SAN JOAQUIN RIVER RESTORATION PROGRAM

2013 ANNUAL REPORT

A YEAR OF TRANSITION

The Fresno Bee

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Young salmon, river restoration FINDING THEIR WAY

By Mark Grossi
The Fresno Bee

By Mark Grossi
The Fresno Bee

FRIANT — Donald Portz performs su- ... parking lot at Lost Lake near ... miles, his patients ... of their

Sometimes, that means standing next to a pickup truck near the river and surgically inserting tiny transmitters, or tags, into resilient juvenile salmon.

"We might lose one fish in a thousand," Portz said. "With these tags, we will be able to track these fish all their lives."

Following these 3-inch fish is a priority ... the fourth year of the restoration pro- ... scientifically important. And ... a program that has had ... such as construc- ... downstream ... both scientists and the San Joaquin Valley farm community now sharing the river with nature.

The river dried up for about 60 miles after Friant Dam was built in the late 1940s, and chinook salmon runs died. East Valley farmers, who need the river for irrigation, fought a losing court battle for nearly two decades before reluctantly signing a 2006 restoration agreement.

Their worry has always been about water losses, especially in dry times. After a second dry winter in a row, east-side farmers will have to live with about 55 percent of their high-priority water from ... Lake. What would that water ... without the restora-

PBS NEWSHOUR

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Money Flow Is Concern for California's San Joaquin River Restoration

July 12, 2013 Spencer Michels

Los Angeles Times

latimes.com

And then there was one Salmon Spawn in river

A chinock spawns in a once-dry stretch of the San Joaquin River, a sign of hope waterway's restoration will succeed

By Bettina Boxall

FRIANT, Calif. - About 10 miles downstream from Friant Dam, two men gently guided their drift boat toward a spot where the riverbed gravel looked as if it had been swept clean.

There, in about a foot of water, they spied something that had vanished from the San Joaquin River more than 60 years ago: a spawning chinook salmon.

"How sweet," said Matt Bigelow, an environmental scientist with the California Department of Fish and Wildlife. "I put in a lot of work ... this point."

It was ...

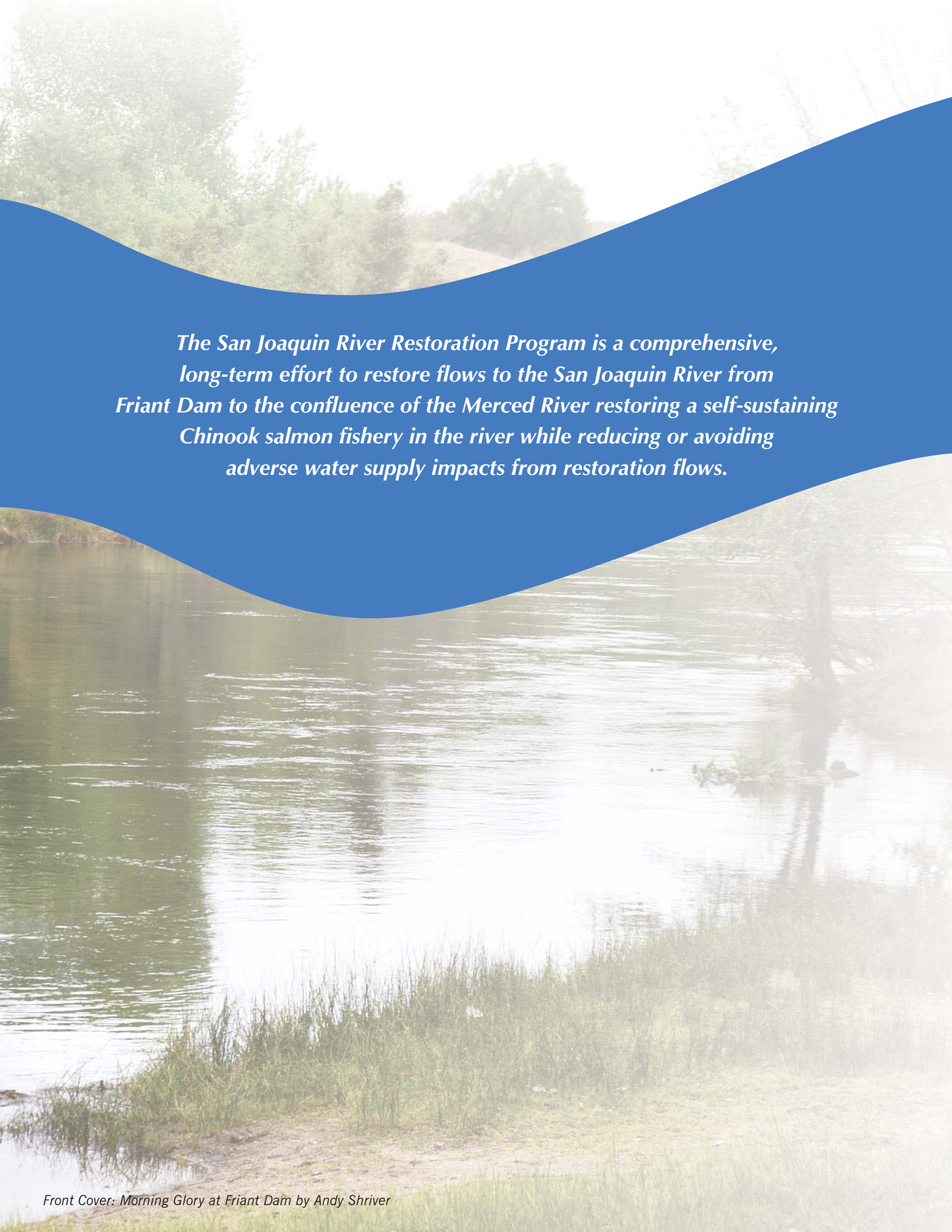
ful that farmers fed them to hogs. Settlers were kept awake at night by splashing fish as they struggled upstream to their spawning grounds.

The run dwindled as San Joaquin Valley agriculture sucked more and more water from the river system and hydropower dams blocked salmon from upstream passage. Then, in the 1940s, the U.S. Bureau of Reclamation ... erected Friant Dam as ... Central Valley Pro... irrigation ...

In the late 1980s, environmentalists went to court to get back some of the San Joaquin's water - and its salmon. Their legal arguments focused on an old provision of the state Fish and Game Code that required dam owners to release ... water downstream ... healthy fi...

[Salmon, from A1]

Stretches of the old ri... bed were choked w... shrubs and trees. In so... areas, the chan... burrowed in...



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.

Front Cover: Morning Glory at Friant Dam by Andy Shriver

Table of Contents

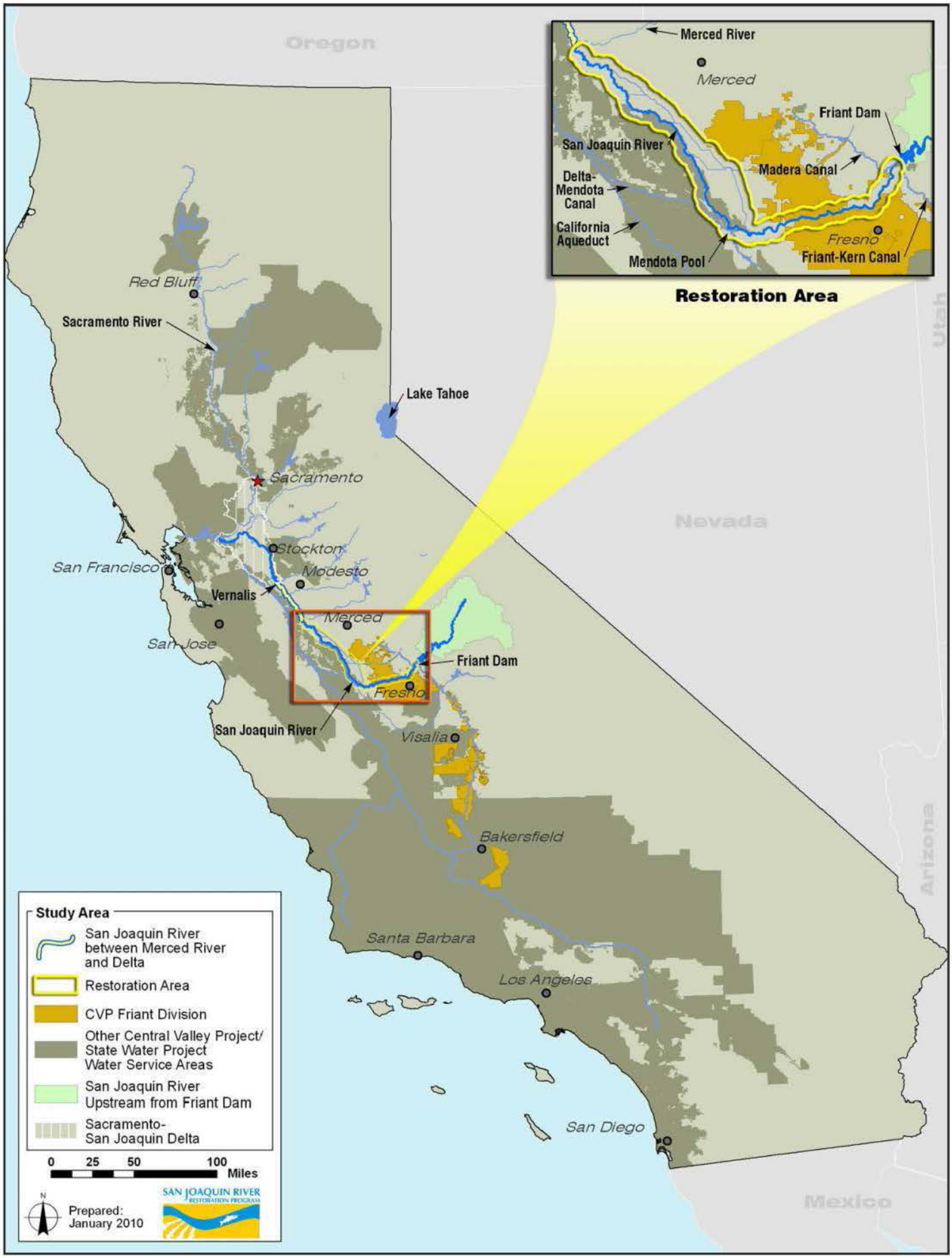


FIGURE 1 – MAP OF RIVER RESTORATION AREA

Milestones, Actions and Accomplishments

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 in *NRDC, 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.

