



UPPER  
LOS  
ANGELES  
RIVER



preSIP Study Debrief and Next Steps



# PRESIP GOALS



Engaged 28 **partners** to pursue collective success



Compiled 650 **projects** (including 100s of new ones)



Plotted 7 more achievable compliance **pathways**



Stood up a **platform** to facilitate ongoing adaptation and collaboration





# Partners: Engaged 28 Organizations

The Nature Conservancy



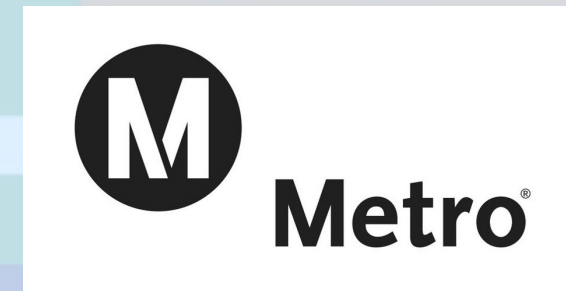
Public Works  
LOS ANGELES COUNTY



UPPER  
LOS  
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ARLA

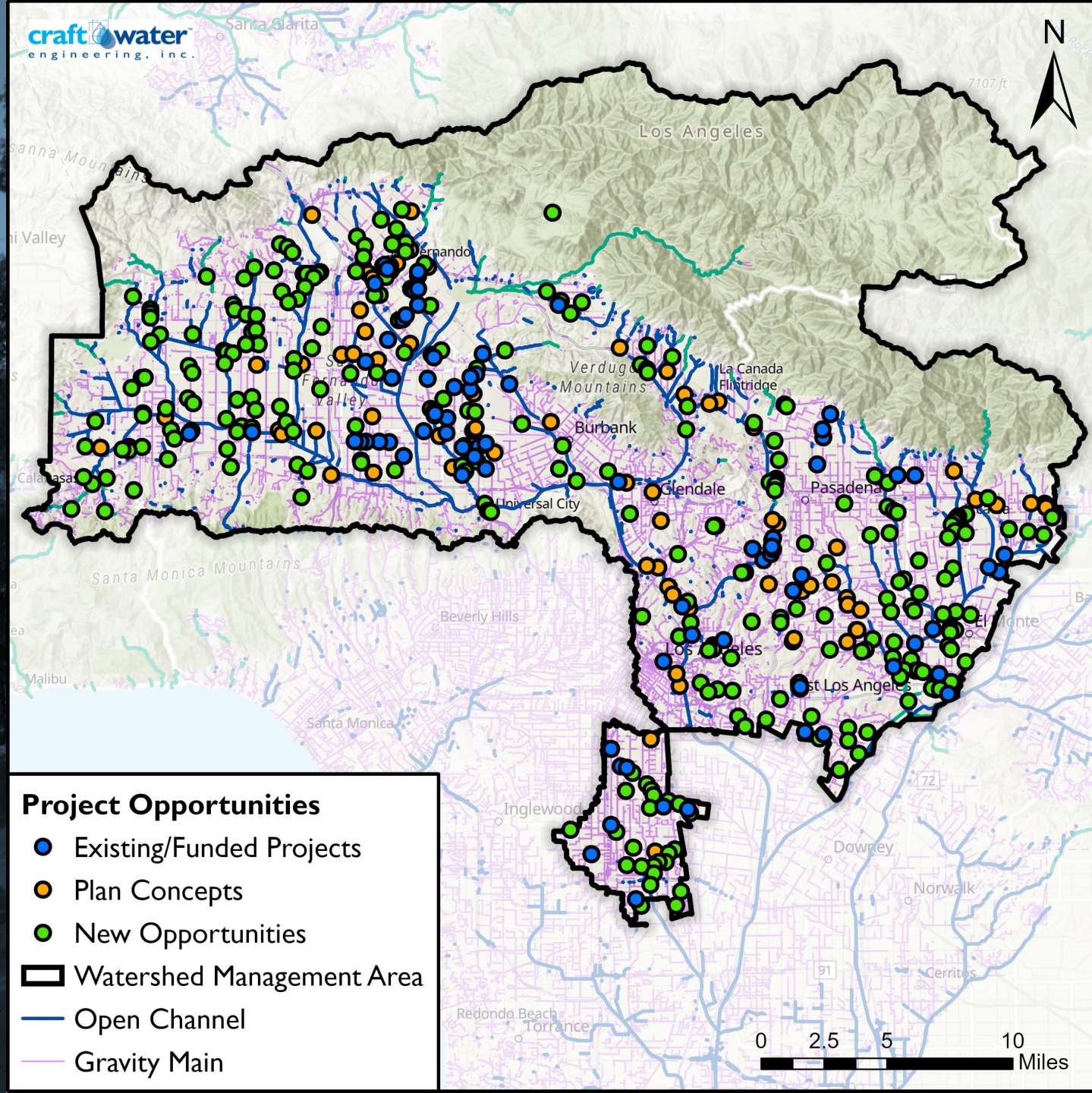






# Projects: a Library of High-Impact Opportunities

Engineering review thinned to 650 higher-certainty projects on public parcels







# Pathway: Adapting our Watershed Understanding

**10**

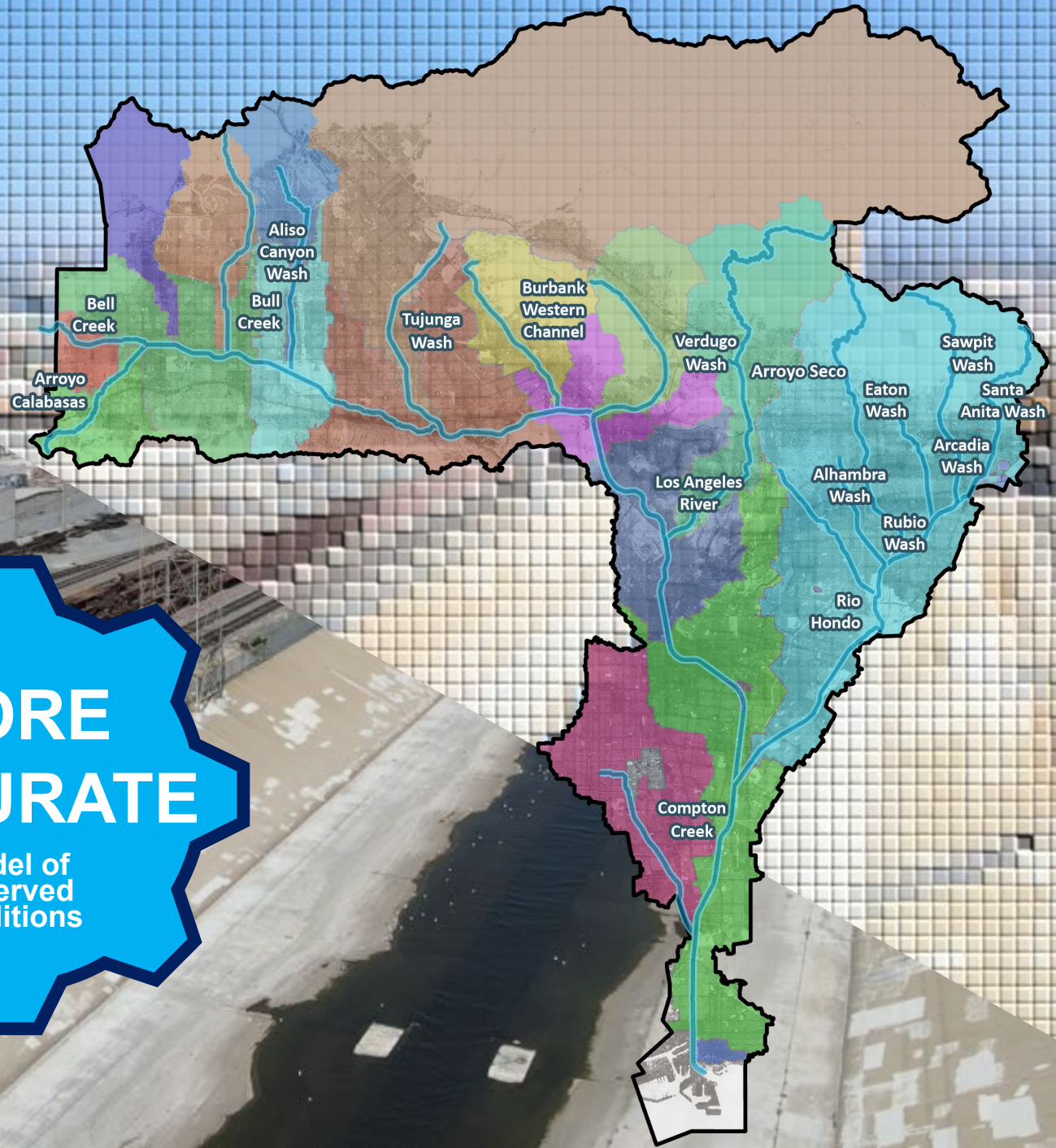
new  
calibration  
stations

**4.5k+**

monitored  
data points

**MORE  
ACCURATE**

model of  
observed  
conditions







# Pathway: Plotting Alternative Clean Water Portfolios

## PLANNING-LEVEL COST OF NEW PROJECTS\*

- Manage Heavy Metals on 90% of Wet Days
- Manage Average Annual Heavy Metals Load

**20-33**

New Projects

**28-34**

New Projects

**33-38**

New Projects

**\$604M**

**103**

New Projects

**10k+**

New Projects

**\$6.4B**

**\$239M**

**\$233M**

**\$73M**

**\$95M**

**\$74M**

**\$82M**

**Prioritize Water  
Quality**

**Prioritize  
Disadvantaged  
Communities**

**Prioritize Water  
Supply**

**Manage WMP  
Critical Storm**

- preSIP Pathway
- Original WMP Plan

*\*Excludes projects already funded for feasibility, design, or construction*





# Platform: Enabling Adaptation, Tracking, Public Exploration, & Engagement

Excel  
Project List

Public  
Storymap

2Nform  
Software

preSIP Adaptive  
Management Model

- For quick reference and public use
- View-only snapshot as of end of study (recommend updating semi-annually)

- For agency and WMG use
- Living database to track projects and relative progress (update semi-annually or when project details change)

- For compliance planning
- Update intermittently to support WMP and as new monitoring data collected



