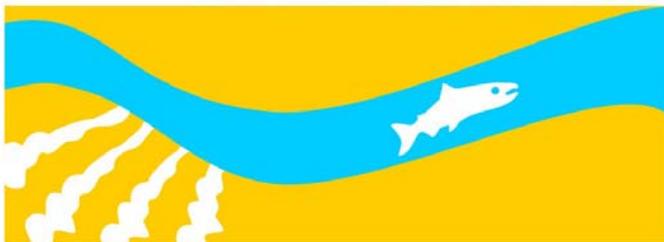


# Public Scoping Report Appendix B

## Scoping Meeting Materials

SAN JOAQUIN RIVER  
RESTORATION PROGRAM





# Table of Contents

**Scoping Meeting Agenda**

**Comment Card**

**Speaker's Card**

**Presentations**

**Overview** – United States Department of the Interior, Bureau of Reclamation

**Settling Parties** – Natural Resources Defense Council and Friant Water Users Authority

**Flood Management Coordination** – State of California, Department of Water Resources

**Poster Boards**

**Station 1** – Program & Process

**Station 2** – Fish Restoration Goal

**Station 3** – Water Management Goal

**Station 4** – Flood Management

**Station 5** – Reach-by-Reach Overview

Table of Contents

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# SAN JOAQUIN RIVER RESTORATION PROGRAM



## Welcome to the San Joaquin River Restoration Program Public Scoping Meetings!

Thank you for helping with first steps of the Program by attending today's Public Scoping Meeting. Always conducted at the beginning of the environmental review process, Scoping Meetings are held to assist the implementing agencies identify the scope of issues to be addressed and significant issues related to the Program. Scoping Meetings provide the opportunity for YOU to learn about the approaches being considered and provide insights on the environmental process and impacts. We want to hear your comments on impacts, alternatives and environmental issues. Please provide us with information on local conditions, issues, and concerns. Be sure to pick up a Comment Card and return it by Friday, September, 21, 2007.

### Agenda

- 6:00-6:45pm: Overview Presentation**  
 Presenters include Reclamation, Department of Water Resources, Friant Water Users Authority, and the Natural Resources Defense Council. The presentation will describe the purpose of the meeting, provide an overview of the Settlement and Program implementation, and explain the public involvement process.

- 6:45-8:00pm: "Open House"**  
 Staffed by agency personnel and consultants, visit the various stations to discuss specific aspects of the Program. The following topics are highlighted at the stations:

Station 1 – Program & Process. Topics: Program goals, geographic overview, Program timeline, NEPA/CEQA process, organizational chart with roles and responsibilities, and environmental issues overview.

Station 2 – Fish Restoration Goal. Topics: Settlement provisions, restoration actions and options.

Station 3 – Water Management Goal. Topics: Settlement provisions, water management actions and options, restoration flow guidelines.

Station 4 – Flood Management. Topics: coordinated flood management planning, flood management actions and options.

Station 5 – Reach-by-Reach Overview. Displays: key features, maps and overlays of each reach.

Comment Station. Fill out Comment Cards in person and leave in the box provided. You may also mail, fax or email it back to us **by SEPTEMBER 21, 2007**. Where meeting locations support it, computers are provided for you to input your comments directly onto the Web site ([www.restoresjr.com](http://www.restoresjr.com)). Ask for help if you need it! (contact information provided on card and Website)

- 8:00-9:00pm: Public Comment Session**  
 In addition to your written comments, if you wish to make a verbal comment, please fill out a Speaker's Card from the Welcome Table and hand it to the Facilitator. Speakers will be called in the order in which Speaker Cards are submitted with the exception of elected officials, who will be called first.

Once again, thank you for taking time to participate in a public scoping meeting for the San Joaquin River Restoration Program. **Visit our Web site, [www.restoresjr.com](http://www.restoresjr.com), to stay informed.**

We hope to see you at a future Program activity!

### Scoping Meetings

Tulare Tuesday, August 28 6-9 p.m.	Fresno Wednesday, August 29 6-9 p.m.	Los Banos Thursday, August 30 6-9 p.m.	Sacramento* Monday, September 10 1:30 - 4:30 p.m.
International Agri-Center Banquet Hall 4450 S. Laspina Street Tulare, CA 93274	Piccadilly Inn, University Ballroom 4961 North Cedar Avenue Fresno, CA 93726	Merced Co. Fairgrounds Germino Room 403 F Street Los Banos, CA 93635	Library Galleria 828 I Street Sacramento, CA 95814 *Agenda will differ for Sacramento Meeting

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**SAN JOAQUIN RIVER**  
RESTORATION PROGRAM



PLACE  
41¢ STAMP  
HERE



[www.restoresjr.com](http://www.restoresjr.com)

**U.S. Department of the Interior  
Bureau of Reclamation  
Mid-Pacific Region  
2800 Cottage Way, MP-140  
Sacramento, CA 95825  
Attn: Ms. Margaret Gidding**

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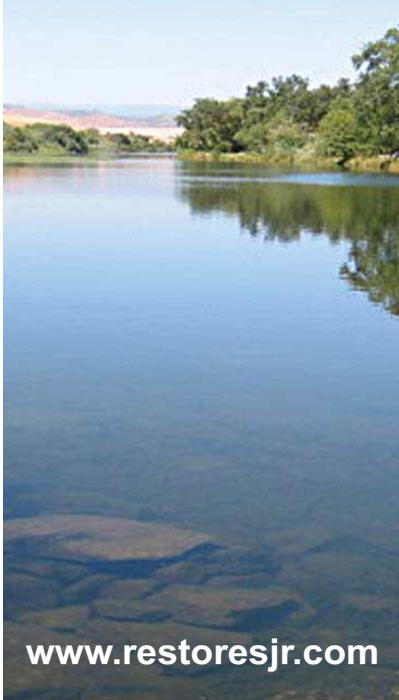
Please fold, staple, stamp, and mail



# PUBLIC SCOPING SPEAKER CARD

## San Joaquin River Restoration Program Environmental Impact Statement/Environmental Impact Report

*Please return Speaker Card to Registration Table.*



[www.restoresjr.com](http://www.restoresjr.com)

Name *(please provide pronunciation if needed)*

Organization *(if applicable)*

Address

City/State/Zip

Phone

Fax

E-mail

Date

Location

**PLEASE PRINT LEGIBLY**



# PUBLIC SCOPING SPEAKER CARD

## San Joaquin River Restoration Program Environmental Impact Statement/Environmental Impact Report

*Please return Speaker Card to Registration Table.*



[www.restoresjr.com](http://www.restoresjr.com)

Name *(please provide pronunciation if needed)*

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Address

City/State/Zip

Phone

Fax

E-mail

Date

Location

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SAN JOAQUIN RIVER  
RESTORATION PROGRAM



# Public Scoping Meetings

August-September 2007



# Agenda

---

- Welcome and Introductions
- Program Overview and History
  - **Implementing Agencies:** Jason Phillips, Reclamation
  - **Settling Parties:** Monty Schmidt, NRDC and Ron Jacobsma, Friant Water Users Authority
  - **Flood Management Coordination:** Paula Landis, DWR
- Open House
  - Visit Stations and Talk with the Program Team
- Public Comment Forum
  - Oral Comments



# Purpose of Scoping

---

Gather public comments, insights and local information for the environmental document

Please provide written comments!



# Purpose of Scoping Meeting

---

## PUBLIC

### **Provide comments on:**

- Options
- Alternatives
- Environmental issues
- Local conditions, issues and concerns

## AGENCIES

### **Describe:**

- Settlement and program implementation
- Alternatives development and environmental review process
- Public involvement process

# Meeting Guidelines

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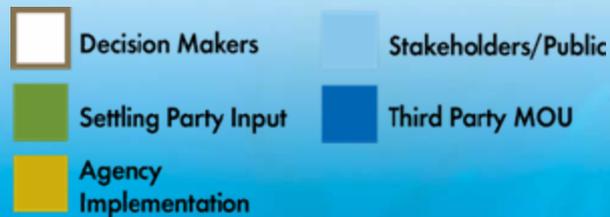
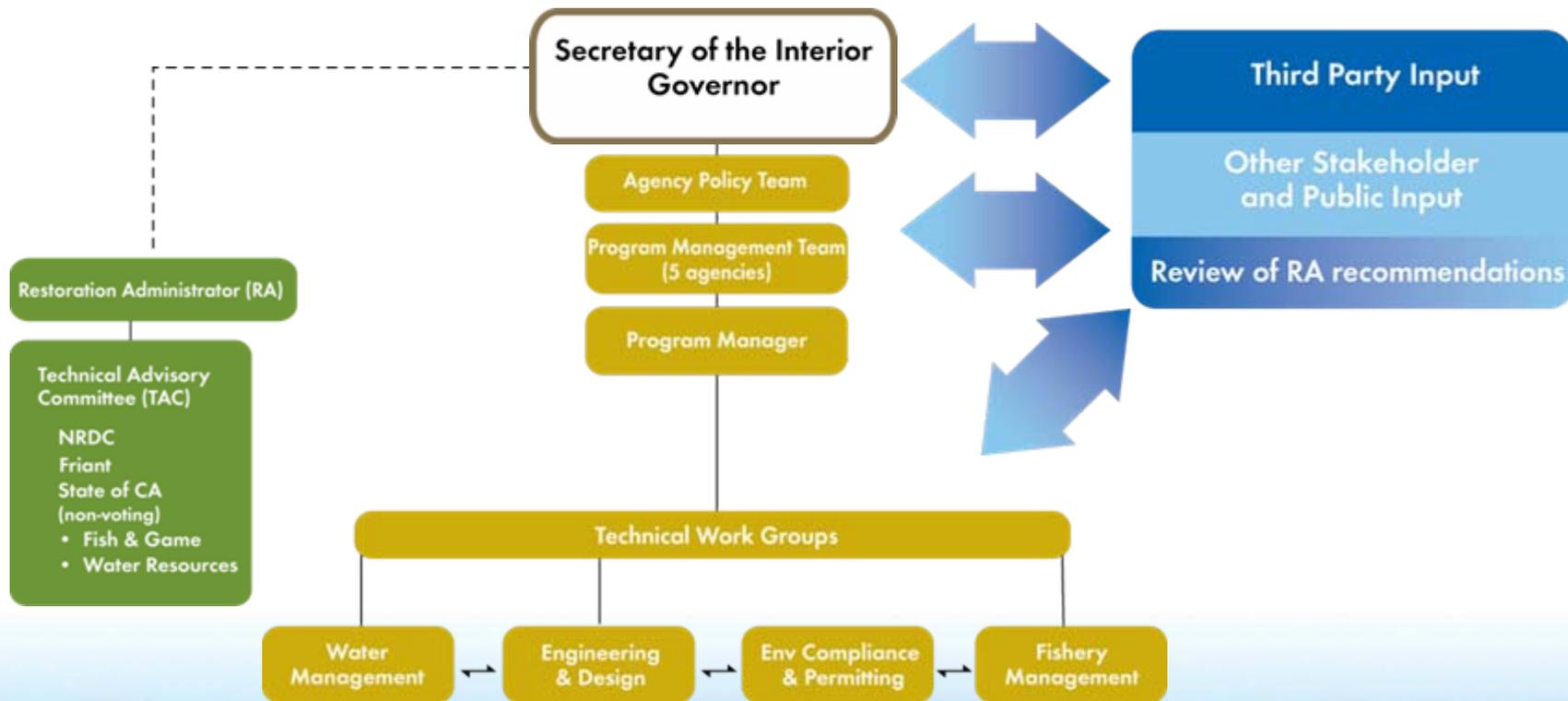
- **Ensure Everyone's Participation**
  - Structured to give everyone an opportunity to participate
- **Respect**
  - Listen carefully to other participants
  - Place cell phones, pagers, etc., on vibrate or silent mode
- **Honor Time Limits**
  - Please keep comments concise so everyone has an opportunity to speak
- **Identify Yourself**
  - State your name and organization or community



# Settlement Implementation

1988	Lawsuit filed challenging the Bureau of Reclamation's renewal of the long-term water service contracts between the United States and the Central Valley Project, Friant Division contractors
1992	Congress directs Interior as part of CVPIA to develop comprehensive plan to restore the San Joaquin River
1998	Ninth Circuit Court of Appeals sends the issue of the applicability of Section 5937 of the California Fish and Game Code to the operation of Friant Dam to the District Court
1998-2003	Friant and NRDC engage in settlement negotiations
2003	First round of settlement discussions end. Plaintiffs filed seventh amended complaint
2004	Judge rules that Reclamation violated Section 5937 of the Fish and Game Code
2005-2006	Settlement discussions are reinitiated
2006	Settlement reached with two main goals: <ul style="list-style-type: none"><li>• Restoration Goal</li><li>• Water Management Goal</li></ul>

# Program Structure





# Proposed Program Funding

Water User/Federal Funding	Lifetime	Annual
CVPIA Friant Surcharge		≈ \$8 M/year
Friant Capital Repayment		≈ \$9 M/year
CVPIA Restoration Funds		up to \$2 M/year
Federal Appropriation	up to \$250 M	
<b>State Bonds (2006)</b>		
Proposition 84	\$100 M	
Proposition 1e	\$100 M	



# Program Implementation Process

## PROGRAM MILESTONES

## STAGE 1

### 2007

- Complete Final Program Management Plan
- Publish Notice of Intent and Notice of Preparation
- Appoint Restoration Administrator
- Hold Public Scoping Meetings and Issue Public Scoping Report
- Issue Draft Alternatives Report

### 2008

- Develop Draft Program Environmental Documents
- Issue Stage 1 Program Alternatives Report

### 2009

- Complete Program Environmental Impact Statement/Environmental Impact Report (PEIS/R)

**Stage 1** focuses on program-level planning and environmental review. It will include the identification of significant data needs that will be completed in Stage 2.

