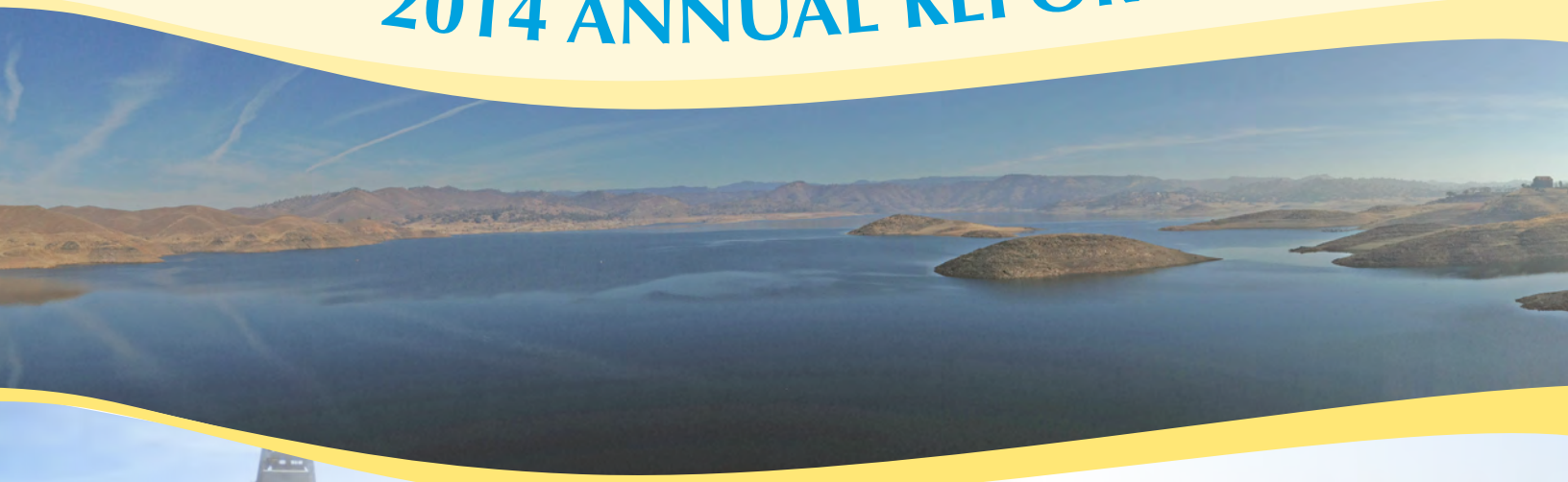


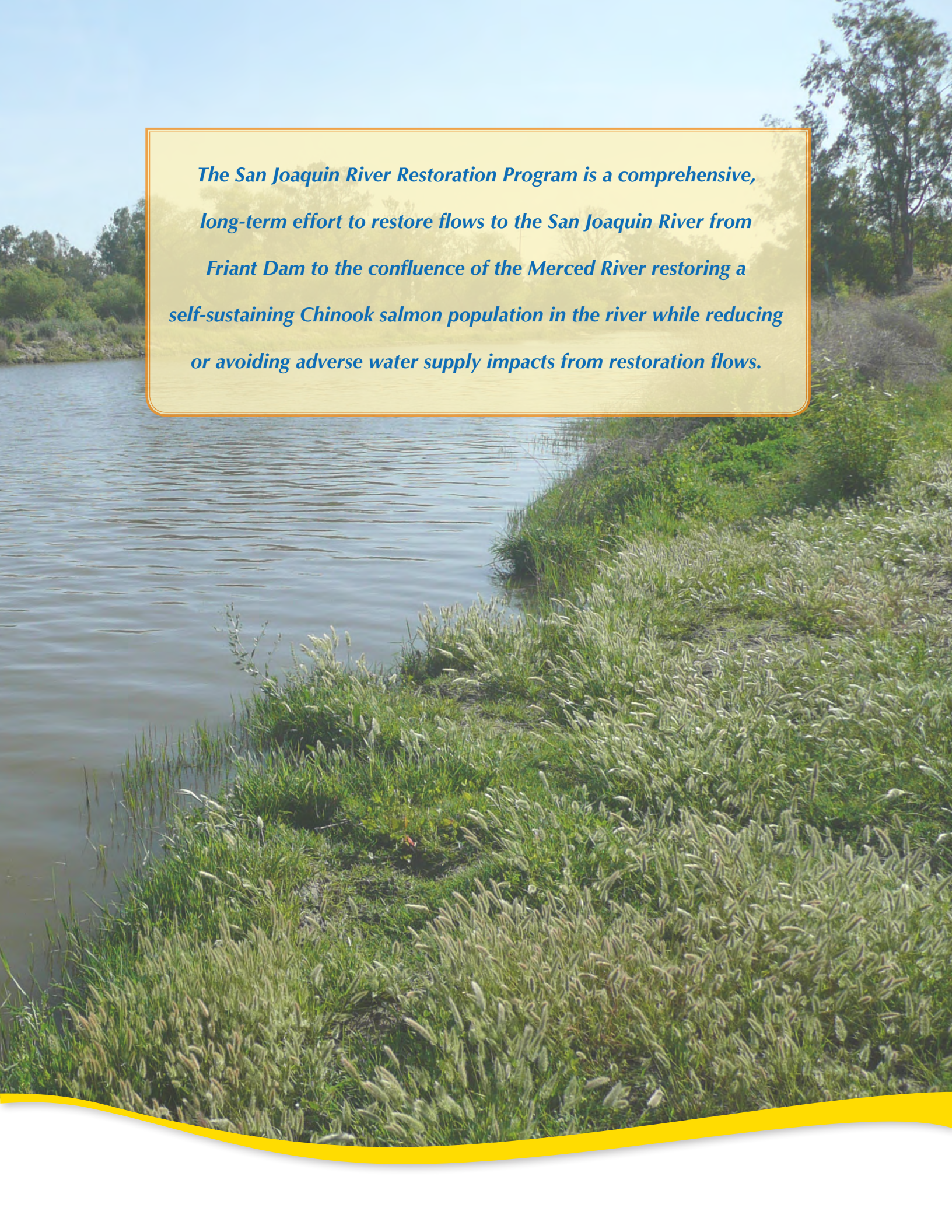
SAN JOAQUIN RIVER  
RESTORATION PROGRAM



# 2014 ANNUAL REPORT



**Forward Momentum**

The image shows a wide river with a grassy bank in the foreground. The grass is tall and green, with some white seed heads. The water is calm and reflects the sky. In the background, there are trees and a clear blue sky. A yellow wavy border is at the bottom of the page.

*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 population in the river while reducing or avoiding adverse water supply impacts from restoration flows.*

Dear Reader,

The San Joaquin River Restoration Program began in 2006. Since that time, the Program has achieved many milestones and has made significant progress towards reaching its goals. Some of the key Program accomplishments include the following:

- The San Joaquin River was re-wetted for the first time in more than 60 years, helping river-based economic uses, such as fishing and canoeing, and providing educational opportunities for communities.
- Spring-run and fall-run Chinook salmon have been released in the river, working towards reintroduction. The Program has demonstrated the ability of adult salmon to successfully spawn in the upper reaches and has documented the ability of juveniles to successfully migrate out of the restoration area, with some of the Program's fall-run salmon being captured in the commercial fishery off the Oregon and California coasts in 2013.
- The knowledge of groundwater conditions along the river has been greatly increased and data on soils, groundwater and other similar resources is freely provided to landowners along the river to help improve their operations.
- Knowledge of the capabilities of the Lower San Joaquin River Flood Control Project has increased and activities have provided a better understanding of the potential actions to improve the flood system to better protect communities and adjacent farmland in the future.
- Relationships have been built between water districts on the west side of the San Joaquin Valley and the Friant Contractors facilitating better and more creative management of water resources long into the future.

These accomplishments, while not on-the-ground facilities, set the foundation for the Program and provide positive outcomes that go far beyond the Program goals.

Program accomplishments this past year continued to steer us forward. The collaboration among the Settling Parties and the landowners downstream of Friant Dam is unprecedented and allows momentum to continue despite differing perspectives and tough issues to resolve.

In mid-2014, the Program and interested parties began working on developing an update to the 2012 Framework for Implementation. This updated Framework will contain a reasonable schedule and budget with projects and actions prioritized. Once completed in 2015, the updated Framework will provide a solid roadmap to follow for many years to come.

There is still much work to be done. At no point do we stop and rest, but it is important to acknowledge all of the effort, energy, and just plain roll-up-your-sleeves hard work that so many people within and external to the Program have given.

