Los Angeles River Flows Project

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Background

- During dry period, Los Angeles River ("LA River") instream flow is primarily wastewater treatment plant discharges from facilities managed by the cities of Los Angeles, Glendale and Burbank
- All three have plans to recycle a portion of their wastewater and have petitioned or plan to petition to the State Water Board Division of Water Rights to reduce discharges to the LA River for beneficial reuse
- Reductions may affect existing beneficial uses such as recreation and aquatic life
- Water Boards support beneficial use protection and recycling water for local supply development

Central Question

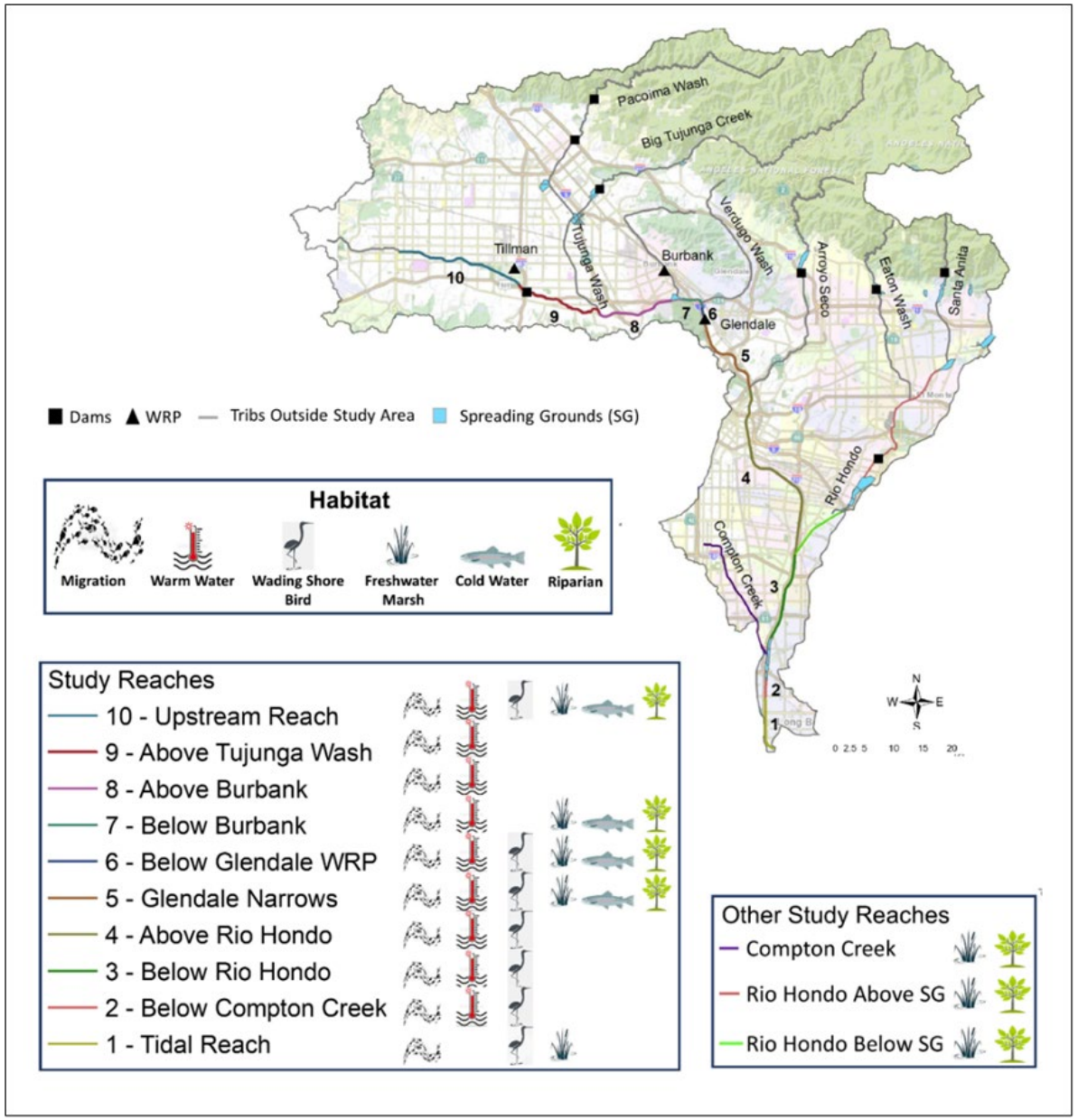
What are the potential impacts to existing instream beneficial uses in the LA River from changes to wastewater treatment plant discharges and/or stormwater capture?

