Los Angeles River Temperature Study
Joint Technical Advisory Committee and Stakeholder Meeting
January 15, 2026

Participants

Full Name	Organization	Full Name	Organization
Ben Harris	LA Waterkeeper	Stephen Walker	City of Burbank
Thomas Parker	LACSD	Belle Zheng	CWH
John Huynh	LADWP	Mark Hanna	GeoSyntec
Veronica Cuevas	LARWQCB	Tyler Linton	GLEC
Stefani Daryanto	LARWQCB	Chris Minton	LWA
Celine Gallon	LARWQCB	David Vilas	LWA
Ryan Ham	LARWQCB	Mitch Mysliwiec	LWA
Jeong-Hee Lim	LARWQCB	Demian Ebert	McMillen
Jenny Newman	LARWQCB	Isaac Brown	McMillen
Danielle Robinson	LARWQCB	Jaime Goode	McMillen
Don Tsai	LARWQCB	Shannon Boyle	McMillen
Steven Webb	LARWQCB	Brian Baldauf	MRCA
Annie Chen	LASAN	Sarah Rascon	MRCA
Erika Bensch	LACSD	Anthea Raymond	LA River Expeditions
Karina Gonzalez	LASAN	Aydin Pasebani	RMC
Katie Marjanovic	LACSD	Eric Stein	SCCWRP
Nick Steffen	LASAN	Kris Taniguchi-Quan	SCCWRP
Elizabeth Roswell	LACSD	Lara Jansen	SCCWRP
Ryan Thiha	LASAN	Nate Butler	Stillwater
		Christine Medak	USFWS

Meeting notes:

- **Study Background and Meeting Objectives:** Eric outlined the purpose of the joint meeting between the Technical Advisory Committee (TAC) and the Stakeholder Committee (SC), emphasizing the completion of the LA River Temperature Study, the review process, and the intent to present findings and discuss next steps with all stakeholders.
    - **Project Context and Scope:** Eric clarified that the LA River Temperature Study is distinct from other concurrent temperature studies in the region, such as those for the San Gabriel and Santa Clara Rivers, and that the focus is on the LA River and Burbank Western Channel, which receive effluent from the LA-Glendale, DC Tillman, and Burbank Water Reclamation Plants (WRPs).

- **Regulatory Drivers:** Eric explained that the impetus for the study is the revised temperature standard from the LA Regional Board, which prohibits raising the temperature of WARM beneficial use waters above 80 degrees due to waste discharge or increasing it by more than five degrees, and that this standard applies to multiple WRPs in LA County.
- **Meeting Structure and Participation:** Eric described the meeting as a combined session of the TAC and SC, with about 30 participants, and encouraged questions via chat or hand raise, noting that meeting materials and previous reports are available on the project website.

- **Biological Data Analysis and Findings:** Tyler presented a comprehensive analysis of historical and newly collected biological data, including macroinvertebrates, soft algae, diatoms, and vertebrates, to assess the impact of WRP effluent temperatures on the LA River, with questions and input from Demian, Ryan, Veronica, Don, Christine, and Nate.
  - **Data Compilation and Gap Filling:** Tyler described the process of compiling decades of biological data, including macroinvertebrates, soft algae, diatoms, and vertebrates, and supplementing it with new data collected in the summer of 2024 at targeted locations upstream and downstream of WRPs to address data gaps.
  - **Assessment Methods:** Tyler explained the use of standardized indices such as the California Stream Condition Index (CSCI) and Algal Stream Condition Index (ASCI), which are based on benthic macroinvertebrate and algal data, and detailed the process of specimen collection, index period, taxonomic identification, and metric calculation.
  - **Qualitative and Quantitative Analyses:** Tyler outlined the stepwise approach to analyzing the biological data: starting with qualitative, reach-by-reach comparisons, followed by statistical analyses (Wilcoxon Rank Sum test) of paired upstream and downstream stations, and culminating in cluster analysis to determine if there were any biologically-distinct station groupings below WRP outfalls compared to other locations in the LA River mainstem and its major tributaries.
  - **Key Biological Findings:** The analyses revealed no native fish species in the main stem, presence of two native frog species and one native turtle species, and a dominance of common taxa throughout the main stem and tributaries, with no consistent statistically significant differences in biological communities attributable to WRP effluent temperature.
  - **Addressing Data Variability and Flow Changes:** In response to Demian's and Veronica's questions, Ryan confirmed that WRP flows have been largely consistent over the past 20 years, with only minor, temporary changes, and Tyler added that trend analyses of bioassessment data collected at several stations above and below WRPs on the mainstem and in several tributaries showed no significant trends in the communities at those stations over time , regardless of flow variability.

    - **Clarification of Analytical Approach:** Tyler and Chris clarified for Christine and Nate that the analyses included both direct upstream-downstream comparisons and broader cluster analyses, and that the focus was on detecting temperature-related impacts rather than isolating all possible confounding factors such as habitat or flow differences.

