Los Angeles River Temperature Study
Technical Advisory Committee – Aug 19, 2025
Meeting Notes

Participants

Name	Organization
Eric Stein	SCCWRP
Ham, Ryan@Waterboards	LARWQCB
Nate Butler	Stillwater Sciences
Khanh Thi Nhu Nguyen	LWA
Marjanovic, Katie	LACSD
Mitch Mysliwiec	LWA
Roswell, Elizabeth	LACSD
Anthony Hicke	RCS Consulting
Walker, Stephen	City of Burbank
Belle - CWH (Unverified)	Council for Watershed Health
Chris Minton	LWA
Tsai, Don@Waterboards	LARWQCB
Kris Taniguchi-Quan	SCCWRP
David Vilas	LWA
Daryanto, Stefani@Waterboards	LARWQCB
Webb, Steven J.@Waterboards	LARWQCB
Medak, Christine	USFWS
Lim, Jeong-Hee@Waterboards	LARWQCB
Brittany Struck (NOAA) (Unverified)	NOAA/NMFS
Robinson, Danielle@Waterboards	LARWQCB
Lara Jansen	SCCWRP
Janet Samala, LASAN (Unverified)	LASAN
Cuevas, Veronica@Waterboards	LARWQCB
Annie Chen (Unverified)	LASAN
Karina Gonzalez - LASAN	LASAN
Bensch, Erika	LACSD
Tyler Linton	GLEC
Josh Cooper, Council for Watershed Health	Council for Watershed Health

Comments from the chat

Presentation of results

- ✓ It would help if you could clarify the natural bottom vs cement lined portions of the channel on the figures
- ✓ It would be helpful to see the daily min and max temperatures plotted for the baseline vs scenario

- ✓ For the plots of a given day (upstream to downstream variation in temperature), it would be interesting to see a timeseries plot of temperature vs time for the entire modeled period of record or an entire year and show multiple timeseries/lines for upstream and downstream sites and the two scenarios. Could provide a picture of what's happening over the entire year
- ✓ Could also look at frequency of time exceeding the 80 degree threshold or delta 5 from upstream at each of the sites and for the various scenarios

Modeling questions/suggestions

- ✓ Can you generate a list of all of the calibrated items and distinguish which were input parameters for the model and how calibration was done? Need to also present some information on model performance.
- ✓ What are the assumptions associated with the change in temperature between concrete vs unlined sections? How is this handled in the model? Does the hydraulic portion of the model include substrate and channel form that will impact depth and velocity--> shallower depths in the concrete reach will heat up faster than the deeper pools and reach variations in the soft-bottom reaches?
- ✓ How much would water temperature be improved by shading within the river if you ignore regulatory and flood control constraints – can we see how much cooling could occur based on shading if it were implemented. What if you provided shading with a bridge-like structure or canopy, instead of a tall wall? Could that be simulated?
- ✓ How was groundwater treated in the model?

Meeting notes (Generated by AI):

- **Overview of Los Angeles River Temperature Study and Regulatory Context:** Eric and Chris oriented the group to the Los Angeles River temperature study, distinguishing it from parallel studies in other watersheds, and explained that the project is driven by revised temperature limits in NPDES permits issued by the Los Angeles Regional Board, specifically the 80°F maximum and the 5°F differential (D5) requirements for wastewater discharges.
    - **Project Scope and Focus:** Eric Stein clarified that the meeting is focused on the Los Angeles River and the Burbank Western Channel, with technical studies co-managed for the City of Los Angeles and the City of Burbank. The modeling and analysis are conducted concurrently due to the interconnectedness of the systems and shared discharge points from three treatment plants.
    - **Regulatory Standards:** Eric Stein explained that the NPDES permits require that warm designated waters not be raised above 80°F due to waste discharge, and that the temperature downstream of a discharge cannot exceed the upstream temperature by more than 5°F (D5). These water quality objectives apply to all discharges in the county and motivate ongoing projects in multiple watersheds.
    - **Unique Aspects of LA River:** Eric Stein described the unique characteristics of the Los Angeles River, including its channelized structure, the number and configuration

of discharges, and specific biological considerations, which differentiate it from other regional studies.

- **Modeling Approach and Management Scenarios:** Chris Minton and Mitch Mysliwiec described the modeling approach used to evaluate management actions for temperature control, including effluent temperature reduction, flow reduction, and shading, and outlined the scenario analysis combining these actions to assess their effects on river temperature.
    - **Model Calibration and Validation:** Chris Minton stated that the model was calibrated and validated using extensive temperature and flow data, and preliminary analysis focused on the effects of reducing effluent temperature. Mitch later confirmed that the model runs covered three years and were based on available monitoring data collected intermittently over the last decade.
    - **Management Actions Analyzed:** Mitch Mysliwiec explained that three primary management actions were modeled: reducing effluent temperature to meet limits, reducing effluent flow rates, and increasing canopy cover (shading).
    - **Scenario Analysis:** Chris Minton and Mitch Mysliwiec described how scenarios were constructed by combining management actions, such as effluent cooling with shading, effluent cooling with flow reduction, and all three together, as well as projecting future conditions under climate change.
    - **Limitations and Exclusions:** Chris Minton noted that increasing channel density and depth was excluded from analysis due to model limitations and implementation challenges, particularly as it falls outside the control of water reclamation plants.
- **Results of Temperature Modeling and Scenario Analysis:** Mitch Mysliwiec presented the results of the temperature modeling, showing that regardless of management action or scenario, river temperature equilibrates with atmospheric conditions within two to four miles downstream of each discharge, with 1–2°F increases observed under future climate scenarios.
    - **Effluent Temperature Reduction:** Mitch Mysliwiec detailed that significant cooling of effluent is required in winter months to meet the D5 standard, with reductions up to 37°F needed. The effect of cooling is most pronounced near the discharge point but diminishes downstream as the river temperature equilibrates with the atmosphere.
    - **Flow Reduction Effects:** Mitch Mysliwiec explained that reducing effluent flow rates by up to 50% results in smaller changes in river temperature, with the effect again dissipating within a few miles downstream. The equilibrium is reached more quickly with lower flow due to slower transit times.
        - **Shading Scenario Outcomes:** Mitch Mysliwiec described the shading scenario, which assumed a 30-foot solid wall for maximum effect and to simplify assumptions (e.g., types of trees, varying tree heights, foliage changes with

