



WATER MANAGEMENT

Water Management Options and Actions:

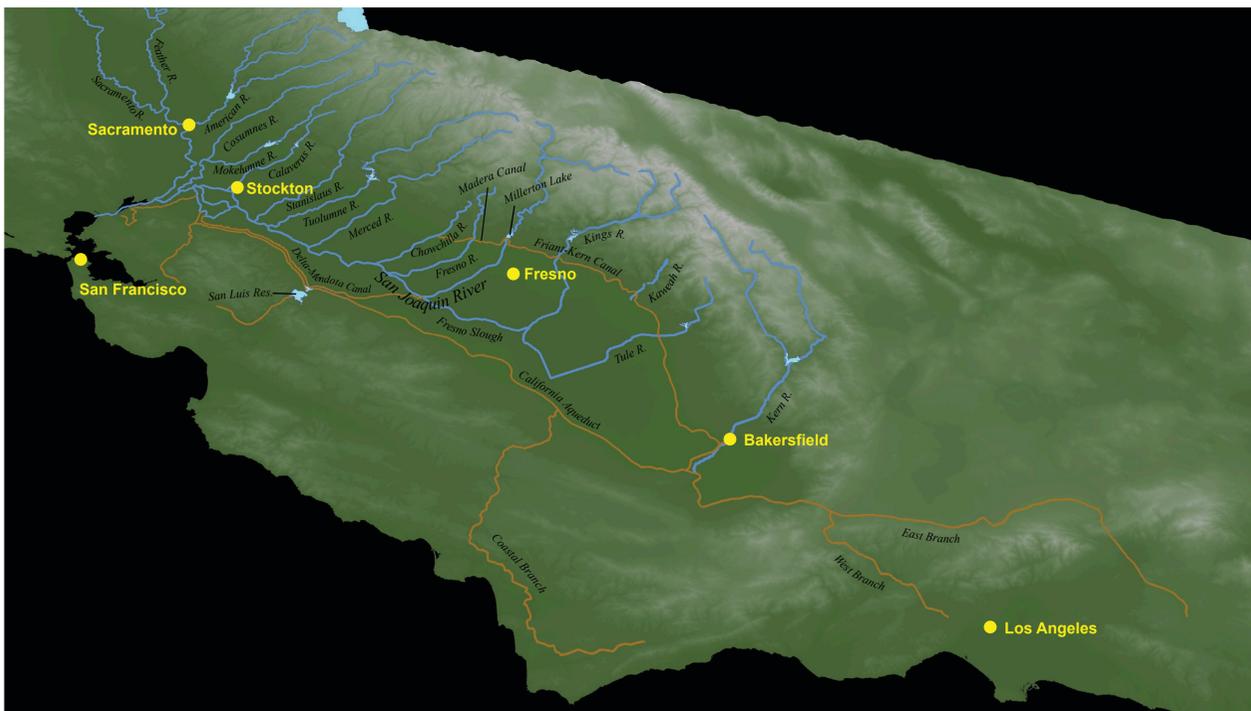
Evaluation will include those options and projects described in Paragraph 13(j) and Paragraph 16 of the Settlement.

	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.

