

As you anticipate your review of the research, monitoring, and evaluation programs that support adaptive management activities related to flows and fish as well as your review of the BDCP EIR, I wanted to call to your attention an important link between these activities.

The BDCP's Section 3.4.1.4.4 (on p. 3.4-19 of the March 2013 BDCP) describes the how the 'decision tree' will employ adaptive management to identify flow criteria affecting the amount of water exported from the Delta by the federal and state water projects. 900,000 AF annually is the difference between the high and low ends of the potential diversions, with the authorized amount to be determined by adaptive management experiments conducted in the first decade after the BDCP's approval. Just by way of comparison, the combined yield reported for constructing Sites + Temperance Flat reservoirs + raising Shasta and Los Vaquero Reservoirs is about 800,000 AF annually, according to the Department of Water Resources. So a lot of water, worth billions of dollars over the 50 year life of the BDCP permit, is at stake.

A little more relevant information is in the March 2013 BDCP's Table 3.4.1-1, which links the decision tree to other flow criteria that affect the project. Some aspects of the hypotheses to be tested are proposed, too.

These adaptive management experiments about how flows affect fish appear linked to those under discussion in the Collaborative Adaptive Management Team (CAMT) program under development in response to Judge O'Neil's remand of the biological opinions about Delta water project operations.

I suggest these BDCP/CAMT adaptive management efforts, which can affect, within a decade, a water supply equivalent to the yield of three reservoirs, could provide part of the framework for the ISB's review of adaptive management activities related to flows and fish and your review of the BDCP EIR. Questions that crossed my mind are:

- Is adaptive management an appropriate tool for examining these questions, or do recent reviews of adaptive management successes and failures suggest other approaches, either because the complexity of the Delta ecosystem will confound attempts to discern the effects of a single variable, such as flow, or because the potential costs of effective adaptive actions, in water or fish, are potentially too high?
- Is current monitoring adequate to provide a useful baseline for evaluating the outcomes of these adaptive management actions, or are improvements in monitoring and/or the evaluation of monitoring data desirable?
- Are there lessons from experience with recent Bay Delta adaptive actions about flows and fish (e.g., the Vernalis adaptive management program, FLaSH, flow management at Clear Creek and Butte Creek) or actions on the Columbia or Colorado rivers that are relevant to these fish and flows BDCP/CAMT adaptive management actions?
- Are the relevant agencies, including the Delta Science Program, properly organized, staffed, coordinated, and funded to monitor and evaluate these adaptive management actions?
- What role should independent peer review play in assuring the integrity and rigor of these high stakes fish and flows experiments?

Becoming aware of the relationship between the decision tree, the BDCP's flow criteria, and the BDCP's yield has focused my attention on the importance of getting these adaptive management experiments right. Those of us responsible for these programs today will be long gone when our successors confront the decisions about whether this 900,000 acre feet of water annually will be available to California's water agencies, or not. I want them to have the information they need, rather than have them asking "What were they thinking?"

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