

Los Angeles River Instream Flow Criteria Technical Study

Progress Report – July 5, 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 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 demonstrate 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 about 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 have held two Technical Advisory Group (TAG) meetings and one Stakeholder Advisory Group (SAG) meeting since the project started. The first TAG meeting on January 28, 2019 focused on providing an overview of major project tasks and deliverables, discussing roles and expectations of the TAC, and reviewing the approach to hydrologic analysis/modeling. The second TAG meeting on May 15, 2019 focused on discussing priority species and biological modeling approaches, providing an overview of hydrologic model set up and discussing water quality modeling scope and data needs. Both meetings were well attended by more than 25 individuals representing a broad set of technical expertise. The next TAG meeting (scheduled for later summer 2019) will focus on developing flow management scenarios,

discussing life history needs of focal species, and discussing hydrologic and biological modeling approaches.

The first Stakeholder meeting was held on March 22, 2019 and provided a broad overview of the project background and technical scope. There was active discussion to help clarify the scope. The project team presented the approach for determined non-aquatic life use needs and presented results of the initial stakeholder interviews. Finally, the workgroup charter was discussed.

Activity 2: Non-aquatic Life Beneficial Use Assessments.

Non-aquatic life uses were assessed through a series of targeted interviews with recreational experts, who were quizzed about uses in various reaches of the river and the hydrologic needs associated with those uses. This was followed by a review of social media to compile information on various uses along the river. Generally, we found that recreational experts could easily identify indicators for each use, though indicators were not always related to flow. However, they had difficulty in identifying the targets that support each use.

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 will be 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 preliminarily identified the following focal habitats, and associated keystone species:

1. Coldwater fish habitat – represented by O Mykiss or Santa Ana Sucker

2. Riparian habitat – need to define specific alliances (e.g. cottonwood alliance), represented by least Bell's vireo
3. Freshwater marsh habitat – defined by red-winged blackbird or Western pond turtle
4. Wading shorebird habitat – defined by black necked stilt or long-billed dowitcher
5. Warmwater, perennial flow habitat – as a surrogate for invasive spp habitat, represented by largemouth bass

We are currently compiling life-history information for each of the focal species/habitats.

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

- Processed LiDAR data from LA County to create a 1 ft² DEM of the study area.
- Obtained HEC-RAS models from ESA, tried to run unsteady model for Glendale Narrows. Given the temporal and spatial domain of analysis, the team is not able to get an acceptable solution using unsteady state. Therefore, we will model hydrology as unsteady state using SWMM and couple it with a steady state HEC-RAS model for hydraulics.
- The model domain was adjusted to include all areas of potential management concern, but to exclude some of the upper watershed areas that will not be affected by any management or restoration scenarios. This will improve computational efficiency of the model.
- Model parameters and inputs for SWMM have been compiled, including the WRP discharge data provided by the County and the cities
- The team has begun to compile water quality data from various sources and will be investigating the availability of additional data from the City and County of LA
- The HEC-EFM model is being reviewed for its potential application for species/habitat suitability analysis

No progress has been made yet on Activities 4 -7, which involve analyzing the effects of various scenarios on key flow metrics, evaluating water quality effects, exploring management options, and developing a monitoring program.