Appendix A. Glossary

Terms and definitions presented here are intended to support a shared language and understanding of concepts used in this Framework. Watershed Planning conceptual definitions below may evolve during Initial Watershed Plan development. Some definitions presented here are derived from the Los Angeles County Flood Control District (LACFCD) Municipal Code and are not expected to change through Watershed Planning.

Baseline: a trend line of an Indicator or Performance Measure. The baseline consists of the history of the measure and the forecast of where the measure will be if the SCW Program continues as is.

Community Investment Benefit (CIB)[1]: a benefit created in conjunction with a Project or Program, such as, but not limited to: improved flood management, flood conveyance, or flood risk mitigation; creation, enhancement or restoration of parks, habitat or wetlands; improved public access to waterways; enhanced or new recreational opportunities; and greening of schools. A Community Investment Benefit also includes a benefit to the community derived from a Project or Program that improves public health by reducing heat island effect and increasing shade or planting of trees or other vegetation that increase carbon reduction/sequestration and improve air quality.

Community Strengths and Needs Assessment (CSNA): a repeatable survey that will be created to support Watershed Planning by gathering input from community members about strengths to be reinforced and wants to be addressed.

Countywide targets: targets developed by parallel or prior Los Angeles County planning efforts.

Disadvantaged Community (DAC): Census Block Group that has an annual median household income of less than eighty percent (80%) of the Statewide annual median household income (as defined in Water Code section 79505.5).

District Program[1]: one of three sub-programs within the SCW Program. The District Program funds and facilitates program administration as well as District Projects, education and curriculum Programs, and local workforce job training.

Indicator: a metric that measure progress toward achieving Goals. Indicators roll up PMs by Watershed Area and on a SCW Program-wide scale to quantify cumulative benefits of SCW Program funded Projects and Programs to communicate and track progress toward Goals.

Infrastructure Program[1]: part of the Regional Program, this program shall implement multi-benefit watershed-based Projects that have a Water Quality Benefit, as well as, either a Water Supply Benefit or Community Investment Benefit, or both.

Multi-Benefit Project[1]: a Project that has: (1) a Water Quality Benefit, and (2) a Water Supply Benefit or a Community Investment Benefit, or both.

Municipal Program[1]: one of the sub-programs within the SCW Program. The Municipal Program distributes funds across the 86 Los Angeles County Municipalities to fund project initiatives within those Municipalities and create benefits for the communities within them.

Nature-Based Solution (NBS)[1]: a Project that utilizes natural processes that slow, detain, infiltrate or filter Stormwater or Urban Runoff. These methods may include relying predominantly on soils and vegetation; increasing the permeability of Impermeable Areas; protecting undeveloped mountains and floodplains; creating and restoring riparian habitat and wetlands; creating rain gardens, bioswales, and parkway basins; and enhancing soil through composting, mulching, and planting trees and vegetation, with preference for native species. Nature-Based Solutions may also be designed to provide additional benefits such as sequestering carbon, supporting biodiversity, providing shade, creating and enhancing parks and open space, and improving quality of life for surrounding communities. Nature-Based Solutions include Projects that mimic natural processes, such as green streets, spreading grounds and planted areas with water storage capacity.

Opportunity Area: mapped area that spatially represents opportunities where project implementation would directly support Watershed Area Needs and Priority Goals for Watershed Planning.

Performance Measure (PM): metric that quantifies benefits provided by individual Projects and Programs.

Planning Themes: categories for organizing Watershed Planning discussion, concepts, and associated Goals, Indicators, and PMs.

Priority Goals for Watershed Areas: SCW Programs Goals that are directly related to the priorities and concerns of each Watershed Area, as identified through interested party and community engagement.

Priority Strategies: are determined through interested party engagement and describe the preferred means for addressing Watershed Area Needs and achieving Goals.

Program[1]: a planned, coordinated group of activities related to increasing Stormwater or Urban Runoff capture or reducing Stormwater or Urban Runoff pollution in the District.

Project[1]: the development (including design, preparation of environmental documents, obtaining applicable regulatory permits, construction, inspection, and similar activities), operations and maintenance (including monitoring), of a physical structure or facility that increases Stormwater or Urban Runoff capture or reduces Stormwater or Urban Runoff pollution in the District.

Regional Oversight Committee (ROC) [1]: the body created by the Board whose responsibilities include, but are not limited to, assessing and making recommendations to the Board regarding whether the SCW Program Goals are being achieved.

Regional Program[1]: one of the sub-programs within the SCW Program. The Regional Program receives fifty percent (50%) of the annual revenues from the Special Parcel Tax to fund the "Infrastructure Program," a "Technical Resources Program," and a "Scientific Studies Program." Watershed Areas shall be established to facilitate implementation of the Regional Program. Each Watershed Area shall be overseen by a WASC that includes Municipalities, agencies, and other Stakeholders.

Scoring Committee[2]: a group of six (6) subject-matter experts in Water Quality Benefits, Water Supply Benefits, Nature-Based Solutions, and Community Investment Benefits created by the Board to review and score Projects and Feasibility Studies in connection with the Infrastructure Program.

SCW Program Goals (Goals): the fourteen (14) SCW Program implementation Goals (A-N) outlined in Ordinance Section 18.04.

SCW Program targets: desired level of achievement for Indicators. SCW Program targets will quantitatively and qualitatively describe the cumulative benefits to be provided by all SCW Program funded Projects by 2045.

SCW Program Watershed Planning (Watershed Planning): a dynamic process by the SCW Program involving establishing targets to quantify progress towards SCW goals, incorporating evolving community priorities, and identifying opportunities for multi-benefit Projects and Project concepts intended to guide prospective applicants, Municipalities, and the District in developing Projects and Programmatic investments that will best serve the Watershed Areas.

Stormwater Investment Plan (SIP)[1]: means a five (5) year plan developed by a Watershed Area Steering Committee that allocates funding for Projects and Programs in the Regional Program's Infrastructure Program, Technical Resources Program, and Scientific Studies Program for the ensuing fiscal year and lays out tentative funding for four (4) subsequent years. SIPs will be approved by the Board on an annual basis.

Strategies: describe the means through which Goals will be achieved and are determined by working backwards from the desired outcomes to determine necessary actions. Watershed Planning is developing strategies are specific to progress toward a given target to support achievement of Goals, while Priority Strategies, identified through engagement, focus on preferred actions for the respective Watershed Area or SCW Program-wide.

Water Quality Benefit[1]: means a reduction in Stormwater or Urban Runoff pollution, such as improvements in the chemical, physical, and biological characteristics of Stormwater or Urban Runoff in the District. Activities resulting in this benefit include, but are not limited to: infiltration or treatment of Stormwater or Urban Runoff, non-point source pollution control, and diversion of Stormwater or Urban Runoff to a sanitary sewer system.

Water Supply Benefit[1]: means an increase in the amount of locally available water supply, provided there is a nexus to Stormwater or Urban Runoff capture. Activities resulting in this benefit include, but are not limited to, the following: reuse and conservation practices, diversion of Stormwater or Urban Runoff to a sanitary sewer system for direct or indirect water recycling, increased groundwater replenishment or available yield, or offset of potable water use.

Watershed Area Needs: difference between the baseline of an Indicator and the Watershed Area target for that Indicator.

Watershed Area Steering Committee (WASC)[1]: means a body created by the Board, one for each Watershed Area, for the purpose of developing SIPs and recommendations for other activities to be funded through the Regional Program.

Watershed Area targets: a desired level of achievement for an Indicator. Watershed Area targets will quantitatively and qualitatively describe the cumulative benefits to be provided by SCW Program funded Projects by 2045, parsed by Watershed Area.

Watershed Coordinator[1]: one or more persons assigned to assist a Watershed Area Steering Committee with community and stakeholder education and engagement and to perform other activities[1].

1: As defined in Chapter 16 of the Los Angeles County Flood Control District Code for the Safe, Clean Water Program Implementation Ordinance (Ord. 2018-0044 § 1, 2018.)

2: As defined in Chapter 18 of the Los Angeles County Flood Control District Code for the Safe, Clean Water Program Implementation Ordinance (Ord. 2019-0042 § 11, 2019.)

Appendix B. Acronyms

The list of acronyms presented here will evolve with the Initial Watershed Plan development.

Table B-1. SCW Program Watershed Planning Framework acronyms

Acronym	Definition
AF	Acre-Feet
AFY	Acre-Feet per Year
ARLA	Accelerate Resilience Los Angeles
BMP	Best Management Practice
BoS	Los Angeles County Board of Supervisors (Board)
CIB	Community Investment Benefit
CSMB	Central Santa Monica Bay
CSNA	Community Strengths & Needs Assessment
CWP	Los Angeles County Water Plan
DAC	Disadvantaged Community
GLAC	Greater Los Angeles County
IRWMP	Integrated Regional Watershed Management Plan
LA	Los Angeles
LACFCD	Los Angeles County Flood Control District
LACPW	Los Angeles County of Public Works (Public Works)
LADWP	Los Angeles Department of Water and Power
LASAN	Los Angeles Sanitation & Environment
LAUSD	Los Angeles Unified School District
LAW	Los Angeles Waterkeeper
LLAR	Lower Los Angeles River
LSGR	Lower San Gabriel River
MMS	Metrics and Monitoring Study
NBS	Nature-Based Solutions
NSMB	North Santa Monica Bay
O&M	Operations and Maintenance
PM	Performance Measure
PNA/PNA+	Los Angeles County Parks Needs Assessment/Plus
RH	Rio Hondo
ROC	Regional Oversight Committee
SCR	Santa Clara River
SCW	Safe, Clean Water
SCWP	The Safe, Clean Water Program
SIP	Stormwater Investment Plan
SSMB	South Santa Monica Bay

Acronym	Definition
TRP	Technical Resource Program
UCLA	University of California, Los Angeles
ULAR	Upper Los Angeles River
USCR	Upper Santa Clara River
USEPA	United States Environmental Protection Agency
USGR	Upper San Gabriel River
WASC	Watershed Area Steering Committee
WMG	Watershed Management Group
WMMS2	Los Angeles County Public Works Watershed Management Modelling System 2.0
WMP	Watershed Management Plan

Appendix C. Initial Watershed Plans Outline

1. Introduction

- 1.1. Safe, Clean Water Program Background
- 1.2. Why Watershed Planning?
- 1.3. The Watershed Planning Vision
- 1.4. Watershed Planning Process & Structure
- 1.5. Working Together

2. Watershed Area Characteristics

3. Baseline of Benefits Provided by Funding to Date

4. Quantifying Progress Toward SCW Program Goals

- 4.1. Vision Setting and Progress Tracking: Indicators and Performance Measures
- 4.2. Watershed Area Targets and Interim Targets

5. Strategies for Addressing Needs and Achieving Goals

- 5.1. Watershed Area Needs
- 5.2. Watershed Area Prioritized Strategies
- 5.3. Opportunity Areas

6. Watershed Planning Tool

7. Next Steps and Recommendations for Watershed Planning

- 7.1. Key Data Gaps and Limitations
- 7.2. Near-term Recommendations and Next Steps
- 7.3. Long-term Recommendations for Adaptive Management

Appendix D. Interested Party Engagement

Safe, Clean Water Program (SCW Program) interested parties and governance committees are being engaged to inform and obtain input for SCW Program Watershed Planning (Watershed Planning). The Watershed Planning engagement strategy emphasizes structured, focused facilitation rather than open-ended discussion. This strategy's objectives are generally described below and have been customized to support the multiple audiences engaged. **Note: Not every audience is receiving all three of the phases described below, see *Interested Parties* below for those that apply.**

Engagement Process and Outcomes

1. **Phase 1 Process and Outcomes** (Figure D-1)
    - Participants were introduced to SCW Program Watershed Planning and were informed how their input would be considered as part of the process.
    - Participants became familiar with how Public Works is using Indicators and Performance Measures (PMs) across multiple business units, and their role here in the SCW Program.
    - Participants heard about existing planning efforts or plans and associated datasets that are known to be relevant to Watershed Planning, and contributed knowledge about plans, studies, and datasets that should be considered for inclusion into the Watershed Planning effort.
    - Participants were reintroduced to the 14 SCW Program Goals (Goals; as defined in Chapter 18 of the Los Angeles County Flood Control District [LACFCD] Municipal Code) and had the opportunity to provide comments about priorities and synergies from their perspectives.
    - Participants, within their realm of responsibility and through a facilitated process, described and prioritized strategies sought for the next five years of the SCW Program.
    - Participants reviewed specific definitions to contribute recommendations for Watershed Planning.

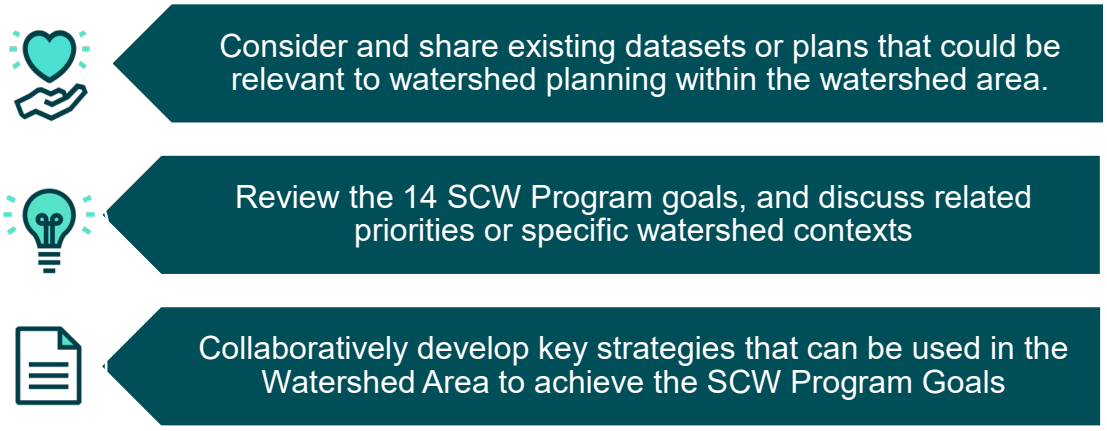


Figure D-1. Phase 1 engagement summary

2. **Phase 2 Process and Outcomes** (Figure D-2)
    - Participants were shown how Phase 1 efforts were summarized and included in the Watershed Planning effort.
    - Participants were shown the Watershed Planning Frameworks developed by the Watershed Planning effort and provided input through a facilitated session.

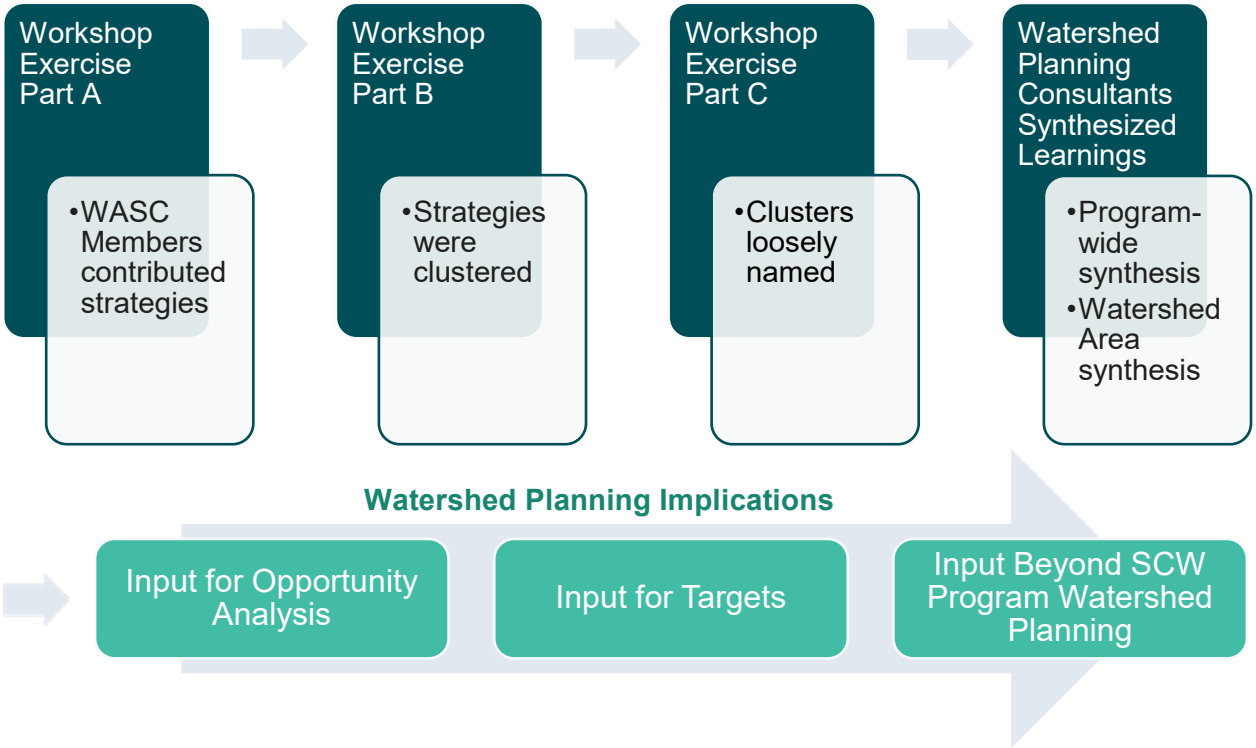


Figure D-2. Phase 2 process and implications for Watershed Planning

3. **Phase 3 Process and Outcomes**
    - Participants will be shown how efforts from Phases 1 and 2 were included.
    - Participants will be shown the Initial Watershed Plans, new or improved tools, and the processes by which those Plans will evolve over time.
    - Participants will provide valuable input on the development of future Adaptive Watershed Plans.

Interested Parties

1. **SCW Program Governance Committees**
    - Scoring Committee (Phases 1-2; 2 meetings total, 1 completed)
    - Watershed Area Steering Committees (WASCs) (Phases 1-3; 3 meetings per WASC, 2 completed for each WASC)
    - Regional Oversight Committee (ROC) (Phases 1-3; 3 meetings total, 2 completed)
    - Watershed Coordinators (2 meetings total, 1 completed)
    - ROC Water Quality Working Group (2 meetings completed)
        - ROC Community Investment Benefits and Benefit Ratios Working Group (2 meetings completed)
2. **Other Interested Parties (8 total meetings)**
    - Santa Monica Bay Restoration Commission (1 meeting completed)
    - Los Angeles MS4 Permit Group (1 meeting completed)
    - School Greening Working Group (1 meeting completed)
    - Our Water LA (OWLA; NGO aggregator) (1 meeting completed)
    - Rebuild SoCal Partnership (industry aggregator) (1 meeting completed)

Incorporating Engagement Findings into Watershed Plans

SCW Program governance committees and interested parties have valuable experience and unique perspectives on the Program, specific topics, and geographies within the Program area that can be ascertained through engagement. The information gathered from engagement along with other key planning elements are being considered by Public Works Watershed Planning, including the Metrics and Monitoring Study (MMS), other planning and implementation efforts (i.e., Watershed Management

Plans [WMPs], Greater Los Angeles County [GLAC] and Upper Santa Clara River [USCR] Integrated Regional Water Management Plans [IRWMPs]). Watershed Plans will use the SCW Program goals and ordinance as its foundation across all Watershed Areas, and the information gained during engagement will help highlight or emphasize key opportunities or constraints in each Watershed Area. WASC input will be categorized based on Watershed Planning elements: input for targets, input for Opportunity Areas, and input beyond Watershed. This input will inform Priority Goals and Strategies as well as the method and references used to develop targets and Opportunities Areas to support those priorities.

SCW Program governance committee meetings with facilitated Watershed Planning workshops will be reflected in meeting minutes produced by the SCW Program Regional Coordination Team.

Appendix E. Key Efforts to Date

Table E-1. Key efforts identified for SCW Program Watershed Planning

Effort Category	Effort Name	Source/Agency	Watershed Area	LINK	Related Planning Element(s)
Watershed Management	Watershed Management Programs	State of California Los Angeles Regional Water Quality Control Board	All	LINK	Targets
Water Supply	Greater Los Angeles County Regional Integrated Regional Water Management Plan	GLAC IRWM Region	ULAR	LINK	Targets
Water Supply	Upper Santa Clara River Integrated Regional Water Management Plan	Santa Clarita Valley Water Agency	SCR	LINK	Targets
Water Supply	Los Angeles Department of Water & Power Stormwater Capture Master Plan	City of Los Angeles Department of Water & Power (LADWP)	ULAR	LINK	Targets
Water Supply	Main San Gabriel Basin Watermaster	Main San Gabriel Basin Watermaster Board	SGR	LINK	Targets
Wastewater	Draft One Water LA 2040 Plan	City of Los Angeles Sanitation (LASAN)	CSMB, SSMB, ULAR	LINK	Targets
Wastewater	Pure Water Project Las Virgenes-Triunfo	Las Virgenes - Triunfo Joint Powers Authority	NSMB	LINK	Targets
SCW Program Study	Safe, Clean Water Program Metrics and Monitoring Study	Los Angeles County Public Works (LACPW)	All	LINK	Benefits Baseline & Forecasts, Indicators & PMs, Opportunity Areas, Targets, WA Characteristics
SCW Program Study	SCW Program Regional Oversight Committee Incorporation or Performance Measures and Featured Population Indicators Workbook – Final	LACPW	All	LINK	Indicators & PMs
SCW Program Study	Gateway Area Pathfinding Analysis Phase 1 Study	Gateway Water Management Authority	LLAR, LSGR	LINK	Benefits Baseline & Forecasts, Indicators &

Effort Category	Effort Name	Source/Agency	Watershed Area	LINK	Related Planning Element(s)
					PMs, Opportunity Areas, Targets, WA Characteristics
SCW Program Study	Gateway Area Pathfinding Analysis Phase 2 Study	Gateway Water Management Authority	LLAR, LSGR	LINK	Benefits Baseline & Forecasts, Indicators & PMs, Opportunity Areas, Targets, WA Characteristics
SCW Program Study	preSIP: A Platform for Watershed Science and Project Collaboration Scientific Study	San Gabriel Valley Council of Governments	RH, ULAR	LINK	Benefits Baseline & Forecasts, Indicators & PMs, Opportunity Areas, Targets, WA Characteristics
SCW Program Study	LRS Adaptation to Address the LA River Bacteria TMDL for the ULAR Watershed Management Group	San Gabriel Valley Council of Governments	RH, ULAR	LINK	Opportunity Areas
Stakeholder Recommendations for SCW Program	Vision 2045	Heal the Bay, LA Waterkeeper (LAW), and Natural Resources Defense Council	All	LINK	Targets
Stakeholder Recommendations for SCW Program	Los Angeles Water Keeper SCWP Assessment - Changing the Course?: What's Worked, What Hasn't, and What's Next for the Safe Clean Water Program	Los Angeles Water Keeper	All	LINK	Targets
Stakeholder Recommendations for SCW Program	ARLA's Safe, Clean Water Program Working Group Recommendations	A Climate Resilient LA (ARLA)	All	LINK	Targets

Effort Category	Effort Name	Source/Agency	Watershed Area	LINK	Related Planning Element(s)
Sustainability, Equity, and Resiliency	Our County Sustainability Plan	Los Angeles County Chief Sustainability Office	All	LINK	Opportunity Areas, Targets
Sustainability, Equity, and Resiliency	2021 Climate Vulnerability Assessment	Los Angeles County Chief Sustainability Office	All	LINK	Opportunity Areas, Targets
Sustainability, Equity, and Resiliency	Climate Vulnerability Assessment – Web Tool	Los Angeles County Chief Sustainability Office	All	LINK	Opportunity Areas, Targets
Sustainability, Equity, and Resiliency	County of Los Angeles Equity Indicators Tool	Los Angeles County Department of Regional Planning	All	LINK	WA Characteristics, Opportunity Areas
Sustainability, Equity, and Resiliency	Equity in Infrastructure Initiative	LACPW	All	LINK	WA Characteristics, Opportunity Areas
Sustainability, Equity, and Resiliency	Los Angeles County GIS for Equity	LACPW	All	LINK	WA Characteristics, Opportunity Areas
Sustainability, Equity, and Resiliency	InfrastructureLA - Infrastructure Initiative	LACPW	All	LINK	Opportunity Areas
Sustainability, Equity, and Resiliency	Equity in Stormwater Investments: Measuring Community Engagement and Disadvantaged Community Benefits for Equitable Impact in the Safe Clean Water Program	University of California – Los Angeles (UCLA) Luskin Center for Innovation and Stantec	All	LINK	WA Characteristics, Opportunity Areas
Sustainability, Equity, and Resiliency	Justice40	USDS	All	LINK	WA Characteristics, Opportunity Areas

Effort Category	Effort Name	Source/Agency	Watershed Area	LINK	Related Planning Element(s)
Regional Master Plan	LA River Master Plan	LACPW	LLAR, ULAR	LINK	Opportunity Areas, Targets
Regional Master Plan	Sepulveda Basin Vision Plan	City of Los Angeles Bureau of Engineering	ULAR	LINK	Opportunity Areas, Targets
LA County Planning and Motions	Los Angeles County Water Plan	LACPW	All	LINK	Targets
LA County Planning and Motions	County Water Plan - Blue Ribbon panel to develop standards for Nature-Based water management solutions	LACPW	All	LINK	Indicators & PMs, Targets
LA County Planning and Motions	Los Angeles County Parks Needs Assessment and Assessment Plus	Los Angeles County Department of Parks and Recreation	All	LINK	Opportunity Areas, Targets, WA Characteristics
LA County Planning and Motions	Disadvantaged Community Involvement Program - "Watertalks"	LACFCD	All	LINK	Opportunity Areas, Targets
LA County Planning and Motions	2024-2030 Los Angeles County Strategic Plan	Los Angeles County Chief Executive Office	All	LINK	Targets
LA County Planning and Motions	Board Motion of December 5, 2023, Agenda Item 8 Implementation of The Los Angeles County Water Plan: A Shared, Regional Path Toward Water Resilience	Los Angeles County Board of Supervisors (BoS)	All	LINK	Watershed Planning Vision
LA County Planning and Motions	Board Motion of July 25, 2023, Agenda Item 23 Accelerating Implementation of The Safe Clean Water Program 120 Day Report Back	BoS	All	LINK	Watershed Planning Vision

Effort Category	Effort Name	Source/Agency	Watershed Area	LINK	Related Planning Element(s)
LA County Planning and Motions	Board Motion of March 19, 2024, Agenda Item 19 Progress and Adaptive Management of The Safe, Clean Water Program 90-Day Report Back	BoS	All	LINK	Targets, Watershed Planning Vision
Federal Guidance	Handbook for Developing Watershed Plans to Restore and Protect our Waters	United States Environmental Protection Agency (USEPA)	All	LINK	Process and Framework
Federal Guidance	Quick Guide for Developing Watershed Plans to Restore and Protect our Waters	USEPA	All	LINK	Process and Framework
Community Investment Benefits (CIBs)	School Greening Index	Los Angeles Unified School District (LAUSD)	ULAR/All	LINK	Opportunity Areas, Targets
CIBs	LAUSD Green School Yards for All	LAUSD	ULAR/All	LINK	Opportunity Areas, Targets
CIBs	LAUSD 100-Day Plan	LAUSD	ULAR/All	LINK	Opportunity Areas, Targets
CIBs	Drainage Area Needs Assessment Program (DNAP)	LACPW	All	LINK	Opportunity Areas, Targets
CIBs	Room to Grow: Community Forest Management Plan for Los Angeles County'	LA County CSO	All	LINK	Targets
CIBs	California Pathway to 30x30 Strategy	California Natural Resources Agency (CNRA)	All	LINK	Targets
CIBs	LA County's 30x30 Plan	LA Parks	All	LINK	Targets
CIBs	SGV Greenway Network	LACPW	SGR	LINK	Targets
CIBs	LAUSD Climate Literacy Resolution	LAUSD	All	LINK	Targets
CIBs	Strategy 2a in OurCounty Plan re: Urban Heat Island	LA County	All	LINK	Targets

Effort Category	Effort Name	Source/Agency	Watershed Area	LINK	Related Planning Element(s)
CIBs	California/LA County Urban Heat Island	Cal EPA	All	LINK	Process and Framework
CIBs	LA28 (2028 Summer Olympics)	Olympics	All	TBD	TBD
SCW Program WASC	LSGR WASC Prioritization Criteria	LSGR WASC	LSGR	LINK	Targets, WA Characteristics
Water Quality	LA River Bacteria TMDL Schedule (p.72 in link)	SWRCB	ULAR, LLAR	LINK	Opportunity Areas
Watershed Management	Engineering with Nature Project Mapper	US Army Corps of Engineers	All	LINK	Opportunity Areas

Appendix F. Community Strengths and Needs Assessment (CSNA)

CSNA Timeline

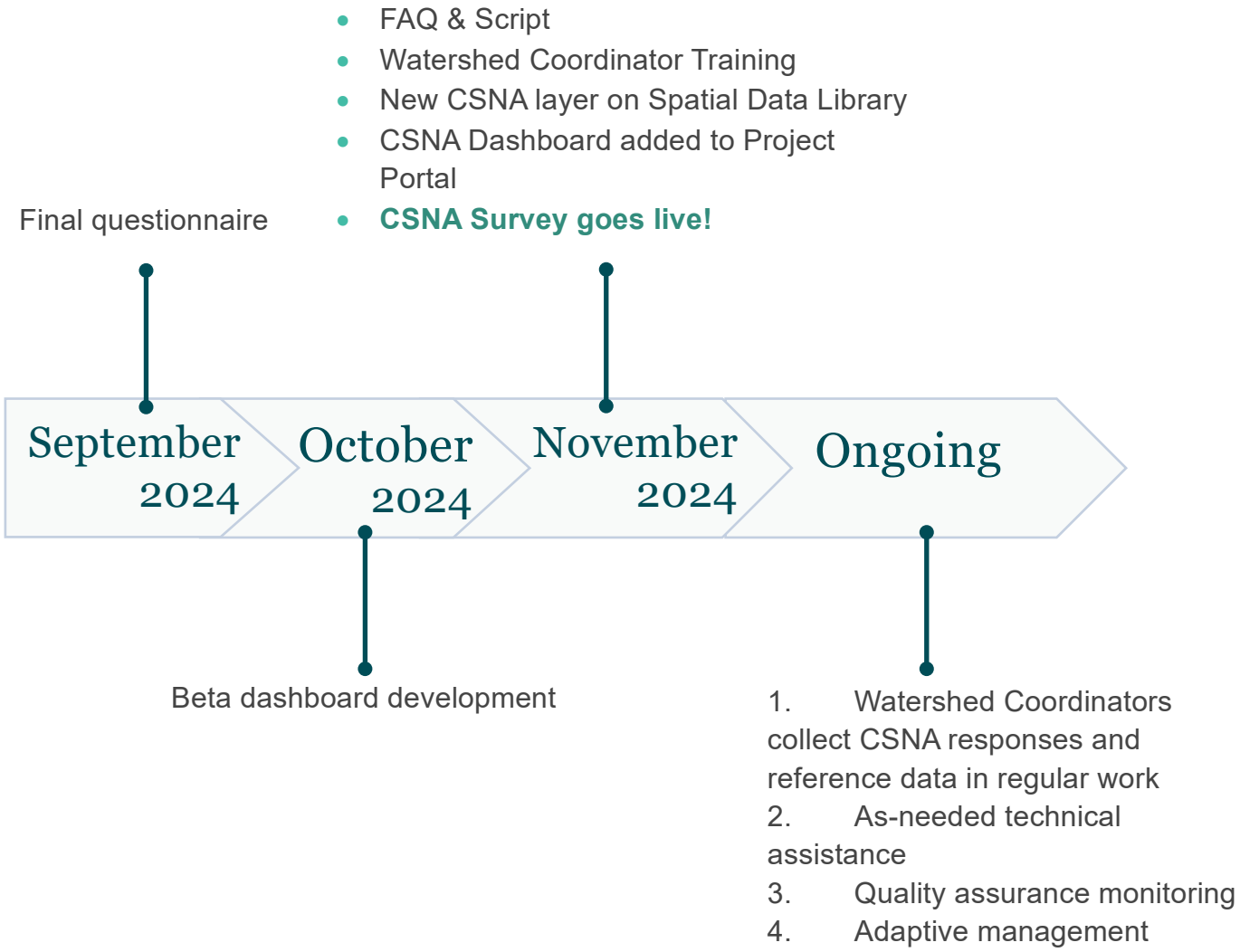


Figure F-1. CSNA Timeline

SCW Program Community Strengths & Needs Assessment Survey

The Safe, Clean Water Program wants YOUR INPUT about the things you like and the things you would like to change in your community.

Your response is completely anonymous. This questionnaire will take approximately 5 minutes to complete and may be completed at your own pace. All questions require a response except where noted as "optional."

To view the survey in another language, click **English-US** at the top of the page and select your preferred language.

1. Think of one area of LA County that you know best. This could be the area where you live, work, study, or otherwise spend time.

   What is the **name** of this community?

   This can be a city (such as “Alhambra” or “Carson”) or a neighborhood (such as “Boyle Heights” or “North Long Beach”). Please be as specific as possible.

   1A. **Please indicate this community on the map**.

   Click on the map to drop a pin or type in an address in the search bar to find that location. (Optional)

2. What is **your relationship** to this community? Select all that apply.
   a. I live in this community.
   b. I work in this community.
   c. I own a business in this community.
   d. I attend school in this community.
   e. Other. Please describe below: _____

3. Select the option that best describes your **current living arrangement**:
    a. Own
    b. Rent
    c. Temporary housing
    d. Unhoused
    e. Other

4. List one thing you **enjoy about your community**. (Optional)

5. **Which issues are of greatest concern to you in your community?** Choose up to 3.
    a. Impacts of climate change (drought, extreme heat, sea level rise, flooding)
    b. Trash, litter & illegal dumping
    c. Cost of living & housing
    d. Crime
    e. Traffic & parking
    f. Public transportation, pedestrian & bicycle safety
    g. Outdoor water pollution (ocean, rivers, lakes)
    h. Drinking water
    i. Air quality
    j. Access to parks & outdoor recreation
    k. Condition of public spaces (sidewalks, parks, streets)
    l. Other. Please describe below _____

About the Safe, Clean Water Program: In November 2018, LA County voters approved a new special parcel tax to create the Safe, Clean Water Program. The goal of the Safe, Clean Water Program is to increase the County's local water supply, improve water quality, and enhance the quality of life in our communities.

6. Below is a list of benefits that projects funded by the Safe, Clean Water Program can provide. **Please indicate how much of a priority each benefit is in your community.**

Capture & store rainwater for drinking water	**Low** priority	**Medium** priority	**High** priority
Cleaner water in our bays, rivers, lakes & at the beach	**Low** priority	**Medium** priority	**High** priority

Flood protection	**Low** priority	**Medium** priority	**High** priority
Access to parks, walking paths & outdoor recreation	**Low** priority	**Medium** priority	**High** priority
Enhanced wildlife habitat	**Low** priority	**Medium** priority	**High** priority
Street trees & plants to combat extreme heat	**Low** priority	**Medium** priority	**High** priority
Greener outdoor areas, less pavement at schools	**Low** priority	**Medium** priority	**High** priority
Employment & job training opportunities	**Low** priority	**Medium** priority	**High** priority
Public education about pollution prevention & environmental stewardship	**Low** priority	**Medium** priority	**High** priority

Almost finished! There are 5 questions remaining in the survey.

7. What is **an outdoor area in your community that would benefit from beautification or improvement?** This could be anything from a local park that could be improved, a sidewalk that could use more shade, or a street corner prone to flooding. **Please specify the location and changes you'd like to see**. (Optional)

7a. **Please indicate this outdoor area on the map.** Click on the map to drop a pin or type an address in the search bar to find that location.