LA River Flows Project Goals

1. Develop technical tools that quantify the relationship between various flow regimes and the extent to which aquatic life and non-aquatic life beneficial uses are achieved
2. Engage affected parties to reach consensus about appropriate flow needs and optimal allocation of flow reduction allowances from multiple wastewater reclamation plants, in consideration of other proposed flow management actions
3. Evaluate various flow management scenarios in terms of their effect on uses in the LA River
4. Support the State Water Resource Control Board's decision-making under Water Code Section 1211.

Project Steps

1. Characterize aquatic life and recreational uses in the LA River
2. Quantify flows needed to support uses
3. Model various flow scenarios and how each would affect uses
4. Develop a set of flow recommendations that optimize use support
5. Incorporate stakeholder input throughout the process
6. Serve as a model for other urban Southern California river systems.



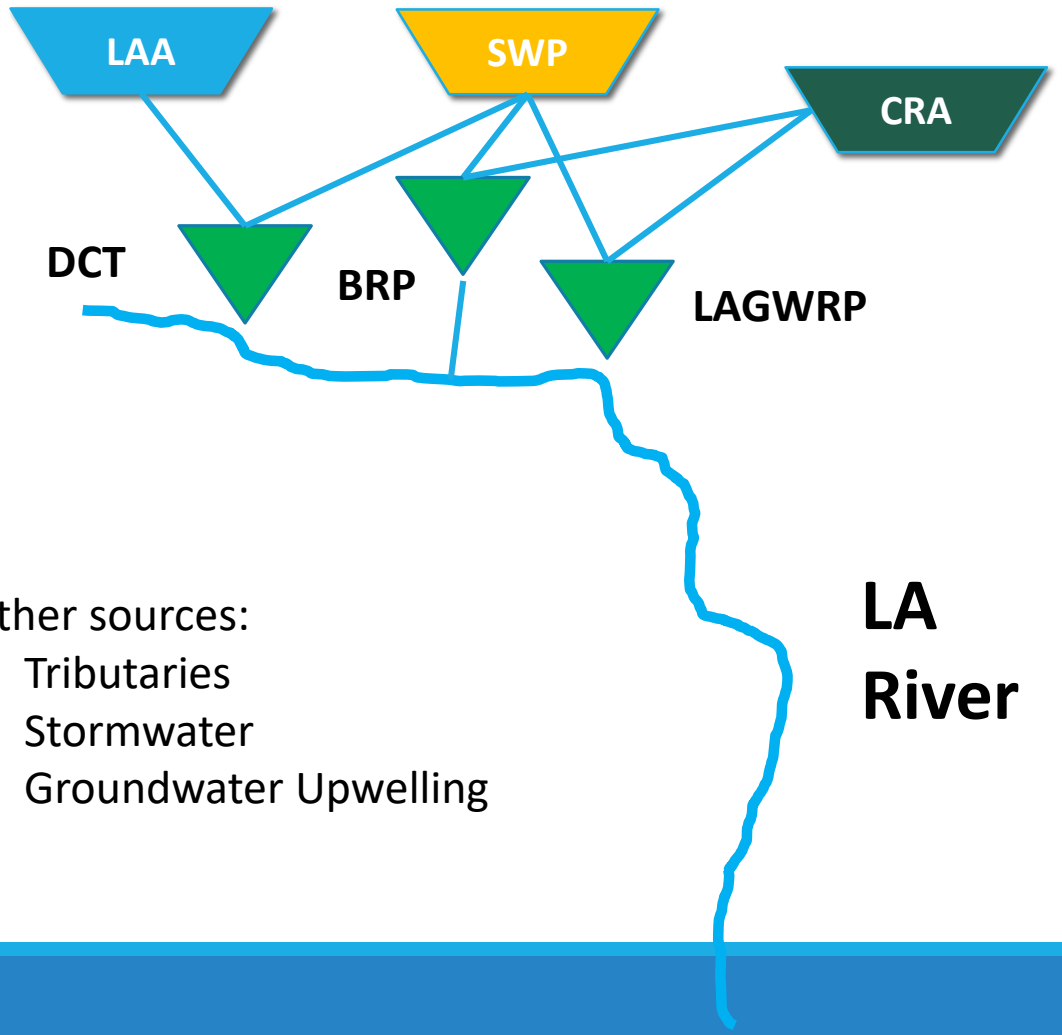
Area included in the Project

Findings of this Project apply to:

- Mainstem of the LA River, from the DC Tillman Treatment plant to the mouth of the LA River meeting the Pacific Ocean.
  - Area between the banks
- Two LA River tributaries (considered in hydrologic modeling):
  - Rio Hondo
  - Compton Creek

Watershed-wide hydrologic data used to develop models..

Where Does the Water Come From?



Other sources:

- Tributaries
- Stormwater
- Groundwater Upwelling

During dry periods, discharged water in the LA River comes from 3 Water Reclamation Plants (WRP):

- Donald C. Tillman WRP (DCT)
- Burbank WRP (BRP)
- Los Angeles-Glendale WRP (LAGWRP)

The water processed in these plants originates from:

- The State Water Project via the Bay Delta and the Feather River (SWP)
- The Colorado River Aqueduct (CRA)
- The Los Angeles Aqueduct and the Owens Valley (LAA)

Process Overview

Activity 1

Stakeholder coordination

- Ongoing

Activity 2

Non-Aquatic Life use Assessment

- Recreational Uses Report

Activity 3

Aquatic life use assessment

Activity 4

Assess effects of flow modification and management

