BUREAU OF RECLAMATION

Sacramento River Group Summary

May 28, 2026

Participants

- California Department of Fish and Wildlife (CDFW): Erica Meyers, Travis Agpar, Mike Memeo, Mallory Boro, Sheena Holley, Matt Johnson, Crystal Rigby, Gary Zhao
- California Department of Water Resources (DWR): Ryon Kurth, Mike Ford
- Contra Costa Water District: Deanna Sereno
- Defenders of Wildlife: Ashley Overhouse
- Friends of the River: Devon Pearse
- Jacobs Engineering: Tapash Das
- MBK Engineers: Yuen Lenh
- National Oceanic and Atmospheric Administration (NOAA): Miles Daniels, Kyra Fitz, Darren Howe, Flora Cordoleani
- Pacific States Marine Fisheries Commission (PSMFC): Jamie Chelberg
- State Water Resources Control Board (SWRCB): Matthew Holland, Diane Riddle, Craig Williams
- Sacramento River Settlement Contractors (SRSC): Mike Deas
- San Luis-Delta Mendota Water Authority: J Scott Petersen
- Save CA Salmon: Trisha Vellasquez
- Sunzi Consulting: Yung-Hsin Sun
- U.S. Bureau of Reclamation (USBR): Mandy Migura, Tom Patton, Lisa Elliott, Josh Israel, Derek Rupert, Emelia Barnum, Randi Field
- U.S. Fish and Wildlife Service (USFWS): Bill Poytress, Bob Null, Craig Anderson, Kaitlin Dunham
- Westlands Water District (WWD): Bradley Cavallo

- Western Area Power Administration (WAPA): Erik Mork
- Yurok Tribe: Chris Laskodi
- Kearns & West (K&W): Mia Schiappi, Jackson Gould, Colin Baker

Summary of Actions

Welcome, Agenda Review, and Purpose
Mia Schiappi, Kearns & West, welcomed all participants.

Hydrology Update
Tom Patton, Reclamation, provided the latest forecast and implications for the Sacramento River system, and reported on current hydrologic conditions and dam operations. Patton presented the information contained in the meeting packet shared with the SRG. Sections below correspond to groups of graphs, images, and tables in the meeting packet provided by Reclamation.

Current Storage, Releases, Water Temperatures, and Current Operations: Daily CVP Water Supply as of May 27, 2026.

- Precipitation:
    - The Northern Sierra 8-Station Index is 49.6 inches, which is 97% of the average for this time of year.
    - Snow water content is at 3.0% of average in the North, 5% of average in Central Sierra, and 18% of average in the South. Current snowpack statewide is 2% of the April 1 average, and 6% of average for the date.
- Reservoir Releases:
    - Trinity River releases from Lewiston Reservoir are 905 cfs designated under the Trinity Record of Decision (ROD) for a dry year.
    - Keswick Dam releases to the Sacramento River are approximately 11,000 cfs and will be increasing to 11,500 on 1 June to adjust to demands and coordinate with the American River.
- CVP Storage and Inflow:
    - Trinity Reservoir storage is 124% of the 15-year average.
    - Shasta Reservoir storage is 111% of the 15-year average. Total storage is just under 4 MAF and falling but is in line with the 90% forecast for Shasta storage.
    - Folsom Reservoir storage is 118% of the 15-year average.
    - New Melones Reservoir storage is 120% of the 15-year average.

    - Accumulated inflow into Trinity Reservoir is 1.025 MAF which is 109% of the 15-year average. Shasta inflow is 4.086 MAF, which is 103% of the average. Folsom's accumulated inflow is 101% of the average and New Melones is 88% of the average.

- Temperature Management:

    - Sacramento River at Clear Creek (CCR) is maintaining a daily average of 52-53°F. Reclamation is working to keep CCR temperatures below 53.5°F. Transitioned to temperature management mid-May.

    - On May 19, Reclamation made a change to the Temperature Control Device (TCD) configuration. Opened remaining two middle gates so current configuration is all upper and middle gates open. Shasta TCD temperatures have been under or near 51°F since the last TCD change. There are no anticipated near term changes to the TCD gates due to projected warmer temperatures, although Reclamation will be closely monitoring.