With Sincere Appreciation,



Alicia Forsythe  
*SJRRP Program Manager*



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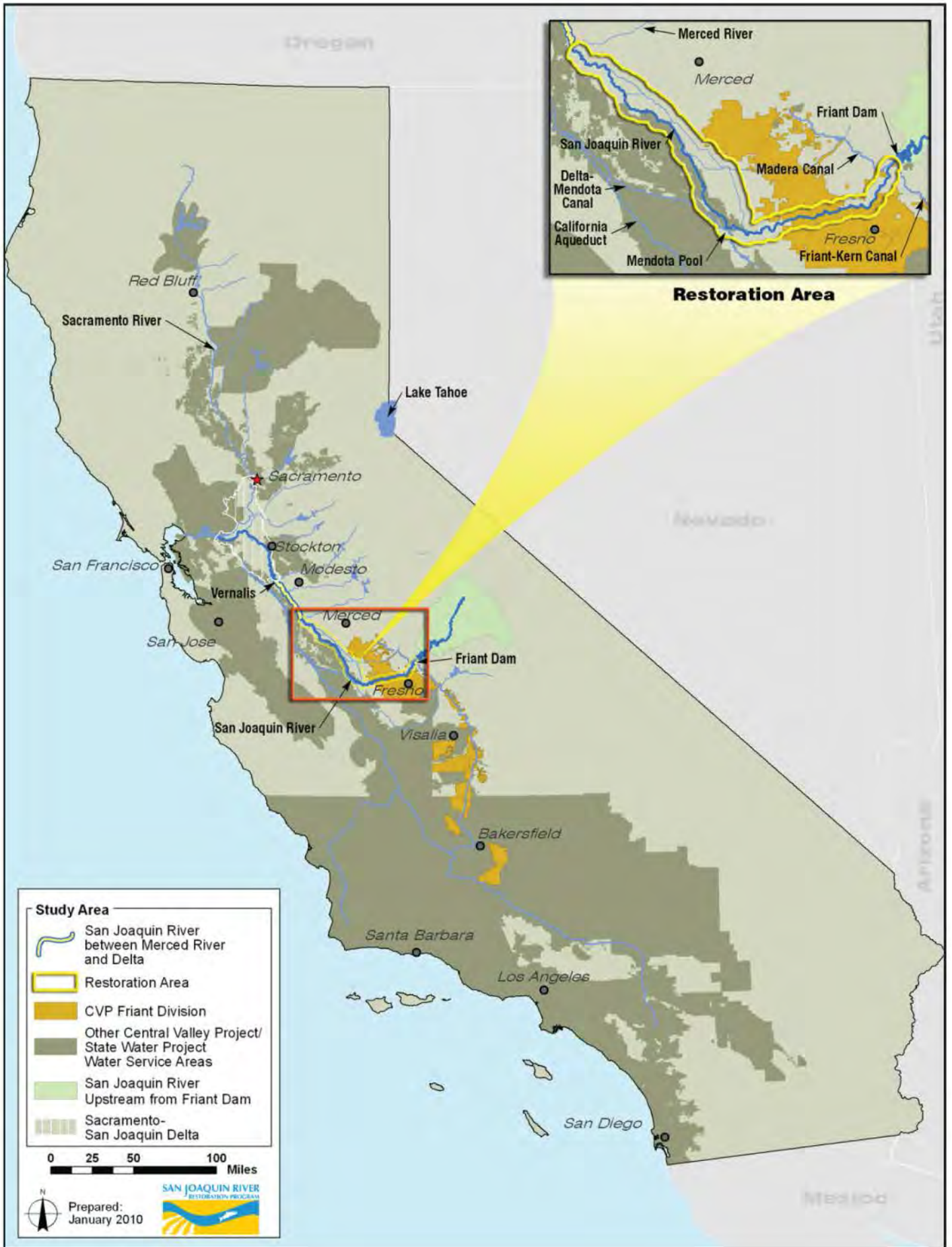


FIGURE 1 – MAP OF RIVER RESTORATION AREA

This San Joaquin River Restoration Program (SJRRP or Program) Annual Report describes Program activities and accomplishments and planned activities moving forward. The SJRRP was established upon court acceptance of a Stipulation of Settlement (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. The San Joaquin River Restoration Settlement Act (Settlement Act), in Public Law 111-11, authorizes and directs the Secretary of the Interior to implement the Settlement.

In 2007, the Implementing Agencies including the Bureau of Reclamation, U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and the California Department of Water Resources (DWR) and Department of Fish and Wildlife (DFW) established the structure for the SJRRP and began implementing the Program.

## Water Management Goal

- Executed 29 agreements that sold 11,425 acre-feet of Unreleased Restoration Flows that generated \$3.4 million in funds for the Program and provided water for human health and safety and agricultural needs.
- Completed appraisal-level evaluations for the 20 priority-ranked projects identified through the Investment Strategy.
- Recirculated 300 acre-feet of previously recaptured and banked Restoration Flows.

## Restoration Goal

- FWS and NMFS released 54,000 juvenile spring-run Chinook salmon into the San Joaquin River, from which they have been extirpated for 60 years.



Weir to capture juvenile fall-run Chinook salmon

- Released 65,544 acre-feet of Interim and Restoration Flows in Water Year 2014 from October 2013 through February 2014, when Restoration Flows shut off early to provide human health and safety water to the Friant Division due to the critically dry water year.
- Trapped and transported 510 fall-run adult Chinook salmon above the Merced River confluence to spawning areas just below Friant Dam as part of the third Trap and Transport Study from October through January 9, 2015.
  - Documented more than 80 redds (nests).
  - Documented successful spawning and naturally spawned fall-run salmon.
- Continued spring-run broodstock efforts.
- Spawned adult fall-run progeny to use in spring Program-related studies.
- Completed the Final Channel Capacity Report for the 2014 Restoration Year and Draft CCR for 2015 Restoration Year.
- Trapped and transported 2,393 juvenile fall-run Chinook salmon as part of the 2014 Spring Trap and Transport effort.
- Finalized the 2014 Monitoring and Analysis Plan for all of the study activities.
- Completed Endangered Species Act (ESA) 10(j) and 4(d) rule went into effect January 31, 2014.
- NMFS released the first Spring-run Technical Memorandum on January 15, 2014.

- NMFS held several stakeholder meetings including 12 monthly meetings with stakeholders and scientists who presented the latest available science on fish tagging and tracking.

### Flows Implementation

- Initiated Restoration Flows (the fourth and final year of Interim Flows concluded on Dec. 31, 2013).
- Completed an additional four flowage easements needed to allow flows below Sack Dam and reconnect the river once again bringing the total number of completed easements to seven out of the eight needed.
- Monitored flows including hourly recorded or periodic measured values at 23 flow gages and 30 additional locations recording river stage, 211 individual groundwater monitoring wells, 48 locations measuring groundwater temperature, and approximately 100 surface-water temperature monitoring locations.
- Completed a Financial Assistance Agreement with Central California Irrigation District to construct seepage projects up to \$6.2 million.
- Completed the first two seepage projects – a seepage easement for 4,530 acres and a fee title purchase for 318 acres.

### Multi-benefit Projects Collaboration Opportunities

The Program coordinated with the Central Valley Flood Protection Plan (Regional Flood Management Planning, Basin-wide Feasibility Studies, and Conservation Strategy), San Joaquin River Conservancy, and DFW on the potential for multi-benefit projects in 2014. The Program has initiated efforts to work with the Central Valley Flood Protection Plan efforts regarding flood protection for the City of Firebaugh and possible opportunities to accomplish multiple objectives with seepage projects and potentially the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project. The Program is also working with the San Joaquin River Conservancy and DFW on projects in the Sycamore Island Recreation Area.



*Reclamation employee Shawn Root cleans debris from weir screens*

# PROGRAM ACTIVITY HIGHLIGHTS



## Release of Juvenile Spring-run Chinook Salmon

On April 18, DFW and FWS released 54,000 hatchery produced juvenile spring-run Chinook salmon into the San Joaquin River as part of Program implementation.

The salmon were from the Feather River Hatchery and were released near the confluence of the Merced and San Joaquin rivers near Newman, California. The release effort will provide an opportunity to carryout fisheries studies while contributing to the long-term reintroduction of spring-run salmon to the San Joaquin River as called for in the San Joaquin River Settlement.

As part of this effort, some of these juvenile spring-run are anticipated to return to the river as adults in spring 2017. However dry year conditions will likely impact the number of returning fish. Any returning adults will be monitored to determine what parts of the river they use, their survival over the summer, and where they spawn in the fall of 2017. This information will help further inform future spring-run reintroduction efforts.



*Net pens hold juvenile spring-run Chinook salmon prior to release*

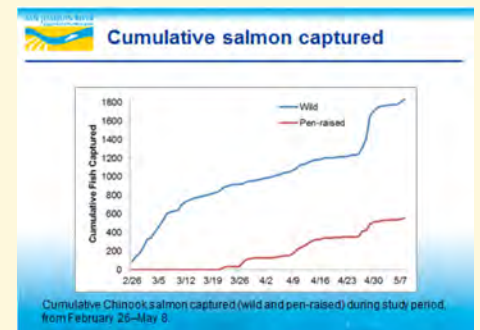


## Juvenile Trap and Haul (Spring 2014)

A trap and haul effort was accomplished to capture and move juvenile Chinook salmon from Reach 1, past currently impassable barriers, to a downstream location in Reach 5 where they could continue their migration to the ocean. Low water conditions and water temperatures exceeding salmon thermal tolerance limits resulted in the SJRRP's need to implement a cost-effective trap and haul operation during the 2014 Critical High water year. Physical and environmental barriers to downstream migration would have resulted in low or no salmon survival if management action was not taken.

During these efforts, a rotary screw trap, V-shaped weirs, and entrainment-type nets were used to collect emigrating juvenile salmon in Reach 1. A total of 2,393 salmon were captured during the 2014 juvenile salmon trap and haul. The successful outmigration of juvenile salmon is critical for survival to adulthood and to support the goal of the Restoration Program to restore Chinook salmon.

In 2011, 1,227 juvenile fall-run Chinook salmon were released as part of a study for the SJRRP. In the summer of 2013, two of those fish were recovered in the ocean troll fisheries - one near Point Reyes, Calif., and the second near Newport, Oregon. The fish were released high in the river during flood flow conditions. These recoveries confirm that some of these fish made it to the ocean through the delta and were maturing as part of their natural life cycle.



