



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

February 28, 2018

Mr. Jeff Rieker
Operations Manager, Central Valley Project
U.S. Bureau of Reclamation
3310 El Camino Avenue, Suite 300
Sacramento, California 95821

Re: Response to March Allocations

Dear Mr. Rieker:

Thank you for your February 28, 2018, letter, providing details associated with initial volumes for the 2018 contract year for north-of-Delta municipal and industrial (M&I) water service contractors, as well as a volume of water for March 2018 to meet minimal irrigation needs of the agricultural water service contractors. Specifically, North-of-Delta diversions for March 2018 would include up to 4,600 acre-feet (AF) for M&I and 175 cubic feet per second (cfs, ~11,000 AF) for agricultural water service contractors, as follows:

- American River Division M&I contractors: up to 1,800 AF;
- Trinity/Shasta/Sacramento River Divisions M&I contractors: up to 1,000 AF;
- Delta Division contractor (Contra Costa Water District): up to 1,800 AF; and
- Agricultural water service contractors: up to 175 cfs on a daily basis

Through our conversations, Reclamation has indicated that the proposed north-of-Delta diversions in March would not likely result in increases of releases out of Keswick Dam, currently at 3,250 cfs, and also reflected as such in the 50%, 70%, and 90% exceedance February forecasts in enclosure 5 of your letter.

Reclamation has indicated a change to the initial 75% allocation for M&I water service contracts in the Trinity, Shasta, Sacramento River, American River, and Delta Divisions of the CVP, to 50%. However, unfortunately, that change was not coupled with a temperature model run to determine how or if it changes water temperatures in the upper Sacramento River throughout the temperature management season.

As mentioned in NMFS' February 16, 2018, response letter, the meteorological data set that Reclamation used in its HEC-5Q temperature modeling did not include the most recent decade, of which northern California experienced some of the hottest days, weeks, months, and seasons on record. As a result, the NMFS-Southwest Fisheries Science Center used meteorological conditions from 1990-2017 as inputs into its RAFT model. While the data set is not as broad as what Reclamation used in the historical record, it does capture the extreme air temperatures that northern California experienced over the last several years. NMFS acknowledges the 2 issues that Reclamation identified, associated with RAFT and the temperature-dependent mortality model. Specifically, first, Reclamation indicated that a different set of meteorological conditions



should not be used with a particular output from the HEC-5Q model than the one used to operate the model. In order to resolve this issue, Reclamation and NMFS (including the NMFS-Southwest Fisheries Science Center) should work towards agreeing on a set of meteorological conditions and data set that makes sense both for HEC-5Q modeling, and also to capture the recent years of extreme air temperatures, to produce the necessary conservative temperature model runs this early in the season.

Second, Reclamation is concerned that the outputs of the HEC-5Q model (and RAFT model), along with temperature spikes during the temperature management season, misrepresent real-time operations and Reclamation's ability to implement real-time Shasta Dam Temperature Control Device blending operations, and therefore, overestimate the resulting temperature-dependent egg mortality. Results of the temperature-dependent egg mortality model provide valuable relative comparisons of mortality across various scenarios, and are not intended to be absolute projections/forecasts of egg mortality. Therefore, NMFS thinks that use of the temperature-dependent egg mortality model continues to be a useful tool to compare potential effects of various scenarios and forecasted operations.

In summary:

- NMFS concurs with Reclamation's proposed diversion volumes in March 2018 for north-of-Delta M&I and agricultural water service contractors;
- The proposed diversion rates and volumes in March will not result in an increase in the current Keswick Dam release of 3,250 cfs. Reclamation will consult with NMFS on any changes to the current Keswick release of 3,250 cfs as a conservative approach, given the hydrology;
- Reclamation and NMFS will work on a meteorological conditions data set that meets the needs of a conservative forecast and the temperature model(s); and
- To reiterate a commitment that NMFS made in our February 16, 2018, response to Reclamation's February forecast and initial allocations letter, "We would like to continue to work with you over the coming weeks to iterate on what Keswick releases/operations might improve Shasta storage, providing for integrated operations at Folsom, Trinity, and Oroville Reservoirs, and the Delta, and therefore allow for allocation decisions to be made North of the Delta, when the March forecast is available."

If you have any questions regarding this letter, please feel free to contact me or Mr. Garwin Yip, of my staff, at (916) 930-3611, or via e-mail at Garwin.yip@noaa.gov.

Sincerely,



Maria C. Rea
Assistant Regional Administrator

cc: Division Chron File: 151422SWR2006SA00268