8. Is there anything else you would like the Safe, Clean Water Program to know? (Optional)

9. What **language** is spoken most in your home? Select one.

   If multiple languages are spoken equally, select the language you would prefer to receive informational materials in from Los Angeles County Public Works.
   a. English
   b. Spanish
   c. Chinese
   d. Tagalog

e. Korean
f. Vietnamese
g. Armenian
h. Farsi
i. Russian
j. Japanese
k. Other. Please describe below _____

10. Do you identify as Native American, Indigenous, and/or Tribal?
    a. Yes. Please describe. If you do not wish to provide additional details, you can write “n/a”: _____
    b. No

11. Would you like to receive email updates from the Safe, Clean Water Program about projects and events in your area?
    a. No thanks
    b. Yes. Please provide your email address: _____

The Safe Clean Water Program appreciates you taking the time to provide your input on how to enhance Los Angeles County communities.

For more information, please visit www.SafeCleanWaterLA.org or contact us at SafeCleanWaterLA@pw.lacounty.gov.

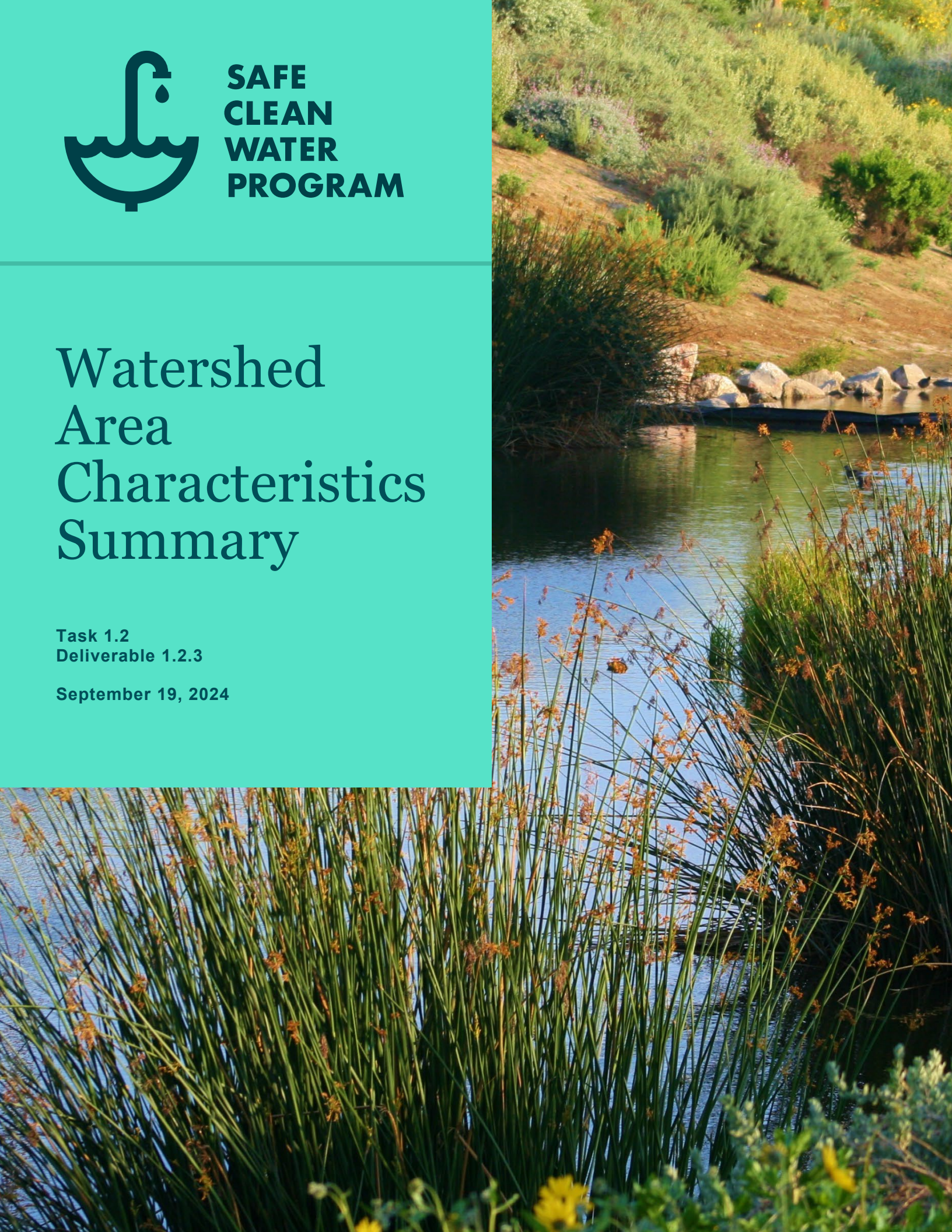
Appendix G. MMS Watershed Characteristics Summary

SAFE CLEAN WATER PROGRAM

Watershed Area Characteristics Summary

Task 1.2
Deliverable 1.2.3

September 19, 2024



SAFE CLEAN WATER PROGRAM

Watershed Area Characteristics Summary

Introduction **4**
- SCW Program Watershed Areas 4
- Key Planning Studies 6
- MMS Project Inventory 6
- Water Quality 9
- Water Supply 11
- Community Investment Benefits 14
- Place-Based Measures 20
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  - Disadvantaged Community Benefits 25
  - Municipal Benefits from the Regional Program 26
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Lower Los Angeles River **45**
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Introduction

This document summarizes each of the nine Safe, Clean Water Program (SCW Program) Watershed Areas in terms of their characteristics, opportunities, and challenges related to the development of projects in pursuit of achieving meaningful community outcomes and the improvement of watershed health. The information summarized herein is grounded in the Goals of the SCW Program and provides a wealth of information, analysis, and datasets from Los Angeles County Public Works' Metrics & Monitoring Study (MMS) and key SCW Program Scientific Studies focused on watershed planning and outcomes. The summary of each Watershed Area's characteristics condenses this information and data to provide a snapshot of project realities and potential to contribute to key SCW Program Watershed Planning Indicators and Targets and indicates planning recommendations and needs for refined information to achieve these Targets in each Watershed Area. While this overview is a static summary that serves as a starting point for development of the Initial Watershed Plans, the online GIS-based planning tools, currently in development, will allow planners and decision makers to explore the resulting data in an interactive way. The following is an overview of key Program-wide analytical assumptions that serve as a starting point for further planning analysis and adaptation, followed by the characteristics summaries for each of the nine Watershed Areas

SCW Program Watershed Areas

The nine SCW Program Watershed Areas have been assessed individually to highlight the unique conditions, potential opportunities, and challenges that each face in the development of projects and studies that achieve the Goals of the SCW Program. These areas are as follows (presented with abbreviation conventions throughout this document) and shown on the map on the following page (Figure 1):

- ***Central Santa Monica Bay*** (CSMB)
- ***Lower L.A. River*** (LLAR)
- ***Lower San Gabriel River*** (LSGR)
- ***North Santa Monica Bay*** (NSMB)
- ***Rio Hondo*** (RH)
- ***Santa Clara River*** (SCR)
- ***South Santa Monica Bay*** (SSMB)
- ***Upper L.A. River*** (ULAR)
- ***Upper San Gabriel River*** (USGR)

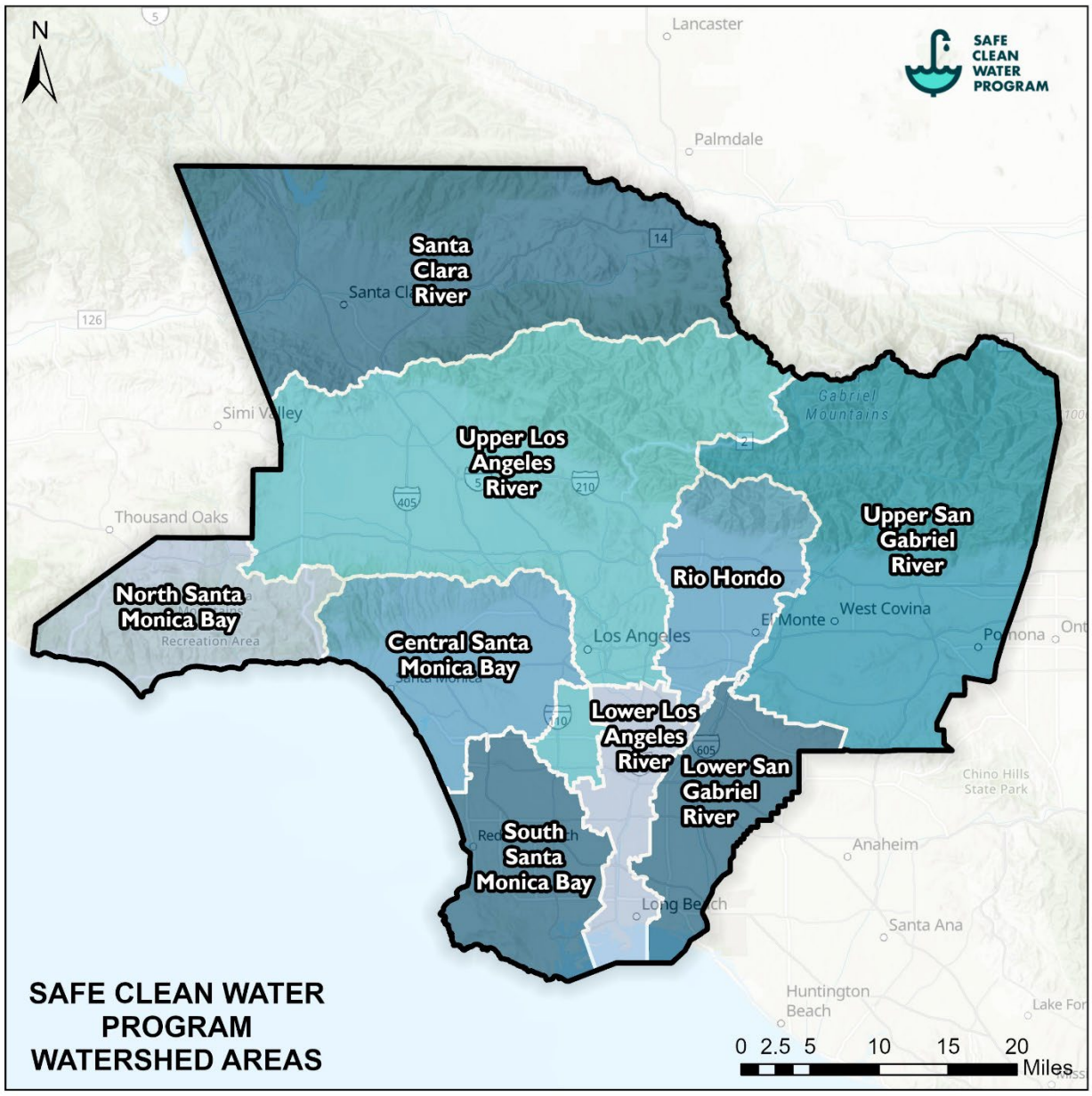


Figure 1. SCW Program Watershed Area Boundaries

Key Planning Studies

This summary of Watershed Area characteristics draws from existing analysis and findings from the following key SCW Program efforts:

- ***Metrics & Monitoring Study (MMS)***
  This study helped develop program methods, Performance Measures (PMs), and monitoring criteria to inform tracking, planning, reporting, and decision making within specific areas of the SCW Program. Datasets and outcomes developed in MMS form the basis of this summary and will be integrated into the Initial Watershed Plans. See *Compilation of MMS Metrics and Outcomes* (Task 1.1).
- ***preSIP: A Platform for Watershed Science and Project Collaboration***
  This SCW Program Scientific Study developed a technical platform to help watershed managers explore comprehensive portfolios of project opportunities to analyze potential program-wide benefits—while considering how projects function as an interactive system. Key findings from the preSIP will inform the characteristics in the ULAR and RH Watershed Areas.
- ***Gateway Area Pathfinding Scientific Study (GAP Study)***
  This SCW Program Scientific Study has shed light on project planning and decision-making by uncovering new opportunities, determining how they interact, evaluating project options against a range of PMs, and highlighting potential projects and pathways to prioritize. Key findings from the GAP Study will inform the characteristics in the LLAR and LSGR Watershed Areas.

MMS Project Inventory

MMS involved the development of an initial inventory of project opportunities and an estimation of their contributing drainage areas to test key PMs and begin to assess the overall potential for projects to contribute towards indicators at the Watershed Area scale. The MMS inventory of projects included SCW Program funded project's data and other available planning data, and additional opportunities were identified where data gaps existed. The extracted data from the inventory was primarily focused on identifying regional opportunities to understand the magnitude of potential stormwater and pollutant capture that utilized impactful approaches to pollutant reduction, and for general consistency with the types of projects funded by the SCW Program to date.

Where gaps in drainage area existed for areas that were not previously covered by existing projects, efforts were made to identify potential new regional opportunities. Public parcels with nearby storm drains were identified to build out a distributed network of potentially feasible project locations that could address the drainage gaps. The projects were assumed to be infiltration galleries, and their diversion rates and storage volumes were determined based on the estimated feasible footprints at each site using rapid cost-effective sizing modeling analysis in conjunction with baseline runoff and pollutant loading modelling.

This process resulted in a baseline inventory of 1,051 project opportunities distributed across the nine SCWP Watershed Areas. The projects in this initial inventory form the basis for analysis related to Indicators within this summary, however, ***the project status and sizing estimates used in modeling were based on data available at the time of the MMS analysis, which included all projects submitted the first 4 years (Fiscal Years 20-21 to 23-24) of the SCW Program.*** Additional opportunities (including Municipal Program projects) and the updated status of funded SCW Program (e.g., through the Project Modification process) projects will be incorporated as development of the Initial Watershed Plans proceeds. Figure 2 highlights projects included in the inventory across the SCW Program's nine Watershed Areas.

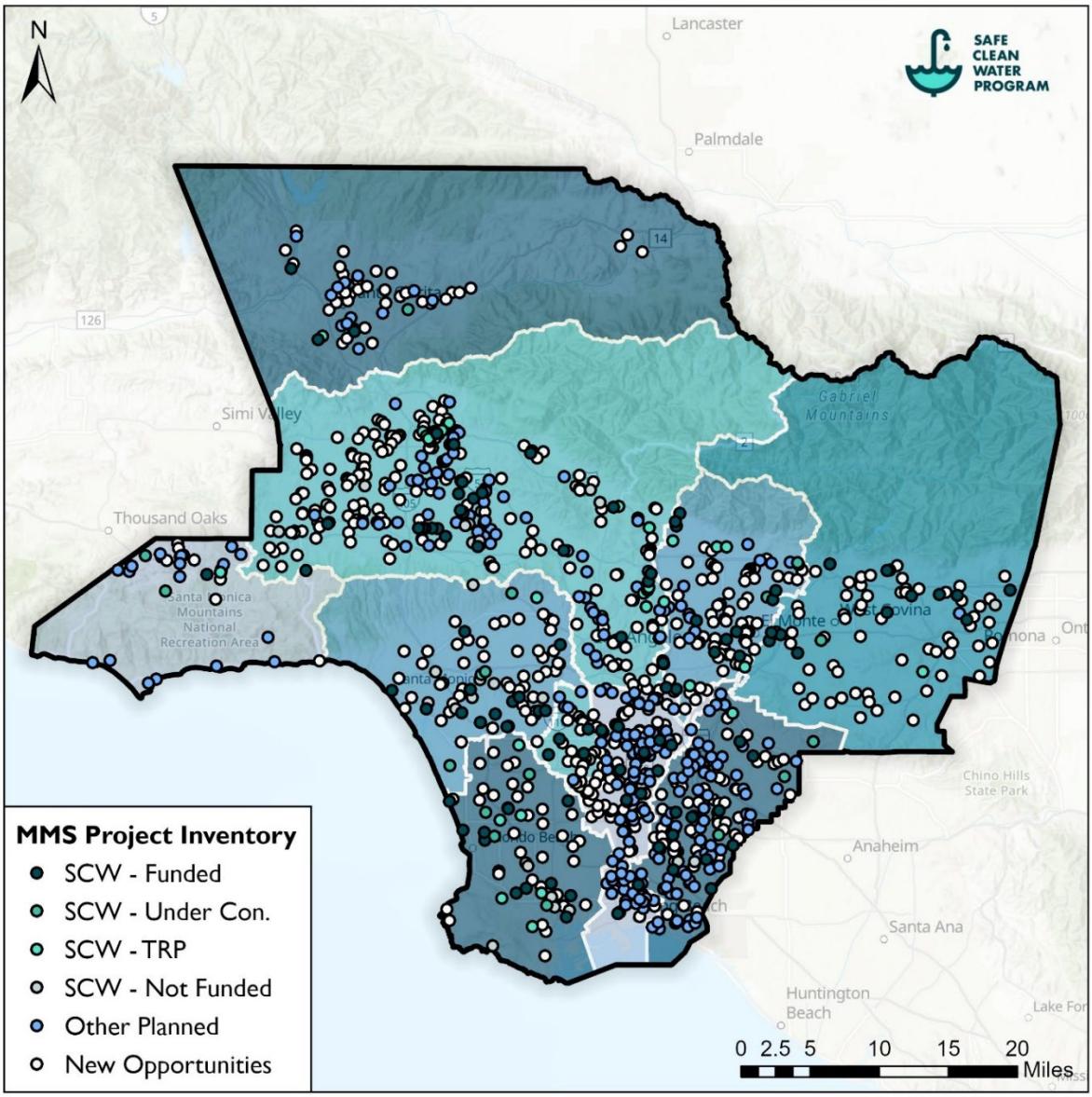


Figure 2. MMS initial project opportunity inventory

Water Quality

The assessment of water quality characteristics in each Watershed Area was performed using the example Indicator: average annual pollutant removal. While there are numerous ways to define water quality Indicators, the MMS used this approach because it aligns with the prioritized PM and addresses concerns from interested parties that progress should be measured in terms of Total Maximum Daily Load requirements. The methodology will be further discussed and evaluated as part of Watershed Planning and may evolve based on feedback received during interested party engagement.

Values for the example Target were estimated in MMS for each Watershed Area based on the following methodology:

- Long-term timeseries developed using L.A. County's LSPC baseline model over Water Years 2009 to 2018 for which it was calibrated
- Water Quality Objective pollutants and concentrations defined (see table below)
- For each day in the timeseries, pollutant loads were parsed between:
    - *Allowable Loads* = (Daily Flow Volume × Water Quality Objective concentration)
    - *Exceedance Loads* = (Total Daily Load – Allowable Load)
- Wet days to meet these Water Quality Objectives determined from long-term timeseries assessment as days with flow greater than or equal to the 90th percentile flow value (see table below)
- Target Value = (Sum of all Exceedance Loads on Wet Days) / 10 years
- For Watershed Areas downstream of others (LLAR and LSGR), Exceedance Loads from upstream Watershed Areas were removed for each day of the timeseries to focus downstream Watershed Area values only on local contributions

Project performance was then assessed over Wet Days to determine the magnitude of contributions made pursuant to the example Target value.

Table 1 summarizes key values used in the development of example Target values for each Watershed Area. Further details of these are available in the MMS *Draft Initial Program Metrics and Project Level Metrics* as well as the *Draft Compilation of MMS Metrics & Outcomes* for the current SCW Program Initial Watershed Plans.

Note: Analysis pertaining to bacteria compliance was not directly addressed in the MMS or Scientific Studies reviewed for this deliverable, but it is acknowledged where appropriate. Efforts such as the SCW Program "LRS Adaptation to Address the LA

River Bacteria TMDL for the ULAR Watershed Management Group" scientific study are being currently reviewed and any significant findings will be incorporated in the Initial Watershed Plans. Additionally, see *Compilation of MMS Metrics and Outcomes* (Task 1.1) for discussion of what was addressed as far as bacteria compliance and discussion associated with it in MMS.

Table 1. Summary of MMS example Water Quality Targets used to evaluate Watershed Area characteristics

Watershed Area	Pollutant of Concern	Water Quality Objective (µg/L)	90th Percentile Flow (cfs)	# of Wet Days per Year	Baseline Pollutant Load (lbs/yr)	Example Target (lbs/yr)
Central Santa Monica Bay	Total Zinc	104.77	40	31.0	28,440	16,150
Lower LA River	Total Zinc	159	281	36.7	85,060	10,810
Lower San Gabriel River	Total Zinc	192.5 (SGR) 95.6 (LCC)	96	37.2	47,110	17,930
North Santa Monica Bay	Total Phosphorus	200	39	36.8	19,460	6,620
Rio Hondo	Total Zinc	159	135	36.8	7,280	1,490
Santa Clara River	Total Zinc	186.9	18	37.7	8,550	2,900
South Santa Monica Bay	Total Zinc	69.7	13	36.9	35,750	29,050
Upper LA River	Total Zinc	159	181	36.6	59,990	21,220
Upper San Gabriel River	Total Zinc	192.5	97	36.9	22,750	5,980

Water Supply 

The assessment of water supply characteristics in each Watershed Area was performed using the example Indicator: average annual runoff volume managed, sorted by type of capture/storage. Example Targets for different Watershed Areas have been estimated as outlined below. However, it is expected that these will be subject to change as discussions and definitions surrounding this Indicator evolve. Overall goals for SCW Program contributions to regional local water supply initiatives have been defined by the Regional Oversight Committee as **300,000 ac-ft of new water capture by 2045**. While this Target may be substantiated by the findings of the LA County Water Plan, some important definitions related to planning are needed, including:

- ***What counts as water supply*?**
  Definitions of countability mostly revolve around the fate of the captured stormwater (i.e., infiltrating to groundwater or diversion to water reuse facilities), but these definitions will be solidified in the Initial Watershed Plans.
- ***Where does it count*?**
  Spatial differences in aquifer transmissivity and recoverability may ultimately influence whether infiltrated water counts towards regional supply or not.
- ***How much of it counts*?**
  Some fates of captured stormwater may not provide a one-to-one recovery. Additionally, capture in certain parts of the Watershed Areas may offset runoff already captured and accounted for at existing facilities (such as at downstream spreading grounds or dams).
- ***How much should be done in each Watershed Area*?**
  The total SCW Program stormwater capture contributions for achievement of water supply targets, including the apportionment per Watershed Area, will be included in the Initial Watershed Plans.

An assessment of the potential Watershed Area characteristics to enhance local water supply is presented herein utilizing water budget information developed during MMS. Initial values for the Targets were developed using the most simplified version of potentially available water supply from local stormwater runoff in each Watershed Area.

Example water supply Targets based on local stormwater runoff are summarized in Table 2 below and have been calculated as follows:

- Local runoff summarized from the long-term timeseries developed using L.A. County's LSPC baseline model over Water Years 2009 to 2018
- Watershed Area apportionment defined as the ratio of runoff produced within the Watershed Area to the total runoff produced over all Watershed Areas
- Target value = (Watershed Area ratio * 300,000 ac-ft)

Table 2. Summary of example water supply Targets

Watershed Area	Local Runoff (ac-ft/yr)	Percentage of Total Program-wide Runoff	Example Target (ac-ft/yr)
Central Santa Monica Bay	70,000	9.4%	28,200
Lower LA River	37,300	5.0%	15,000
Lower San Gabriel River	60,000	8.0%	24,000
North Santa Monica Bay	26,000	3.5%	10,500
Rio Hondo	52,100	7.0%	21,000
Santa Clara River	94,600	12.7%	38,100
South Santa Monica Bay	50,000	6.7%	20,100
Upper LA River	176,000	23.6%	70,800
Upper San Gabriel River	180,000	24.1%	72,300
TOTAL	***746,000***	***100%***	***300,000***

Additionally, MMS categorized projects according to the following three stormwater capture fates (i.e., where managed water will end up):

- ***Aquifer*** - projects whose diverted water is intended to reach and augment water supply at managed, usable groundwater basins or unconfined aquifers (based on preliminary data provided by Public Works; SCW Program currently requires that projects claiming augmentation to water supply at a managed aquifer obtain concurrence by the appropriate regional water managers).
- ***Non-Aquifer*** – projects located over areas generally considered to be confined or perched aquifers, i.e., where diverted water does not reach managed groundwater basins or unconfined aquifers.
- ***Sewer*** - projects that divert water to sanitary sewers for treatment and reuse (Note these are limited to those defined as such in SCW Program datasets; no additional sewer diversion opportunities were modeled in MMS.

MMS also recommended categorizing stormwater capture based on the treated flows returned to storm drains and channels and onsite use for potable offset fates but given the planning-level nature of this analysis, only the bulleted categories above were initially considered.

One further consideration for determining a Watershed Area's contributions to water supply is needed to account for existing stormwater capture within the watersheds. There are a number of existing, large-scale recharge and storage facilities in the region that are already diverting a substantial amount of stormwater from drainage channels to augment local supply. To account for this and make a conservative estimate of their contribution to net additional water supply for the Watershed Area, a relative capture efficiency for these recharge facilities was calculated to estimate the portion of runoff that bypasses these facilities (**net countable supply ratio**). These ratios, summarized in *Compilation of MMS Metrics and Outcomes* (Task 1.1), were then applied to modeled water supply volumes to produce a conservative estimate that can be used to focus water supply estimates on new water captured in each Watershed Area.

Community Investment Benefits

In *Compilation of MMS Metrics and Outcomes* (Task 1.1), MMS suggested that defining which benefits are most relevant to a particular community is best decided by members of that community. Accordingly, a Community Strengths and Needs Assessment survey will be conducted to obtain a better understanding of the communities' needs related to SCW Program Community Investment Benefits.

In addition to newly voiced benefits, Public Works prioritized Performance Measures (PMs) concerning the seven Community Investment Benefits identified in Measure W, which are codified in the SCW Program Implementation Ordinance and Infrastructure Program Project Scoring Criteria. These PMs represent new data to be collected or estimated for SCW Program-wide projects and programs, however, local and Watershed Area-specific priorities and associated needs will be informed by efforts such as the Community Strengths and Needs Assessment survey and stakeholder engagement.

7 Voter-Approved Community Benefits in Measure W

- Creation, enhancement or restoration of parks, habitat Improved public access to waterways
- Tree canopy
- Reducing urban heat
- Greening of schools
- Accessible parks/green space and enhanced or new recreational opportunities.
- Improved flood management, conveyance, or flood risk mitigation

To understand Watershed Area characteristics and needs—and to subsequently define Indicators— MMS recommended generating datasets describing the baseline PMs, such as park access, habitat, tree canopy, vegetation (on and off school grounds), urban heat, waterway access, and local flooding. While MMS did not compile all of these datasets, some examples are shown in Figures 3 through 7 below.

Also refer to Place-Based Measures in the following section for how Watershed Area needs and characteristics related to Community Investment Benefits can be spatially defined.