*Fall-run Chinook smolt*



*Reclamation biologist Don Portz netting fish from collection box*



*Fall-run parr*



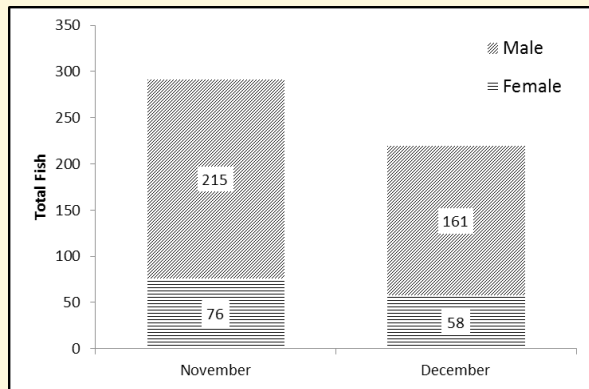


## PROGRAM ACTIVITY HIGHLIGHTS (continued)



### Adult Trap and Haul (Fall 2014)

A total of 510 Chinook salmon were captured between November 4, 2014, and January 9, 2015, from Reach 5 upstream of the Hills Ferry Barrier and translocated to Reach 1. Fish passing the Hills Ferry Barrier would otherwise be lost in the system, and their otherwise fate provides an opportunity to translocate fall-run Chinook salmon to study their behavior and spawning site preference prior to reintroduction. During the 2014 Adult Salmon Trap and Haul efforts, Reclamation personnel captured Chinook salmon using fyke nets in the main stem San Joaquin River, Mud and Salt Slough, and near the confluence of the San Joaquin River with the Eastside Bypass, and California DFW personnel captured salmon using dip nets at the terminal end of irrigation canals. Once captured, these fish were transported upstream to suitable spawning habitat in Reach 1 of the Restoration Area. Trap and Haul efforts during the 2014 season resulted in much higher capture rates than efforts conducted in both 2012 and 2013. While the majority of fish were released back into the San Joaquin River, some fish were retained for artificial spawning and incubation purposes. Salmon released into Reach 1 naturally produced more than 80 spawning redds (nests).



*Tagging female Chinook salmon*



*Reclamation employee Chuck Hueth holds a female Chinook salmon*



*Reclamation employee Emily Thomas holds a male Chinook salmon for transport to Reach 1*



*Tagged male Chinook salmon*

# THE STIPULATION OF SETTLEMENT AND PROGRAM STRUCTURE

## San Joaquin River Restoration Area

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 Restoration Flows and perform physical improvements to support fisheries.



### 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

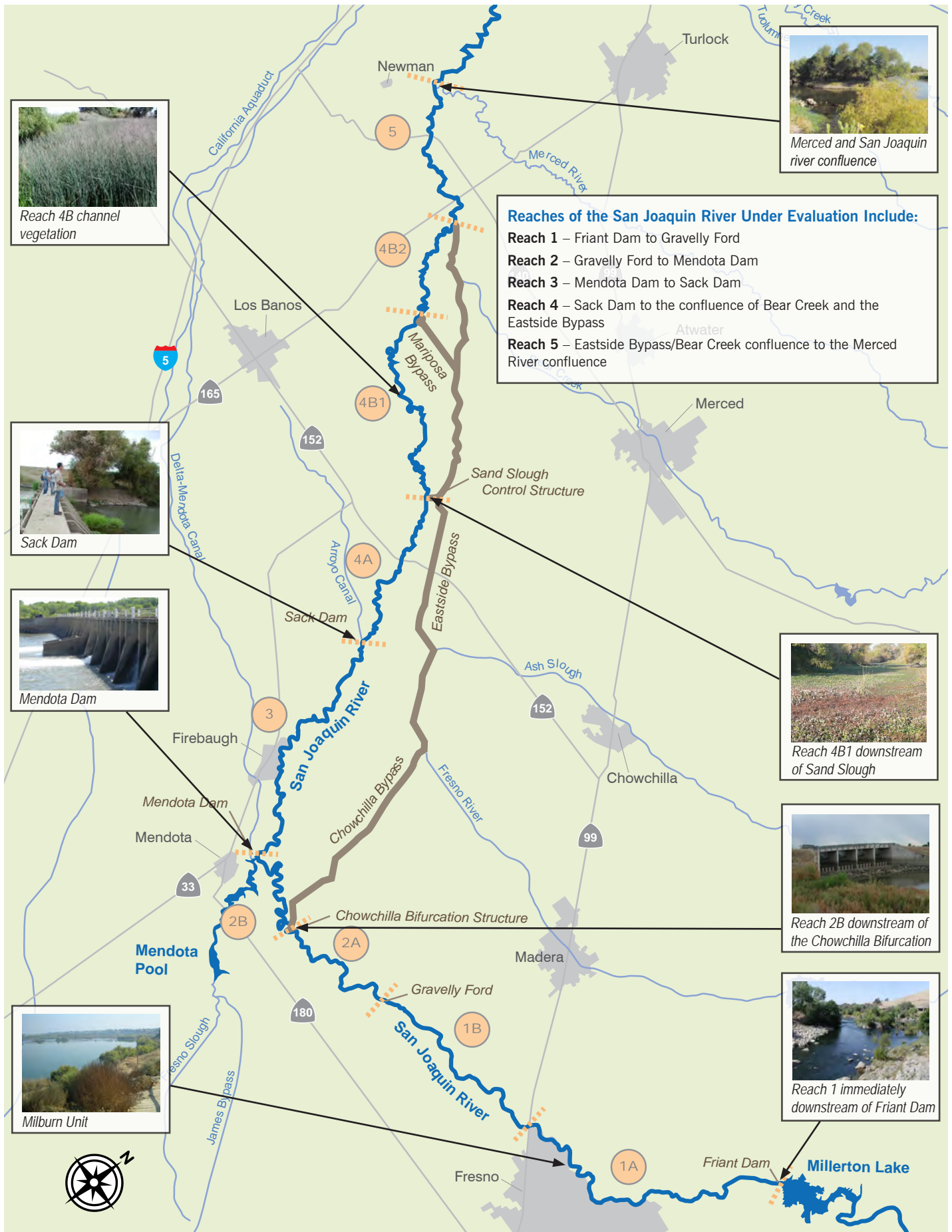


FIGURE 2 - MAP OF RIVER RESTORATION AREA

## The Settlement

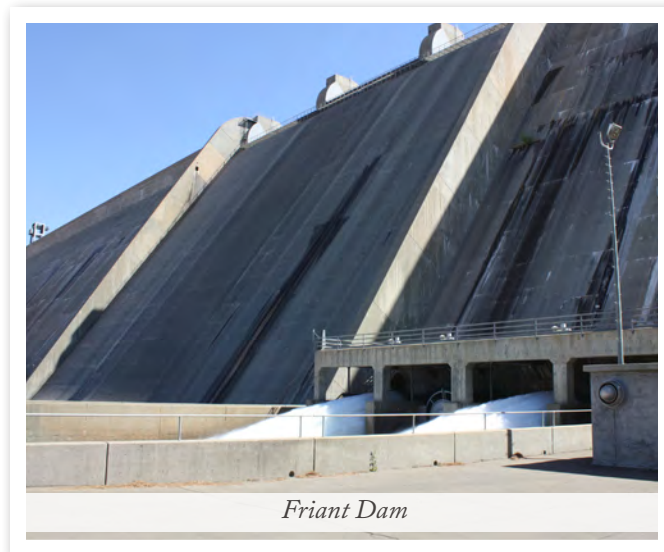
In 1988, a coalition of environmental groups, led by the NRDC, filed a lawsuit challenging the renewal of the long-term water service contracts between the United States and the Central Valley Project Friant Division contractors. After more than 18 years of litigation, known as *Natural Resources Defense Council, et al., v. Kirk Rodgers, et al.*, a 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), Department of the Interior and the Department of Commerce.

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 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 Settlement Act, signed in March 2009, authorizes and directs the Secretary to implement the Settlement. The SJRRP was established to do that, and the Implementing Agencies responsible for its management include Reclamation, FWS, NMFS, DWR, and DFW.

## Program Management Structure

The Settlement included clear commitments that the Settling Parties and downstream water and land interests (referred to as Third Parties) would be involved in the development and implementation of plans by the Secretary. 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 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 subgroups, as described later in this report. The four TWGs are:
  - Engineering and Design
  - Environmental Compliance and Permitting
  - Fisheries Management
  - Water Management