- **Temperature Data Collection and Interpretation:** Tyler and Chris Ben discussed the collection and interpretation of continuous and discrete temperature data, highlighting the influence of atmospheric conditions, solar radiation, and channel characteristics on river temperature, and addressed questions about data coverage and the role of solar exposure. Ben had questions and added to the discussion on the influences of water temperature in the river.
    - **Continuous Temperature Monitoring:** Tyler described the compilation of available temperature data as well as deployment of continuous temperature probes above and below each WRP from May to October 2024, capturing half-hourly data over 27 weeks, and noted that this high-resolution dataset was critical for understanding diurnal and seasonal temperature patterns.
    - **Influence of Atmospheric and Channel Factors:** Analysis showed that upstream of WRPs, water temperatures frequently exceeded 80°F due to ambient air temperature and solar radiation, with concrete-lined channels amplifying heating effects.
    - **Spatial and Temporal Temperature Variability:** Comparisons between stations close to and far downstream from outfalls in the beginning of July demonstrated that water temperature increases significantly as water travels through sun-exposed, concrete-lined reaches, with daily fluctuations greatly exceeding five degrees, independent of WRP discharge.
    - **Data Limitations and Supplementation:** Eric and Chris explained that continuous monitoring was limited to the dry season due to schedule constraints in the WRPs' compliance schedule that limited data collection and risk of equipment loss during storms, but discrete monitoring and other special studies supplemented the dataset for the remainder of the year.
    - **Role of Solar Exposure and Microclimate:** In response to Ben's and Nate's questions, Tyler and Chris emphasized that solar radiation, air temperature, and channel materials are primary drivers of in-stream temperature, overriding the influence of WRP effluent heat after a short distance from the discharges, and that local microclimates create spatial variability within the study area.
- **Modeling of Temperature Control Measures:** Mitch presented the modeling of potential temperature control measures—including effluent temperature reduction, flow reduction, and riparian shading—demonstrating that local atmospheric and channel conditions quickly override any temperature changes from WRP interventions, and addressed questions from Stefani, Christine, and Ben.

- **Model Setup and Calibration:** Mitch explained that the team used a HEC-RAS model originally developed for the LA River environmental flow study and activated the HEC-RAS temperature module. The model temperature parameters were calibrated with observed data to simulate current and future scenarios.
- **Effluent Temperature and Flow Reduction Control Measures:** Model results showed that reducing effluent temperature or discharge flowrate from WRPs can lower in-stream temperatures near the discharge point, but the river temperatures quickly return to equilibrium with the atmosphere over a short distance from the discharge, generally several miles in winter and a few or less than one mile in summer.
- **Riparian Shading Control Measure:** Simulations of adding 30-foot walls representing dense riparian shading along the channel indicated minimal temperature reduction, as the shade generally didn't reach the water surface due to the channel configuration.
- **Exploratory Scenarios and Urban Canopy Effects:** Exploratory modeling demonstrated that 80% shading over current unlined portions of the river would not eliminate water temperature exceedances of the 80°F even upstream of WRP discharges. And the water temperature quickly increased to the baseline temperatures after the water entered the concrete lined sections. A second exploratory scenario determined 80% shading and a 15% reduction in local air temperature along the entire Los Angeles River and Burbank Western Channel would be required to prevent exceedances of 80°F. This scenario would require extensive urban canopy transformation necessitating removal of existing infrastructure and buildings along the river to plant trees, underscoring the dominant role of local microclimate on receiving water temperature over effluent management.
- **Model Interpretation and Limitations:** In response to Christine's questions, Mitch clarified that the model predicts temperatures at discrete points along the river, reflecting the influence of different channel types and microclimates, and that the smooth temperature profiles are constructed from these model outputs.

- **Evaluation of Engineering and Alternative Control Measures:** Chris summarized the assessment of traditional engineering controls (cooling towers, chillers) and alternative measures (natural heat flow, evaporative cooling, source control, in-plant process changes, and shading) and responded to Steven and Ben's suggestions for further analysis and smart discharge controls.
    - **Screening of Alternative Control Options:** Chris described the evaluation of alternative control measures using criteria such as ability to meet the 80°F and delta 5°F limits, ability to implement at the size required, site constraints, cost, operations and co-benefits. It was found that none of the alternative control measures will meet the limits.

- **Feasibility and Cost of Engineering Controls:** The analysis found that cooling towers are limited by atmospheric conditions and cannot reliably meet the delta 5°F limits, while chillers could achieve compliance but would require over $450 million in capital investment, $15 million in annual operating costs, increased energy use, and new infrastructure. Steven asked if the Cities could develop information for cooling towers acknowledging that they do not result in compliance of both limits.
- **Environmental and Operational Impacts:** Implementing chillers would significantly increase greenhouse gas emissions and potable water use, as recycled water is unsuitable for chiller operation, and space constraints at the WRPs further complicate installation.
- **Consideration of Non-Structural Controls:** In response to Ben's suggestion regarding reducing discharge flows at key parts of the day could reduce increases in temperature due to air temperature and solar radiation, Chris noted that flow reduction was modeled, but model results indicate that reducing flow can actually increase in-stream temperatures due to slower velocities and longer solar exposure.

- **Conclusions and Next Steps:** Chris and Eric concluded that WRP effluent temperature alterations do not adversely affect warm beneficial uses, that no set of control measures can consistently achieve regulatory temperature objectives, and that the Cities will seek a regulatory solution reflecting these findings.
  - **Study Conclusions:** The study determined that alterations due to WRP effluent do not adversely affect the WARM beneficial use of the LA River, and that local atmospheric and channel conditions, rather than effluent management, are the primary drivers of in-stream temperature in the majority of the LA River and Burbank Western Channel.
  - **Regulatory Path Forward:** Given the lack of adverse effect on the WARM beneficial use and the limited effectiveness and high cost of engineering controls, the Cities intend to pursue a regulatory solution that ensures continued protection of beneficial uses without requiring construction of treatment facilities that would not materially change river temperatures.
  - **Stakeholder Engagement and Documentation:** Eric and Chris noted that the Study has been incorporating TAC and SC comments and input as the project has progressed and that all meeting materials, notes, and reports were distributed and posted on the project website.