

**DEFT Committee  
Meeting Notes  
Thursday, 9:00-1:00  
11/19/98**

**Agenda:**

- i. Biological criteria for triggering Scenario A1 fish protections
- ii. Issue Statements
- iii. Environmental Water Account - how used
- iv. Hybrid Scenarios
- v. Modeling results

**Action Items**

1. Modelers: for Scenarios with salvage restrictions, need month/year days triggered from Russ's analysis of historical data.
2. Modelers: Trigger Feb 14 day VAMP (Scenario A1/B1) if Vernalis average monthly flow in January was > 4,000 cfs.
3. Modelers: Trigger QWEST standard in Dec if Nov 4RiverIndex in Nov > 1000TAF. Trigger in Jan if Dec index was >750 and <1300 TAF. Trigger in Feb and Mar based on already defined Sac River index flow criteria.

**Highlights**

- I. Developed triggers for QWEST standard and Feb VAMP.
- II. Discussed EWA and need to show how it works.
- III. Russ presented figures for scenario A daily model to show effects of each measure on exports.
- IV. Discussed priorities.
- V. Discussed Hybrid Scenario concept and pro/cons of QWEST standard versus flex using EWA.
- VI. Discussed whether ecosystem protection is part of our mission, or simply focusing on direct and indirect effects of export pumps.
- VII. Discussed Hood diversion size increase - decided no, besides not needed since QWEST is rarely triggered in Nov-Dec.
- VIII. Discussed what we need to provide management next week.

**Biological Criteria for Scenario A1/B1 with standards**

- **Fall/Winter QWEST standard trigger criteria:** wetter fall/winters (upper 30%) trigger half of these. Trigger Jan if Dec is a 40-80th percentile month in historical record of Sac River flows. Trigger Dec if Nov Sac River flow was in upper 20th percentile.
- **Winter Export Restrictions (winter VAMP):** 10 days in Feb if January Vernalis flow was in upper 30th percentiles - looks like >4000 cfs is good trigger point (retrospect triggers for modeler purposes only). Based on conceptual model of 1997 January flood causing San Joaquin fry to be vulnerable through February 1997 - hundreds per day at pumps.
- **Spring VAMP triggers:** run 75 and 30 day bookends.

### **Environmental Water Account**

- Ecomanager has discretion to flex to gain eco water credit based on some biol criteria for relaxing E/I standard
- In Scenario A1/B1 use credits to maintain QWEST standard.
- For export restriction scenarios (Hybrid and E) use credits to cut exports to reduce salvage.
- Need to Prioritize use of water in EWA
- Need to start with some base balance at beginning of each year.
- First Line of Defense: purchase options on water
- Second Line of Defense: Use SOD storage to reduce exports - for example 500 TAF of SOD storage.
- Third Line of Defense: Loan concept - for example credit line for reducing exports 150 TAF
- Use based on judgement of ecomanager
- Purchase options using EWA as collateral - only cough up collateral if end of water year cut into deliveries.
- a. Mike T: what happens if EWA gets drawn down over a series of years - gradually go from first to third lines?
- b. Dave F: will need 1 MAF in long term. GW is key collateral.
- c. Bruce: by Feb we should know if San Luis would fill to determine if we need to go past options
- d. Mike T: Carryover? Yes if there is room.
- e. Sprecht: reservoir storage rights are important - Lester says they are vertical/equal. When reservoir fills and spills do we lose equally or EWA first?
- f. Pete R: Equally sounds good.
- g. Dave F: this is risk adverse and success adverse
- h. Elise: Need equal risks for EWA and other stored water.

### **Bruce's Hybrid**

Bruce presented how he would get water into EWA from relaxing E/Is using model output tables from DWRSIM runs of C and Base.

- water is used or gained in EWA from flexing standards
- EWA gets all relaxed water once Accord+AFRP is obtained.
- Model run should eliminate E/I standard and use full Banks with all water obtained going to EWA initially.
- All NNG tools for water supply except extended BANKS all goes to EWA when allowed.
- Need assurances that there is a place to store EWA water, otherwise it will just spill every year. Equal rights in storage would limit spill losses.
- Using credits as we go through water year increases yield of EWA
- We get most deposits into EWA in June and April, followed by Oct and Dec.
- Concerned about X2 effect when putting water into EWA. Happy if X2 is low when we do it. We could not do it in 1977. In 1976 we could put some water in EWA in Oct/Nov, and then Apr, June, and Sep when X2 was at Chipps - we would move X2 only ½ km upstream.

