investigations and analyses for each of the proposed alternatives.

    - Release of Draft EIS/R – late 2013 or early 2014
    - Release of Final EIS/R and Record of Decision – early 2015
    - Construction Target Date – late 2015

- **Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project**

The project includes the construction, operation, and maintenance of a channel in Reach 4B of the San Joaquin River and in the Eastside and Mariposa bypasses. It also includes improvements to structures in the San Joaquin River channel and Eastside and Mariposa bypasses to allow for fish passage.

Preparations will continue toward developing the Draft EIS/R, including completion of a Project Description TM that will describe alternatives for further analysis, and a Regulatory Compliance TM that will identify the permits, approvals, and other requirements necessary to implement the project.

- Release of Draft EIS/R – early 2014
- Release of Final EIS/R and Record of Decision – late 2014

Sack Dam

- **Arroyo Canal Fish Screen and Sack Dam Fish Passage Project**

The project includes the installation of a fish screen on the Arroyo Canal to prevent entrainment of juvenile Chinook salmon in the canal and modifications to Sack Dam to allow for fish passage around the structure.

- Release of Final EA/IS – March 2013
- Construction target dates – 2014 to 2015

- Continue water accounting and recovery activities to include: continue development of Restoration Flow Guidelines; implement the Recovered Water Account; recapture and recirculation of Interim Flows; and complete an Environmental Assessment for recirculation of recaptured 2013 Interim Flows.
- Continue efforts on the following projects in support of the Water Management Goal:
  - Madera Canal Feasibility Study – A demonstration project will be initiated on the Madera Canal to test potential fixes and assist in the development of alternatives for the Feasibility Study. Finalization of the Feasibility Report and required environmental documents is expected by spring 2013.
  - Friant-Kern Canal Capacity Restoration Project – Construction is expected to commence in late 2013.
  - Financial assistance for local projects – An initial funding announcement is expected by spring 2013.
  - Recapture and Recirculation – Implement the 2013 Recapture and Recirculation Program; finalize the long-term Recapture and Recirculation Plan; initiate the environmental documentation for recirculation; and develop standard operating procedures for recapture and recirculation.
- Continue to implement seepage projects as part of the Seepage Management Plan; continue holding Reach 3 and 4A landowner meetings to explore additional projects.
- Continue levee investigations on the existing levees to assess the potential flood risk impacts of restoration flows and identify potential mitigation strategies to maintain acceptable flood risk management for the SJRRP.
- Continue all efforts supporting the reintroduction of fall and spring-run Chinook salmon to the San Joaquin River.

Several documents have been developed to support the reintroduction effort. A Stock Selection Strategy Document was developed to identify and describe potential donor stocks for reintroduction. A Hatchery and Genetics Management Plan was developed to describe the manner in which donor stock would be propagated. The Reintroduction Strategy is another document developed that will guide the methods of reintroduction. This document provides a description of a suite of appropriate methods for collection from each donor stock, and a suite of reintroduction methods utilizing various life stages of the donor stocks, various reintroduction techniques, and various levels of conservation hatchery techniques. These documents are available on the Program Documents page of the Program website, www.restoresjr.net.

☐ Initiate or continue implementing study proposals in the Monitoring and Analysis Plan for 2013:

Flow Management

- Flow Gage Record Analysis (Study 1, Appendix A)
- Temperature Monitoring of Cold Water Pool in Millerton Lake (Study 5, Appendix A)

Conveyance

- Levee Geotechnical Exploration (Study 13, Appendix A)
- Lateral Gradient of Water Table (Study 2, Appendix A)
- Changes in Soil Salinity Conditions Resulting from Interim Flows (Study 3, Appendix A)
- Influence of Paleochannels on Seepage (Study 4, Appendix A)
- Additional Water Level Recorders (Study 24, Appendix A)
- Monitoring Cross-Section Resurveys (Study 25, Appendix A)

Predation

- Assessment of Predator Abundance and Distribution in Mine Pit Habitat in San Joaquin River Restoration Area (Study 11, Appendix A)
- Juvenile Survival and Migration (Year 3 – Telemetry) (Study 10, Appendix A)
- Two-Dimensional Temperature Modeling of Gravel Pits in Reach 1A (Study 19, Appendix A)
- Effect of Altered Flow Regime on Channel Morphology in Reach 1A (Study 26, Appendix A)