## STAGE 2

### 2009

- Initiate Interim Restoration Flows

### 2012

- Reintroduce Salmon

### 2013

- Complete Phase 1 River Channel Improvements

**Stage 2** will include: the start of interim restoration flows; detailed site-specific environmental review; implementation of high priority river improvements; reintroduction of salmon; and projects to meet water management goal.

## STAGE 3

### 2014

- Initiate Full Restoration Flows

### 2016

- Complete Phase 2 River Channel Improvements

### 2025

- Complete All Improvements

During **Stage 3**, the full restoration flows will be initiated along with a long-term monitoring program to measure the performance of implementation.

# Program Document

---

## Program Environmental Impact Statement/ Environmental Impact Report (PEIS/R)

- **Evaluate** a range of alternatives to achieve Settlement goals
- **Analyze and identify** program-wide impacts
- **Provide basis** for site-specific environmental documents
- **Support** decision-making
- **Focus** on system-wide impacts beyond the Program Area

## Environmental Compliance for Site-Specific Projects (As Needed)

- **Developed before implementing actions**
- **Focus** on site-specific impacts
- **In tandem** with or subsequent to the PEIS/R
- **Using information** and decisions developed in the PEIS/R
- **Additional public involvement** activities and comment periods

# Public Comments

---

- The implementing agencies want to hear your comments:
  - What environmental issues and impacts should be evaluated in the environmental review?
  - What local knowledge or information can you provide to assist in the environmental review?
  - What options and alternatives should be considered and evaluated?
    - Fish Restoration (physical changes, flows, etc.)
    - Water Management (water recovery, recirculation, etc.)
    - Flood Management (protection of land uses and natural resources)
    - Other Options?
  - When and how would you like to be informed about and involved in the Program?



# Commenting Process

## WHEN:

Comments due by Friday, September 21, 2007

## HOW:

Comment today at the Scoping Meeting

Comment online: [www.restoreSJR.com](http://www.restoreSJR.com)

**Mail comments:** Margaret Gidding  
Bureau of Reclamation  
Mid-Pacific Region  
2800 Cottage Way, MP-140  
Sacramento, CA 95825

Karen Dulik, Senior Environmental Scientist  
California Department of Water Resources  
San Joaquin District  
3374 E. Shields Ave.  
Fresno, California 93726

**Fax comments:** (916) 978-5114

## WHAT HAPPENS TO COMMENTS?

Comments will be compiled and addressed in a Scoping Document, provided to interested parties and placed on the Program's website [www.restoresjr.com](http://www.restoresjr.com)



# Stations and Commenting

---

## Station 1: Program & Process

*Program, goals, process, timeline, environmental issues, and more*

## Station 2: Fish Restoration

*Fish reintroduction provisions in the Settlement, new flows, and restoration actions*

## Station 4: Flood Management

*Coordination between state flood management program and SJRRP*

## Station 3: Water Management

*Water management provisions in the Settlement, actions, and options*

## Station 5: Reach-by-Reach Considerations

*Key features depicted in each reach, provide your local knowledge*

## Comment Station:

*Provide comments on options/alternatives, environmental issues/impacts, local information, and planning process and public involvement*



# Ground Rules for Oral Comments

---

- Any person wishing to make a comment will have an opportunity to do so (3 minutes per person)
- If you'd like to comment, please fill out a speaker's card and hand it to the facilitator
- Please limit comments to matters relating to the San Joaquin River Restoration program
- All comments will be considered equally and recorded by a note-taker.
- Please do not interrupt other people
- Please introduce yourself and tell us your organization, if applicable, before making a comment



# For More Information

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[www.restoresjr.com](http://www.restoresjr.com)

Learn more about the SJRRP  
Sign up to receive more information  
Provide comments

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# San Joaquin River Restoration Program

## Public Scoping Meetings

---

Monty Schmitt

San Joaquin River Project Manager

Natural Resources Defense Council

Ron Jacobsma

General Manager

Friant Water Users Authority

# Settlement Agreement

- Restoration Goal
- Water Management Goal
- Timeline
- Funding
- Legislation

CONFIDENTIAL SETTLEMENT DOCUMENT — DRAFT OF June 8, 2006

1 HAMILTON CANDEE, CAL. BAR NO. 111376  
2 JARED W. HUFFMAN, CAL. BAR NO. 148669  
3 KATHERINE S. POOLE, CAL. BAR NO. 195010  
4 MICHAEL E. WALL, CAL. BAR NO. 170238  
5 NATURAL RESOURCES DEFENSE COUNCIL  
6 111 Sutter Street, 20th Floor  
7 San Francisco, California 94104  
8 Telephone: (415) 777-0220  
9 Attorneys for Plaintiffs NRDC, *et al.*  
10  
11 SHEPPARD, MULLIN, RICHTER & HAMPTON LLP  
12 A Limited Liability Partnership  
13 Including Professional Corporations  
14 PHILIP F. ATKINS-PATTENSON, CAL. BAR NO. 94901  
15 Four Embarcadero Center, 17th Floor  
16 San Francisco, California 94111-4106  
17 Telephone: (415) 434-9100  
18 Facsimile: (415) 434-3947  
19 Attorneys for Plaintiffs  
20

21 [Names of Additional Counsel Appear  
22 On Signature Page]  
23

24  
25 **Confidential Settlement Document**  
26 **Mark of 06-8-06 Draft**  
27

28 UNITED STATES DISTRICT COURT  
29 EASTERN DISTRICT OF CALIFORNIA  
30

31  
32 NATURAL RESOURCES DEFENSE ) CIV NO. S-88-1658-  
33 COUNCIL, *et al.*, ) LKK/GGH

34  
35 **STIPULATION OF**  
36 **SETTLEMENT**

37 Plaintiffs,  
38  
39

40 v.  
41

42  
43 KIRK RODGERS, as Regional Director  
44 of the UNITED STATES BUREAU  
45 OF RECLAMATION, *et al.*,  
46

47 Defendants.  
48

-1-

STIPULATION OF SETTLEMENT

- Reintroduce Salmon
  - Spring and fall run chinook salmon
  - Establish naturally reproducing and self- sustaining populations
- Restore flows
  - From Friant Dam to the confluence of the Merced River
  - Obligation to protect flows all the way to the Delta
- Channel improvements
  - Flow conveyance
  - Fish passage and habitat



1. Gravel pits in Reach 1
2. Bifurcation Structure
3. Increase Reach 2B Capacity
4. Mendota Pool Bypass Channel
5. Arroyo Canal Fish Screen
6. Sack Dam Fish Passage
7. Reach 4b Flow Strategy
8. Sand Slough Control Structure
9. Mud & Salt Slough Barriers
10. Additional Improvements



- Ends litigation and begins restoration
- Enables a cooperative partnership
  - Five Agencies
  - Funding
- Other Benefits
  - Educational opportunities
  - Recreational opportunities
  - Water quality
  - Flood control
  - Habitat / National Wildlife Refuges



## Service Area

Merced Co  
Madera Co  
Fresno Co  
Tulare Co  
Kern Co

## Ag Water Contractors

Alpaugh I.D.  
Arvin-Edison W.S.D.  
Atwell Island W.D.  
Chowchilla W.D.  
Delano-Earlimart I.D.  
Exeter I.D.  
*Fresno I.D.*  
*Garfield W.D.*  
*Hills Valley I.D.*  
*International W.D.*  
Porterville I.D.  
Rag Gulch W.D.  
Saucelito I.D.  
Shafter-Wasco I.D.  
Southern San Joaquin M.U.D.  
Stone Corral I.D.  
Tea Pot Dome W.D.  
Terra Bella I.D.  
Tulare I.D.

Ivanhoe I.D.  
Kern-Tulare W.D.  
Lewis Creek W.D.  
Lindmore I.D.  
Lindsay-Strathmore I.D.  
Lower Tule River I.D.  
Madera I.D.  
*Orange Cove I.D.*  
Pixley I.D.

## M&I Contractors

*City of Fresno*  
*City of Orange Cove*  
City of Lindsay  
*Fresno Co. WWD #18*  
Madera County



## **Water Management Goal Equal Goal of the Settlement**

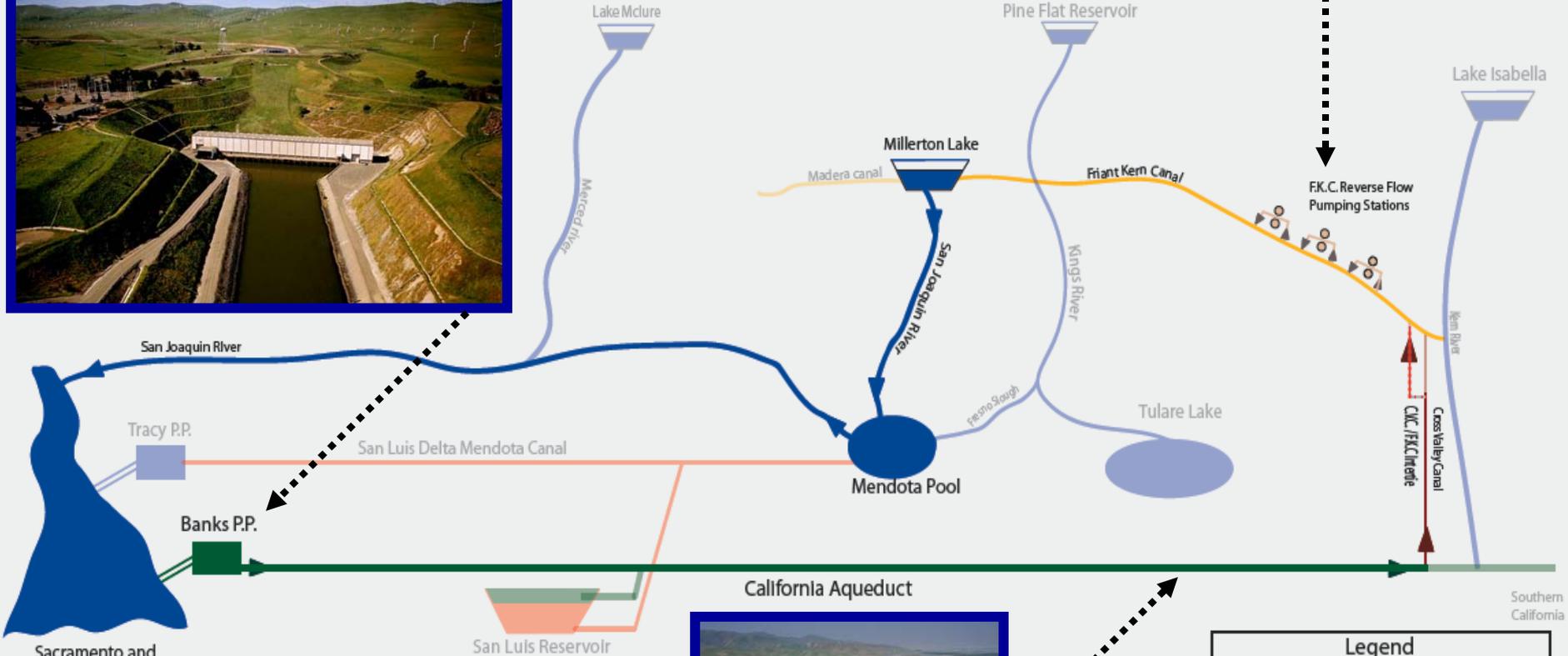
The Secretary is required to:

- Develop and implement a plan for recirculation, recapture, reuse, exchange or transfer of Restoration Flows to mitigate impacts to Friant Districts; and
- Implement a Recovered Water Account that will make wet year water available at reduced prices



# Friant Division

Delta Recirculation concept  
Via Cross Valley Canal Intertie



Sacramento and San Joaquin River Delta

Main Features	
500 C.F.S.	Pipeline Intertie
500 C.F.S.	Reverse Flow Pump Station
250 C.F.S.	Reverse Flow Pump Station
125 C.F.S.	Reverse Flow Pump Station
Project Cost	<b>\$12,000,000</b>



Legend	
	Proposed Conveyance Structures
	Proposed Pump Stations
Concept:	A - 1
Date:	1-20-07
Drawing Not To Scale	

Southern California

# Millerton Lake



Legend	
F.K.C. Capacity Correction	
	Friant Kern Canal
	Proposed Capacity Corrections
Concept: C - 1	Project Cost: \$23,000,000
Date: 1-20-07	

Legend	
F.K.C. Capacity Correction	
	Friant Kern Canal
	Proposed Capacity Corrections
Concept: C - 1	Project Cost: \$23,000,000
Date: 1-20-07	

## Monty Schmitt

### Natural Resources Defense Council

111 Sutter St., 20th Floor

San Francisco, CA 94104

(415) 875-6100

Email: [mschmitt@nrdc.org](mailto:mschmitt@nrdc.org)

## Ron Jacobsma

### Friant Water Authority

854 N. Harvard Ave

Lindsay, CA 93247

(559) 562-6305

Email: [rjacobsma@friantwater.org](mailto:rjacobsma@friantwater.org)