Friant Dam

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.

MILESTONES AND ACTIONS ACROSS THE PROGRAM

Since 2007, the Program has reached many milestones and implemented actions that have had positive consequences beyond the Program goals. These actions include:

- Re-wetted the San Joaquin River for the first time in more than 60 years, providing additional recreational opportunities for communities and helping river-based economic uses, such as fishing and canoeing;
- Provided jobs for youth and farm workers through a $2 million grant to the San Joaquin River Parkway and Conservation Trust for invasive species removal;
- Increased greatly the knowledge of groundwater conditions along the river and provided soils, groundwater and other similar data free of charge to landowners along the river to help improve their operations. Discovered and continue to fund study activities related to the recent land subsidence area.
- Recaptured roughly 286,000 acre-feet or about 55 percent of the releases under the Program. Some of this water was recirculated to the Friant Contractors, and a large portion sold to contractors on the west-side of the San Joaquin Valley. This has helped diversify their water supply and, for some contractors, allowed them to carry over a portion of their 2013 supply into 2014.
- Sold more than 356,000 acre-feet of Recovered Water Account water at $10/acre-foot to Friant Contractors. This provided low-cost water for groundwater banking in preparation for dry years like the current one.

Alicia Forsythe interview with PBS NewsHour producer/correspondent Spencer Michels

- Funded operational and safety improvements to Mendota Dam and Sack Dam.
- Increased the knowledge of the capabilities of the Lower San Joaquin Flood Control Project and provided a better understanding of the potential actions to improve the flood system to better protect communities and adjacent farmland in the future.

The Program received considerable media attention in 2013. Coverage included a front page article in the *LA Times* on March 29 by Bettina Boxall, entitled And then there was one, front page article in the *Fresno Bee* on April 13 by Mark Grossi, entitled Young salmon, river restoration — finding their way, and national attention when *PBS NewsHour* producer/correspondent Spencer Michels featured the SJRRP on his program in spring 2013. Dozens of other articles covered everything from subsidence to water supply issues and restoring salmon to the San Joaquin River.

KEY ACCOMPLISHMENTS: WATER MANAGEMENT GOAL

- Completed the Restoration Flow Guidelines by the Settlement deadline of December 31, 2013.
- Recaptured and recirculated roughly 90,000 acre-feet of interim flows by the end of the water contract year (March 2013 through February 2014).
- Awarded $14.3 million in financial assistance under Part III of the Settlement Act to cost-share four groundwater banking projects in the San Joaquin Valley.
- Completed the Draft and Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Recirculation of Recaptured Water Year 2013-2017 SJRRP Flows.
- Completed the Draft and Final EA and FONSI for a Temporary One-year Transfer and Exchange of Recaptured SJRRP Flows from Madera Irrigation District and Chowchilla Water District to Red Top.

KEY ACCOMPLISHMENTS: RESTORATION GOAL

- Released 176,104 acre-feet of Interim Flows in Water Year 2013, and 62,729 acre-feet 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 more than 300 fall-run Chinook salmon above the Merced River confluence to spawning areas just below Friant Dam as part of the second Trap and Transport Study from October through December.
- Completed the Endangered Species Act 10(j) and 4(d) rule process (NMFS) – a key step to being able to release spring-run Chinook salmon into the San Joaquin River in 2014.
- Completed modifications to Reclamation's water rights at Friant Dam to implement the SJRRP on a long-term basis to allow for Restoration Flows.
- Completed an EA, FONSI, and Financial Assistance Agreement for Operations and Maintenance Funding for the Interim San Joaquin Salmon Conservation and Research Facility (CDFW).
- Completed the Salmon Conservation and Research Facility Permanent Flow Delivery Appraisal Study.

Reclamation Awards Financial Assistance for Groundwater Banking

Reclamation selected four groundwater banking projects that will receive an estimated $14.3 million in cost-share funding under Part III of the Settlement Act. Combined with local cost-share contributions, more than $39.6 million in water management improvements will be implemented through these projects for Friant Division water contractors in the San Joaquin Valley.

The selected projects are projected to yield more than 760,000 acre-feet of water during their 30-year project life-cycle. Local water districts will implement these projects to increase and improve water supplies as part of meeting the SJRRP's 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 and restoration flows provided for in the Settlement.

The four projects are:

Tulare Irrigation District, $1,948,891 – Tulare Irrigation District, along with Kaweah Delta Water Conservation District, plans to construct the 60-acre Cordeniz Basin and realign a portion of the Serpa Ditch to increase the district's ability to recharge groundwater. The project also includes a Groundwater Recharge Capacity Study, a Groundwater Basin Strategic Plan, and developing an Exchange Program to bank water underground in wet years in exchange for dry year surface supplies. The project's annual yield will be about 8,500 acre-feet.

Shafter-Wasco Irrigation District, $5,000,000 – Shafter-Wasco Irrigation District, along with Delano-Earlimart Irrigation District, Kern-Tulare Water District, and Semitropic Water Storage District, plans to construct the Madera Avenue Intertie, a conveyance alternative identified in the Poso Creek Integrated Regional Water Management Plan, completed in 2007. The intertie will be a bi-directional 50-cubic feet per second pipeline and pumping plant linking the Friant-Kern Canal with the California Aqueduct, including connection to Semitropic Water Storage District groundwater banking facilities. The project's annual yield will be about 11,000 acre-feet.

Porterville Irrigation District, $737,035 – Porterville Irrigation District plans to build new service pipelines and channels to bring surface supplies to an 1,800 acre in-lieu service area currently relying on groundwater pumping. The project's annual yield will be about 2,500 acre-feet.

Pixley Irrigation District, $5,000,000 – Pixley Irrigation District, along with Delano-Earlimart Irrigation District, plans to construct a Joint Groundwater Bank initially investigated in a Reconnaissance Study completed in 2008. The project includes 170 acres of new recharge basins, recovery wells, a pump station, and pipeline connecting to the Friant-Kern Canal. This is the first phase of the project identified which could eventually be expanded to include additional recharge and recovery capacity. The project's annual yield will be about 3,100 acre-feet.

- Completed a Final EA/Initial Study and signed the FONSI for the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project.
- Completed the Draft Channel Capacity Report for the 2014 Restoration Year.
- Completed the Final Riparian Habitat Mapping, Monitoring, and Mitigation Plan - Technical Implementation and Planning Approach Report.
- Implemented studies from the 2013 Monitoring and Analysis Plan.
- Finalized the 2014 Monitoring and Analysis Plan for all of the study activities for 2014.

KEY ACCOMPLISHMENTS: FLOWS IMPLEMENTATION

The fourth and final year of Interim Flows began on October 1, 2012, and concluded on December 31, 2013. Data collection continued, including water temperature, groundwater levels, sediment, water quality, dissolved oxygen and biological studies. Seepage management activities to support interim 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. Key flow implementation accomplishments include the following:

Flows from Friant Dam

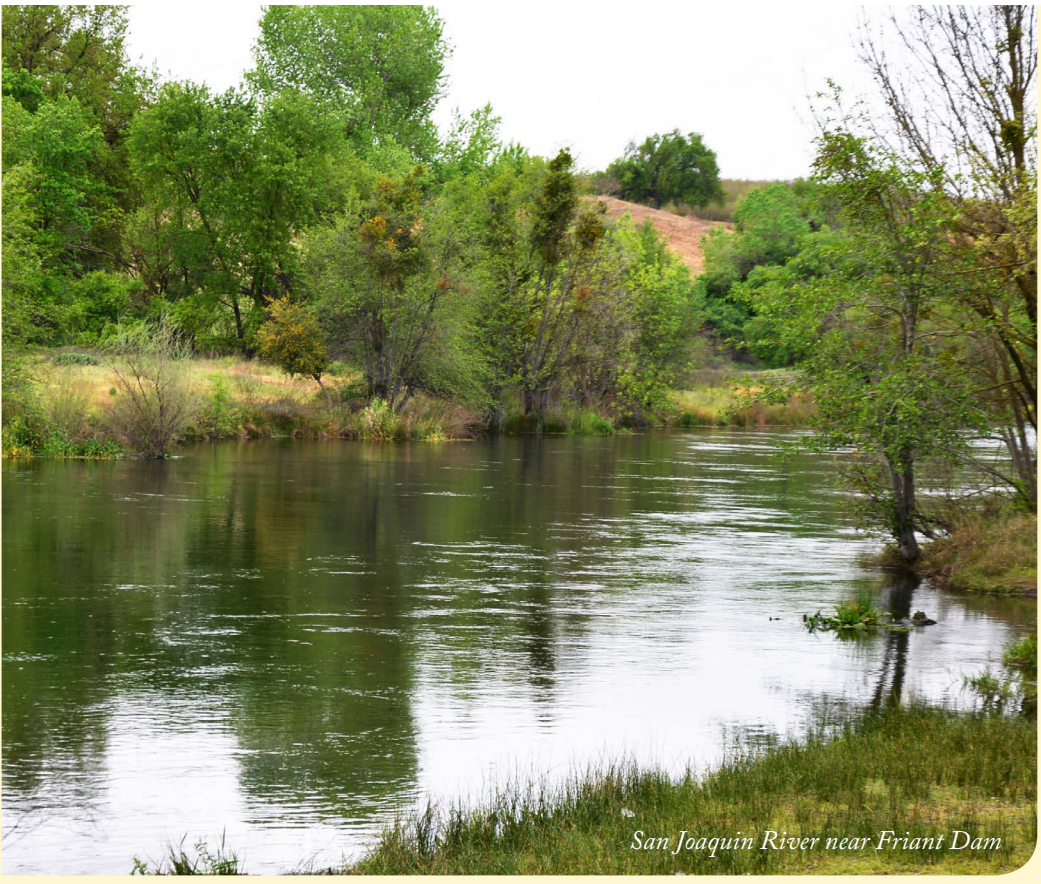
- Completed the Restoration Flow Guidelines on the Settlement schedule in preparation for Restoration Flows, which began on January 1, 2014.
- Completed three of eight flowage easements needed to allow flows below Sack Dam and reconnect the river once again in spring 2015
- Updated the Seepage Management Plan with thresholds based on groundwater levels without flow in the river.
- Allocated and operated Interim Flow releases for 2013, including spring and fall pulse flows
- 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, 192 individual groundwater monitoring wells, 48 locations measuring groundwater temperature, and approximately 100 surface-water temperature monitoring locations.
- Installed 10 monitoring wells extending the total well network to 192 wells that includes 15 wells re-monitored from the 2002 pilot project, 12 private wells, and several CCID monitored regularly by the SJRRP

