San Joaquin Basin Water Budget and Analysis Issues

RECLAMATION

DWR PLANNING SIMULATION MODEL (DWRSIM) ASSUMPTIONS FOR SWRCB STUDY WITH MAY 1995 WQCP DELTA STANDARDS (FLOW ALTERNATIVE 3) 1995C6F-SWRCB-506

Study 469 (Joint POD Alternative 2) assumptions are modified in accordance with the SWRCB Revised Modeling Request dated April 8, 1997. The Central Valley Project and the State Water Project are operated to achieve full compliance with all objectives in the 1995 Bay-Delta Plan.

1. San Joaquin River flows are modified with revised releases from New Melones, Don Pedro, Lake McClure, Eastman Lake and Hensley Lake as per Table No's 1 to 5 for Alternative 3, provided in the Request. These quantities of water must be released at these reservoirs and conveyed to Vernalis and the Delta.

2. San Joaquin River flows are modified by holding back monthly quantities of water which are not diverted in the San Joaquin Basin as a result of curtailment of direct diversion as per Table No's 10 to 16 for Alternative 3, provided in the Request. The values in these tables are subtracted from actual diversions at the indicated Control Points. If the values in these tables exceeded the modeled diversions, the modeled diversions are set to Zero.

3. If the additional water provided upstream of the Stanislaus is insufficient to meet the SWRCB's May 1995 Water Quality Control Plan flow objectives at Vernalis, additional releases are made from New Melones Reservoir.

4. In years when New Melones Reservoir approaches its minimum storage of 80 TAF, additional water is not provided to meet salinity requirements and violations are possible.

STUDY: 1995C06F-SWRCB-469 DWRSIM: 8.18, 27 Nov 96

Alternative 3 - Supplemental Water for Vernalis Objective (Add(3)) (TAF)

Add Water from Don Pedro and Lake McClure (CP 677 Downstream Flow) + New Melones Release for Vernalis Pulse and X2 Flow