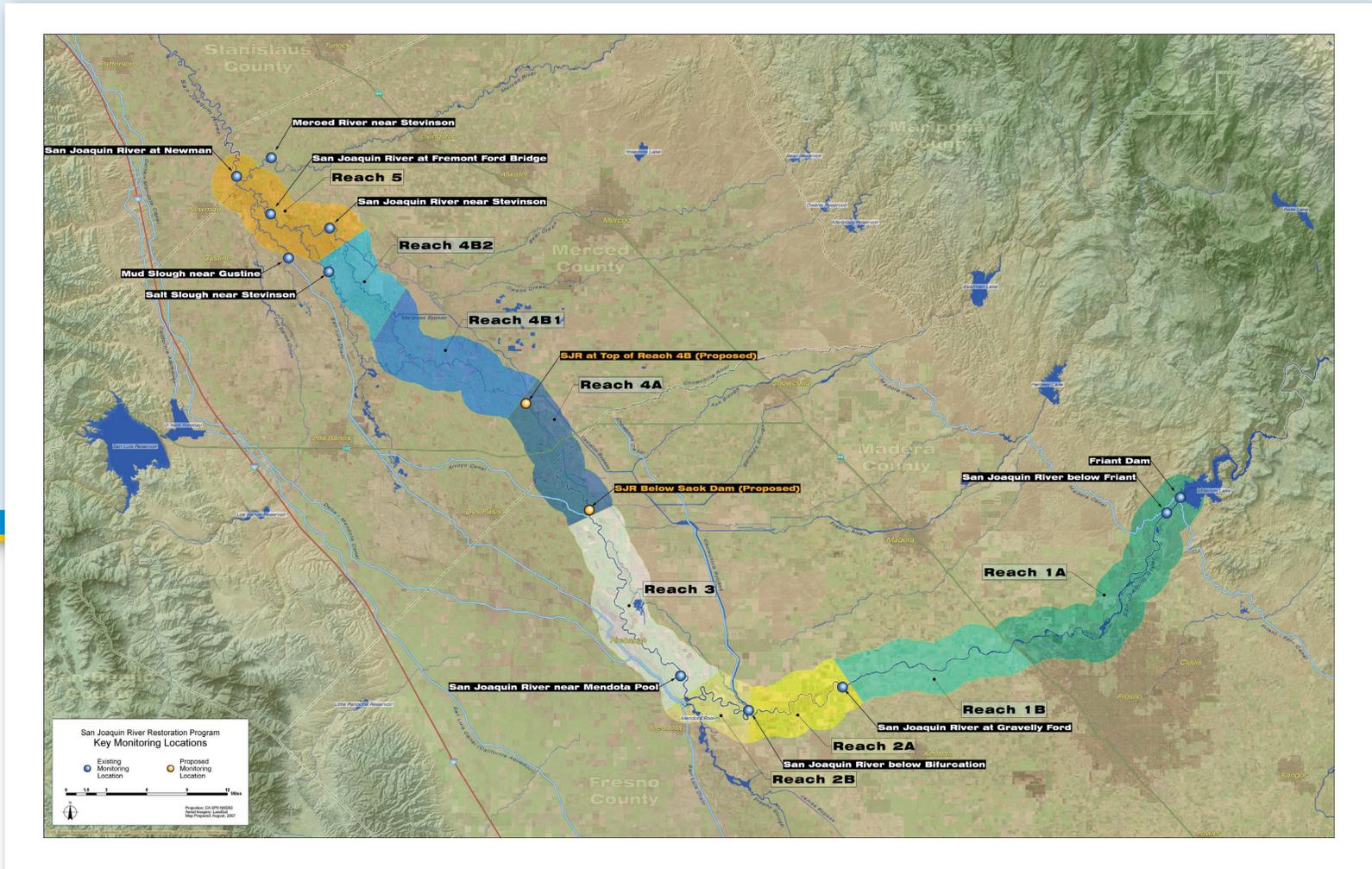


Paragraph 16:

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



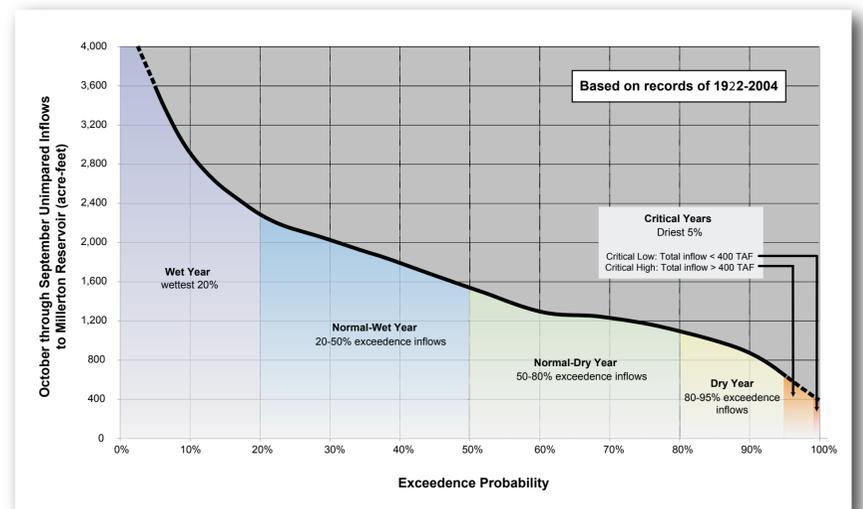
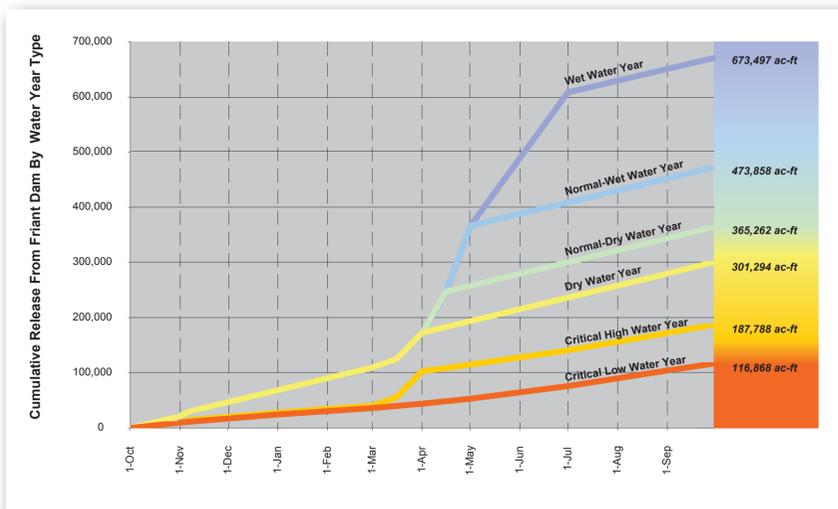
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Paragraph 13(j):

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.

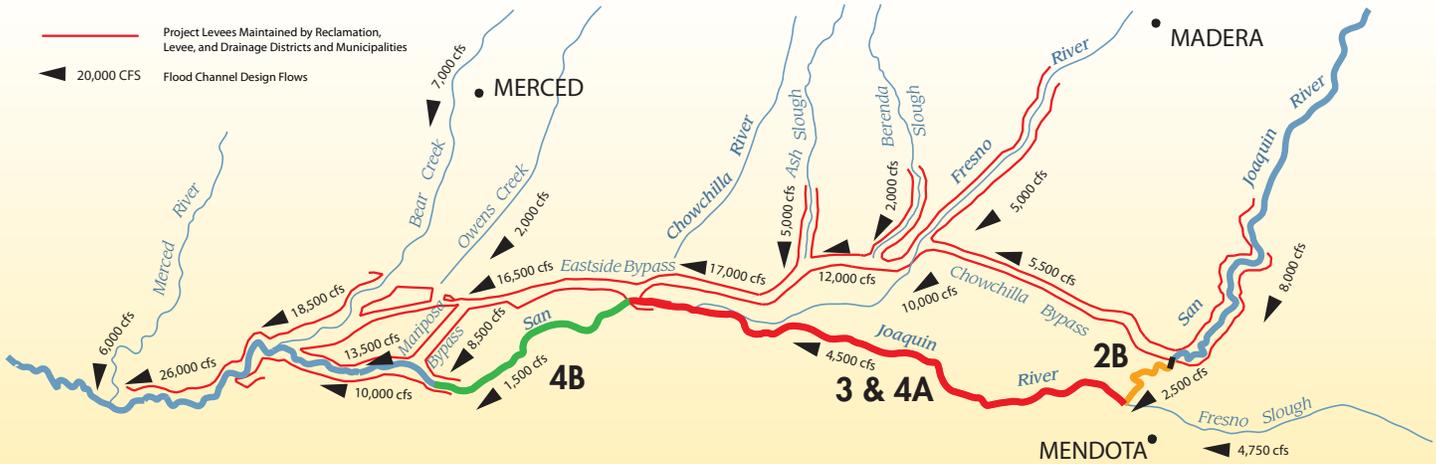


Cone Penetrometer (CPT) rig advancing rod into project levee to estimate soil behavior type.



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."