Figure 3 Extreme heat needs from LA County Climate Vulnerability Assessment

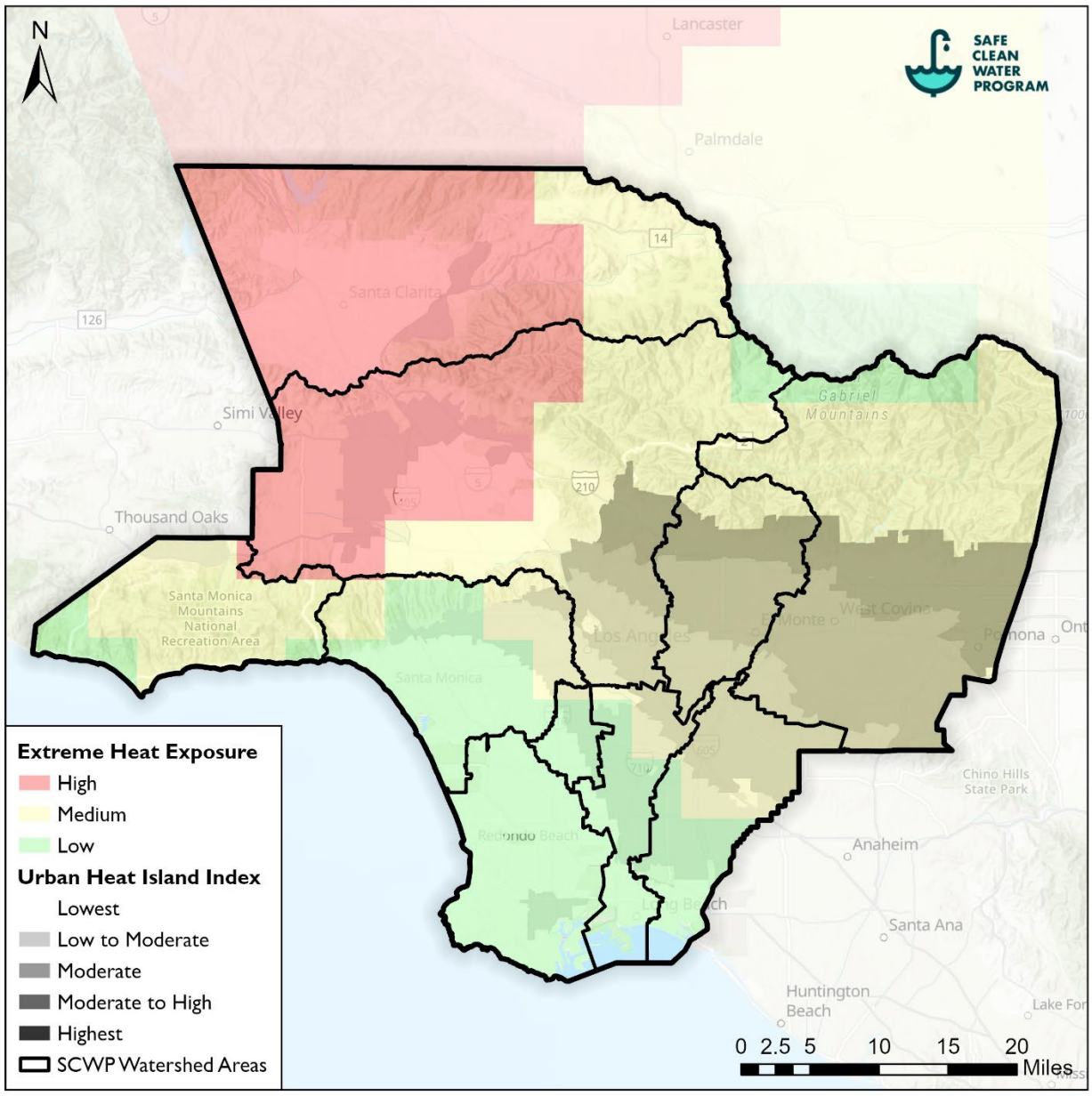


Figure 3. Extreme heat needs from LA County Climate Vulnerability Assessment

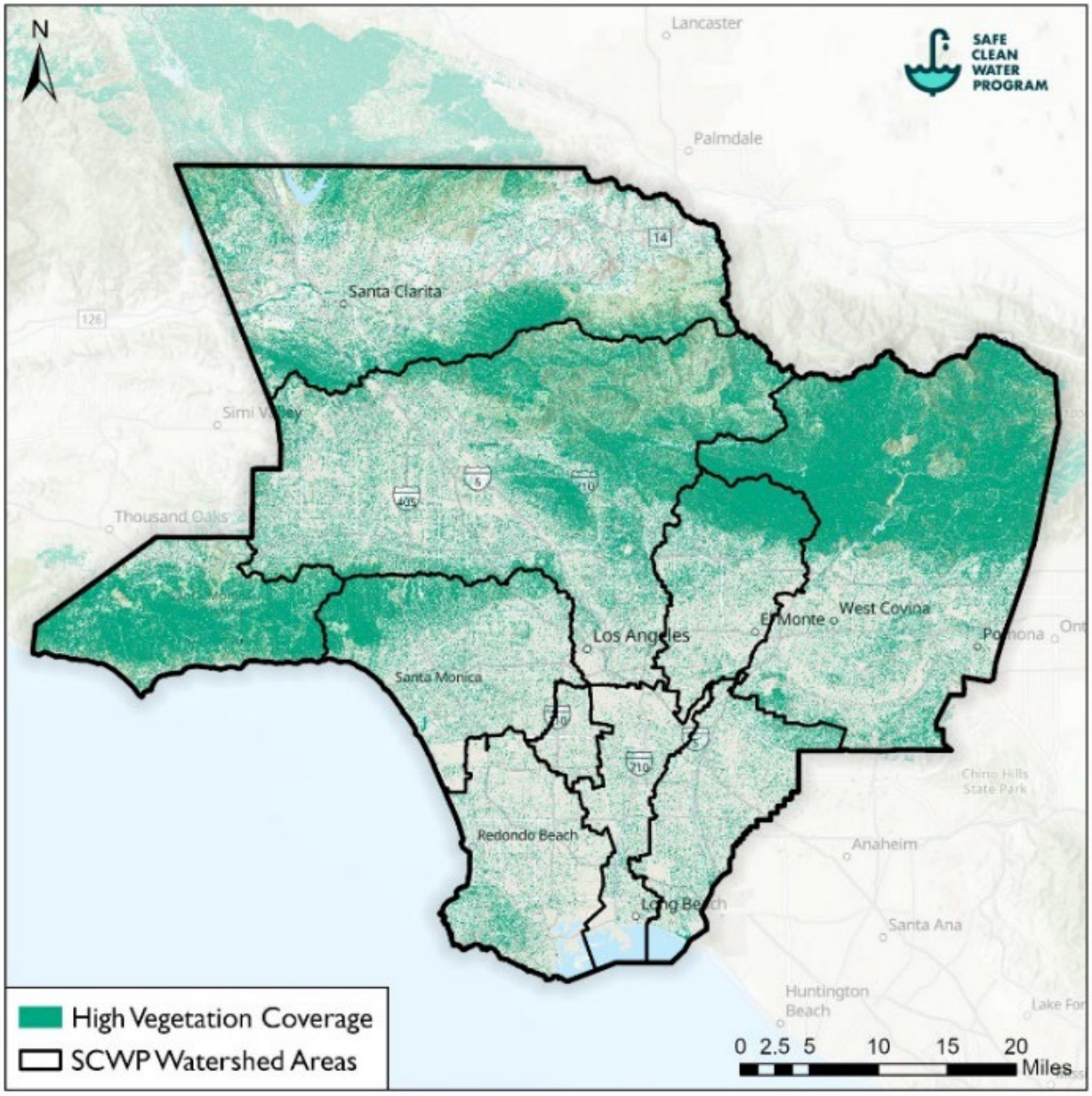


Figure 4. Tree canopy coverage from LA County land cover data

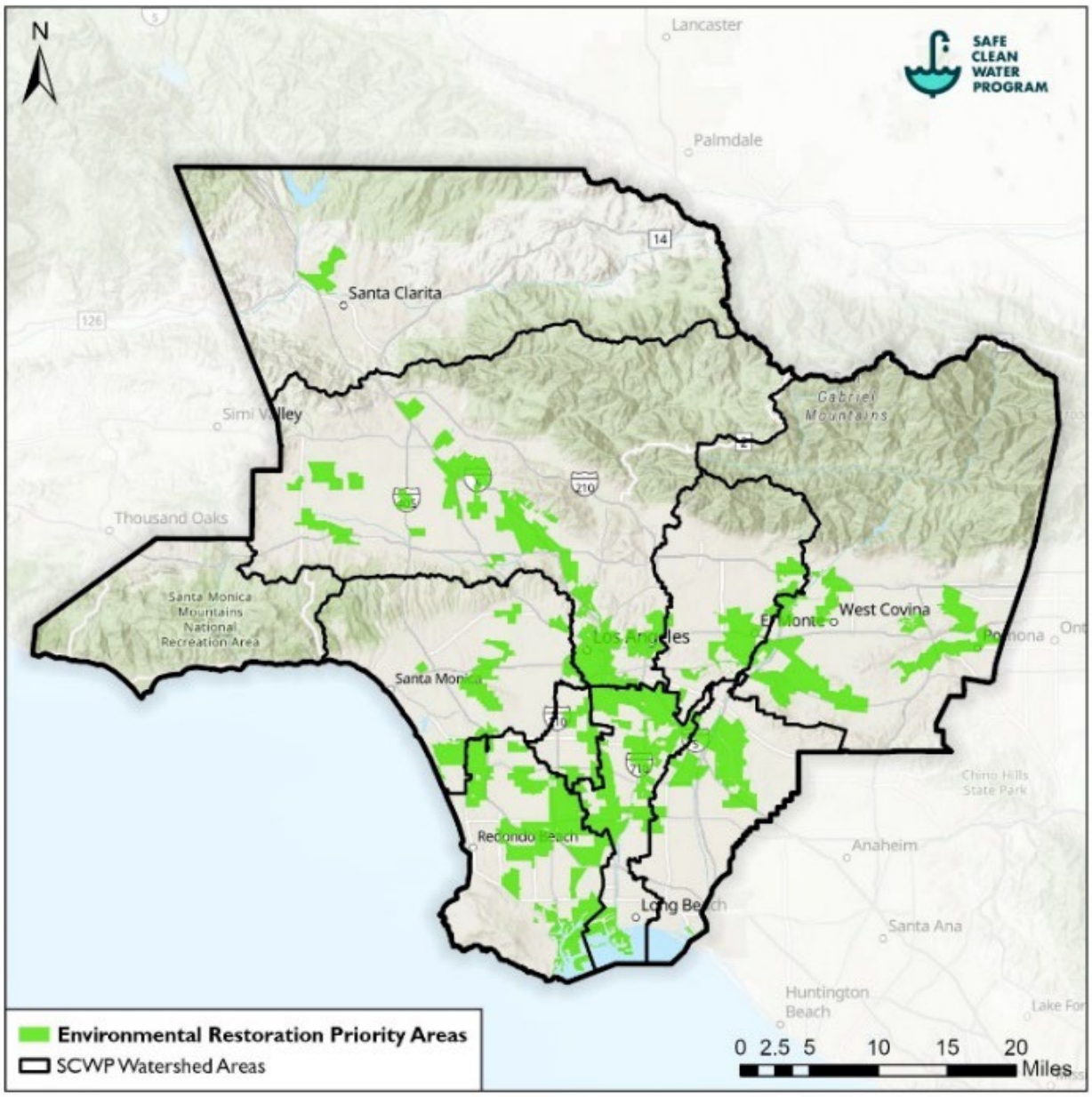


Figure 5. Habitat needs from LA County Park Needs Assessment

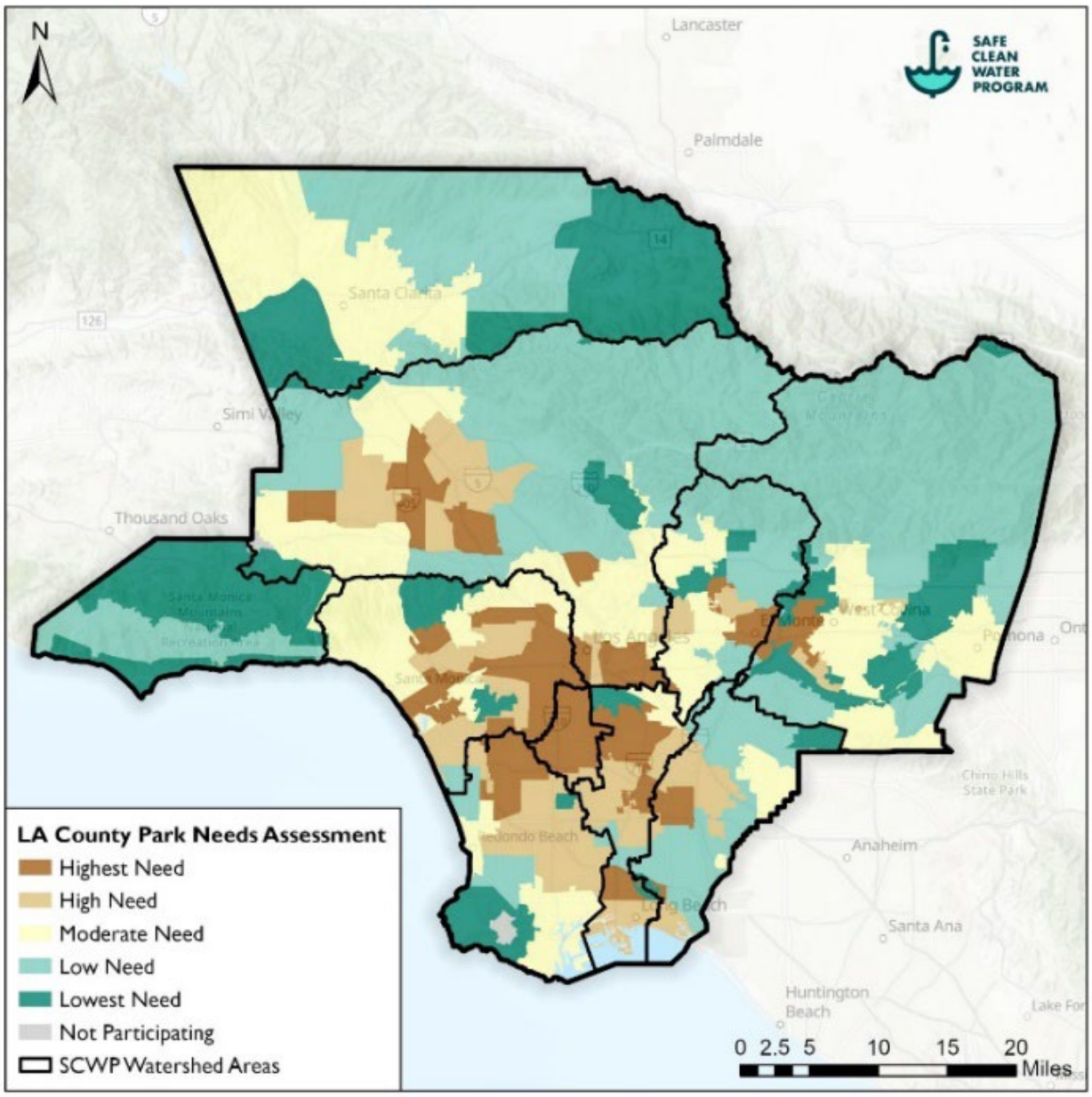


Figure 6. Park needs from LA County Park Needs Assessment

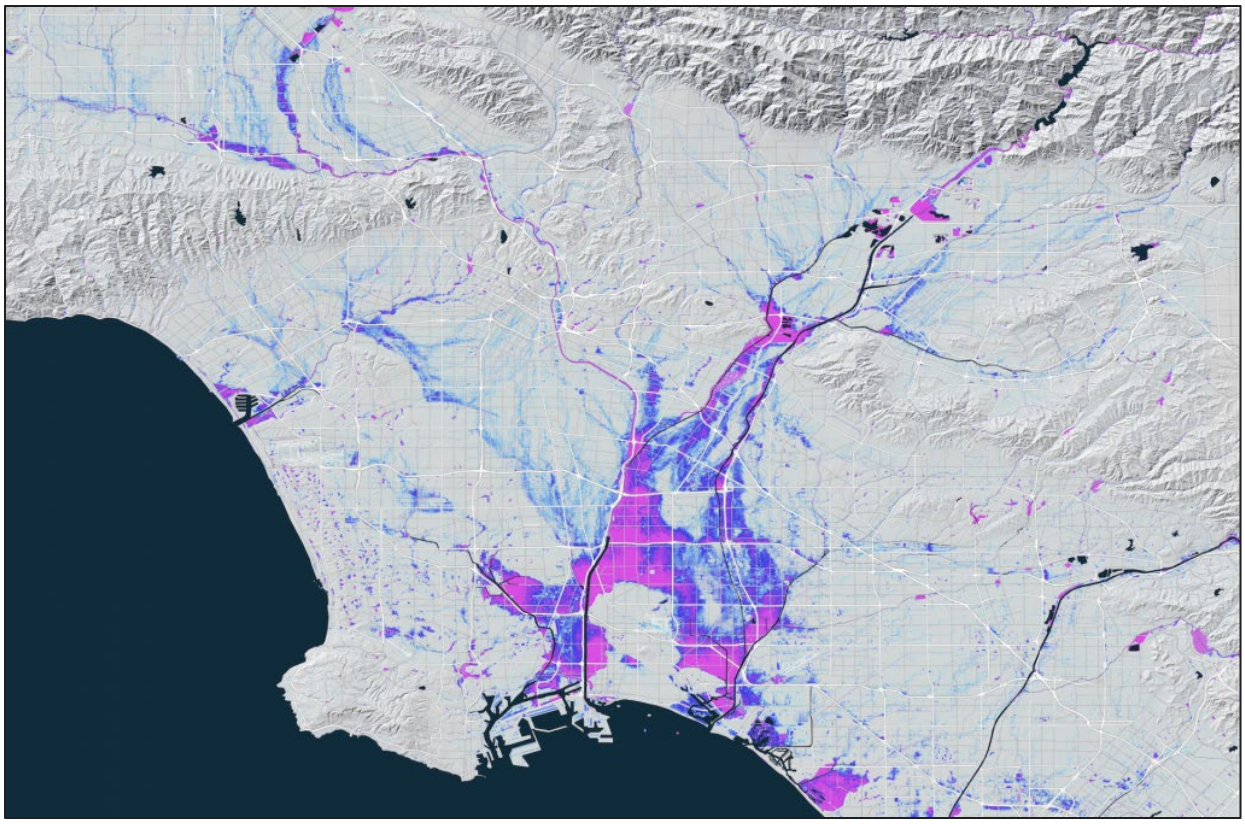


Figure 7. Potential local flood improvement needs based on "Visualization of Los Angeles Metro area flood hazard. Image: UCI Flood Lab"

Place-Based Measures 

The results of the Community Strengths and Needs Assessment process will reflect communities' localized priorities and needs. It will articulate who would be expected to benefit from different SCW Program projects and programs.

While awaiting specific community input, MMS recommended *presumptively* estimating how many people may experience new Community Investment Benefits from SCW Program projects based on walking, biking, or driving distance to each project. This approach—supported by several interested parties—provides Public Works with an objective way to define *who* may benefit from projects and is helpful for evaluating SCW Program Goals related to Disadvantaged Community benefits and accrual of Regional Program benefits to Municipalities. It also enables Watershed Area needs to be estimated for Initial Watershed Planning (i.e., how many people in LA County have a SCW Program project within 2 miles of where they live, and where are the gaps in coverage?).

The *Compilation of MMS Metrics and Outcomes* (Task 1.1) memorandum describes the specific recommended method to estimate the "service area" of each project, which represents the areas within reasonable walking, biking, and/or driving distances to projects using the walkable road network (from ¼ mile to 2 miles). Service areas can be used to combine the magnitude of Community Investment Benefits (i.e., number of new trees, acres of new park space, etc.) with the potential population (i.e., number of people) serviced by those benefits. Because MMS defined new Community Benefit Performance Measures that are not yet being tracked for historical SCW Program projects, the affected communities by each SCW Program project's Community Investment Benefits in each Watershed Area can be initially characterized by simply assuming each SCW Project generically provides one unit of Community Benefit. Multiplying each unit benefit by the population served results in a composite Performance Measure called "People-Benefits" to initially estimate the impact of a projects' Community Investment Benefits. Where local populations may be benefiting from multiple projects (i.e., where project service areas overlap), this approach allows for the quantification of compounding benefits. ***The methodology will be further discussed and evaluated as part of Watershed Planning and may evolve based on feedback received during interested party engagement.***

Note: MMS sourced population estimates from the 2016 LA County Park Needs Assessment data, so updates to the baseline data to reflect the recent censuses data should be considered during Initial Watershed Plan development.

Total Population Served

5.6M (49%)

Estimated LA County population within 2 miles of funded SCW Program Projects

Service areas were delineated by proximity of each SCW Program-funded Regional Program project evaluated in MMS to the estimated population who would potentially experience new Community Investment Benefits from implemented projects (Figure 9, Figure 10, and Figure 11). This can be compared with the Watershed Area needs data presented above in Community Investment Benefits to evaluate where projects may be meeting those needs and where there may be gaps that deserve attention during Initial Watershed Planning.

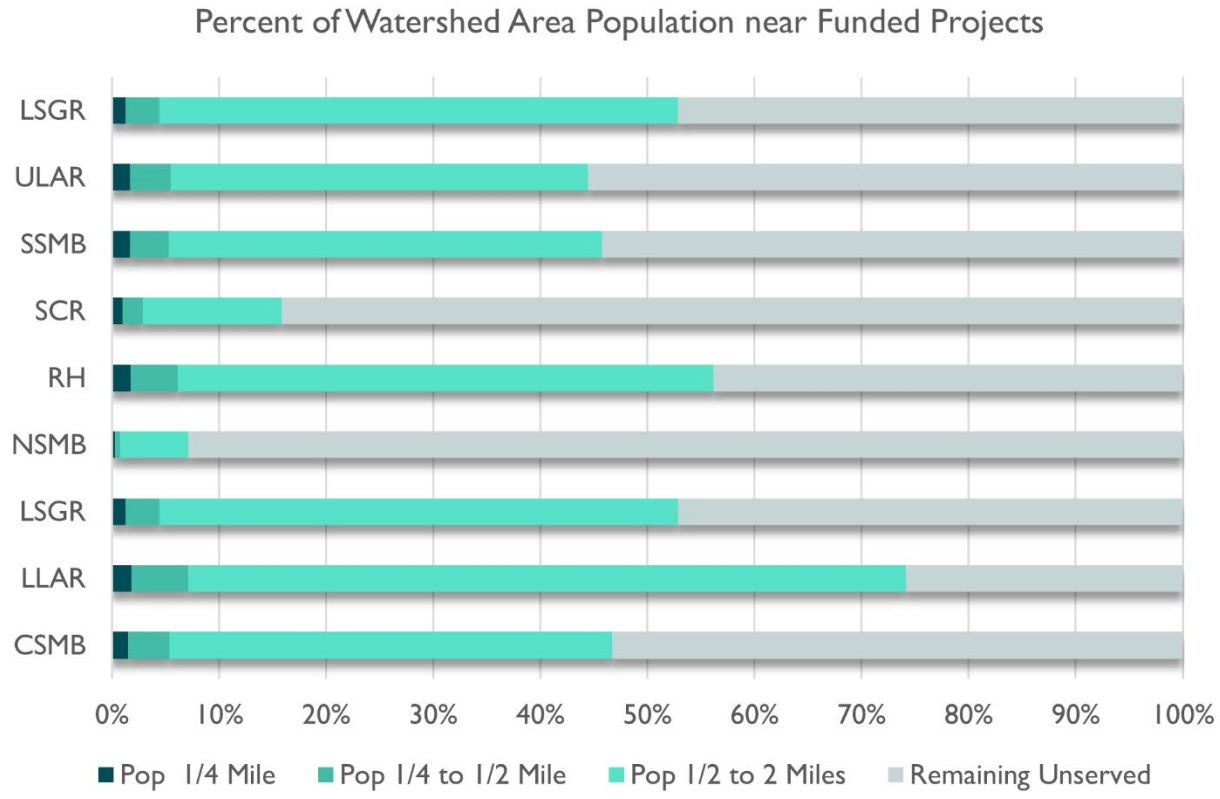


Figure 8. Summary of population (pop) within service areas of SCW Program-funded projects evaluated in MMS

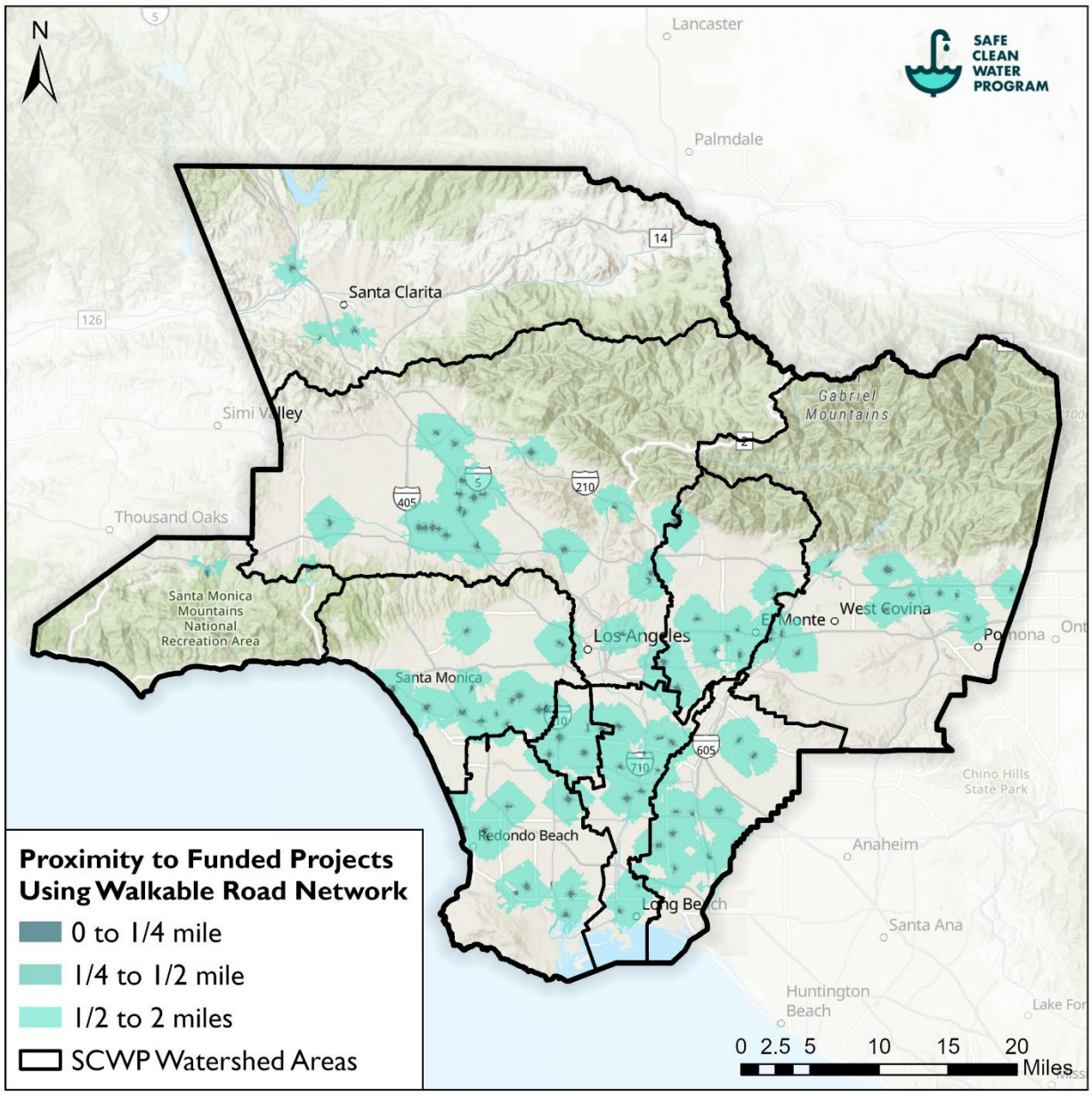


Figure 9. Service areas to SCW Program-funded projects evaluated in MMS

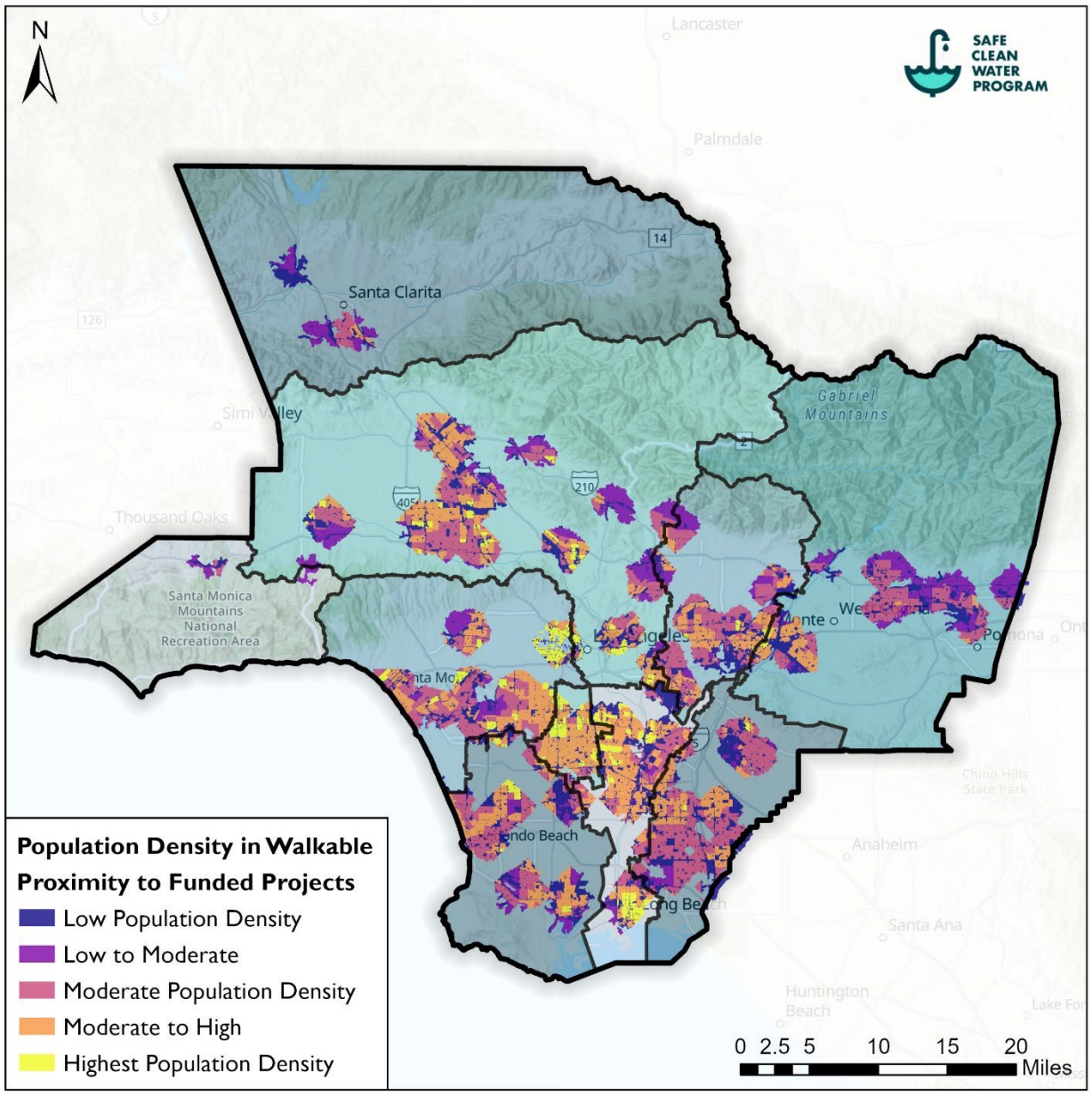


Figure 10. Population density within service areas to SCW Program-funded projects evaluated in MMS

Disadvantaged Community Benefits

The service areas shown above were overlaid on Disadvantaged Community (DAC) boundaries to estimate how SCW Projects may benefit people living there. Assuming each project provides at least one Community Investment Benefit (which can be updated with actual magnitude of Community Benefits once those are estimated for each project), the potential People-Benefits to Disadvantaged Communities are shown in Figure 11 compared to the required ratio per the SCW Program Implementation Ordinance (Section 18.04.J):

> Provide DAC Benefits, including Regional Program infrastructure investments, which are not less than one hundred and ten percent (110%) of the ratio of the DAC population to the total population in each Watershed Area.

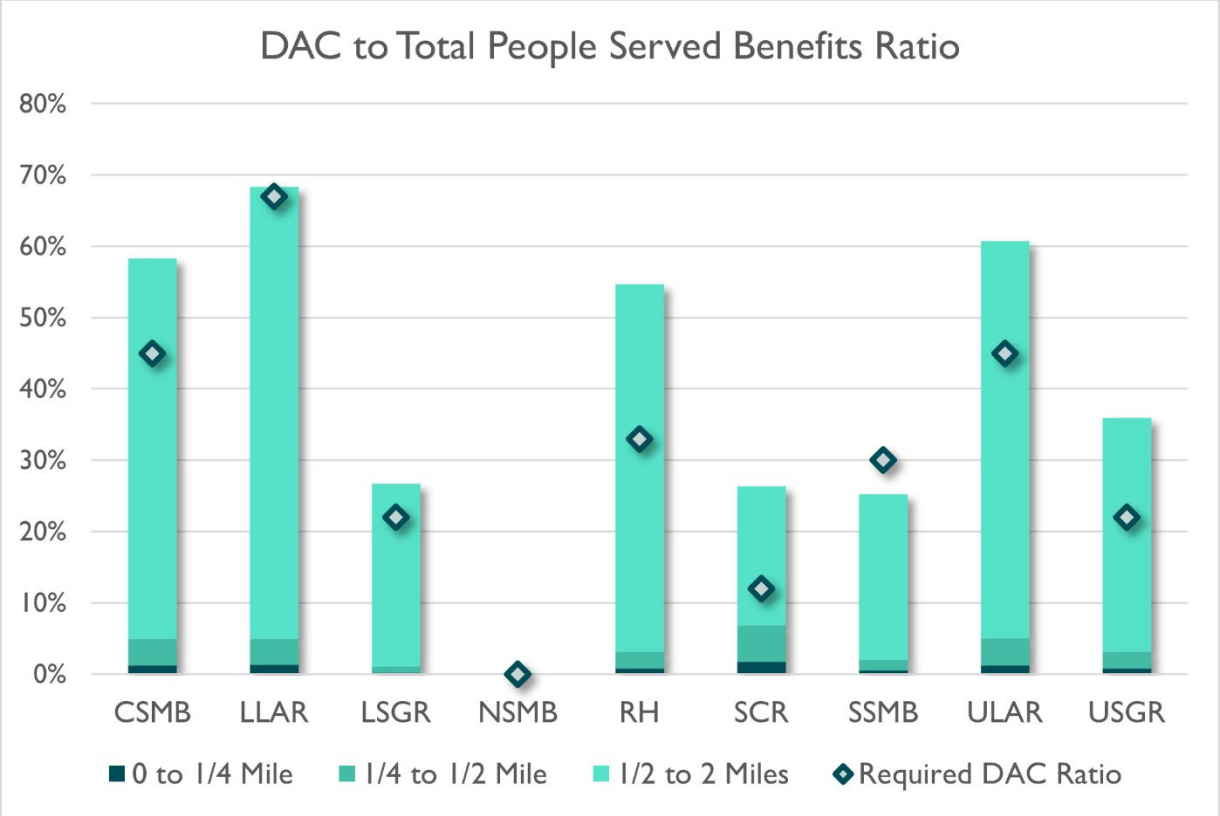


Figure 7. Proportion of Community Investment People-Benefits attributed to Disadvantaged Community populations from SCW Program-funded projects evaluated in MMS, compared to the 110% required Disadvantaged Community benefit ratio sourced from the SCW Program SIP Tool

Municipal Benefits from the Regional Program

Place-Based Measures can also be used to estimate how Community Investment Benefits and Water Quality Benefits from the Regional Program may apply to each Municipality (note MMS suggested that Water Supply Benefits may apply to *all* Municipalities in a given Watershed Area). This can be particularly useful for evaluating Program-wide progress towards compliance with Section 18.07.B.2.d of the SCW Program Implementation Ordinance:

> Each Municipality shall receive benefits in proportion to the funds generated within their jurisdiction, after accounting for allocation of the one hundred ten percent (110%) return to DACs, to the extent feasible, to be evaluated annually over a rolling five (5) year period.

Community Benefits to Municipalities

The approach used above to estimate the accrual of Community Benefits to Disadvantaged Communities was applied to measure each Municipality's population within the service areas of funded projects. Data in Figure 12 compares the ratio of potential People-Benefits attributed to each Municipality within ½-mile of a project to the ratio of Municipal funding generated by that Municipality (a value of 100% means that the Municipality may be receiving benefits proportional to its generated funds).

Water Quality Benefits to Municipalities

Many Municipalities collaborate as Watershed Management Groups (WMGs) in pursuit of water quality improvement, so MMS suggested that municipal Water Quality Benefits from the Regional Program could be measured based on the ratio of Water Quality Benefits in each WMG compared to the ratio of Municipal Funding generated in each WMG (see *Compilation of MMS Metrics and Outcomes* (Task 1.1) for the computational method). Because some Municipalities span multiple WMGs, the Municipal funding generated in each WMG can be prorated based on impermeable area. Figure 13 displays the results, with a value of 100% meaning a WMG may receive Water Quality Benefits proportional to the prorated funding generated by Municipalities in each WMG. Note that WMG boundaries used for the MMS may have recently been updated and should be revisited during Initial Watershed Planning.

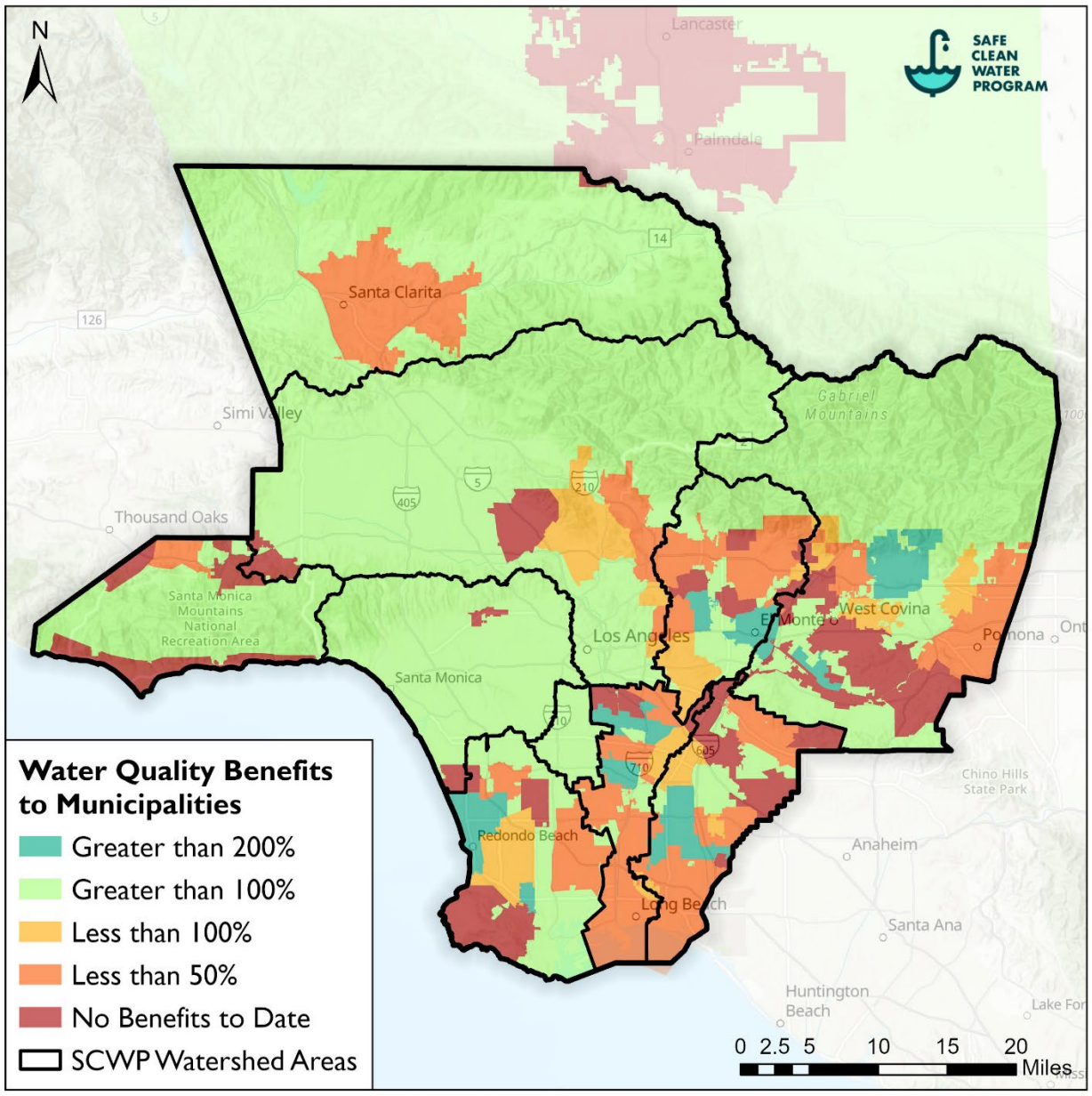


Figure 12. Ratio of potential Water Quality People-Benefits (using a 1/2-mile service area) compared to ratio of Municipal Funding (a value of 100% means a Municipality may receive Regional Benefits proportional to its Municipal funding).