seasons, etc.). The analysis showed that shading has a limited impact in summer due to the high sun angle, with only about a 10% reduction in solar radiation and negligible temperature change. In winter, shading can reduce temperature by about 1°F in some sections.

    - **Combined Scenarios and Climate Change:** Mitch Mysliwiec summarized that combining management actions does not produce meaningful changes in river temperature beyond the effects of individual actions, and future climate change is projected to increase river temperatures by 1–2°F, but equilibrium with atmospheric temperature is still achieved within a short distance downstream.

- **Model Calibration, Substrate Effects, and Data Interpretation:** Christine Medak, Nate Butler, and others raised questions about model calibration, the treatment of substrate effects, and data interpretation, with Mitch Mysliwiec and Eric Stein clarifying that substrate effects are incorporated through calibration rather than explicit parameters, and that further details will be provided in the forthcoming report.

    - **Substrate and Calibration:** Christine Medak asked about the model's treatment of concrete versus natural channel substrate. Mitch Mysliwiec explained that substrate effects are handled through calibration using observed temperature data from different channel sections, rather than explicit model parameters.

    - **Boundary Conditions and Parameterization:** Christine Medak requested clarification on boundary conditions and parameterization used to distinguish channel sections. Eric Stein and Mitch Mysliwiec confirmed that these details will be documented in the final report, which is in preparation.

- **Stakeholder Questions and Suggestions for Further Analysis:** Participants asked questions about energy requirements for effluent cooling, flow proportions, shading alternatives, and data presentation, with Eric Stein and Mitch Mysliwiec noting that suggestions will be considered for future modeling and reporting.

    - **Energy and Implementation Questions:** Josh Cooper asked about the energy intensity and technical process of effluent cooling. The modeling exercise does not consider how the action is taken per se (e.g., the model does not consider how the effluent is cooled, only that it is cooled). A separate parallel effort is evaluating control measures to reduce effluent temperatures, the results of which will be presented at a future meeting and in the final report.

    - **Alternative Shading and Vegetation:** Nate Butler and Christine Medak discussed the potential for vegetation-based shading within the channel and the regulatory challenges involved. Eric Stein and Mitch Mysliwiec agreed that further modeling could explore hypothetical scenarios with more effective shading over the water surface, regardless of feasibility. However, current flood/flow control requirements limit the placement of trees to outside of the channel.

    - **Data Presentation and Analysis Suggestions:** Veronica Cuevas and others suggested additional ways to present model results, such as time series plots and

frequency analysis of temperature exceedances, which Eric Stein confirmed would be considered for future reporting and model output review.

- **Next Steps and Action Items:** Eric Stein and Chris Minton outlined next steps, including compiling stakeholder questions and suggestions, preparing a detailed modeling report with model calibration and parameterization, and communicating proposed responses and future meeting topics via email.
    - **Report Preparation:** Mitch Mysliwiec confirmed that the forthcoming modeling report will include a list of all calibrated items and input parameters, as requested by Veronica Cuevas and others.
    - **Follow-Up and Communication:** Eric Stein stated that the consultant team will summarize stakeholder feedback, consider their suggestions, and communicate updates and future meeting schedules to the Technical Advisory Committee via email.

Recommendations to be considered based on TAC discussions:

- **Model Output Analysis:** Generate time series plots of temperature versus time for upstream and downstream locations for the entire modeled period to illustrate temporal effects and diurnal patterns. (Mitch Mysliwiec)
- **Model Calibration Documentation:** Provide a list of all calibrated items in the model, distinguishing which were input parameters, in the upcoming report. (Mitch Mysliwiec)
- **Data Review and Feedback:** Forward additional questions received by email regarding temperature and biological data to the consultant team for review and response. (Eric Stein)
- **Scenario Modeling Suggestions:** Assimilate and respond to suggestions for alternative modeling scenarios, such as simulating shading with bridge-like structures or canopies and evaluating the effect of shading the water surface within the river channel. (Mitch Mysliwiec)
- **Threshold Exceedance Analysis:** Analyze and report on the frequency and percentage of time that temperature thresholds are exceeded, as suggested by TAC members. (Mitch Mysliwiec)
- **TAC Member Input:** Collect additional questions, comments, and suggestions from TAC members regarding the slide deck and data sets within the next few days for incorporation into follow-up action items. (Eric Stein)