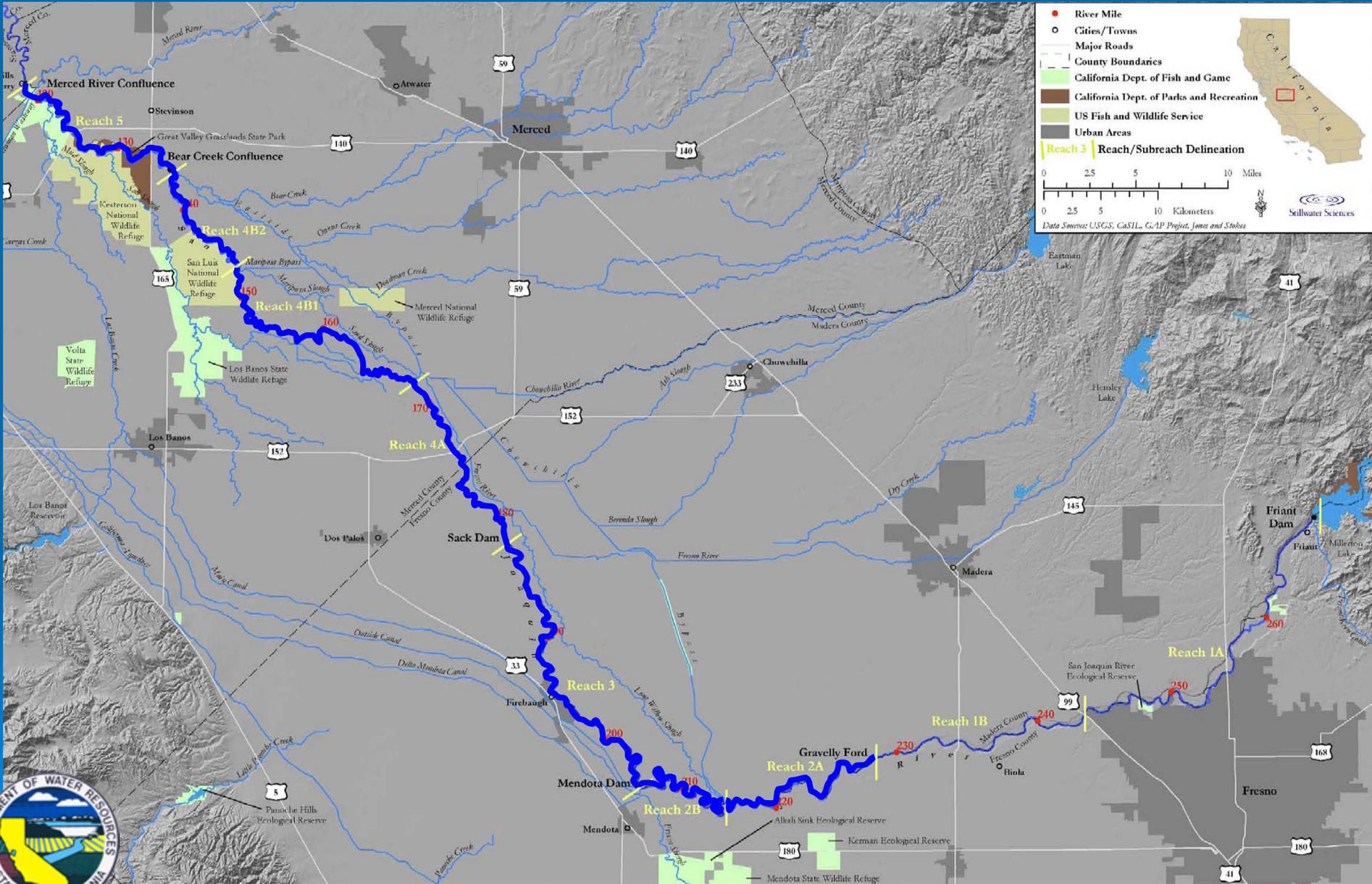
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# **San Joaquin River Restoration Program and Flood Management Coordination**

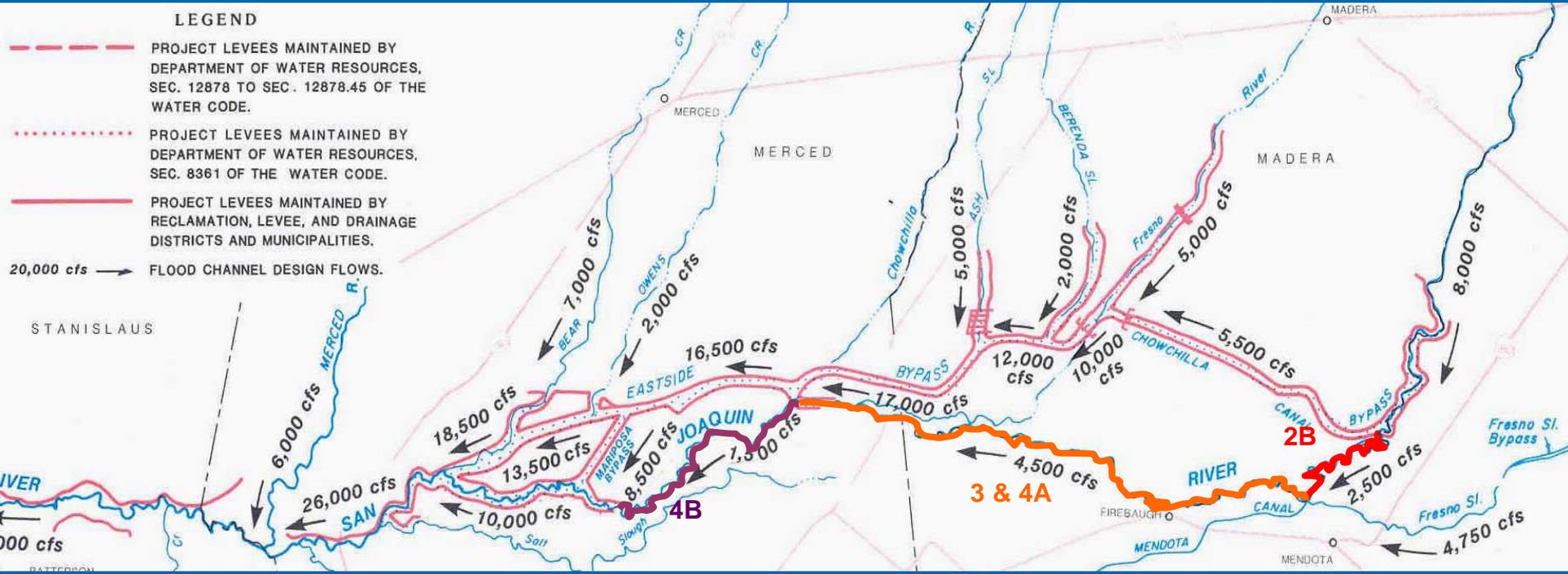
**PEIS/EIR Public Scoping Meetings  
August/September 2007  
Paula J. Landis, PE  
Chief, San Joaquin District  
California Department of Water Resources**



# SJRRP Flood Management Areas



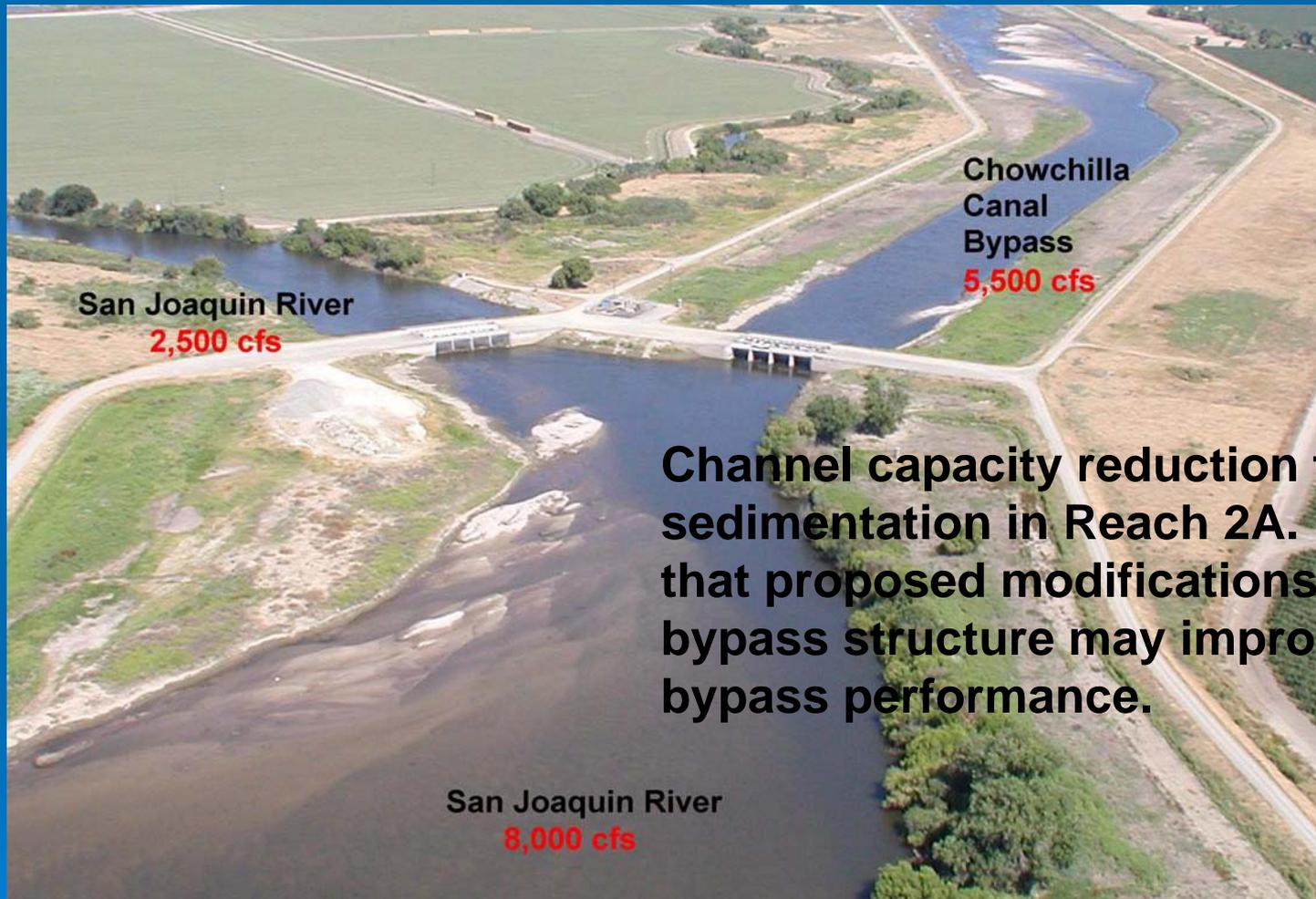
# Design Flows, Channel Capacity and Restoration Flows



Restoration plans propose that all channels on the San Joaquin have a capacity of 4,500 cfs. This means increased flow capacity in Reaches 2B and 4B and evaluation of the design flow capacities in Reach 3 and 4A.



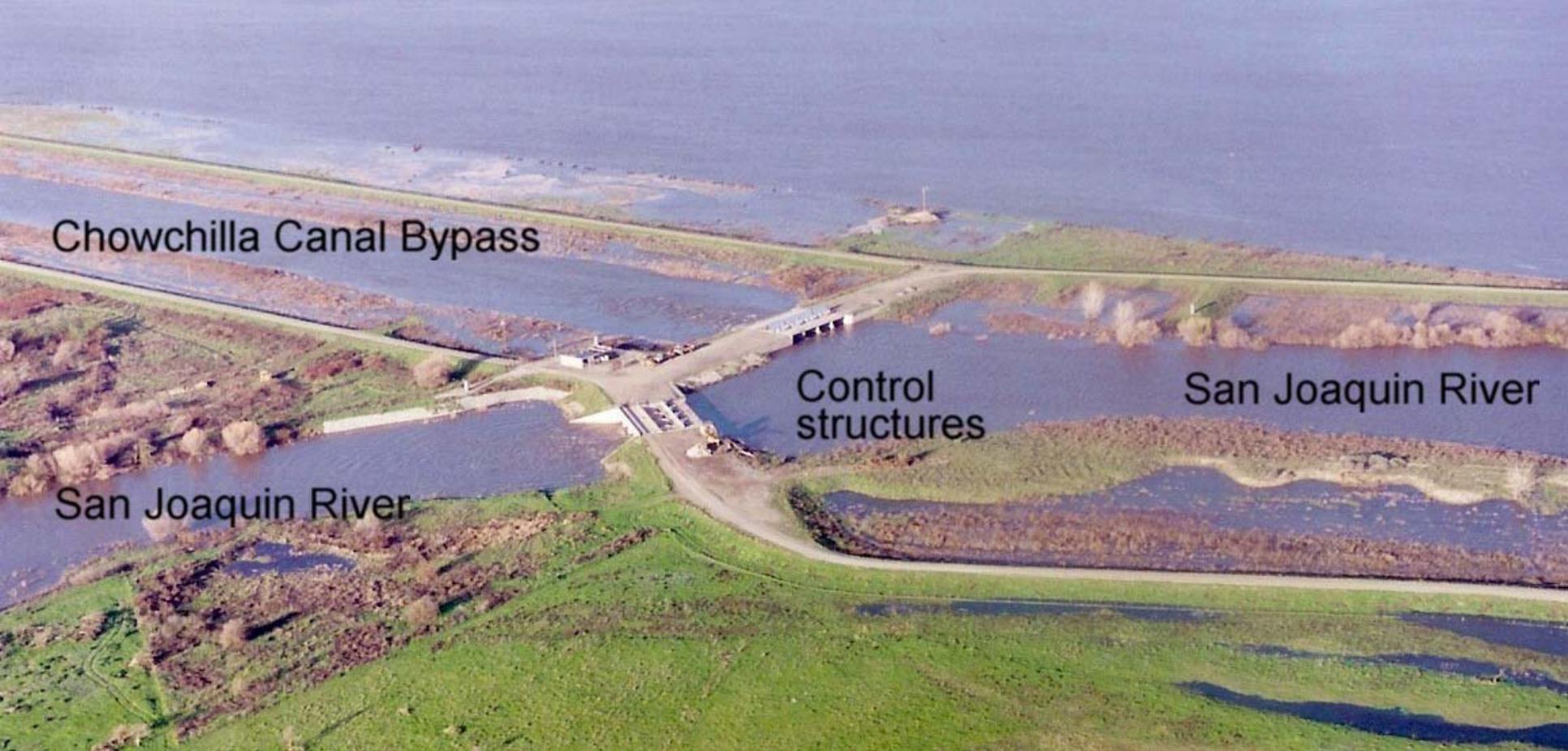
## 2 – Chowchilla Canal Bypass Control Structure *Capacity Operational Issue*



**Channel capacity reduction from sedimentation in Reach 2A. Note that proposed modifications to the bypass structure may improve bypass performance.**

Limited capacity of the control structure requires that the pool upstream be held excessively high to divert higher flows into the bypass or river. This condition adds to the problem of the upstream levee instability. Capacity of the Chowchilla Canal Bypass control structure should be increased at least 50 percent.