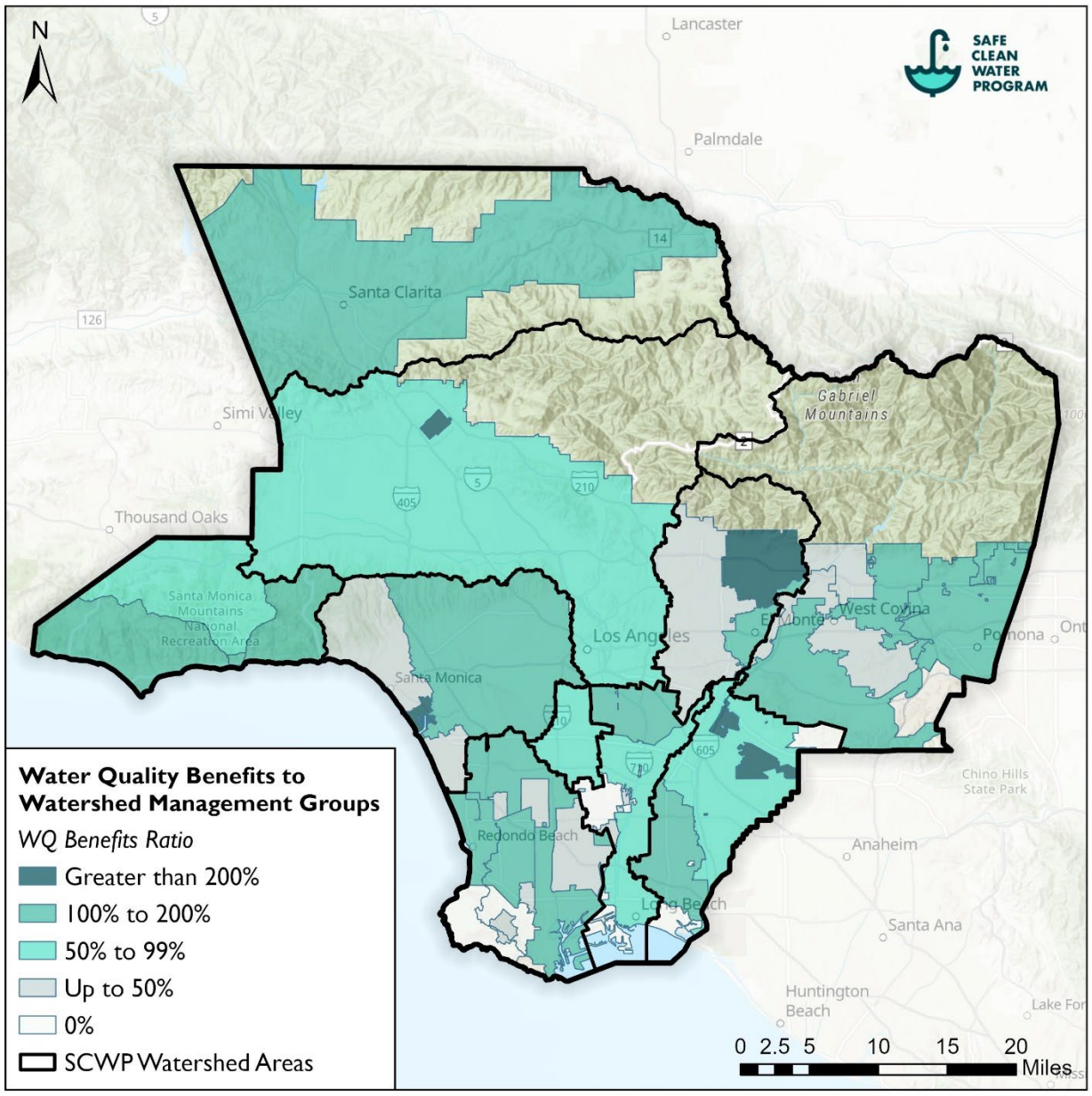


Figure 13. Ratio of Water Quality Benefits from Funded Regional Program Projects Compared to Ratio of Pro-rated Municipal Funding from Each Municipality in each WMG (a value of 100% means a WMG may receive Regional Program Water Quality Benefits proportional to the funding generated by the portions of Municipalities in each WMG)

Other SCW Program Goals

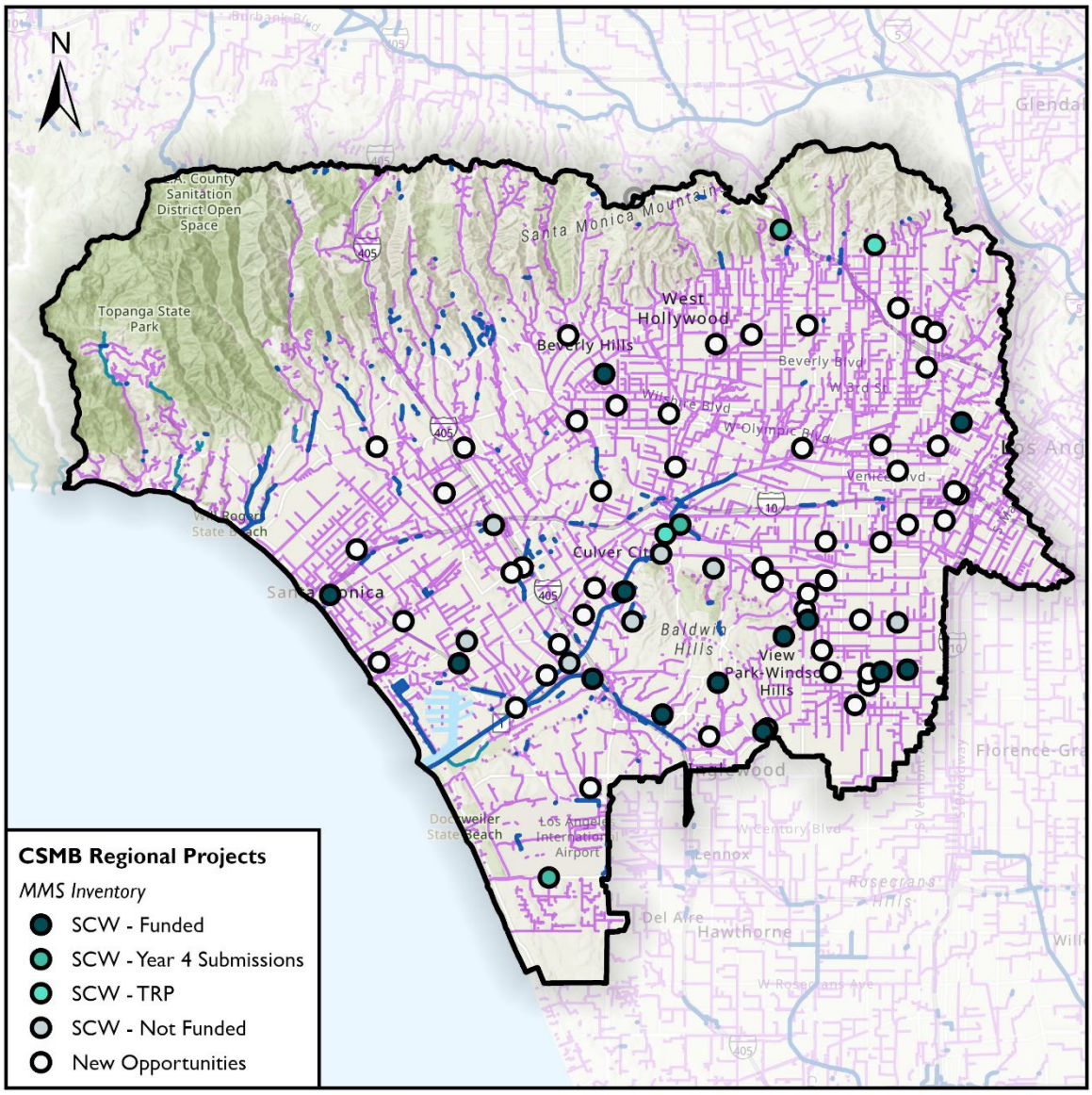
MMS developed Performance Measures for all SCW Program Goals, although some Goals are best evaluated programmatically and are not as relevant to understanding Watershed Area characteristics. See *Compilation of MMS Metrics and Outcomes* (Task 1.1) for discussion about next steps related to the following paraphrased SCW Program Goals:

- **Promote Green Jobs and Career Pathways**
- **Project Modality**
  - Invest in Infrastructure That Provides Multiple Benefits
  - Prioritize Nature Based Solutions
  - Provide a spectrum of project sizes from neighborhood to regional scales
- **Fiscal and Operational Measures**
  - Ensure Ongoing Operations and Maintenance for Projects
  - Leverage Other Funding Sources to Maximize SCW Program Goals
- **Research And Development**
  - Encourage Innovation and Adoption of New Technologies And Practices.
  - Invest In Independent Scientific Research

Central Santa Monica Bay

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, existing funded SCW Program projects, other potential new opportunities identified in MMS, and the overall drainage area coverage for the inventory of projects evaluated by MMS.



Watershed Area Projects & Overview:

~118,000 total acres

31% impervious

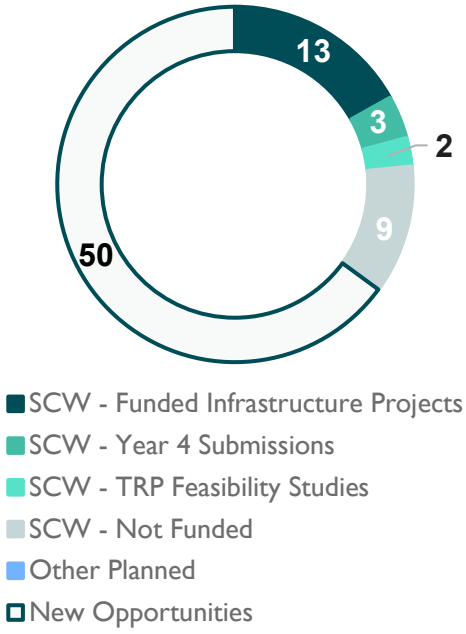
15 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

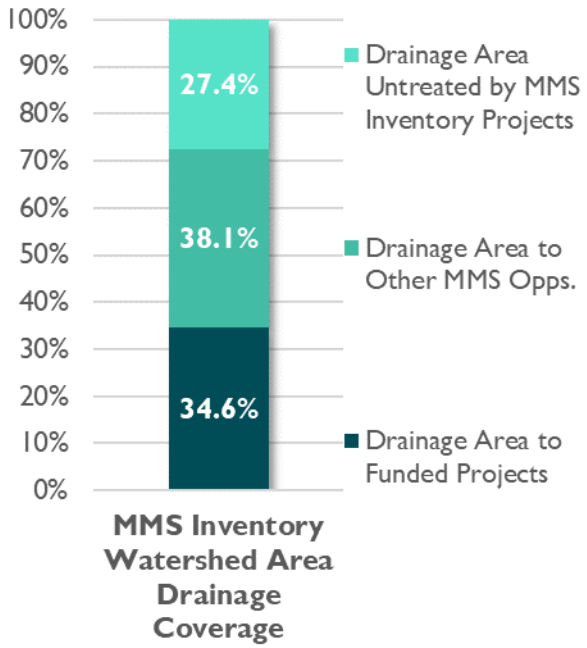
77 Total Project Opportunities in MMS Inventory

Major Tributary: Ballona Creek

Multiple, localized drainage outfalls to Santa Monica Bay

MMS Inventory by Status





Watershed Area Projects Characteristics:

15 SCW Program projects with momentum

40,800 acres of Watershed Area treated by SCW Program funded projects

62 additional opportunity projects from MMS Inventory to be considered

45,000 acres of Watershed Area potentially treated by additional opportunity projects

32,400 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (CSMB)

Water quality improvement is a key goal of the SCW Program, and the related Watershed Area characteristics can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects from the MMS inventory.

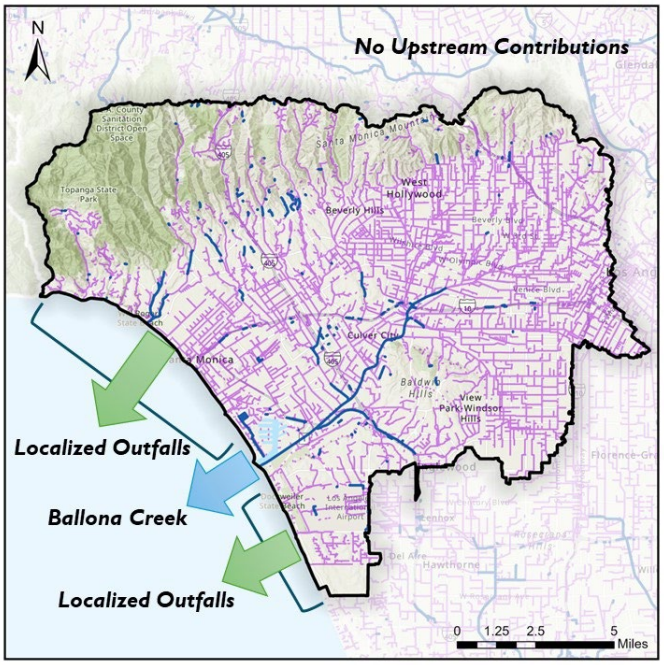
Targets

Water Quality Objective:
104.77 µg/L Total Zinc
(Ballona Creek Metals TMDL Wet Weather Targets derived from acute CTR criteria using hardness of 77 mg/L specified in TMDL)

Avg. Annual Zinc Load:
28,440 lbs/year

Approx. # Wet Days:
31.0/year

Indicator:
16,150 lbs/year Total Zinc Reduction



Initial Benefits

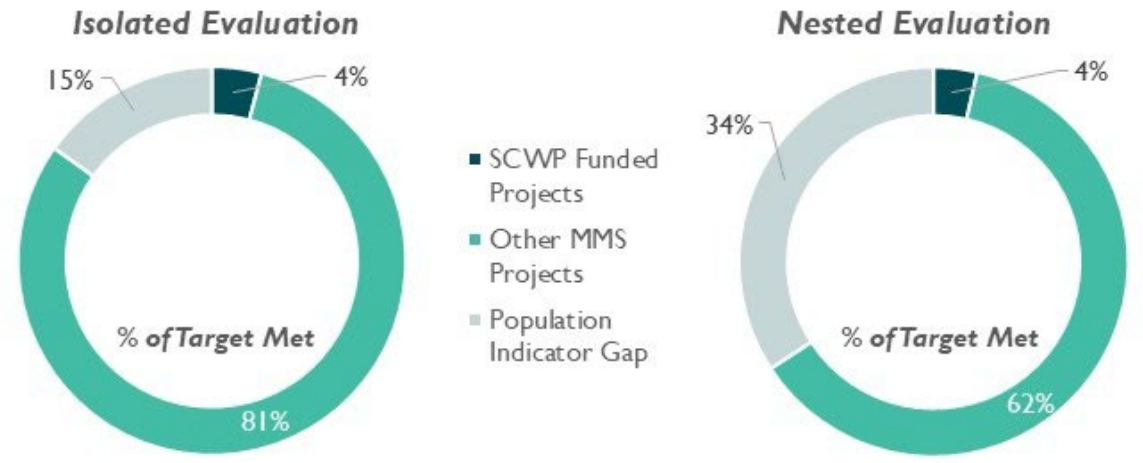
Initial Water Quality benefits for SCW Program funded projects in MMS inventory:

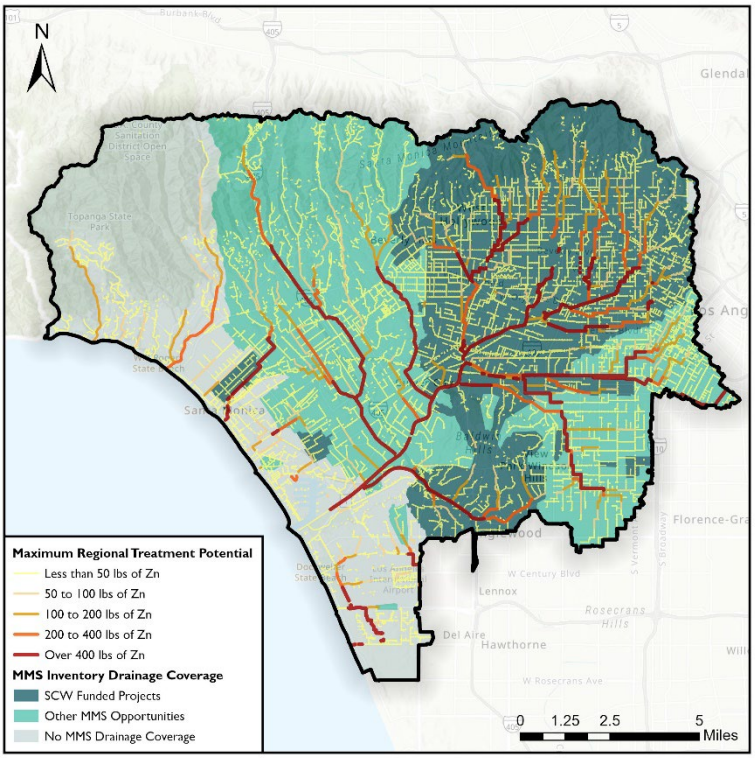
15
SCWP Funded Projects
(Regional & TRP projects)

665 lbs/yr
Total Zinc Removed
(pursuant to Indicator)

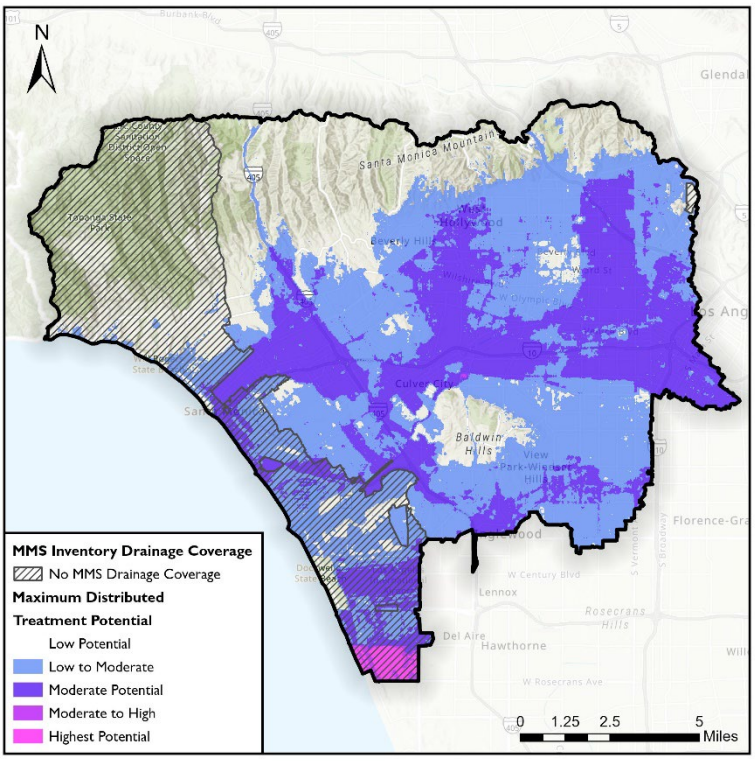
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

Key Watershed Needs & Opportunities

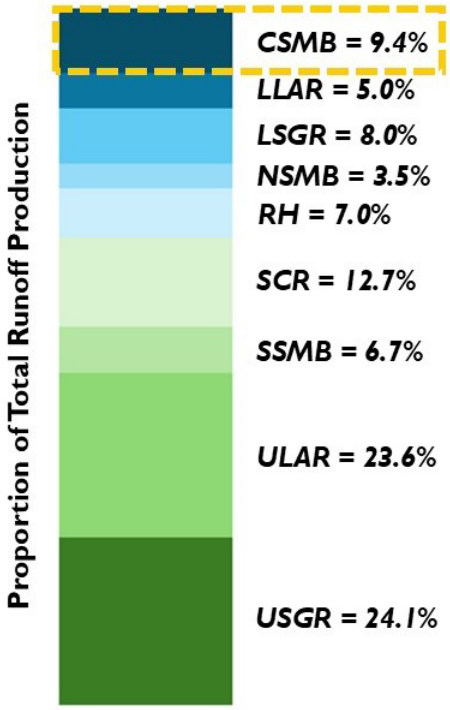
- MMS inventory projects may need to be augmented with additional opportunities if example Indicators are to be met
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects
- Areas near the coast were largely untreated by projects in the MMS inventory. These areas could be prioritized for project development. Targeting areas with high pollutant accumulation for regional project additions, areas with high distributed project treatment potential for distributed projects, or green streets in these coastal areas will increase the overall treatment coverage for the Central Santa Monica Bay Watershed Area.

Water Supply (CSMB)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the CSMB Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

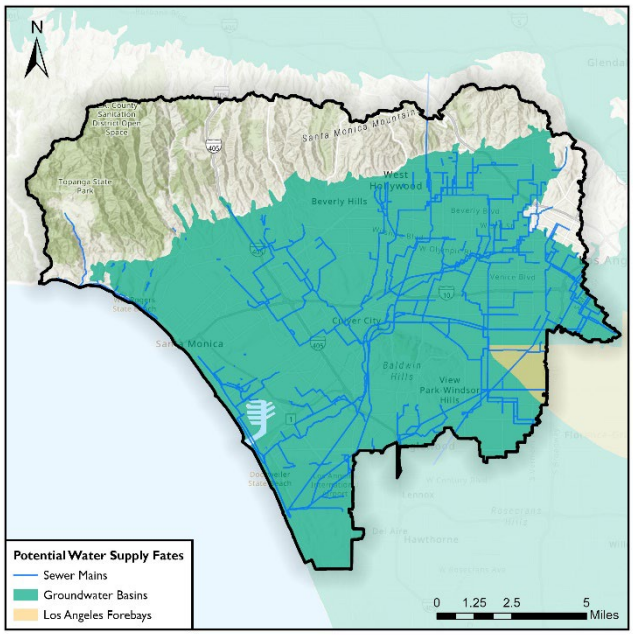
Avg. Annual Local Runoff:
70,000 ac-ft/year

Watershed Area Runoff %:
9.4% (of 746,000 ac-ft/year total)

Indicator:
28,200 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCW Program datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

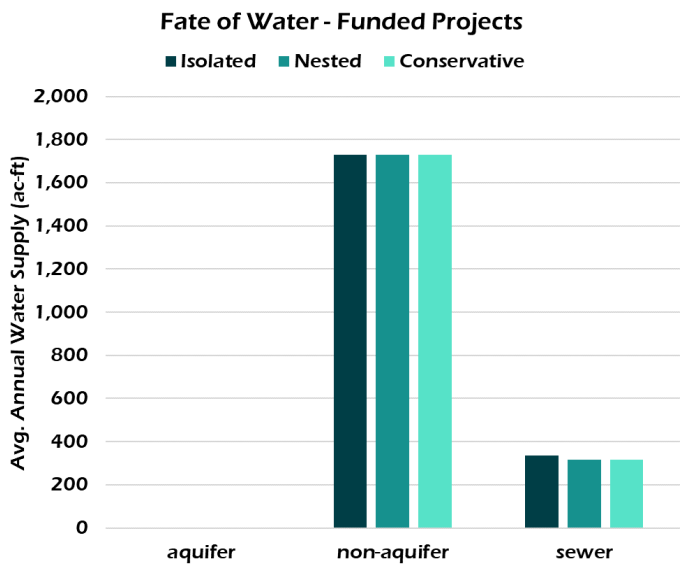
Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by large existing water conservation facilities in LA County such as dams and spreading grounds. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions by projects. ***For the CSMB Watershed Area, no adjustments are needed since there are no existing facilities.***

Existing Modeled Capture	Net Countable Supply Upstream
No existing capture facilities	

Initial Benefits

Initial Water Quality benefits for SCW Program funded projects in MMS inventory:



Maximum Nested System Water Supply Estimate:

2,045 ac-ft/year

(all fates included, no adjustment)

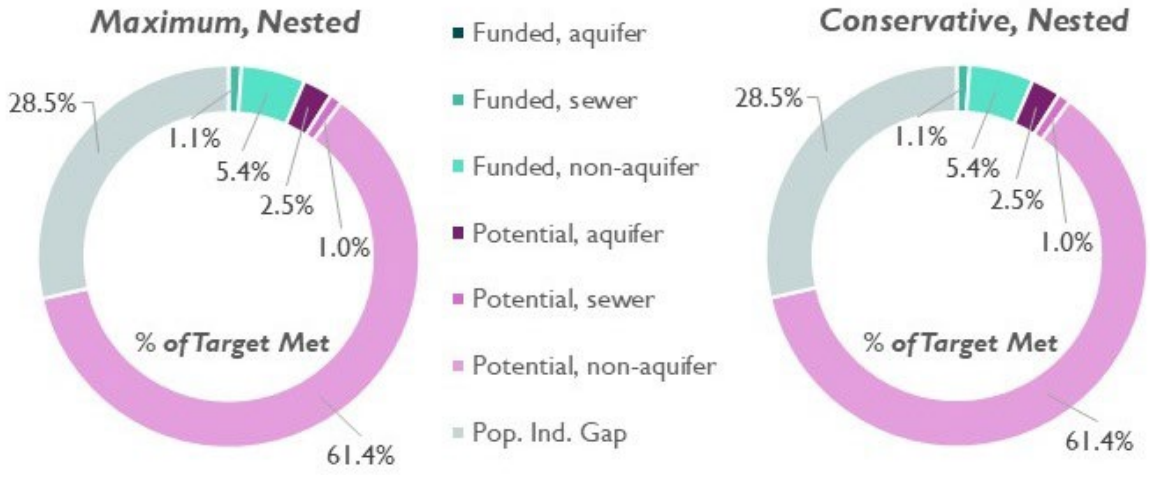
Conservative Adjusted Water Supply Estimate:

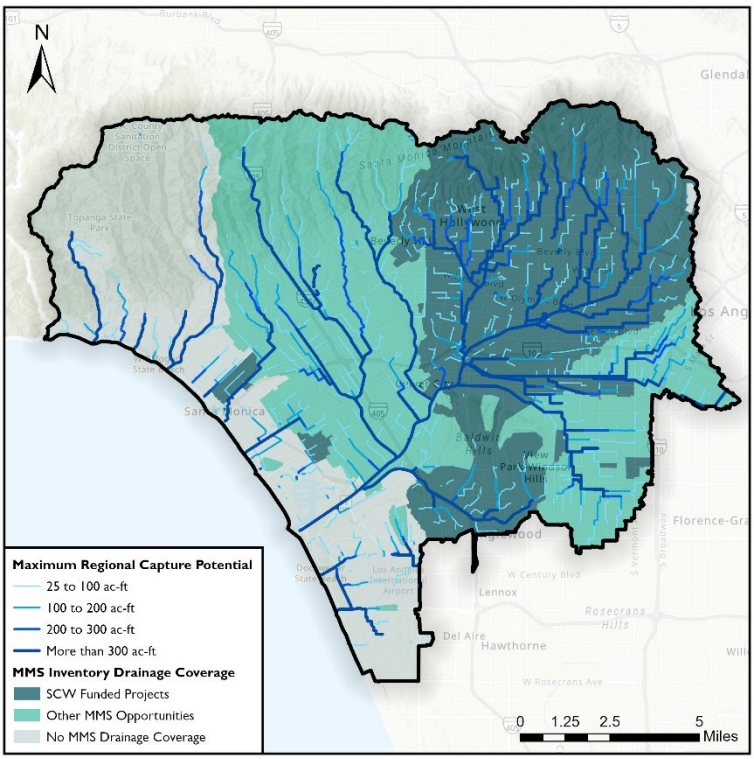
315 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

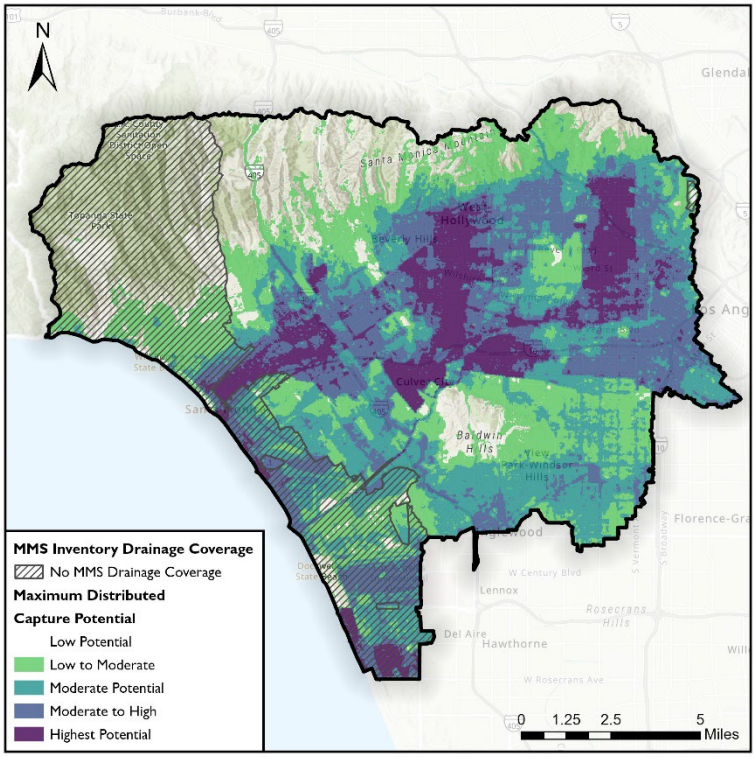
There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure. Also, Maximum and Conservative plots are the same here due to no existing capture facilities in this Watershed Area.





Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- There is only a small portion of the Watershed Area with unconfined aquifers where the Los Angeles groundwater forebays underlay the watershed on the eastern side.
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like for water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but coastal areas are still a good location to begin pursuing additional projects.
- Targeting larger storm drains in coastal areas where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Projects with discharge to sanitary sewers are most likely to have countable supply.

Community Investment Benefits (CSMB)

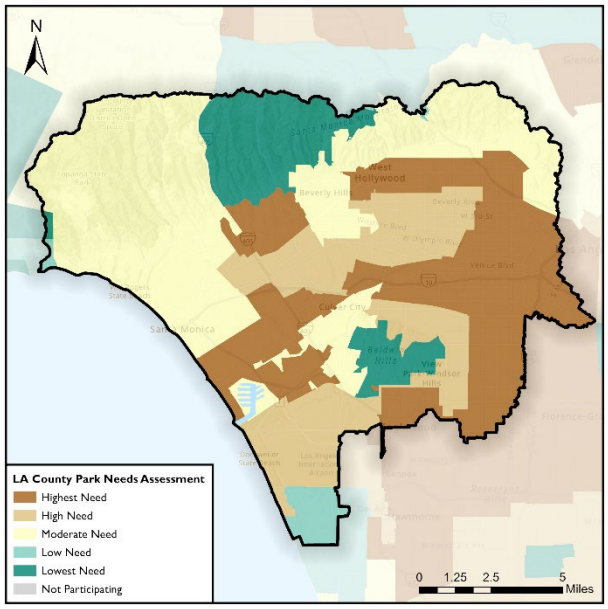
The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

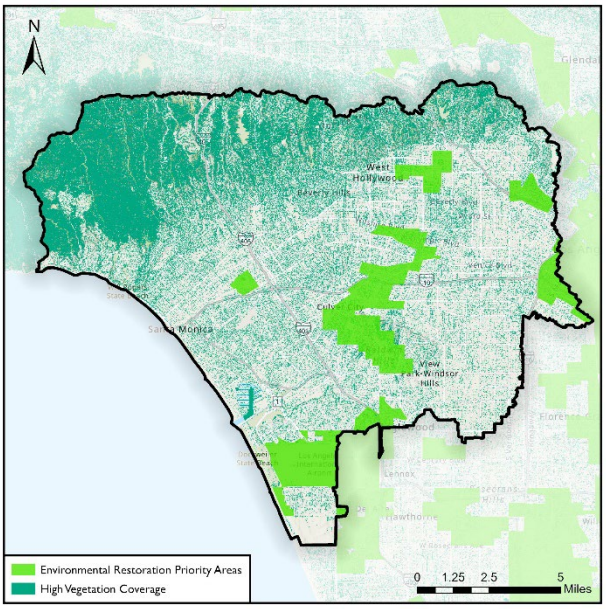
Indicators and Initial Benefits

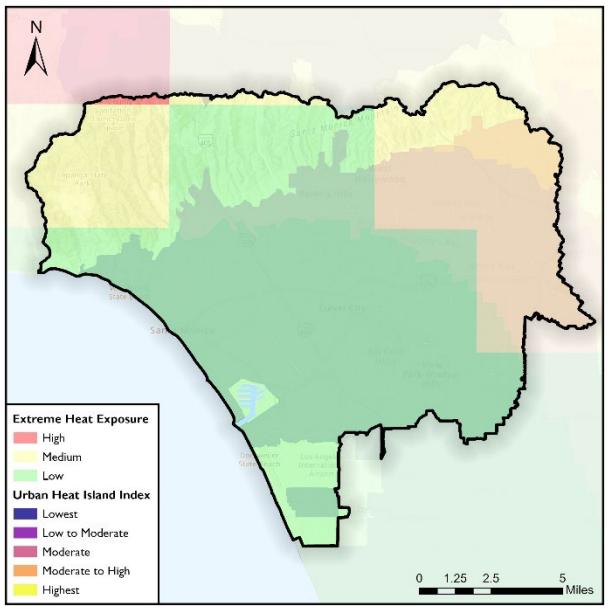
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks could be built in densely developed coastal areas which could include stormwater elements to treat drainage areas not previously managed by other projects
- Restoration Priority Areas that overlap areas with High Park Needs areas would be locations to target multi-benefit projects
- Heat exposure is worse in the upper areas of the Watershed Area with a medium to high heat exposure; adding vegetation here could be valuable

Place-Based Measures (CSMB)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

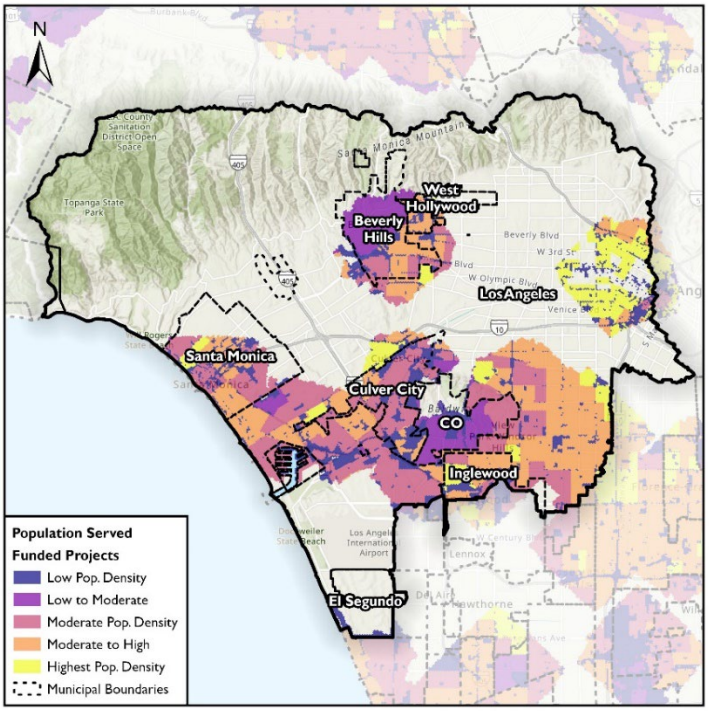
The following Targets can be evaluated using Place-Based Measures:

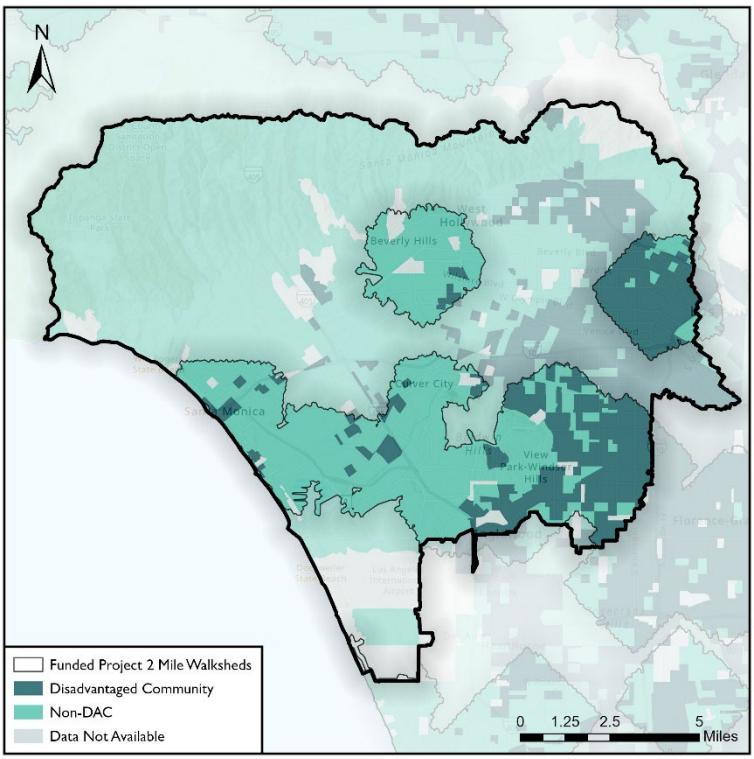
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
45% (minimum percentage of total benefits to Disadvantaged Communities)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

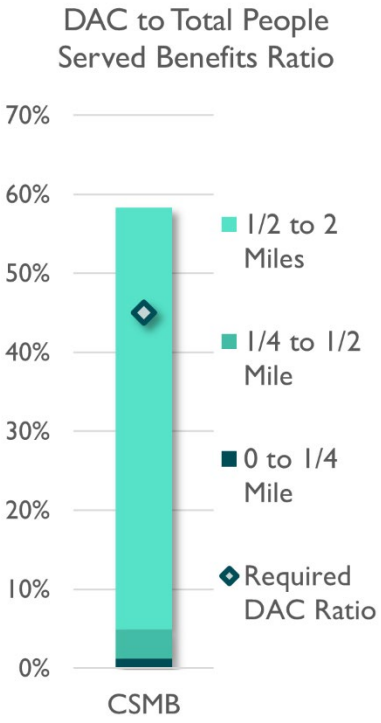
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