Other key Program documents released include the Final Fiscal Year 2013 Annual Work Plan and the Draft and Final Fiscal Year 2014 Annual Work Plan.

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 Interim and Restoration flows and perform physical improvements to support fisheries.



San Joaquin River near Friant Dam

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

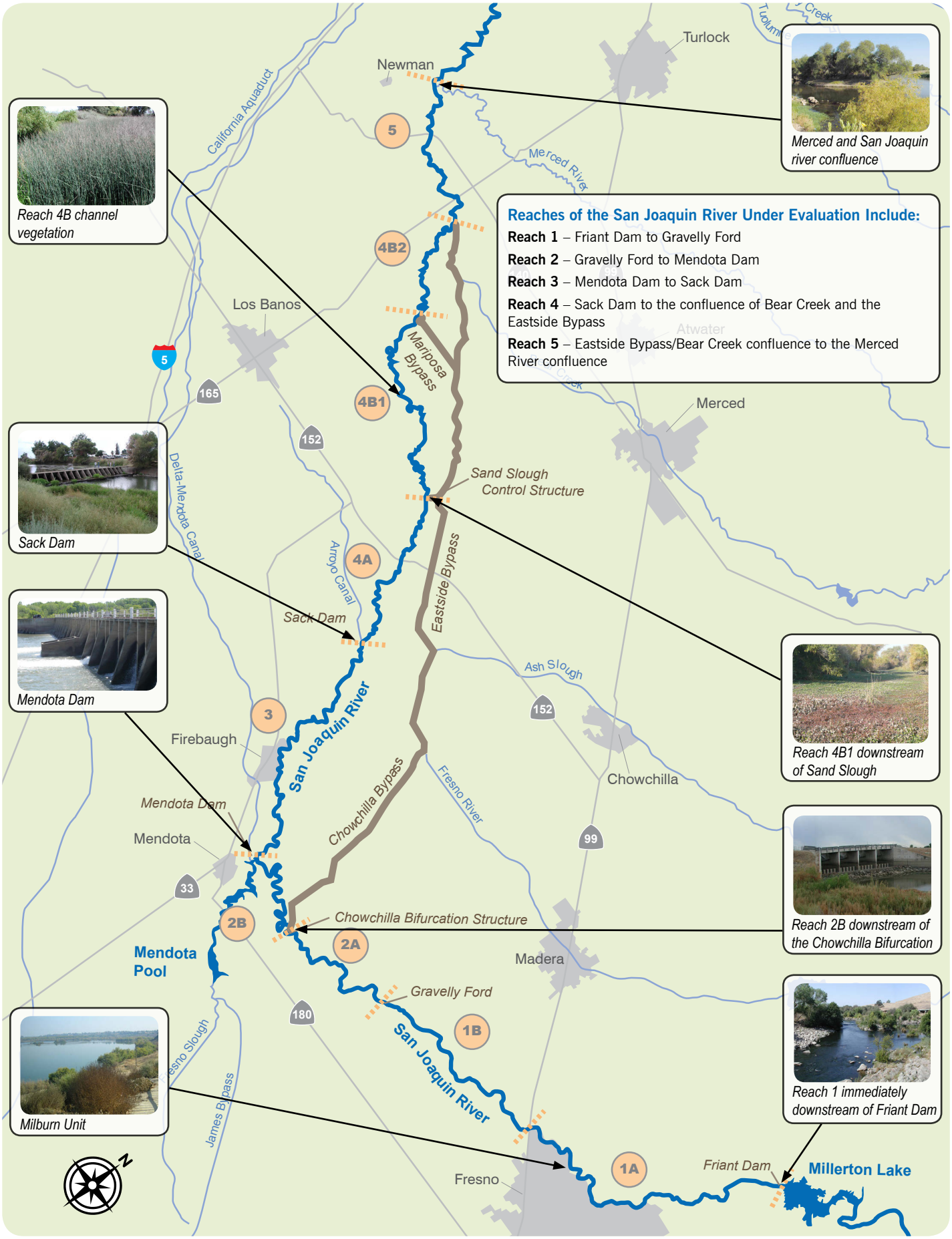


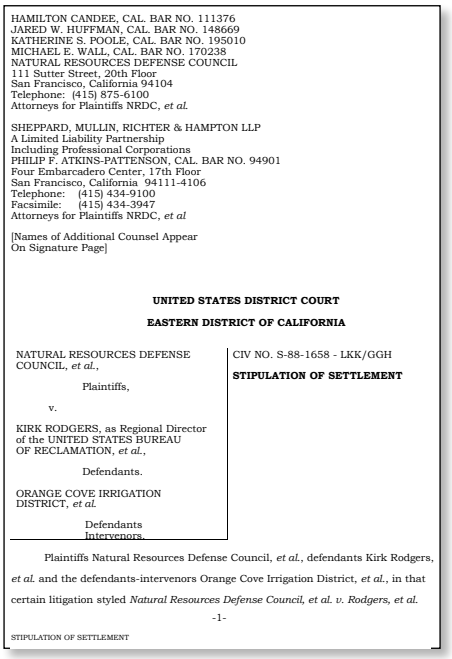
FIGURE 2 - MAP OF RIVER RESTORATION AREA

THE SETTLEMENT

In 1988, a coalition of environmental groups, led by the 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, known as *Natural Resources Defense Council, 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), 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.



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On Signature Page]

UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF CALIFORNIA

NATURAL RESOURCES DEFENSE COUNCIL, *et al.*,

Plaintiffs,

v.

KIRK RODGERS, as Regional Director of the UNITED STATES BUREAU OF RECLAMATION, *et al.*,

Defendants.

ORANGE COVE IRRIGATION DISTRICT, *et al.*

Defendants Intervenors.

CIV NO. S-88-1658 - LKK/GGH

STIPULATION OF SETTLEMENT

Plaintiffs Natural Resources Defense Council, *et al.*, defendants Kirk Rodgers, *et al.* and the defendants-intervenors Orange Cove Irrigation District, *et al.*, in that certain litigation styled *Natural Resources Defense Council, et al. v. Rodgers, et al.*

-1-

STIPULATION OF 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 of the Interior to implement the Settlement.

The program established to do that is the San Joaquin River Restoration Program (SJRRP or Program), and the Implementing Agencies responsible for the management of the Program 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:
  - Water Management
  - Engineering and Design
  - Environmental Compliance and Permitting
  - Fisheries Management