# Excel Project List

## preSIP Project Opportunity Library

Sorted by Water Quality Rank

Last Updated 9/30/2023

NAME	JURISDICTION	ASSESSMENT AREA	STATUS	ID	IS DAC?	WATER QUALITY	WATER QUALITY	WATER SUPPLY	WATER SUPPLY	BALANCED	BALANCED
						RANK	TIER	RANK	TIER	RANK	TIER
ALISO CANYON WASH											
Napa St Elementary School	LosAngeles	Aliso Canyon Wash	NEW	CWPSP169	YES	83	Q1	168	Q2	128	Q2
Simmons Park	LosAngeles	Aliso Canyon Wash	NEW	CWPSP201	YES	84	Q1	169	Q2	129	Q2
Vanalden Park West	LosAngeles	Aliso Canyon Wash	NEW	CWPSP162	NO	139	Q2	53	Q1	74	Q1
Parking Lot at Plummer St & Winnetka Ave	LosAngeles	Aliso Canyon Wash	NEW	CWPSP154	NO	153	Q2	57	Q1	89	Q1
Vanalden Park East	LosAngeles	Aliso Canyon Wash	NEW	CWPSP164	NO	266	Q3	141	Q2	229	Q3
Oakridge Estate Park	LosAngeles	Aliso Canyon Wash	NEW	CWPSP142	NO	269	Q3	88	Q1	165	Q2
Northridge City Little League	LosAngeles	Aliso Canyon Wash	NEW	CWPSP141	NO	278	Q3	213	Q2	292	Q3
Index St & Etiwanda Ave	LosAngeles	Aliso Canyon Wash	NEW	CWPSP126	NO	315	Q4	339	Q4	375	Q4
Limekiln Park	LosAngeles	Aliso Canyon Wash	NEW	CWPSP125	NO	318	Q4	331	Q4	374	Q4
Northridge Park	LosAngeles	Aliso Canyon Wash	NEW	CWPSP146	NO	321	Q4	14	Q1	54	Q1
CSUN Parking Lot B1	LosAngeles	Aliso Canyon Wash	NEW	CWPSP158	YES	322	Q4	148	Q2	262	Q3
CSUN Open Area	LosAngeles	Aliso Canyon Wash	NEW	CWPSP148	YES	323	Q4	150	Q2	265	Q3
Public Works Department Storage Yard	LosAngeles	Aliso Canyon Wash	NEW	CWPSP166	YES	338	Q4	129	Q2	246	Q3
Aliso Canyon Park	LosAngeles	Aliso Canyon Wash	NEW	CWPSP115	NO	419	Q4	177	Q2	320	Q4
ARROYO SECO											
Arroyo Seco Park East	LosAngeles	Arroyo Seco	NEW	CWPSP288	YES	9	Q1	33	Q1	5	Q1
Arroyo Seco Park West	LosAngeles	Arroyo Seco	NEW	CWPSP289	YES	11	Q1	393	Q4	52	Q1
San Pascual Stables	Pasadena	Arroyo Seco	NEW	CWPSP282	NO	39	Q1	19	Q1	11	Q1
Arroyo Seco Golf Course Driving Range Wetlands	SouthPasadena	Arroyo Seco	FUNDED	EXPSP194	NO	43	Q0	4	Q0	4	Q0
Brookside Park Open Space North	Pasadena	Arroyo Seco	NEW	CWPSP243	NO	44	Q1	76	Q1	41	Q1
Brookside Park Baseball North	Pasadena	Arroyo Seco	NEW	CWPSP249	NO	47	Q1	77	Q1	42	Q1
Arroyo Seco Stormwater Capture Basin	SouthPasadena	Arroyo Seco	FUNDED	EXPSP196	NO	53	Q0	22	Q0	18	Q0
Cleveland Elementary School	Pasadena	Arroyo Seco	NEW	CWPSP228	NO	61	Q1	142	Q2	87	Q1
Arroyo Seco Golf Course Constructed Wetlands	SouthPasadena	Arroyo Seco	FUNDED	EXPSP195	NO	63	Q0	2	Q0	2	Q0
Brookside Park Baseball South	Pasadena	Arroyo Seco	NEW	CWPSP252	NO	64	Q1	5	Q1	6	Q1
Foothill Municipal WD Recycled Water Project	LaCanadaFlintridge	Arroyo Seco	PLANNED	EXPSP229	NO	94	Q1	78	Q1	72	Q1
John Muir North Field	Pasadena	Arroyo Seco	NEW	CWPSP217	NO	95	Q1	42	Q1	47	Q1
Arroyo Seco-San Pascual Treatment Wetlands	SouthPasadena	Arroyo Seco	FUNDED	EXPSP197	NO	115	Q0	6	Q0	10	Q0
Lower Arroyo Park BMP	Pasadena	Arroyo Seco	PLANNED	EXPSP238	NO	125	Q2	1	Q1	1	Q1
La Canada High School	LaCanadaFlintridge	Arroyo Seco	NEW	CWPSP205	NO	130	Q2	11	Q1	21	Q1
Rose Bowl Parking West	Pasadena	Arroyo Seco	NEW	CWPSP248	NO	134	Q2	9	Q1	20	Q1



# Public StoryMap: [sgvcog.org/waterprograms](https://sgvcog.org/waterprograms)

Pathway to Safe, Clean Water in the Upper LA River



## Pathway to Safe, Clean Water in the Upper LA River

How the "preSIP" study developed a platform for watershed science and project collaboration