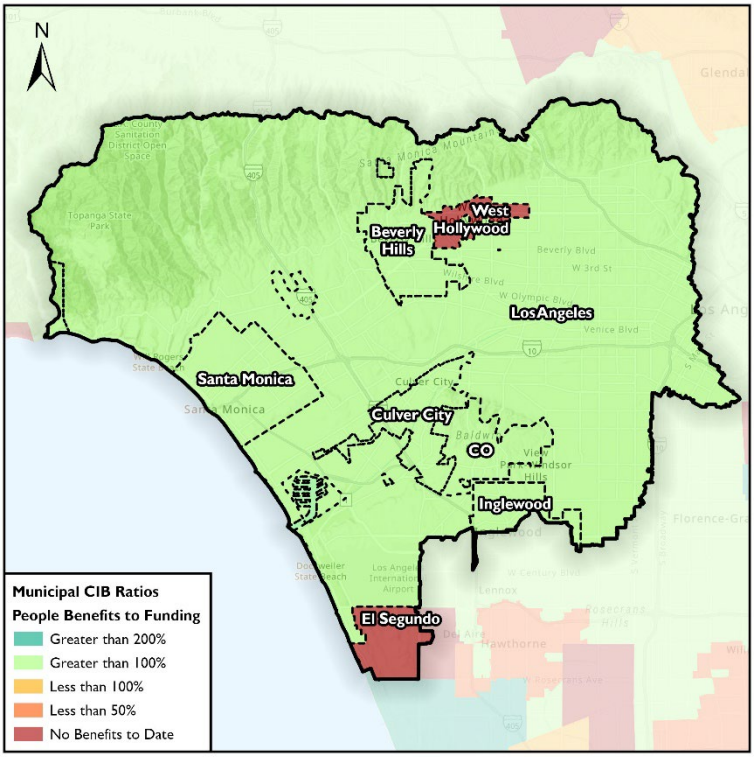
Initial Benefits

Over 977,000 (47%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 58% of Community Investment “People-Benefits” may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funded SCW Program projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown on the map on the following page:

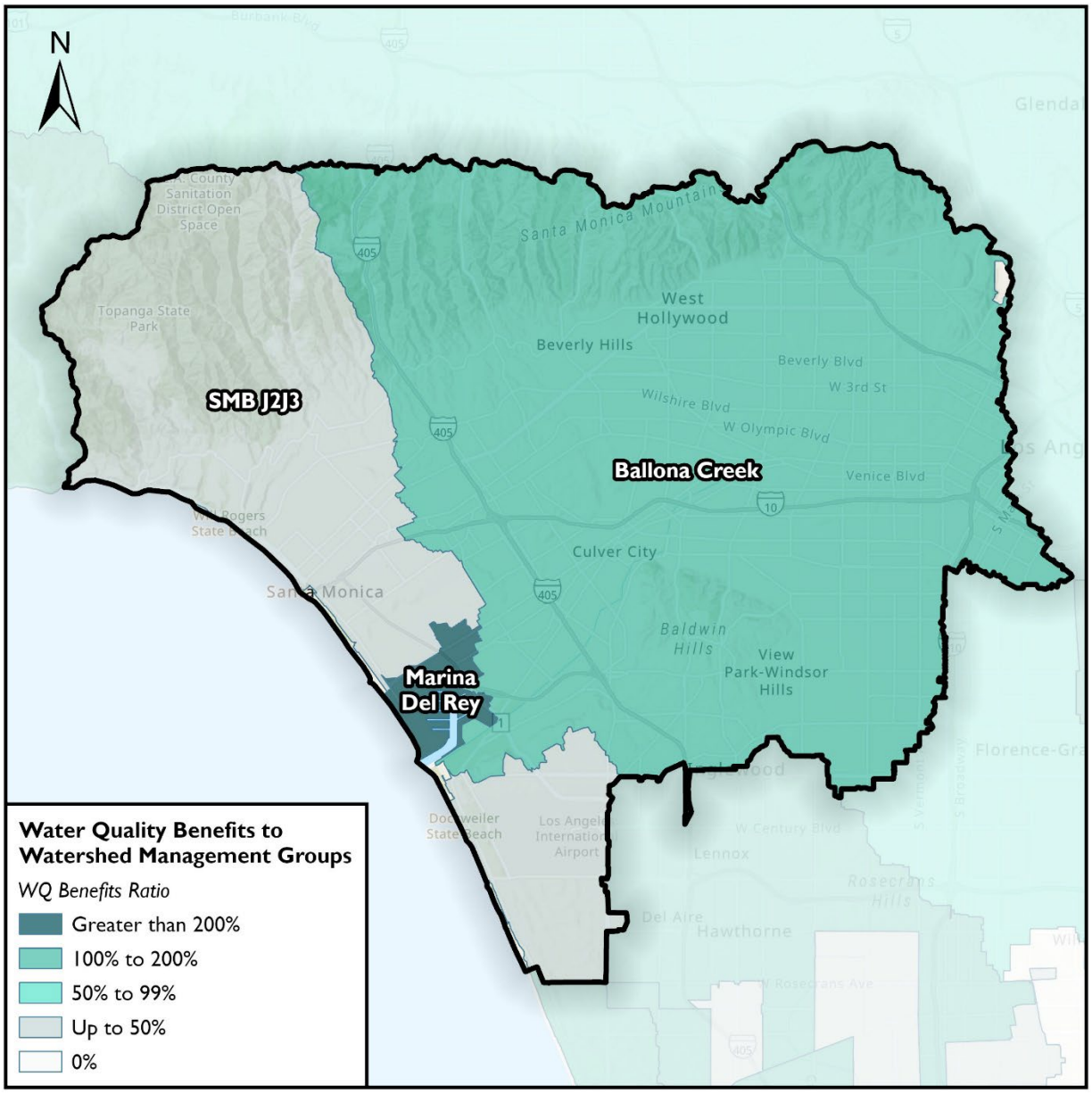
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Ballona Creek	415 lbs/yr Total Zinc reduction	113%
Marina Del Rey	31 lbs/yr Total Zinc reduction	340%
Santa Monica Bay J2/J3	24 lbs/yr Total Zinc reduction	27%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as the eastern areas of West Hollywood). See the map above highlighting Disadvantaged Communities and the areas between funded project walksheds. Additionally, the results suggest that the Santa Monica Bay J2/J3 may be receiving Water Quality benefits from Regional Program projects that are disproportionately low compared to the prorated funding generated in each WMG's Municipalities.

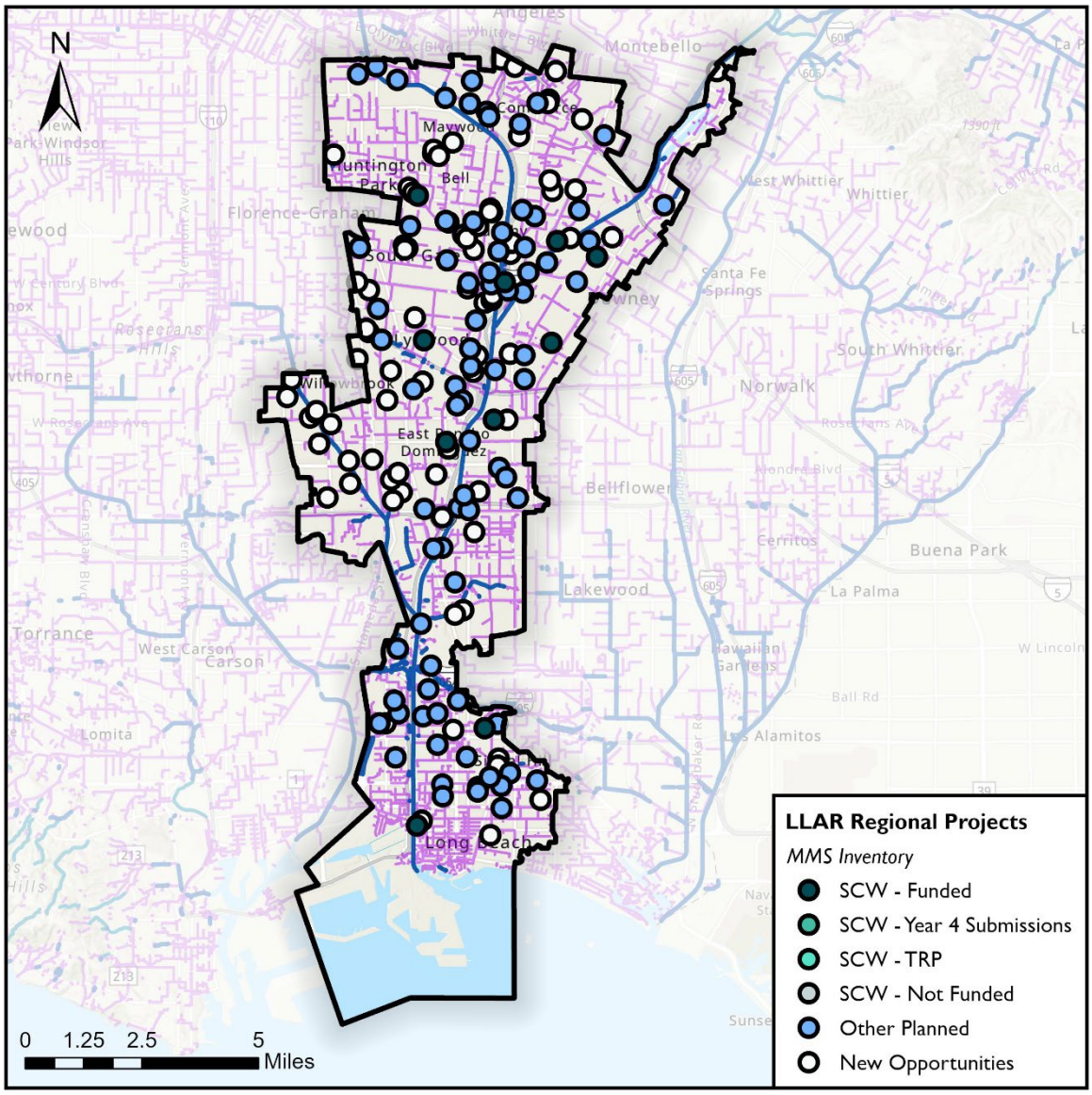


Map shows how Water Quality Benefits to Watershed Management Groups are distributed across the Watershed Area.

Lower Los Angeles River

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~60,500 total acres

58% impervious

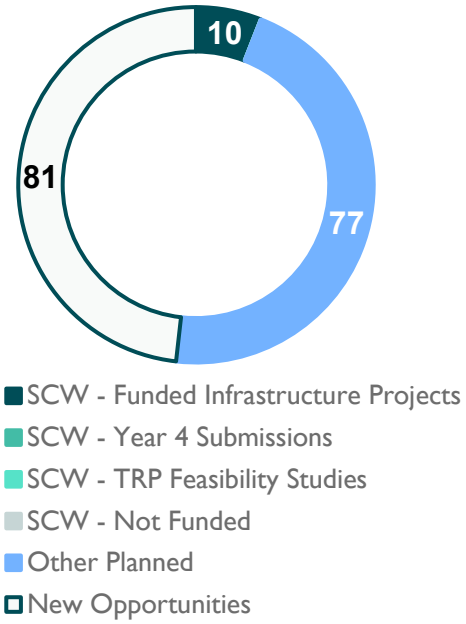
10 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

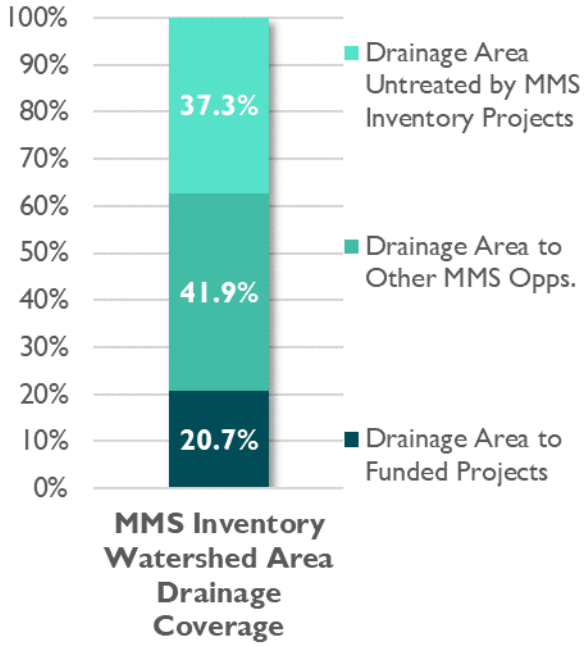
168 Total Project Opportunities in MMS Inventories

Major Tributary: L.A. River

Multiple, localized drainage outfalls to draining to mainstem

MMS Inventory by Status





Watershed Area Projects Characteristics:

10 SCW Program projects with momentum

12,500 acres of Watershed Area treated by SCW Program funded projects

158 additional opportunity projects from MMS Inventory to be considered

25,400 acres of Watershed Area potentially treated by additional opportunity projects

22,600 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (LLAR)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

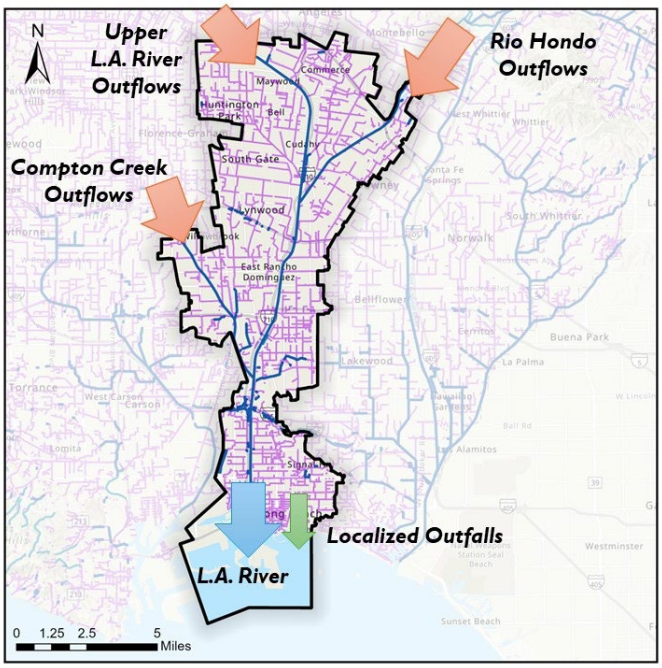
Targets

Water Quality Objective:
159.0 µg/L Total Zinc
(Los Angeles River and Tributaries Metals TMDL Wet Weather Targets derived from acute CTR criteria using median hardness of 80 mg/L specified in Staff Report)

Avg. Annual Zinc Load:
85,060 lbs/year

Approx. # Wet Days:
36.7/year

Indicator:
10,810 lbs/year Total Zinc Reduction



Initial Benefits

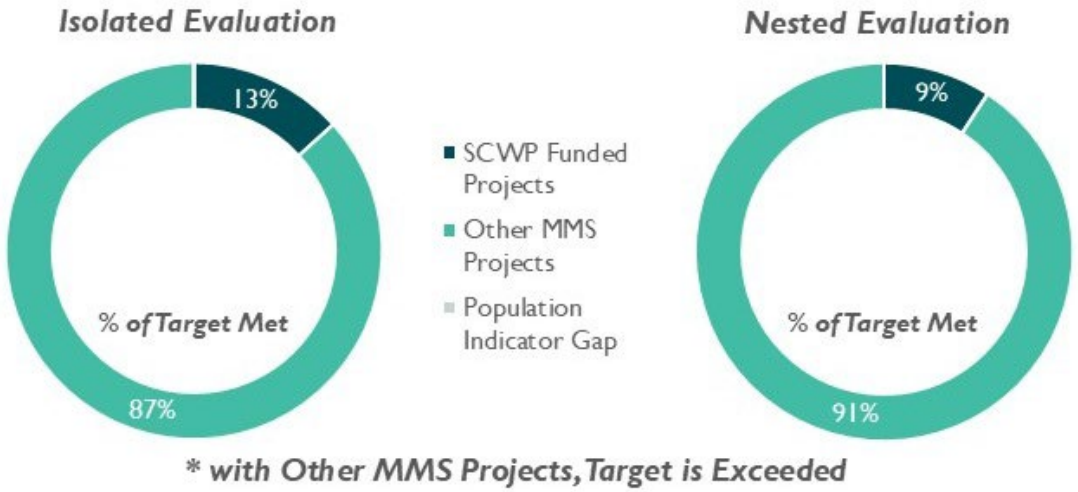
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

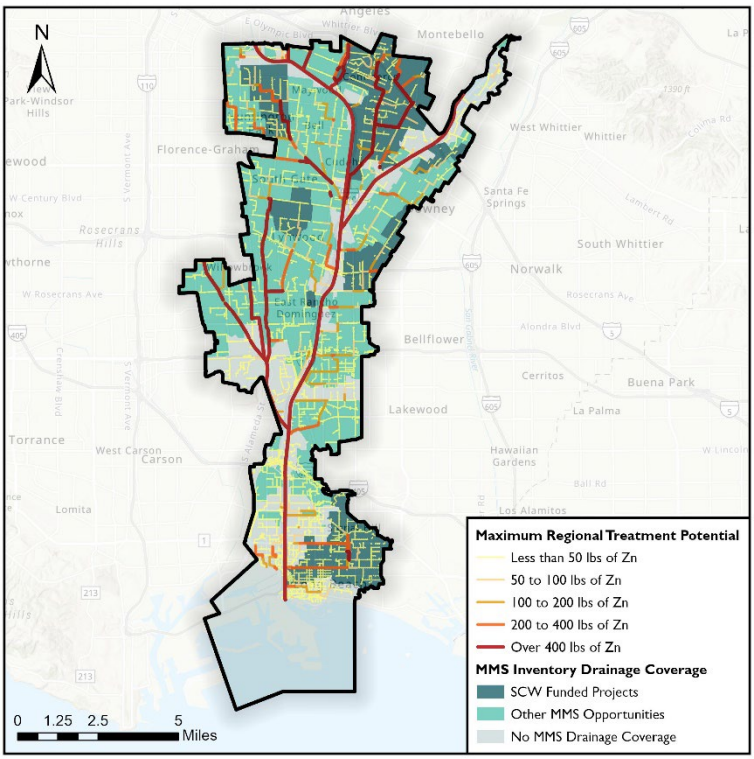
10
SCWP Funded Projects
(Regional & TRP projects)

1,430 lbs/yr
Total Zinc Removed
(pursuant to Indicator)

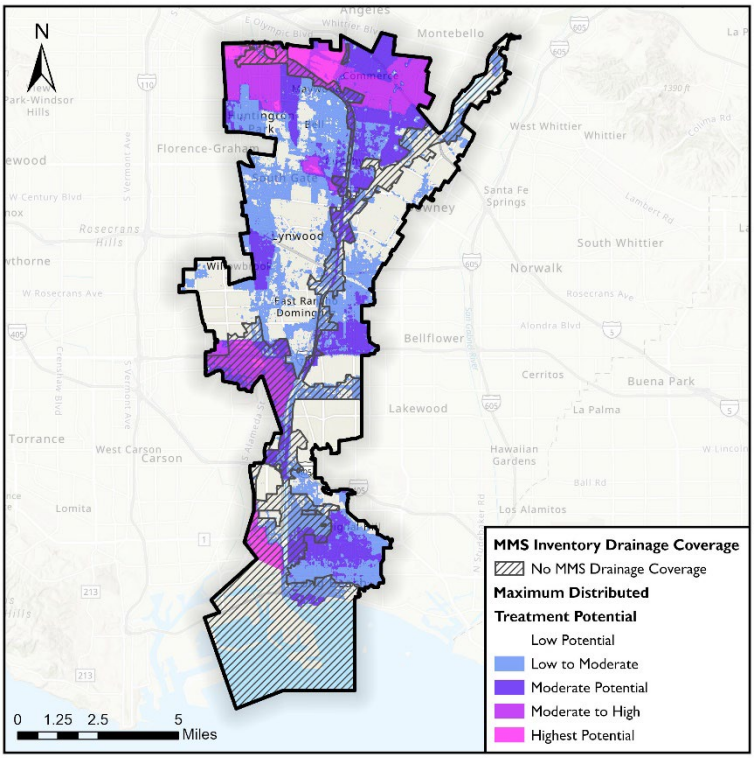
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



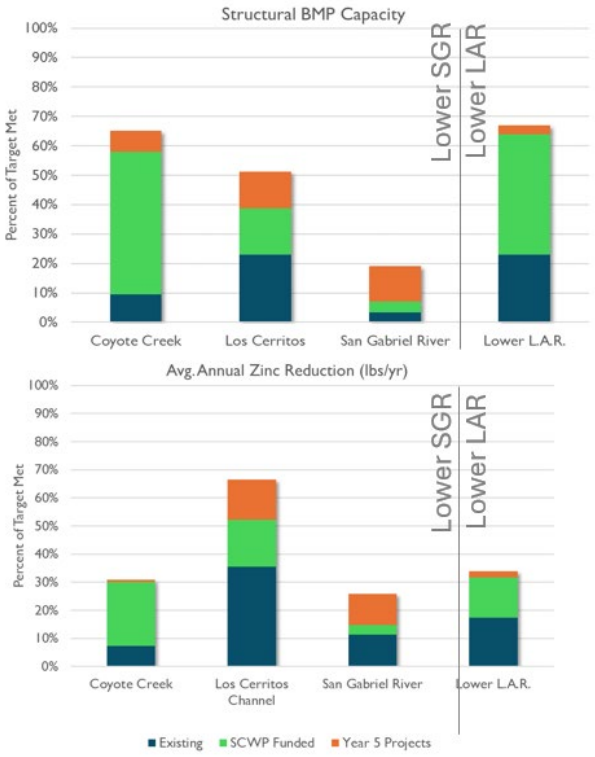
Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

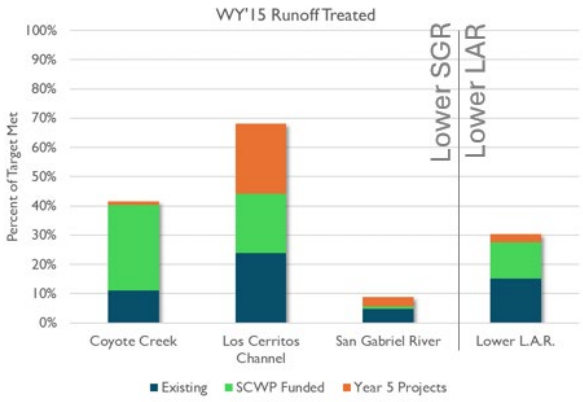
Key Watershed Needs & Opportunities

- MMS inventory projects are extensive and will help planners focus on the next best opportunities in this Watershed Area
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects, targeting projects with larger drainage areas along outfalls with high pollutant loadings
- A few areas of the Watershed Area were largely untreated by projects in the MMS inventory. These are near Compton Creek and Rio Hondo confluences with the LA River as well as towards the South near the harbor. These areas could be prioritized for further project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the Lower LA River watershed

Key Findings – GAP Scientific Study (LLAR)

The Gateway Area Pathfinding (GAP) Scientific Study provides a wealth of project planning information for the LLAR and LSGR Watershed Areas in developing project inventories, evaluating options, highlighting a range of performance and progress metrics, and arming decision-makers with information that is useful in advancing the next best projects each year for their Watershed Areas. One of the key findings of this study that is relevant to these efforts has been the programmatic assessment of progress made in these watersheds by different metrics. Some of these are based on equivalency metrics provided in the Watershed Management Programs (WMPs) while others are focused directly on measures of pollutant reduction as recommended in MMS. ***The variability of progress by different metrics in different areas of the Watershed Areas is shown below. These differences are related to varying project treatment efficiencies in different portions of the Watershed Areas that may treat cleaner or dirtier water depending on the overall pollutant loading.*** Focusing decisions directly on pollutant reductions is the best way towards ensuring actions have the intended outcome of water quality improvement.





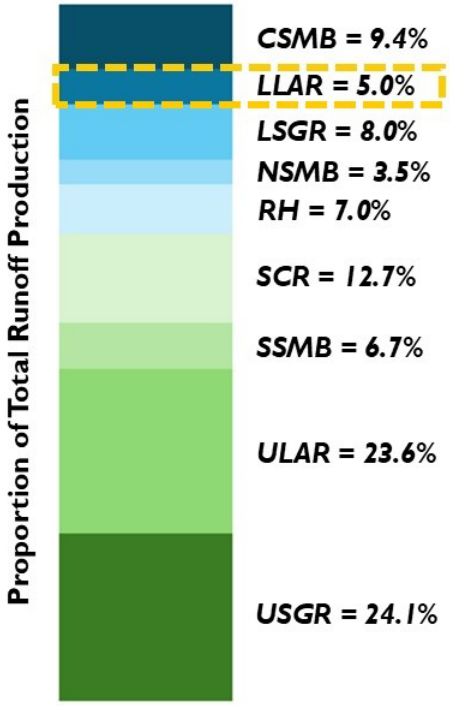
Project progress evaluated by structural BMP capacity (top left), runoff capture (top right), and pollutant reduction (lower left) highlight variability related to metrics used. Focusing on pollutant reduction in evaluation and decision-making will ensure watershed actions are oriented towards cleaner water.

Water Supply (LLAR)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the LLAR Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

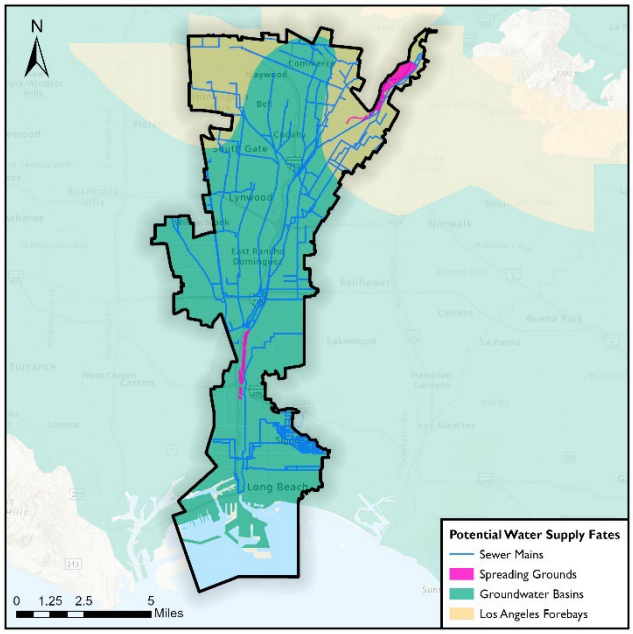
Avg. Annual Local Runoff:
37,300 ac-ft/year

Watershed Area Runoff %:
5.0% (of 746,000 ac-ft/year total)

Indicator:
15,000 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

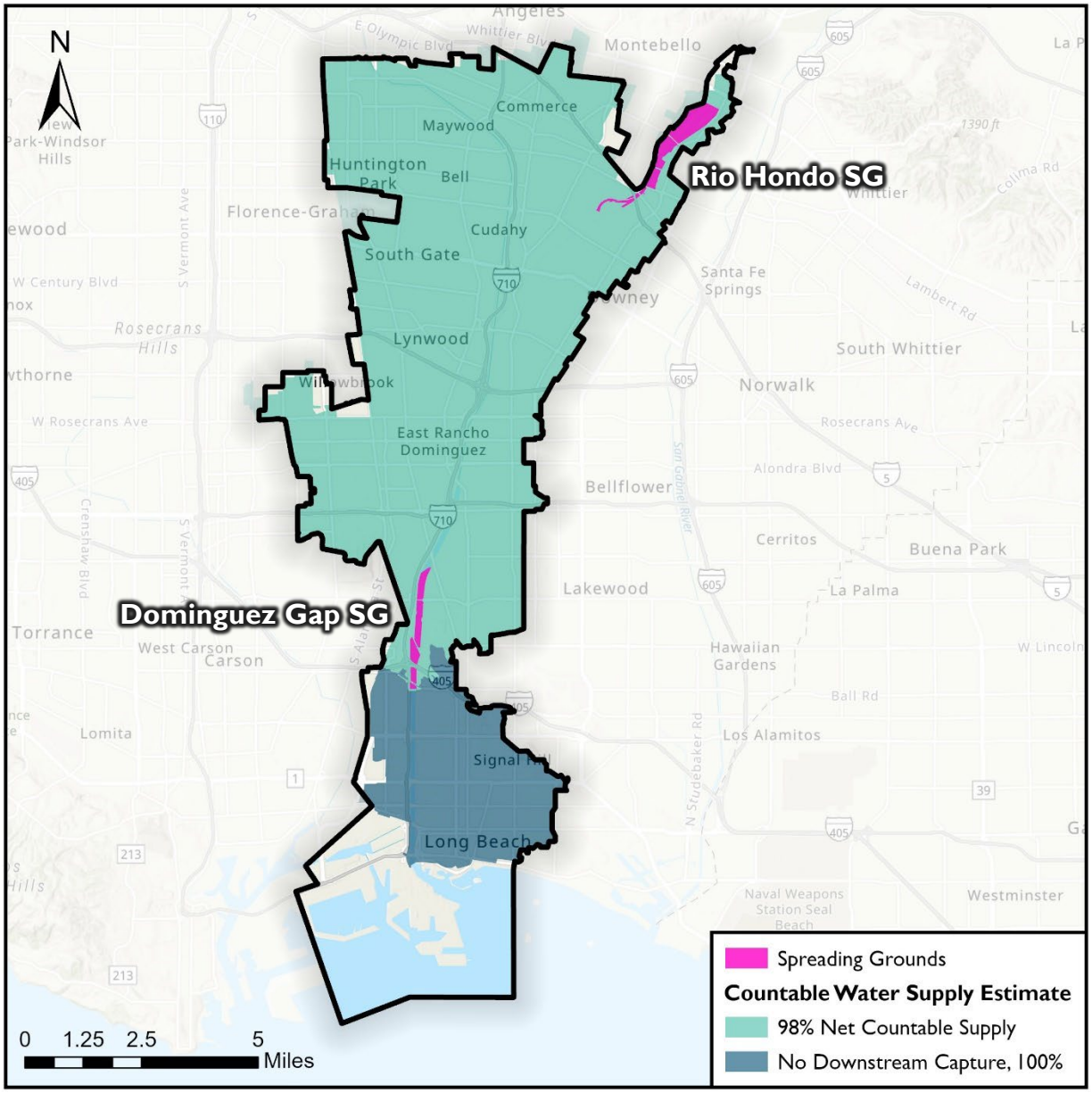
Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. MMS analysis calculated appropriate ratios to use to make these adjustments (see table). ***For LLAR Watershed Area, adjustments are needed to account for the Dominguez Gap Spreading Grounds and have been highlighted spatially in the map below.***

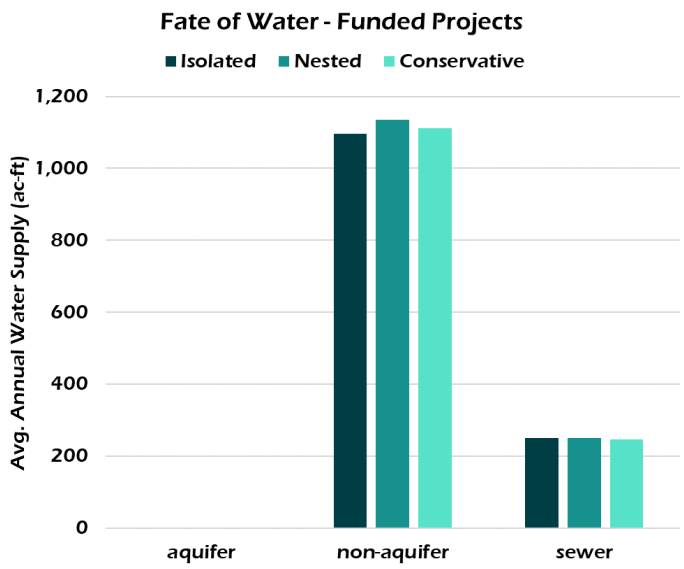
Existing Modeled Capture	Net Countable Supply Upstream
Dominguez Gap SG	98%

The map below highlights adjustments that were used to adjust project runoff capture to produce a conservative estimate to account for runoff already captured by existing facilities. Baseline modeling indicated that existing facilities captured approximately 2% of incoming runoff, making ~98% of capture upstream countable.



Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

1,385 ac-ft/year

(all fates included, no adjustment)

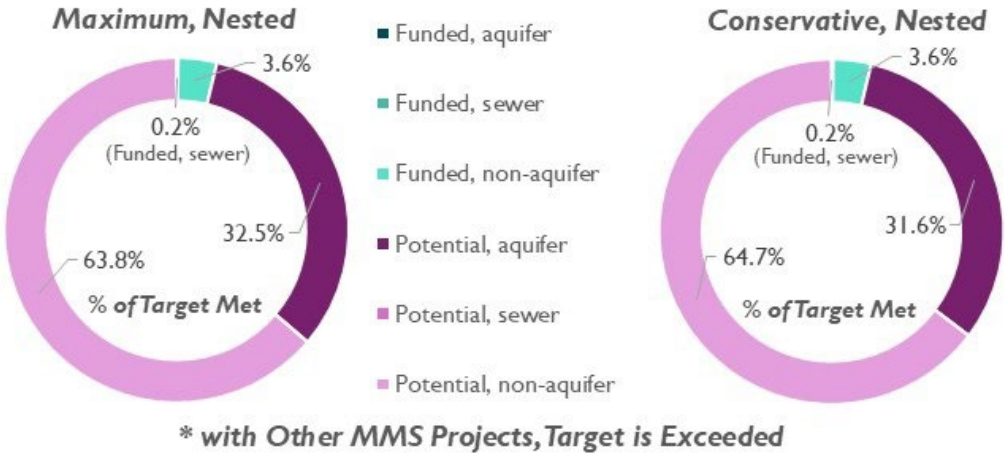
Conservative Adjusted Water Supply Estimate:

245 ac-ft/year

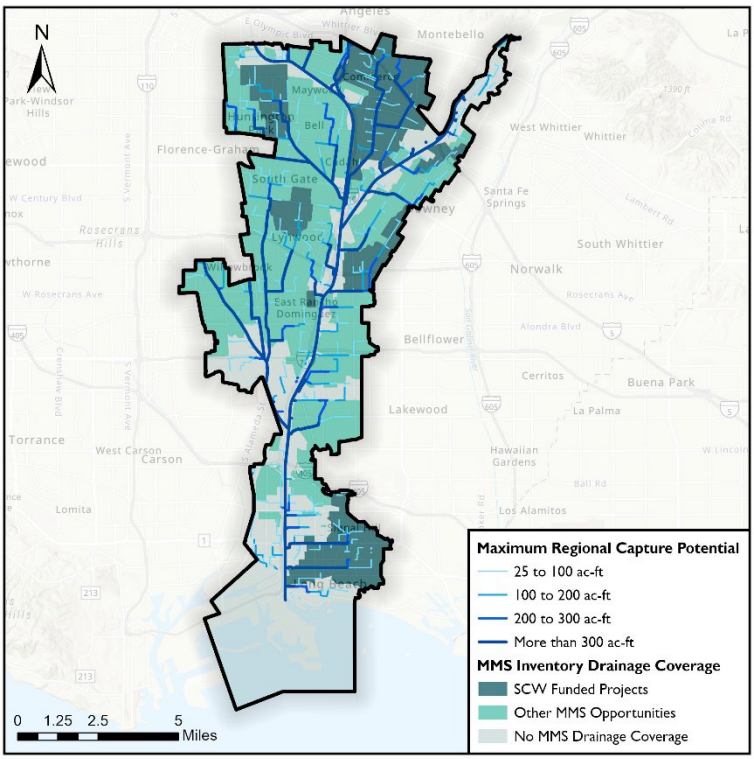
(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure.

