Los Angeles River Instream Flow Criteria Technical Study
Progress Report – October 7, 2019
Covering the Period Ending September 30, 2019

Project Overview

The State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (collectively Water Boards) have invested heavily in promoting water reuse and recycling. However, reuse leads to potential reduction in stream flow, and the Water Boards are responsible for establishing adequate flows for a variety of beneficial uses. Wastewater Treatment Plant dischargers seeking to reduce discharges associated with reducing flow in a stream for reuse (or any other purpose) must file a wastewater change petition and obtain approval under Water Code Section 1211 (1211 petition) from the State Water Board prior to reducing discharges. Key considerations of appropriate levels of environmental flows include demonstrating that the reduced discharge will not unreasonably affect fish and wildlife, or other public trust resources.

The Los Angeles River Flow Study has two overarching goals. The first is to develop technical tools that quantify the relationship between various alternative flow regimes (which may include seasonal or annual needs for flow, such as presence and depth of pools, temperature, or flow timing, duration, frequency, or magnitude) and the extent to which beneficial uses are achieved. The second is to engage multiple affected parties in application of these tools to inform and solicit input regarding appropriate flow needs in the Los Angeles River. The ultimate outcome of this project is to provide technically sound recommendations and alternatives to the Water Boards for consideration and implementation of flow objectives.

Major Accomplishments in the Past Quarter

Activity 1: Stakeholder and Technical Advisory Group Coordination

We held our third TAG meeting on September 16, 2019 which focused on reviewing the focal habitats and process for habitat characterization, updates on the model development, and discussion on potential flow management scenarios. Over 30 TAG members attended in person or by phone. A subsequent TAG webinar was held on October 7, 2019 to discuss endmember species selection. The next TAG meeting is scheduled for early April 2020 and will focus on biological modeling approaches and initial results from the hydrologic modeling.

The second stakeholder meeting is scheduled for October 18, 2019 and will provide an update on the technical work to date, proposed approach to selecting management scenarios and key recommendations from the TAG.

Activity 2: Non-aquatic Life Beneficial Use Assessments.

The final report on the recreational use survey was published in September 2019 and is available on the SCCWRP web site. Prior to its release, the draft report was reviewed by the stakeholder and technical workgroups.

The report found that the most popular uses along the Los Angeles River are walking (walking use were grouped with running, jogging, and dog walking activities), biking, and art/photography. Based on

interviews with recreational experts, the activities that occur in channel require sustained, but relatively reduced flow. Experts thought that water quality was an important indicator for all recreational uses and indicated that the volume of water that now flows along the River helps to dilute contaminants. Though recreational experts could not identify a volume that would help in maintaining water quality, they thought there needed to be enough water volume so that smell, excessive algal growth, and bio-accumulating contaminants would not cause nuisance or harm to people or wildlife. Basic flow requirements for kayaking in Reach 3 were also identified. The results of the recreational use assessment was released in July 2019.

Activity 3: Aquatic Life Beneficial Use Assessments

We have made progress on compiling species and habitat information and on developing the hydrologic and hydraulic models.

For species and habitat information, we have compiled all readily available data from surveys and species/habitat databases. Based on input from the TAG, we have refined the following focal habitats, and associated keystone species:

- Cold water habitat – these habitats may not currently occur, but could potentially occur at some point in the future
- Cold water migration habitat – this habitat overlays the entire study area
- Wading shorebird habitat
- Freshwater marsh habitat
- Riparian habitat
- Warm water habitat – as a surrogate of non-native species habitats

We have mapped the habitat locations, compiled data on species that occur in each habitat and identified endmember species that represent the range of tolerances for each habitat. These have been reviewed by our TAG and will be presented to the stakeholders at their October 18 meeting. We are currently developing the life history information for the endmember species and refining a process for how we will biologically model each habitat and its associated species.

In terms of developing the hydrology and hydraulic models, we have completed the following:

- We have coupled the hydrology and hydraulic models

- Hydrology model: We have calibrated at approximately half the gages and are completing calibration at the remaining gages.

- Hydraulic model: We have started calibrating the HEC-RAS model at five gage locations.

- Water quality model: We have obtained water quality data dating back to 2005 from a variety of different sources and identified key data gaps. The stream temperature modeling approach has been developed based on prior work done by CSM in LA River.

Activity 4: Apply Environmental Flows Framework to quantify effects of flow modification on the Los Angeles River and evaluate management scenarios.

Based on discussions with the TAG, we are proposing to evaluate management scenarios through the use of the sensitivity curves because it provides flexibility in terms of management options that can be considered and allows for defining ranges of acceptable flow metrics. We will start with a series of model runs to develop sensitivity curves and work on creating heat maps of the certain combos of management actions that meet criteria.

No progress has been made yet on Activities 5-7, which involve evaluating water quality effects, exploring management options, and developing a monitoring program.