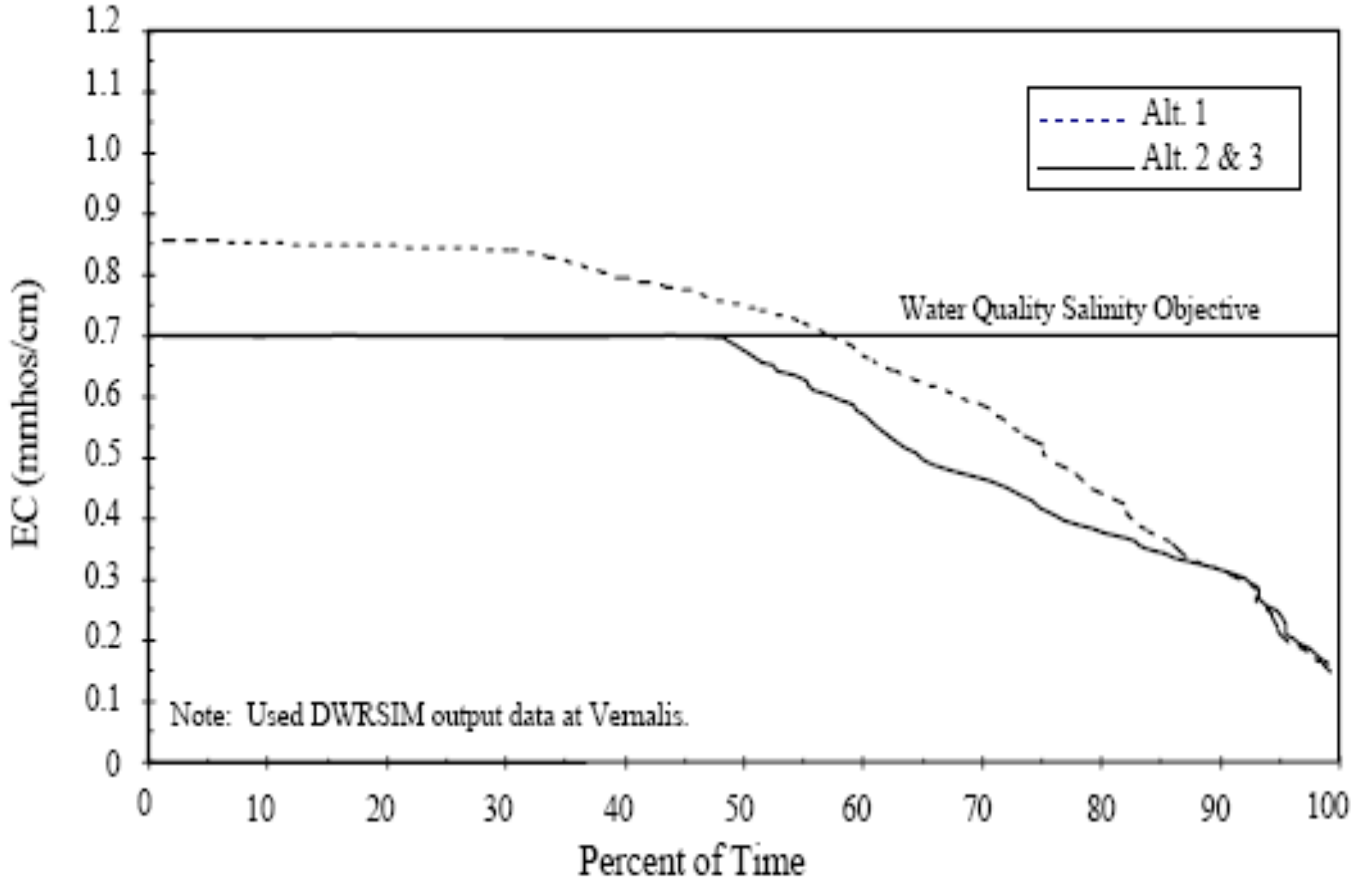
YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	6	0	0	0	0	0	29	108	0	0	0	0	143
1923	0	0	0	0	0	52	52	109	0	0	0	0	213
1924	0	0	0	0	0	0	18	43	0	0	0	0	61
1925	27	0	0	0	0	0	23	70	0	0	0	0	120
1926	27	0	0	0	0	32	34	88	8	0	0	0	189
1927	27	0	0	0	0	0	24	113	90	0	0	0	254
1928	0	0	0	0	0	0	39	91	2	0	0	0	132
1929	27	0	0	0	0	0	0	23	0	0	0	0	50
1930	27	0	0	0	0	0	15	20	0	0	0	0	62
1931	0	0	0	0	0	0	23	45	0	0	0	0	68
1932	0	0	0	0	0	0	0	68	32	0	0	0	100
1933	0	0	0	0	0	0	31	57	23	0	0	0	111
1934	27	0	0	0	0	0	10	42	0	0	0	0	79
1935	27	0	0	0	0	0	0	0	0	0	0	0	27
1936	0	0	0	0	0	0	0	49	13	0	0	0	62
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	45	12	0	0	0	57

Figure IX-19

Percent Probability of Exceedance

of Plan Salinity Objectives at SJR at Airport Way Bridge (Vernalis)

