
From: Milligan, Ronald [<mailto:rmilligan@usbr.gov>]

Sent: Friday, April 24, 2015 4:03 PM

To: Howard, Tom

Cc: Stein, Russell@DWR; Hunnicutt, Maggie@DWR; Grober, Les@Waterboards; Rea, Maria@NOAA; Reece, Kevin@DWR; pfujitani@usbr.gov; Moon, Laura K.@DWR; Wilcox, Carl@Wildlife; PABLO ARROYAVE; Cowin, Mark@DWR; Jeff McClain; Murillo, D@USBR; Castleberry, Dan@fws; Ren.Lohoefener@fws.gov; dan.keeton@noaa.gov; Aufdemberge, Amy; Leahigh, John@DWR; Fry, Susan@USBR; kaylee.allen@sol.doi.gov; Ryan.Wulff@noaa.gov; Hinojosa Jr., Arthur@DWR; William.Rasch@noaa.gov; Idlof, Patti@usbr.gov; William W. Stelle; Bonham, Chuck@Wildlife; Croyle, William@DWR; Mizell, James@DWR; Holderman, Mark@DWR; Garcia, Cindy A.@DWR; Mead, Michelle@NOAA; Christopher Keifer; Alan.Haynes@noaa.gov; Kim.S.Turner@fws.gov; Dibble, Chad@Wildlife; Rabin, Larry@fws.gov; roger.guinee@fws.gov; Crothers, Cathy@DWR; Pettit, Tracy@DWR; Messer, Dean@DWR; Spanglet, Harry@DWR; Marshall, Paul@DWR; Gingras, Marty@Wildlife; George, Michael@Waterboards; Hinojosa, Tracy@DWR; Miller, Aaron@DWR; Heyne, Tim@Wildlife; Marston, Dean@Wildlife; Friend, Janiene@DWR; Chorneau, Charlotte@DWR; Riddle, Diane@Waterboards; Garwin.Yip@noaa.gov

Subject: April Sacramento River Temperature Modeling

Tom,

Please find attached the results of our April 2015 Sacramento River Temperature Model run (with input data) and summary Outlook of our northern CVP operations that incorporate our discussions last week. The Operational Outlook and Temperature Model are based on April 90% exceedance inflows estimated by DWR, our latest estimate of the collective diversion pattern by the Sacramento River Settlement Contractors, and a fall Keswick release pattern coordinated with the federal and state fishery agencies.

The draft of the full CVP operational forecast used in our discussions last week is currently being revised based on updated projections of summer inflows to Oroville and New Melones. (The current inflow estimates are higher than the forecasts previously provided based on revised operations in the upper watershed of those basins.) Our current estimates of net flow in the upper reaches to the Sacramento River continue to appear adequate to help meet the Delta objectives contained in the TUC Order, while maintaining the storage at the end of September above 250 taf at Folsom and 1 maf at Oroville.

The temperature model and operational outlook information are consistent with the monthly average Keswick flow targets and temperature performance matrix discussed last week. To help reduce effects on both winter-run and fall-run Chinook salmon this year, the actual real-time Keswick releases may be adjusted based on observed conditions and coordination with the resource agencies through RTDOT. Several key areas of focus are summarized below:

- The maximum Keswick release in July will be kept at or below 9,000 cfs based on Delta and Sacramento River conditions, but the average release in July will be kept between 8,500 and 9,000 cfs, as conditions allow;
- The Keswick release around the beginning of September will be closely correlated to the monitoring of winter-run redds, which will likely be influenced by the average July flow rate. This flow rate is currently estimated to be between 6,000 and 6,500 cfs lasting to about mid-October;
- The timing and target flow rate in mid-October will be based on winter-run redd monitoring and actual Shasta Lake levels, and is currently estimated to be 4,000 cfs;

- The key flow reductions and ramp down rates in September and October will be closely monitored and coordinated with field crews on the Sacramento River to minimize the potential for redd dewatering and/or stranding.

The Sacramento River Temperature Model will be updated again in May based on the latest lake temperature profiles and any updated hydrologic projections. The May information will be formally submitted to the Board per 90-5 for approval.

In addition, the SRSCs are compiling their composite weekly demand/diversion schedules for the remainder of the season, with a focus on the May period. Reclamation will submit this information to you once it comes available.

Ron