    - Spring Creek power plant is running around 55°F currently and with steady flow through Spring Creek and temperatures from Spring Creek powerplant should cool due to consistent and cold diversions from the Trinity Reservoir.

Reservoir Profiles and Cold-Water Pool: Graphs on Isothermobaths-2026, Graphs on Cold Water Pool Volume, Percent Exceedances (1998-2023):

- Shasta Reservoir:

    - Shasta's temperature profile looks normal given the conditions this year and reflects the temperature management thus far.

    - Shasta's isothermobath plot shows warmer surface temperatures with cooler temperatures deeper in the reservoir.

    - The cold water pool volume for the ≤52°F temperature profile is a bit below average for this time of year and is lower than wetter years, while staying above drought years.

    - The cold water pool volume for the ≤50°F is trending down and is above both 2022 and 2015 while the ≤48°F is between 2022 and 2015 and trending down. This is of high concern as Reclamation relies on cooler deep water pool temperatures to maintain temperatures later in the season.

    - Shasta is slightly above the 75% exceedance mark for the cold water pool volume for the ≤52°F temperature profile. The ≤50°F temperature profile is between the 75 and 90% exceedance, while the ≤48°F is at the 95% exceedance.

- Trinity Lake:

    - Trinity Lake's isothermobath plot looks good with reservoir at 88% capacity.

    - The cold water pool volume for ≤52°F warmed slightly during April but is still comparable to average years including 2024. It is between the 25 and 50% exceedance marks.
    - The cold water pool volume for ≤50°F remains above the average is holding near the 50% exceedance.
    - The cold water pool volume for ≤48°F remains above the average is above the 50% exceedance.
- Whiskeytown Lake:
    - Temperature profiles for Trinity and Whiskeytown reservoirs are collected monthly.
    - Whiskeytown continues to warm, with warmer temperatures at the surface and lacks the coldest water. Reclamation is raising Whiskeytown Lake to summertime levels at the end of May and will continue moving water through Whiskeytown from Trinity Reservoir to help keep temperatures low and support the Sacramento River.

90% May Exceedance Forecast:

- End of September Shasta storage, volume is predicted to be 2.2 MAF, which is slightly up from the March forecast and same as the April forecast. This is a drier scenario with accretion depletions from other tributaries in the basin expected, thus meaning a heavier focus on releases from Shasta.
- For releases, Sacramento is forecasted with higher flows through summer, peaking in July and August at around 12,600 cfs before dropping to minimum releases through the winter.
- Trinity's end of September storage is forecasted for just under 1.5 MAF. Flows have been updated with the latest schedule of dry ROD flows.
- For the Delta summary, Tracy is pumping 260 TAF in August with minimal pumping in the early part of summer.
- Diversions from Trinity Reservoir through Spring Creek powerplant are reduced to 2,000 cfs due to an ongoing outage.

50% Exceedance Forecast:

- Shasta storage is slightly over 2.2MAF at the end of September, with flows around 7,100 cfs forecasted at that time.
- Under the 50% Exceedance Forecast, conditions are slightly better than the 90% exceedance scenario. The 50% Exceedance Forecast shows Shasta with slightly better storage than the 90% exceedance. At this time of year, there is minimal variability in forecast or runoff.

- For releases, Sacramento is forecasted to peak in July at around 13,500 cfs and ramping down to minimum releases throughout the winter.
- Trinity Reservoir storage is forecasted to hold 1.588 MAF storage by the end of September.
- There is a potential need for Klamath Augmentation Flows in August and September with additional flows needed for that. In December, there is the potential of synchronization flows on the Trinity with additional flows in the winter months.
- There is talk of a super El Nino year with likely wet conditions for Southern California; Reclamation will continue monitoring forecasts.
- Reclamation will be using the 90% exceedance forecast for allocations and temperature modeling.

Monthly Temperature Outlook:

- Temperature is predicted to have above average chances for an above average temperatures for June across most of northern California.

Seasonal Temperature Outlook:

- The July-September predictions show above average chances of above average temperatures for western states.

