



San Joaquin River Restoration

Workshop Presentation To The
State Water Resources Control Board

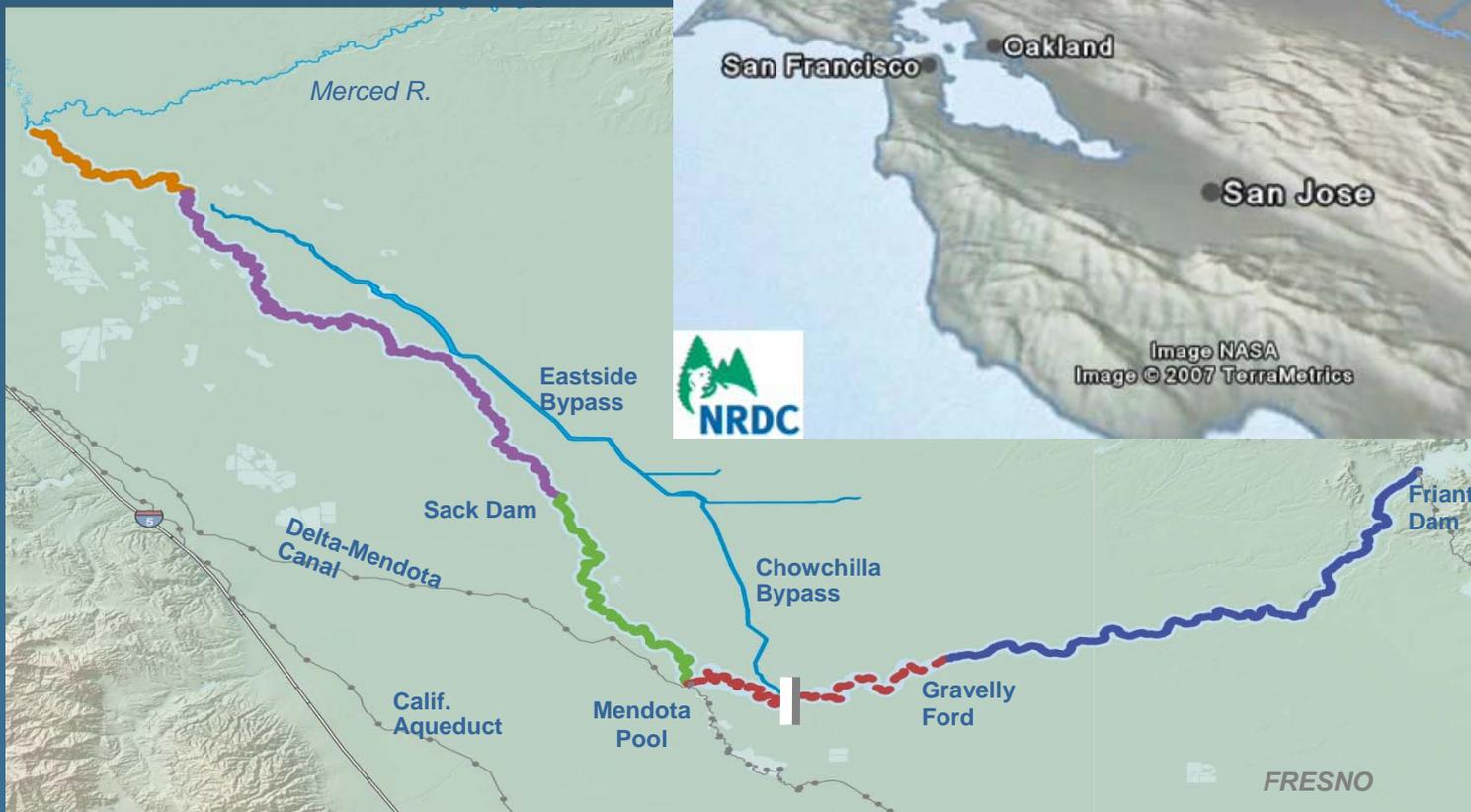
November 15, 2010

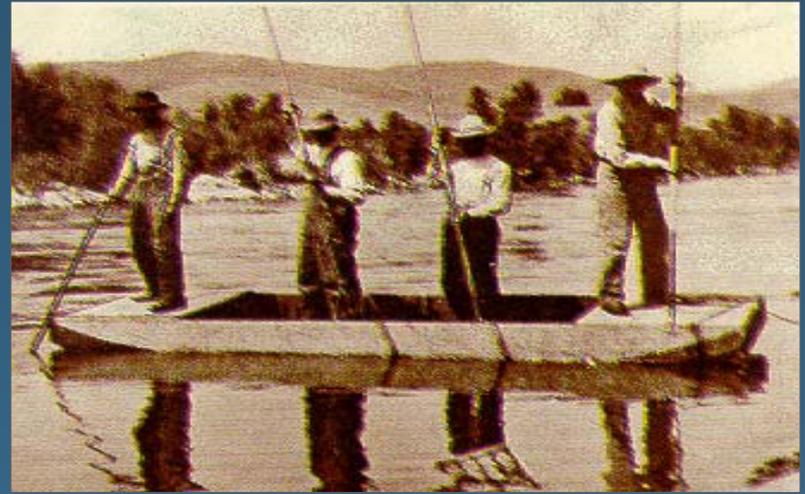
Monty Schmitt

San Joaquin River Project Manager
Natural Resources Defense Council



The Upper San Joaquin River





- California's second biggest river
- Fall and spring Chinook salmon runs averaged over 300,000 fish
- River branched into multiple channels creating vast network of riparian forests and wetlands
- Mainstem provided an average of 1.8 million af of water to the Delta
- Supported a vibrant commercial fishing economy
- Provided clean water to lower San Joaquin cities and farmers

Friant Dam and San Joaquin River Salmon



1941

1942-1947

1948-1949

1950

Thousands of spring run successfully return, spawn, and outmigrate:

1942: 6,000	1945: 56,000
1943: 35,000	1946: 30,000
1944: 5,000	1947: 6,000



NEW LIFE FOR SALMON—Spawning has been granted to salmon running up the San Joaquin River in their spawning ground below Friant Dam. The top picture shows about eight hundred feet of water spouting through the newly established holes from the Friant Canal down into Salt Slough, an offshoot of the San Joaquin River. An additional 18 acres has been spent up the migration of the big fish. In the bottom picture George Warner, one of three sons of the famous sportswriter Isherwood, who is making a record of the fish, has picked up the ambitious salmon which jumped clear out of the water and is replacing it.





- Over 60 miles of river dry in most years
- Fall and spring run salmon were extirpated from mainstem
- Thousands of acres of riparian and wetland habitats have been lost
- Downstream water quality has become highly degraded
- Hundreds of miles of San Joaquin River side channels have been converted to irrigation canals or filled in
- Loss contributed to the population decline of salmon in the Central Valley