- In 1977 we would use GW account part of EWA to limit exports below what is allowed in Accord + AFRP.
- During drought we would still be able to add water to the EWA for several years - then we would start drawing it down.
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- 1. Mike T: Can we carryover minimum amounts to next year?
- 2. Serge: Spilled water provides an env benefit.
- 3. Bruce: simulate EWA for ecomanager by looking at potential water available from flex E/I by looking at effect on X2. For example looking at a wet year like 1922 in model output - in June we would have relaxed E/I and put 200 TAF water into EWA because X2 was at Roe Island; then in July we would have use EWA to reduce exports.

### **Ron's Report from Management**

- They don't want five scenarios.
- Want to know what we are trying to accomplish.
- They want water costs
- They want to see our options/tools (EWA, E/I flex, QWEST, EWA use, Hood diversion)
- They want to see impacts to WQ, WS, and ENV.
- Tradeoffs
- Want to see EWA - how we use it. Priorities for its use. How big.
- Tues Speer/Quinn meeting.
- a. Elise: two EWA uses: improving QWEST and reducing salvage.
- b. Bruce: need to define water needed for both
- c. Serge: both types in Hybrid? Bruce: yes.

### **Priorities for EWA**

- top: spring San Joaquin salmon and delta smelt young.
- d. Elise: confidence and risk plus ecosystem perspective.
- e. Dave F: need to define which things we do first.
- f. Bruce: for biggest problems standards can help; whereas for variable not so big or often problems then flex is answer. For example: VAMP is a good fixed standard for our big spring problem for smelt and San Joaquin salmon. EWA is better for protecting the rest of year. This way we don't play one species against the other.
- g. Mike T: we could have both standards and flex EWA available - a combination - with standards providing base level of protection and EWA providing extra protection when needed. Tradeoffs could be a problem. I want my cake and to eat it too.
- h. Pete R: seems that steelhead like striped bass should be a lower priority.
- i. Mike T: Agree
- j. Gary: as long as we recognize that each steelhead is worth more to its population than the other species.
- k. Serge: balanced out by steelhead smolts not being at risk to exports or salvage mortality. We should provide priorities to management.
- l. Gary: salmon yearlings are like steelhead in terms of risk - they are also very valuable to population.
- m. Mike T: we have already prioritized species and life stages with the proposed actions.

- n. Elise: too soon to prioritize because modelers have not given us information to evaluate tradeoffs. We should work on off triggers.
- o. Gary: Flex or off triggers should be considered for A1 standards.
- p. Bruce: EWA for less sure things. QWEST is not the best fixed standard. Some fish would better benefit from watching out for salvage. Hybrid should have less strict standards.
- q. Elise: QWEST is an ecosystem standard for all species. We need this.
- r. Bruce: Our mission is to provide additional protection from salvage losses; ecosystem concerns are handled by rest of CALFED program and AFRP.
- s. Elise: disagrees.
- t. Mike: Eco perspective is important because salvage does not show whole effect of exports. Need something to protect basic ecosystem function from Oct-Mar - that is what QWEST standard is for.
- u. Mike: EWA should be based on something. Need to define how big. A good EWA would allow more flex on the QWEST standard. Need 500 TAF. Show that we "have the money". VAMP covers biggest concern. EWA will have to cover rest if we want to eliminate the QWEST standard from December through February.
- v. Elise: for the Hybrid if the water is there for the VAMP and QWEST standards, then the rest can go into EWA. We may hardwire QWEST or flex it. Standards should be flexed with triggers. Need ecosystem protection in other months as well.
- w. Pete R: need priorities by species or season. He can prioritize bottom of list: steelhead, splittail, and striped bass (lowest), but has trouble at top. It would be a valuable exercise to prioritize among the top.
- x. Gary: suggested priority approach not based on species. Define when things are safe to export. (Sort of an export time value)
- y. Bruce: sensitivity and priority of top group changes from year to year - part of adaptive management considerations - can not define now.
- z. Pete R: Right with you - wet years would have different priority structure than dry years. Need a 4-10 year base plan based on priorities in wet and dry years.
- aa. Jim W: we don't know water costs yet to determine if we need to set priorities for EWA. Concerned about effects of eliminating or relaxing E/Is - this was base level of protection. Do other standards and EWA provide basic protection?

#### **Bruce's Description of Hybrid**

- C with EWA and extended VAMP

#### **Russ's Presentation on Daily Model Simulation**

- Need to fix runs and consider upstream adjustments to accounting - run in parallel with monthly to compare.

#### **Discussion of Hood Diversion**

- bb. Mike T: a larger Hood would change needs for protection in A1 to provide same assurances.
- cc. Gary: a larger Hood would bring more adult fish through Central Delta and behind screen.

dd. Don't need a larger Hood without QWEST standard limiting Nov-Dec.