



2005 DEC 27 PM 1:53

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

In response reply to:
151422SWR2004SA9116:BFO

DEC 20 2005

Dr. Johnnie Moore
Lead Scientist, California Bay-Delta Authority
CALFED – CBDA
650 Capitol Mall, 5th Floor
Sacramento, California 95814

Dear Dr. Moore:

Thank you for the opportunity to provide comments on the draft CALFED report for the review of NOAA’s National Marine Fisheries Service (NMFS) biological opinion (BO) on the Long-Term Central Valley Project (CVP) and State Water Project (SWP) Operations Criteria and Plan (OCAP) issued on October 22, 2004.

The objective of the review was to determine whether NMFS used the best available scientific and commercial information when preparing its BO. The Panel’s charge was to evaluate and comment on the technical information, models, analyses, results and assumptions that formed the basis for the assessment of the proposed long-term water operations in the Central Valley. The Panel accomplished this task by providing an objective, unbiased review that adequately addressed the questions posed to it in the charge document (Appendix A of your report).

General Comments:

The Executive Summary appears to be longer than needed. It goes further than necessary in summarizing the Panel’s results and contains more detail than the report itself in combining the questions in the review into four key issues. In addition, the Panel’s background and charge are repeated here and on page 8 and 9 of the report. We suggest moving the four condensed questions back into the report and shortening the length of the Executive Summary. The tone of the Executive Summary appeared more critical than that expressed in the text of the report. We suggest that the panel revise to be consistent with the findings expressed in the report.

Overall, the review creates a very high level of expectation for future biological opinions on CVP and SWP water operations. Although the Review Panel defined the terms “best” and “available” when used in context with the BO, they also need to recognize the statutory constraints (*e.g.*, 30 days to notify agency of missing data, 90 days to write, 45 days for review) under the Endangered Species Act (ESA). Time and staffing constraints can limit the extent of the



analyses performed. Some of the analyses suggested (*e.g.*, climate change) would take several years to develop and to date have been cost prohibitive. We suggest separating out the information that was truly available and generally accepted at the time the biological assessment was prepared (*i.e.*, June 30, 2004). We acknowledge that the steps laid in the Panel's review (*i.e.*, conceptual framework, analytical framework, and a life cycle approach) will greatly benefit and improve future consultations of this type.

Specific Comments:

In the Introduction the first paragraph should contain the date the biological opinion was issued (*i.e.*, October 22, 2004), and to whom it was issued (*i.e.*, U.S. Bureau of Reclamation and the California Department of Water Resources). The second paragraph contains the names, addresses, and short resumes of each panel member. We suggest moving this description of the panelists to an appendix.

Panel Charge, pg. 8 and 9. Redundant, contains the same text as in the executive summary. The more detailed discussion should be here of the seven questions and an explanation regarding their combination into four issues. Suggest deleting the Panel's Background and Charge, stated in the Executive Summary.

Background, pg.11. Under Jeopardy Analysis Guidelines. The statement between Numbers 1 and 2, "Based on this information the biologist determines if the species can survive" is not an official guideline. This wording is not contained in the ESA Handbook or Federal regulations. We would suggest you strike it or replace with; "Based on this information the biologist attempts to determine if the proposed action is likely to reduce the probability of both survival and recovery of the species." See BO pg. 90.

Overarching Issues, pg. 13. The Panel believes that BO was lacking an analytical framework and a life cycle approach. We do not agree. In order to systematically address the effects of the project under the ESA, a matrix was developed for each specific region or project (*e.g.*, Trinity River, Sacramento River, Freeport Project) moving from the upstream tributaries to the Delta (see pg. 90, steps for jeopardy determination, and pg 96, life history table and assumptions). Each of these regions was formatted into a life cycle approach starting with adults, egg and fry mortality, smolt survival, and then moving into the suitability of the habitat for these different life stages (see headings under effects).

Conceptual Framework, pg. 13. The reference to the information in the NMFS document (Bottom et.al. 2005) being available in draft form for this BO is incorrect; standard protocol for our agency is not to release draft documents (even internally) until they are reviewed and published. The concept for the Delta is that salmon and steelhead smolts do not spend much time rearing in this environment, but rather emigrate quite quickly through the region, spending most of their time in the upper tributaries and mainstem Sacramento River. The Columbia River estuary and the Sacramento River Delta are not similar; salmon behave differently in each (see Assumptions for Diversions and Entrainment, BO pg. 95). Unlike in the Pacific Northwest,

Chinook salmon in the Central Valley show little estuarine dependency (MacFarlane and Norton 2002).