 - Spring and winter run are listed under Endangered Species Act
 - 2 of last 3 commercial salmon fishing seasons closed
 - State estimates cost thousands of jobs and more than \$250M per year
 - Commercial fishing boats decline from 10,000 to 1,500
- Bay Delta ecosystem on the verge of collapse



NRDC Coalition sues USBR over operation of Friant Dam and renewal of contracts. Friant districts intervene in opposition.

Dist. Ct. rules Fish & Game Code §5937 applies to Friant Dam

§5937: "The owner of any dam shall. . . allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam."

NRDC wins summary judgment on §5937 and ESA Claims; trial date set for 2/14/06

1988 1993 1997 1998 1999-03 2004-05 2006

1st Settlement process

Court Approves Settlement Oct '06



Settlement Agreement

- Key Contents
 - Restoration Goal
 - Water Management Goal
 - Reopener
 - Funding
 - Restoration Administrator
 - Technical Advisory Committee
 - Schedule of deadlines
 - Does not preempt or modifying state law
- Only addresses Restoration Area
 - Does not address or preempt actions to address downstream issues
- Implementation began immediately
 - Using CVPIA authorities to do planning, design and development of environmental documents.

CONFIDENTIAL SETTLEMENT DOCUMENT — DRAFT OF June 8, 2006

1
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22 [Names of Additional Counsel Appear
23 On Signature Page]

24
25 **Confidential Settlement Document**
26 **Mark of 06-8-06 Draft**
27
28 UNITED STATES DISTRICT COURT
29
30 EASTERN DISTRICT OF CALIFORNIA
31
32

<p>33 NATURAL RESOURCES DEFENSE 34 COUNCIL, et al., 35 36 Plaintiffs, 37 38 39 40 41 42 v. 43 KIRK RODGERS, as Regional Director 44 of the UNITED STATES BUREAU 45 OF RECLAMATION, et al., 46 47 Defendants. 48</p>	}	<p>CIV NO. S-88-1658- KK/GGH STIPULATION OF SETTLEMENT</p>
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STIPULATION OF SETTLEMENT

