

1985 Dry Year

Concern	Tools	System Status		Priority	
		Historic	1A Baseline WQCP	Action	Evaluation
Yearling salmon migrants Oct-Jan	• Increase inflow			B	Spring Run escapement low
	• Reduce export				
	• Close DCC				
Winter run survival Dec-Mar	• Increase inflow			A	<ul style="list-style-type: none"> • Winter run escapement = 2700 • Relatively high salvage of winter run size fish in March under high exports and low outflow
	• Reduce export				
	• Close DCC				
Delta Smelt Adults Jan-Mar	• Reduce export			OK	<ul style="list-style-type: none"> • INDEX = 300 (poor) • Take low
Steelhead Feb-May	• Reduce export	7000-10000 cfs		B	• Salvage density > 10/TAF for several days in April
X2 Feb - June	• Increase inflow			OK	
	• Reduce export				
Salmon Fry Feb-Mar				OK	Dry year – few fry in salvage.
DS Young Apr-Jul	• X2 placement	80 km	76-77 km	B	<ul style="list-style-type: none"> • mid May - Mid Jun take high, but not over take limit.
	• Reduce exports	6000	7000		
San Joaquin smolts Apr-Jun	• Reduce exports	7000-10000 cfs		A/C	VAMP Extention: A - 15 days early C - 15 days late
	• Increase SJ flow	3000 cfs			
	• Close HOR	Open	Closed		
Striped Bass Young	• X2 placement	80-85 km	76-83	B	Index 6.3 (very bad) Take very high late May through late July.
	• Increase Sac flow				
	• Reduce exports				
Splittail May-Jul	• Reduce exports	6000	7000	B	Take high in May and June
	• Close HOR				

1985 Gaming

Old 1A

- Upstream b(2) cost is 125 TAF.
- 395 DWRSIM impact for WQCP for b(2)

Jan-March

Action: restrict exports to 3000 in last week in Feb and all of March.

Action: April 3000 first half and full VAMP 1500 mid-April to mid-May

Action: Late May and June exports restricted to 3000 cfs.

Total b(2) cost of 500TAF.

Action: Backup water into reservoirs during extended VAMP then release later in summer to make up San Luis Deficit.

New 1B-1985

- Initial conditions: San Luis storage starts at 356 TAF.
- Upstream b(2): Stanislaus is 30 TAF for additional cfs Oct-Jan; 30 TAF on American. 90 TAF for upstream Sacramento through Jan plus 90 TAF in February b(2) costs.
- WQCP cost to b(2) was 440 TAF.
- 120 TAF left for Delta export actions.
- Base San Luis Reservoir storage with DWRSIM ends 400 TAF higher than DAILY OPS.
- Delta Wetlands fills 1.5 times – used to refill San Luis – get 266 TAF out of DW to benefit water supply.

October	B(2) Actions: enhanced Stanislaus, American, and Sacramento flows.
November	B(2) Actions: enhanced Stanislaus, American, and Sacramento flows.
December	B(2) Actions: enhanced Stanislaus, American, and Sacramento flows.
January	B(2) Actions: enhanced Stanislaus, American, and Sacramento flows.
February	No Actions.
March	No Actions.
April	B(2) Actions: VAMP export restriction to 1500 cfs from 16 th through 30 th – cost to b(2) is 106 TAF.
May	B(2) Actions: VAMP export restriction to 1500 cfs through 15 th .
June	No Actions.
July	No Actions.
August	No Actions.
September	No Actions.

Summary of Year:

- Exports: 7.0 MAF (Historic 5.5 MAF)
- Deliveries: 7.1 MAF (Historic 5.5 MAF)
- Outflow: 6.8 MAF (Historic 8.4 MAF)
- Storage: No upstream change; San Luis down 450 TAF.

Performance of Assets:

- Expanded Banks used extensively in winter storm and during summer-- essential in maintaining San Luis
- Shasta expansion 290 TAF was again carried through this year.
- Delta Island storage – captured 266 TAF of excess flows and able to export 266 TAF additional water to San Luis, but were unable to refill Delta Island storage.
- Groundwater storage recharged in fall and winter, then discharged to benefit San Luis in spring-summer.

EWA suggestions:

- Fall-winter risks to spring-run salmon were made worse by higher exports.
- Winter run March was unattended as well. (A priority) about 250 TAF needed.
- Double exports in Jan would make some concern for adult smelt (A or B).
- Outflow reduced by two-thirds in Dec and Jan. concern for delta smelt and salmon.

Note: WQCP hit is smaller in wet years. In wet years we have a lot of b(2) for export reductions. In dry years we have bigger WQCP hit and need for export reductions are lower and upstream needs are greater – thus b(2) seems to fit the year types well.

Note: Hard to define Stanislaus b(2) cost with some AFRP flows built into the ops agreement in DWRSIM.

Note: Delta smelt data may affect our assumed Delta Island storage operations in the winter.