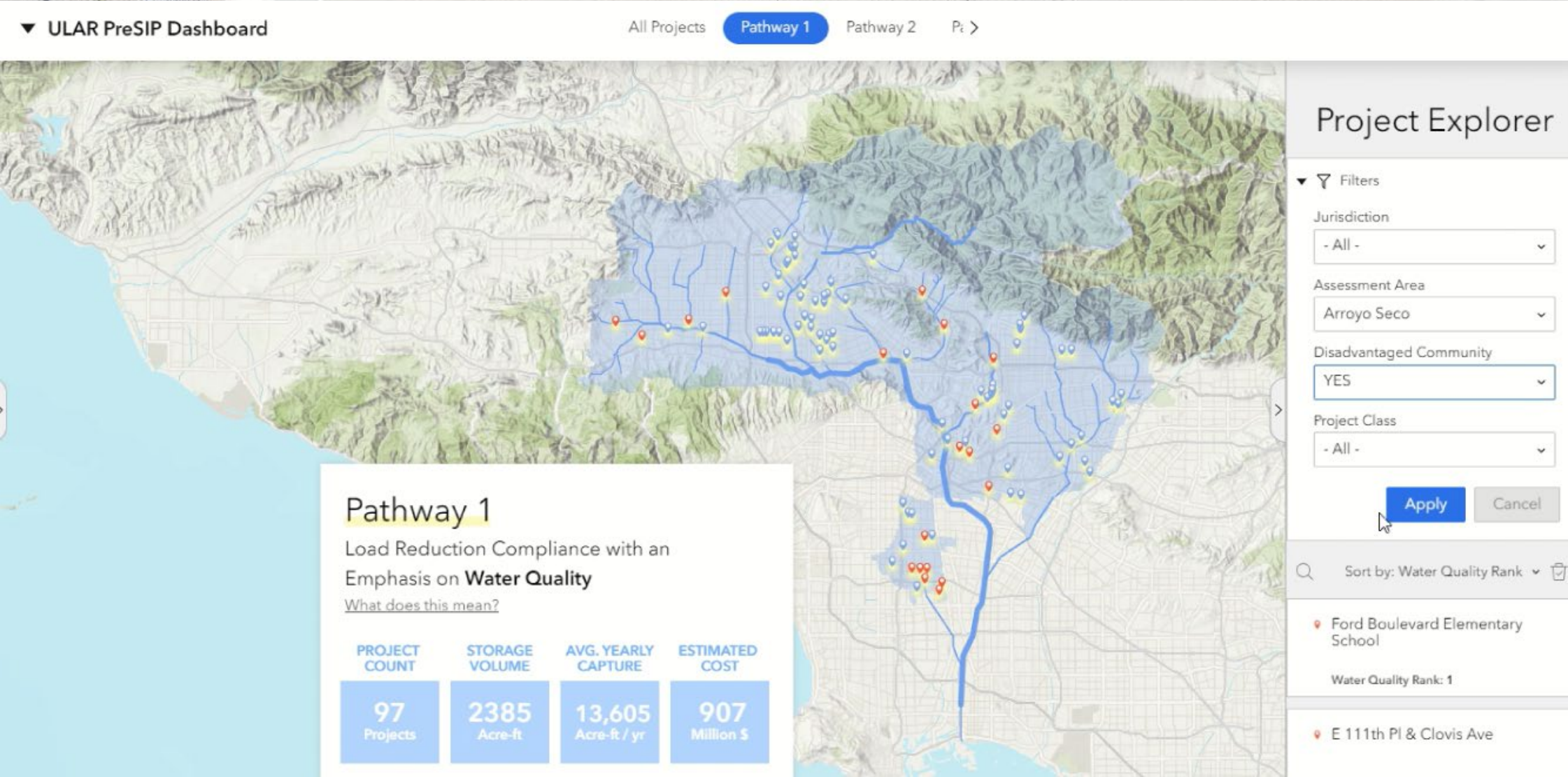
**Craftwater Engineering, Inc.**

October 23, 2023



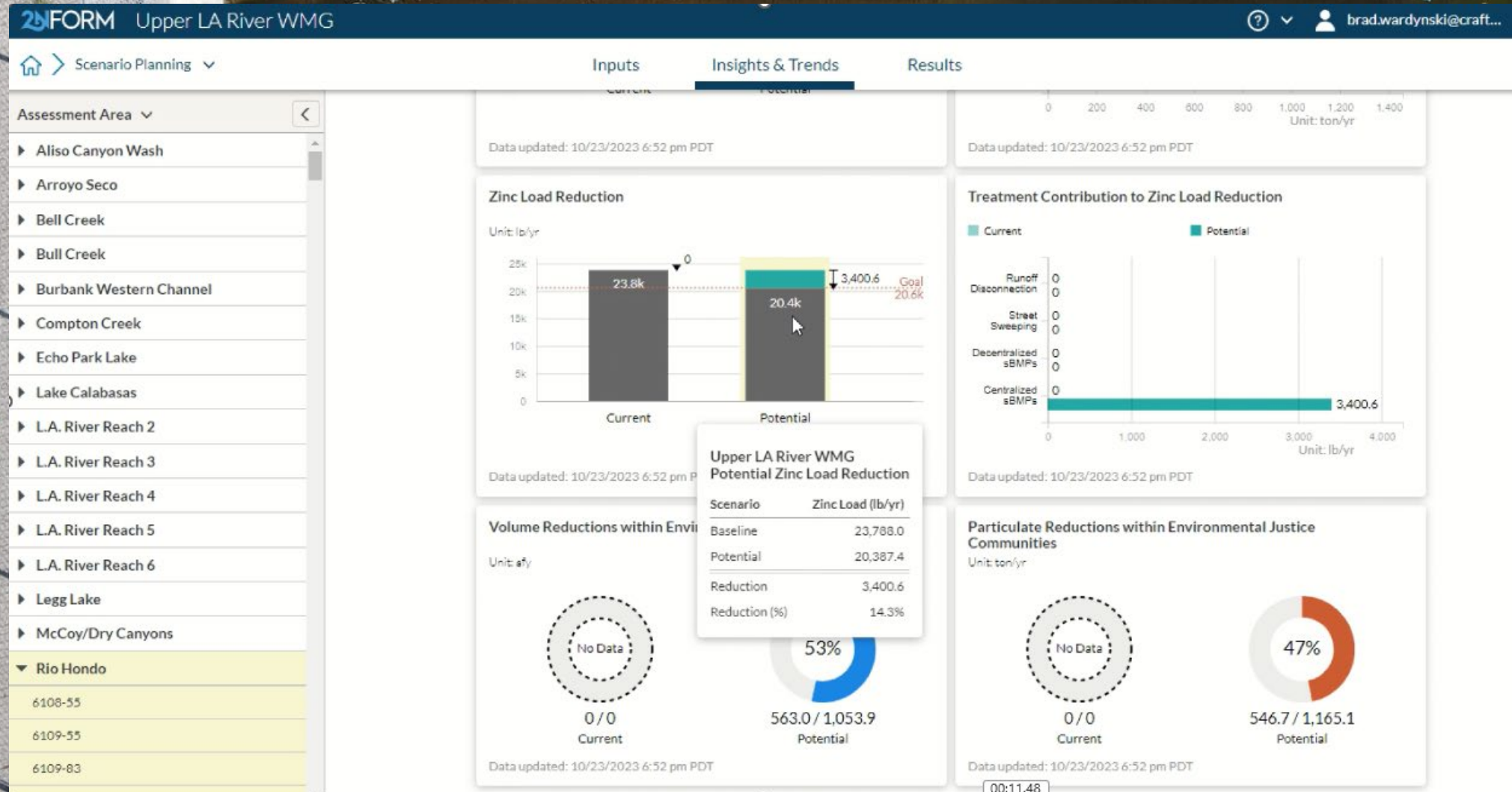


# Public StoryMap: [sgvcog.org/waterprograms](http://sgvcog.org/waterprograms)





# 2Nform Software





## how to use it

1. Use platform to **routinely track and update** your project details, status, and progress
2. Use pathways and rankings to **prioritize, select, and promote** near-term, impactful projects
3. Use tools to **adapt your plan to change**
4. Use StoryMap to **engage and centralize** watershed partners, projects, and planning



let's keep building momentum

## Project Modification Request

- 6 meetings with Regional Board staff to review/validate results (per ULAR WASC recommendation)
- Independent peer review of study methodologies
- Implementation support and model updates
- Maintenance of website and platform for 3 years
- Nominal request: \$73.5k/yr (ULAR: \$56.5k/yr, RH: \$17k/yr)







# Questions?





ULAR

UPPER  
LOS  
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RIVER

# **Fire Effects Study in the Upper Los Angeles Watershed Management Area**

## **Scientific Studies Program**

Rio Hondo WASC Meeting  
Mar 19, 2024



# Benefits of the Fire Effects Study

## Study Benefits:

This study will model post-fire water quality and help inform better BMP design to provide a more resilient environment.

### Benefits of this Fire Effects Study include:



Identifying and designing effective management strategies;



Informing the community on the impacts of wildfire on water quality; and

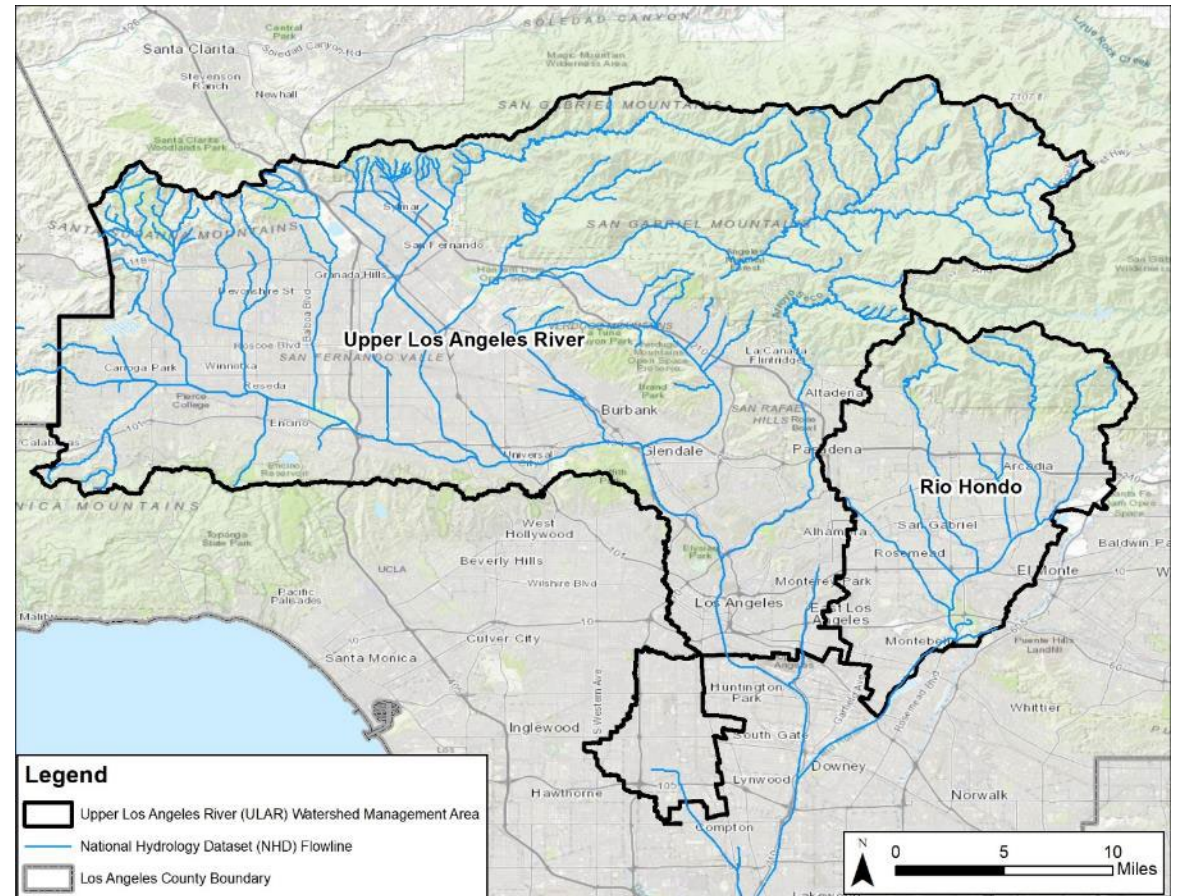
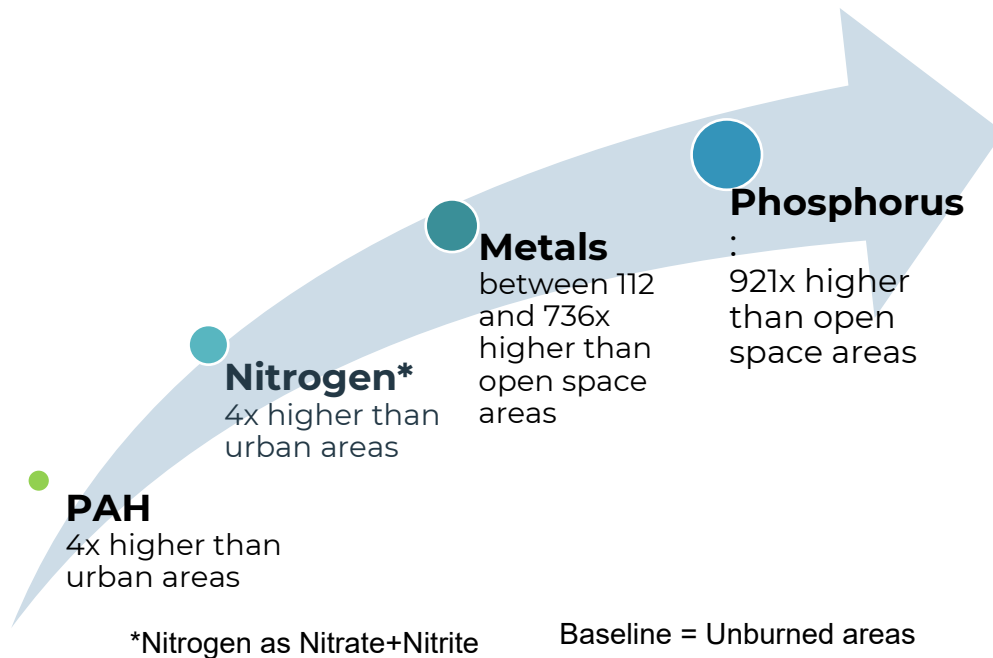


Predicting impacts on water quality from future wildfires and other climate change scenarios



