Quantifying Community Flood Management Benefits of Watershed-Scale Stormwater Capture – Phase 3

Scientific Studies Program

Fiscal Year 2026-2027

Upper Los Angles River, Rio Hondo

Lead: San Gabriel Valley Council of Governments (SGVCOG)

Presenters: Mackenzie Bolger, SGVCOG;
Brad Wardynski & Tim Fairbank, Craftwater

Study Overview

Expands pilot flood analyses from Phase 2 to the entire ULAR and Rio Hondo Watershed Areas. Introduces advanced hydraulic modeling to evaluate impact of upstream stormwater capture on flood risk and channel restoration potential

Nexus to Stormwater and Urban Runoff capture and pollution reduction:

- Identify if, where, and how water quality-focused projects could be designed to better manage flood risks
- Apply performance measures to describe flood-related Community Investment Benefits from stormwater capture projects

Study Location

Upper Los Angeles River

Rio Hondo

Study Team

- Study Lead: **San Gabriel Valley Council of Governments**
- Study Developer: **Craftwater**
- Academic Collaborators:
  - **UCLA – Center for Climate Science (Dr. Ben Bass)**
  - **University of California – Irvine Flood Lab (Dr. Brett Sanders)**

Study Details – **Problem Statement & Objectives**

SECTION 16.03 OF THE FLOOD CONTROL DISTRICT CODE STATES…

FLOOD MANAGEMENT, CONVEYANCE, AND RISK MITIGATION ARE COMMUNITY INVESTMENT BENEFITS UNDER THE SAFE, CLEAN WATER PROGRAM (SCWP)

HOWEVER,

STANDARDIZED METHODS TO QUANTIFY THESE BENEFITS REMAIN UNDERDEVELOPED, PARTICULARLY AT THE WATERSHED AREA SCALE

Study Details – **Problem Statement & Objectives**

AND, ONCE QUANTIFIED, THERE IS A NEED TO EXPLORE…

HOW SCWP PROJECTS COULD SUPPORT RESTORATION OF RIVER CHANNELS WHILE MANAGING FLOOD RISKS UNDER CHANGING CLIMATE CONDITIONS

OBJECTIVES:

EXPLORE COMMUNITY FLOOD IMPROVEMENT BENEFITS OF SCWP PROJECTS UNDER CLIMATE CHANGE SCENARIOS TO ENABLE RIVER RESTORATION ALTERNATIVES

Study Details – **Leveraged & Current Studies**

- LA River California Environmental Flow Framework (CEFF) Project
- US Army Corps of Engineers' LA River Ecosystem Restoration Project
- SGVCOG's ULAR/RH preSIP Platform for Watershed Science and Project Collaboration
- SGVCOG'S ULAR/RH Fire Effects Study
- Cal Poly Pomona's *River, Revitalized: How to Restore the Los Angeles River* (2023)
- Friends of the LA River (FoLAR)'s *River Management Strategies for The Glendale Narrows - Feasibility Study* (2021)
- San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC)'s *Lower LA River Revitalization Plan* (2019)