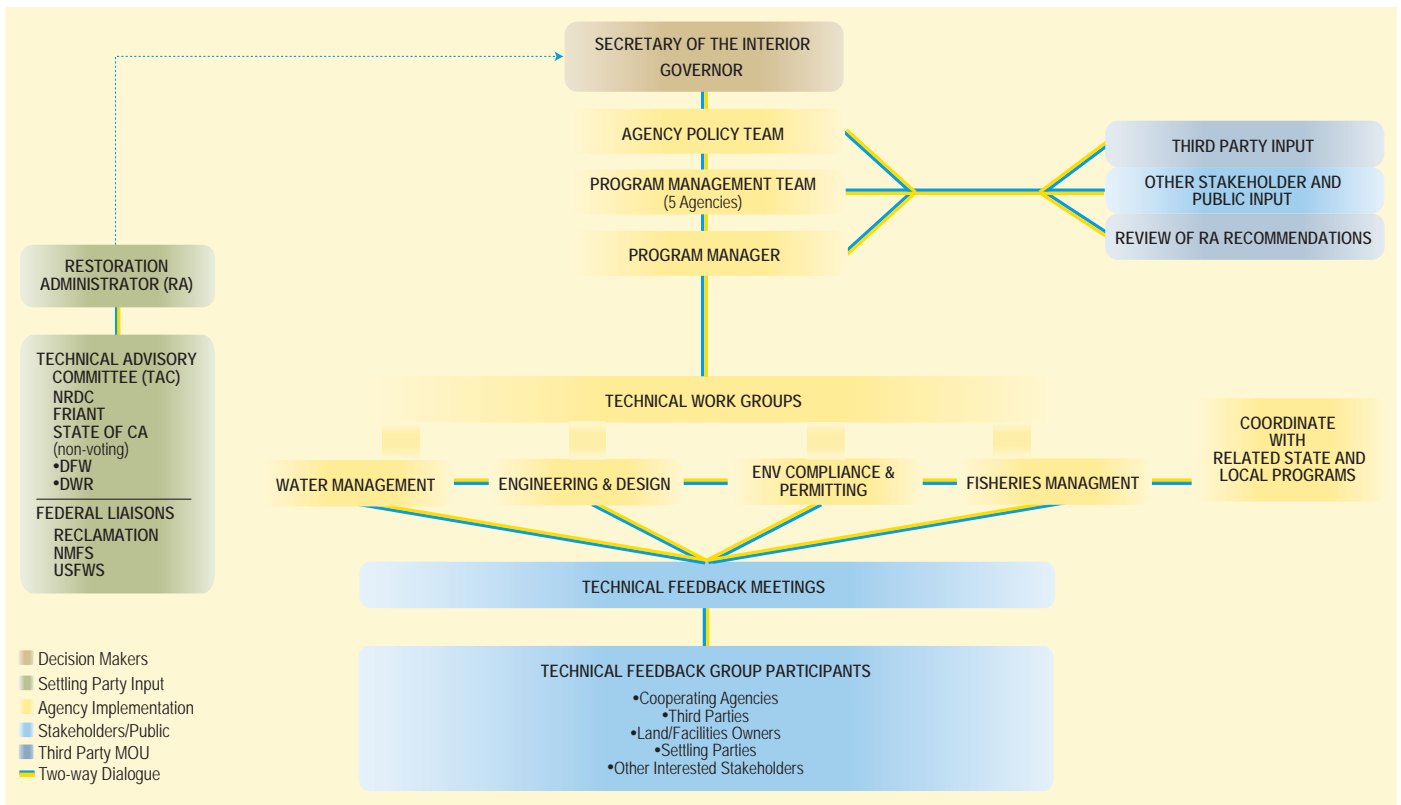


FIGURE 3 – PROGRAM ORGANIZATIONAL CHART

## PROGRAM MANAGEMENT TEAM



### **BUREAU OF RECLAMATION (DEPARTMENT OF THE INTERIOR)**

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### **CALIFORNIA DEPARTMENT OF FISH & WILDLIFE (CALIFORNIA NATURAL RESOURCES AGENCY)**

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## 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.

- Restoration Administrator – The Restoration Administrator (RA), selected jointly by the NRDC and 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 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 2014 - In accordance with the Settlement, the RA submitted the following recommendations to the SJRRP, after consultation with the TAC:
  - Spring 2014 Restoration Administrator Flow Recommendation - January 31, 2014
  - Restoration Administrator 2013 Annual Report – March 2014
  - Restoration Administrator Flow Recommendation Update - May 1, 2014

## RESTORATION ADMINISTRATOR AND TECHNICAL ADVISORY COMMITTEE

### RESTORATION ADMINISTRATOR

Tom Johnson

### Voting Members

Monty Schmitt – Senior Water Resources Scientist, NRDC

Bill Luce – Bill Luce Consulting LLC, on behalf of FWA

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 Liasons

Alicia Forsythe – Reclamation

Rhonda Reed – NMFS

Robert Clarke – FWS

### 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 (CVP) water contractors outside of the Friant Division of the Central Valley Project and State Water Project.

## 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

# TECHNICAL WORK GROUP PROGRESS AND ACCOMPLISHMENTS

Four Technical Work Groups (WGs) of the SJRRP and their related subgroups contributed their areas of expertise toward the development and implementation of Program activities. Listed below is a summary of each WG's focus and accomplishments for 2014.

## Engineering and Design WG

The Engineering and Design WG 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 WG is also responsible for developing numerical modeling tools (Modeling Subgroup), implementing seepage management and levee stability projects (Seepage and Conveyance Subgroup), and monitoring of physical and biological parameters (Monitoring Subgroup).

Accomplishments on site-specific projects:

- Mendota Pool Bypass and Reach 2B Channel Improvements Project
  - Completed 55 drill holes and 108 Cone Penetration Tests to provide geotechnical information for design efforts
  - Continued progress on the Draft Environmental Impact Statement/Report (EIS/R)
  - Completed Landowner Meeting October 15, 2014
  - Completed Stakeholder Meeting to outreach to the Spanish-speaking community in Mendota December 9, 2014
  - Identified a draft preferred alternative based on stakeholder input
- Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project
  - Completed data collection activities to support the sediment transport, fish passage, and flow capacity technical studies.
  - Initiated development of alternative designs for fish passage modifications to structures in the Eastside Bypass.



*Drilling in Reach 2B*

- Arroyo Canal Fish Screen and Sack Dam Passage Project
  - Extended the time period of financial assistance to the Henry Miller Reclamation District to allow for continued activities when subsidence issues are more certain

## 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 in 2014. 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.

Accomplishments, in addition to supporting the site-specific projects:

- Completed the development of 1-D hydraulic models of the Restoration Area.
- Continued to evaluate the effects of subsidence on channel capacity in the Restoration Area.



- Completed the Recovered Water Account model and documentation for the Restoration Flow Guidelines.
- Completed Ecosystems Diagnostics and Treatment (EDT) fish simulations of Reach 4B and Eastside Bypass Project options and completed combined simulations with the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project and the Mendota Pool Bypass and Reach 2B Channel Improvements Project.
- Completion and publication of a groundwater flow model - a MODFLOW-based groundwater model for the SJRRP within 5 miles of the San Joaquin River and bypasses.
- Development of four 300 foot grid-size MODFLOW- based groundwater models for regional areas on either side of the San Joaquin River and bypasses.

### Seepage and Conveyance Subgroup

The Seepage and Conveyance Subgroup, consisting of team members from Reclamation, DWR and consultants, coordinated efforts related to groundwater monitoring and analysis, and projects that protect landowners from seepage impacts caused by Restoration Flows. 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:

- Completed the first seepage project: acquisition of a seepage easement on 4,530 acres of land impacted by groundwater seepage adjacent to the Eastside Bypass.
- Completed the second seepage project: acquisition of 398 acres severely impacted by groundwater seepage in fee, just south of the Sand Slough Control Structure and leased the property back to the existing grower to continue farming alfalfa.
- Updated the Seepage Management Plan in September 2014 based on the results of a peer review conducted the previous year.
- Completed the draft Channel Capacity Report for 2015 to limit flows to non-damaging releases for levees.
- Hosted two Seepage and Conveyance Technical Feedback Group meetings on January 31 and August 20, 2014. Participants included irrigation district managers, local landowners, agency staff, non-profits, and congressional staffers.

- Continued working with 14 landowners regarding evaluation of seepage on their properties, leading to seepage projects.
- Completed five more final site evaluations and preliminary designs to allow flow to pass below Sack Dam.
- Made seepage project realty agreement offers to three landowners.
- Completed geotechnical data collection on highest priority levees in Reach 2A, Reach 4A, and Eastside Bypass and performed seepage and stability evaluations to assess the potential flood risk impacts of Restoration Flows and identify potential mitigation strategies to maintain acceptable flood risk management for the SJRRP.

*Note: The Seepage Project Handbook and the Seepage Management Plan are available on the website: [www.restoresjr.net/flows/Groundwater/index.html#SMP](http://www.restoresjr.net/flows/Groundwater/index.html#SMP).*



*A new groundwater monitoring well installed at Sack Dam*

## STATUS OF SEEPAGE SITES RELATED TO FLOW LEVELS

Allowable Flow in SJR Before Seepage Impacts Occur	Number of Sites	Site Visits Performed	Site Evaluations	Preliminary Design	60% Design
	3	3	3	3	0
		0	0	0	1
300 - 700 cfs	2	2	2	0	0
		0	0	2	0
		0	0	0	2
700 - 1,300 cfs	6	5	1	1	0
		0	1	0	1
		1	4	4	5
1,300 - 2,000 cfs	11	5	1	1	0
		0	0	0	0
		6	10	10	11
2,000 - 4,500 cfs	70	2	0	0	0
		0	0	0	0
		68	70	70	70
Total	92	17	7	5	8
		0	1	2	2
		75	84	84	6

Completed
In Progress
Not Started

\* 60% designs are not expected on these properties. Seepage projects will be real estate actions.

### Monitoring Subgroup

The Monitoring Subgroup, consisting of monitoring leads from the Implementing Agencies, met during 2014 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 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:

- Continued coordination on Monitoring Well Agreements and Temporary Entry Permits.

In 2010, SJRRP management reached an agreement with local landowners and Third Parties, including the San Joaquin River Resource Management Coalition, in distribution and execution of a Comprehensive Temporary Entry Permit (TEP) for preconstruction surveys and investigations on private property. This permit replaced a version released by Reclamation

in 2008. Attachment A of the Comprehensive TEP authorizes the following: 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 43 Geologic Investigation TEPs with individual landowners in Reach 2A thru 5 and the Eastside Bypass. In 2013, six Geologic Investigation TEPs were executed with landowners in relation to the installation of groundwater monitoring well. As the term of permits do not sunset until major construction begins, the SJRRP has used these permits for prioritization of certain field surveys and for the installation of groundwater monitoring wells where authorized by the landowner.

## Environmental Compliance and Permitting WG

This WG plans and coordinates efforts to implement elements of the Settlement in relation to planning and environmental compliance efforts necessary for actions needed to meet the Restoration and Water Management goals.