# Background

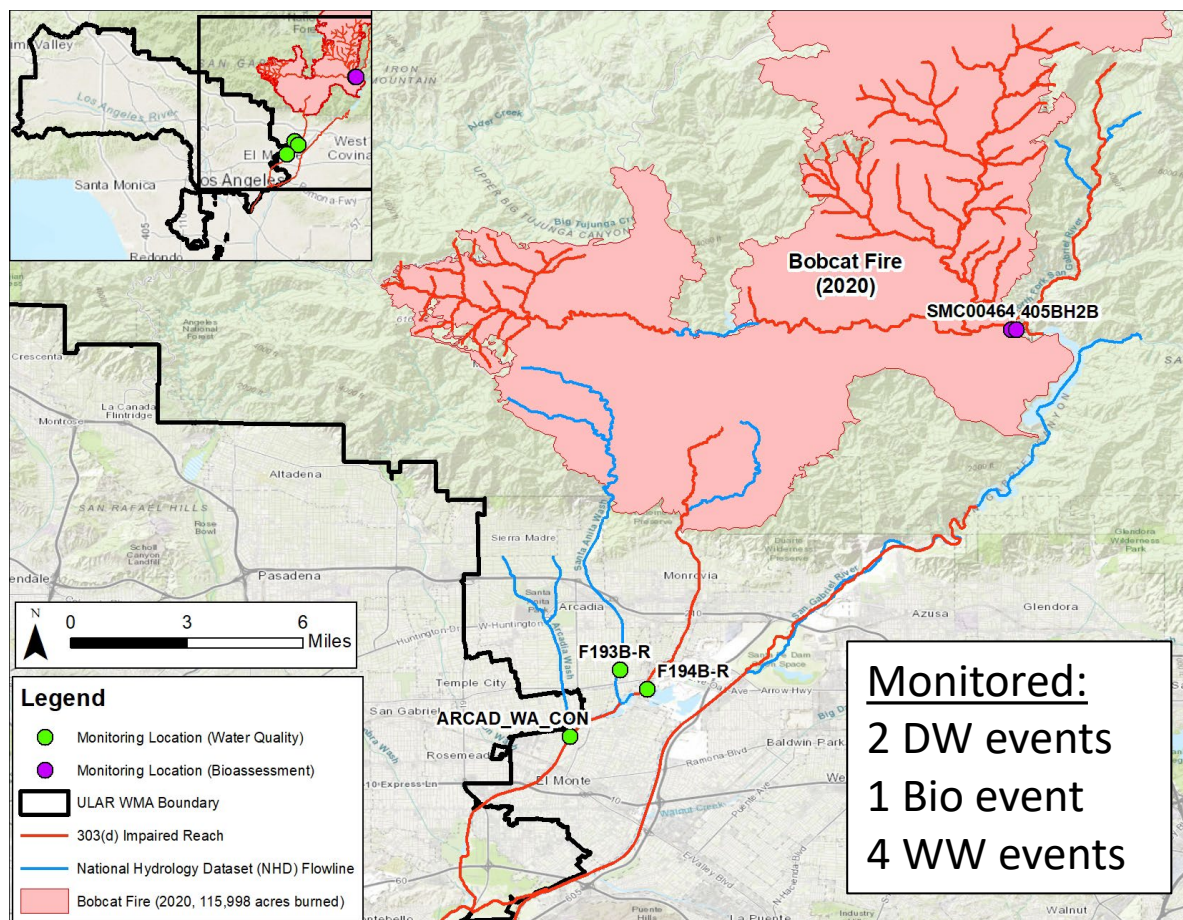
Wildfires produce pollutants including aerially-deposited particulates, fire retardants and suppression chemicals, sediment, and ash. Increased nutrients and metals have been documented.