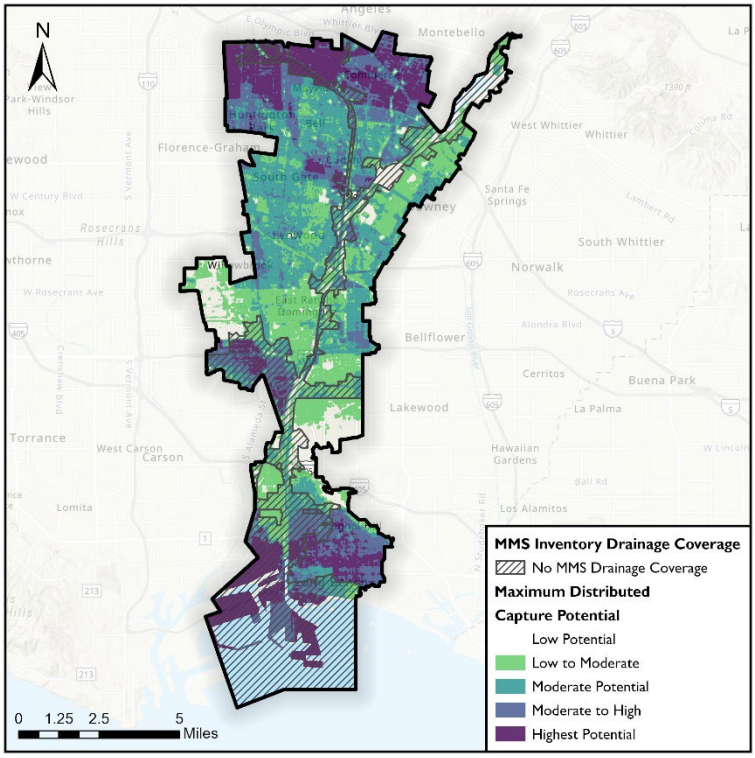


** with Other MMS Projects, Target is Exceeded*



Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- There are a few small portions of the Watershed Area with unconfined aquifers where the Los Angeles groundwater forebays underlay the watershed to the North
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Depending on final definitions of countable supply, MMS inventory projects may be sufficient to meet water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but forebay areas are a good location to begin pursuing additional projects.
- Targeting larger storm drains where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. This may be challenging in this watershed as feasible capture from large channels is difficult and drainage networks are shortened in this Watershed Area due to watershed geometry and terrain.

Community Investment Benefits (LLAR)

The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

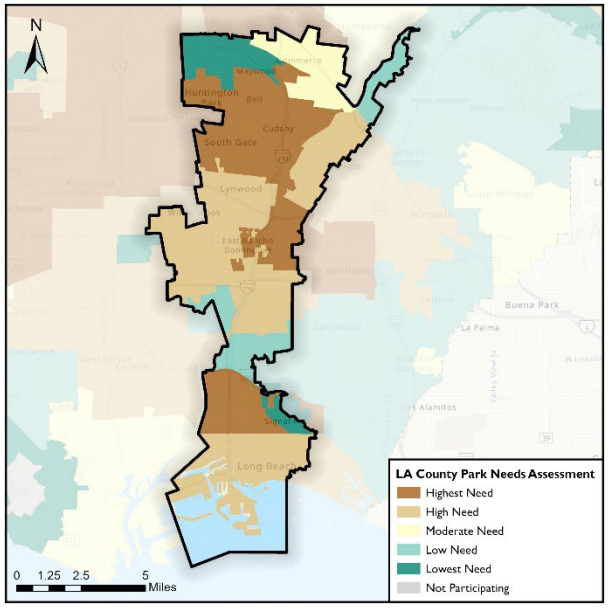
Indicators and Initial Benefits

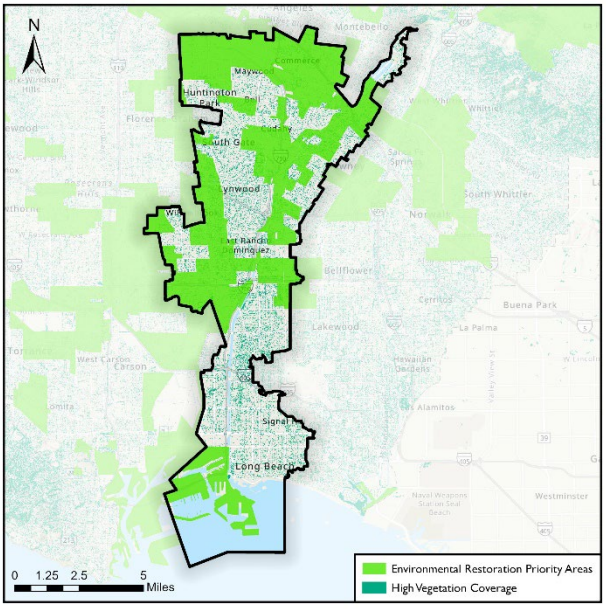
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

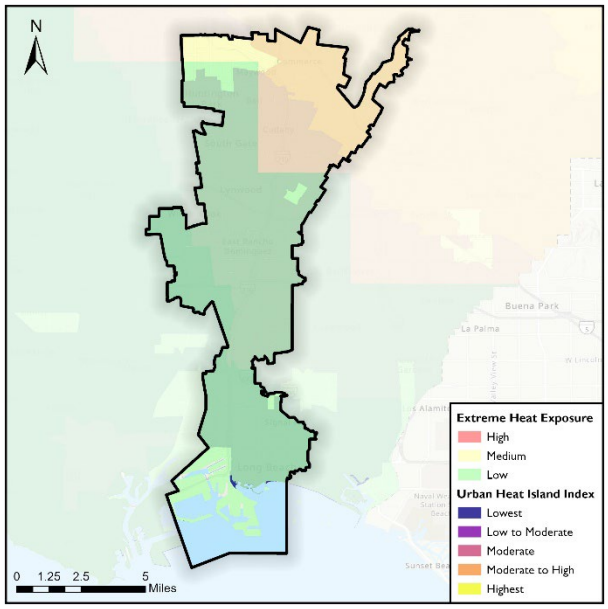
Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their measurement and quantification. The below maps are intended to begin to highlight

spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks are needed in most parts of the Watershed Area
- Restoration Priority Areas overlap areas with High Park Needs in the center of the Watershed Area and along the LA River itself; these locations would be multi-benefit places to target for improvement
- Heat exposure is worse in the uppermost areas of the Watershed Area with a Medium exposure to high heat; plant trees here

Place-Based Measures (LLAR)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

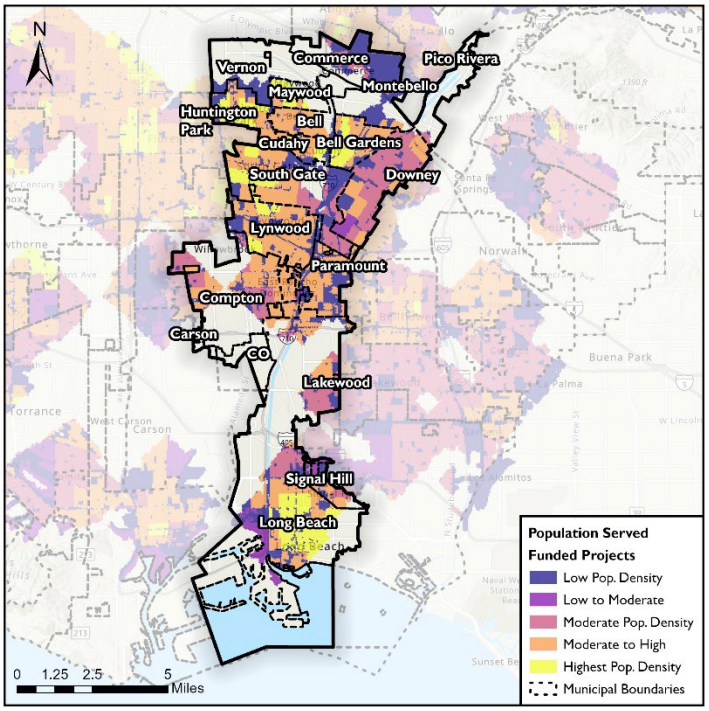
The following Targets can be evaluated using Place-Based Measures:

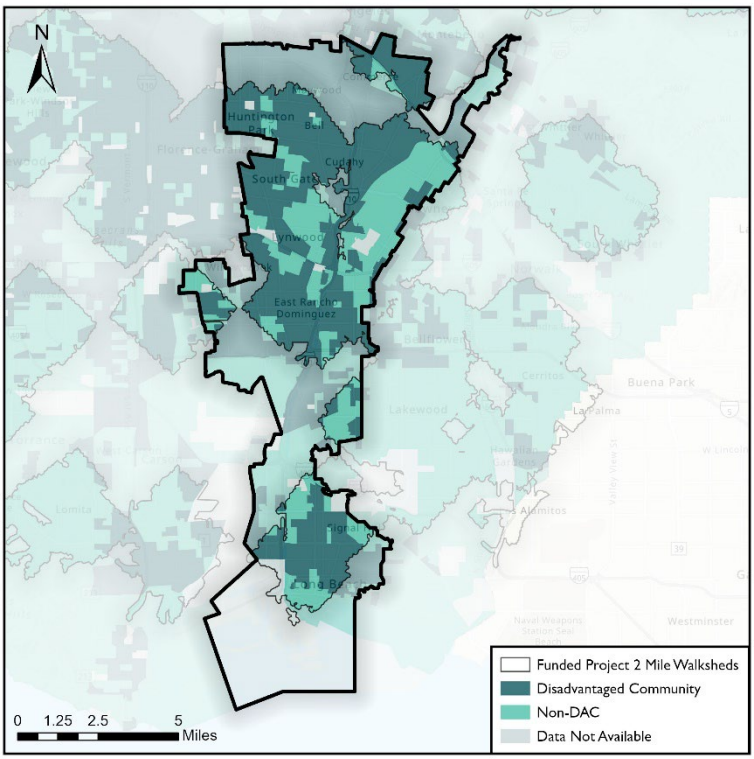
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
67% (minimum percentage of total benefits to Disadvantaged Communities)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

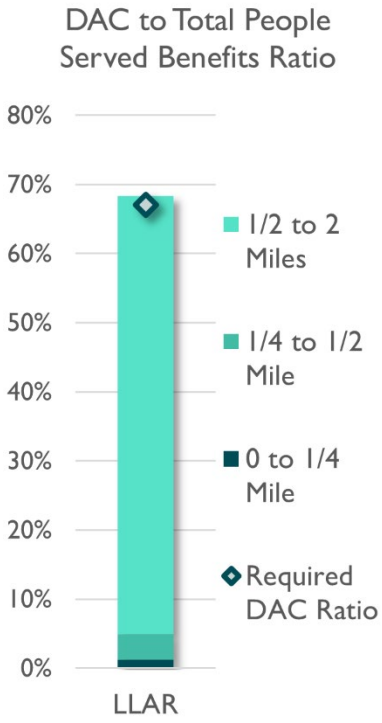
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

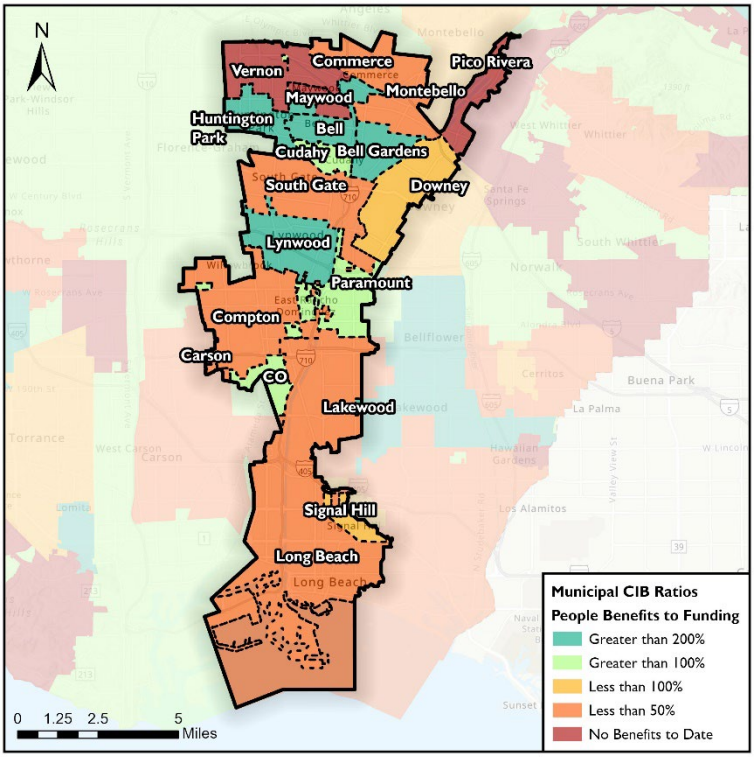
Initial Benefits

Over 771,000 (74%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 68% of Community Investment "People-Benefits" may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page.

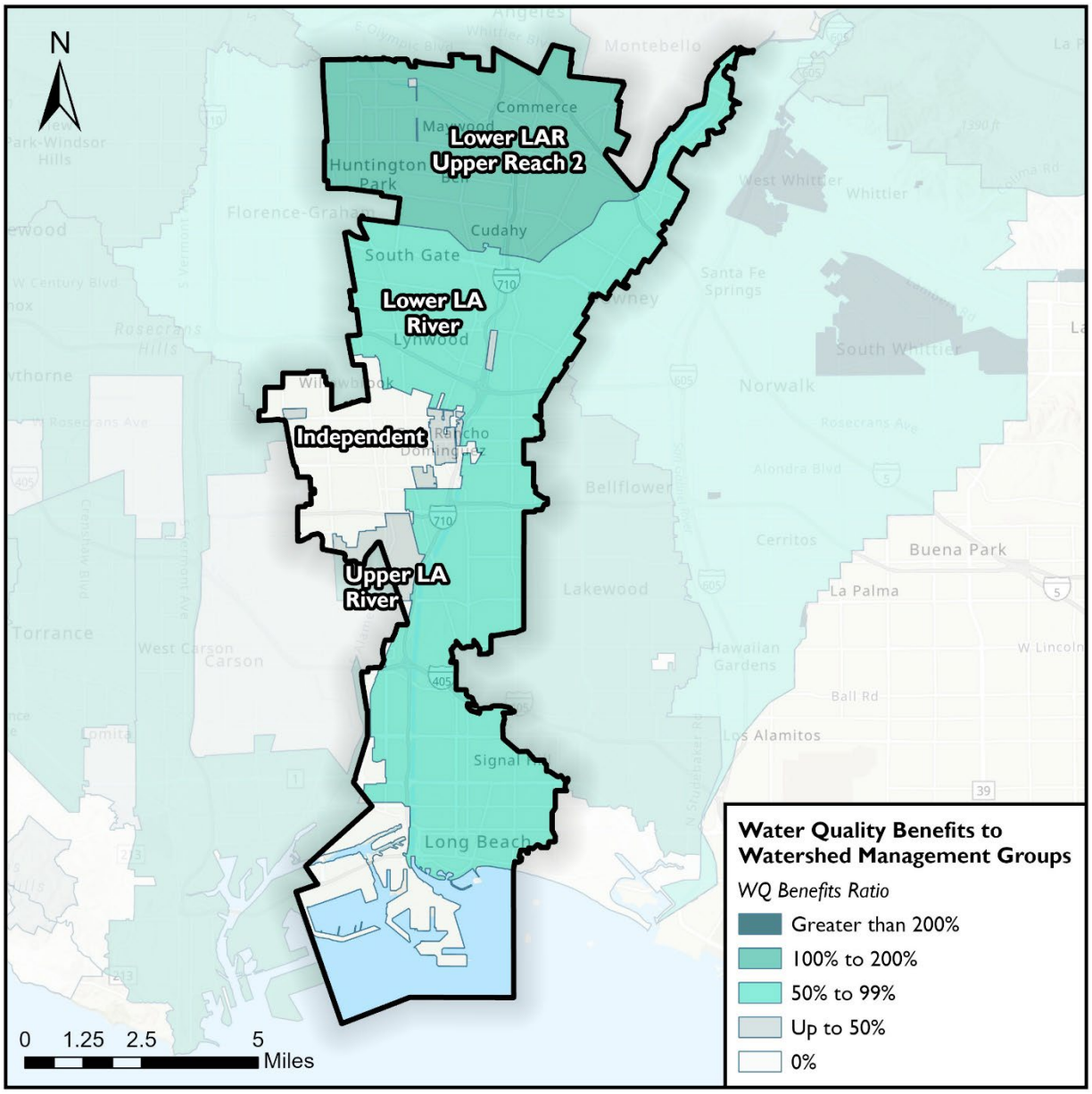
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Lower LA River	558 lbs/yr Total Zinc reduction	84%
LA River Upper Reach 2	862 lbs/yr Total Zinc reduction	181%
Upper LA River	11 lbs/yr Total Zinc reduction	25%
Independent Municipalities	0 lbs/yr Total Zinc reduction	0%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as near the LA River in Compton or Lakewood). See the map above highlighting DAC communities and these areas between funded project walksheds. Additionally, the results suggest that the Independent Municipalities in the Watershed Area and areas in thearepper LA River WMG may be receiving Water Quality benefits from Regional Program projects that is disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.

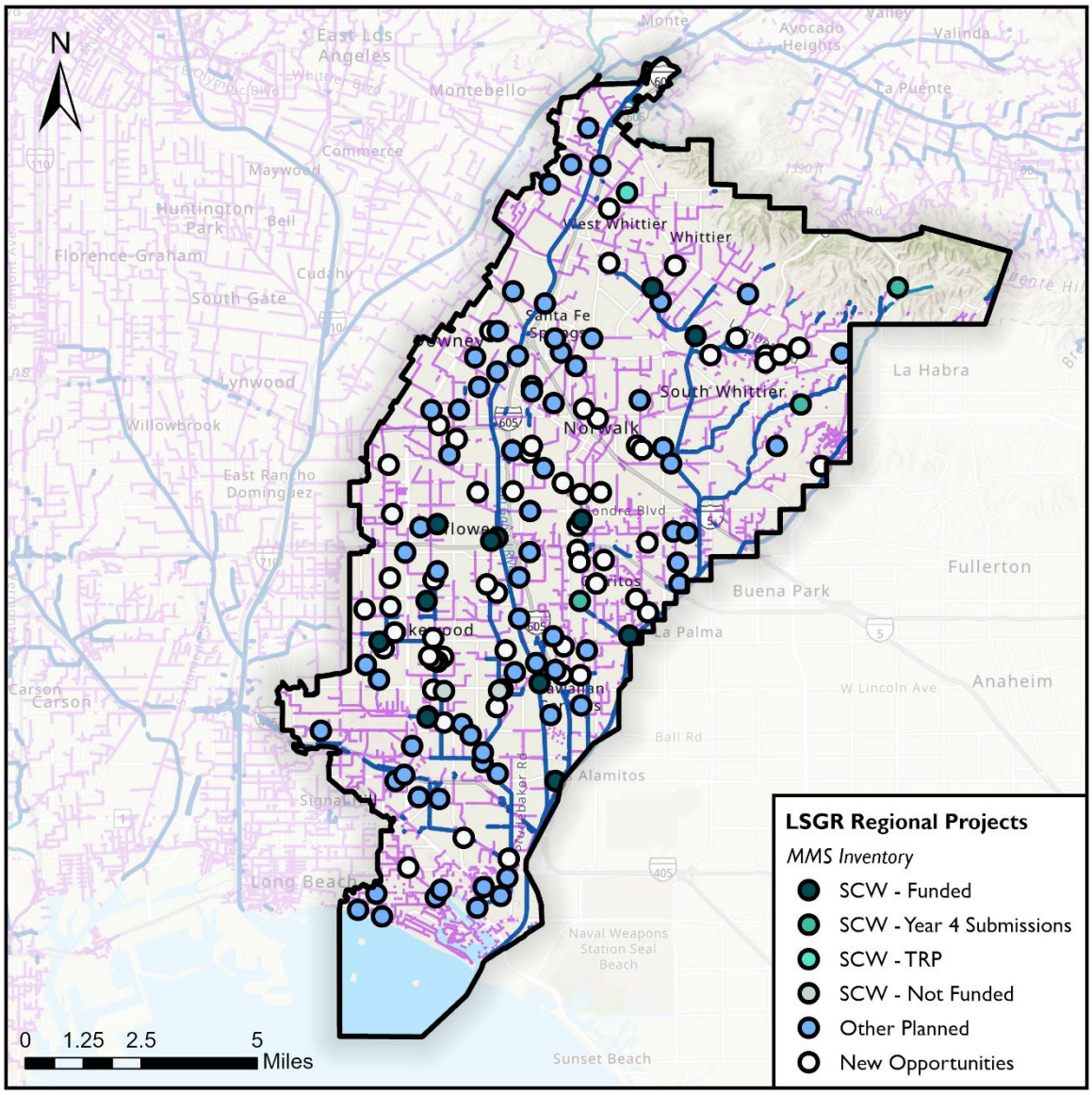


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

Lower San Gabriel River

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~84,500 total acres

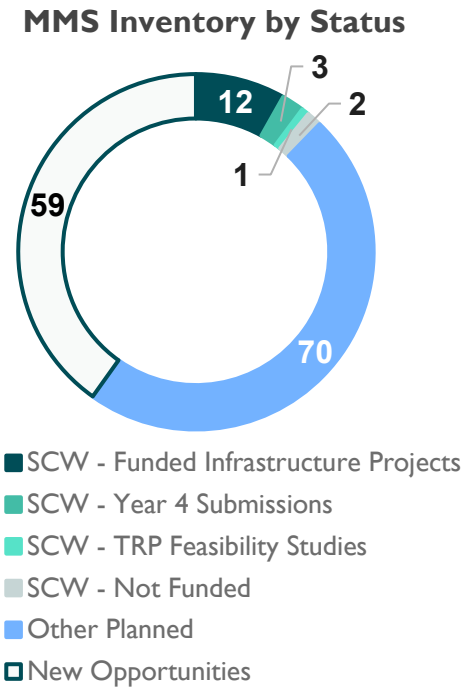
44% impervious

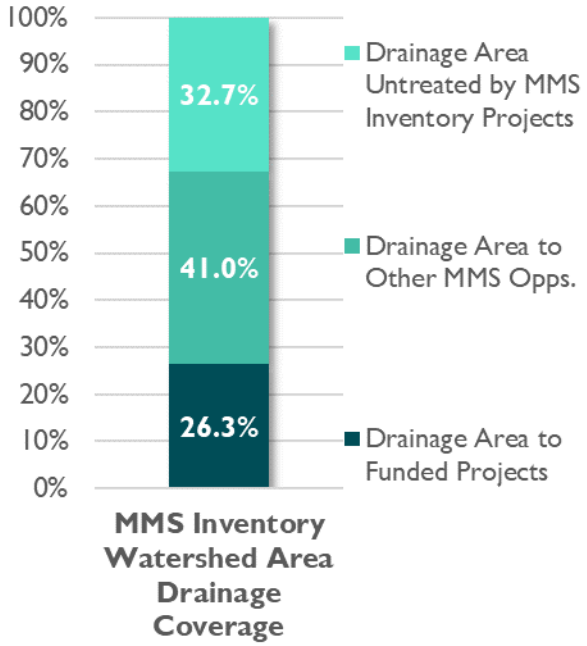
13 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

147 Total Project Opportunities in MMS Inventories

Major Tributary: San Gabriel River

Los Cerritos Channel & Coyote Creek drain large areas





Watershed Area Projects Characteristics:

13 SCW Program projects with momentum

22,300 acres of Watershed Area treated by SCW Program funded projects

134 additional opportunity projects from MMS Inventory to be considered

34,600 acres of Watershed Area potentially treated by additional opportunity projects

27,600 acres of the Watershed Area is not yet treated by SCW Program funded projects

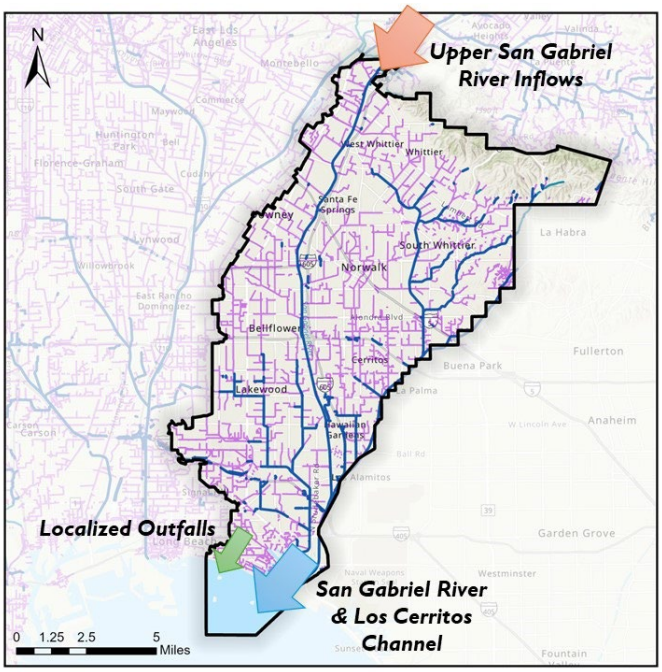
Water Quality (LSGR)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

Targets

Water Quality Objective:
192.5 µg/L Total Zinc (mainstem)
95.6 µg/L Total Zinc (Los Cerritos)
(San Gabriel River Metals TMDL Wet Weather Targets derived from acute CTR criteria using median hardness of 175 mg/L specified in USEPA TMDL; Los Cerritos Channel Targets w. median hardness of 27 mg/L specified in Staff Report)

Avg. Annual Zinc Load:
47,110 lbs/year
Approx. # Wet Days:
37.2/year
Indicator:
17,930 lbs/year Total Zinc Reduction



Initial Benefits

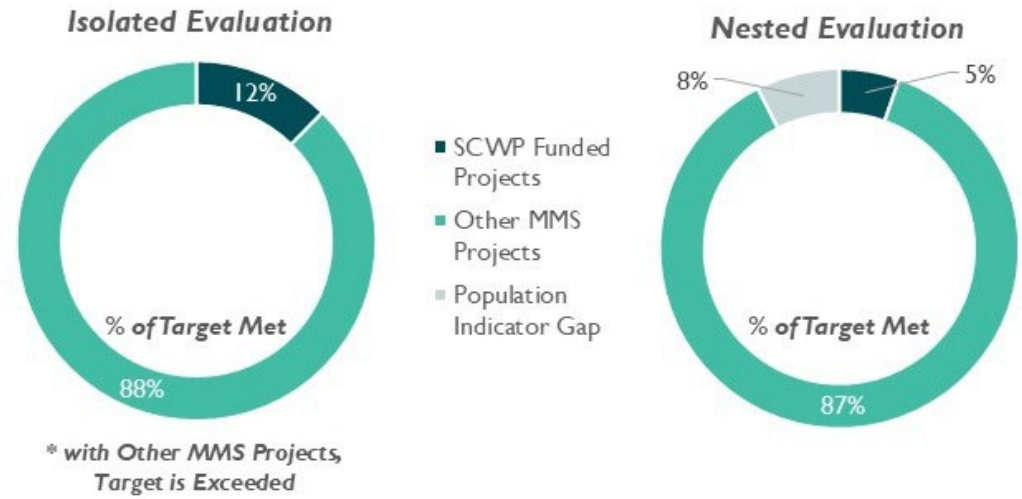
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

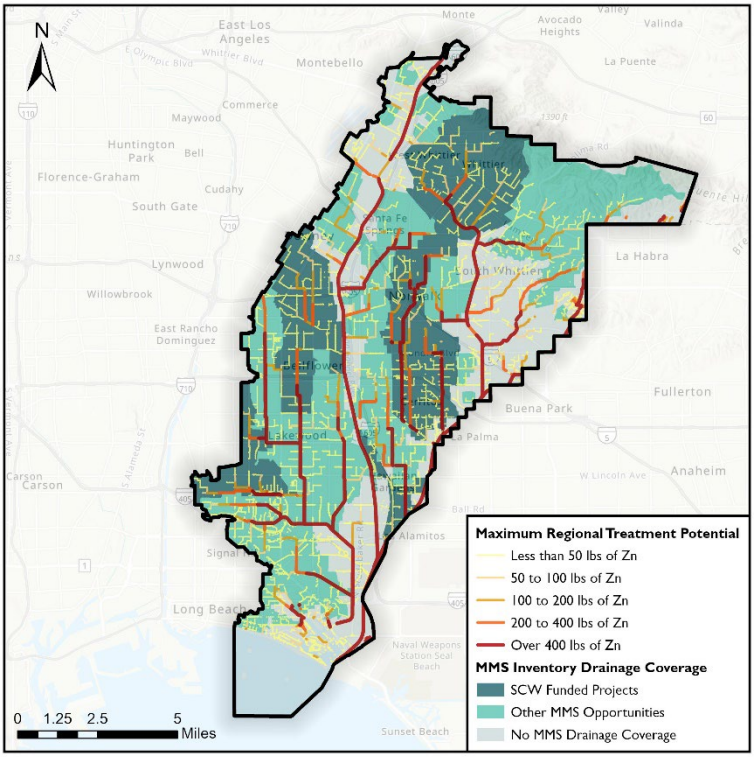
13
SCWP Funded Projects
(Regional & TRP projects)

2,185 lbs/yr
Total Zinc Removed
(pursuant to Indicator)

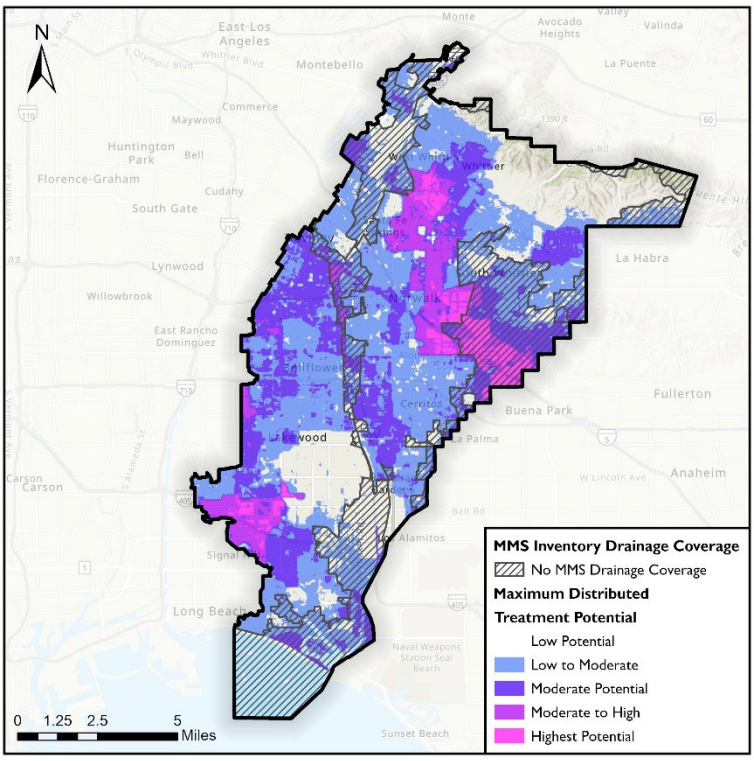
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

Key Watershed Needs & Opportunities

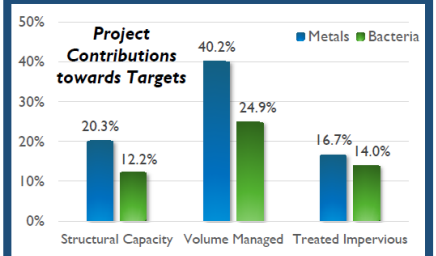
- MMS inventory projects may need to be supplemented with additional project opportunities if example Indicators are to be met given nested impacts of project interaction.
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects
- Areas near the mainstem of the San Gabriel River, tributary to Coyote Creek, and close to the ocean outfalls near Alamitos Bay were largely untreated by projects in the MMS inventory. These areas could be prioritized for project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the Lower San Gabriel River watershed

Key Findings – GAP Scientific Study (LSGR)

There are a variety of different metrics that can be used to evaluate stormwater projects and compare alternatives. Assessing the additional benefits of what a new project will contribute to the watershed overall is a good way to decide what to do next. However, project interactions and how benefits scale is a necessary consideration as goals are pursued and watersheds get built out with multiple projects that may capture stormwater from overlapping drainage areas. The nested effects, interactivity of projects in runoff capture and pollutant reduction, and net watershed benefits provided by projects to be evaluated in relation to projects already existing or planned is important to fully contextualize and understand the benefits of additional project options. Analysis in the GAP Scientific Study did just that, evaluating projects by accepted metrics and in isolation, but also providing the net effects of the projects towards overall pollutant reduction goals. ***Net effects are not always easy to predict depending on project size, configuration, and position relative to other projects, and they are not always predictable in magnitude or even direction (positive or negative) compared to isolated performance estimates. Modeling and accounting for these interactions is important in assessing project alternatives and tracking the overall progress of the watershed to understand the full picture of what's been done and what is possible.***

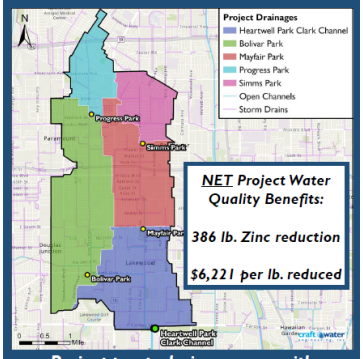
Heartwell Park at Clark Channel Stormwater Capture Project,
City of Long Beach
Storage Volume: 30.0 ac-ft **Diversion Rate:** 100 cfs (BI0009 Unit 3 Line A)
Treatment: 15.68 cfs pumped filtration
Additional Features: Natural recirculation stream, wetland cells, native tree/shrub plantings

WMP CONTEXT



WMP Metric	Los Cerritos Metals Target	Los Cerritos Bacteria Target
Structural	148.06 ac-ft	244.96 ac-ft
Volumetric	2,246 ac-ft (WY15)	3,625 ac-ft (WY15)
Treated Area	6,495 acres	7,751 acres

WATERSHED CONTEXT



Project treats drainage area with multiple existing and funded projects upstream that work as a system.