Accomplishments:

- Completed environmental compliance documents as appropriate for multiple Monitoring and Analysis Plan studies.
- Completed environmental compliance documentation, as appropriate, for all implemented projects, including the Friant-Kern Canal/Gould Canal Temporary Intertie, Juvenile Fall-Run Chinook Salmon Trap and Transport Study, and Reach 2B Geotechnical Investigations.



*A rotary screw trap collecting juvenile fall-run salmon*

- Completed Waters of the US mapping effort for the SJRRP.
- Continued preparation of and agency coordination on the Riparian Habitat Mapping, Monitoring, and Mitigation Project that is part of the Program EIS/R Conservation Strategy.
- Continued alternatives development coordination for the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project.
- Continued implementation of the Steelhead Monitoring Plan and published findings.
- Continued coordination efforts on an SJRRP Programmatic Agreement in compliance with Section 106 of the National Historic Preservation Act.



*A weir for trapping juvenile fall-run salmon*

- Continued coordination on environmental compliance efforts for the first round of seepage projects, the Madera Canal Capacity Demonstration Project and Feasibility Study, and the Friant-Kern Canal Capacity Restoration Project.
- Started environmental compliance efforts for the Long-term Recapture and Recirculation Plan and Sycamore Island Pond Isolation Project.
- Started environmental compliance efforts for the Ten Year Transfer and Exchange of Recaptured Restoration Flows to Red Top.
- Started environmental compliance efforts for Part III groundwater projects.

## Fisheries Management WG

The Fisheries Management WG is responsible for planning and coordination efforts to implement the fisheries components of the Restoration Goal. Work during 2014 consisted of: assisting with broodstock collection and monitoring of potential donor populations; providing input and guidance for fisheries studies, including passage assessments; providing input and guidance for the operation of the Hills Ferry Barrier, flow scheduling and water temperature management; document preparation and submission; and technical input to various Program efforts.

Accomplishments:

- Coordinated fish reintroduction activities for both fall-run and spring-run Brood Year (BY) 2013 and BY 2014 initiation.

- Held a Fisheries Management Technical Feedback Group meeting on April 17 in Turlock, California.
- Coordinated fisheries elements of the FY 14 Monitoring and Analysis Plan.
- Developed BY 13 Operations Plan for fall-run and spring-run.
- Began efforts on 10(a)(1)(A) permit application for wild stock collection.



*DFW staff Dale Gates and Dennis Blakeman discuss the Hills Ferry Barrier*

- Coordinated on the Scientific Studies Conducted in 2014:
  - Juvenile Salmon Migration and Survival;
  - Egg Survival Study and Evaluation of Spawning Habitat in Hyporheic Zone;
  - Fish Passage Barrier Evaluation;
  - Bedload Measurement using Hydrophones;
  - Donor Stock Monitoring;
  - Effects of a Riparian Forest on Water Temperatures;
  - Evaluation of Hydraulic Conductivity on SJR Floodplains;
  - Unexpected Seepage Losses;
  - Highway 99 Water Surface Elevation Analysis;
  - San Joaquin River Levee Evaluations;
  - Sediment Facies Mapping;
  - Spawning Habitat Evaluation;
  - Vegetation Roughness Effects in SJRRP reaches;
  - Millerton Lake Temperature Monitoring;
  - Reach 1A 2D Hydraulic Model Evaluating Gravel Pit Temperature Effects;
  - Water Temperature Monitoring in the SJR;

- Trap and Haul of Adult Fall-run Chinook Salmon;
- Juvenile Chinook Salmon Trap and Haul;
- Continued Broodstock Captive Rearing Study;
- Completed Fall-run Collection Techniques Study;
- Monitored Fall-run Spawning Habitat Use and Success;
- Completed 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.

The results of these studies will be reported in 2015 and made available on the Program's website at [www.restoresjr.net](http://www.restoresjr.net).

### **Fisheries Reintroduction and Restoration Team**

The Fisheries Reintroduction and Restoration Team (FRRT) works closely with the Fisheries Management WG in coordinating and completing any permitting requirements to implement the fisheries reintroduction portion of the Settlement and associated studies. It is responsible for planning and coordination of regulatory documents and activities associated with reintroduction of fish into the San Joaquin River through the SJRRP. The members include NOAA Fisheries, CDFW, FWS, and Reclamation.

Accomplishments in 2014:

- Provided technical assistance to the Program on reintroduction permitting questions.
- Completed the Endangered Species Act 10(a)(1)(A) permit for the transport and release of Spring-run Chinook Salmon into the San Joaquin River.
- NMFS Fisheries designated a nonessential experimental population of Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) under the ESA in portions of the San Joaquin River, California, and established take exceptions for the nonessential experimental population for particular activities inside the experimental population's geographic range and limited take exceptions outside the experimental population geographic range.
- Per requirements in the ESA 10(j) and 4(d) rule, to the extent feasible, NOAA Fisheries will continue to develop an annual technical memorandum in coordination with and with opportunity for comment



*Friant Dam view from Millerton Lake side*

by interested parties. The purpose of this Technical Memorandum (TM) is to ensure that avoidance of take of Central Valley spring-run Chinook salmon originating from reintroduction to the San Joaquin River does not cause more than a de minimus impact on water supply, additional storage releases, and bypass flows associated with the operations of the Central Valley Project and State Water Project.

### **Water Management WG**

Working in collaboration with all technical WGs, the Water Management WG addresses water operations and activities for accomplishing the Restoration and Water Management goals. In 2014, this group continued work on the following: Investment Strategy; Unreleased Restoration Flows; Recapture and Recirculation environmental compliance; canal improvement projects; and, financial assistance for local projects.

Accomplishments in 2014:

- Completed five Water Management public Technical Feedback Group meetings, holding at least one meeting per quarter.
- Completed a temporary intertie between the Friant-Kern Canal and the Gould Canal.

- Banked and delivered 11,425 acre-feet of URFs for human health and safety, as well as critical irrigation needs.
- Recaptured and recirculated about 90,000 acre-feet of Interim Flows in contract year 2013 (March 2013 through February 2014).
- Initiated long-term recapture and recirculation planning and environmental compliance efforts.
- Continued progress on the:
  - Final designs for the Friant-Kern Canal Capacity Restoration Project;
  - Feasibility Study for the Madera Canal Capacity Restoration Project.



*Friant-Kern Canal*

# 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 2014 are described below.

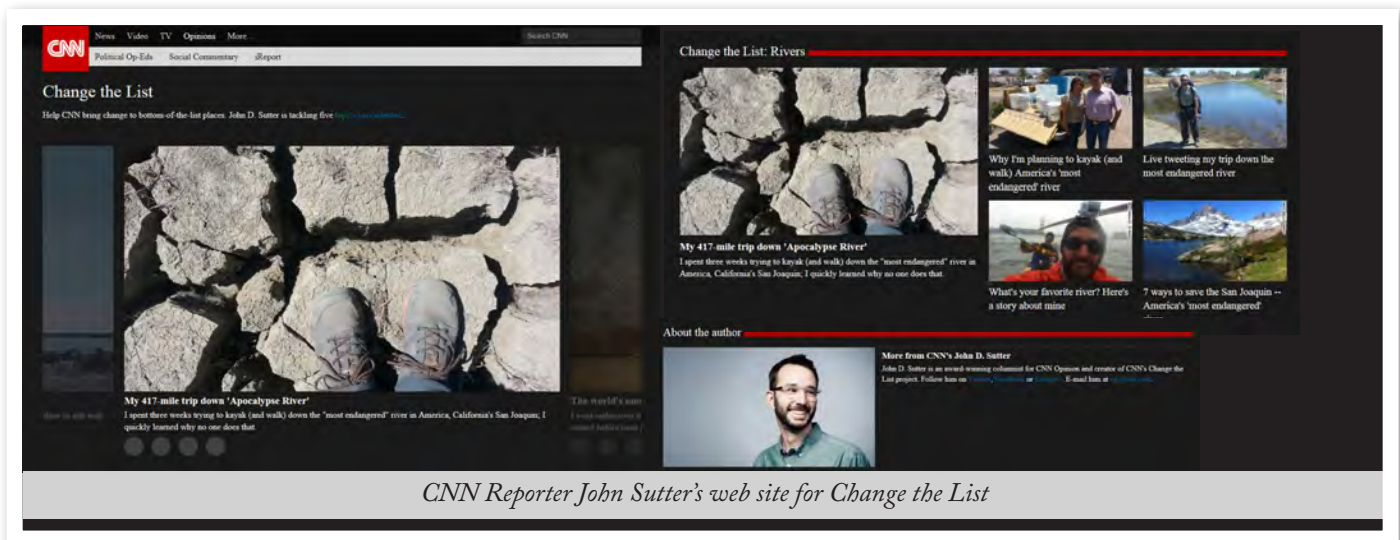
## Media Highlights

Early in 2014, the SJRRP Office was contacted by John Sutter, columnist for CNN Opinion – an online CNN resource. His readers had voted on five topics for him to focus on in 2014, the fifth being America’s most endangered river. The San Joaquin River was reported as the most endangered river on American Rivers’ list in 2014, so he decided to investigate it by taking a long and difficult trek from the headwaters of the San Joaquin River high in the Sierra Mountains to the San Francisco Bay.

On June 13, Reclamation staff gave Sutter a tour that included visiting Friant Dam, a boat ride across Millerton Lake to survey the area of the proposed temperance flat dam location, and the DFW fish hatchery. Discussions included the Central Valley Project and the SJRRP’s role in restoring the SJR.



*Reclamation employee Mario Manzo talks with CNN Reporter John Sutter on top of Friant Dam*



*CNN Reporter John Sutter's web site for Change the List*

Sutter documented his entire trek that took several weeks on his CNN online web site – a difficult and fascinating trip to read about.: <http://www.cnn.com/specials/opinion/change-the-list>.