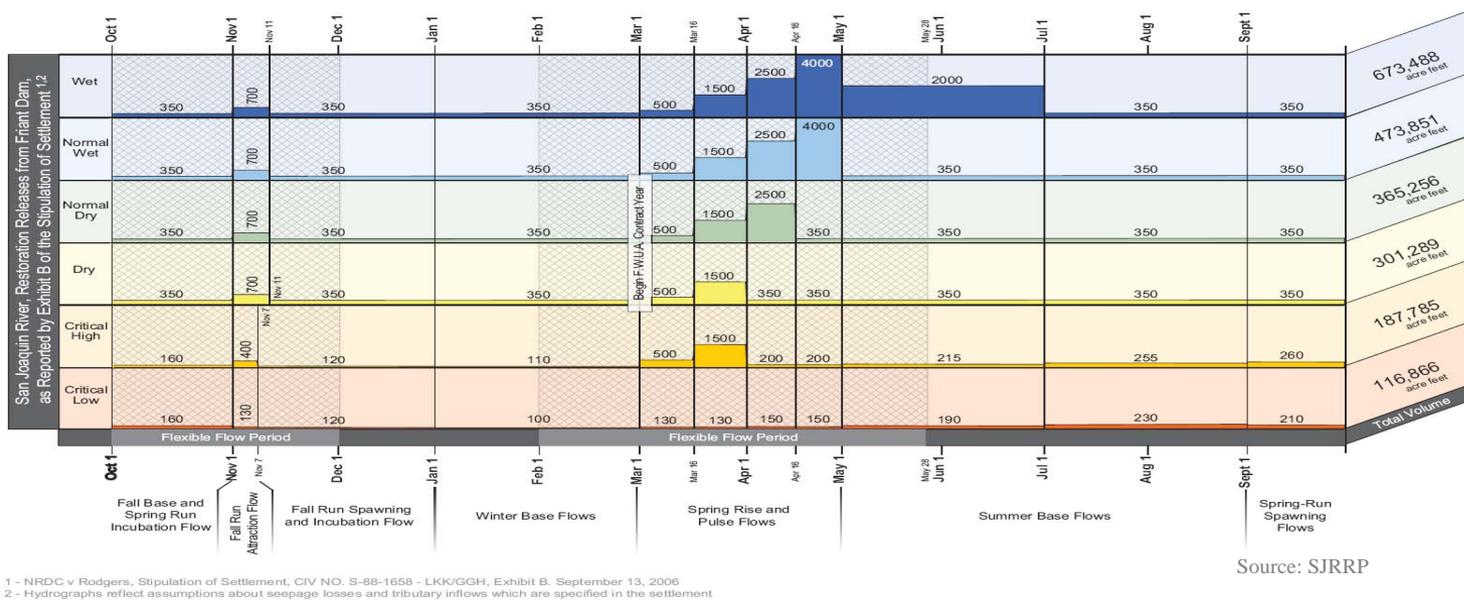


- State of California MOU – Oct 2006
 - To support and participate in implementing the Settlement
- Third Party MOU – Feb 2007
 - Downstream land owners and water districts including SJR Exchange Contractor Water Authority, San Luis Delta Mendota Water Authority and Resource Management Coalition
 - Agreement to collaborate and work together to implement Settlement
- Settlement Act (March of 2009)
 - Authorizes funding and implementation of Settlement
 - Does not preempt or modify state law
 - Additional Third Party protections
 - Multiple rounds of negotiations to provide additional protections regarding water supplies, seepage management, protections for landowners in Reach 4B, etc.

- Reintroduce Salmon
 - Spring and fall run chinook salmon
 - Establish naturally reproducing and self-sustaining populations
 - Reintroduce by end of 2012
- Restore flows
 - From Friant Dam to the confluence of the Merced River
 - Water quality and fisheries protections for flows downstream to the Delta
- Channel improvements
 - Flow conveyance
 - Fish passage
 - Habitat



San Joaquin River, Restoration Releases from Friant Dam, as Reported by Exhibit B of the Stipulation of Settlement^{1,2}