Questions and Discussion

- CDFW noted the 50% scenario is wetter and 90% is drier and asked about how the end of September storage remains similar at 2.2MAF in both scenarios given the differences in forecasts.
    - Reclamation responded that there are many differences but diversions from the Trinity remain one of the big differences. The 90% Forecast has full diversions from the Trinity in August and September while the 50% Forecast diversions are lower. Shasta inflows in the 50% Forecast are higher as are accretions/depletions. Possible changes in Delta operations, D-1641 requirements or Cross Channel Gate operations, and exports from the South Delta account for how the different possible climatological conditions could lead to similar end of season storage.
- CDFW asked whether there are discretionary actions that could be taken to preserve the Shasta cold water pool?
    - Reclamation responded that accretions/depletions are the main unknown which impacts how Delta requirements are met. Reclamation noted that they will be using the 90% exceedance forecast for temperature management and TDM analysis going forward. Balancing releases with Folsom Reservoir is also an option but Folsom is already forecasted very low.

- CDFW asked about the modeling assumptions for Shasta inflow and releases given the simple calculation of inflow, releases do not lead to an end of season storage of 2.2 MAF. They cautioned about being as conservative as possible with inflow forecasts.
    - Reclamation responded that snowpack data is used to help forecast inflows into Shasta which comes from the DWR Bulletin 120. For Trinity, Reclamation uses the CNRFC forecast. For regulated basins there will be accounting done for those upstream regulations. There will be some adjustments made to that forecast based on current conditions.
- MBK asked about why releases from Shasta would increase from 11,000 cfs to 11,500 cfs?
    - Reclamation responded that there are additional draws on the river and will be rebalancing with Folsom storage.
- USFWS asked about the differences between the 50% and 90% exceedances. The average Sacramento River flows in the 90% forecast are 11,500 cfs on June 1. Does Reclamation anticipate June will look more like the 50% forecast and have flows more around the 12,000 cfs level?
    - Reclamation responded that flows are anticipated to remain around 11,500 cfs for at least the first half of June and will continue monitoring the accretions. Reclamation does not see a need for additional water at this time and anticipates maintaining 11,500 cfs. Diversions in June seem to be flat without increases in Delta pumping.
- USFWS noted that it looks like the 53.5°F temperature target is maintained through September and then control is lost, correct?
    - Reclamation responded that this is typical for borderline years and goes together with a smaller ≤48°F cold water pool volume. It is a good sign that the May forecast pushed a change back in terms of opening all gates.
- USFWS asked about whether there could be opportunities to use lower gate water blending more or whether there were operational changes given a large total volume but smaller cold water pool?
    - Reclamation responded that will be blending as much as possible. Ideally there would be more flexibility from the Trinity diversions which are limited this year. Blending will be pushed longer than is ideal and power prices could impact conditions.
- SWRCB requested seeing downstream locations in the monitoring for 90-5 purposes and would like to see results for Balls Ferry at 56°F.

- Reclamation responded that they have done the modeling and it looks like they will be able to hit 56°F at Balls Ferry all summer but did not include that in the packet.

Plans for the Draft Temperature Management Plan

Tom Patton, Reclamation, provided an update on the Draft TMP. The new TMP uses the May Forecast and the 5/19 Shasta temperature profile. Conditions improved relative to the April forecast. Projected partial side gate use begins on 23 August and full side gate use on 7 September. Following the use of the side gate, temperature increases into October and November but is highly dependent on air temperatures.

The TMP drafting is under development and there are additional work being done to address final comments on the draft TMP. The new TMP will likely be ready for review during the week of 1 June.

Questions and Discussion

- USFWS asked about how comments on the draft TMP were considered in the report.
    - Reclamation responded that they are planning to operate to the 2.2 MAF and this is a Bin 2A year based on Action 5 and NMFS BiOp. Looking at language for what to expect from TDM and temperature management needs from 2024 LTO and Action 5 and will continue to try to meet 53.5°F all year to hit that target. Reclamation is working to address and meet as many of the comments as possible.
- SWRCB noted that from their perspective, they are commenting on the draft TMP not only in the SRG but from a policy perspective as well. The Board would like to see their comments reflected in the final TMP and will respond as appropriate.
    - Reclamation offered an ad-hoc meeting to talk about any concerns if needed.