Rearing Habitat

- Floodplain Quality (Study 16, Appendix A)
- Effect of Altered Flow Regime on Channel Morphology in Reach 1A (Study 26, Appendix A)
- Thermal Conditions in Riverine Pools (Study 29, Appendix A)

DFW employee releasing juvenile salmon into the San Joaquin River

Spawning and Incubation

- Egg Survival (Study 8, Appendix A)
- Bed Material Data Processing and Evaluation (Study 17, Appendix A)
- Reach 1A Spawning Area Bed Mobility (Study 28, Appendix A)
- Effect of Scour and Deposition on Incubation Habitat in Reach 1A (Study 27, Appendix A)
- Effect of Altered Flow Regime on Channel Morphology in Reach 1A (Study 26, Appendix A)

Fish Passage

- Adult Passage (Study 20, Appendix A)
- Adult Passage – Nonstructural Passage Impediments (see Study 12, Appendix A, 2012 MAP, for complete study)
- Trap and Haul of Adult Fall Run Chinook (Study 6, Appendix A)

Fish Reintroduction

- Captive Rearing Study (Year 3) (Study 12, Appendix A)
- Juvenile Salmon Holding (Study 7, Appendix A)
- Trap and Haul of Adult Fall-Run Chinook (Study 6, Appendix A)

Upon close observation of this photo, the large shiny gravel area towards the center of the photo is a "redd" - an area where a female Chinook salmon has cleaned off the gravel with her tail and laid her eggs. This redd was constructed by one of the fish transported to Reach 1 during the Trap and Transport study conducted in the fall of 2012.

The Management Action Plan identifies strategies to address uncertainties associated with potential actions listed in the Implementation Framework. To organize potential actions under the SJRRP, the following themes describing objectives for accomplishing the Restoration and Water Management goals were developed:

- Flow Management – Encompasses all actions under Paragraph 13 of the Settlement, including operational actions at Friant Dam, compliance with hydrographs defined in the Settlement, recapture accounting, scheduling, water acquisitions, banking, and permit requirements.
- Conveyance – Involves establishing non-damaging channel capacities to allow releases that provide for fish movement and to maintain acceptable water temperatures.
- Entrainment Protection – Includes actions to screen diversion facilities and identify whether other diversions will entrain large numbers of emigrating juveniles to prevent the loss of juvenile salmon.
- Predation – Includes studies to assess and limit predation of juvenile salmon that affects migration survival and impedes the SJRRP from meeting fish population targets.
- Rearing Habitat – Involves establishing or improving rearing habitat to promote a healthy salmon population in the San Joaquin River.
- Spawning and Incubation – Involves identifying and providing appropriate conditions to improve survival and hatch eggs successfully.
- Adult Migration Paths – Includes actions to remove false migration paths that lead to unsuitable spawning habitat, areas that trap fish, or situations that prohibit fish from traveling to suitable habitat in time to reproduce.
- Fish Passage – Involves creating a reliable passage corridor to help fish move down and up the San Joaquin River to complete their life cycles.
- Fish Reintroduction – Includes conducting a series of efforts to further understand the reintroduction process through developing a captive Chinook salmon broodstock, conducting expanded studies to address key uncertainties, and implementing pilot Chinook salmon release efforts to test and refine strategies.
- Water Management – Encompasses actions to identify, develop, and implement projects and programs that reduce or avoid adverse water supply impacts on the Friant Division long-term contractors that may result from the Interim and Restoration flows provided for in the Settlement.