Sutter talks with Gerald Hatler, DFW

Several articles throughout the year were published in the *Fresno Bee* as they tracked Program activities and progress, including an April 16 article on the juvenile spring-run salmon release and a July 13 article on the juvenile trap and haul efforts. Coverage also included local Fresno broadcast stations, The *San Francisco Chronicle*, and the *Stockton Record*.

### Documents Released in 2014

The SJRRP developed numerous key program documents in 2014. These documents were posted on the Program website to facilitate early coordination and interaction with the Settling Parties, Third Parties, other stakeholders, and interested members of the public regarding projects, activities, and initial concepts and approaches under consideration.

Program documents can be found on the SJRRP website at: [www.restorestjr.net/program\\_library/02-Program\\_Docs/index.html](http://www.restorestjr.net/program_library/02-Program_Docs/index.html)



Documents page on SJRRP web site

### Technical Feedback Group Meetings

Technical Feedback Group (TFG) meetings continued throughout 2014 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: Fisheries Management, Restoration Goals, Seepage and Conveyance, and Water Management. Participation in TFG meetings is open to the public, including the Settling Parties, Third Parties, landowners and any stakeholders with an interest in the topic(s) being discussed.

- Technical Feedback Group Meetings Held in 2014

TECHNICAL FEEDBACK GROUP	DATES
Fisheries Management	April 17
Restoration Goal	March 20 and July 17
Seepage and Conveyance	January 31 and August 20
Water Management	January 22, April 18, July 18, September 19, November 21

### Landowner Meetings

The SJRRP periodically holds public meetings with landowners, landowner representatives, Program stakeholders and other interested parties in support of studies focused on accomplishing the goals and objectives of the Phase 1 projects defined in the Stipulation of Settlement. In 2014, Program staff held one meeting each in the communities of Firebaugh and Mendota for the Mendota Pool Bypass and Reach 2B Channel Improvements Project. These meetings reviewed the Project’s proposed Preferred Alternative for setback levees and bypass around Mendota Pool. This alternative will be fully described when the Draft EIS/R is released in 2015.

### Seepage Management Activities, Temporary Entry Permits and Well Agreement Coordination

Seepage management activities to support flows continued, including working with landowners to resolve seepage issues through easements or projects on their properties, as well as monitoring of shallow groundwater wells to address seepage concerns and expanding of the groundwater monitoring network on public and private property to better understand changes in shallow groundwater conditions.

Within the Restoration Area is a diverse array of residential, agricultural, commercial, non-profit, and local, regional, state and Federal government agency land ownership. Adding to the complexity is a mix of state-federal flood management channels (referred to as the State Plan of Flood Control), whose ownership is a mixture of fee-title and flood flowage easements. Access to property along the river for purposes of preconstruction surveys and investigations is facilitated on behalf of the Implementing Agencies, Cooperating Agencies and contractor staff by the Program's landowner coordinator. Established in 2006, the Program's landowner coordinator serves as a single point of contact for landowners and Third Parties for all field activities and landowner meetings. With the exception of a portion of the river between the Reach 4B headgates at Sand Slough and the San Luis Wildlife Refuge Complex boundary, all significant river and bypass locations are accessible to Program representatives via agreement with the landowner, through inter-agency agreement with other government/non-profit entities, or via lands held in the public trust.

On-the-ground survey activities are guided by the terms and conditions of the SJRRP's TEPs, or separate agreement required by the landowner or agency. Two types of TEPs are implemented by the Program: Comprehensive and Discipline-specific.

The Discipline-specific TEP is a response to landowner desires to limit the number of authorized survey disciplines. One of the Discipline-specific TEPs, the Geologic Investigation TEP, was developed in 2009 to facilitate development of a groundwater monitoring network by the Program. The Geologic Investigation TEP is coupled with an SJRRP Monitoring Well Agreement, a 5-year agreement between Reclamation and the landowner for the temporary placement of a monitoring well on private property

with willing landowners. In addition to the term, the Monitoring Well Agreement defines the method for removal, the compensation for placement of the well, and the process for renewal of the agreement. The Geologic Investigation TEP is the most common Discipline-Specific TEP. Others have included terrain surveys, sediment sampling and removal, and soil surveys.

Beginning in 2014, monitoring well installations are focused in support of site-specific activities. This has included four wells installed to inform the design of a Reach 3 seepage project. These bring the number of groundwater monitoring wells installed since 2009 to 211 in all river reaches and the Eastside Bypass. The Program anticipates continuing installation of wells in support of seepage projects planned for Reaches 3, 4A and the Eastside Bypass. Thirty-six monitoring wells installed by the Program in 2009 will be reviewed for renewal or removal in 2015.

### Field Survey and Investigation Coordination

To support field surveys and investigations on private and public lands in 2014, the Program prepared and distributed 18 Field Activity Advisories and conducted one-on-one coordination with individual landowners and special interest groups for short-term field activities. Posted on the Program website and delivered electronically to landowners, landowner representatives and other interested parties, posted at public sites along the river and on publicly accessible bulletin boards. Field Activity Advisories are developed to highlight events that affect multiple landowners or have wide public interest. Field surveys that effect individual landowners are completed through direct permission and coordination with the landowner by the Program's landowner coordinator.

Examples of activities included quarterly inventory and monitoring of fish abundance and diversity, salmon trap and transport studies, levee stability geologic investigations, topographic studies, invasive species sampling, and others.

For a complete list of field advisories including field activity descriptions and time frames, please visit the SJRRP Field Activities web page at [www.restoresjr.net/activities/field/index.html](http://www.restoresjr.net/activities/field/index.html).



*Monitoring well*



## Program Information Distribution/Mailings

- Program Mailing List: to provide targeted information to individuals and groups, the Program maintains a mailing list of individuals, organizations, and public agencies who want to receive notification of Program activities. Interested individuals may submit their contact information at meetings, on printed material, and on the website. The list includes approximately 3,000 contacts.
- Program Updates: Two four-page Program Updates were developed for distribution to the mailing list and were posted on the Program website in June and December 2014.



- Press Releases: Several press releases were circulated in 2014 to highlight key activities and program milestones. These documents can be viewed in full on the SJRRP Newsroom webpage and highlighted following events:

- SJRRP's reduction of flows on February 1, one month early, in order to support an effort to move juvenile salmon from the upper river reaches to the downstream locations, where there is connectivity to the ocean (January 31, 2014).
- Availability of the Draft and Final Environmental Assessment (EA) for 2014 trap and transport of juvenile salmon in the San Joaquin River (February, 2014).
- Availability of the Final EA for 2014 Fresno Irrigation District's temporary pumping facility (March 25, 2014).
- Release by FWS and Reclamation of 54,000 hatchery produced juvenile spring-run Chinook salmon into the San Joaquin River for study (April 17, 2014).



<https://www.youtube.com/watch?v=J1NGvkW-Q34>

- SJRRP's work with the Central California Irrigation District on seepage projects to support the reestablishment and reconnection of flows in the San Joaquin River from Friant Dam to the Merced River confluence, as well as to provide for and maintain salmon and other fish populations in good condition below Friant Dam (August 28, 2014).
- SJRRP's work with CDM Smith to design seepage projects to reestablish and reconnect flows in the San Joaquin River from Friant Dam to the Merced River confluence, while also protecting landowners from root zone salinity and waterlogging impacts to their crops as a result of higher groundwater levels (October 1, 2014).

- 2013 SJRRP Annual Report released and publicly available on the web
- Web Site Updates and Maintenance: [www.restoresjr.net](http://www.restoresjr.net)

- Activity:
  - 13,981 sessions by 6,460 users; nearly 3 minutes per session;
  - 42,333 page views.
- Some information posted in Spanish.



## San Joaquin River Restoration Tour

Since 2009, Reclamation has co-sponsored the San Joaquin River Restoration Tour, a two-day event organized by the Water Education Foundation. The Foundation is an impartial, nonprofit organization dedicated to creating a better understanding of water resources and fostering public understanding and resolution of water resource issues. Tour attendees come from a variety of backgrounds and geographies including water agencies, government agency staff, legislative aids, contractors, students and the public. Held in the fall, the SJRR Tour explores



the 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. The tour covers a wide variety of technical and social topics including water project operations, salmon spawning and rearing, flood management, land subsidence, agricultural diversions, recreation, and gravel mining impacts. Stops for the Nov. 6-7, 2014, tour included Friant Dam, Interim San Joaquin River Salmon Conservation and Research Facility, Camp Pashayan, Chowchilla Bifurcation Structure, Chowchilla Canal subsidence, Mendota Pool, Sack Dam, Sand Slough Control Structure, the Reach 4B1 channel, Merced National Wildlife Refuge, and the Hills Ferry Barrier.



*Pat Manning talks about family history at her Reach 2B property*



*Bill Luce, consultant to FWA, talks with another tour participant*



*Reggie Hill, Lower San Joaquin Levee District, briefs participants in the Eastside Bypass*

## Salmon Festival Hosted by Trout Unlimited at Lost Lake

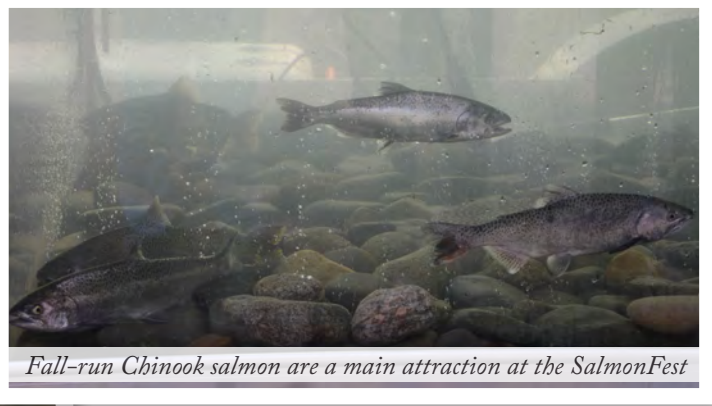
Trout Unlimited and the San Joaquin River Partnership held the second annual SalmonFest at Lost Lake Park near Fresno November 8. The public had the opportunity to learn about the SJRRP, hear about current updates on improvements to the river, and experience it. Activities included live music, fly casting lessons and competition, free canoe and kayak rides, kids art activities, a huge fish tank with salmon, and a 5K run along the beautiful river.