Wastewater Reclamation Plant water reuse scenarios

Activity 5

Monitoring and Adaptive management

Activity 6

Results and Reporting

Activity 1: Community Outreach & Stakeholder Coordination

- Project Lead: State Water Resources Control Board
- Stakeholder Working Group
  - Coordinate with stakeholder on technical approach and preferred outcomes
- Technical Advisory Committee
- Partner with existing efforts to avoid duplication and stakeholder fatigue
  - LA River Master Plan
  - MRCA/RMC planning efforts

Activity 2: Assessing Non-Aquatic Life Uses

Goal: Identify key non-aquatic (recreational) uses and determine flow needs for those uses

- Survey existing reports
  - Compare results with 2014 RECUR Report
- Interview recreational experts
  - Supplement with social media and geotagged photos linked to flow gauge by date
- Produce list of recreational uses by reach
  - Establish flow needs for each use

➢ **Access final Recreational Uses Report**

- http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/1088_LARiverRecreationalUses.pdf

Activity 3: Aquatic Life Use Assessment

Goal: Develop flow-ecology relationships for key aquatic species or habitats in the LA River

Approach:

a) **Assess hydrologic baseline**

b) **Identify and characterize ecological endpoints of management concern**
   - **Agreed on priority species/habitat groups for each reach of study area**
   - **Grouped based on similar flow needs**

c) **Determine flow-ecology relationships for:**
   - **stream endpoint**
   - **marsh and estuary habitats**

Identified Focal Habitats and Species

- **Cold water habitat -** Unarmored threespine stickleback and Santa Ana sucker
  - *Not currently present, but could potentially be in the future*
- **Migration habitat –** Steelhead/Rainbow trout
  - *Overlays with other habitats*
  - *Not currently present, but could potentially in the future if reintroduced*
- **Wading shorebird habitat –** Green algae -*Cladophora*spp.
- **Freshwater marsh habitat –** Cattails and Duckweed
- **Riparian habitat –** Sandbar willow and black willow
- **Warm water habitat –** African clawed frog and Mosquitofish
  - *Surrogate for invasive species habitat*