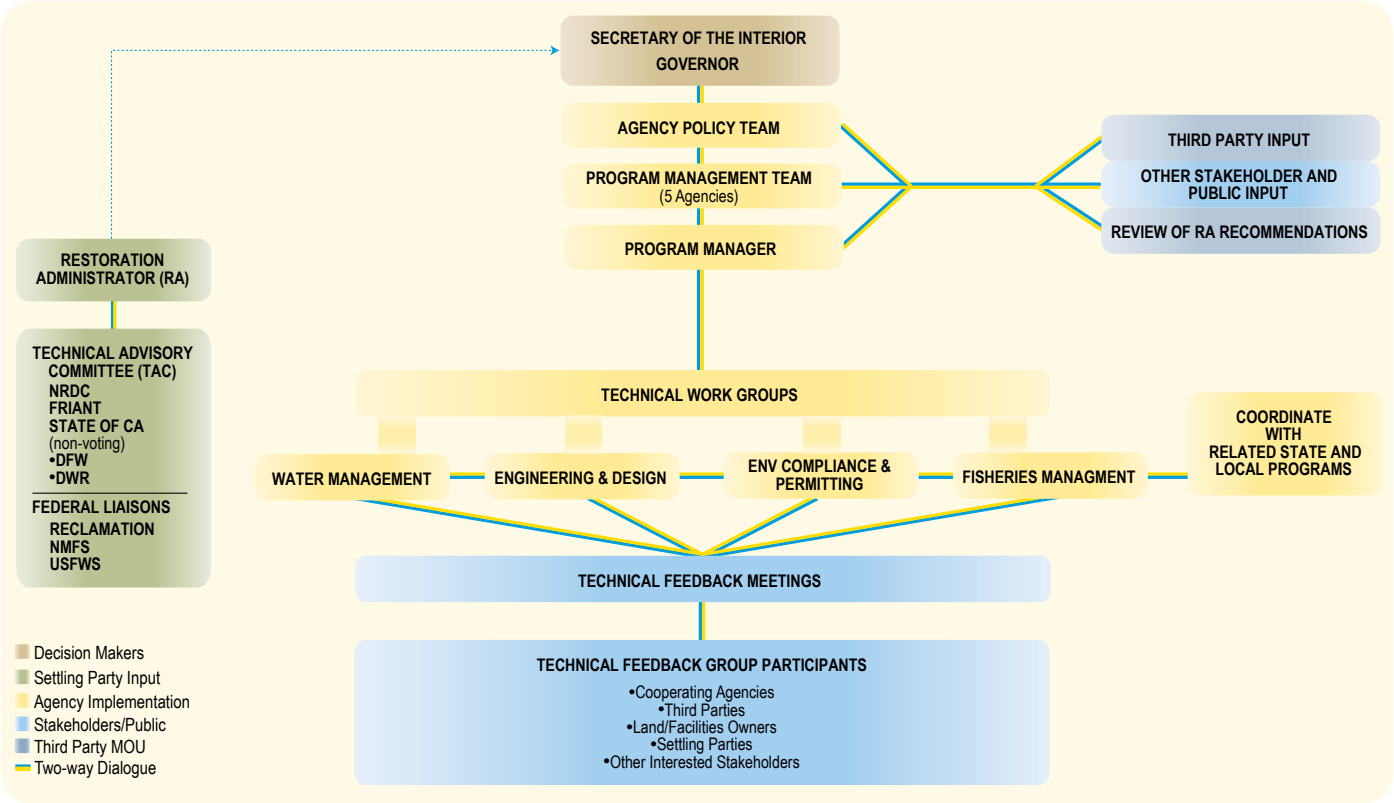

FIGURE 3 – PROGRAM ORGANIZATIONAL CHART

PROGRAM MANAGEMENT TEAM

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CALIFORNIA DEPARTMENT OF WATER RESOURCES (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 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 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 2013* - In accordance with the Settlement, the RA submitted the following recommendations to the SJRRP, after consultation with the TAC:
  - » Fall 2013 RA Flow Recommendation - October 22
  - » SJRRP Allocation and Default Schedule - June 11
  - » SJRRP Allocation and Default Schedule - May 17
  - » SJRRP Allocation and Default Schedule - May 15
  - » RA Interim Flow Program Recommendations - May 10
  - » RA Interim Flow Program Recommendations - April 30

Tom Johnson assumed the Restoration Administrator role August 1, 2013

RESTORATION ADMINISTRATOR AND TECHNICAL ADVISORY COMMITTEE

RESTORATION ADMINISTRATOR

Tom Johnson (as of August 1, 2013)

Voting Members

Monty Schmitt – Senior Water Resources Scientist, NRDC
Bill Luce – Consulting Resources Manager, Friant Water Authority
Scott McBain – McBain and Associates
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

» RA Interim Flow Program Recommendations - April 12
» RA 2012 Annual Report - April 22
» Updated March 2013 RA Interim Flow Recommendation - March 20
» 2013 RA Interim Flow Recommendation - February 1

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.

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

Mendota Dam

Technical Work Group Progress and Accomplishments

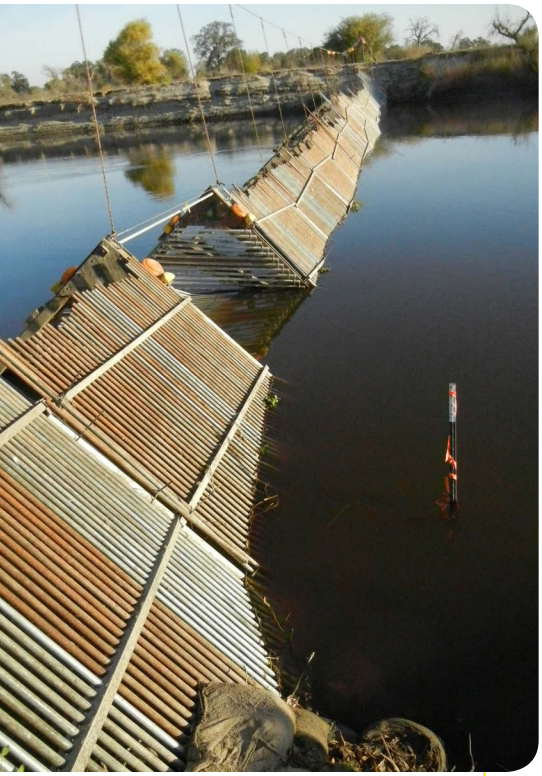
The four Technical Work Groups (WGs) of the SJRRP and their related subgroups contributed their areas expertise toward the development and implementation of Program activities. Listed below is a summary of each WG's focus and accomplishments for 2013.

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 2013, 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 2013:

- Completed quarterly Water Management public Technical Feedback Group meetings.
- Completed the Restoration Flows Guidelines by December 31, 2013, which includes specific operational guidelines for releasing Restoration Flows and the framework for a Recovered Water Account.
- 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 90,000 acre-feet of Interim Flows in contract year 2013 (March 2013 through February 2014).
- Continued progress on the:
  - » 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



Hills Ferry Barrier

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 2013 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 in 2013:

- Continued a study on juvenile Chinook salmon survival rates in the San Joaquin River
- Coordinated implementation of fishery elements of studies in 2013 MAP
- 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
- Continued providing input and guidance for an Ecosystem Diagnosis and Treatment quantitative model for the SJRRP
- Provided fisheries support for the development of the Restoration Flow Guidelines

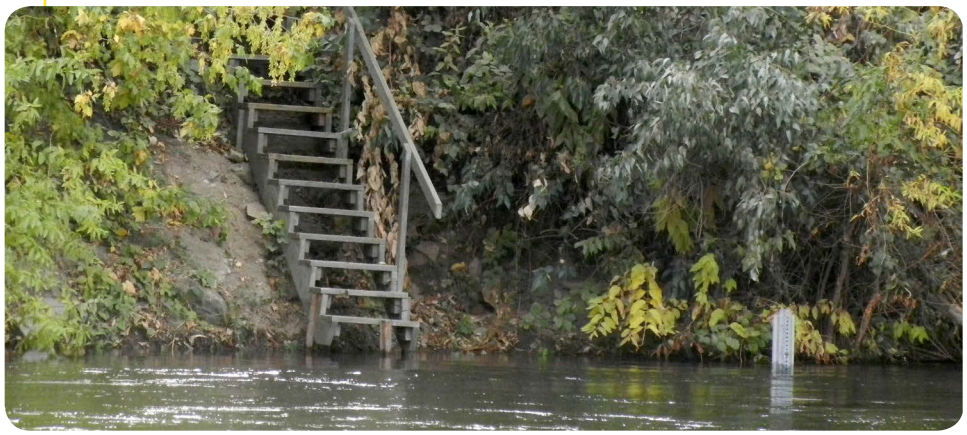
ENGINEERING AND DESIGN WG

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

Accomplishments on the site-specific projects in 2013 include:

- Mendota Pool Bypass and Reach 2B Channel Improvements Project
  - » Continued progress on the Draft of the EIS/R
  - » Held landowner and other stakeholder meetings
- Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project
  - » Continued progress on the Project Description Technical Memorandum (TM)
  - » Held landowner and other stakeholder meetings
- Arroyo Canal Fish Screen and Sack Dam Passage Project
  - » Completed EA/ IS in May 2013
  - » Signed FONSI in September 2013

A measuring gage in Reach 2 of the SJRR area



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 2013. 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 included:

- Completed the Recovered Water Account model and documentation for the Restoration Flow Guidelines.
- Completed Ecosystems Diagnostics and Treatment (EDT) fish simulations of Reach 2B and Mendota Pool Bypass project decisions.
- Development of approximately 300 foot grid-size MODFLOW- based groundwater model for regional areas on either side of the San Joaquin River and bypasses, a grandchild model of the Central Valley Hydrologic Model and a child model of SJRRP groundwater model.

Measurements are taken regularly at groundwater monitoring wells

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 increasing river flows. The subgroup focused on seepage projects and 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).

- Hosted two Seepage and Conveyance Technical Feedback Group meetings with an average of 20 participants at each. Participants included irrigation district managers, local landowners, agency staff, non-profits, and congressional staffers.
- Completed the Seepage Project Handbook ,which provides expectations, processes, and timelines for implementing seepage projects that would increase river channel capacity.
- Continued working with 14 landowners regarding evaluation of seepage on their properties, leading to seepage projects
- Completed three final site evaluations and preliminary designs to allow flow to pass below Sack Dam.
- Completed Water Quality sampling in 34 sites (nineteen wells, eight drain sumps, and seven surface water locations) to inform potential water quality impacts of interceptor line discharge water
- Completed a Design and Engineering Cost review
- Revised the Seepage Management Plan thresholds based on peer review suggestions
- Made seepage project realty agreement offers to three landowners
- Evaluated the condition of existing interceptor drains with a camera survey to inform future seepage project design

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

ENVIRONMENTAL COMPLIANCE AND PERMITTING WG

This WG 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.