*DFW employee Pat Ferguson prepares the fish tank for the salmon*



*DFW employee Erica Meyers and son enjoy watching the salmon in the fish tank*



*Fall-run Chinook salmon are a main attraction at the SalmonFest*



*SJRRP staff Emily Thomas and Regina Story enjoy a canoe ride on the river. Canoes and kayaks were provided free of charge by the San Joaquin River Parkway and Conservation Trust for the event.*

# PROGRAM COSTS AND FUNDING

## Authorization and Funding

Federal participation in the SJRRP is authorized under the Central Valley Project Improvement Act (CVPIA) and the Settlement 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 Settlement Act, signed in March 2009, authorizes and directs the Secretary to implement the Settlement. Federal funding obligated for the SJRRP in Federal Fiscal Year (FY) 2014 for planning and environmental compliance activities was approximately \$36 million.

The State has committed its support of the Settlement by entering into the State MOU with the Settling Parties that outlines its collaborative role in planning, design, funding and implementation of the actions set forth in the Settlement. The State has committed to contributing about \$200 million for projects that

will directly contribute to the restoration efforts. State propositions 84 and 1E were passed by California voters and have provided a portion of these funds, including approximately \$7.9 million obligated in State Fiscal Year 2014.

	Approved FY 2007 to 2014	Obligated FY 2007 to 2014	Expended FY 2007 to 2014
<b>FEDERAL</b>	\$170,438,000	\$175,186,592	\$116,435,446
<b>STATE</b>			
DWR	\$49,670,150	\$46,749,349	\$39,657,252
DFW	\$37,911,608	\$ 678,207	\$18,538,895
<b>SUBTOTAL</b>	\$87,581,758	\$47,427,556	\$58,196,147
<b>TOTAL</b>	<b>*\$258,019,758</b>	<b>*\$222,614,148</b>	<b>\$174,631,593</b>

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.

## SJRRP Annual Report: Annual Budget Table for 2014 and 2015

SOURCE	FISCAL YEAR 2014 <sup>(2)</sup>	FISCAL YEAR 2015 <sup>(3)</sup>
<b>FEDERAL FUNDS</b>		
Reclamation <sup>(1)</sup>		
Central Valley Project Restoration Fund	\$2,000,000	\$2,031,057
San Joaquin River Restoration Fund	\$7,204,000	\$16,603,060
California Department of Water Resources	\$0	\$
Federal Appropriations	\$26,753,000	\$35,560,128
National Marine Fisheries Service	\$0	\$0
Protected Resources – Salmon	\$0	\$0
<b>FEDERAL SUB-TOTAL</b>	<b>\$35,957,000</b>	<b>\$52,163,188</b>
<b>STATE FUNDS</b>		
Dept. of Water Resources		
Proposition 1E		
Proposition 13		
Proposition 84	\$7,889,249	\$6,800,000
Dept. of Fish and Game		
Proposition 13	\$21,845	\$611,686
Proposition 84	\$9,500	\$2,844,197
<b>STATE SUB-TOTAL</b>	<b>\$7,920,594</b>	<b>\$10,255,883</b>
<b>TOTAL</b>	<b>\$43,877,594</b>	<b>\$62,419,071</b>

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.

Summary of Approved, Obligated and Expended – All Sources

1. Includes funding for FWS and NMFS participation.
2. Fiscal Year 2014 represent total funds obligated.
3. Fiscal Year 2015 represents total dollar amounts approved and carry-over and deobligated funds from FY 2014.

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

Throughout 2015, activities will continue across all aspects of the SJRRP. Continuing data collection activities, Program staff will monitor the shallow groundwater levels and work closely with landowners to address potential seepage concerns related to Restoration Flows. The Program anticipates being able to release about 70 cfs of water below Sack Dam in spring 2015. Environmental compliance documents are anticipated to be released for public review on a major channel improvement project in Reach 2B. Once constructed, the project will significantly improve the ability to move water through the river system and sustain fish habitat. Completion of environmental compliance documentation and significant progress towards issuance of a construction Financial Assistance Agreement for the Friant-Kern Canal Capacity Restoration Project is anticipated in 2015. The Madera Canal Capacity Restoration Feasibility Study will be completed. Extensive public outreach will continue with: public meetings that include focused topics; updates on the website, [www.restoresjr.net](http://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 2015 for the overall Program.

## 2015 and Beyond Program Activities

- 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:

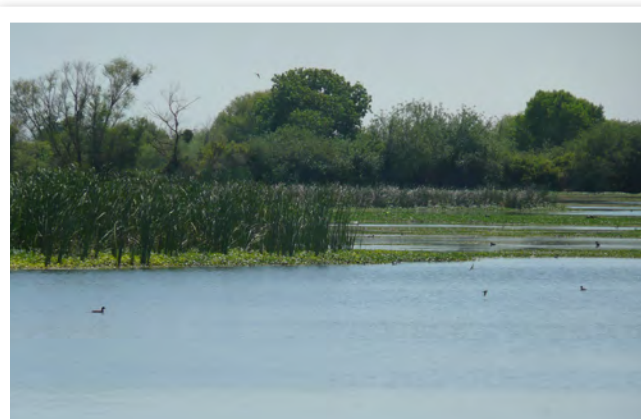
- **Mendota Pool Bypass and Reach 2B Channel Improvements Project**

As part of the analytical and evaluation support to prepare the Reach 2B site-specific environmental compliance documents, 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. The proposed alternatives were available in the Project Description TM that came out in 2012.

- Release of Draft EIS/R – late spring/summer 2015.

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

In 2015, 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 – 2017.
    - Develop preliminary designs for fish passage modifications for structures in the Eastside Bypass.
  - Continue water accounting and recovery activities to include: return of banked February 2014 Unreleased Restoration Flows; and recapture and recirculation when Restoration Flows resume.

- Continue efforts on the following projects in support of the Water Management Goal:
  - Madera Canal Capacity Feasibility Study: Continue the Madera Canal Capacity Restoration Feasibility Study. Finalization of the Feasibility Report and required environmental documents is expected by the end of the calendar year 2015.
  - Friant-Kern Canal Capacity Restoration Project – Cooperative Agreement between the SJRRP and the Friant Water Authority for construction on this project is expected in late 2015.
  - Recapture and Recirculation – Continue the NEPA process for Long-Term Recapture and Recirculation Actions.
- Continue to implement seepage projects as part of the Seepage Management Plan; continue holding Reach 3 and 4A landowner meetings and Seepage and Conveyance Technical Feedback Group Meetings as necessary to explore additional projects.
- Complete levee investigations on highest priority levees in Reach 2A, 4A, and the Eastside Bypass to assess the potential flood risk impacts of Restoration Flows and identify potential mitigation strategies to maintain acceptable flood risk management for the SJRRP. Initiate geotechnical data collection on secondary priority levees.
- Continue to monitor and evaluate channel capacity in the Restoration Area to include the impacts of subsidence.
- Continue all efforts supporting the reintroduction of fall and spring-run Chinook salmon to the San Joaquin River.



- Complete final design and environmental documents for the Sycamore Island Pond Isolation Project in collaboration with the San Joaquin River Conservancy.

- Continue environmental compliance and design for the Salmon Conservation and Research Facility water supply.
- Continue to implement Part III Groundwater financial assistance projects in collaboration with local agencies. 2015 efforts will include environmental compliance and design.
- Continue preparation of and agency coordination on the Riparian Habitat Mapping, Monitoring, and Mitigation Project that is part of the PEIS/R Conservation Strategy
- Continue implementation of the Steelhead Monitoring Plan and publish findings.
- Continue coordination efforts on an SJRRP Programmatic Agreement in compliance with Section 106 of the National Historic Preservation Act.
- Continue coordination on environmental compliance efforts for the first round of seepage projects, the Madera Canal Capacity Demonstration Project and Feasibility Study, and the FKC Capacity Restoration Project.
- Continue environmental compliance efforts for the Long-term Recapture and Recirculation Plan.
- Continue environmental compliance efforts for the Ten Year Transfer and Exchange of Recaptured Restoration Flows to Red Top.
- Start environmental compliance efforts for the FKC Reverse Pump project.
- Start environmental compliance efforts for SJRRP Program EIS/R mitigation measures, as appropriate (i.e. - boat ramps and fishing access improvements).
- Complete environmental compliance for MAP studies, as appropriate.
- Initiate or continue implementing study proposals in the MAP for 2015:

### Flow Management

- Flow Gage Record Analysis (Study 1; using funding from prior year);
- Temperature Monitoring of Cold Water Pool in Millerton Lake (Study 5);

### Conveyance

- Levee Geotechnical Exploration (Study 13);
- Additional Water Level Recorders (Study 24);
- Monitoring Cross-Section Resurveys (Study 25);
- Effect of Subsidence on Channel Capacity (Study 53);

