



California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

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State Water Resources Control Board

Tom Howard, Executive Director

1001 "I" Street, 24th Floor

Sacramento, CA 95814

Tom.Howard@waterboards.ca.gov

VIA: Electronic Submission

Hardcopy if Requested

Re: Clarification of oral comments at February 18, 2015 workshop on January 27, 2015 Temporary Urgency Change Petition of the Department of Water Resources and Bureau of Reclamation, and February 3, 2015 Order Approving In Part And Denying In Part A Petition For Temporary Urgency Changes and Conditions Requiring Compliance With Delta Water Quality Objectives In Response To Drought Conditions

Dear Mr. Howard:

During my oral presentation at the TUCP/TUCO workshop on February 18, 2015, I was asked by two Board members how water temperatures for winter-run Chinook salmon in the Sacramento River and could be improved in 2015 absent measures in the Temporary Urgency Change Order (TUCO) that were adopted to reduce Delta outflow and relax Delta salinity requirements. In addition, I noted in closing that one could not assume that Shasta operations similar to those in 2014 would occur in 2015, though I did not have time to elaborate on this observation. I write to further discuss and clarify these issues.

The issues I wish to address can be best introduced by considering ordering paragraph 6(b) of the February 3, 2015 TUCO. That paragraph reads:

Reclamation, in coordination with the fisheries agencies, shall update the Temperature Management Plan for the Sacramento River for the 2015 winter-run Chinook salmon spawning and rearing period that considers other fisheries needs, including spring- and fall-run Chinook salmon. That plan shall identify and evaluate all available options for reducing temperature and redd dewatering impacts to winter-run Chinook salmon on the Sacramento River for the remainder of the 2015 Water Year. As part of the development of the Temperature Management Plan, Reclamation shall include three temperature model run scenarios: (a) Reclamation's preferred operations, (b) the fisheries agencies' preferred operations and (c) an optimal operation for which temperature control pursuant to Order 90-5 is the primary objective for operations in Water Year 2015 without consideration for contract deliveries and other demands for water from Shasta Reservoir. Reclamation shall follow direction from the fisheries agencies for the assumptions that

should be made for model run scenario (b) and shall follow direction from State Water Board staff to determine the assumptions that shall be made for model run scenario (c). The 2015 temperature management plan shall be submitted to the Sacramento River Temperature Task Group (SRTTG) for review no later than March 15, 2015, with updates as necessary to reflect changing conditions. The final Temperature Management Control Plan shall be submitted to the State Water Board by June 1, 2015. Temperature model input and output files for all scenarios shall be included as an appendix to the Temperature Management Plan.

The greatest problem with the requirement for development of this Plan, as written in ordering paragraph 6(b), is that it does not adequately describe how the Plan will treat different variables and contingencies that at this time are unknown. A second problem is that the timeline is inadequate to allow the Bureau of Reclamation (Bureau), or for the Board to require the Bureau, to take action before June 1, 2015 that may improve the Bureau's ability to "identify and evaluate ... available options for reducing temperature and redd dewatering impacts to winter-run Chinook salmon on the Sacramento River." This includes making water allocation and delivery decisions so that contractors can plan planting and other operations accordingly. A third problem is that the Order does not require public scrutiny of the Plan as it is being developed, so that it is entirely possible that a flawed plan will be completed and made public too late to take effective corrective action.

The Bureau's and the fisheries agencies' respective "preferred operations" for temperature modeling scenarios are dependent on several variables and contingencies. These can broadly be divided into two categories: those dependent on natural conditions, and those dependent on operational decisions.

The natural conditions include ambient meteorology and reservoir inflow (to Shasta in particular, and to Trinity Reservoir as well). This includes not only the volume of the inflow, but the timing of the inflow and the resulting water temperature of the inflow.¹

The operational conditions that are variable and contingent are considerable. They include:

1. Releases from Shasta to meet required fishery or other instream purposes
 - a. Numeric flow requirements,

¹ Timing of releases through the hydropower projects on the McCloud and Pit rivers could also potentially affect water temperatures in Shasta Reservoir, and in particular could affect the size and temperature of Shasta Reservoir's cold water pool. However, it is unlikely that inflows from these sources, or from the upper Sacramento River, would add to the cold water pool later than June. While the additional inflow from these sources after June will serve to insulate the cold water pool that has already formed, inflow temperatures will then be unlikely to be sufficiently cold to create an underflow to add to the Shasta cold water pool. Presumably, the Shasta Reservoir temperature model will account for these upstream factors.

Note that in this document, I use the term "upper Sacramento River" to refer to the river upstream of Shasta Reservoir, and the "lower Sacramento River" to refer to the river downstream of Shasta Reservoir. This is not always the same terminology used by the Bureau.

- b. Delta salinity requirements and control,
- c. Water temperature management;
- 2. Deliveries to Settlement Contractors north of Delta
- 3. Deliveries to San Joaquin Exchange Contractors
- 4. Deliveries to other CVP contractors for health and safety
- 5. Allocated deliveries to other CVP contractors for other purposes
- 6. Water transferred from CVP contractors to other project contractors
- 7. The sources of water to meet CVP contract deliveries in 2015 and the division of volumes between (in particular) Shasta and Trinity reservoirs.
- 8. Water temperatures in Shasta Reservoir resulting from natural conditions and from operational variables 1-6 above.
- 9. Operation of the temperature control device in Shasta Reservoir, particularly before June.
- 10. Decisions made by fisheries agencies and project operators to determine the target location(s) in the lower Sacramento River for protective water temperatures.
- 11. Decisions made by fisheries agencies and project operators to determine the numeric temperature target at various times at the target location(s).