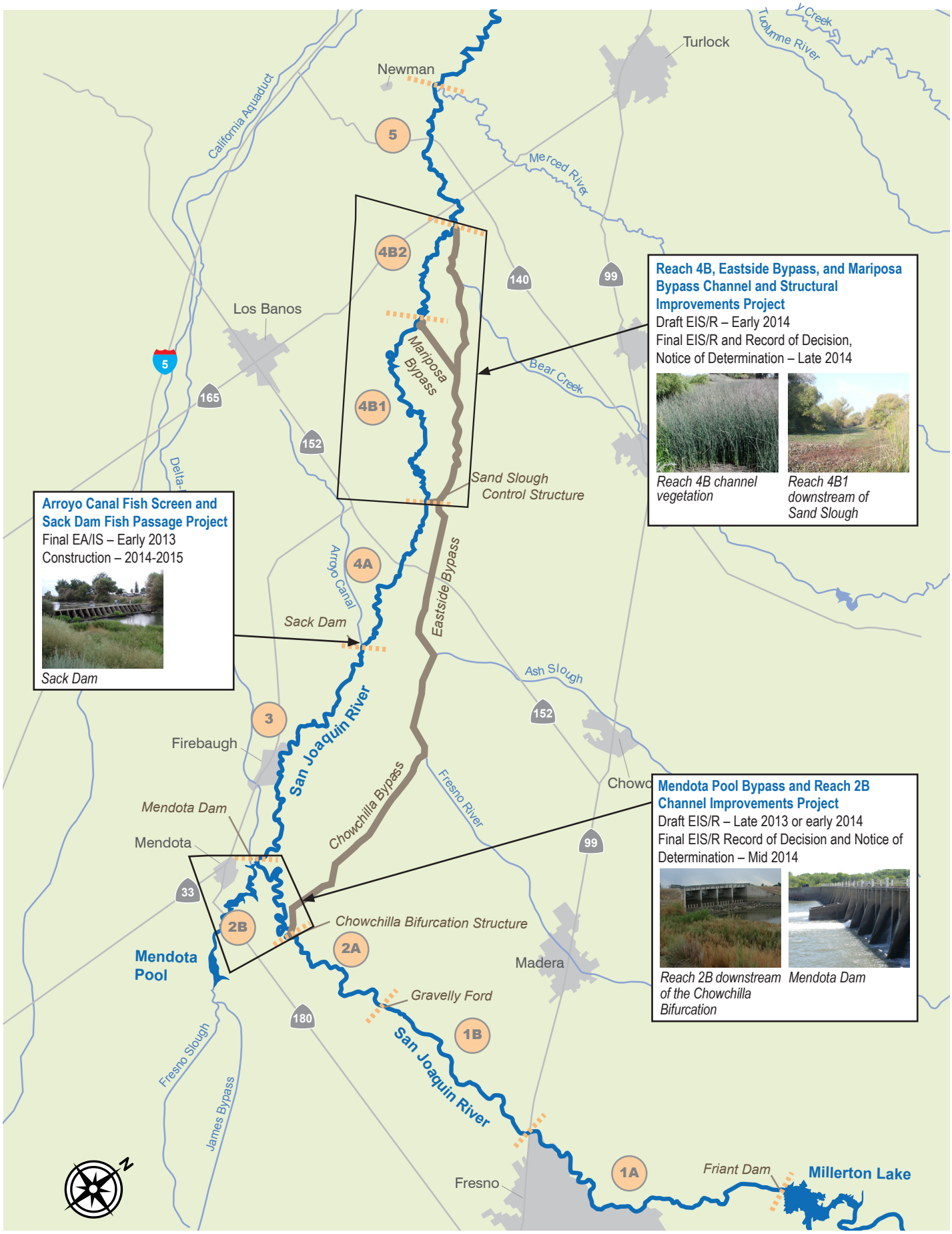


FIGURE 4 STATUS OF KEY RIVER IMPROVEMENT PROJECTS

PROGRAM MILESTONES

The Settlement described significant milestones and timelines in three stages.

Stage 1 focused on program-level planning and environmental review, including formulating and evaluating reasonable alternatives for accomplishing the Restoration and Water Management goals with a focus on system-wide aspects of implementation. Stage 1 included the development of a Program EIS/R and the identification of significant data needs that will be completed during Stage 2.

Stage 2 commenced in October 2009 with the release of Interim Flows. During Stage 2, the Interim Flows program will continue to collect relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture, and reuse. Stage 2 also includes the reintroduction of spring-run and fall-run Chinook salmon and originally the implementation of all Phase 1 channel improvements. Some construction will not be complete by the end of 2013.

Stage 3 primary activities include the release of full Restoration Flows from Friant Dam, continued implementation of the Fishery Management Plan, implementation of Phase 2 actions, and the operation and maintenance of project facilities. The full Restoration Flows shall commence no later than January 1, 2014. Stage 3 will conclude when all activities called for in the Settlement are completed; however, ongoing operations and maintenance of facilities and structures will continue indefinitely.