Chowchilla Canal Bypass

San Joaquin River

Control structures

San Joaquin River

**Illustration of impacts to adjacent land use from levee failure in Reach 2A. Floodwater at top out of channel flooding farmland.**



# Reach 2A – Flood water boiling through the levee 2006



**collapsing stream bank in reach 3  
Firebaugh**



**evidence of lateral earth  
cracking, proximity to  
structures in Reach 3  
Firebaugh**



# Reach 2A – Levee erosion 2006





**Vegetation encroachment  
reducing the capacity of the  
channel in Reach 4B.**

**Design capacity = 1,500 cfs.  
Actual capacity = 400 cfs.**



**Vegetation encroachment  
reducing the capacity of the  
channel in Reach 4B.**



# Levee Evaluation Program

- 300 miles urban levees
- 1,600 miles project levees
- Funding Propositions 84 and 1E
- Factors
  - seepage
  - stability
  - settlement
  - erosion
  - seismic



# Levee Evaluation Program

- DWR is committed to assisting local agencies in determining the best way to implement and fund needed repairs to their levees.
- Goal
  - 200 year protection in urban areas
  - Design level protection in rural areas
- Funds are not adequate for the entire state and they will be awarded on a competitive basis.



# Coordination

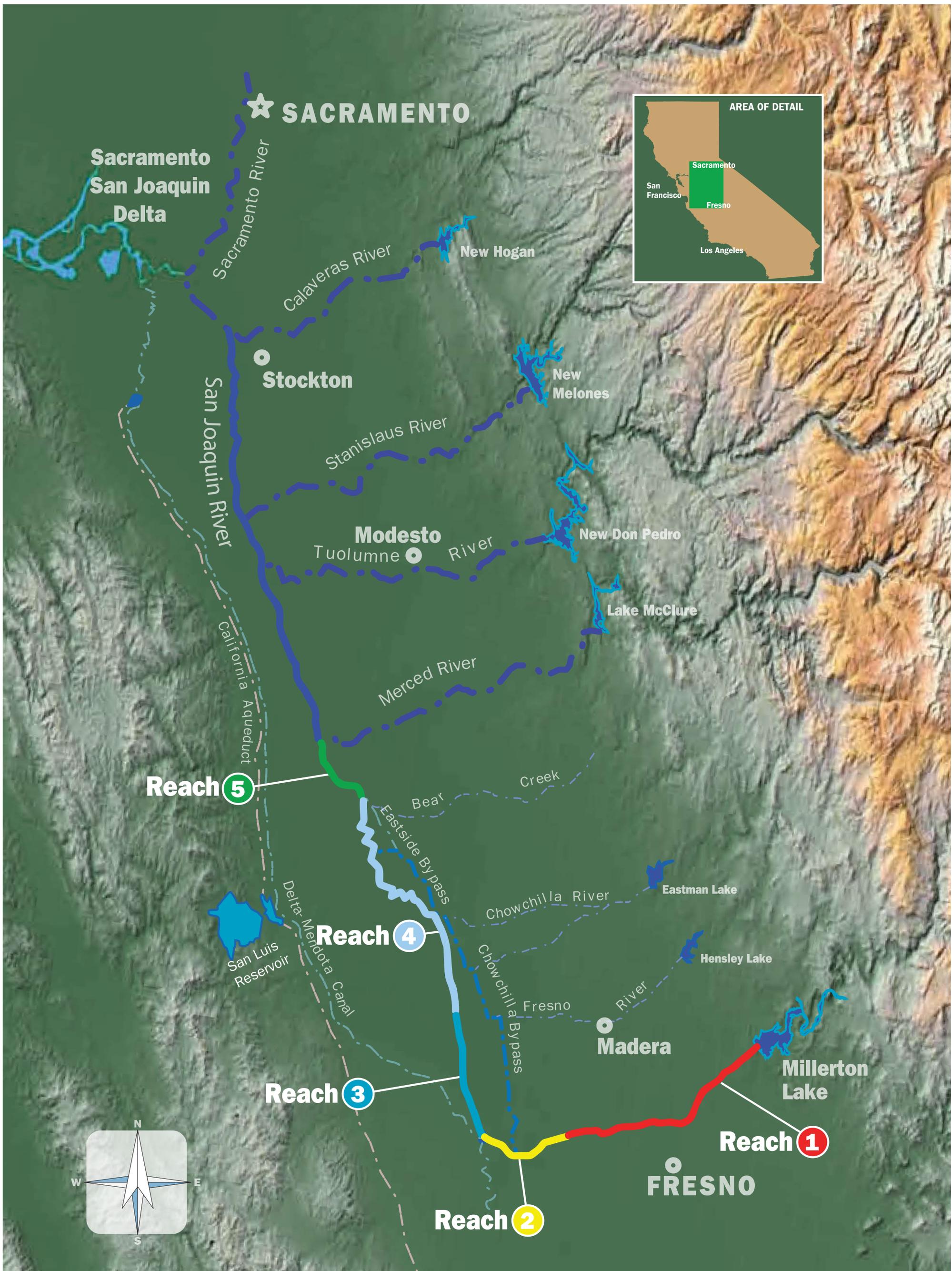
- The SJRRP is working closely with DWR's Levee Evaluation Program.
- Working to:
  - leverage funds and staff
  - assure no duplication of effort
  - coordinate schedules
  - attain common goals





# STATION 1

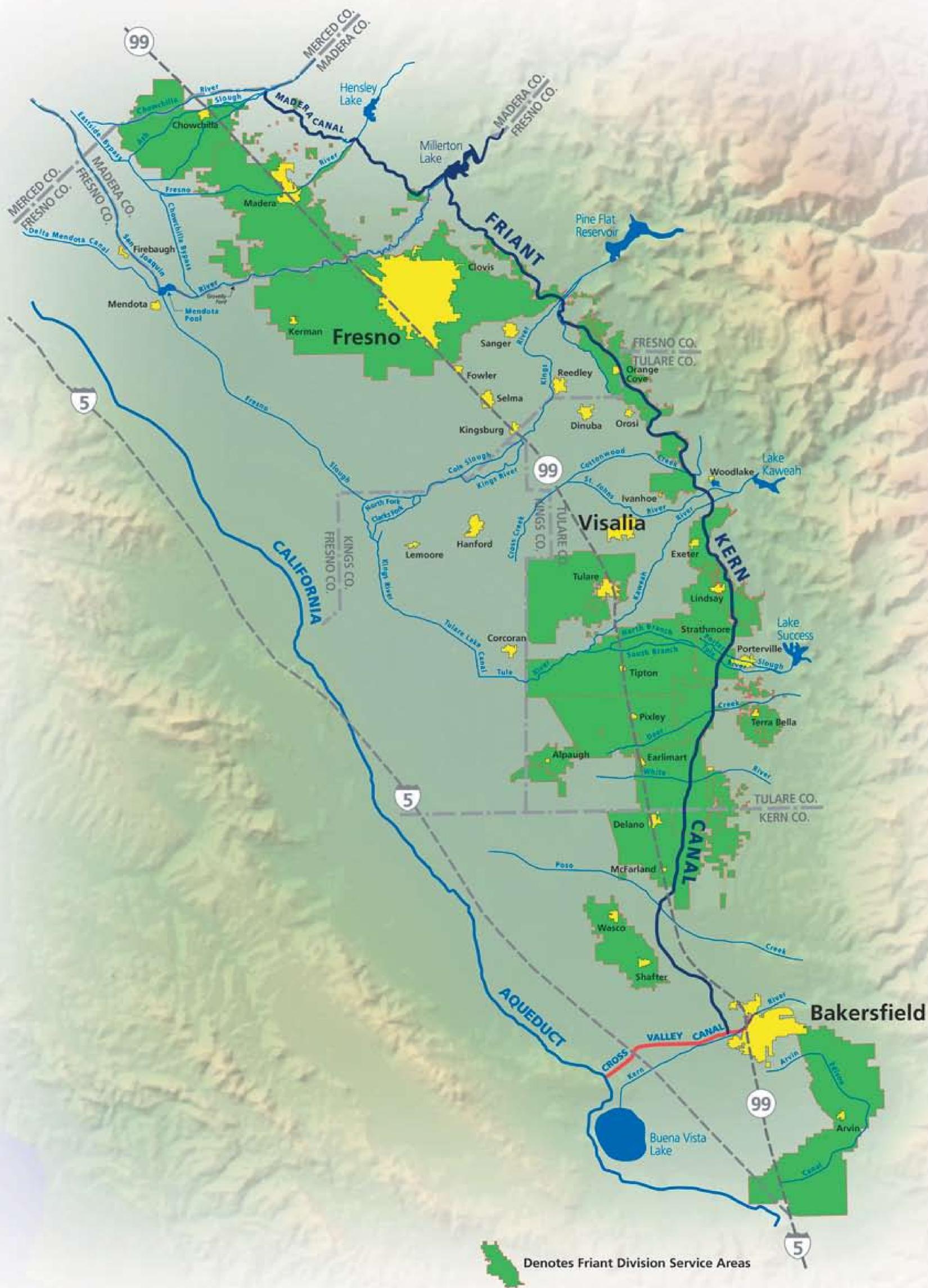
# San Joaquin River





# STATION 1

# Friant Service Area





## The San Joaquin River Restoration Program's Two Goals



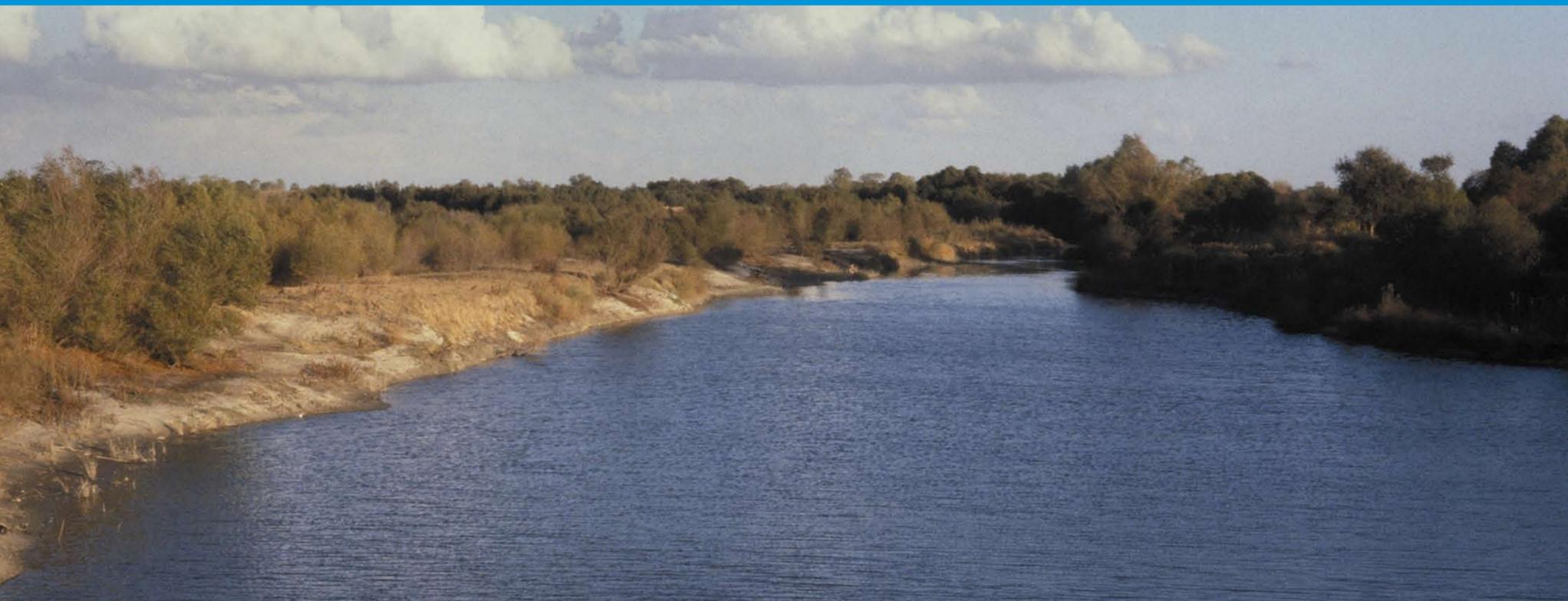
### River/Fish Restoration Goal

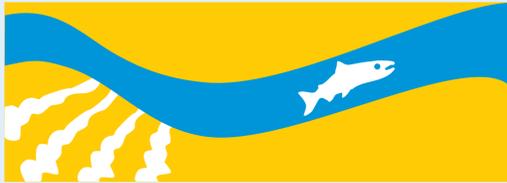
To restore and maintain fish populations in "good condition" in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish.