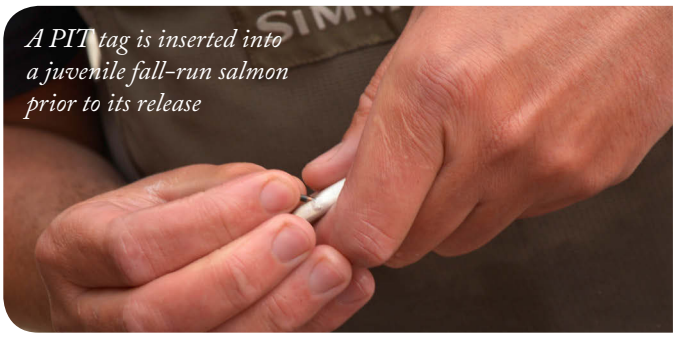
Accomplishments:

- Finalized an EA/IS and FONSI for the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project
- Completed an EA and FONSI for Operations and Maintenance of the Interim Salmon Conservation and Research Facility
- Completed an EA and FONSI for Recirculation of Recaptured Water Year 2013-2017 San Joaquin River Restoration Program Flows
- Obtained appropriate State and Federal compliance for multiple Monitoring and Analysis Plan studies
- Continued the Riparian Habitat Mapping, Monitoring, and Mitigation Project that is part of the PEIS/R Conservation Strategy
- Completed cultural resources review for all implemented projects
- Continued implementation of the Steelhead Monitoring Plan and published findings
- Continued to work on an SJRRP Programmatic Agreement for cultural resources.

SCIENTIFIC STUDIES CONDUCTED IN 2013

- Continued study of Juvenile Salmon Migration and Survival
- Continued study of Egg Survival Study and Evaluation of Spawning Habitat in Hyporheic Zone
- Continued Fish Passage Barrier Evaluation
- 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 2014 and made available on the Program's website at *www.restoresjr.net*.



A PIT tag is inserted into a juvenile fall-run salmon prior to its release

Key Documents Released in 2013

The SJRRP developed numerous key program documents and Technical Memoranda (TMs) in 2013. 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 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 2013

Restoration Flow Guidelines – December 2013

- This document describes procedures and guidelines developed to comply with Paragraph 13(j) of the Settlement. This includes additional provisions of the Settlement that address the management of Restoration Flows, which includes, but is not limited to, Paragraphs 13(a), (c), (e), (f), and (i). This document generally follows the structure of the Settlement, being organized into chapters related to specific paragraphs and subparagraphs therein. In the event of inconsistencies between these Restoration Flows Guidelines and the Settlement or the Settlement Act, the Settlement and Settlement Act shall govern.

2014 Final Monitoring and Analysis Plan – November 2013

- This Monitoring and Analysis Plan (MAP) is an annual update to SJRRP strategy to resolve uncertainties associated with flow scheduling, channel improvements, fisheries reintroduction, and water management on the San Joaquin River. The MAP presents both immediate and long-term objectives to address uncertainties associated with implementing the SJRRP. The immediate objectives of the MAP are to identify monitoring and analysis activities planned for 2014 to support implementation of the SJRRP, and to solicit feedback on 2014 activities through the public review process.

Final Fiscal Year 2014 Annual Work Plan – October 2013

- This Annual Work Plan (AWP) for Fiscal Year 2014 (FY 14) both describes and sequences the activities proposed by Reclamation, USFWS, NMFS, DWR and DFW (collectively, Implementing Agencies or Agencies) to undertake during FY 14 to implement the SJRRP.

Draft Environmental Impact Report; San Joaquin River Restoration Program: Salmon Conservation and Research Facility and Related Management Actions Project – October 2013

- CDFW prepared this DEIR to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Salmon Conservation and Research Facility and Related Fisheries Management Actions Project (Proposed Project). The purpose of the Proposed Project is to manage and conserve native salmon and their San Joaquin River habitats for their ecological significance, as well as enhance public recreation.

Draft Channel Capacity Report 2014 Restoration Year – September 27, 2013

- The primary objective of this report is to provide the Channel Capacity Advisory Group (CCAG) and the public a summary of the upcoming Restoration Year's data, methods, and estimated channel capacities and recommendations for monitoring and management actions. Identifying then-existing channel capacity is critically important to ensure the release of Interim and Restoration flows would not significantly increase flood risk in the Restoration Area. This report only considers flood risks associated with levee failure when estimating then-existing channel capacity; all other potential material impacts, including agricultural seepage, are addressed in other analyses.

SUMMARY OF DOCUMENTS RELEASED IN 2013 (CONT.)

Signed Finding of No Significant Impact for the SJRRP's Arroyo Canal Fish Screen and Sack Dam Fish Passage Project - Sept. 4, 2013

- Draft EA and FONSI available for review in April 2013. Final EA/IS completed in May 2013.
- Reclamation in cooperation with the Henry Miller Reclamation District #2131 (HMRD), proposes to replace Sack Dam and install a new fish screen structure in Arroyo Canal to accommodate fish passage in the San Joaquin River, in accordance with the Settlement.

Final Riparian Habitat Mapping, Monitoring, and Mitigation Plan - Technical Implementation and Planning Approach Report - July 2013

- In order to implement the Settlement, a comprehensive strategy for the conservation of listed and sensitive species and habitats was prepared in the form of the Conservation Strategy, in coordination with the Implementing Agencies. One of the specific Conservation Measures, RHSNC-2(a), states that a Riparian Habitat Mitigation and Monitoring Plan for the SJRRP will be developed and implemented in coordination with DFW. The intent of riparian monitoring and mapping is to document and track the changes in riparian vegetation over time, and to develop a crediting mechanism that would benefit future SJRRP activities

Final Fiscal Year 2013 Annual Work Plan - July 2013

- This Annual Work Plan (AWP) for Fiscal Year 2013 (FY 13) both describes and sequences the activities proposed by Reclamation, USFWS, NMFS, DWR and DFW; (collectively, Implementing Agencies or Agencies) to undertake during FY 13 to implement the SJRRP.

Environmental Documents for Operations and Maintenance Funding for the SJRRP's Interim San Joaquin Salmon Conservation and Research Facility - July 2013

- Draft FONSI and EA were available for public review on July 1, 2013. FONSI signed and final EA completed on September 25, 2013.
- Reclamation proposes to fund operations and maintenance of the Interim San Joaquin Salmon Conservation and Research Facility to be constructed and operated by CDFW. The Interim Facility is a pilot-scale hatchery facility adjacent to the San Joaquin River Fish Hatchery, about one mile downstream of Friant Dam, in Fresno County. Operations and maintenance of the Interim Facility will include development and maintenance of a genetically diverse brood stock of spring-run Chinook salmon, and potentially fall run Chinook salmon. CDFW will also operate the Interim Facility to conduct and support research on conserving Chinook salmon species in the San Joaquin River Restoration Program Restoration Area.

Salmon Conservation and Research Facility Permanent Flow Delivery Appraisal Study - May 2013

- The objective of this Appraisal level study was to develop and evaluate the requirements and costs for two alternatives to deliver 20 cfs to a new salmon facility known as the Salmon Conservation and Research Facility. The designs and costs for these two alternatives were developed to the Appraisal level as defined by current Reclamation guidelines and standards.

Final Environmental Assessment and Finding of No Significant Impact, Temporary One-year Transfer and Exchange of Recaptured SJRRP Flows From Madera Irrigation District and Chowchilla Water District to Red Top - April 2013

- Draft EA and FONSI was available for review on March 22, 2013. FONSI signed and final EA completed on April 2, 2013.
- This project implements the provisions of the Settlement's Water Management Goal by facilitating a temporary one-year transfer and/or exchange of up to 20,000 acre-feet of recaptured SJRRP Interim and Restoration Flows from Madera Irrigation District and Chowchilla Water District to the Red Top area. This action will occur from April 1, 2013, through February 28, 2014. The need for the action is to reduce or avoid water supply impacts to Friant Contractors by providing mechanisms to ensure that recirculation, recapture, reuse, exchange, or transfer of Interim and Restoration Flows.

Final Environmental Assessment and Finding of No Significant Impact, Recirculation of Recaptured Water Year 2013-2017 SJRRP Flows - April 2013

- Draft EA and FONSI available for review on March 4, 2013. FONSI signed and final EA completed on April 1, 2013.
- Reclamation proposes to implement the provisions of the Settlement pertaining to the Water Management Goal for Water Years 2013-2017 Interim and Restoration Flows. The need for the action is to reduce or avoid water supply impacts to Friant Contractors by providing mechanisms to ensure that recirculation, recapture, reuse, exchange, or transfer of Interim and Restoration flows occurs.

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 2013 included:

TECHNICAL FEEDBACK GROUP MEETINGS

Technical Feedback Group (TFG) meetings continued throughout 2013 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, Third Parties, landowners and any stakeholders with an interest in the topic(s) being discussed.

Technical Feedback Group Meeting Dates (2013)

Technical Feedback Group	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Water Management				12				23		18		
Restoration Goals			21				18				21	
Fisheries Management			1			25						
Seepage and Conveyance		8		8								

LANDOWNER MEETINGS

To support progress in developing site-specific studies and communicate Program-level accomplishments, the SJRRP held several public meetings for landowners, landowner representatives, project stakeholders and other interested parties. Meetings were held in Fresno, Firebaugh, and Los Banos close to site-specific projects and surrounding landowners. These meetings pertained to the Mendota Pool Bypass and Reach 2B Channel Improvements Project, a Phase 1 activity called for in the Settlement.

The first landowner meeting was held January 29 at the Kings River Conservation District office in Fresno, and was attended by approximately 40 people. The session was scheduled to allow participants to also attend

An adult fall-run Chinook salmon is prepared for transport

a National Marine Fisheries Service public workshop on the proposed Endangered Species Act 10(j) and 4(d) rule package for introduction of spring-run Chinook salmon to the San Joaquin River below Friant Dam. In the Reach 2B meeting, Reclamation presented project and program updates, a description of the approach to the Reach 2B Consensus-Based Alternative process, shared project alternatives in the project description, and opened the floor for discussion. Landowners and interested stakeholders were given the opportunity to review and ask questions. Meeting staff emphasized that the consensus based alternative process is about getting stakeholder input to the preferred alternatives.