Recognizing that some actions required by the Settlement are unavoidably behind schedule, including Phase 1 channel and structural improvement projects that may be beneficial for the successful reintroduction of salmon, the Program initiated consultation with the parties to the Settlement in 2012 and have been working towards a more realistic revised schedule and budget. The revised Draft Framework for Implementation was made available to the public in June 2012 and is being used to guide Program and project actions.

Mendota Dam

LA Times reporter Bettina Boxall talks to Jim Nickel, a landower in Reach 4 during a visit to his property. Also present was L to R: Chase Hurley, Henry Miller Reclamation District; Ali Forsythe, SJRRP Program Manager; Monty Schmitt, Natural Resources Defense Council; and Cannon Michael, Reach 4B Landowner.

PUBLIC INVOLVEMENT AND OUTREACH

The SJRRP will continue to provide meaningful opportunities for public involvement and input into Program activities in 2013. The SJRRP website will continue to be updated regularly with Program documents, project updates, and information about upcoming meetings. The SJRRP will distribute via email and postal mail regular Program Updates to keep the public informed of recent Program developments and upcoming involvement opportunities. The Technical Feedback Groups described in this report will continue to hold public meetings to receive feedback on SJRRP activities. The SJRRP will also continue to reach out to landowners in the different Program reaches to discuss related projects, and receive feedback, allowing the Program to address concerns and work toward identifying potential solutions.

Rod Meade, Restoration Administrator; Robert Clarke, USFWS, and Ali Forsythe, SJRRP, at the SJR Partners Conference in Fresno, October 2012

San Joaquin River

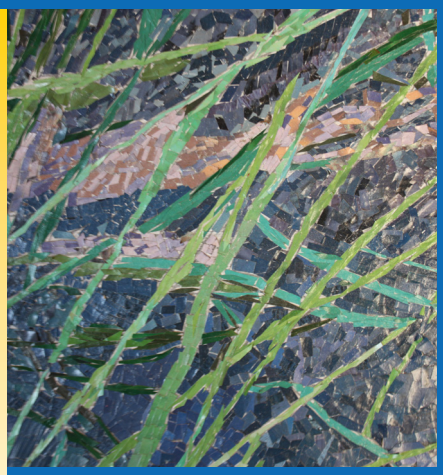
The following art was done by students at McLane High School under the direction of Marc Patterson, Art Teacher, and part of an exhibition of 45 artworks entitled, "Water, Water, Everywhere…." It was exhibited at Fresno City Hall, and at the SJR Parkway and Conservation Trust River Center. Selected pieces were shared with participants at the SJR Partners Conference in Fresno October 2012.

Title: Fresno Canal
Acrylic
Artist: Deanna Martinez

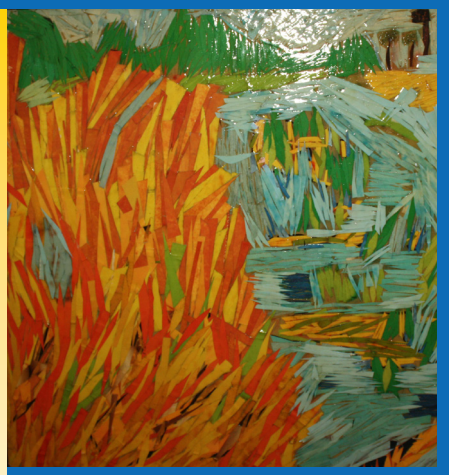
Title: Fresno Canal #2
Acrylic
Artist: Amy Vang

Title: Mountain River Reflections
Collage
Artists: various student artists

Title: The Inner City Meets the River
Mixed media
Artists: Jessica Ketchum, Margarita Diaz



Title: Canal Grasses
Collage
Artist: Jessica Barraza



Title: Dinuba Avenue Canal
Collage
Artist: Various Student Artists

McLane High School Students' Art, continued

Title: Red Tail
Appliqué
Artist: Mineivong Xiong
(This piece was not part of the exhibition.)

Title: Canal Foliage
Acrylic
Artist: Pa Xiong

Title: Gone Fishing
Acrylic
Artist: Jose Esparza

Title: Alpine Lake Reflections
Mixed media acrylic, assemblage
Artist: Sao Xiong

SAN JOAQUIN RIVER
RESTORATION PROGRAM

Bureau of Reclamation
San Joaquin River Restoration Program
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