### 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.





## Environmental Review Purpose

Compliance activities associated with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) will:

- Evaluate reasonable **alternatives** that could reduce or avoid environmental impacts
- Provide **information** for **public review** and comment
- Identify significant **environmental impacts**
- Develop **mitigation** (ways to reduce or avoid environmental impacts)
- Disclose to **decision makers** the impacts, mitigation, and public comments

### Program Document

Information and analysis for the SJRRP will be documented in a Draft and Final Program Environmental Impact Statement/Environmental Impact Report (PEIS/R) that will:

- Consider the SJRRP comprehensively and evaluate a range of alternatives to achieve the goals of the Settlement
- Focus on system-wide impacts
- Provide a basis for any site-specific environmental documents needed, to include environmental compliance documentation

## What is Scoping?

**Scoping** is the process of identifying what issues will be covered in the environmental reports and in what detail. The **Implementing Agencies** are defining the issues to be evaluated in the Draft PEIS/R and invite stakeholder and public input on environmental considerations as part of the scoping process.

Scoping helps to **identify** and **refine**:

- Potential options and alternatives
- Potential environmental impacts
- Potential mitigation measures





## Environmental Issues & Potential Impacts

### Hydrology and Flood Management

- Water Supply (surface and groundwater)
- Water Quality
- Flood Management

### Biological Resources

- Fish and Aquatic Resources
- Terrestrial Vegetation and Wildlife Resources

### Construction and Operation Impacts

- Noise and Vibration
- Dust and Air Quality

### Land Use and Socioeconomics

- Agricultural Resources
- Recreation
- Social Issues and Environmental Justice
- Land Use, Planning and Zoning
- Socioeconomics
- Population and Housing
- Indian Trust Assets
- Cultural Resources

### Infrastructure

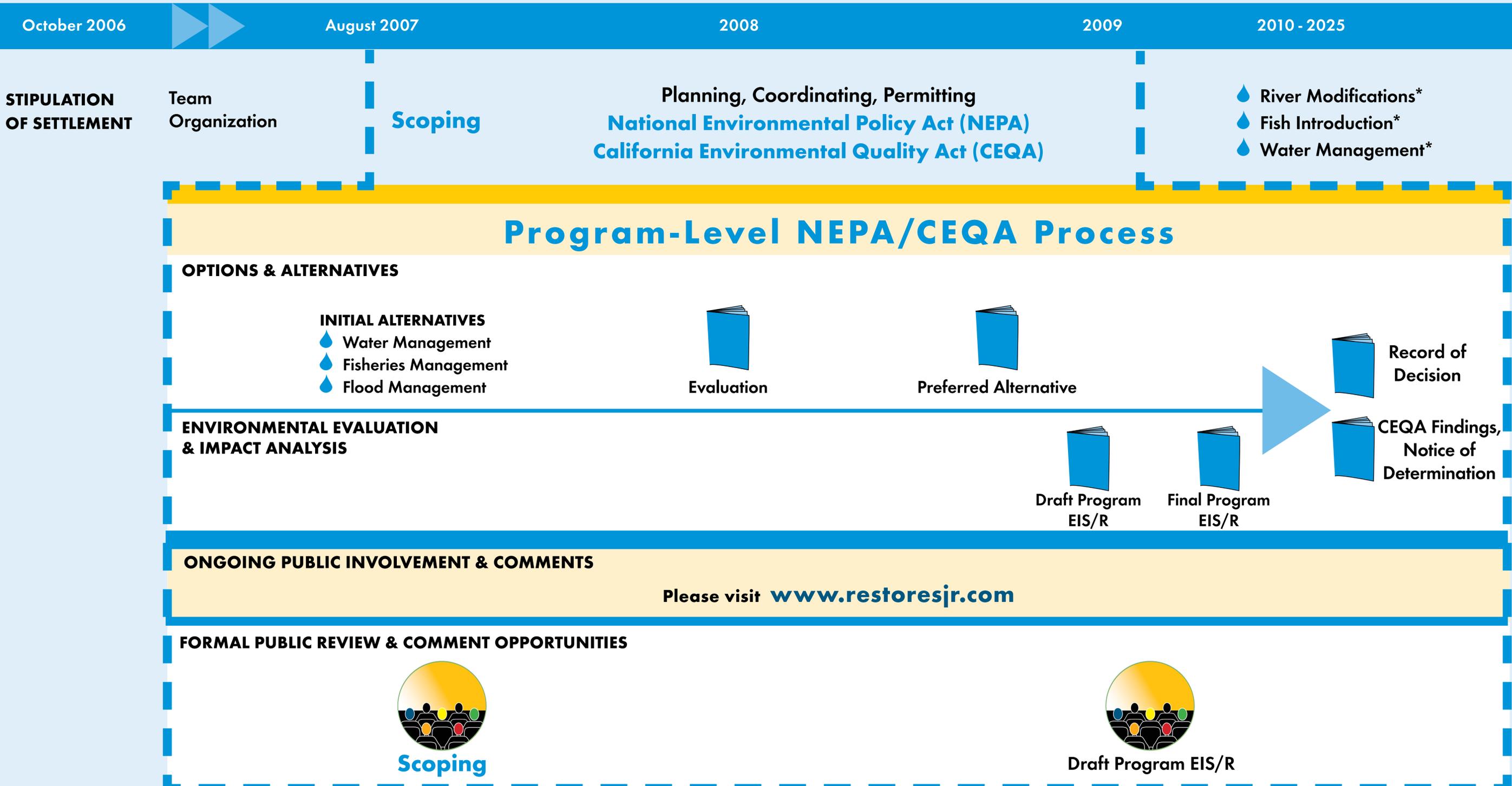
- Transportation and Circulation
- Utilities and Public Services
- Hydropower Resources

### Physical Resources

- Aesthetics
- Geology and Soils
- Toxic and Hazardous Materials
- Energy Resources

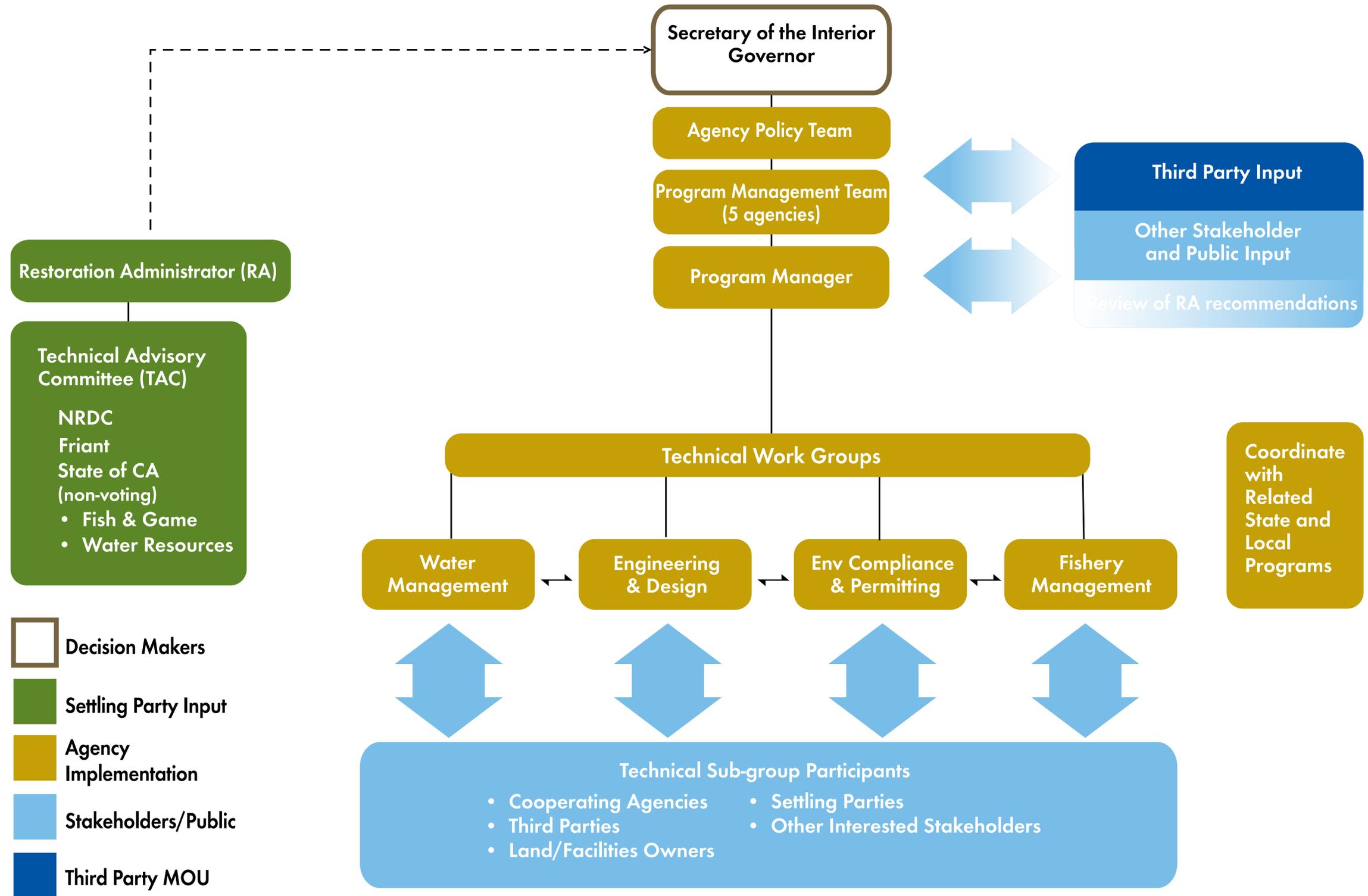
### Cumulative Effects





\*Prior to implementing subsequent actions identified in the SJRRP Program EIS/R, detailed, project-level environmental documents will be developed, if necessary.

# SJRRP Organization Chart



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# FISH RESTORATION

## Restoration Goal from the Settlement

“ To restore and maintain fish populations in good conditions 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. ”

-Natural Resources Defense Council v. Kirk Rodgers, as Regional Director of the United States Bureau of Reclamation, *et al.*

## How do we accomplish the goal?



Mendota Dam

### Channel Improvements

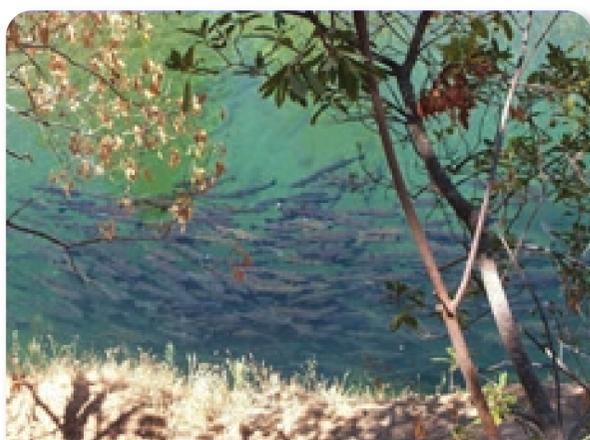
Evaluation of projects and options including those identified in Paragraph 11 of the Settlement to enable flow conveyance, fish passage and habitat improvements in the River:

- Gravel pits
- Reach 2B channel expansion
- Arroyo Canal screens
- Reach 4B flow strategy
- Mud & Salt slough barriers
- Bifurcation structure
- Mendota Pool bypass channel
- Sack Dam fish passage
- Sand Slough control structure
- Additional improvements

### Key dates identified in the Settlement:

Phase 1 Channel improvements by **December 2013**

Phase 2 Channel improvements by **December 2016**



Sacramento Basin Spring-Run Chinook Salmon

### Restoration Flows

In addition to channel and structural improvements, releases of water from Friant Dam to the confluence of the Merced River will be made to achieve the Restoration Goal. Interim Flows begin in Fall of 2009 but are limited to experimental purposes, and by channel capacity and construction activities. Full Restoration Flows will begin no later than January 2014.

### Reintroduction of Salmon

The Restoration Goal includes the reintroduction of spring-run and fall-run Chinook salmon between Friant Dam and the confluence with the Merced River at the earliest practical date after commencement of sufficient flows and issuance of required permits.