**ULAR Watershed Management Area (WMA) Extent**

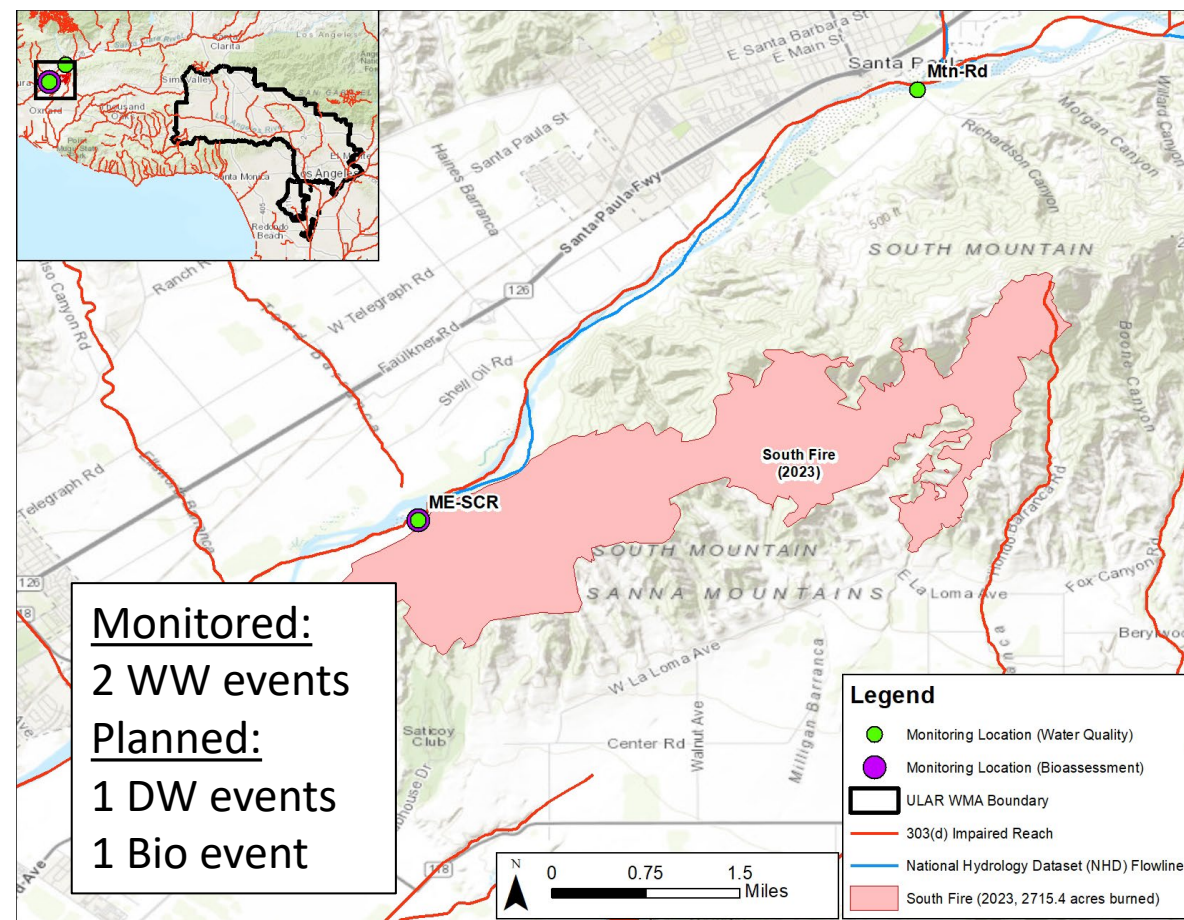


# Monitoring Locations (based on burn areas)



## Downstream of Bobcat Fire

Contained September 6, 2020 | 115,796 acres burned

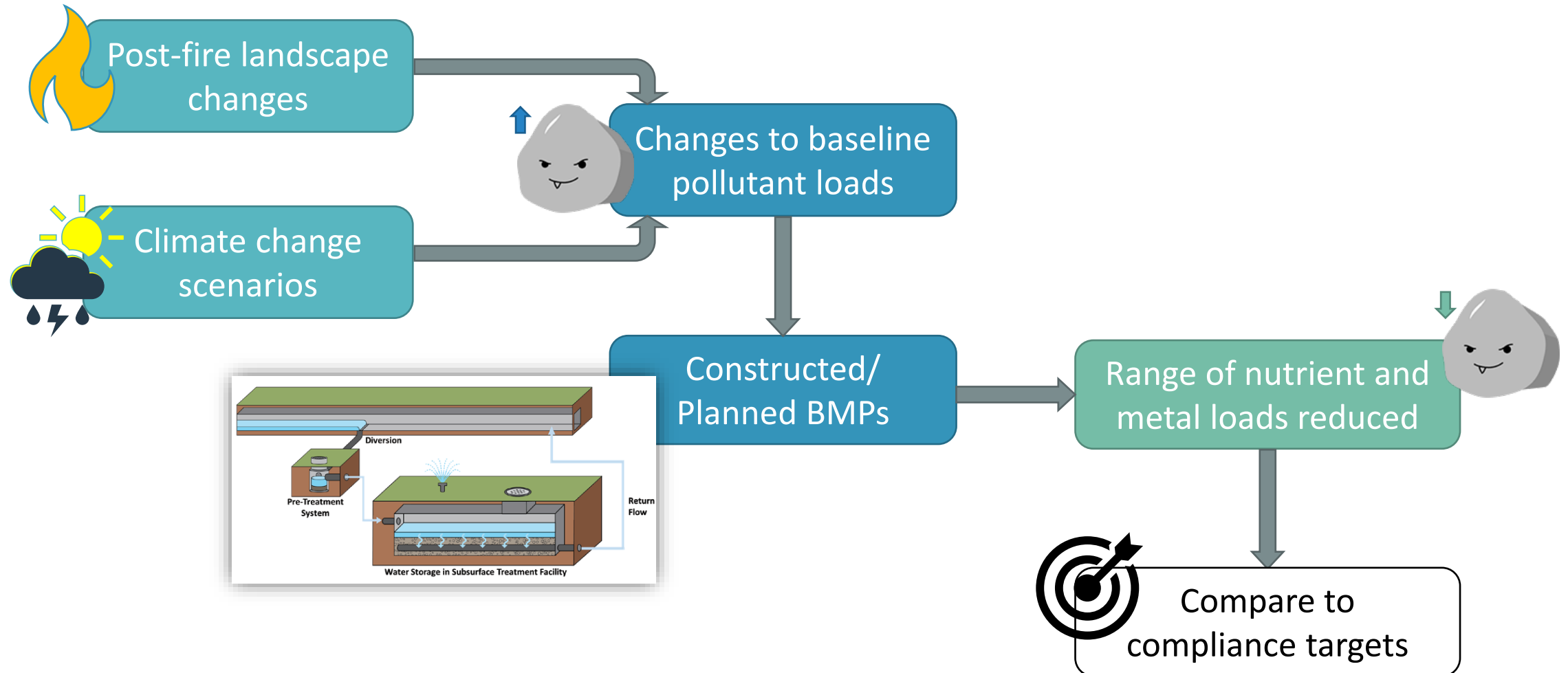


## Downstream of South Fire

Contained December 12, 2023 | 2,715 Acres Burned

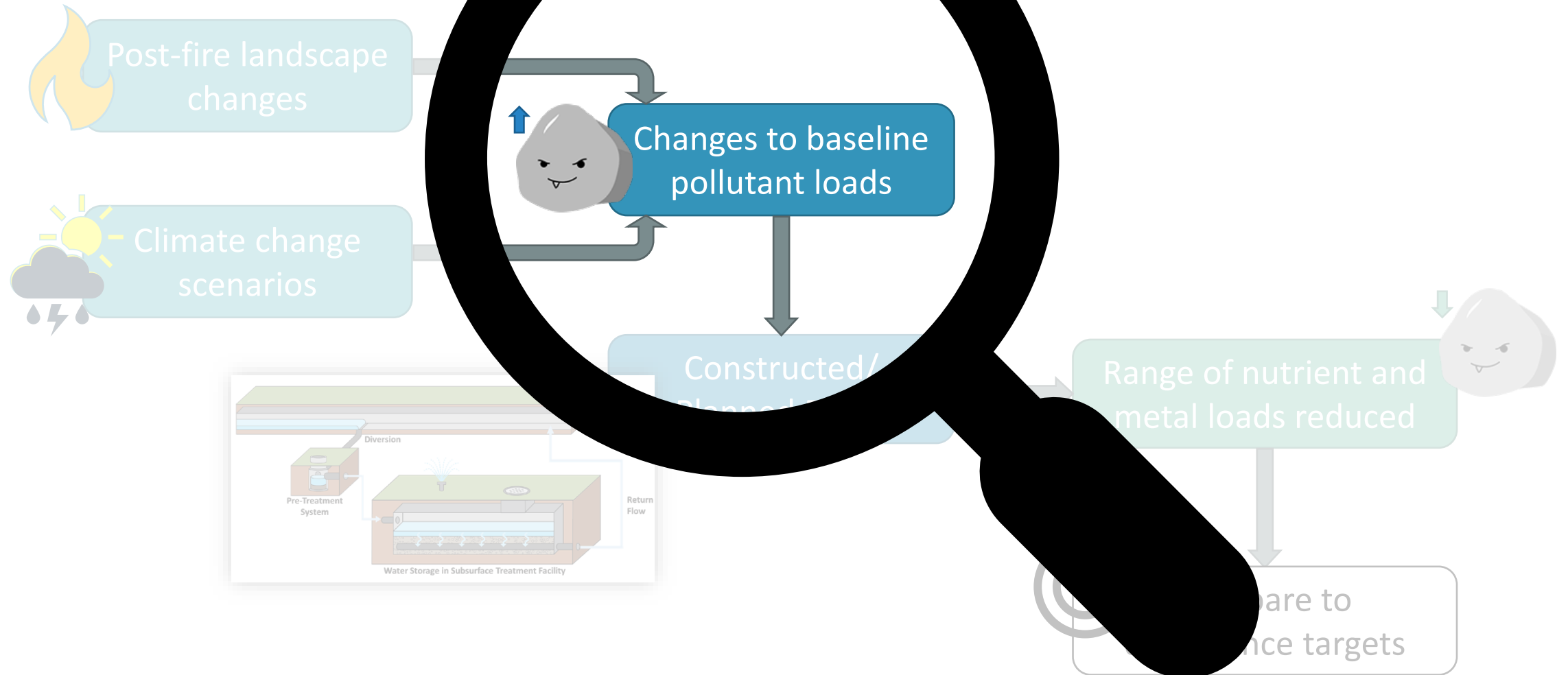


# Modeling Fire Effects Framework





# Modeling Fire Effects Framework








# Fire Effects Model Scenarios



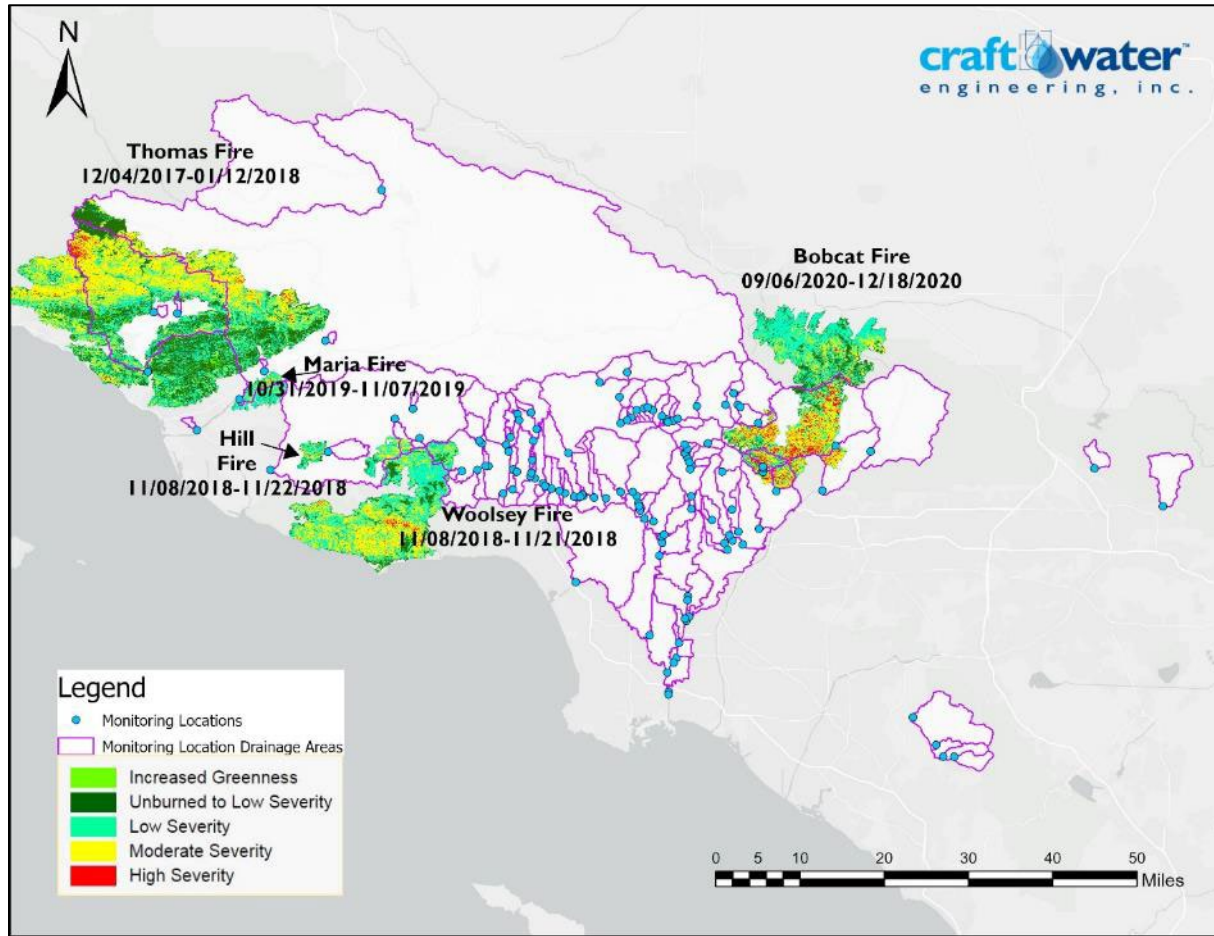
Post-fire landscape  
changes

Variables		Modeled Scenarios
	Severity	Low, Moderate, High Severity
	Burned Area	Upland Forest, All Highlands
	Proximity to Assessment Points	Far (Downstream), Near