The second meeting was held in the City of Firebaugh on August 26 and attended by approximately 30 people. Meeting attendees saw presentations on the Mendota Pool bypass, and Reach 2B Project, and well as Reach 2B Geotechnical investigations. Discussion topics included the EIS/R process overview and schedule, the landowner recommended alternative review process, and flood management operations and coordination.

The final landowner meeting of 2013 was held on December 20 at the Los Banos Community Center. The meeting was attended by approximately 30 people, both in person and by conference call. Reclamation staff updated the participants on the Reach 2B EIS/R, ongoing geotechnical investigations in the region, and Mendota Pool and Reach 2B operations. Meeting attendees were also presented with an overview of levee and structure designs. Meeting discussion included the incorporation of the Consensus Based Alternative process, changes in flows due to water supply concerns, and the impacts of new potential new features in proposed alternatives.

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, in distribution and execution of a Comprehensive Temporary Entry Permit (TEP) for preconstruction surveys and investigations on private property. This permit replaced a version release 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. The year included the eighth round of monitoring well installation by the Program. This series included 24 wells in Reaches 2B, 3 and 4A on

parcels owned by five farming organizations. Separate from this round was the installation of three observation wells at selected points along the potential left bank levees for the Mendota Pool Bypass and Reach 2B Channel Improvements Project. These observation wells are intended to collect data to inform levee design and may be utilized as seepage monitoring wells following levee construction. With the completion of Round 8 monitoring wells and the three observation wells, the Program has completed installation 207 wells. No bulk installation of wells is scheduled for 2014.

SEEPAGE PROJECT COORDINATION

During 2013, Program staff initiated projects in Reaches 3, 4A and the Eastside Bypass to begin implementation of seepage management projects at properties believed to be impacted at river flows of up to 4,500 cubic feet per second (cfs). Coordination with owners of the remaining nine properties will be initiated as projects are implemented and completed at higher priority locations. The table shows a summary of seepage project process as of January 2014.

Flow	# Projects	Site Visits Performed	Targeted Monitoring Begun	Site Evaluations Begun	Preliminary Designs Completed
>300 cfs	3	3	3	3	3
300 - 700 cfs	2	2	2	2	
700 - 1,300 cfs	6	5	3	2	
1,300 - 2,000 cfs	11	4	3	1	
2,000 - 4,500 cfs	70	1	1		
Total	**92**	**15**	**12**	**8**	**3**

*Based on initial parcel prioritization

FIELD SURVEY AND INVESTIGATION COORDINATION

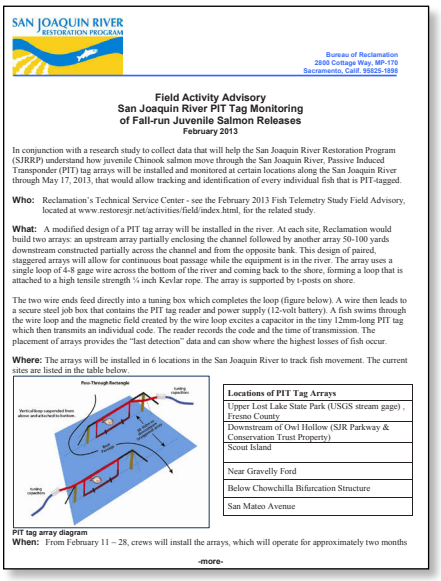
To support field surveys and investigations on private and public lands in 2013, the Program initiated the preparation and distribution of Field Advisories and performed one-on-one coordination with individual landowners for field activities. Field Advisories are developed to inform landowners and other interested parties of upcoming activities.

2013 Field Advisories include the following:

- **January 7-18 –** Inventory and Monitoring of Fish Abundance and Diversity *Reclamation, FWS, and DFG*
- **January, February, March –** Central Valley Steelhead Detection and Monitoring Study
  Reclamation and DFW
- **February 4-March 16 –** receiver installation {receivers removed by July 31); Fish Telemetry Study to track fish movement around bypasses, canals, and captured mine pit areas
  FWS and CDFW
- **February 18-June 6 –** Predator Assessment from River Mile 260 to River Mile 231
  FWS and CDFW
- **February 11-18 installed; removed by May 17** – Updated PIT Tag Monitoring of Fall-run Juvenile Salmon Releases
  Reclamation's Technical Service Center

- **March-July –** Updated San Joaquin River Rotary Screw Trap Study
  CDFW, Reclamation, FWS
- **March 25-April 5, 2013 –** Inventory and Monitoring of Fish Abundance and Diversity
  Reclamation, FWS, CDFG
- **March and July –** Juvenile Fall-run Chinook Salmon Releases
  FWS, CDFW, and Reclamation
- **May 13-15 and June 10-28 –** Riparian Habitat Mapping Project
  Reclamation, Stillwater Sciences
- **May 21, 22 –** Chowchilla and Eastside Bypass Surface Settlement Sampling
  DWR, Reclamation, Tetra-Tech Inc.
- **June 3-7 –** Waters of the United States Mapping and Wetland Investigations
  Reclamation and ICF International, Inc.
- **June 3-6 –** Verification Survey
  California State Lands Commission
- **June 3-14 –** Inventory and Monitoring of Fish Abundance and Diversity
  Reclamation, FWS, CDFW
- **October 1-December 15 –** Trap and Transport and Streamside Spawning of Adult Fall-run Chinook Salmon
  Reclamation, FWS, CDFW
- **October 1-10 –** Inventory and Monitoring of Fish Abundance and Diversity
  Reclamation, FWS, CDFW
- **September 30-November 8 –** Reach 2a, Chowchilla, Eastside and Mariposa Bypass Surveys
  DWR, Provost and Pritchard
- **October 14-November 15 –** Reach 4A Topographic Surveys
  DWR, Provost and Pritchard
- **December 2-January 2014 –** Salmon Egg Survival and Emergence in Reach 1
  FWS, Reclamation

Reclamation acquired a boat with specialized equipment for study activities in the river



SAN JOAQUIN RIVER RESTORATION PROGRAM

Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, Calif. 95825-1898

Field Activity Advisory
San Joaquin River PIT Tag Monitoring
of Fall-run Juvenile Salmon Releases
February 2013

In conjunction with a research study to collect data that will help the San Joaquin River Restoration Program (SJRRP) understand how juvenile Chinook salmon move through the San Joaquin River, Passive Induced Transponder (PIT) tag arrays will be installed and monitored at certain locations along the San Joaquin River through May 17, 2013, that would allow tracking and identification of every individual fish that is PIT-tagged.

Who: Reclamation's Technical Service Center - see the February 2013 Fish Telemetry Study Field Advisory, located at www.restoresjr.net/activities/field/index.html, for the related study.

What: A modified design of a PIT tag array will be installed in the river. At each site, Reclamation would build two arrays: an upstream array partially enclosing the channel followed by another array 50-100 yards downstream constructed partially across the channel and from the opposite bank. This design of paired, staggered arrays will allow for continuous boat passage while the equipment is in the river. The array uses a single loop of 4-8 gage wire across the bottom of the river and coming back to the shore, forming a loop that is attached to a high tensile strength ¼ inch Kevlar rope. The array is supported by t-posts on shore.

The two wire ends feed directly into a tuning box which completes the loop (figure below). A wire then leads to a secure steel job box that contains the PIT tag reader and power supply (12-volt battery). A fish swims through the wire loop and the magnetic field created by the wire loop excites a capacitor in the tiny 12mm-long PIT tag which then transmits an individual code. The reader records the code and the time of transmission. The placement of arrays provides the "last detection" data and can show where the highest losses of fish occur.

Where: The arrays will be installed in 6 locations in the San Joaquin River to track fish movement. The current sites are listed in the table below.

Locations of PIT Tag Arrays
Upper Lost Lake State Park (USGS stream gage), Fresno County
Downstream of Owl Hollow (SJR Parkway & Conservation Trust Property)
Scout Island
Near Gravelly Ford
Below Chowchilla Bifurcation Structure
San Mateo Avenue

PIT tag array diagram

When: From February 11 – 28, crews will install the arrays, which will operate for approximately two months

-more-

Other field surveys and investigations conducted in 2013 with direct permission and coordination with landowners included:

▶ Monthly:

» Water temperature data-logger site visits for download and service
CDFW

» Groundwater monitoring well site visits for download and service
Reclamation

▶ Bi-Annual:

» Pressure transducer data retrieval and maintenance in Reach 1B
DWR

▶ January:

» Year 3 soil salinity surveys
Reclamation

» Levee stability surveys in Reach 2A
DWR

» Reconditioning of access road to Hills Ferry Barrier
DWR

▶ February:

» Levee stability surveys in Reach 4A and Eastside Bypass
DWR

» Installation of vegetation piezometer wells in Reaches 1B and 4A
Reclamation

▶ March:

» Vegetation transect survey site visits in Reaches, 1B, 2A and 2B

» Floodplain productivity pilot study.
Reclamation

▶ April:

» Secondary Control Monument Recovery for Central Valley Floodplain Evaluation and Delineation;
DWR

» Piezometer well installation in Reach 4A
Reclamation

▶ May:

» Geologic investigations in Reach 4A and Eastside Bypass
DWR

» Water quality monitoring in Reaches 3 and 4A
Reclamation

▶ June:

» Vegetation Transect surveys in Reach 2B
Reclamation

▶ July:

» Design, Cost Estimation and Construction tour of Reaches 3 and 4A

» Streambed sediment mapping survey of Reach 1
Reclamation

▶ August:

» Round 8 groundwater monitoring well installation

Levee stability investigations of Eastside Bypass

Geologic investigation of Reach 2B

Reclamation

▶ November:

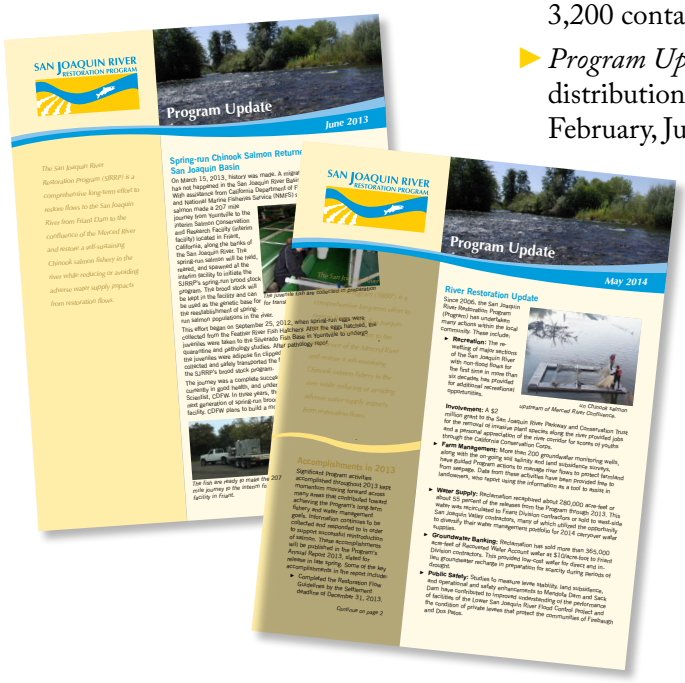
» Site investigation for potential construction of long-term juvenile fish collection facility in Reach 1B
FWS

» Micro-climate study of Reach 5
Reclamation

▶ December:

» Levee resistivity surveys in Reaches 2A and 4A and the Eastside Bypass
DWR

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 3,200 contacts.
- *Program Updates:* Three four-page *Program Updates* were developed for distribution to the mailing list and were posted on the Program website in February, June and October 2013.
- *Press Releases* distributed for the following events:
  - » Reclamation Releases Environmental Documents for Recirculation of Recaptured SJRRP Flows - March 4
  - » Reclamation Extends Comment Period on Draft Environmental Documents for Recirculation of Recaptured SJRRP Flows - March 8
  - » Reclamation Provides Funding Opportunity for Groundwater Banking Under the SJRRP Settlement Act - March 10
  - » Draft Environmental Documents Available for 1-year Water Transfer and Exchange from Madera Irrigation and Chowchilla Water Districts to Red Top - March 22
  - » Reclamation Releases Final Environmental Documents for Recirculation of Recaptured San Joaquin River Restoration Program Flows - April 1
  - » Final Environmental Documents Available for 1-year Water Transfer and Exchange from Madera Irrigation and Chowchilla Water Districts to Red Top - April 2
  - » Reclamation Releases Final EA/IS for the Arroyo Canal Fish Screen and Sack dam Fish Passage Project - May 17
  - » Reclamation Selects Recipients for Groundwater Banking Funding Under the San Joaquin River Restoration Settlement Act - June 7
  - » Reclamation Releases Environmental Documents for Operations and Maintenance Funding for the San Joaquin River Restoration Program's Interim San Joaquin Salmon Conservation and Research Facility - July 1
  - » Reclamation Signs Decision Document for the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project - September 4
  - » Reclamation Releases Environmental Documents for Operations and Maintenance Funding for the SJRRP's Interim San Joaquin Salmon Conservation and Research Facility - September 30
- *2012 SJRRP Annual Report* released and publicly available in April 2013

- *2013 Interim Flows Notifications*
  - *Email-Blast Notifications of Changes or Updates*
    - March 8
    - March 20
    - March 22
    - May 15
    - May 17
    - May 28
    - June 13
    - October 23
  - *Direct Phone Calls*
  - *Mailings of Interim Flows Fact Sheet to recreational businesses for posting to help notify the public*

- *Reclamation-produced Video:* Passive Induced Transponder Tag Monitoring showing how the fall-run juvenile Chinook salmon are PIT-tagged and released into the river for monitoring. The video, produced by Vernon Simpkins, can be viewed on the News and Information page of the website: *www.restoresjr.net/news*.
- *Other*
  - Some information on the website is available in Spanish: *www.restoresjr.net*.

Water Education Foundation SJRR tour participants talk with Rene Henery, Trout Unlimited, at a stop in Reach 2B

BALL RANCH FISHING PILOT PROJECT

Recognizing the need for more off-stream fishing locations once salmon are restored, Reclamation, on behalf of the SJRRP, provided financial assistance to the San Joaquin River Parkway & Conservation Trust, Inc., to fund a fishing pilot project at Ball Ranch in Fresno along the San Joaquin River to promote warm-water fishing opportunities and test the viability of recreational alternatives when gravel pits are filled or isolated in the future.

The River Parkway Trust, in cooperation with the SJR Conservancy, provided fishing access to the public in the Ball Ranch pond on the weekends late 2012 and mid-February through mid-April 2013.

SAN JOAQUIN RIVER RESTORATION TOUR

For the sixth year, Reclamation cosponsored a two-day San Joaquin River Restoration Tour organized by the Water Education Foundation. On November 7-8, 2013, 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 include Friant Dam, Interim San Joaquin River Salmon Conservation and Research Facility, Chowchilla Bifurcation and Canal, Mendota Pool, Sack Dam, Sand Slough Control Structure, and the Merced National Wildlife Refuge. Participants learned about water project operations, salmon spawning and rearing, flood management, agricultural diversions, and gravel mining impacts.

Water Education Foundation participants watch as an adult fall-run Chinook salmon is released into the upper reaches of the river after being transported from the Hills Ferry Barrier

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 of the Interior to implement the Settlement. Federal funding obligated for the SJRRP in Federal Fiscal Year (FY) 2013 for planning and environmental compliance activities was approximately $53 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. 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 $11 million was obligated in State FY 2013.

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

	Approved FY 2007 to 2013	Obligated FY 2007 to 2013	Expended FY 2007 to 2013
FEDERAL	$136,597,371	$117,472,943	$64,073,885
STATE			
DWR	$46,732,637	$38,762,336	$35,097,413
DFW	$19,297,213	$375,561	$16,355,869
SUBTOTAL	$66,029,850	$39,137,897	$51,453,282
TOTAL	**$202,627,221**	**$156,610,840**	**$115,527,167**

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.

SOURCE	FISCAL YEAR 2013[2]	FISCAL YEAR 2014[3]
FEDERAL FUNDS		
Reclamation[1]		
Central Valley Project Restoration Fund	$2,000,000	$2,000,000
San Joaquin River Restoration Fund	$34,660,000	$7,204,000
California Department of Water Resources	$1,105,444	$0
Federal Appropriations	$15,530,000	$26,753,000
National Marine Fisheries Service	$0	$0
Protected Resources – Salmon	$0	$0
FEDERAL SUB-TOTAL	**$53,295,444**	**$35,957,000**
STATE FUNDS		
Dept. of Water Resources		
Proposition 1E	$4,998,643	
Proposition 13		
Proposition 84	$3,866,700	$3,300,000
Dept. of Fish and Game		
Proposition 13	$713,915	$1,096,974
Proposition 84	$1,273,194	$2,800,000
STATE SUB-TOTAL	**$10,852,452**	**$7,196,974**
TOTAL	**$64,147,896**	**$43,153,974**

1. Includes funding for FWS and NMFS participation.
2. Fiscal Year 2013represent total funds obligated.
3. Fiscal Year 2014 represents total dollar amounts approved.

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

Lost Lake

2014 and Beyond

Throughout 2014, 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 documents will move forward on two major channel improvement projects in Reach 2B and Reach 4B. Once constructed, the projects will significantly improve the ability to move water through the river system and sustain fish habitat. Completed final designs for the Friant-Kern Canal Capacity Restoration Project are expected in 2014, followed by construction in early 2015. Extensive public outreach will continue with: public meetings that include Technical Feedback Group meetings on focused topics; 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 2014 for the overall Program.

2014 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 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. The proposed alternatives were available in the Project Description TM that came out in 2012.
    - Release of Draft EIS/R – early 2015
  - **Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project**
    In 2014, 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 – 2015

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

- Release of Final EA/IS – February 2013
- Project currently on hold awaiting potential re-design based on subsidence

- Begin releasing Restoration Flows on January 1, 2014. Continue water accounting and recovery activities to include: banking and return of February 2014 Unreleased Restoration Flows; 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: Initiate 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 2014.
  - » Recapture and Recirculation – Initiate 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 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.
- Continue environmental compliance and design for the Conservation Facility Water Supply.

Checking the nets for salmon

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 Genetic 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*.

