

Gaming Notes: 11/15/99

GAME 1B with DWRSIM Study #6

- New late Stage 1 assets
- WQCP
- No upstream AFRP
- No VAMP exports but does include VAMP flows.
- Then to Study 6 with new assets
- Then add upstream AFRP and WQCP VAMP.
- Then add Delta Wetlands to see additional water supply gain.

Re-evaluation of Study 2 Accord costs:

- D-1485 Study 1 versus Study 2 = Accord b(2) costs
- Study 2 doesn't have Joint Point.
- Got 450 TAF WQCP hit by comparing Study 1 and 2.

Discussion:

Further b(2) accounting concerns when dealing with late Stage 1.

Taking into account differences

Rather than carrying accounting across years we will simply carry a risk premium.

Storages at end of 1980 are different in each run.

Are b(2) actions applied before or after new facilities are added?

Accounting for b(2) and WQCP:

1. Start with Study 1 and Study 2 end of game storage – Study 6, 80 ending storages
2. Study 1 is D1485 and Study 2 is Accord only.

1981

	Study 1	Study 2	Difference
A. Exports CVP	2827	2582	-245
Exports SWP	2751	2425	-326
B. Jan Clair Engle	1900	1831	-69
Jan Shasta	3747	3747	0
Jan Folsom	575	575	0
Jan N. Melones	1950	1950	0
Jan Oroville	2947	2947	0
C. Sep San Luis			

Note: single year DWRSIM runs compared with multiyear runs have different outputs because single year runs start the two studies at the same storage levels.

3. Compare Study 6 with Study 1 to show Accord cost of 1B Late Stage 1

	Study 1	Study 6	Difference
A. Exports CVP	2827	2564	-263
Exports SWP	2751	2725	-26
B. Jan Clair Engle	1900	1788	-112
Jan Shasta	3747	4037	290
Jan Folsom	575	575	0
Jan N. Melones	1950	1950	0
Jan Oroville	2947	2947	0
C. Sep San Luis			

Note: +290 TAF benefit of enlarged Shasta plus the reduced impacts of WQCP with the new assets.

1. Accord cost 640 TAF of which 320 TAF is assumed to be b(2) cost.
2. Upstream AFRP first – high storage levels thus go for enhancing fall flows.

3. American River – b(2) options for October and January to get flows up to AFRP – cost of 150 TAF.
4. Stanislaus was zero cost.
5. Total upstream b(2) at 350 TAF limit because reservoirs did not spill by Jan 31. The 200 TAF cost was only a cost because Shasta storage capacity was raised.
6. Delta Wetlands filled in DEC and JAN and released to export in summer (205 TAF benefit to water supply).
7. Note: EWA would be a good backup to lesson burden on b(2) from upstream actions.
8. With balance of 130 TAF of b(2) likely that we would have chosen to do VAMP in April (e.g., VAMP export reductions) – Note in reality VAMP decision would occur before the final accounting on WQCP is available, plus more releases from reservoirs could have made up export deficits in the summer. VAMP cost of 125 TAF.
9. Two weeks early filling of San Luis because of upstream AFRP releases.
10. San Luis at 500 TAF end-of-year.

Additional game steps:

- 1) Add in the upstream b(2) releases to Delta inflows in fall and winter. This would provide additional benefits to fish in the Delta.
- 2) Add in-Delta storage – benefit deliveries? (About 200 TAF of yield.)

Additional Notes:

- Full deliveries but DAILY OPS had 200 TAF less San Luis Storage because overestimates of deliveries and exports with DWRSIM.
- Big pumps were seldom used.
- Some water would be put in gw bank.
- All deliveries were made.

1982

Actions:

- 7500 cfs for one week in Dec.
- 3000 cfs VAMP export limit
- 5000 cfs export limit last two weeks in May and first week in June.
- Delta Wetlands feeds exports in summer to bring San Luis up 200 TAF.