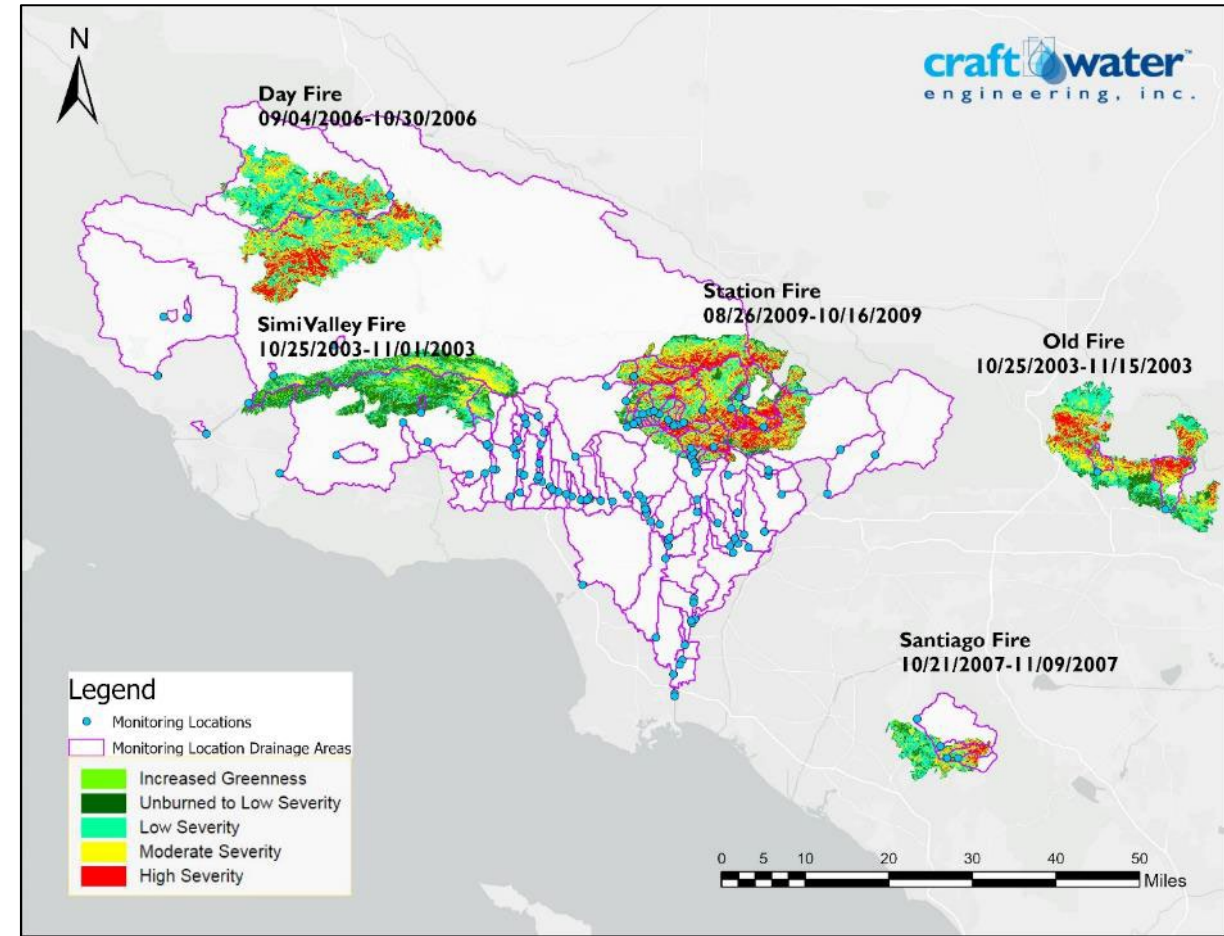
12 Total Combination Scenarios



# Fire Severity Model Parameterization Guided By Historic Data Analysis



*Historic Fires [2017 – 2020]*

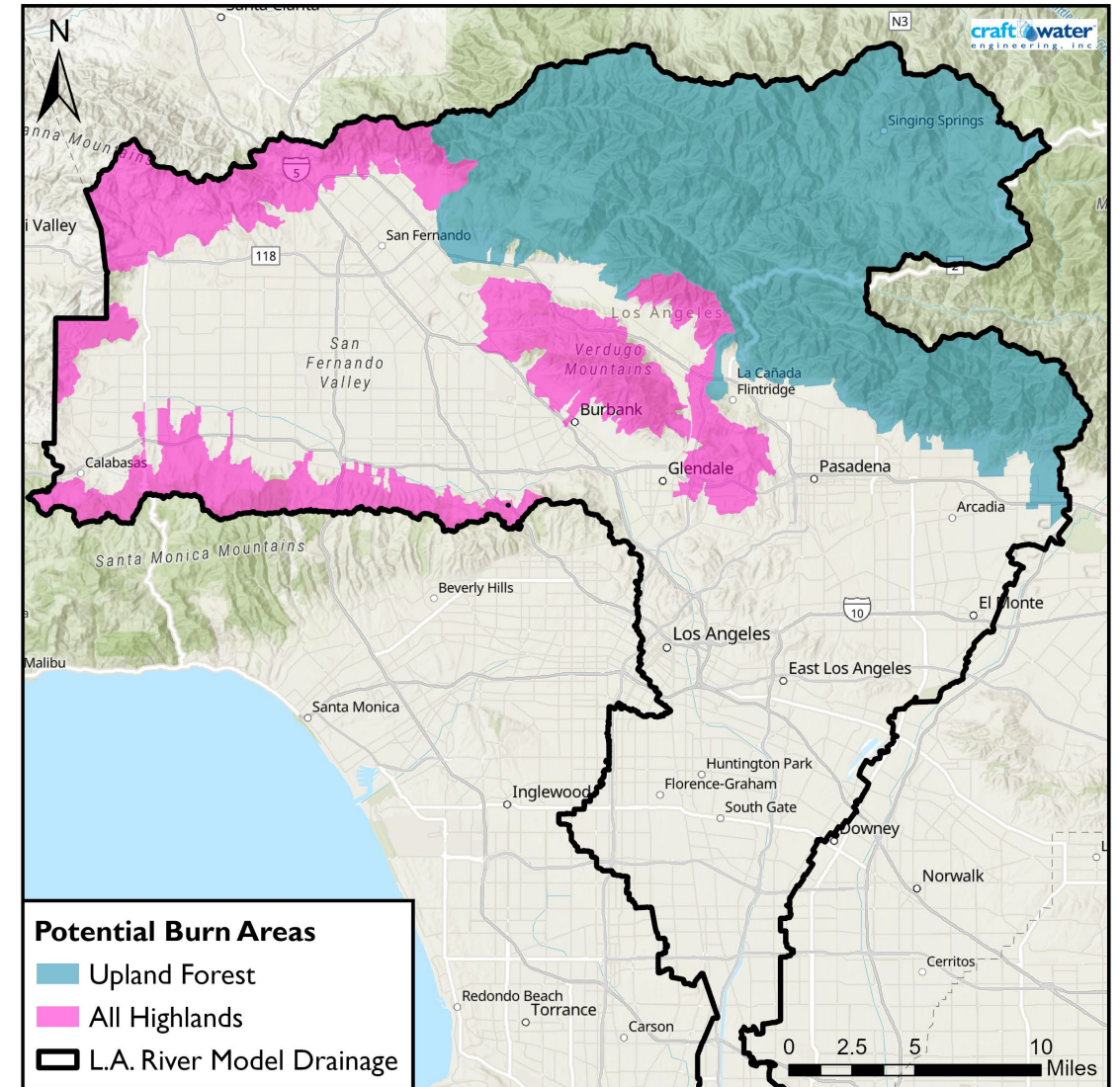
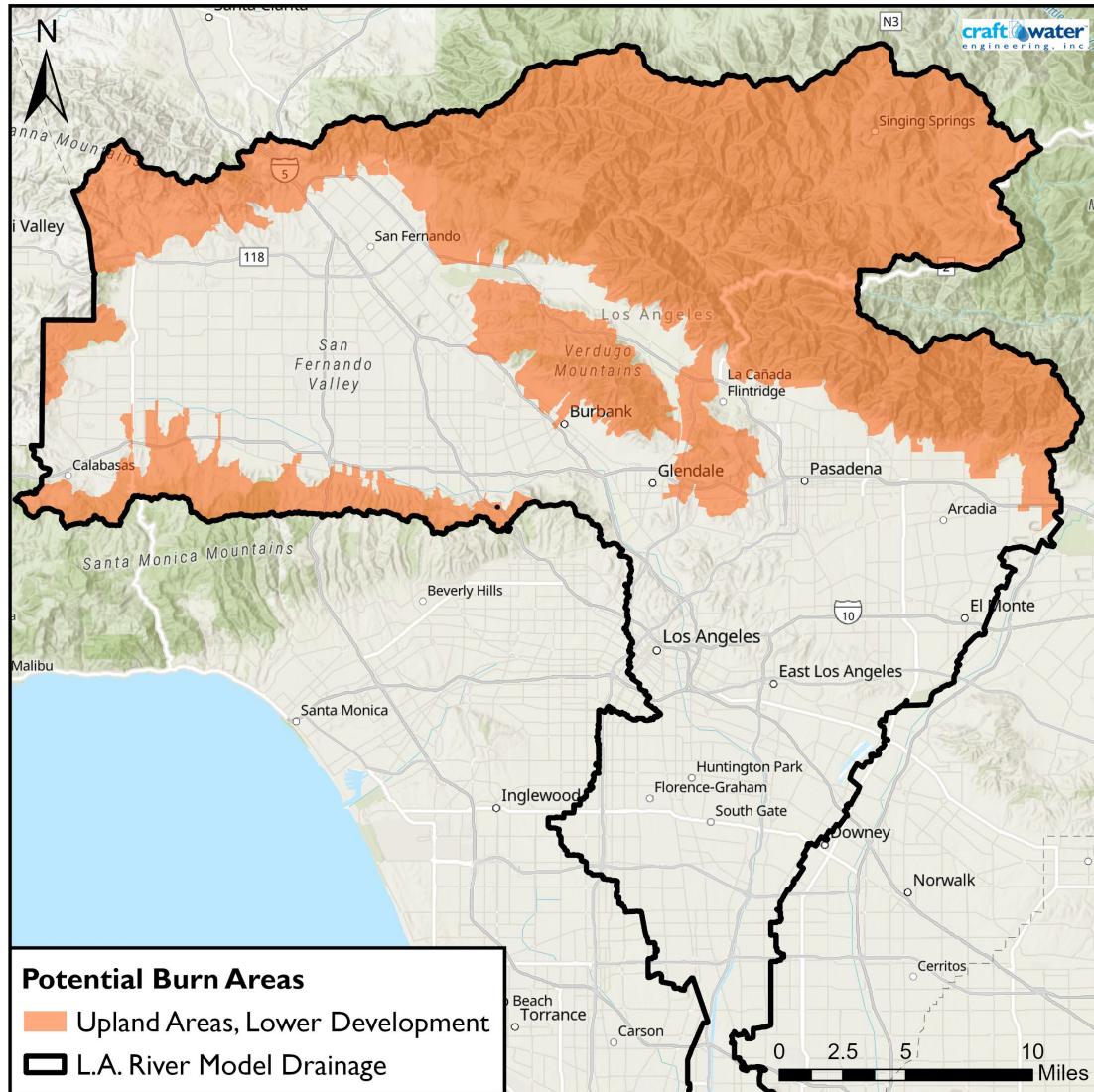


*Historic Fires [2003 – 2010]*

Increase to rainfall-runoff responses, sediment loads, and pollutant concentrations