- Implement Part III Groundwater financial assistance projects in collaboration with local agencies. 2014 efforts will include environmental compliance and design.
- Initiate or continue implementing study proposals in the Monitoring and Analysis Plan for 2014 ("Study" numbers below refer to the numbering in the 2014 MAP):

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)

» Riparian Microclimate Study (Study 31, Appendix A)

» Water Temperature Analysis (Study 33, Appendix A)

» Floodplain Production Study (Study 35, Appendix A)

Spawning and Incubation

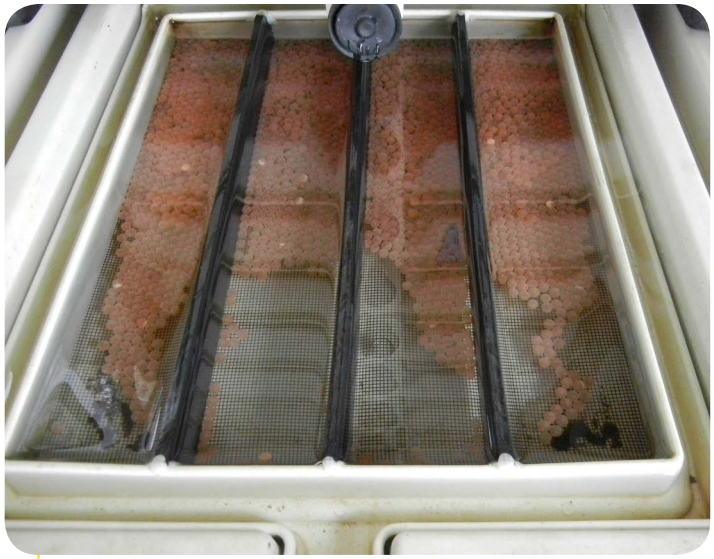
» Egg Survival (Study 8, Appendix A)

» 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)



Salmon eggs are incubated at the interim fish conservation facility

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)
- Non-structural Fish Passage Evaluation (Study 43, 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)
- Wild Donor Stock Monitoring (Study 46, Appendix A)

Population Monitoring

- Fish Assemblage Monitoring (Study 9, Appendix A)
- Steelhead Monitoring (study 14, Appendix A)
- PIT Tag Feasability Study
- Rotary Screw Trap Monitoring (Study 45, Appendix A)

Skaggs Bridge PIT monitoring

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 2014:

Adult salmon are tagged with this SJRRP tag for easy identification

- **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.

Prior to being released, salmon are measured and tagged

- **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.

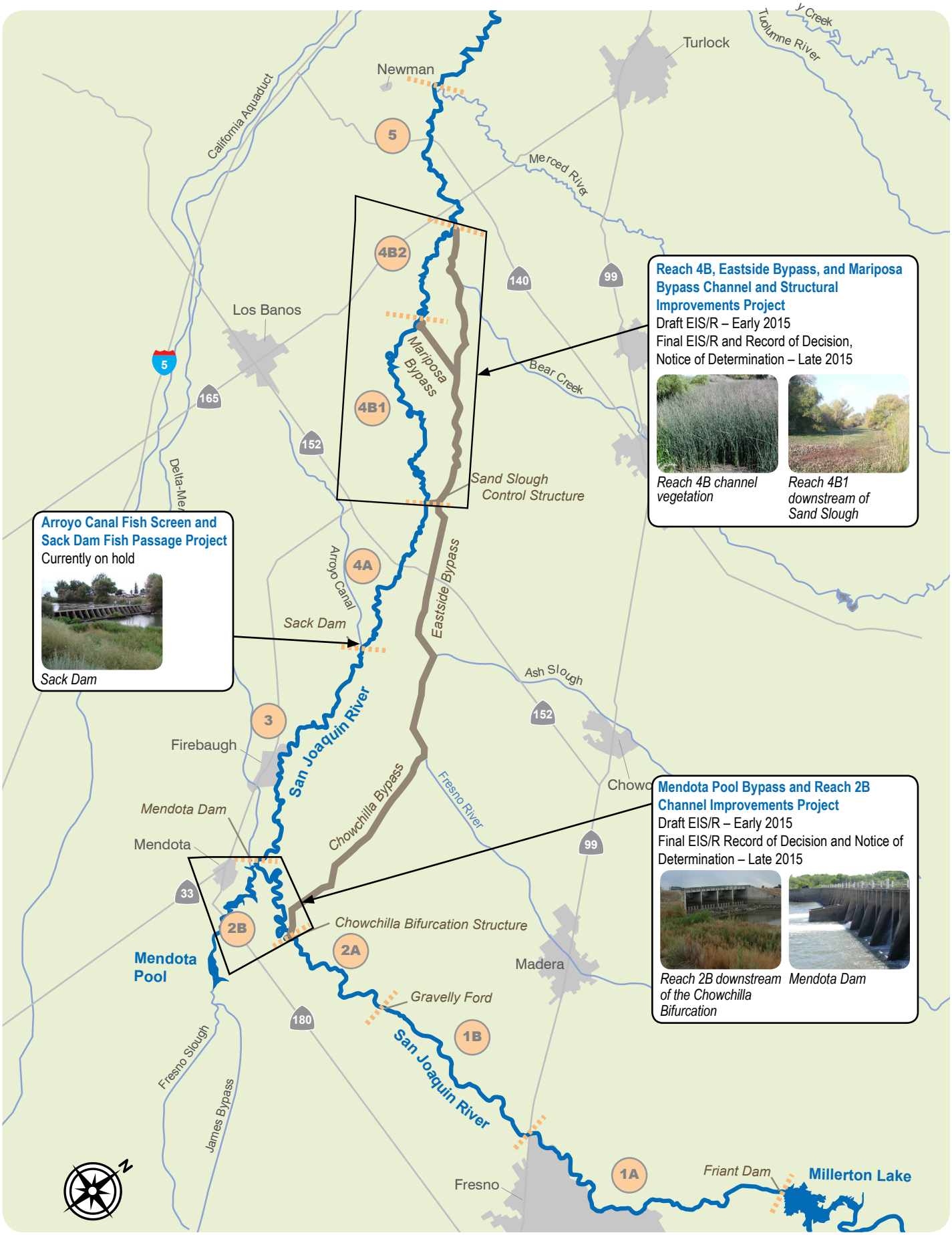


FIGURE 4 – STATUS OF KEY RIVER IMPROVEMENT PROJECTS

Mariposa Creek Habitat

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. This stage has been completed.

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 reintroducing spring-run and fall-run Chinook salmon and implementing Phase 1 channel improvements. Some construction will not be complete by the end of 2013. 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 is again coordinating with the Settling Parties and Third Parties to prioritize the core projects based on realistic amounts of state and federal funding. The update will seek 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.

PUBLIC INVOLVEMENT AND OUTREACH

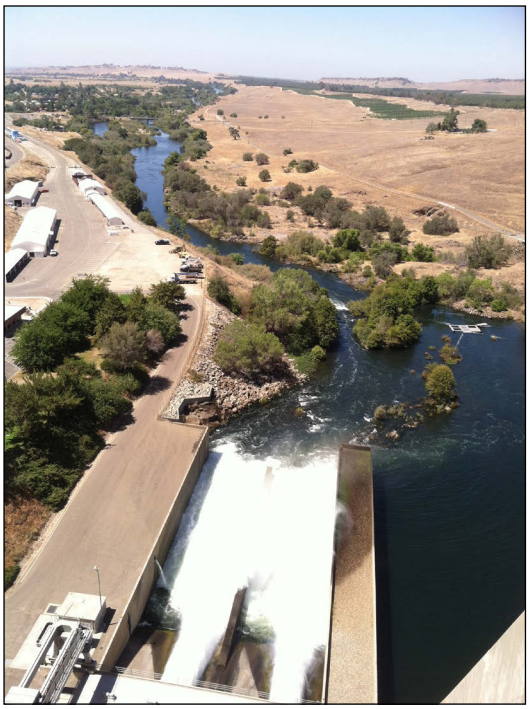
The SJRRP will continue to provide meaningful opportunities for public involvement and input into Program activities in 2014. The SJRRP website will continue to be updated regularly with Program documents, project updates, and information about upcoming meetings. The SJRRP will distribute, via e-mail and postal mail, regular Program Updates to keep the public informed of recent Program developments and upcoming involvement opportunities. The Technical Feedback Groups described in this report will continue to hold public meetings to provide input and receive feedback on SJRRP activities. The SJRRP will also continue to reach out to landowners in the different reaches to discuss related projects and receive feedback, allowing the Program staff to address concerns and work toward identifying potential solutions.

Reclamation Annual Photo Contest Recognition

The following photographs related to the SJRRP were submitted by Reclamation employees as part of an annual photo contest held by the Public Affairs Office. The cover photo taken by Andy Shriver won Best of Show. The SJRRP would like to recognize these employees for their contributions depicting scenes related to the restoration Program and efforts. Photos were taken as part of daily activities.

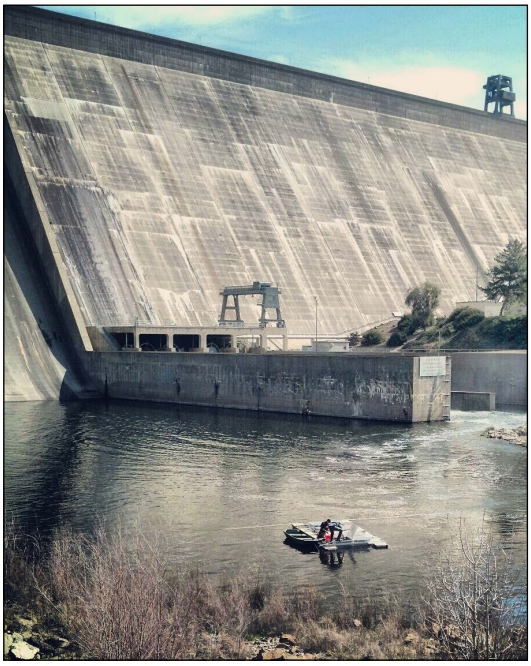
Morning Glory at Friant Dam by Andy Shriver – People's Choice "Best of Show"

San Mateo Road crossing by Jennifer L. Lewis



Bird's eye view of the San Joaquin River
by Joy Kelley

Clouds of Tulare by Michael Eacock



The road to restoring the great salmon run
by Andy Shriver

Flows at Friant Dam by Jessica Fontaine

Rebirth of the mighty San Joaquin by Carlos Hernandez

Water release at Friant Dam by Jesse Harris

Mendota Pool at Sunset by Jeffrey Rieker

Merced wetland

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