### Key Dates Identified in the Settlement:

2010 September	U.S. Fish & Wildlife Service (USFWS) submits an application for reintroduction of salmon to National Marine Fisheries Service (NMFS)
2012 April	NMFS issues a decision on application
2012 December	Reintroduce salmon



San Joaquin River below Gravelly Ford



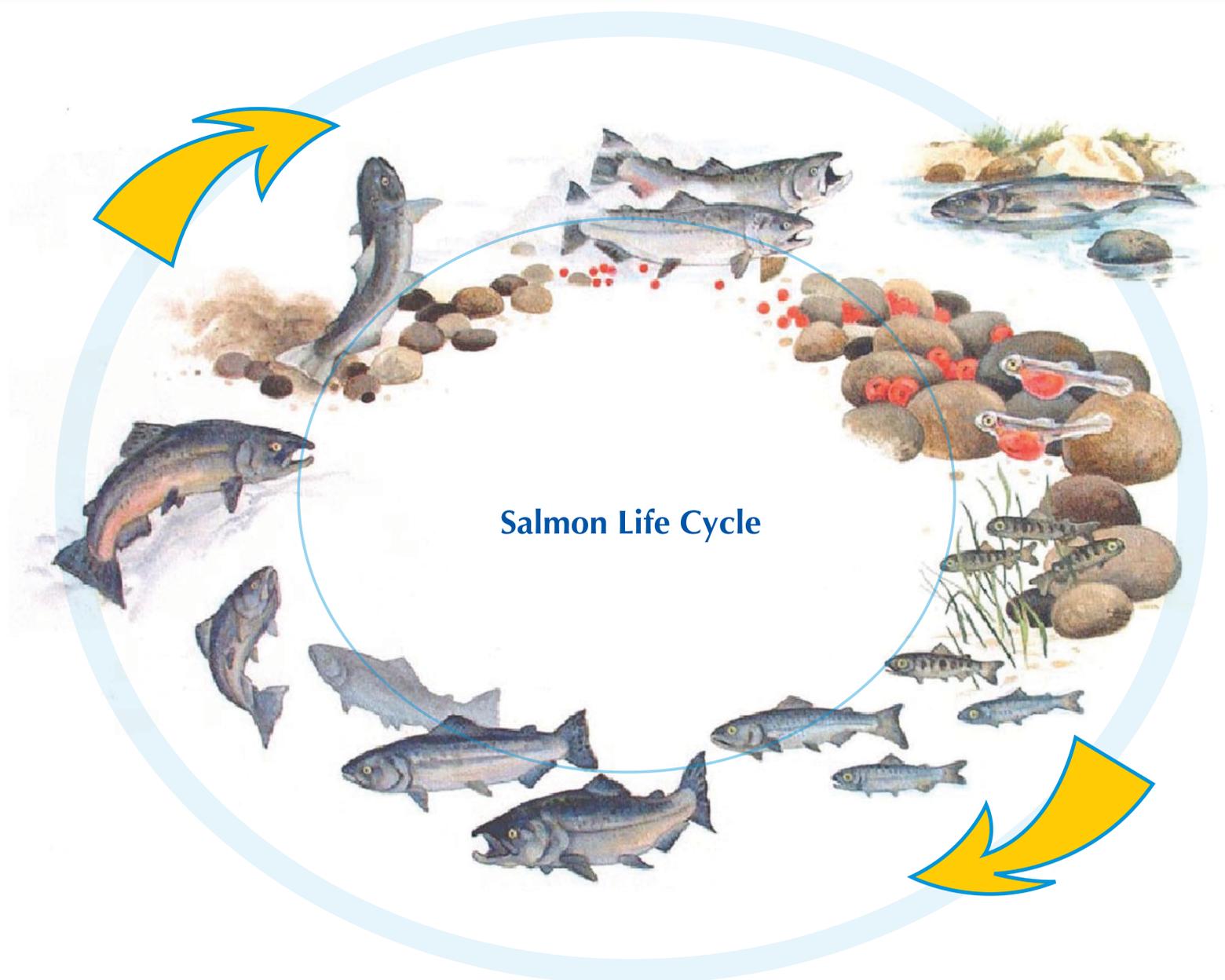
# FISH RESTORATION

## Conceptual Models

The Fish Management Work Group is currently building conceptual models of how they believe environmental factors will influence the abundance of spring-run and fall-run Chinook salmon in the San Joaquin River between Friant Dam and the Merced River confluence.

These conceptual models include a thorough and in-depth review of background literature and existing appropriate models on the life history and biology of California Central Valley spring- and fall-run Chinook salmon.

The models are precursors to quantitative models that will be used to assist in the evaluation of program alternatives, guide flow management, and help identify key habitat restoration needs. They will also help identify key knowledge gaps and hypotheses that will be addressed by an adaptive management process that includes a rigorous monitoring program.



### Each conceptual model contains the following components:

- Graphic depictions of the current understanding of Central Valley spring- and fall-run Chinook salmon life cycles and limiting factors (e.g., physical, chemical, and biological)
- A narrative description reviewing background literature on the basic life history requirements and potential stressors in the San Joaquin River Basin
- Spring- and fall-run Chinook salmon knowledge gaps
- Controllable and uncontrollable limiting factors that are believed to affect the recovery of Chinook salmon populations in the San Joaquin River Basin



# FISH RESTORATION



## Milestones

<b>2007</b> October	Restoration Administrator submits recommendations to the Secretary
<b>2009</b> September	Complete Program Environmental Impact Statement/Report (PEIS/R)
<b>2009</b> October	Initiate Interim Flows and Monitoring Program in San Joaquin River
<b>2010</b> September	U.S. Fish & Wildlife Service (USFWS) submits a completed permit application to the National Marine Fisheries Service (NMFS) for the reintroduction of spring-run Chinook salmon
<b>2012</b> April	NMFS issues a decision of the spring-run Chinook salmon permit application
<b>2012</b> December	Reintroduce spring- and fall-run Chinook salmon
<b>2013</b> December	Complete Phase 1 channel improvements
<b>2014</b> January	Initiate full Restoration Flows
<b>2016</b> December	Complete Phase 2 channel improvements
<b>2024</b> December	Submit report to Congress on the reintroduction of spring- and fall-run Chinook salmon



San Joaquin River at State Route 145



Potential Spawning Habitat



Chinook Salmon

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## Water Management Goal from the Settlement

“ 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. ”

- Natural Resources Defense Council v. Kirk Rodgers, as Regional Director of the United States Bureau of Reclamation, *et al.*

## How do we accomplish the goal?

- Develop guidelines necessary for understanding the river system and methodology to release and monitor Interim and Restoration Flows
- Develop a Plan for recirculation, recapture, reuse, exchange or transfer
- Develop a Recovered Water Account and Program

## Water Management Milestones

2007 October	Water Management and Physical Improvements Options Technical Memo
2007 December	Initial Restoration Flow Guidelines Technical Memo
2008 February	Recovered Water Account Report
2008 June	Final Restoration Flow Guidelines Technical Memo
2009 September	Program Environmental Impact Statement/Report (EIS/R)



# WATER MANAGEMENT

## Water Management Options and Actions:

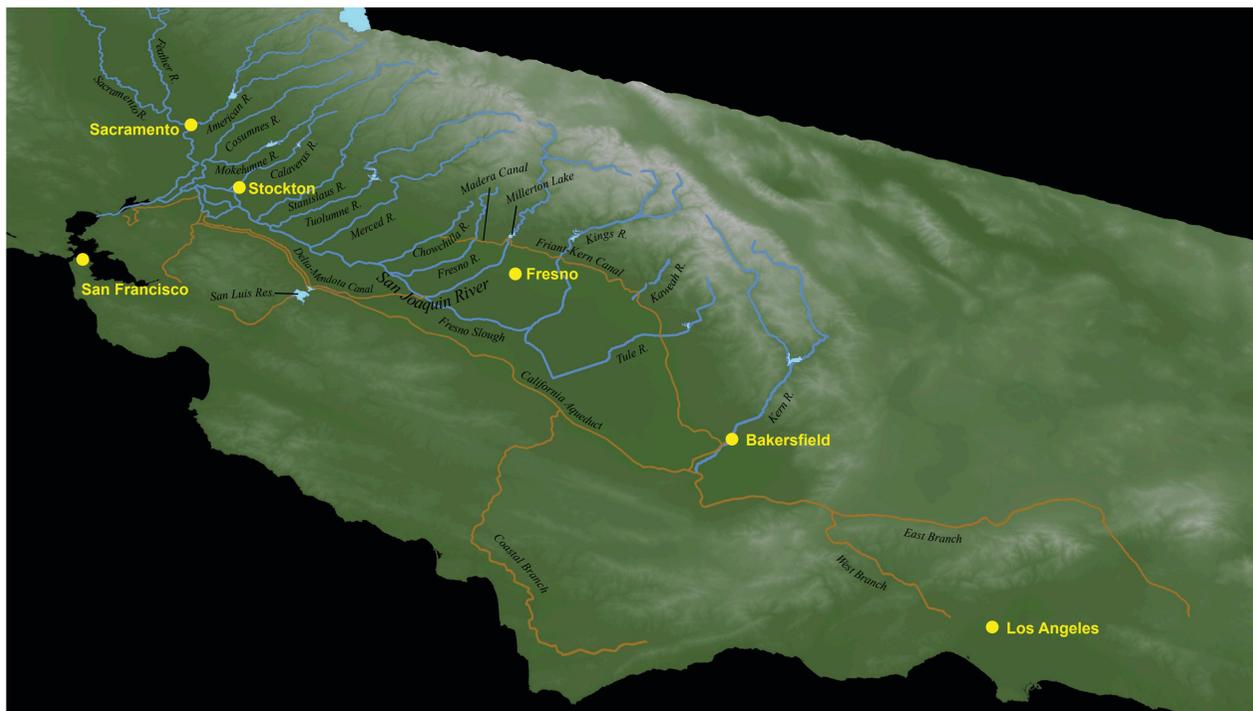
Evaluation will include those options and projects described in Paragraph 13(j) and Paragraph 16 of the Settlement.

	Oct 1	Nov 1 Nov 7	Dec 1	Jan 1	Feb 1	Mar 1	Mar 16	Apr 1	Apr 16	May 1	Jun 1	Jul 1	Aug 1	Sept 1
San Joaquin River Baseflow Releases from Friant Dam, by Water Year Type (CFS)	Wet	350	700	350	350	500	1,500	2,500	4,000	2,000	350	350	350	350
	Normal Wet	350	700	350	350	500	1,500	2,500	4,000	350	350	350	350	350
	Normal Dry	350	700	350	350	500	1,500	2,500	350	350	350	350	350	350
	Dry	350	700	350	350	500	1,500	350	350	350	350	350	350	350
	Critical High	160	400	120	110	500	1,500	200	200	215	255	260	260	260
	Critical Low	160	130	120	100	130	130	150	150	190	230	210	210	210
	Oct 1	Nov 1 Nov 7	Dec 1	Jan 1	Feb 1	Mar 1	Mar 16	Apr 1	Apr 16	May 1	Jun 1	Jul 1	Aug 1	Sept 1
	Fall Base and Spring Run Incubation Flow	Fall Run Attraction Flow	Fall Run Spawning and Incubation Flow	Winter Base Flows			Spring Rise and Pulse Flows				Summer Base Flows			Spring-Run Spawning Flows

1 - NRDC v Rodgers, Stipulation of Settlement, CIV NO. S-88-1658 - LKK/GGH, Exhibit B. September 13, 2006

### Paragraph 13(j):

Paragraph 13(j) outlines the steps necessary to understand the river system and develop the methodology necessary to release and monitor the Interim and Restoration Flows.