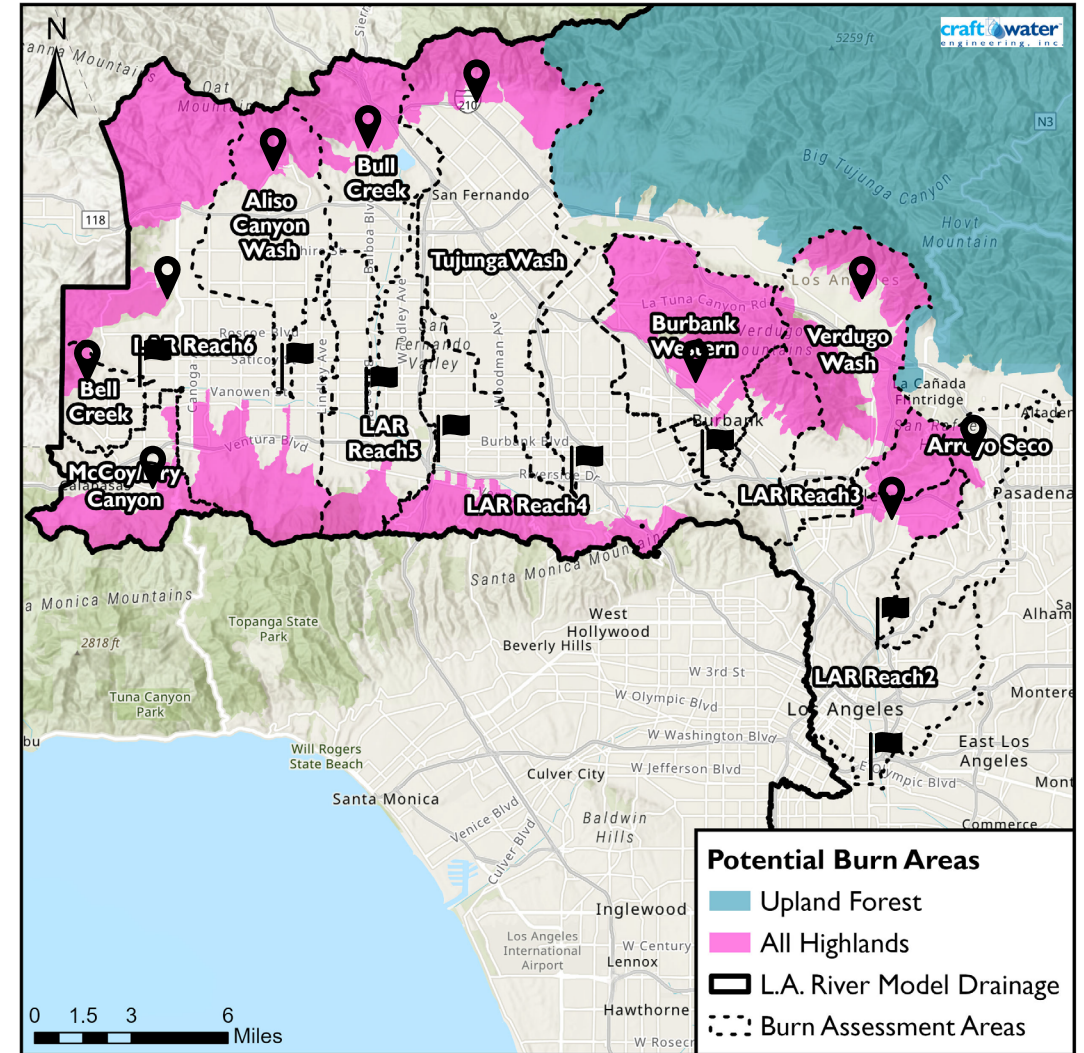
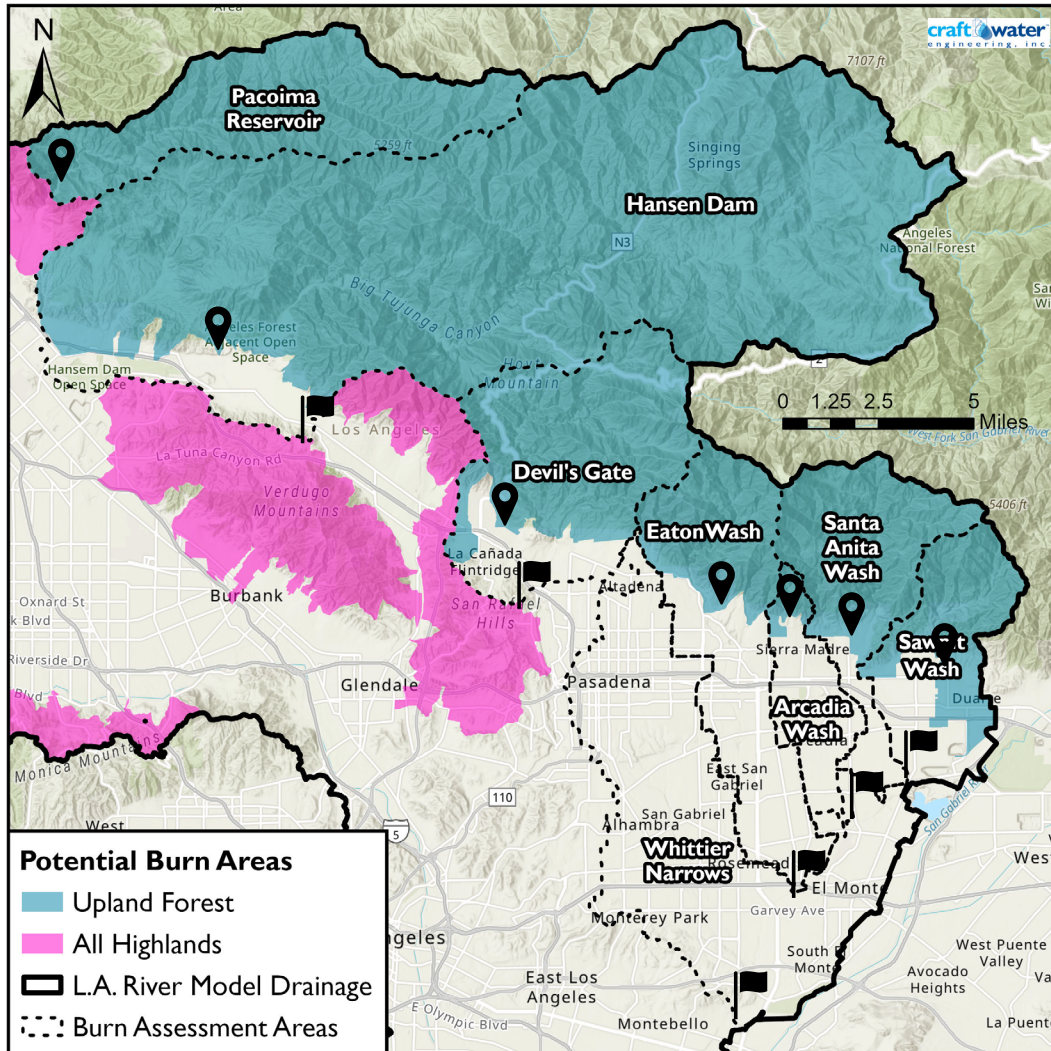


# Fire Burn Area Based on Susceptible Landscapes





# Near and Far Assessment Points Evaluated



📍 Near Assessment Point    🏠 Far Assessment Point



# Average Increased Pollutant Loads (High Severity)

## Near Assessment Points:

### Sediment

Suspended Sediment:  
6.2x

### Nutrients

Total Phosphorus:  
3.5x  
Total Nitrogen:  
2.6x

### Metals

Cadmium: 5.7x  
Copper: 5.5x  
Lead: 2.7x  
Zinc: 5.6x

Proportional increases estimated under  
moderate and low burn severity scenarios



# Average Increased Pollutant Loads (High Severity)

## Far Assessment Points

### Sediment

Suspended Sediment:  
2.1x

### Nutrients

Total Phosphorus:  
2.2x  
Total Nitrogen:  
1.4x

### Metals

Cadmium: 2.4x  
Copper: 2.4x  
Lead: 1.6x  
Zinc: 2.6x

Proportional increases estimated under  
moderate and low burn severity scenarios



# Climate Change Model Scenarios (Ongoing)

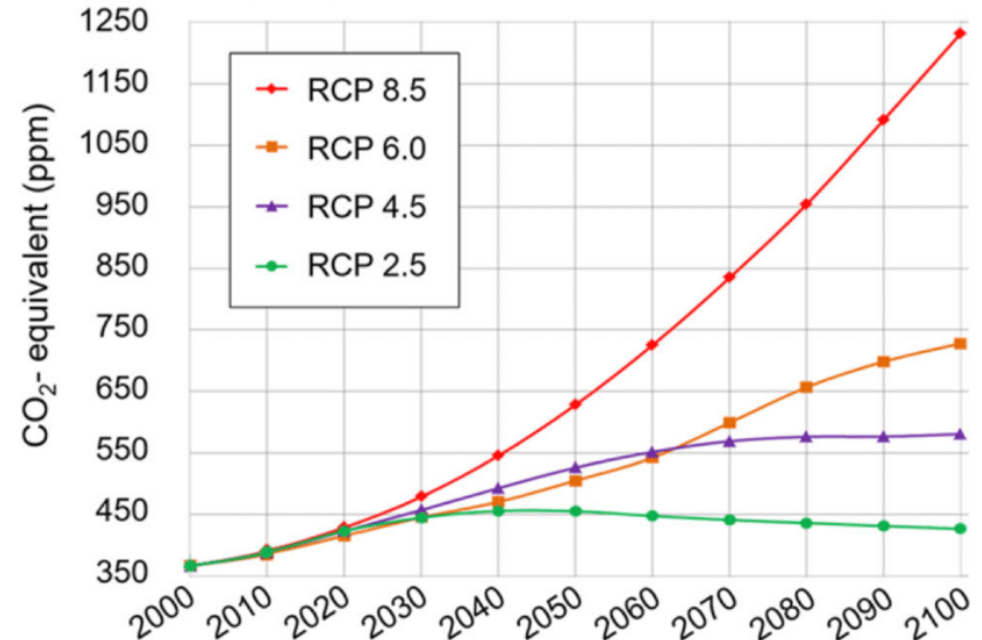


Climate change  
scenarios

- Adjusted precipitation and ET inputs
- RCP 4.5 and RCP 8.5
- 4 recommended models
  - CanESM2
  - CNRM-CM5
  - HadGEM2-ES
  - MIROC5

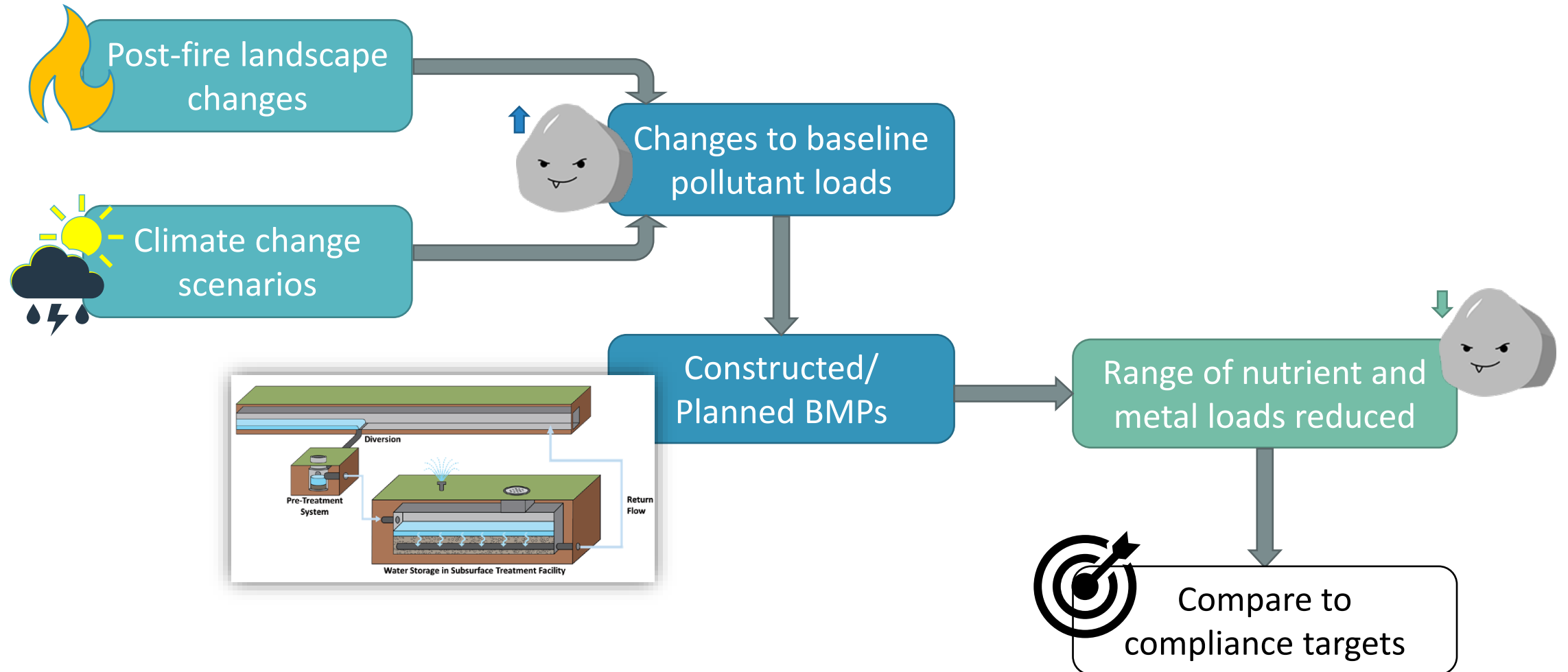
## IPCC AR5 Greenhouse Gas Concentration Pathways