Temperature-Dependent Mortality Updates

Miles Daniels, NMFS, provided an update on the revised temperature-dependent mortality (TDM) estimates for 2026 that were requested by the SWRCB. The analysis compares the May 90% forecast with the 200 TAF flow reduction which ends end of season storage at 2.4 MAF. The model was forced using the DWR Bulletin 120 Shasta Reservoir inflow forecasts at the 90% exceedance. The meteorology uses the time series from the historical record for 2014 for the full forecast period. The 2014 meteorology was selected as a comparatively warm year in the historical record.

The models tend to diverge in September between the two flow scenarios where the May 90% forecast has higher maximum water temperatures at Shasta, Keswick, and CCR.

Questions and Discussion

- USFWS asked if, given high TDM compared to 2025, the cold water differences seem substantial.

    - SWFSC responded that the reservoir conditions between 2025 and 2026 are substantial and there is just not as much cold water which leads to higher TDM, coupled with later spawning time and a larger spawning distribution could have an impact.

- CDFW asked if based on what we know about the TMP, whether winter-run could experience adverse conditions in the coming year.
    - Reclamation responded that if TDM is over 30%, things could be concerning for the following year.
- Reclamation asked about the meteorology used in the model. Previous packets used a 2013-2024 average meteorology, how does the historical dataset compare to this 2014 conditions?
    - SWFSC responded that they used 2014 given it was one of the warmer years on the record rather than running all years. This document provides a frame for what TDM could be in this year.
- Reclamation asked about how meteorology is driving TDM? asked about how met driving TDM.
    - SWFSC responded that they have not looked into how meteorology drives TDM.

Sacramento River Fish Monitoring Update

Matt Johnson, CDFW, provided an update on CDFW's role in the SRG and carcass surveys and fish updates. CDFW leads the carcass survey and produces the final winter run estimate and JPE, shallow redd monitoring, and ariel redd surveys. CDFW scientists in that position have transitioned to Pacific States Marine Fisheries Commission (PSMFC) following retirement and a new CDFW staffer is being hired.

The May winter-run carcass survey results through 5/26/26 include 48 carcasses, exactly the average number of carcasses for 2003-2025. Four of the 48 carcasses are from spawned females and 15 of the carcasses are pre-spawn mortality. Hatchery origin fish dominate observations following increased Livingston Stone National Fish Hatchery (LSNFH) production from 3 years ago. Most carcasses have been observed from Keswick Bridge to Balls Ferry with more carcasses in the top sections.

Ariel redd surveys are currently operating on a bi-weekly cadence and will change to weekly beginning in June. There is one validated redd thus far and there are zero shallow redds in 2' of water or less. The unexpanded redd count is 8 redds.

Questions and Discussion
No questions or discussion.

Winter-run Broodyear Assessment for the 2026 Water Year

Josh Israel, Reclamation, provided an overview of the winter-run broodyear assessment prepared by the JPE subteam. The assessment looked at the 2025 broodyear and previously returning adults from three years prior to track species conditions and inform actions to avoid adverse impacts to the following year's cohorts. If a broodyear is determined to have experienced adverse conditions, then more actions can be taken to support fish and improve outcomes by using the bins within the Shasta Framework.

- CDFW members of the JPE subteam added that in future years they would like to consider additional factors and metrics when assessing adverse conditions. One option could be to use the JPI of hatchery and natural origin to understand hatchery and natural returns.
- USFWS team members suggested that the team could spend more time considering how to operationalize the documented outcomes in the document in coming years.
- NMFS added that the criteria from the 2024 Proposed Actions and Biological Opinion have developed mechanisms to understand when conditions are adverse or not. Even in years with good JPEs, a broodyear could still face other challenges like egg to fry survival.

In future years, the JPE subteam will develop this report in February of a given year so that its outcomes can feasibly be implemented.

Questions and Discussion

No questions or discussion.

USFWS Fish Conditions, Forecasts and Hatchery Updates

Kaitlin Dunham, USFWS, provided an update on the Livingston Stone Hatchery.

- LSNFH will be spawning the first winter-run of the season on 29 May. The female is of Keswick origin and staff anticipate a Battle Creek origin female to spawn early the following week.

Additional Announcement & Review Action Items

The next SRG meeting is scheduled for Thursday, June 23, from 1:00-3:00 pm PT.

Adjourn