Drought Conditions Force Difficult Management Decisions For Sacramento River Temperatures

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SACRAMENTO – State and federal officials today announced the outlines of a revised plan for managing water flows in the Sacramento River for cities and farms while keeping enough cold water in Shasta Reservoir to avoid high temperatures in the river that could be catastrophic for endangered winter-run Chinook salmon.

The Sacramento River Temperature Management Plan, which is required annually, guides the release of water from Shasta Reservoir to maintain healthy fisheries during the summer and fall, when water temperatures rise. In this fourth year of extended drought, with low reservoir storage levels and higher-than-normal predicted summer temperatures, the plan seeks to prevent another catastrophic loss of this year’s class of juvenile salmon. Federal and state fish agencies believe such a loss would have devastating impacts to the long-term viability of this important species of native salmon.

“Changes in Shasta operations will have a system-wide effect on Central Valley Project and State Water Project operations and water supplies,” said David Murillo, regional director of the U.S. Bureau of Reclamation (Reclamation), which operates Shasta Reservoir, California’s largest reservoir. “Every effort will be made to minimize the water supply effects of the adjusted operations and to ensure that water is provided to meet community needs.”

Changing releases from Shasta Reservoir this summer will affect operations of the federal and state water projects and the ability of Reclamation to deliver water to long-time water rights holders, although the extent of these impacts has not yet been quantified. Coordinating with the state and federal fishery agencies, Reclamation and the California Department of Water Resources, which operate the projects, will rely on rigorous real-time management and system flexibility to minimize impacts on water users.
“The situation is grim for everyone and everything. The winter-run Chinook salmon may not survive losses in the Sacramento River similar to last year. At the same time, the situation is dire for California’s urban water users and agricultural communities,” said Charlton H. Bonham, director of the California Department of Fish and Wildlife. “This historic drought continues to force hard decisions on how to allocate limited water supplies to meet ecological, urban and agricultural needs.”

Last year, despite modeling indicating that temperature control could be maintained, temperature targets were not achieved in the upper reaches of the river late in the season, resulting in the death of nearly all 2014 wild juvenile winter-run salmon.

Earlier this year, farming and environmental stakeholders came together with government scientists and water officials to agree on a compromise plan that would have released water for use by cities and farms but in the amounts and during the time periods that would still protect fish survival. Supported by diverse interests, the plan was submitted by Reclamation and approved by the State Water Resources Control Board on May 14.

The plan was based on Reclamation modeling showing that water temperatures of 56 degrees Fahrenheit could be maintained in the upper reaches of the river during the critical winter-run spawning and early rearing period. However, the equipment used by Reclamation to estimate the amount of cold water in Shasta Reservoir was later determined to have provided inaccurate data. In late May, additional temperature measurements by Reclamation pointed to warmer than expected water in Shasta Reservoir.

On May 29, Reclamation informed the State Water Board’s Executive Director that these warmer temperatures would make it very unlikely to meet the 56 degree target throughout the summer and fall as proposed in their earlier temperature management plan. The Executive Director temporarily suspended the plan while Reclamation corrected modeling deficiencies and worked with State Water Board staff and the fisheries agencies on an alternative plan. The State Water Board today is extending its suspension to give state and federal officials additional time to finalize the details and submit a revised plan.

Changing operations at Shasta Reservoir has ramifications not only for the Redding-to-Bakersfield Central Valley Project, but also for the State Water Project, which delivers water from Reservoir Oroville to Southern California cities and farms in the San Joaquin Valley. Reduced Shasta outflows also may require Reclamation and the California Department of Water Resources (DWR), which operates the State Water Project, to release more water from Folsom Reservoir and Reservoir Oroville to repel salinity downstream in the Sacramento-San Joaquin Delta.

The temporary emergency rock barrier installed across West False River in the Delta last month by the DWR will help ease the need to make bigger reservoir releases to repel salinity, but the potential remains for additional releases, depending upon the weather and other circumstances. Exactly how the changes in outflow from Shasta Reservoir may affect other water users will depend upon many factors, including weather, how much water is diverted or seeps in to groundwater aquifers from rivers and streams, and how much water is needed to repel salinity in the Delta.
Coping with this fourth year of ongoing drought and a potential fifth year of dry conditions will require maximum cooperation, collaboration and creativity from water users to allow for water transfers and exchanges to meet the most critical needs.

“This year is all about balancing unavoidable bad risks across the board and choosing a careful course given the uncertainties of what the summer will bring,” said Will Stelle, West Coast Regional Administrator for NOAA Fisheries. “As we do so, we are collectively determined to avoid last year’s loss of nearly the entire population of spawning winter-run Chinook salmon because of high water temperatures.”

Under the outlines of a revised Sacramento River temperature plan, releases of water from Keswick Reservoir, which regulates flows from Shasta Reservoir, will target 7250 cubic feet per second (cfs) as a basis for operations. Actual operations will be decided through a monitoring and decision-making process that examines on-the-ground conditions in real time, including water temperatures and the volume of cold water. The plan also will revise slightly upward to 57 degrees the temperature target for water in the upper reaches of the Sacramento River.

Reclamation, in cooperating with other state and federal agencies, will conduct necessary monitoring and reporting requested by the State Water Board and fisheries agencies to inform real-time decisions.

The revised plan will need formal review by multiple agencies. Reclamation is expected to submit the plan on Friday or Monday to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for their review and concurrence under the Endangered Species Act, and to the State Water Board for their approval. The California Department of Fish and Wildlife will also be asked to issue a consistency determination under the California Endangered Species Act. The State Water Board will hold a workshop on June 24 to receive updated information on Reservoir Shasta temperature operations and the water supply effects of the operations.

Information on this and other State Water Board drought year water actions.

Visit SaveOurWater.com to find out how everyone can do their part, and visit Drought.CA.Gov to learn more about how California is dealing with the effects of the drought.

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