Activity 4: Quantify Effects of Flow Management

Goal: Evaluate effect of flow management on aquatic life and non-aquatic life uses in the LA River

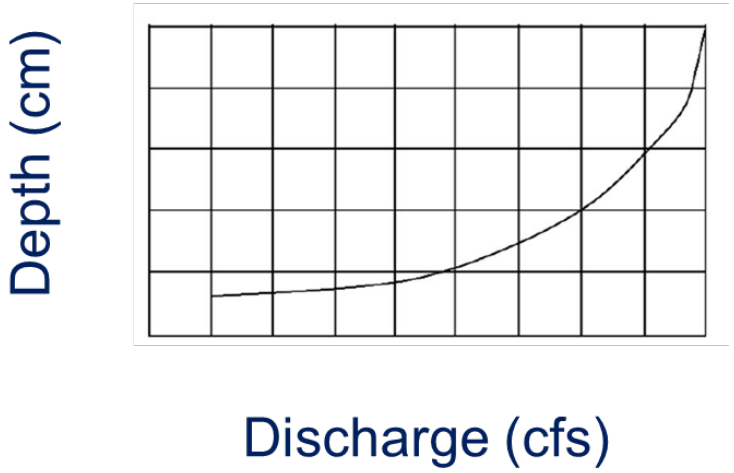
a) Determine appropriate hydrologic tools and update modeling analysis

b) Analyze tolerances of system to flow modification

c) Analyze water use scenarios

d) Evaluate:
   a) stormwater capture scenarios
   b) groundwater interactions
   c) habitat management offsets for flow reductions
   d) effects of flow alteration on tidal portions of the river

- **Establish recommended flow scenarios with stakeholder coordination**
  - **Sensitivity curves**



Consideration of Management Scenarios

- Varying amounts of **reduced discharge** from three water reclamation plants
- **Stormwater capture** along Rio Hondo and Compton Creeks
  - Other areas of stormwater capture associated with LA County Master Plan
- **Restoration** along Compton, Rio Hondo, Arroyo Seco
  - Implications for water consumption
  - Constraints on restoration goals