SAFE CLEAN WATER CONTEXT

Score	Project Criteria	Project Value(s)	Points
Water Quality Part 1 (Dry-Weather)	Captures all dry-weather flows	Affirmative	20
Water Quality Part 2 (Dry-Weather)	Tributary Size	>200 acres	20
Water Supply Part 1	(Annualized Project Cost)/ (Avg. Annual Water Supply)	$2,403,263/ 38 = $63,244/ac-ft	2
Water Supply Part 2	Avg. Annual Water Supply Provided	38 ac-ft	5
Other Scores	Community Investment, Nature-Based Solutions, & Leveraging Funds	See SCWP Submission for Details	18
TOTAL			*65*

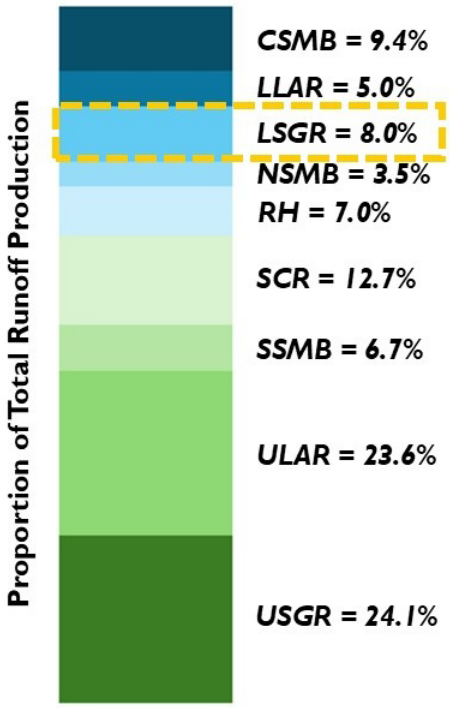
NOTE: Water Supply Scores developed using Alternative Scoring Rubric

Water Supply (LSGR)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the LSGR Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

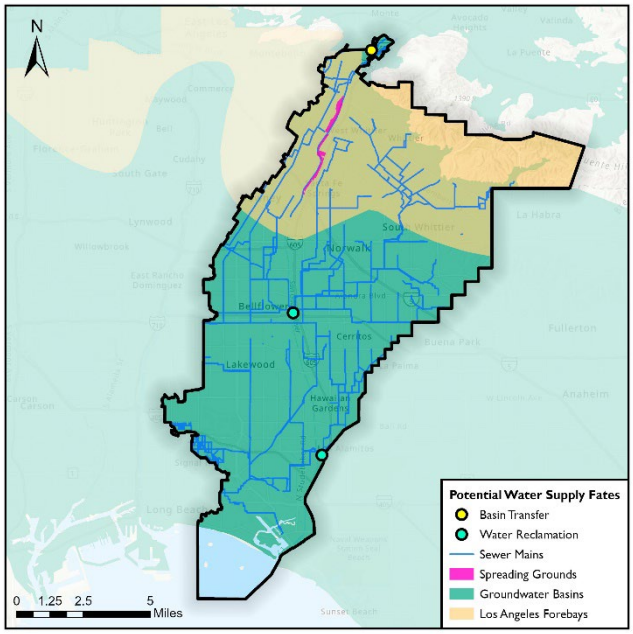
Avg. Annual Local Runoff:
60,000 ac-ft/year

Watershed Area Runoff %:
8.0% (of 746,000 ac-ft/year total)

Indicator:
24,000 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

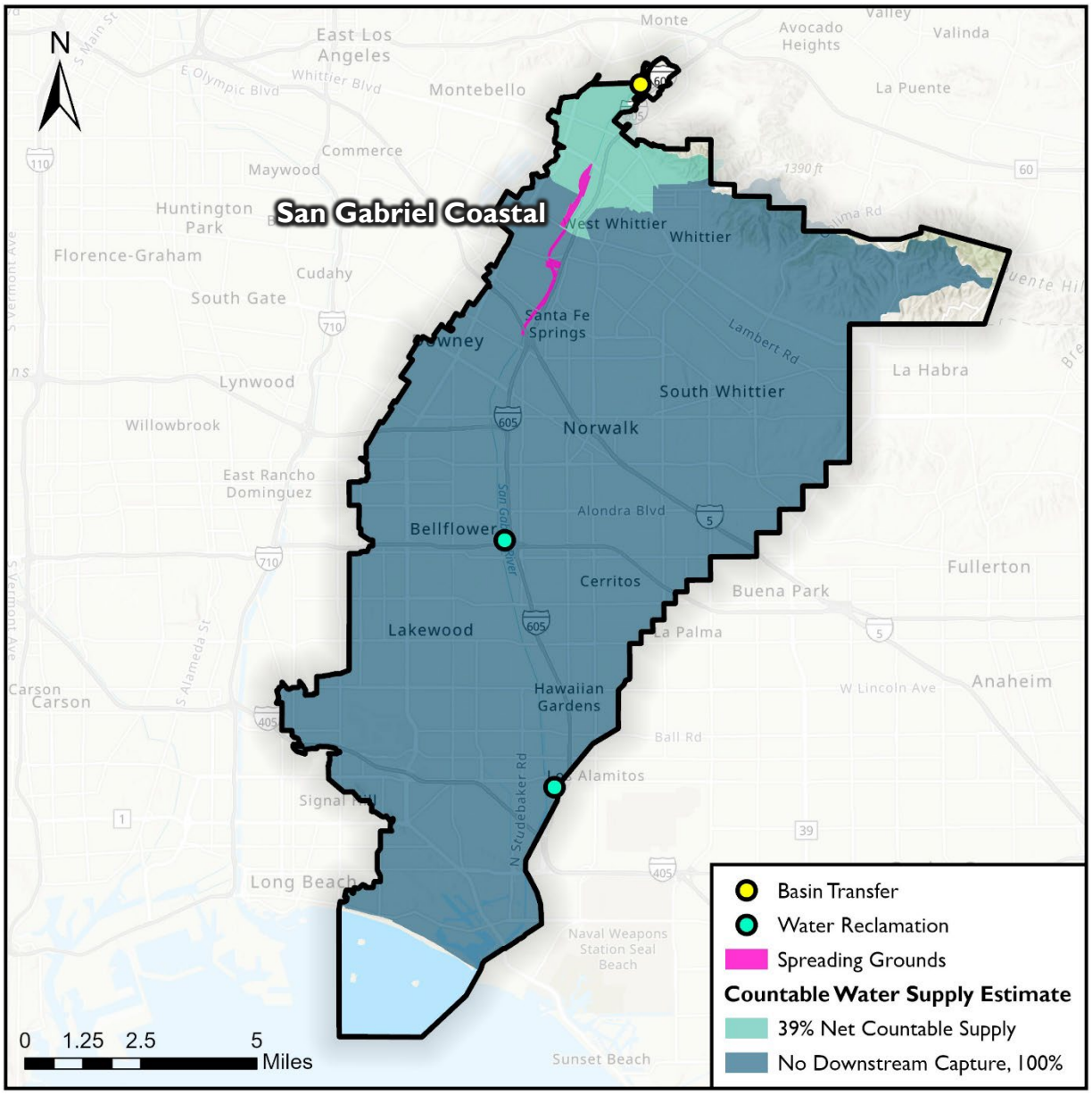
Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. MMS analysis calculated appropriate ratios to use to make these adjustments (see table). ***For this Watershed Area, adjustments are needed to account for the San Gabriel Coastal S.G. and have been highlighted spatially in the map below.***

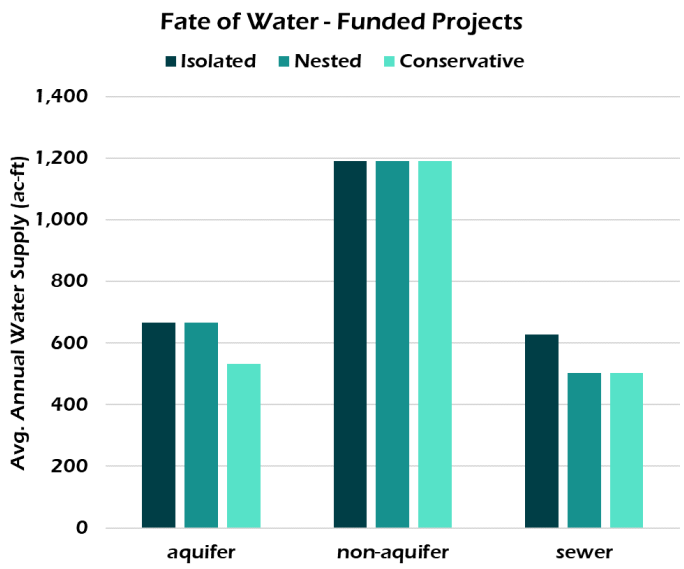
Existing Modeled Capture	Net Countable Supply Upstream
San Gabriel Coastal	39%

The map below highlights adjustments that were used to adjust project runoff capture to produce a conservative estimate to account for runoff already captured by existing facilities. Baseline modeling indicated that existing facilities captured approximately 61% of incoming runoff, making ~39% of capture upstream countable.



Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

2,360 ac-ft/year

(all fates included, no adjustment)

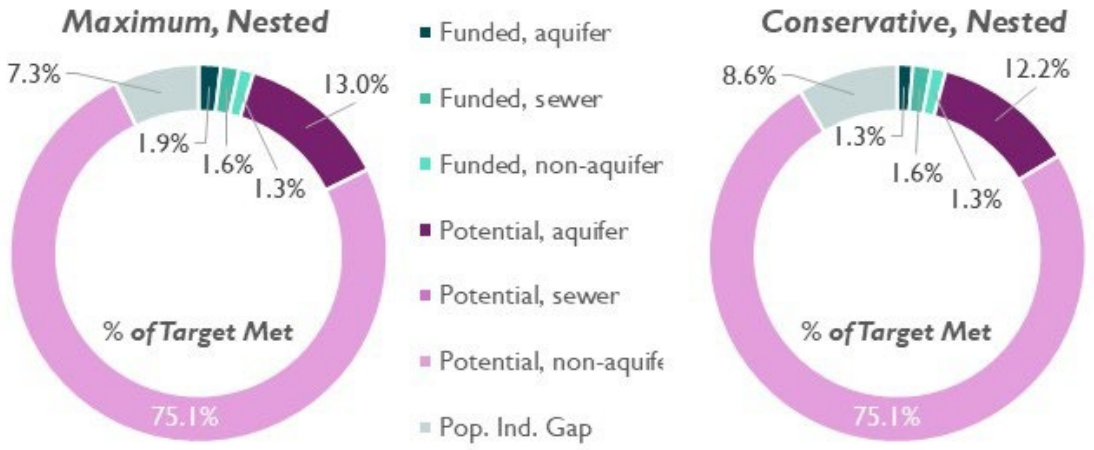
Conservative Adjusted Water Supply Estimate:

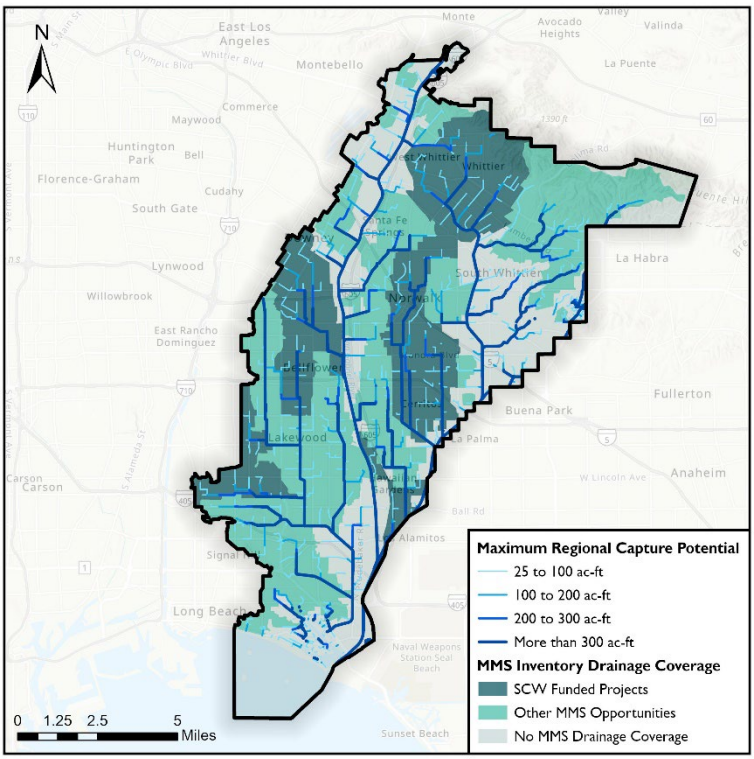
1,035 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

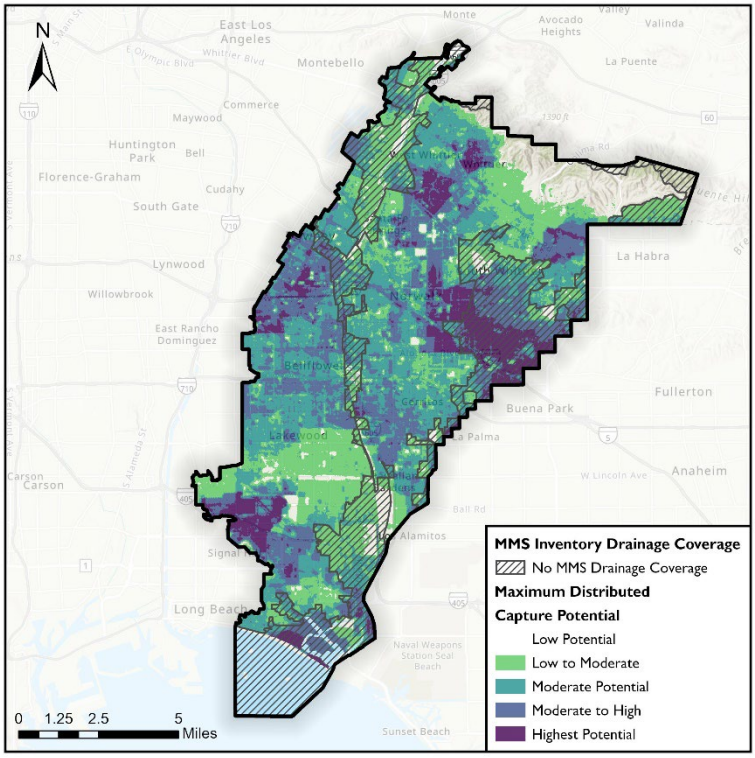
There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure.





Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- The northern third of the Watershed Area has unconfined aquifers where the Los Angeles groundwater forebays underlay the watershed boundary
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but coastal areas are still a good location to begin pursuing additional projects.
- Targeting larger storm drains in areas untreated by the MMS inventory where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Targeting infiltration projects in the northern end of the watershed where unconfined aquifers exist is advised. Projects with discharge to sanitary sewers are most likely to have countable supply and can be sited anywhere sewer capacity exists
- Existing capture at the San Gabriel Coastal spreading grounds should be encouraged, so focusing on projects outside of the area draining to these facilities will yield the highest net positive water supply capture for this Watershed Area

Community Investment Benefits (LSGR)

The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

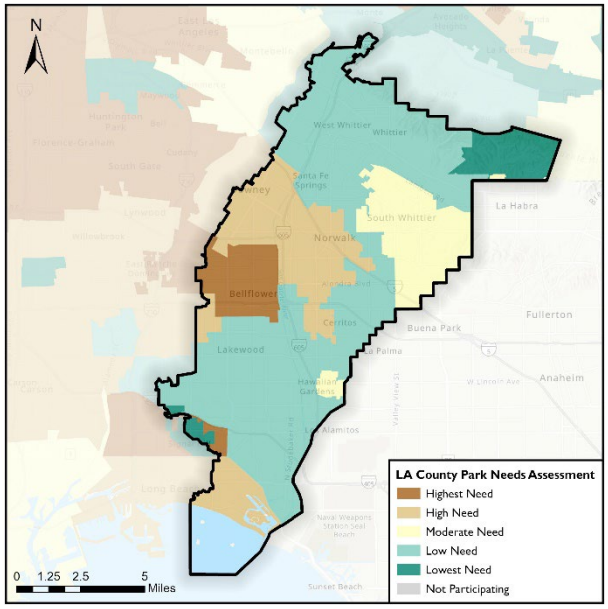
Indicators and Initial Benefits

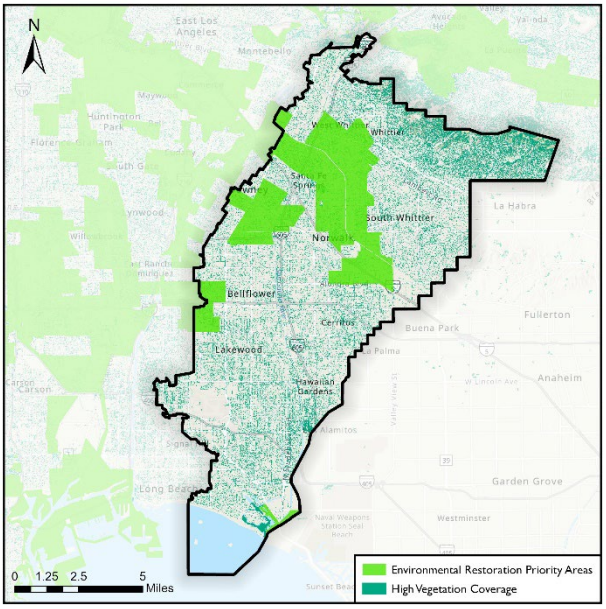
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

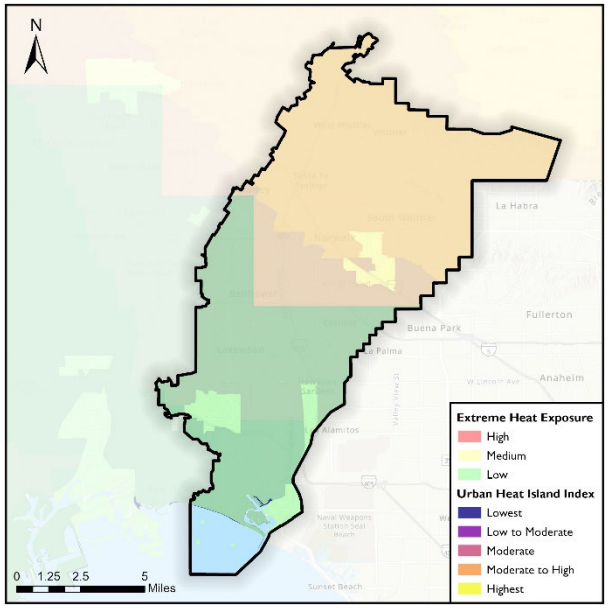
Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their

measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks needs are low overall in this Watershed Area but could be improved near the Downey, Bellflower, and Norwalk areas
- Restoration Priority Areas overlap areas with High Park Needs in these areas and would be multi-benefit places to target for improvement
- Heat exposure is worse in the upper areas of the Watershed Area with a Medium exposure to high heat; plant trees here where existing veg. is low

Place-Based Measures (LSGR)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

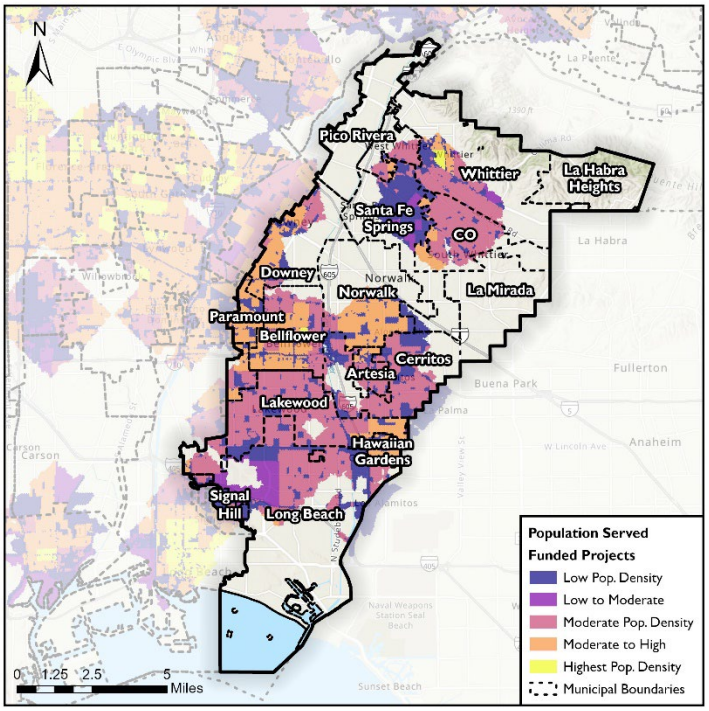
The following Targets can be evaluated using Place-Based Measures:

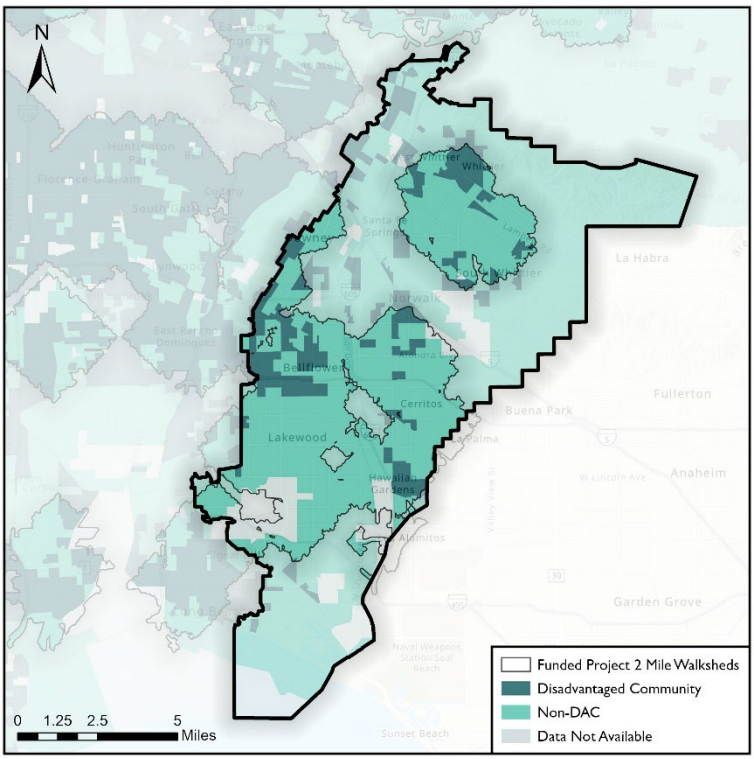
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
22% (minimum percentage of total benefits to Disadvantaged Communities)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

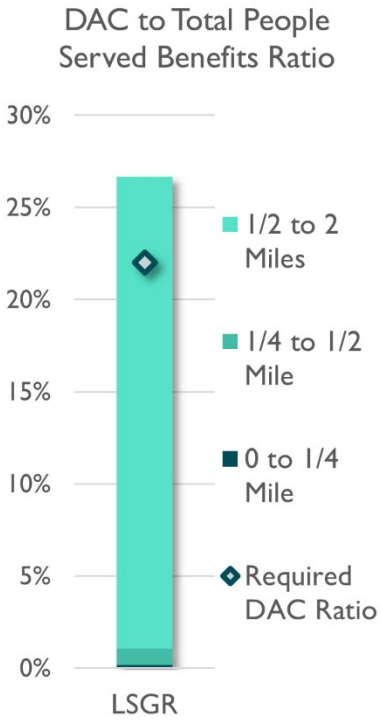
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

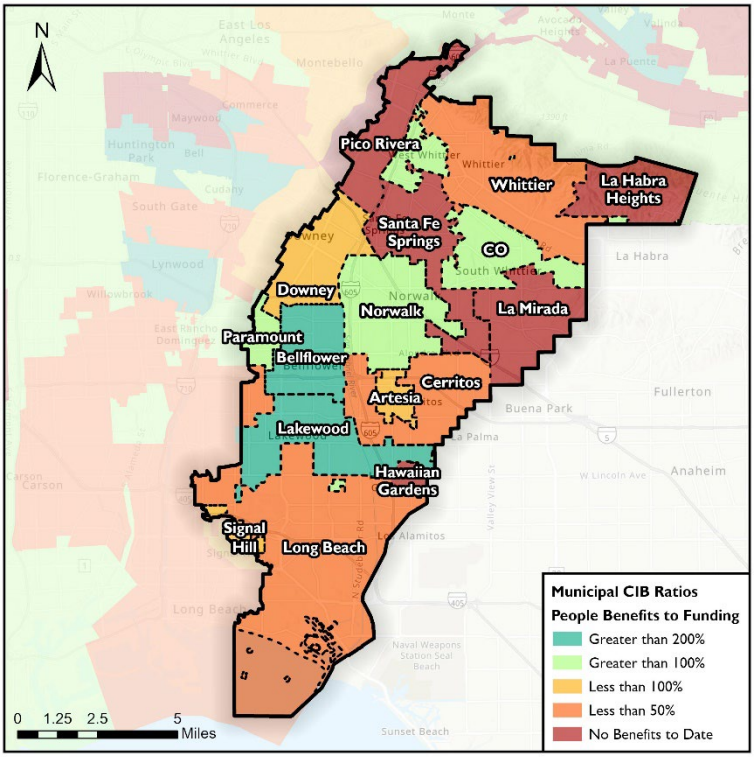
Initial Benefits

Over 546,000 (53%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 27% of Community Investment "People-Benefits" may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

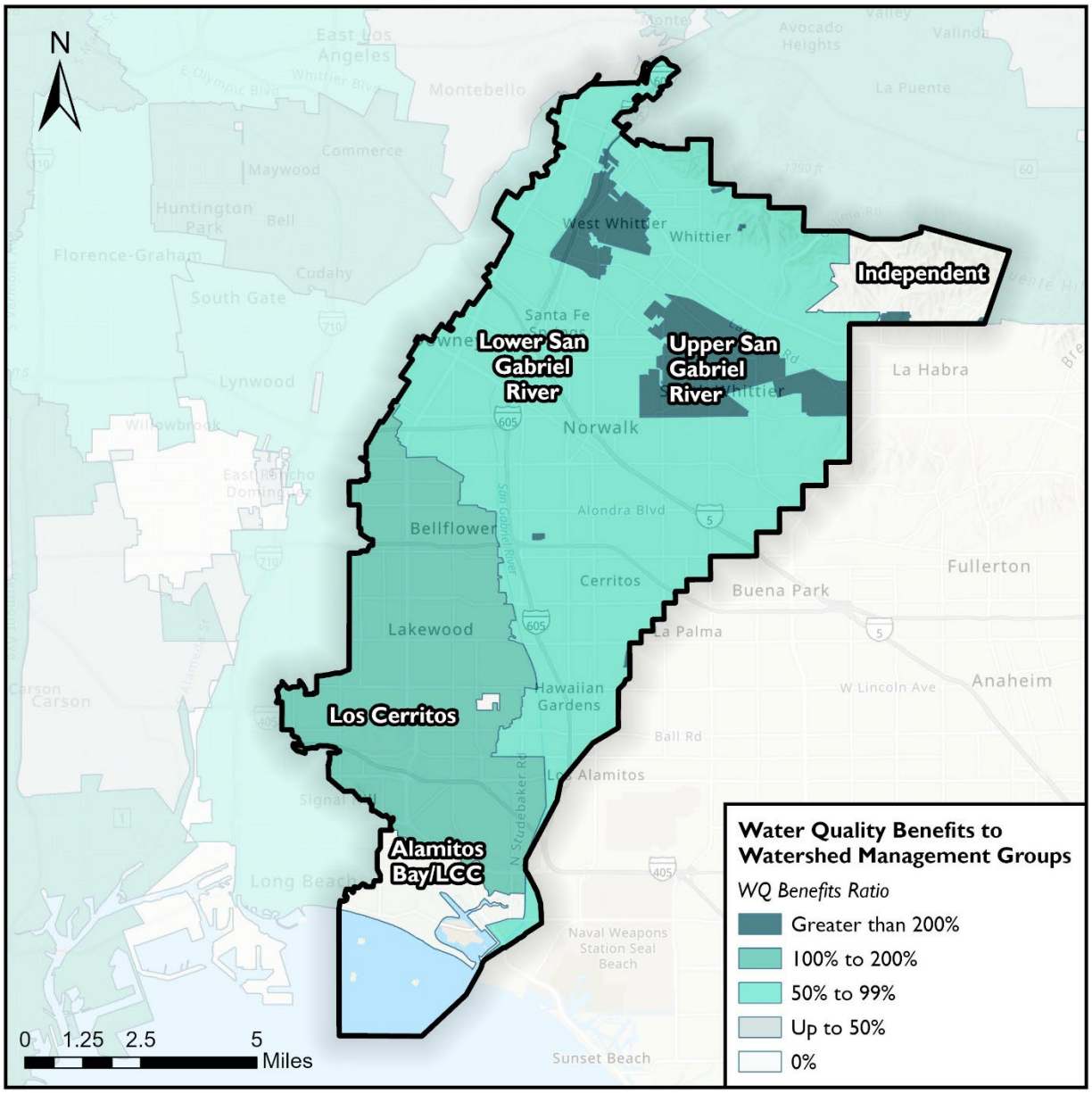
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Alamitos Bay/LCC	0 lbs/yr Total Zinc reduction	0%
Los Cerritos Channel	560 lbs/yr Total Zinc reduction	103%
Lower San Gabriel River	1,348 lbs/yr Total Zinc reduction	96%
Upper San Gabriel River	377 lbs/yr Total Zinc reduction	255%
Independent Municipalities	0 lbs/yr Total Zinc reduction	0%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be additional targeted opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as the areas near the San Gabriel River in or near Norwalk). See the map above highlighting DAC communities and these areas between funded project walksheds. Additionally, the results suggest that the Alamitos Bay/LCC Group and Independent Municipalities in this Watershed Area may be receiving Water Quality benefits from Regional Program projects that is disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.

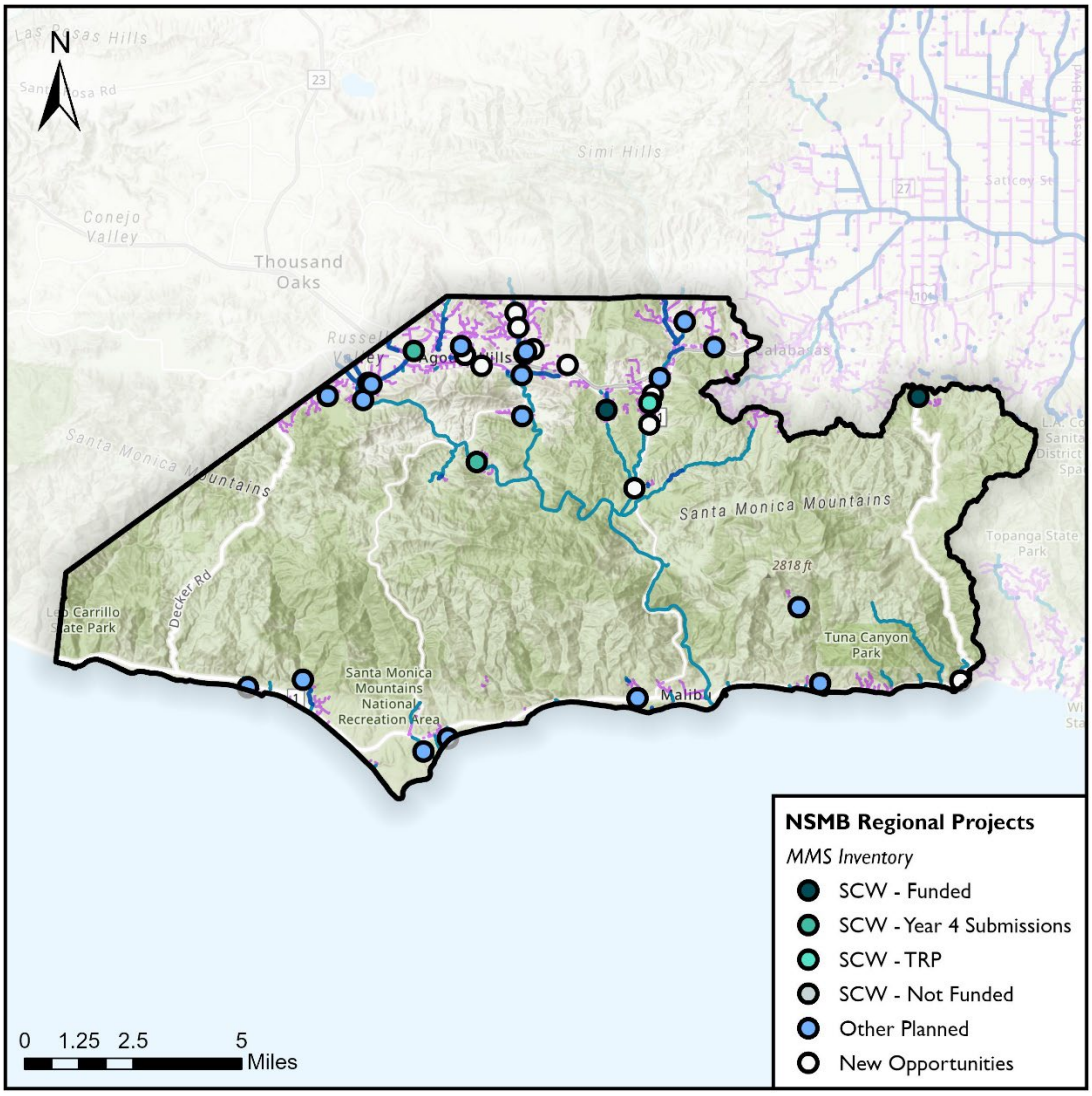


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

North Santa Monica Bay

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~99,800 total acres

3% impervious

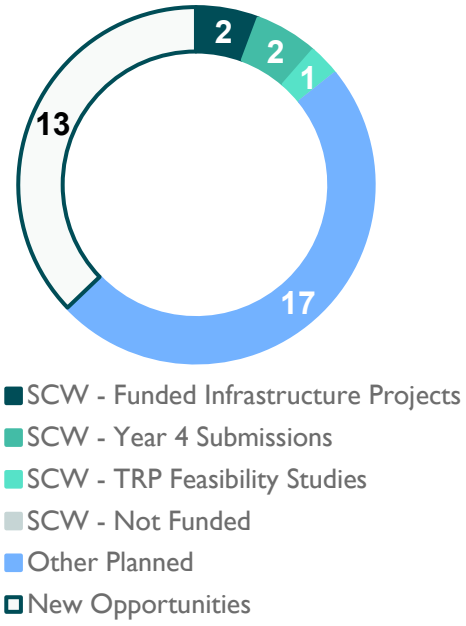
3 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

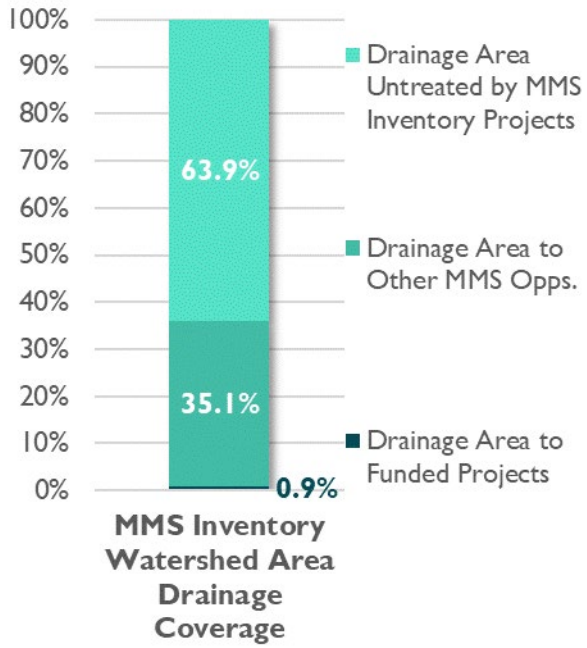
35 Total Project Opportunities in MMS Inventories

Major Tributary: Malibu Creek

Multiple, localized drainages outfall to Santa Monica Bay/Pacific Ocean

MMS Inventory by Status





Watershed Area Projects Characteristics:

3 SCW Program projects with momentum

900 acres of Watershed Area treated by SCW Program funded projects

32 additional opportunity projects from MMS Inventory to be considered

35,000 acres of Watershed Area potentially treated by additional opportunity projects

63,800 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (NSMB)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