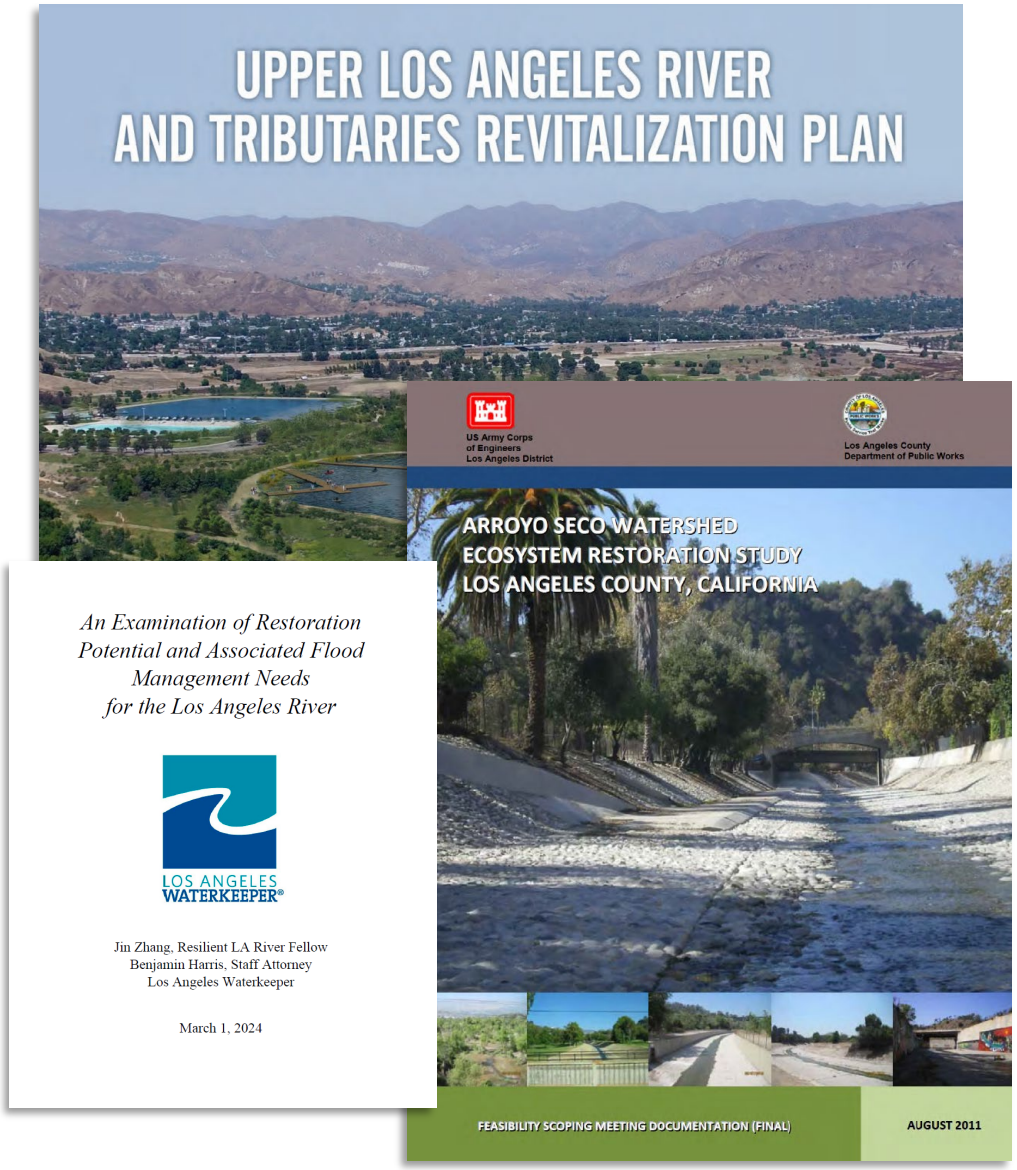
Study Details – **Methodology & Outcomes**

- **Phase 1: ULAR Bookend**
  - Characterize climate change implications
  - Contextualize watershed-wide potential using ULAR preSIP model