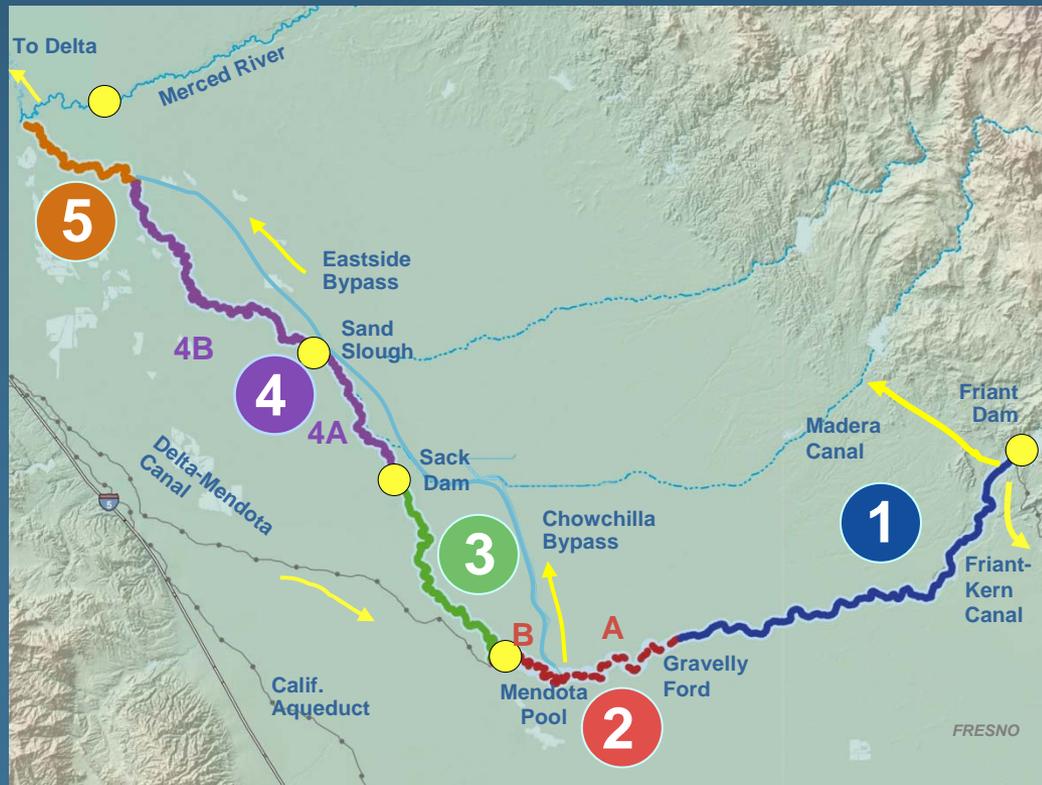
Source: SJRRP

- Approx 15% of unimpaired flow in an average year.
- Ability to flexibly manage flows to maximize benefits to fish
- Additional 10% buffer
- Ability to purchase additional water if necessary

Most Altered River in California

Key elements in San Joaquin system:

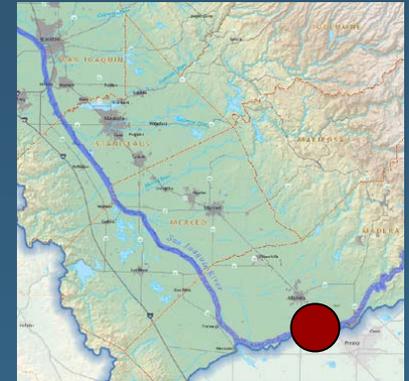
- Friant Dam/Millerton Reservoir
- Madera and Friant-Kern Canals
- Chowchilla and Eastside Bypasses
- Mendota Pool
- Delta-Mendota Canal
- Sack Dam
- Sand Slough
- Merced confluence
- To Delta





1. Gravel pits
2. Bifurcation structure
3. Reach 2B channel expansion
4. Mendota Pool Bypass channel
5. Arroyo Canal screens
6. Sack Dam fish passage
7. Reach 4b flow strategy
8. Sand Slough control structure
9. Mud & Salt slough barriers
10. Additional improvements