For April - August



Seasonality of San Joaquin Basin Objectives

Table 2

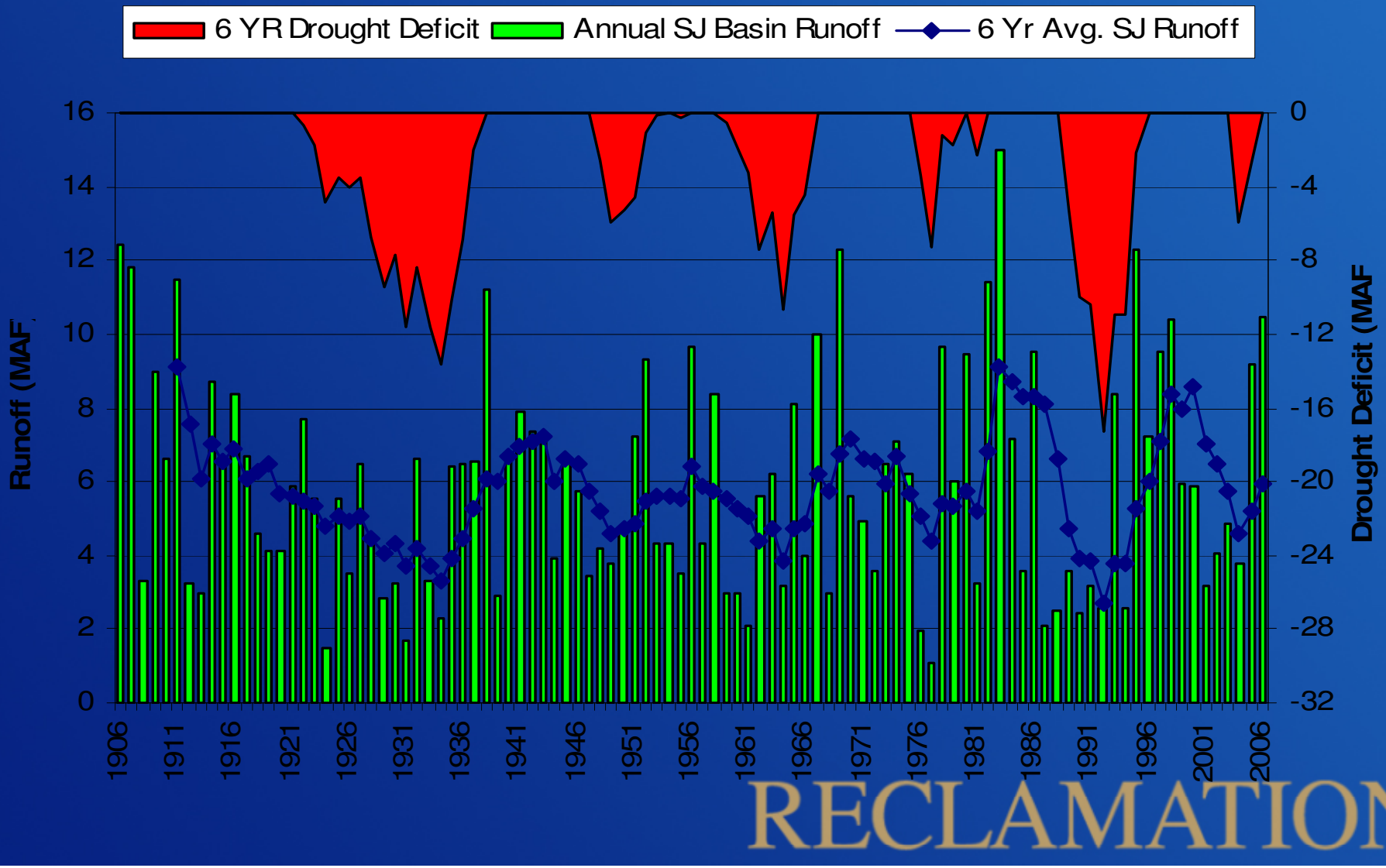
Seasonality of Flow Management

Likely Moderate Heavy

Yeartype	Basin Objective	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
W	Vernalis Salinity	1	0	2	0	1	0	0	1	4	9	0	0
W	Vernalis Base Flow					5	2	1	1	7			
W	Brandt B. Salinity	2	1	7	2	2	0	2	3	9		5	0
AN	Vernalis Salinity	0	0	1	0	2	4	0	0				0
AN	Vernalis Base Flow					8		1	0				
AN	Brandt B. Salinity	1	0	9	6	4	10	4	5				0
BN	Vernalis Salinity	0	0	4	4			5	7				0
BN	Vernalis Base Flow					9		1	1				
BN	Brandt B. Salinity	1	0		13								0
D	Vernalis Salinity	0	0	1	2								0
D	Vernalis Base Flow					12		2	0				
D	Brandt B. Salinity	0	0	14	13								0
C	Vernalis Salinity	1	0	8	10								0
C	Vernalis Base Flow					0	1	2	3	4			
C	Brandt B. Salinity	4	1										1

RECLAMATION

San Joaquin Basin Hydrology



RECLAMATION

Water Budget Issues

- Previous analysis had seriously flawed techniques and assumptions to draw any meaningful conclusion on beneficial use.
- Seasonality of flow needs for fishery and salinity objectives are different.
- New information and tools exist today to better characterize these key relationships.

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New Analysis

- New analysis will be required in order to understand key beneficial use seasonal flow dynamics and tradeoffs.
  - Well scoped basin wide approach
  - Systematic analysis approach