There may be additional important variables and contingencies that I have overlooked. For the illustrative purposes of this discussion, I shall primarily consider items 1-6 above.

The questions posed to me by Board members on February 11 addressed only two operational variables: flows released to meet Delta outflow and flows released to meet Delta salinity requirements (numbers 1(a) and 1(b) above). In 2014, water “conserved” by reducing these requirements is stated to have been 450 TAF.² However, increases in 2015 CVP deliveries in comparison to 2014 deliveries could easily account for far more water than that amount, or more generally from an as yet unknown amount of water that might be “conserved” in 2015 as a result of CVP/SWP TUCO’s. The result could easily be that water “conserved” in Delta operations would not improve on the amount or temperature of water available in Shasta Reservoir in late summer to meet critical lifestage needs of winter-run, spring-run and fall-run salmon.

The following table outlines the differences in CVP deliveries between 2013 and 2014.³ This demonstrates the extreme contingency of the availability of any conserved water that might be attributable to reduced Delta flow or salinity requirements.

² http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/tucp/2014_final_cwareport.pdf

³ Sources: <http://www.usbr.gov/mp/cvo/14deliv.html> ; <http://www.usbr.gov/mp/cvo/13deliv.html>

Comparison of 2013 and 2014 water deliveries by the CVP				
Volumes in TAF unless otherwise stated				
Deliveries by category/location	2013	2014	Difference fr. Shasta/Trinity	Table # as stated on CVO website
Sacramento River	1716.41	1203.84	512.57	28
SJ Exchange contractors (N of Delta 2013; from Millerton 2014)	617.77	412.98	617.77(?)	24
San Luis Canal	602.82	293.14	?	26
San Felipe Division	128.68	74.15		26
Tehama-Colusa Canal	277.20	118.92	158.28	27
Delta-Mendota Canal	303.41	154.19	?	25
Friant-Kern Canal	503.91	180.26		22

In 2013, 617.77 TAF was delivered to the San Joaquin Exchange Contractors. Though the CVP delivery tables do not state the source of that water, that water has historically always been delivered from north of Delta. In 2014, for the first time, and over strong objections from contractors in the CVP’s Friant Division, the Bureau supplied water to the San Joaquin Exchange Contractors from Millerton Reservoir on the San Joaquin River. A decision in 2015 to supply the Exchange Contractors from north of Delta, which one would presume would be sourced substantially from Shasta, could entirely or almost entirely offset the “benefit” to the cold water pool in Shasta that would theoretically be derived from reduced Delta standards in 2015.⁴

A return from 2014’s 75% deliveries to CVP Settlement Contractors north of Delta to 100% deliveries in 2015 could equally offset the same prospective benefit. Increased deliveries to other divisions or units of the CVP could have additional impacts on the amount of water left in Shasta at the end of August, 2015, and thus on the water temperature in the cold water pool and in the Sacramento River downstream.

In sum, when modeling pursuant to TUCO ordering paragraph 6(b) to evaluate prospective measures improve Shasta Reservoir and lower Sacramento River water temperature management, greater definition is needed in regard to key variables. It is not simply a matter of “preferred operations” on the part of the Bureau or of the fisheries agencies, or of optimizing for fish. It is, additionally, a matter of creating a matrix of input and release variables and running a suite of scenarios that allows consideration of potential limitations on project deliveries that may be needed in order to assure that the stated desired fisheries benefit in the Sacramento River downstream of Shasta Reservoir is not vitiated or even overwhelmed by water supply decisions. As noted above, it is important that this work in progress be daylighted to the public, and that it

⁴ In 2014, Exchange Contractors received 412.98 TAF as shown on Table 24 from the CVO website linked above. The percent of contracted delivery to the Exchange Contractors is a further variable that can affect the amount of water drafted from Shasta to meet CVP deliveries.

be completed sooner than June 1, recognizing that any document may be modified as the year progresses.

Further, as the Board considers whether modifications to Delta outflow, salinity, and other requirements may have longer term benefits for fisheries and for longer-term salinity control, the Board must also consider what measures it must take to assure that temperature control of the Sacramento River downstream of Shasta Reservoir is protectively managed and maintained. The simplest type of measure, though not certain to succeed, is to set end-of-month storage targets for Shasta Reservoir. CSPA believes that such an action, or similar, is required, even as we continue to maintain that known impacts to in-Delta fishery resources make the weakening of Delta standards as requested in the Bureau and DWR's January 27, 2015 TUCP and as partially granted in the February 3, 2015 TUCO, unwarranted.

Thank you for the opportunity to elaborate on these matters.

Respectfully submitted,



Chris Shutes
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California Sportfishing Protection Alliance

P.S. I have been asked the source of the statement in Slide 8 of my February 18, 2015 presentation that "100% of in-Sac-River spring-run" had perished. The statement was drawn from page 11 of the TUCO itself, which in turn drew its language almost verbatim from the Salmonid Biological Review submitted by NMFS on January 27, 2015. Both documents use the words "significant, and potentially complete, mortality." I should have added the qualifier "potentially" to my slide.

cc: Members of the State Water Resources Control Board
Department of Water Resources, c/o James Mizell
Bureau of Reclamation, Regional Solicitor's Office, c/o Amy Aufdemberge
Barbara Evoy
Les Grober
Jean McCue
Rich Satkowski