

**DRAFT**  
**DNCT Steering Committee**  
**Meeting Notes**  
**4/1/99**  
**9:30-4:00**

**Attendees:**

**Agenda:**

- i. GAMING DISCUSSIONS
- ii. What we do next based on AM input from Q/S Group.

**Highlights**

We discussed the 3D approach of including WS, WQ, and EWA simultaneously in gaming process. Many suggestions for what to do from here on.

**Discussions of run results:**

1. Features that replenished EWA:
  - a. relaxing E/I
  - b. Money
  - c. Using extended Banks through Bacon
2. We made Delta outflow more natural - more like eco restoration.
3. We should consider using EWA for some of ERP actions.
4. Our salvage assumptions should be carefully reviewed considering we changed pumping a lot.
5. Salvage may not be a good surrogate for other fish factors. R: we used it only for gaming; more real tools would be available in real game.
6. Biol actions changed as we learned - we might want to go over and do it differently now.
7. We relaxed E/I's rarely. It may not be a good tool. We found better tools. We used this tool mostly in drier years.
8. Were facility limitations controlling our use of E/I relaxation?
9. We may have problems actually exporting as much water as we planned in summer because of limitations from week problems.
10. In real time both projects and EWA will be messing around - EWA only here.
11. We need to determine in all cases whether our water was real and what secondary effects of water movements were.
12. In real time we won't have as much foresight. There may be more guessing and forecasting.
13. We gained insight into versatility of different tools. Need to analyze their individual and combined effectiveness.
14. Need to discuss more of effects on population and address adult equivalents.
15. Teamed played well together.
16. Does using historical hydrology bias conclusions? What would happen in real life?

17. What should guide future real time management? CMARP?
18. May be harder to move water than we think.
19. Gaming tool may overestimate - may be giving too much credit.
20. Using daily model showed more opportunities to manage water - are these real?
21. Will we really get expected biological benefits?
22. Should we expand our benefits to more than salvage?
23. Real time gaming shows flexibility and benefits of moving away from prescriptive standards, but it has some shortcomings:
  - a. Assumptions
  - b. Uncertainties
  - c. Not scientifically validated
24. Analyze this one in more detail before moving to next game.
25. Should we consider randomizing future?
26. We should consider larval fish entrainment and possibility that salvage is not linearly related to pumping rate.

**Process:**

27. We may have been overly cautious.
28. We should use Kern or lose it.
29. We need a record of what we did.
30. We should capture broad view
31. We did not cover other species.

**What did we learn:**

- Shasta is very useful.
- money and variances were useful
- Upstream and downstream storage is useful.
- Delta storage especially effective - allowed us to hold water in San Luis with confidence.
- GW was constrained by capacity to move water to and from.
- 150TAF from efficiency was real.
- No demand shifting or debt charging used, but would be useful tools.
- dry years were not so bad because exports already limited; wet years could be expensive but often made up easily.
- Delta Wetlands useful especially in combination with other tools
- different problems in different years.

**Recommendations:**

- write up results in detailed report
- document options we had to play with
- discuss reality of approach and tools
- discuss limitations of focusing only on salvage
- Can we really buy water?
- Can we do better for fish, ws, or wq?

- We need more operator input to see if we can really operate this way.
- Should we focus on producing more fish or killing less fish?
- We should link more closely to ERP.
- WE should do a sensitivity analysis.
- Attack with more games and more focus on wq and ws.
- Need more reality and stochastic features.
- We should provide guidance to CMARP.
- We should put more water down tributaries to increase production.
- Need a different approach for biology and water supply.
- We need more analysis of what we did.
- We should focus more on early stage 1.
- How will assets be secured for Stage 1?
- How do we get to year 4? How do we start?
- We should consider pulling assets in and out to determine their value. Determine biggest bang for our buck.
- Try credit card approach.
- Need a broader view of environmental benefits.
- Are there other things we can do other than reduce exports.
- We can sell water for other things.
- Determine effects of shifting exports.
- Address population level effects.
- Impacts of populations may take years to determine.
- Proceed with more gaming.
- We should compare with Services scenario from last fall.
- Should we consider a baseline without AFRP?
- Should we anticipate an AFRP with 800 TAF?
- WE need a biology post analysis.
- Make Q/S aware of what we are debating and not agreeing on.
- Get operator input.
- Address ERP.
- Make a best effort to satisfy everyone.
- If we weaken baseline, then we will need more assets in the account because the baseline provides a lot of protection.
- Wait til we are gaming to hash out issues.
- Water users should try to satisfy agencies, and visa versa.
- Need better pricing data for water purchases to be more realistic.
- Show key data: change in exports; Shasta storage; San Luis, and GW.