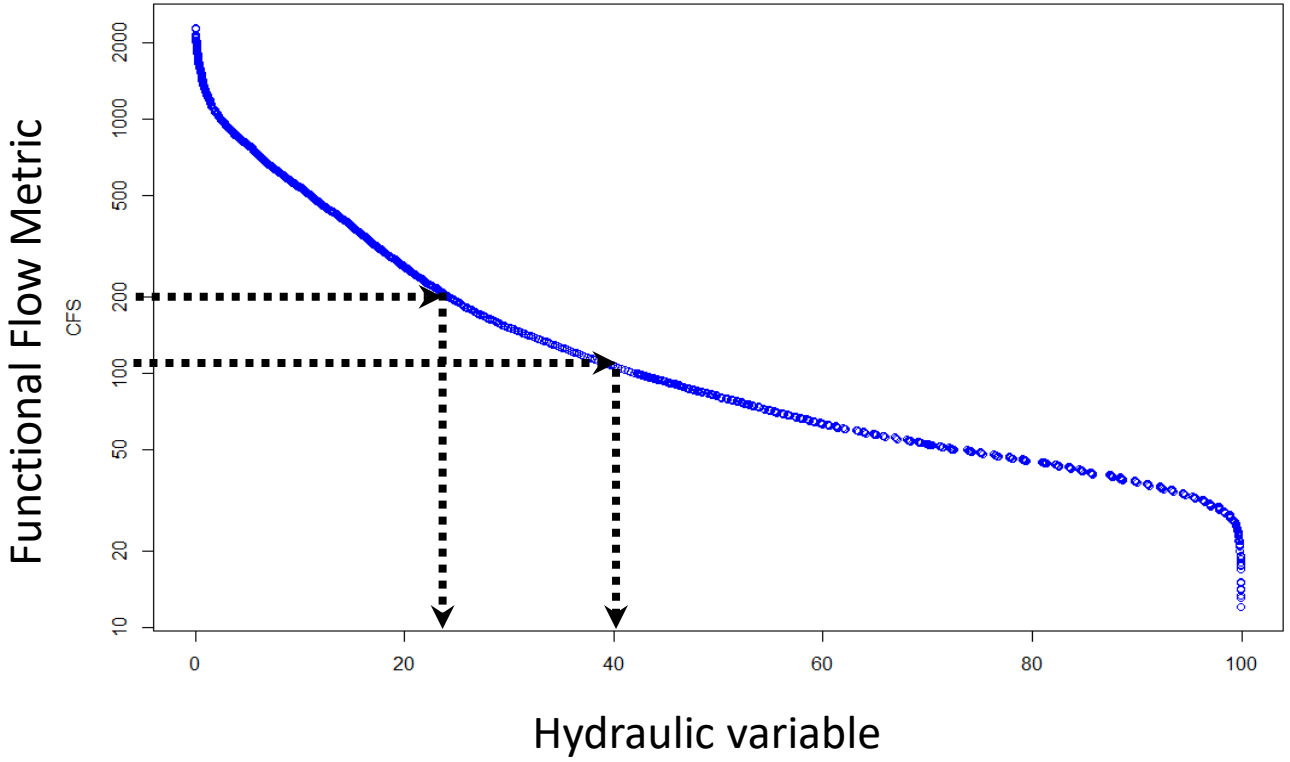
Sensitivity Curves Approach- Example

Develop multiple sensitivity curves based on:

- Key hydrologic properties
- Various management scenarios
- Water year type (wet, moderate, dry)
- Seasons
- Locations

Example: Percent reduction in wastewater discharge, relate to a seasonal baseflow, then relate to habitat requirements

- Then use functional flow metric to find appropriate discharge values



Activity 5: Monitoring and Adaptive Management

Goal: Develop a recommended monitoring strategy with potential triggers for adaptive management.

Approach: Work with stakeholders and technical team to develop monitoring strategies

- Leverage existing monitoring and assessment programs (e.g. SMC)
- Provide data to improve model performance
- Evaluate efficacy of criteria and management actions

Considerations

- This project is not an attempt to define a set of future uses or flow criteria for the LA River.
- This project does not prescribe wastewater treatment plant reductions, increased stormwater capture, or specific restoration efforts.
  - Results of this project to be used to inform decisions regarding changes to wastewater treatment plant discharges
- Water quality parameters with a direct relationship to species are included, such as temperature.

Options for Other Scenarios

Potential application to:

- Stormwater
- Groundwater
- Conservation
- Environmental restoration and planning

- Serve as a model for other Southern California urban watersheds

Timeline

Activity	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4
1 - Stakeholder coordination									
2 - Non-aquatic Life Use Assessment		SWG 1							
3 - Aquatic Life Beneficial Use Assessment				SWG 2					
4 - Apply Environmental Flows & Evaluate Scenarios						SWG 3			SWG 4*
5 - Monitoring & Adaptive Management Plan									
6 - Summary of results & Reporting									
7 - Water Quality Assessment									

Technical work estimated completion end of 2020

Stakeholder coordination meeting

**SWG4 likely to occur January 2021*

Additional Resources

- **Project updates, FAQ, presentations**
  - **https://www.sccwrp.org/about/research-areas/ecohydrology/los-angeles-river-flows-project/**
- **State Water Board project overview**
  - https://www.waterboards.ca.gov/water_issues/programs/larflows.html
- **California Environmental Flows Workgroup**
  - https://mywaterquality.ca.gov/monitoring_council/environmental_flows_workgroup/index.htm

Questions?

Please note, these slides are for informational purposes only, and are subject to revision. For detailed questions, please reach out to the contacts below.

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