preSIP Project Library

Study Details – **Methodology & Outcomes**

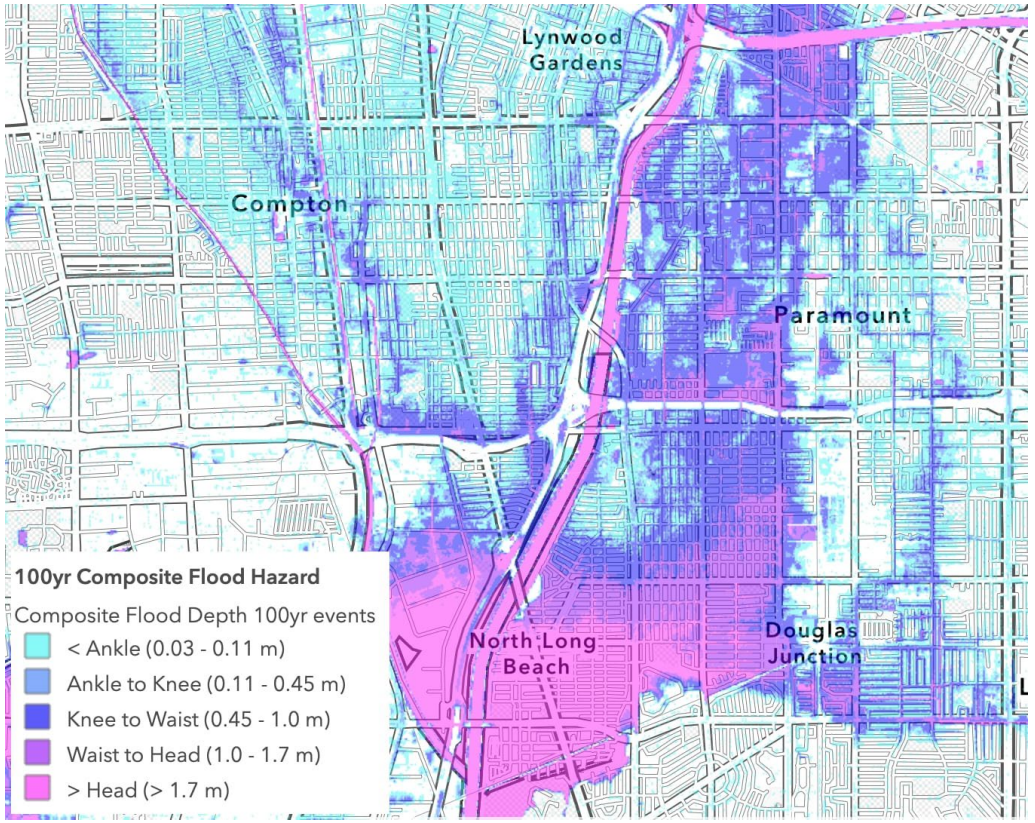
- Phase 1: ULAR Bookend
- **Phase 2: Arroyo Seco Pilot**
  - Peak Flow & Volume Benchmarks
  - Characterize Local & Regional Flooding Risks & Opportunities
  - Model Watershed Projects
  - Summarize Regional Flood Improvement Criteria, Tools, and Formulas



Study Details – **Methodology & Outcomes**

- **Phase 1:** ULAR Bookend
- **Phase 2:** Arroyo Seco Pilot
- **Phase 3: ULAR & Rio Hondo Scale-up**
  - Expansion of Pilot Approach Across ULAR and RH
  - Hydraulic Modeling of Upper LA River and Rio Hondo
  - Evaluate Post-Wildfire and Climate Change Impacted Hydrology
  - Metrics Development and Publication

UCI PRIMo Model



Credit: Brett Sanders, UCI

Study Details – **Methodology & Outcomes**

- **Phase 1:** ULAR Bookend
- **Phase 2:** Arroyo Seco Pilot

Funded by ULAR WASC ($470k)
Expected Start:
Summer 2026

- **Phase 3: ULAR & Rio Hondo Scale-up**

Under Consideration by ULAR ($582k) & RH ($505k) WASCs
Expected Start if Approved:
Summer 2027

Cost & Schedule

Phase	Description	Funding Request		Completion Date (Approx. Months After Funding Transfer)
		ULAR	RH	
	RH Bookend Analysis	--	95,723	+3 Months
	Hydrologic Model Expansion	289,226	186,106	+6 Months
	Hydraulic Modeling	124,039	61,513	+ 10 Months
	Post-Fire & Climate Impacts	43,527	42,527	+10 Months
	Metrics Development & Publication	32,705	32,705	+12 Months
	SCWP Reporting & Project Management	93,368	86,376	+12 Months
TOTAL		**581,865**	**504,950**	

Summary of Benefits

- ✓ **Better quantify flood improvement benefits to communities from SCWP**
- ✓ **Better inform planning, siting, and design to reduce flood risk**
- ✓ **Better understand river restoration potential**

Questions?

Mackenzie Bolger
SGVCOG

Brad Wardynski
Tim Fairbank
Craftwater