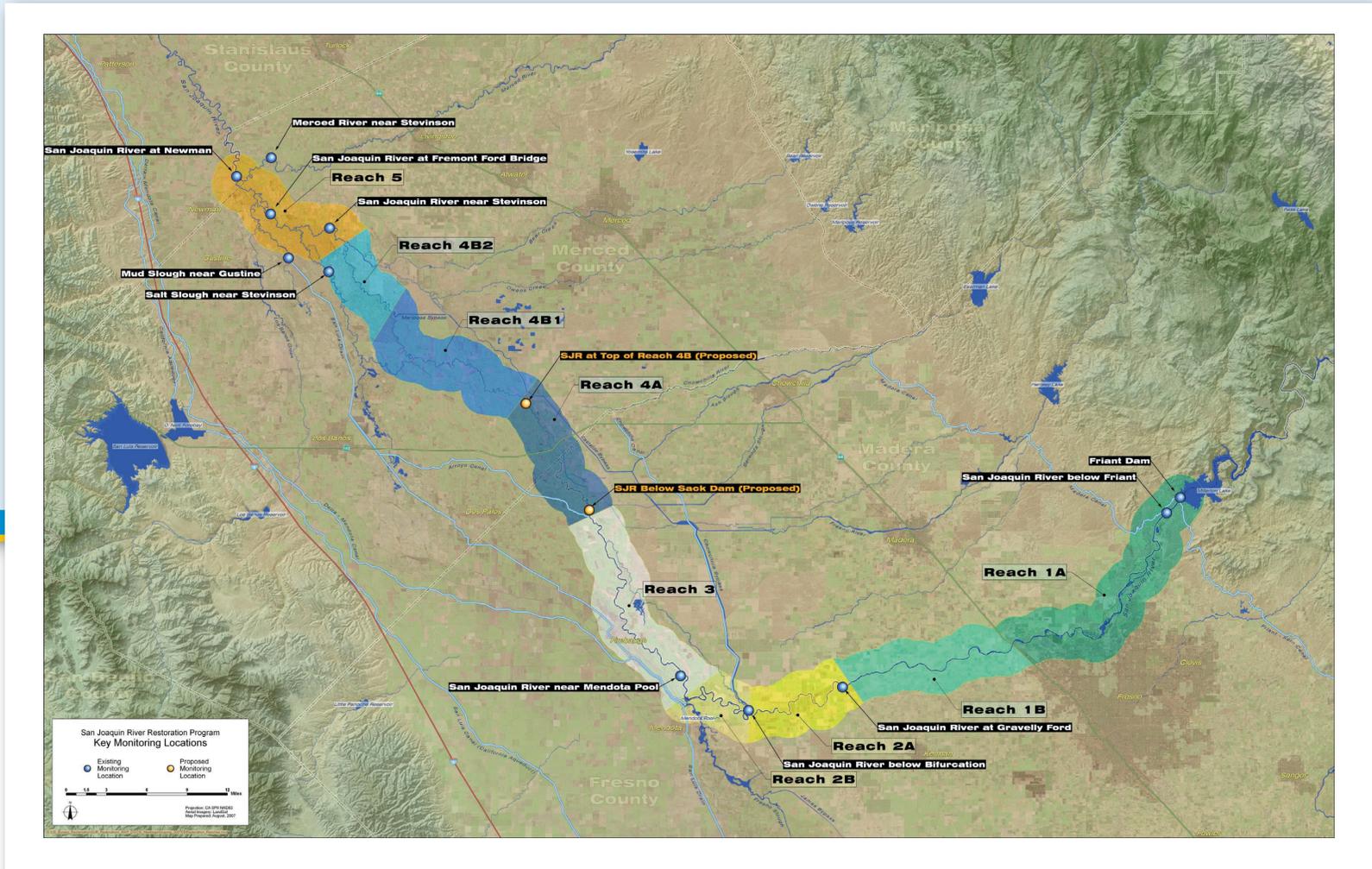


### Paragraph 16:

Paragraph 16 of the Settlement calls for the development of a plan for recirculation, recapture, reuse, exchange or transfer of the Flows, and for the development of a Recovered Water Account



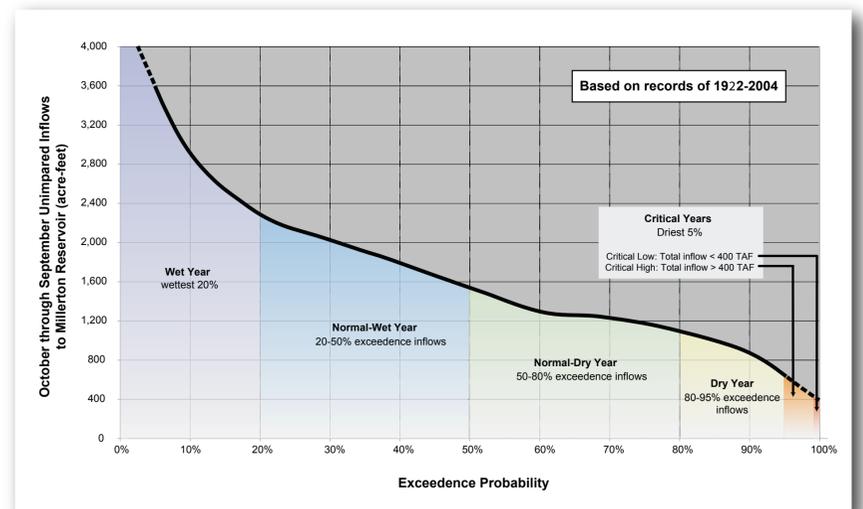
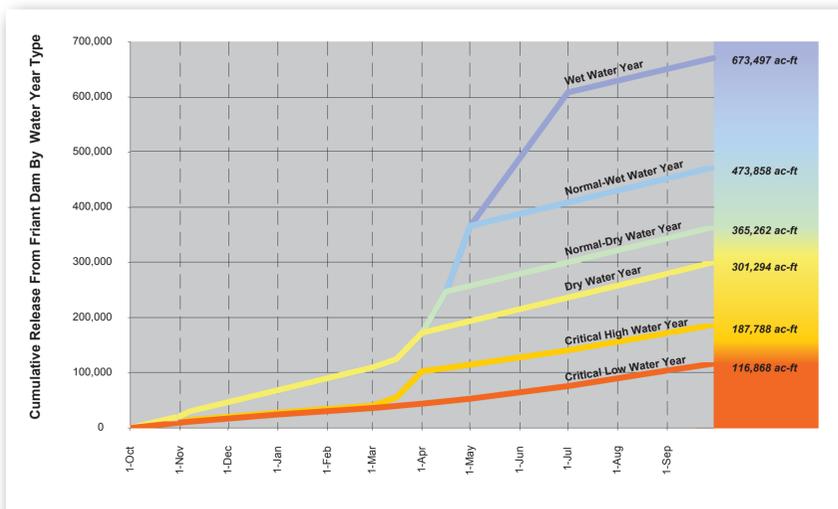
# WATER MANAGEMENT



## Paragraph 13(j):

Guidelines will be developed prior to commencement of Restoration Flows and include:

- Determining water-year types and timing
- Measuring, monitoring and reporting of flow procedures
- Determining and accounting for reductions in water deliveries
- Developing a methodology to determine seepage losses
- Making real-time changes to releases
- Determining the extent to which flood releases meet hydrograph releases outlined in the Settlement



## Paragraph 16:

**16(a):** Develop and implement a plan for **recirculation, recapture, reuse, exchange or transfer** of the Interim Flows and Restoration Flows. The plan shall include provisions for funding necessary measures to implement the plan.

**16(b):** Develop and implement a **Recovered Water Account** and program to make water available to all of the Friant Division long-term contractors who provide water to meet Interim Flows or Restoration Flows for the purpose of reducing or avoiding the impact of the Interim Flows and Restoration Flows on such contractors.

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# Flood Management

## California Department of Water Resources Levee Evaluation Program

Reflecting Governor Arnold Schwarzenegger's long-term commitment to improving flood safety to prevent possible catastrophic flooding and loss of life, DWR is undertaking unprecedented efforts to evaluate and upgrade aging and deteriorating levees along the Sacramento and San Joaquin River Valleys and Delta.

**Funded through Propositions 84 and 1E**

### Urban Evaluations:

Geotechnical levee evaluations of project levees that protect greater than 10,000 people.

### Non-Urban Evaluations:

Geotechnical levee evaluations of project levees that protect 10,000 people or less.



The Electromagnetic (EM) system collects three-dimensional earth resistivity data via a transmitter and receiver housed in the cylindrical "bird" slung beneath the helicopter.



A helicopter equipped with a LIDAR system called FLI-MAP (Fast Laser Imaging - Mapping Airborne Platform) was used to conduct high-resolution surveys, still pictures, and a video record of the levee system.

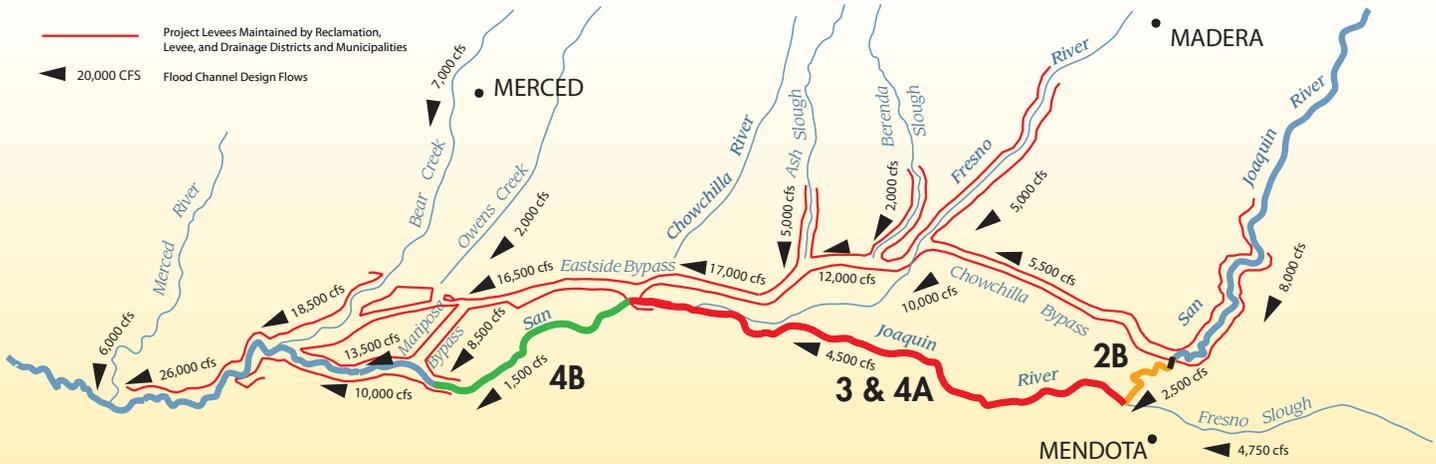


Cone Penetrometer (CPT) rig advancing rod into project levee to estimate soil behavior type.



Geotechnical field crews drill borings to collect soil samples from a flood control levee.

# Flood Management



Restoration plans propose that all channels on the San Joaquin River have a minimum flow capacity of 4,500 cfs, which would require an increase in flow capacity of Reach 2B and 4B and evaluation of flow capacity in Reach 3 and 4A.

Photo provided by Lower San Joaquin River District



Sedimentation has reduced flow capacity in some reaches.

Photo provided by Department of Water Resources



Vegetation encroachment has reduced flow capacity in some reaches.

Photo provided by Lower San Joaquin River District



Levees are constructed on unstable foundations consisting of river sediment, mostly sand bars and sand strata. Even low flows can result in numerous sand boils and often levee failure in some reaches.



## Proposed settlement actions that will improve flood protection on the San Joaquin River System

### Phase 1 Improvements

2) Modifications in channel capacity to ensure conveyance of at least 4,500 cfs in Reach 2B.

### Phase 2 Improvements

2) Modifications to the Chowchilla Bifurcation Structure to provide fish passage and prevent entrainment.  
 4) Modifications to the Sand Slough Structure to enable effective routing and conveyance of restoration flows up to 4,500 cfs.

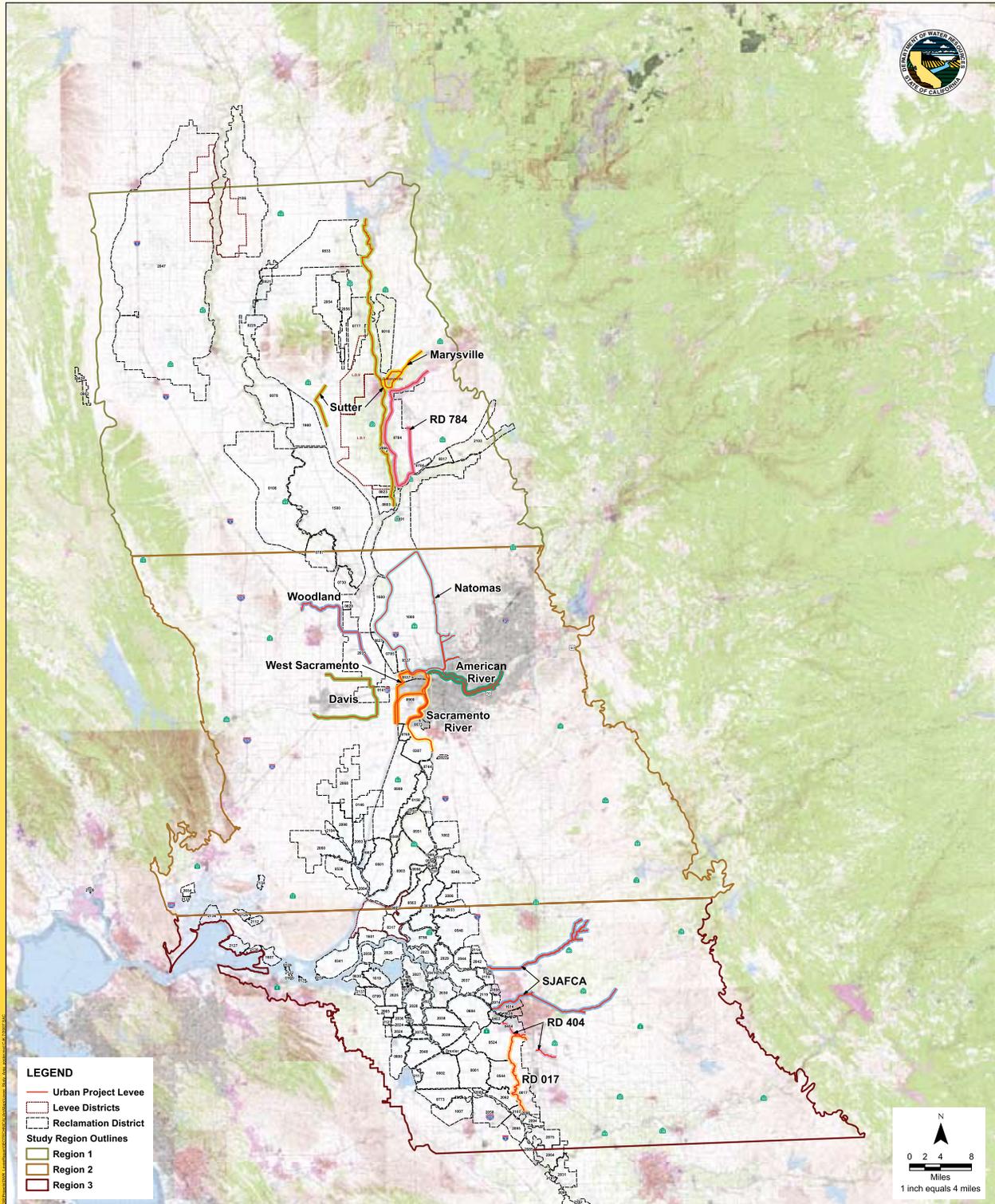
### Paragraph 12

"The Parties acknowledge that there are likely additional channel or structural improvements...that may further enhance the success of achieving the Restoration Goal."