1. Isolate the highest priority gravel pits in Reach 1 to improve fish habitat

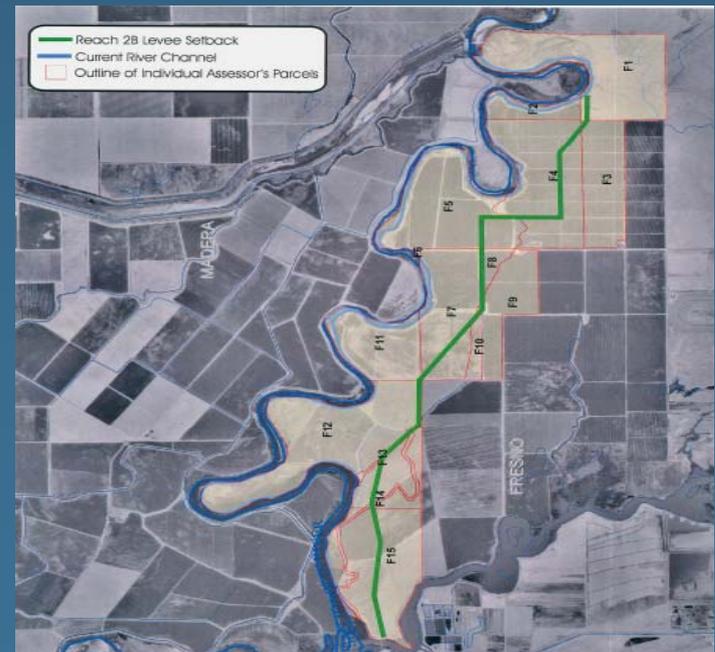
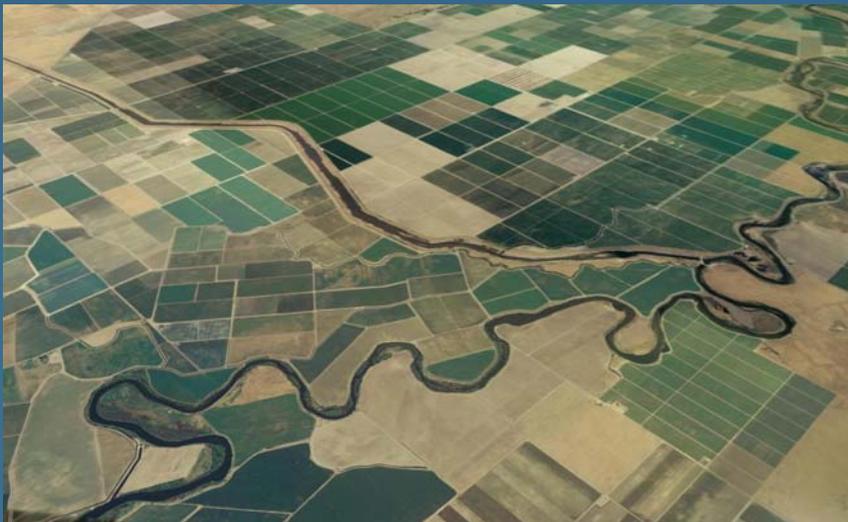
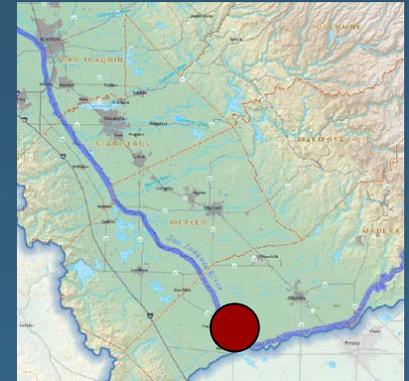


2. Modify Bifurcation Structure, if necessary



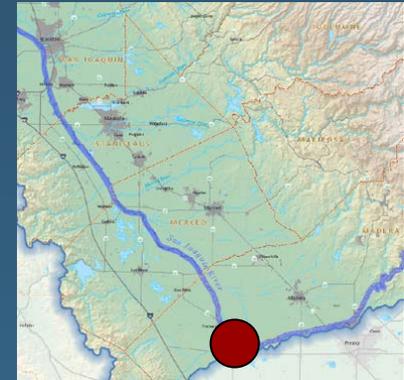
3. Increase channel capacity of Reach 2B

- Safely convey 4,500cfs through Reach2B
- Creation of new floodplain and riparian habitat



4. Create bypass channel around Mendota Pool

- Safely routes fish & flows around Mendota Pool
- Preserves functions of Mendota Pool for water delivery



