

1986 Wet Year

Concern	Tools	System Status		Priority	
		Historic	1A Baseline WQCP	Action	Evaluation
Yearling salmon migrants Oct-Jan	• Increase inflow	Pulsed to 20,000	Pulsed to 20,000	A/C	<ul style="list-style-type: none"> • C - Last week of Oct and first week of Nov - 100+/TAF. Some hatchery fish. • A - December peak • B - Jan lessor peak
	• Reduce export	8000	8000		
	• Close DCC	Open in Oct-Closed after	Closed in NOve		
Winter run survival Dec-Mar	• Increase inflow	Pulsed to 20,000	Pulsed to 20,000	B	<ul style="list-style-type: none"> • Some in Feb pulse. • Escapement 5000.
	• Reduce export	8000	8000		
	• Close DCC	Open OctClosed after	Open OctClosed after		
Delta Smelt Adults Jan-Mar	• Reduce export			A	<ul style="list-style-type: none"> • High numbers in January and Feb before flood. • Low FMWT index.
Steelhead Feb-May	• Reduce export	8000 Feb	12000 Feb	C	<ul style="list-style-type: none"> • Some in Feb pulse and Apr-May (5-20/TAF)
X2 Feb - June	• Increase inflow			OK	
	• Reduce export				
Salmon Fry Feb-Mar	Reduce export	<ul style="list-style-type: none"> • Inflow 200-600kcfs • Exports 6000-8000 	Exports of 10000	A/B	<ul style="list-style-type: none"> • A/B - Two weeks in late Feb above 1000/TAF • B - Two weeks in early Feb and two weeks in early March 100+/TAF
DS Young Apr-Jul	• Increase outflow			OK	<ul style="list-style-type: none"> • Low salvage
	• Reduce exports				
San Joaquin smolts Apr-Jun	• Reduce exports	6000-8000	5500	A/B	<ul style="list-style-type: none"> • A - Mid April-midMay 1000/TAF • B - early April >100/TAF • B - late May >100/TAF • C - early June >100/TAF
	• Increase SJ flow	>20kcfs Apr 5-10 May and June	>20kcfs Apr 5-10 May and June		
	• Close HOR	Open	Open		
Striped Bass Young	• Increase outflow			B/C	<ul style="list-style-type: none"> • B - June above 10,000/TAF • C - July 5000-10000/TAF
	• Increase Sac flow				
	• Reduce exports	<ul style="list-style-type: none"> • 4000-7000 in June • 8000-9000 in July 	5500 June		

Splittail May-Jul	Reduce export	4000-8000	5500	A/B	<ul style="list-style-type: none"> • A - 10,000/TAF May - 1st week of June • B - last three weeks of June ~1000/TAF
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Gaming 1986

Old Game 1A

- We left San Luis very low at end of 85.
- Added Run #3 deliveries from DWRSIM. Adjusted for DM pool deliveries. Total 5.4 MAF.
- How we finished 85 by making up what was needed to meet San Luis low point may affect this year's deliveries.
- Still operating at D1485 in most cases - operating on top of D1485. Operate to 98-9 but DWRSIM operates to WQCP.
- WQCP provided 6.4MAF compared to DWRSIM of 5.8 MAF - start with 800TAF for b(2).
- Keeping July outflows requirements at D1485.

Oct-Jan

Action: exports restricted to 5000 in Dec.

Action: exports restricted to 7000 in Jan.

Action: Relax E/I in last week in Nov. gained 30TAF for EWA.

Feb-Mar

Action: Feb reduction in exports to benefit WQ (TOC's).

Action : Cut last two weeks in Feb to 7000. 200TAF hit split with WQ and b(2) - b(2) debt cut by 30 TAF of EWA water. 330 TAF of b(2) left.

Apr-Jun

Action: VAMP - 1500 b(2) hit was 275 TAF

Action: 5000 cfs late May and first week in June - cost 31 to b(2)

Action: Made releases from upstream to maintain San Luis storage.

New 1B-1986

- Initial conditions: Shasta started down. Folsom at 500TAF.
- Upstream b(2): No actions.
- WQCP cost to b(2) was 165 TAF.
- 635 TAF left for Delta export actions.
- In-Delta b(2) export reductions: 700 TAF (340 was water supply cost as full deliveries were made).

October	B(2) Actions: Stanislaus flow raised to 500 cfs.
November	B(2) Actions: Stanislaus flow raised to 500 cfs.
December	B(2) Actions: 1. Limit exports to 8,000 cfs. Cost of 120 TAF. 2. Stanislaus flow raised to 500 cfs.

January	B(2) Actions: 1. Stanislaus flows raised to 500 cfs. 2. American River flow raised. 3. Sacramento River flow raised.
February	B(2) Actions: 1. Cut exports to 7000 cfs for two weeks. 200 TAF cost to b(2). 2. American River flow raised. 3. Sacramento River flow raised.
March	No Actions.
April	B(2) Actions: VAMP export restriction to 1500 cfs from 16 th through 30 th - cost to b(2) is 3
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: 5.9 MAF (Historic 5.3 MAF)
- Deliveries: 5.6 MAF (Historic 4.6 MAF)
- Outflow: 27.7 MAF (Historic 29.6 MAF)
- Storage: No upstream change; San Luis down 340 TAF.

Performance of Assets:

- Expanded Banks used extensively in winter storm - essential in maintaining San Luis
- Shasta expansion 290 TAF no benefit because it did not prevent spill.
- Delta Island storage - not refilled or operated.
- Groundwater storage recharged in fall and winter, then discharged to benefit San Luis in spring-summer.

EWA suggestions:

- Upstream we accepted low flows because of low carryover storage.
- January we made conditions worse with higher exports on adult smelt.
- Also extra impacts to spring run salmon in January from higher exports
- Partial protection of fry by cutting exports but overall higher exports in part of Feb and all of March.
- Winter run impacts greater in early February from higher exports.
- Smolts worse off in early April and late May into June from higher exports. Protected about half the smolt migration with the 30-day VAMP - need extensions.