Flow and Temperature Effects and Analyses, pg. 19. The BO describes the uncertainty involved in using a monthly time-step in the calculation of the egg mortality model (pg. 90). In an effort to reduce this uncertainty NMFS required the Bureau of Reclamation to improve the current temperature control model (see Term and Condition 6.d., BO pg. 229). This new modeling effort will incorporate hourly observations, not available at the time the BO was written, into the currently used model for the upper Sacramento River (*i.e.*, critical spawning reaches). This data gap was recognized in the BO and has already been changed.

Issue 3- Too narrow a treatment of temperature effects. pg. 22. First paragraph. The statement that fry migration of fall-run Chinook salmon in the Sacramento River currently migrate one month earlier than before the Shasta Dam was built is irrelevant since it is now part of the environmental baseline. Fall-run Chinook salmon were not considered for this BO, except to draw comparisons to their similar life cycles. The Panel speculated the reason for this change, “because of warmer water in the winter”. Water temperatures are never above 56°F after November 1st in the upper Sacramento River, if there was a shift in fall-run Chinook migration it was more probable that it was due to the change in spawning location downstream below the dam.

Issue 5- Incomplete documentation of how other models (e.g., decision tree, fish allocation) were used in the analysis. pg. 23. The use of the Salmon Decision Tree to protect Chinook and steelhead smolts is described in the project description under Adaptive Management Process (BO pg. 37 and the OCAP BA Appendix B). We are not sure what the Panel means by “fish allocation,” as there is no discussion of harvest in the BO.

Issue 9 – Too little attention paid to effects and impacts on life history and population structure. (Questions 2, 3, and 4). pg. 27. Last paragraph, (2) evidence for faster juvenile salmon growth in the Delta. The evidence suggests that the opposite is true, juvenile Chinook salmon show little growth in the Delta (MacFarlane and Norton 2002). NMFS agrees that floodplain growth is more rapid than riverine (Sommer, et al. 2001). In the BO we weighed this more rapid growth against the loss of juveniles to isolation and stranding in these areas.

Table 3. pg. 29. Thirteen effects that were not quantified and not mentioned in the BO. Seven of these effects (2, 3, 4, 5, 6, 7, and 10) were analyzed in the BO, or included in Table 10 under Baseline Project Effects. The effects of long-term water contracts are included in Table 9 (pg. 194 of the BO) and are combined with the effects of unscreened CVP diversions. Many of the effects in Table 3 of the report were originally in Table 9 of the BO, but later dropped to shorten the table, since they were sub-lethal or unquantifiable.

Issue 14: Questionable use of surrogates in some situations. (Questions 1, 2, and 3). pg. 31. The use of surrogates for estimating the take of spring-run Chinook yearlings is the topic of a workshop unto itself. At the present time, until the use of non-lethal genetic identification can be applied quickly and at a low cost, NMFS has determined that this method is the only one that can

be used. The approach suggested by the Panel is described in the BO under assumptions, pg. 97, and is representative of those spring-run Chinook salmon yearlings that originate in Deer, Mill, and Antelope Creeks. Spring-run Chinook salmon in Butte Creek are not considered represented by the surrogate late-fall releases because they are predominately young-of-the-year (YOY) and not yearlings when they emigrate. Through the Data Analysis Team the use of late-fall surrogates is matched up each year with the timing of natural spring-run yearlings in the upper Sacramento River. The surrogates are released at Battle Creek above most of the spring-run tributaries in order to best replicate the natural timing of yearlings in the Sacramento River. Incidental take for YOY spring-run Chinook salmon cannot be quantified because they cannot be distinguished from fall-run Chinook salmon at the fish salvage facilities.

References Cited. pg. 39. "Williams et al. 2003". Not complete reference.

NMFS thanks the Panel for their informative review and will take their suggestions for improvement into consideration for future OCAP biological opinions.

Please contact Mr. Bruce Oppenheim at (916) 930-3603, or via email at bruce.oppenheim@noaa.gov if you have any questions regarding this letter or require additional information.

Sincerely,



Rodney R. McInnis
Southwest Regional Administrator

cc: NMFS-PRD, Long Beach, CA
 NMFS-PRD, Silver Springs, VA
 Randy Brown, CALFED Science Advisor, 4258 Brookhill Dr, Fair Oaks, CA 95628
 Jim Lichatowich, Chairperson, Alder Fork Consulting, Columbia City, OR 97018
 Steve Ford, CBDA, 650 Capitol Mall, 5th Fl, Sacramento, CA 95814

Literature cited:

MacFarlane, B. and E.C. Norton. 2002. Physiological ecology of juvenile Chinook (*Oncorhynchus tshawytscha*) at the southern end of their distribution, the San Francisco Estuary and Gulf of the Farallones, California. Fish Bull. 100:244-257.

Sommer, T.R., M.L. Nobriga, W.C. Harrell, W. Batham, and W.J. Kimmerer. 2001. Floodplain rearing of juvenile Chinook salmon: evidence of enhanced growth and survival. CJFAS 58:325-333.