## Predation

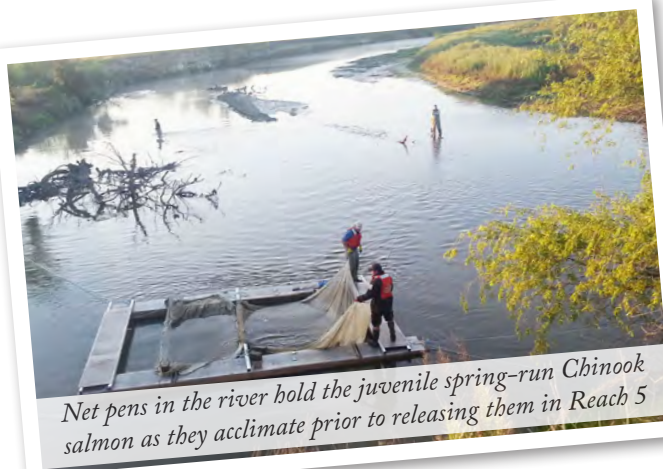
- Gravel Pit Delineation (Study 52);

## Rearing Habitat

- Effect of Altered Flow Regime on Channel Morphology in Reach 1A (Study 26);
- Effects of Riparian Forest on Water Temperature (Study 31);
- Reducing Spring Water Temperatures Below Sack Dam (Study 33);
- Floodplain Production Study (Study 35);
- Hydraulic and Sediment Transport Analysis of Juvenile Rearing Opportunities (Study 39; using funding from prior year);
- Deriving Vegetation Characteristics from LIDAR Data and Two-Dimensional Hydraulic Modeling of the SJR Floodplain (Study 50);

## Spawning and Incubation

- Egg Survival and Emergence (Study 8);
- Continuous surrogate Measurement of Bedload Sediment Transport using Hydrophone Installations on the San Joaquin River (Study 18);
- USGS Sediment Monitoring (Study 21);
- USGS San Joaquin River Tributary Sediment and Geomorphology (Study 22);
- Reach 1A Spawning Area Bed Mobility (Study 28);
- Effect of Scour and Deposition on Incubation Habitat in Reach 1A (Study 27);
- Spawning Habitat Suitability (Study 40);
- Spring-run Spawning Habitat – Sediment Mobility (Study 47);
- Sand Accumulation in spawning Gravels (Study 51);



## Fish Passage

- Non-structural Fish Passage Evaluation (Study 43, Appendix A);
- Juvenile Salmon Trap and Haul (Study 54);

## Fish Reintroduction

- Trap and Haul of Adult Fall-run Chinook (Study 6);
- Segregation Weir – Design, Location, Operations and Permitting (Study 36);
- USGS Assessment of Water Quality Data with Respect to Fish (Study 42);
- Wild Donor Stock Monitoring (Study 46);

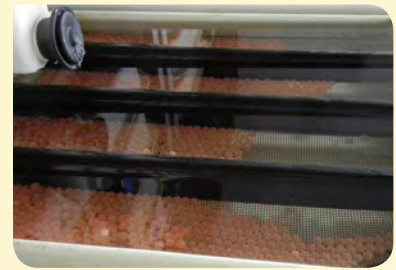
## Population Monitoring

- Steelhead Monitoring (Study 14);
- PIT Tag Feasibility (Study 15);
- Genetic Analysis for Spring and Fall-run Chinook (Study 49).



The MAP identifies strategies to address uncertainties associated with potential actions listed in the Framework. To organize potential actions under the SJRRP, the following themes describing objectives for accomplishing the Restoration and Water Management goals continue in 2015:

- **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, fish being trapped, or prohibiting fish from traveling to suitable habitat in time to reproduce.
- **Flow Scheduling** – 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.
- **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.
- **Population Monitoring** – Includes a number of monitoring activities to track the population status of salmon and other fish in the Restoration Area. These efforts will provide the basis to evaluate the success of restoration and fish reintroduction efforts.
- **Water Management** – Encompasses actions that include identifying, developing, and implementing projects and programs to reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors that may result from the Interim and Restoration flows provided for in the Settlement.



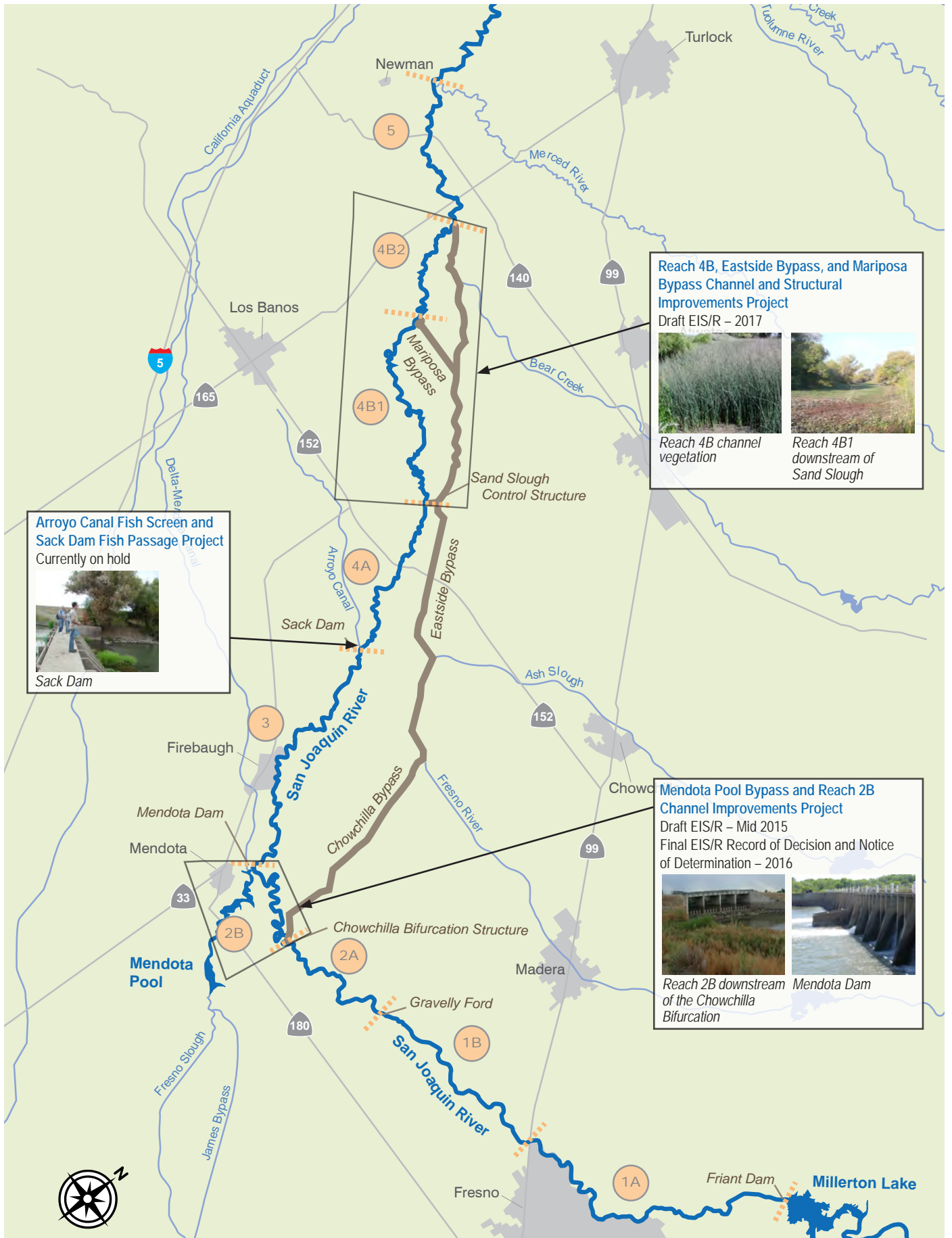


FIGURE 4 – STATUS OF KEY RIVER IMPROVEMENT PROJECTS

## Settlement 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. This stage has been completed.

**Stage 2** commenced in October 2009 with the release of Interim Flows. During Stage 2, the Interim Flows program continues to collect relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture, and reuse. Stage 2 also includes reintroducing spring-run and fall-run Chinook salmon and implementing Phase 1 channel improvements. Some construction will not be complete by the end of 2015. The Interim Flows component of this stage has been completed.

**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. Restoration Flows commenced on January 1, 2014, as called for in the Settlement. 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 many actions required by the Settlement were 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 in 2012. The goal of that effort was to re-focus the Program on core projects needed to implement the Settlement. That document, called the Third Parties Working Draft Framework for Implementation was made available publicly in June 2012.

In 2014, the Program again began coordinating with the Settling Parties and Third Parties to prioritize the core projects based on realistic amounts of state and federal funding. The update seeks to sequence projects and phases of projects based on realistic funding and resources in a logical order to achieve Program Goals. It will also be flexible enough to respond to increases and decreases in funding. The updated Framework is expected to be complete in spring/summer 2015.

## Public Involvement and Outreach

The SJRRP will continue to provide meaningful opportunities for public involvement and input into Program activities in 2015. The SJRRP website will continue to be updated regularly with Program documents, project updates, and information about upcoming meetings. The SJRRP will distribute, via e-mail and postal mail, regular Program Updates to keep the public informed of recent Program developments and upcoming involvement opportunities. Public meetings will be held to continue providing input and receiving feedback on SJRRP activities, allowing Program staff to address concerns and work toward identifying potential solutions.



*View of Millerton Lake from the top of Friant Dam*

## From the River to the Sea



In a poster contest Reclamation's Special Emphasis Program held to depict diversity, SJRRP employee Regina Story won with this submittal.

**SAN JOAQUIN RIVER**  
RESTORATION PROGRAM



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San Joaquin River Restoration Program  
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