Representative Concentration Pathways (RCPs) from the fifth Assessment Report by the International Panel on Climate Change



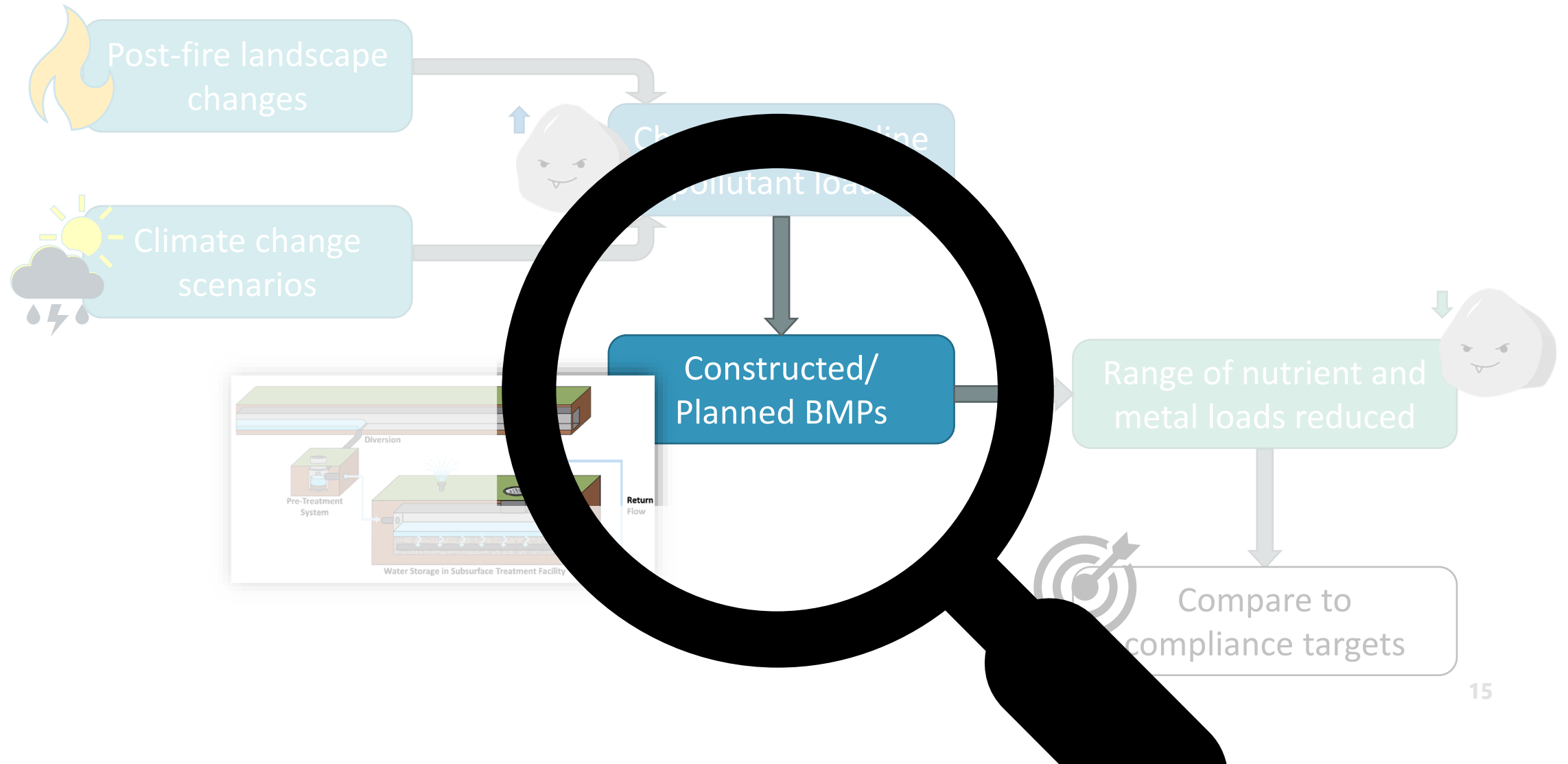


# Modeling Next Steps



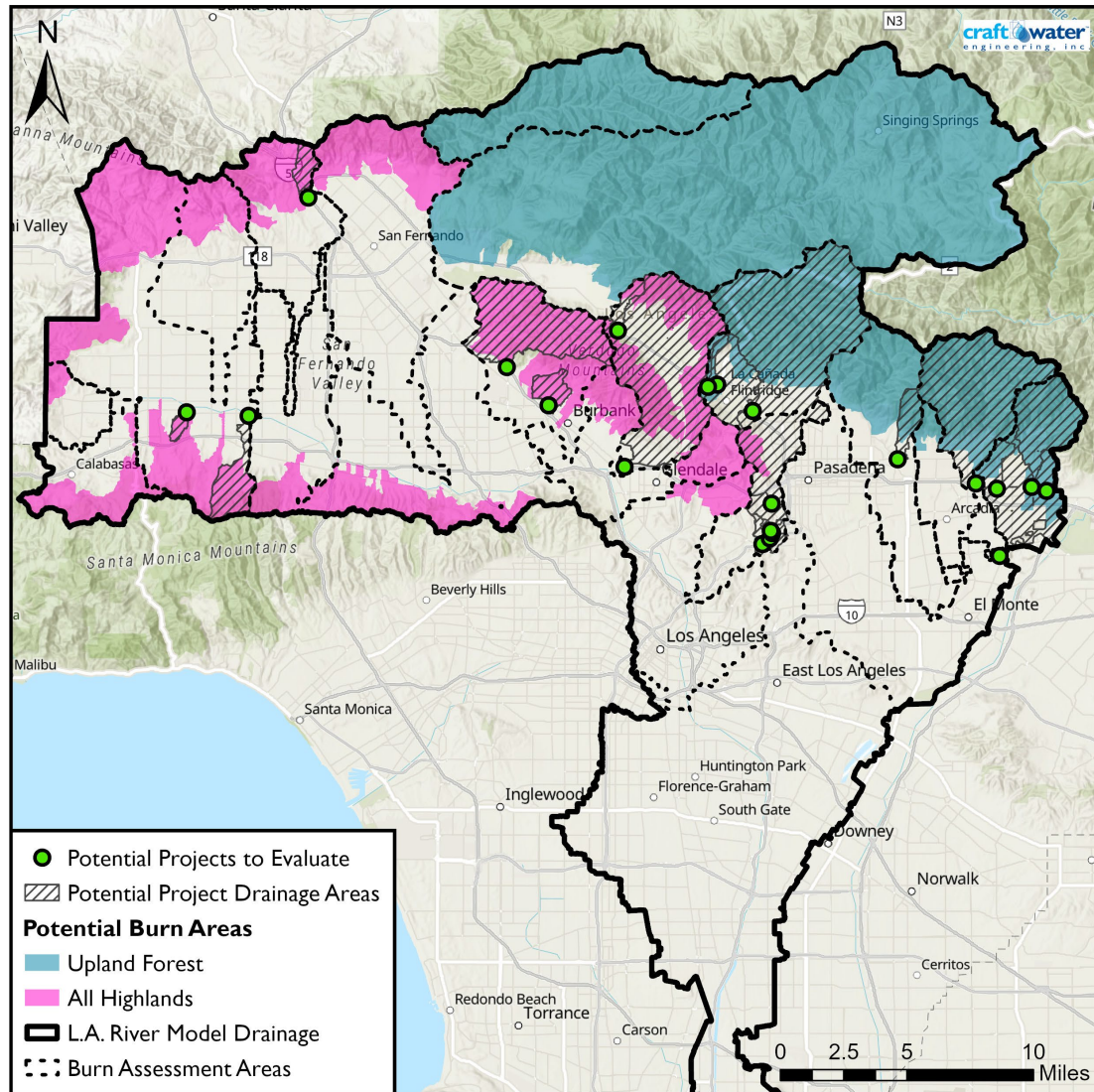


# Modeling Next Steps





# Selection of Example BMPs



- Potential BMPs for analysis taken from preSIP Existing/Planned Projects dataset
- Subset of projects treating substantial level of Potential Burn Areas



# Ongoing Stakeholder Engagement

## Stakeholder Goals:

- Share expertise and data
- Coordinate w/ related studies
- Share results with similarly impacted stakeholders
- Inform effective management strategies
- Integrate early feedback from decision makers and interested parties

## Stakeholder Types:

### Technical Stakeholders



### Affected Parties



### Outcome Stakeholders



### General Outreach





# PMR Request



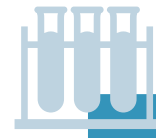
## DATA ANALYSIS

- Expand historic data analysis
- Understand influencing factors on physical responses



## MODELING

- Expand model scenarios of variable fire characteristics
- Tease out impacts of timing and spatial factors on relative impacts



## MONITORING

- Potential rapid-response monitoring
- More recent data representative of fires in the region



## ENGAGEMENT

- Additional year of engagement with TSG and Regional Board staff
- Discuss potential uses and implications of study findings

**Budget Request:** \$321,262 (ULAR); \$95,962 (RH)

# Study Schedule

Task	Task Description	Original Completion Date	PMR Completion Date
1	Project Management and Meetings	Ongoing	December 2025
2	Develop Work Plan (final work plan)	April 2022	Revised Work Plan August 2024
3	Regulatory Support	November 2024	December 2025
4	Wet Weather Monitoring	October 2024	April 2025
5	Dry Weather Monitoring	May 2024	September 2024
6	Interim Report	November 2023	No change
7	Data Analysis and Modeling	September 2024	September 2025
8	Final Report	November 2024	Revised Final Report November 2025



# Thank you!