5. Screen Arroyo Canal water diversion



6. Modifications to Sack Dam

- Ensure fish passage



7. Reach 4B

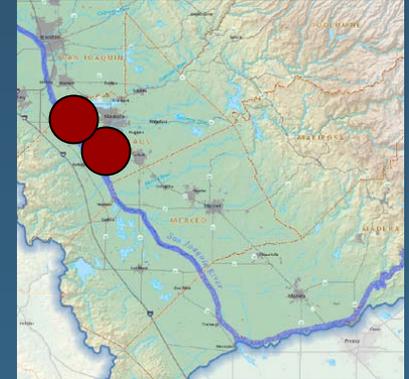
- Restore reach to convey at least 475 cfs
- Routing of spring flows - up to 4500 cfs
 - ALT. 1: Route flows through Reach 4B:
 - Increase channel capacity to 4500cfs
 - ALT. 2: Route flows down Eastside Bypass
 - Modify channel if necessary
- Settlement and legislation require a process for determining best strategy
- Evaluate alternatives based on fish habitat, cost, impact on surrounding landowners, etc.



8. Modifications to Reach 4B headgates and Sand Slough Control Structure
- Route flows and ensure fish passage



9. Create fish barriers at Mud and Salt Sloughs
 - Prevents fish from entering sloughs and becoming stranded





- Parallel Goal of the Settlement
- The Secretary is required to:
 - Develop and implement a plan for recirculation, recapture, reuse, exchange or transfer of Restoration Flows
 - Implement the Recovered Water Account that will make wet year water available at reduced prices
 - Have no adverse impact on the Restoration Goal, downstream water quality or fisheries (paragraph 16(a)(1))



Restoration Administrator (RA)

- Monitors progress of Settlement and reports annually to the court.
- Provides recommendations regarding:
 - Real-time management of annual flow releases
 - Additional actions to achieve Restoration Goal
- Manages the SJR Technical Advisory Committee

Technical Advisory Committee (TAC)

- Supports the RA in carrying out their responsibilities under the Settlement
- Eight members
 - Including Friant, NRDC, DWR, DFG and four appointees
- Federal agency representatives



Funding

Federal Funding (approx \$450MM)

- CVPIA Surcharge - ~\$8MM/year
- Portion of CVPIA Restoration Fund Charge - up to \$2MM/year
- Friant Capital Repayment - ~\$10MM/year
- Future Federal Appropriations - up to \$250MM

State Funding (~ \$200MM)

- Proposition 84 - \$140MM
- Infrastructure Bonds (Prop 1E) – \$60MM



- Interim Flows – October 1st, 2009
 - Up to full Restoration Flows
 - Limited based on channel capacity and construction activities
- Salmon Reintroduction – by Dec. 31, 2012
- Completion of fish passage (Phase 1) projects - 2013
- Begin Full Restoration Flows -January 1, 2014
- Completion of all Restoration Projects – 2016
- Achieve initial milestone of at least 500 fish – 2019
 - Long term goals are 30,000 spring run and 10,000 fall run.
- Reopener - 2026



- SJRRP Program Management Plan - April '07
- Planning, data collection, model development, analyses
- Preparation of environmental documents
- Established near and long term population targets
 - Min initial milestone of 500 adults -2019 (required by Settlement)
 - Average return of 2500 spring run adults – 2024
 - Long term average of 30,000 spring run and 10,000 fall run– 2040+
- Began Interim Flows – October 2009
 - Enables the collection of data to support the restoration effort including information about water temperatures, fish habitat, channel capacities and the development of water management projects.
- Land owner outreach
- Fish management plan
- Water management plan development



- Interim Flows
 - Higher flows are need for data collection and reintroduction of salmon in 2012.
 - Find near and long term solutions to seepage issues
 - Possible solutions: installing drains, easements, Chowchilla Bypass
 - Operations of Mendota Pool and Sack Dam to provide passage of Interim Flows
- Reach 4B high flow routing decision 2012
 - Whether to route high spring flows down river or Eastside Bypass
- Restoration Flows - 2014
 - Release full flows
 - Bureau must bank, store, or sell any unreleased flows
 - over 100,000 af in unreleased flows in 2010

■ Benefits of Settlement

- Resolved litigation and began restoration efforts
- Enables cooperative partnerships
 - FWA, NRDC and Bureau of Reclamation
 - Five Agencies (BOR, FWS, NMFS, DWR and DFG)
 - Other groups
- Funding



■ It's not just about salmon

- State and Federal Laws
- Quality of life
 - Recreation
 - Educational opportunities
- Water quality / Delta
- Flood management
- Recovery of the commercial fisheries





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