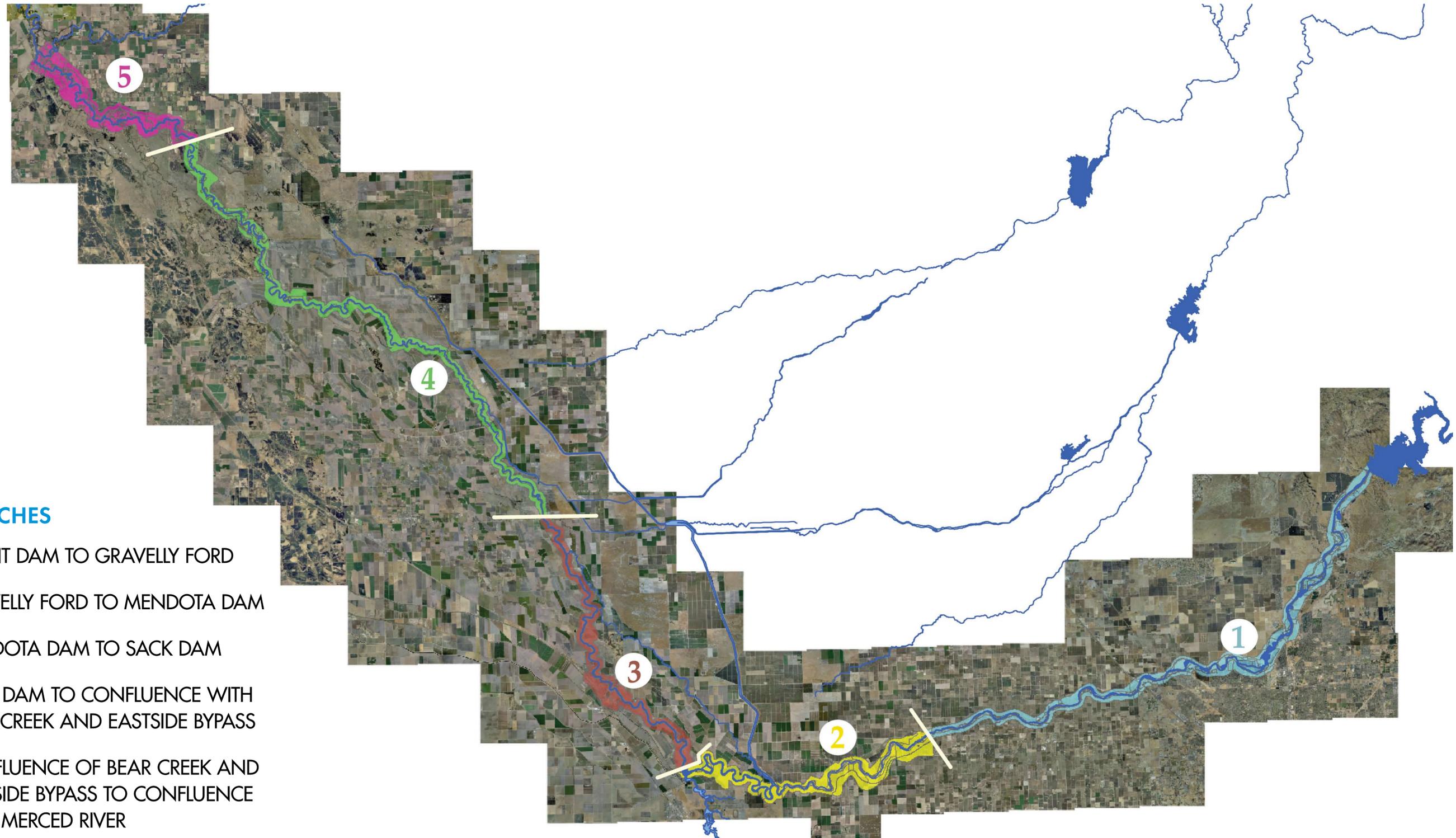


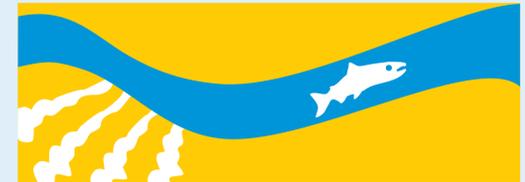
# Flood Management

## California Department of Water Resources Levee Geotechnical Evaluation



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## STATION 5

# Reach 1: Friant Dam to Gravelly Ford





## STATION 5

# Reach 2: Gravelly Ford to Mendota Dam



MENDOTA  
DAM

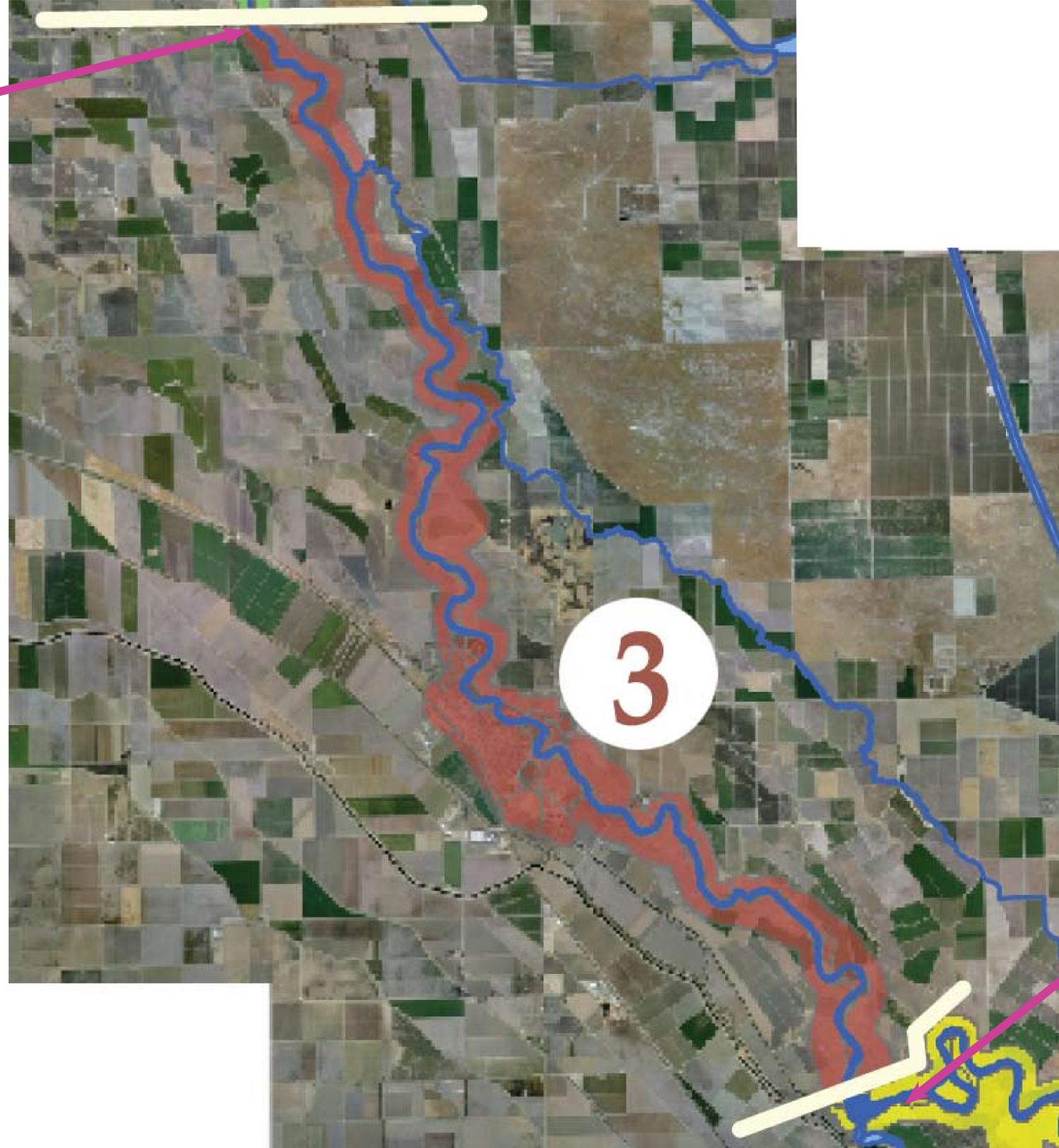
GRAVELLY  
FORD



## STATION 5

# Reach 3: Mendota Dam to Sack Dam

SACK DAM



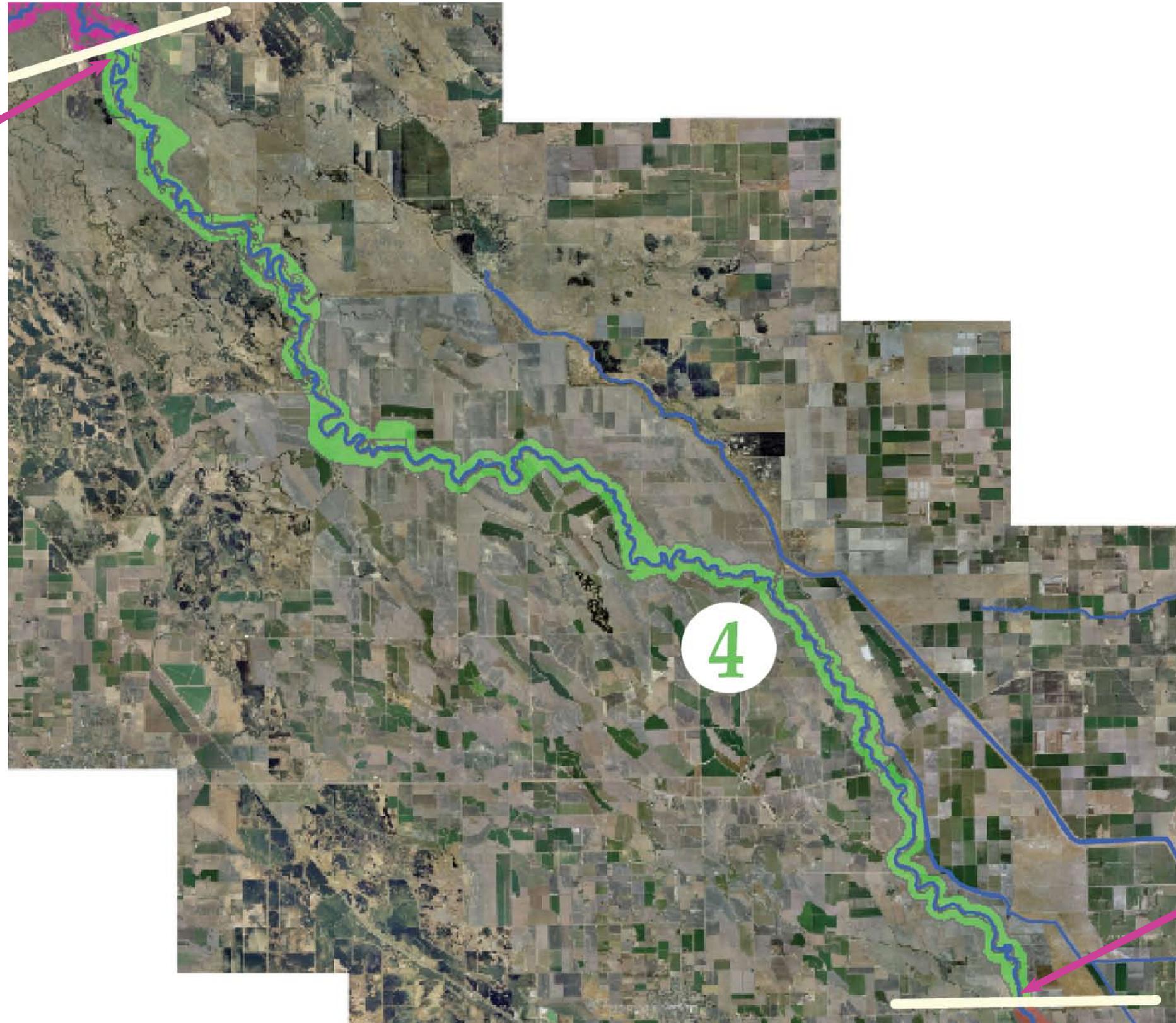
MENDOTA DAM



## STATION 5

### Reach 4: Sack Dam to Confluence with Bear Creek and Eastside Bypass

CONFLUENCE WITH BEAR  
CREEK AND EASTSIDE BYPASS



SACK DAM



## STATION 5

Reach 5: Confluence of Bear Creek and Eastside Bypass  
to Confluence with Merced

CONFLUENCE  
WITH MERCED



CONFLUENCE OF  
BEAR CREEK AND  
EASTSIDE BYPASS