

Modeling & Its Uses

Staff Report, Bay-Delta Plan Update

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SacWAM Is Welcome

- Independent Staff product & capacity
- Reduces water-user bias: complete control of assumptions
- Not cobbled-together CalSim adaptation
- Each watershed at equal level of detail

“Reasonable Protection” standard for Board evaluation of flow alternatives

- **“The underlying fundamental purpose of the project is to establish water quality objectives, a program of implementation, and monitoring and special study measures for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta.”** (Staff Rpt, p. 7.1-5)
- Standard is NOT incremental improvement

SacWAM shows clear benefits of higher flow range

- Based on achievement of key threshold flow benchmarks identified in scientific literature
- Benefit acknowledged in Staff Report:
 - “[T]he required Delta inflows would be higher under the High Flow Alternative compared to the proposed Plan amendments and would provide ecosystem benefits ...” (p. 7.2-8)

Staff Report:

2 issues with “High Flow Alternative”

- Carryover storage and associated water temp.
- Water supply
- Report draws unwarranted conclusion based on summary analysis:
 - “[T]he beneficial environmental effects under the High Flow Alternative would be limited due to significant challenges in maintaining suitable water temperatures for cold water aquatic species and carryover storage for environmental and water supply purposes.” (p. 7.2-8)

How the Board should use modeling done to date

- Determine how to manage carryover storage and water supply impacts:
 - To achieve the flows needed for protection of fish and wildlife beneficial uses
 - So that provision of the needed flow protection is “reasonable”
- Not to find fish “science” showing that less flow is adequate (Board should rely on its scientific findings in 2010, 2017)

Staff Report alternatives are not a take-it-or-leave-it menu

- The Board cannot simply pick and choose among different stated alternatives
- The Board must refine alternatives to develop a decision starting from (not ending at) what the summary analysis shows

Partial list, needed further modeling and/or policy and legal analysis

- Especially of “High Flow Alternative”
 - “Almost every major tributary in the Sacramento River watershed, and each Eastside tributary, has unique features and issues that require specific consideration and analysis.” – CSPA comments on Scientific Basis Report, 2016
- *On following slides*

Carryover storage & water temps.

- The “High Flow Alternative” is framed to lose
 - Is it 65% or 75%?
 - Unlike Low Flow and Plan alternatives, High Flow Alternative contains no flow flexibility to manage carryover storage and water temps, needs it
- App. A1c Res carryover, temp values are crude
 - Set to not exceed historical values (pp. A1-10, -11)
 - First cut shows need, requires serious refinement
 - CVP “buffer pools” show promise, also need work

Water supply impacts require additional analysis by the Board

- Not sufficient: CEQA-ish approach bracketing the possible impacts by stating the worst case
- Requirements of CEQA:
 - Analysis of impacts to evaluate alternatives; can't overstate impacts to dismiss as infeasible
 - To analyze (as well as implement) mitigation of impacts to the extent feasible
 - The primary purpose of CEQA is to support informed decision-making

The Board cannot defer further analysis of water supply impacts to a program of implementation

- What is “reasonable” depends on particulars
- Danger is that the particulars of water supply impacts will never be analyzed because the Board will conclude, *based on first cut summary analysis alone*, that water supply impacts make 65% or greater unreasonable
- The Board must break this vicious circle

The Board cannot rely on water users to analyze water supply impacts

- Water users will not collaborate with the Board or with NGOs to improve a percent-of-unimpaired flow requirement
 - Not to optimize implementation
 - Not to mitigate water supply impacts
- For ten plus years, every water-user response has been designed to make percent-of-unimpaired-flow requirements look unreasonable and to challenge them on a legal basis
- Water users cooperate only when in control

Consideration of different allocation rules:

- For water users upstream of rim dams
- Among different watersheds to achieve aggregate Delta inflow and outflow objectives
- Between agricultural and M&I water users in various watersheds
- Combining 2 or more watersheds (suggested only as possible “voluntary” option)

Different rules for allocations to Settlement and Exchange Contractors

- E.g., the assumptions already outlined as Alt. 3 for modeling of LTO BiOp alternatives
- Consider in the context of *proactive* drought alternative that limits deliveries in first dry year, before declaration of “emergency”

Analysis of impacts to Bay Area water suppliers based on source of water

- Report analysis (based on location of impacts) obscures opportunities for revising allocations or other actions within source watersheds
- Staff Report lumps EBMUD (Mokelumne), SWP & CVP contractors (Delta pumps), CCWD (other in-Delta diversion)

Take-homes

- The Board must require refinement of analyses in Staff Report, especially:
 - Water supply impacts
 - Carryover storage
- The Board must make hard and complex decisions to implement a high flow alternative that will reasonably protect fish and wildlife beneficial uses and meet the Plan's objectives
- Answer question: How can we make this work?

Thank you!



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