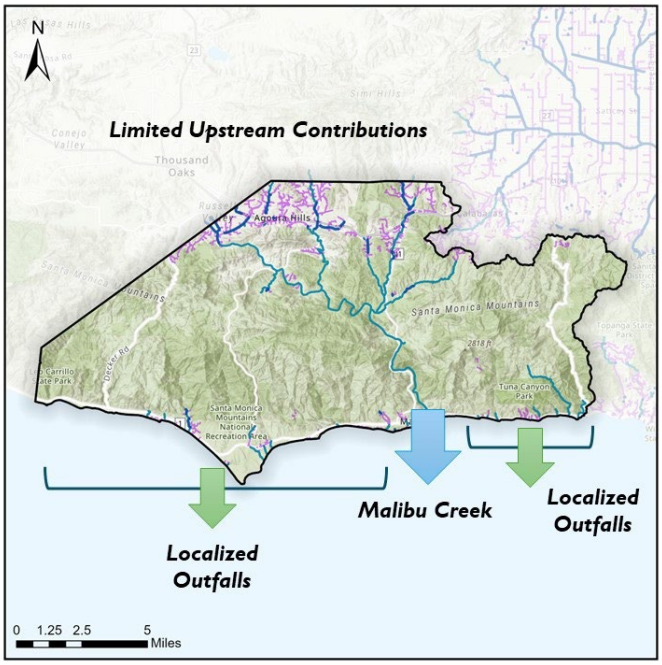
Targets

Water Quality Objective:
0.2 mg/L Total Phosphorus
(Malibu Creek 2016 Enhanced Watershed Management Program)

Avg. Annual Phosphorus:
14,460 lbs/year

Approx. # Wet Days:
36.8/year

Indicator:
6,620 lbs/year Total Phosphorus Reduction



Initial Benefits

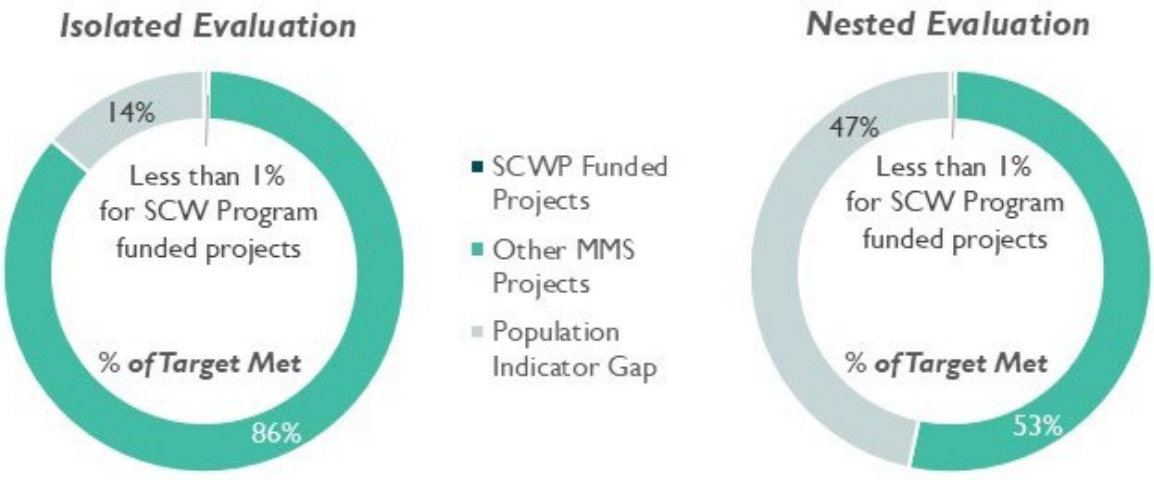
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

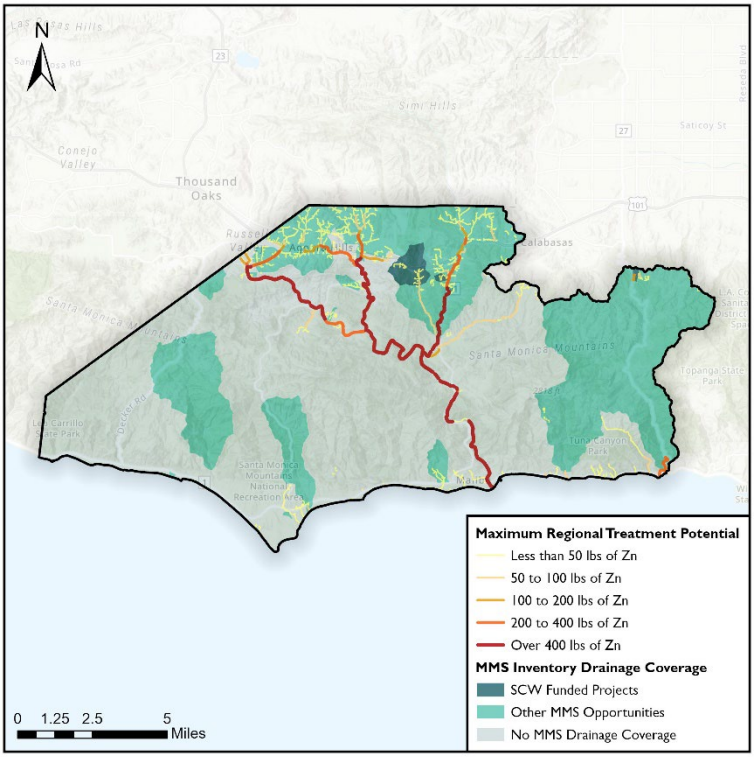
3
SCWP Funded Projects
(Regional & TRP projects)

26 lbs/yr
Total Phosphorus Removed
(pursuant to Indicator)

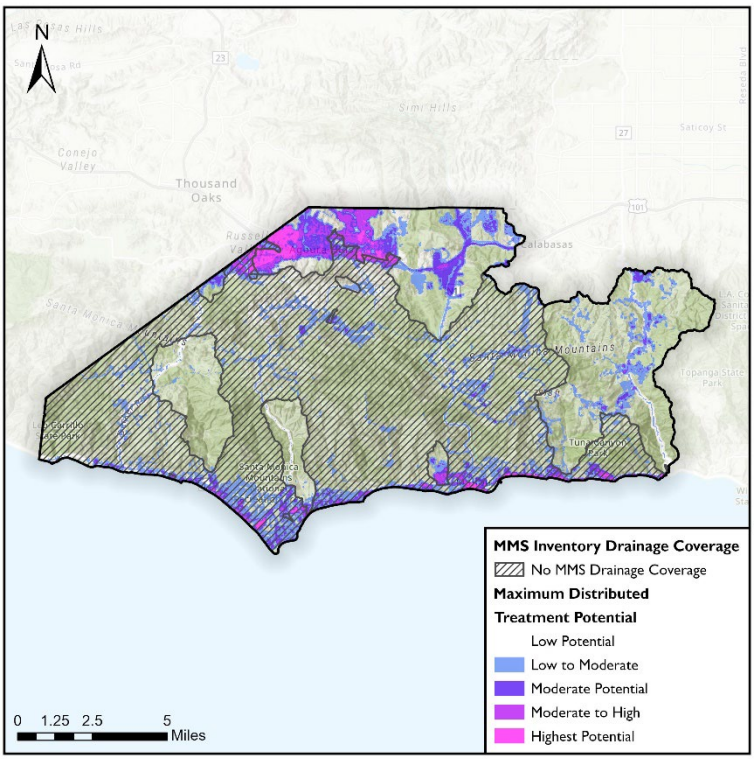
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

Key Watershed Needs & Opportunities

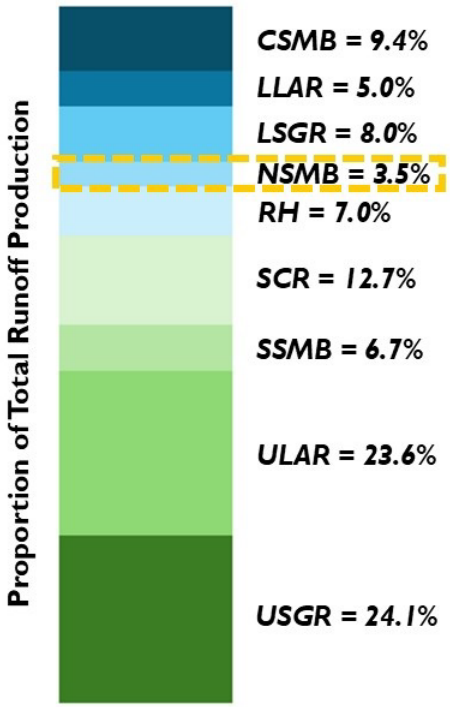
- MMS inventory projects may need to be supplemented with additional projects if example Indicators are to be met
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects, especially those in the more developed areas of the Watershed Area in the upland drainage areas of Malibu Creek.
- Areas along several coastal drainages were largely untreated by projects in the MMS inventory. These areas could be prioritized for further project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the North Santa Monica Bay Watershed Area.

Water Supply (NSMB)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the NSMB Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

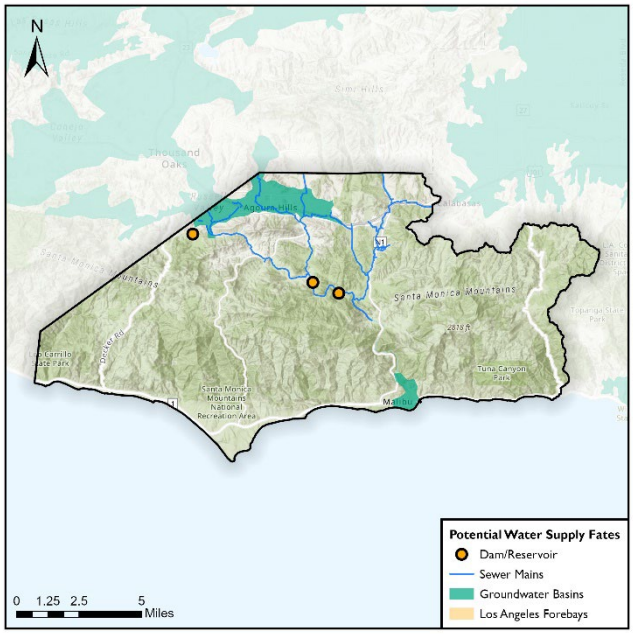
Avg. Annual Local Runoff:
26,000 ac-ft/year

Watershed Area Runoff %:
3.5% (of 746,000 ac-ft/year total)

Indicator:
10,500 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

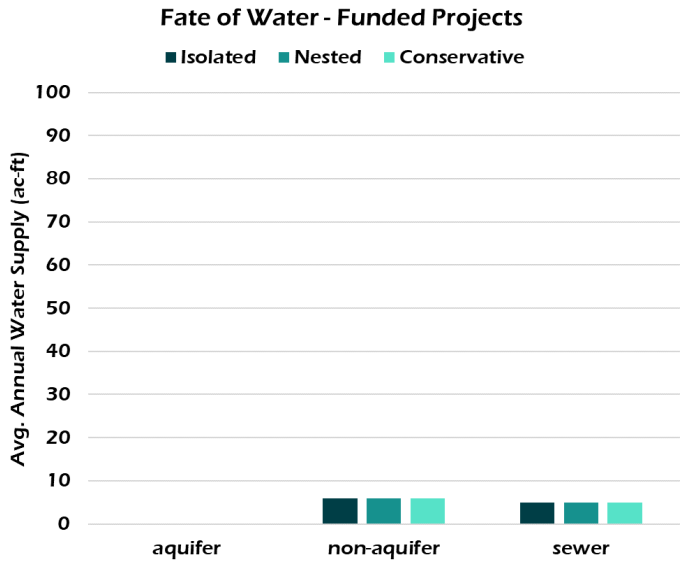
Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. ***For this Watershed Area, no adjustments are needed as there are no existing facilities to account for.***

Existing Modeled Capture	Net Countable Supply Upstream
No existing capture to be accounted for	

Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

10 ac-ft/year

(all fates included, no adjustment)

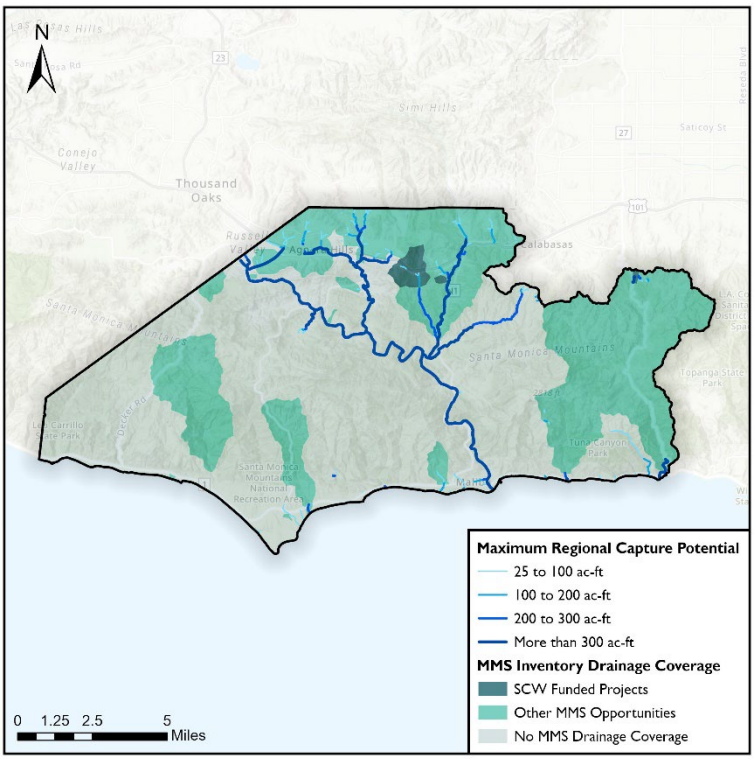
Conservative Adjusted Water Supply Estimate:

5 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

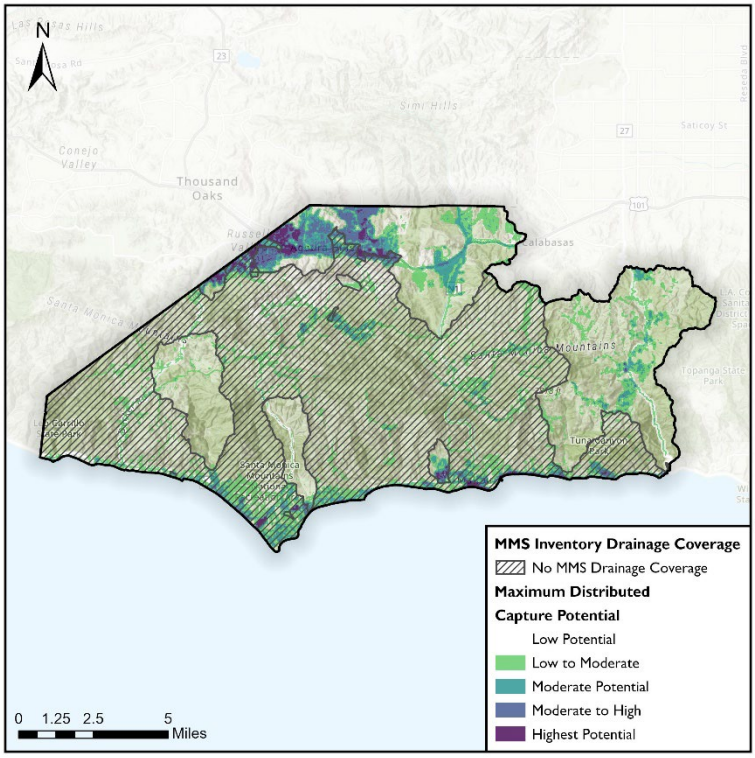
Watershed Potential

There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure. Also, Maximum and Conservative plots are the same here due to no existing capture facilities in this Watershed Area.



Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- Capture for water supply might be limited to non-infiltrative practices in this Watershed Area due to limited unconfined aquifers
- Sewer networks in more developed areas of the watershed might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like for water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but coastal areas are still a good location to begin pursuing additional projects.
- An alternative water supply option might be to pursue capacity and/or operations at local reservoirs to increase runoff capture and augment local supplies.

Community Investment Benefits (NSMB)

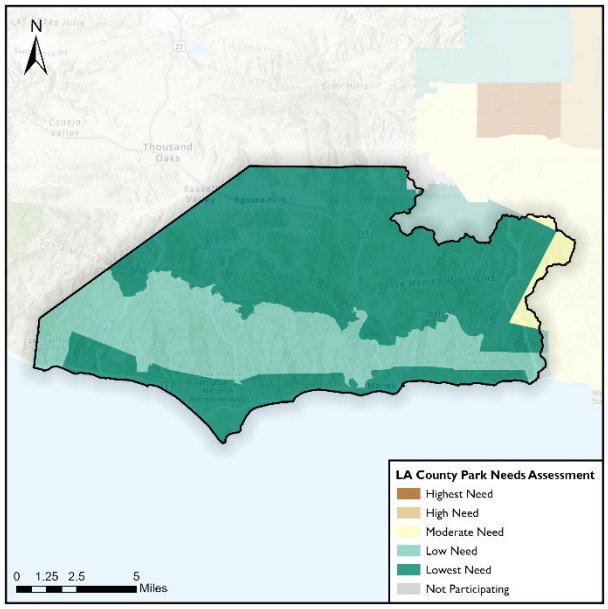
The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

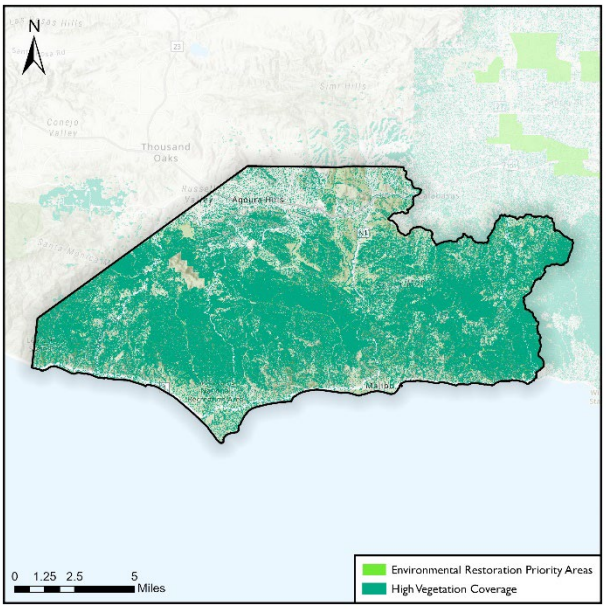
Indicators and Initial Benefits

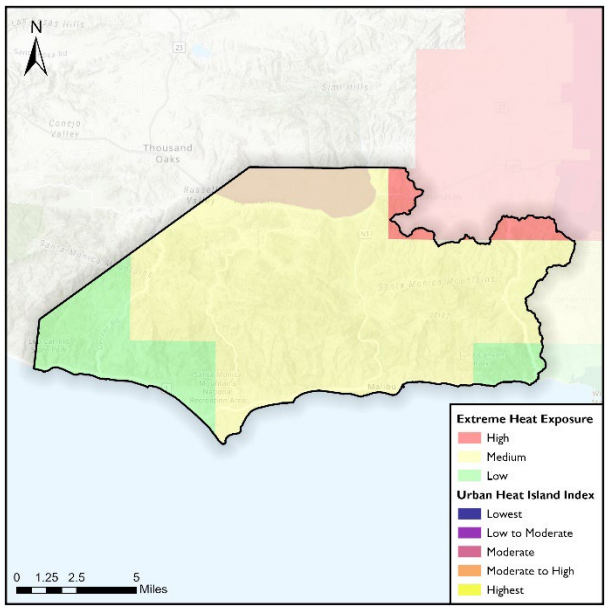
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks needs are low overall in this Watershed Area but could be improved near the more developed areas near the ULAR watershed
- Developed areas have the lowest vegetation in the region and could be improved by planting native tree species
- Heat exposure is moderate in this Watershed Area despite high vegetation and low development and may be difficult to influence

Place-Based Measures (NSMB)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

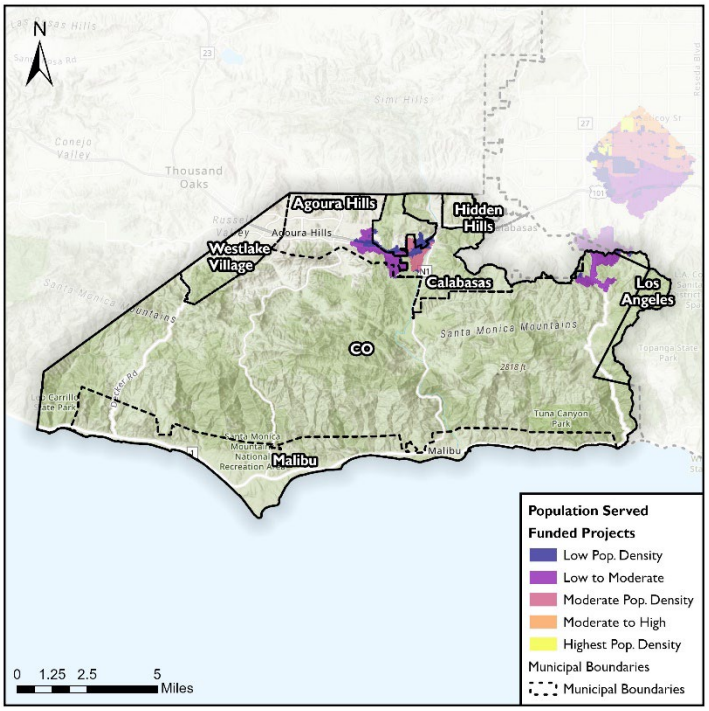
The following Targets can be evaluated using Place-Based Measures:

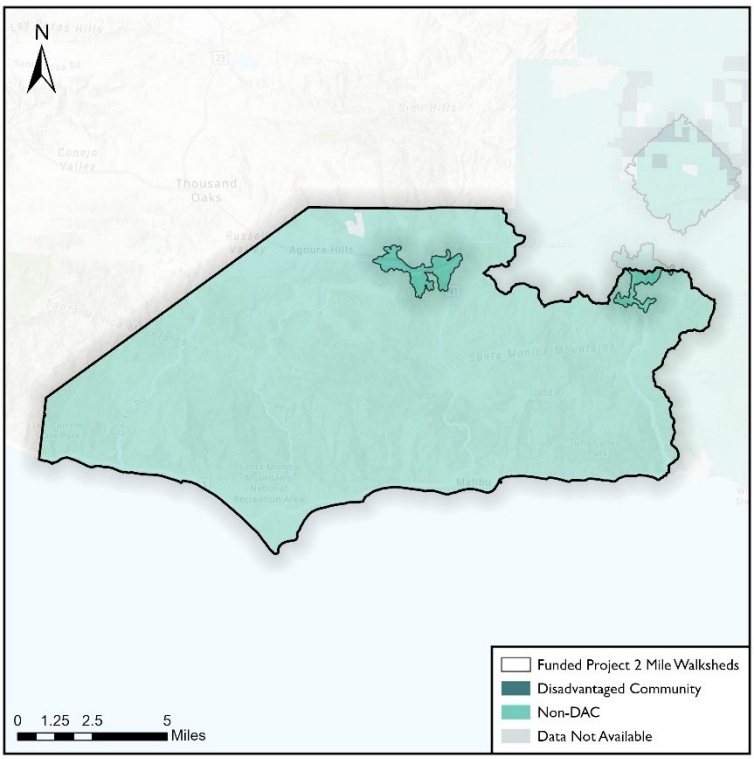
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
not applicable (no Disadvantaged Communities in this Watershed Area)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

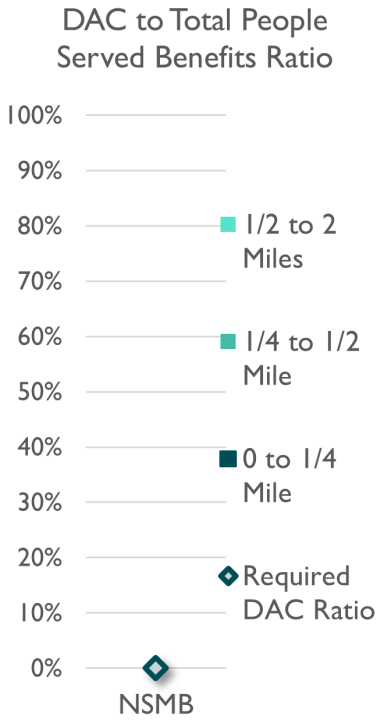
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

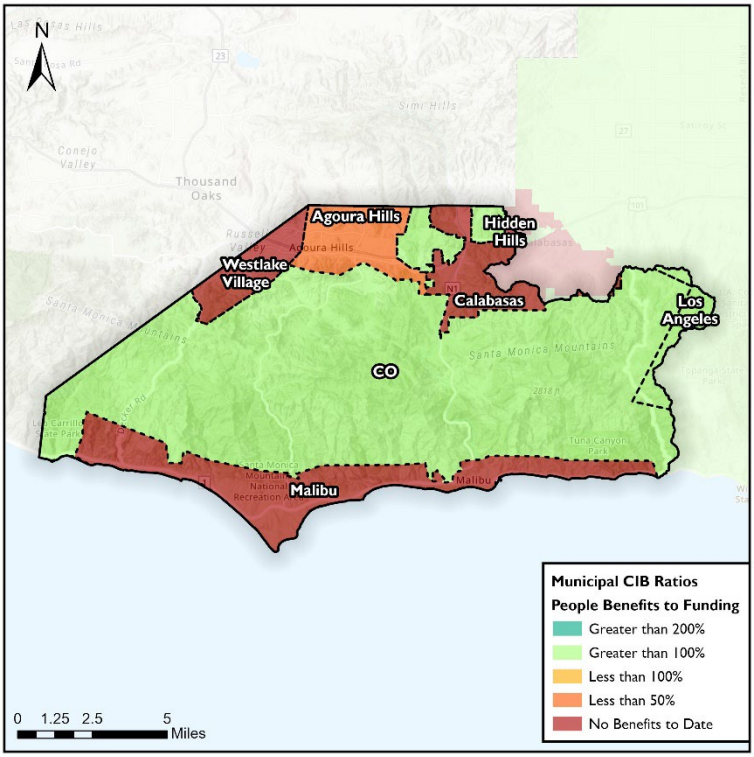
Initial Benefits

About 6,000 (7%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and none of Community Investment "People-Benefits" may accrue to Disadvantaged Communities yet. The total population density is shown in the map to the right, and the next page shows the absence of Disadvantaged Communities within the Watershed Area. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

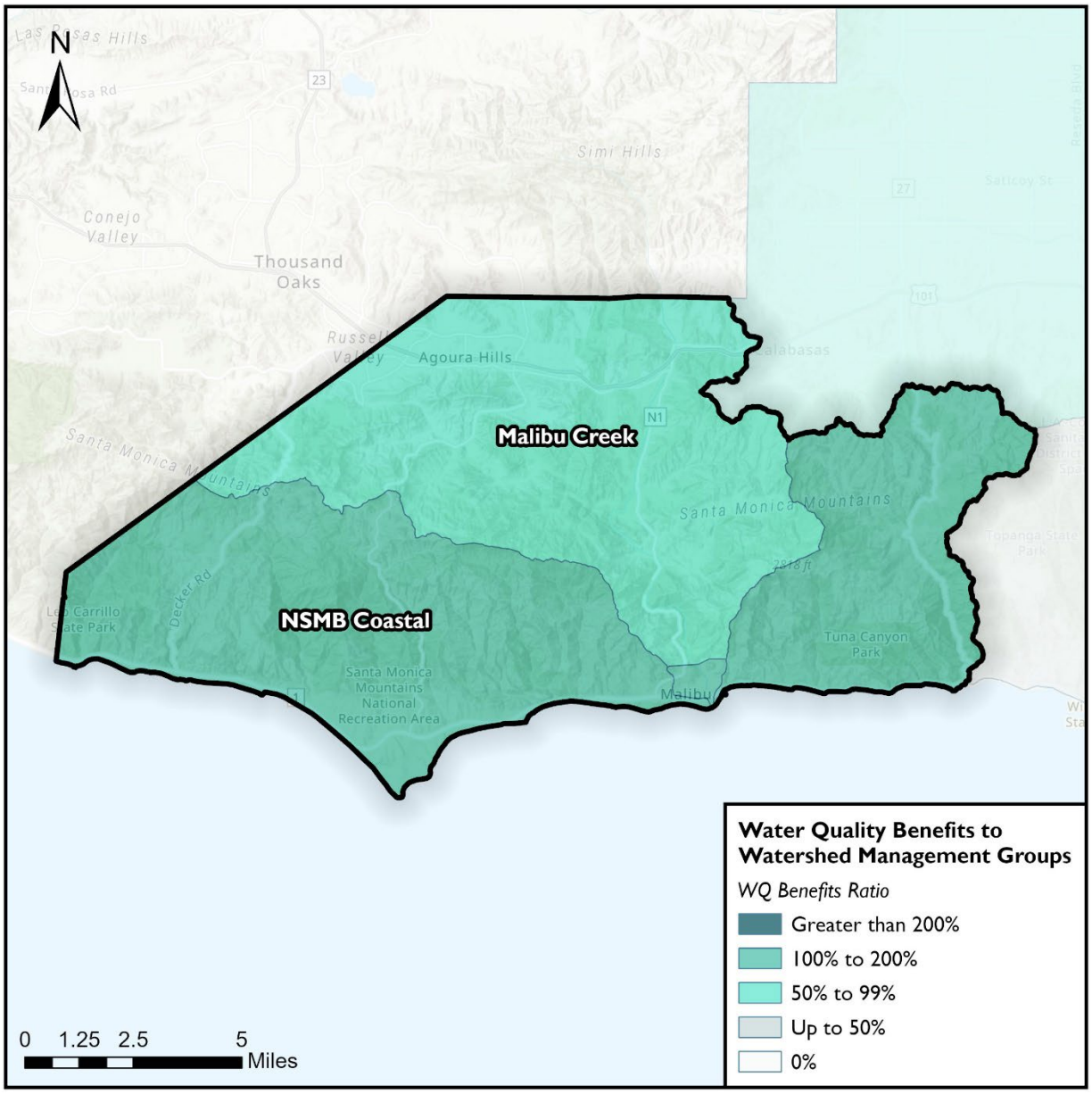
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Malibu Creek	< 5 lbs/yr Total Zinc reduction	71%
NSMB Coastal	< 5 lbs/yr Total Zinc reduction	143%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, siting projects in or near Disadvantaged Communities is not really a possibility in this Watershed Area, but there is considerable opportunity when it comes to water quality contributions. Results suggest that the Malibu Creek Water Management Groups may be receiving Water Quality benefits from Regional Program projects that are disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.

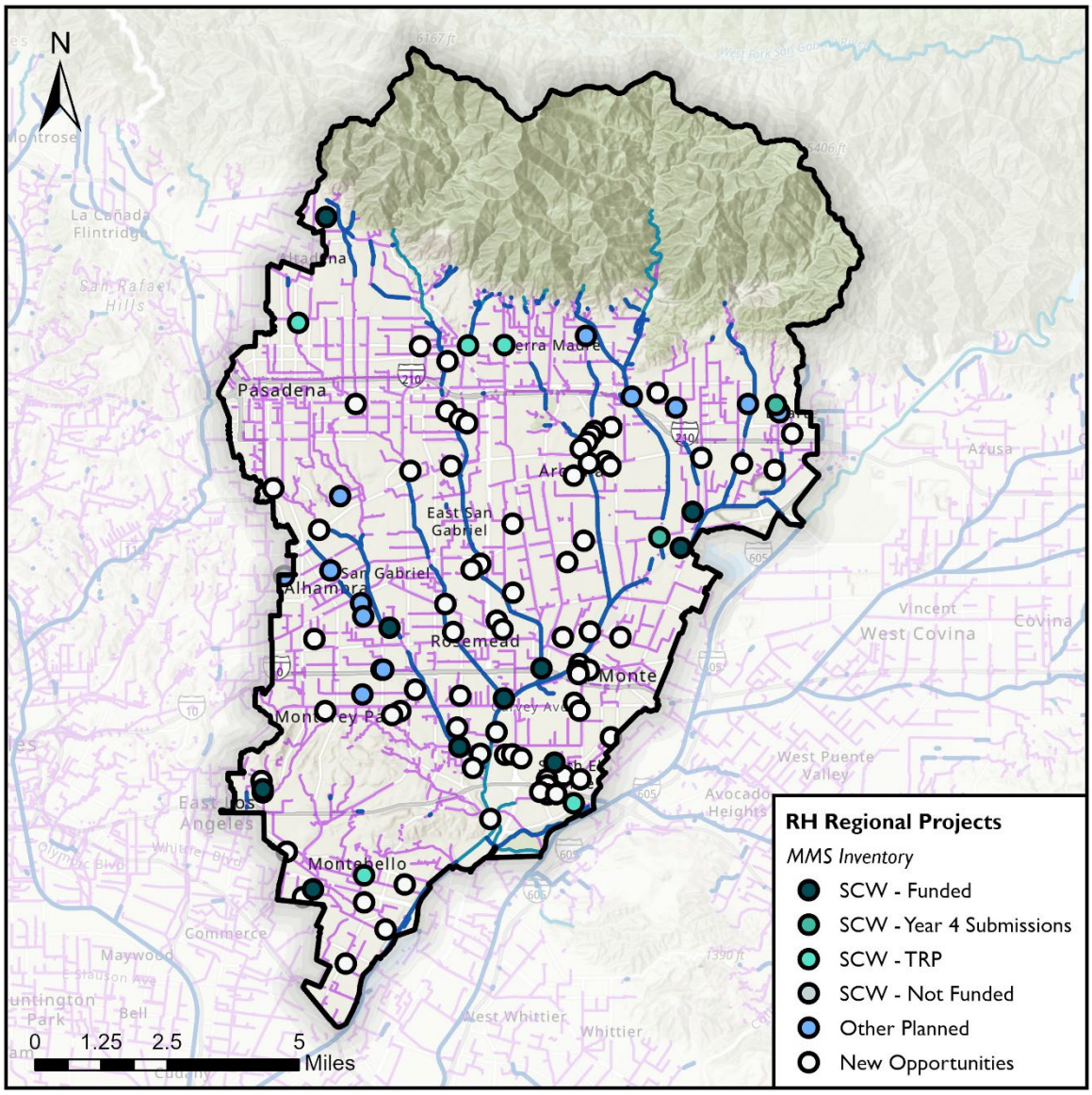


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

Rio Hondo

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~84,600 total acres

25% impervious

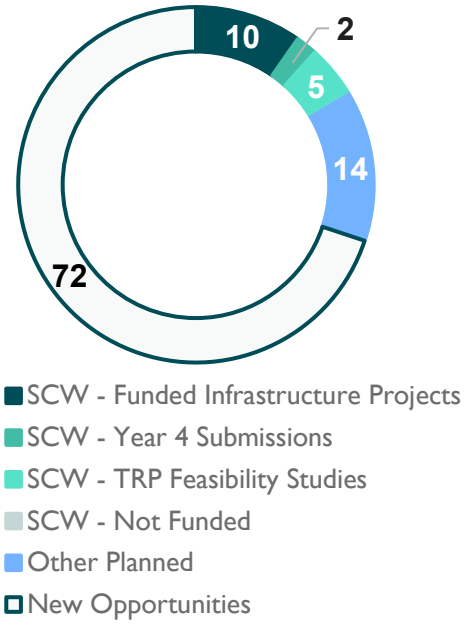
15 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

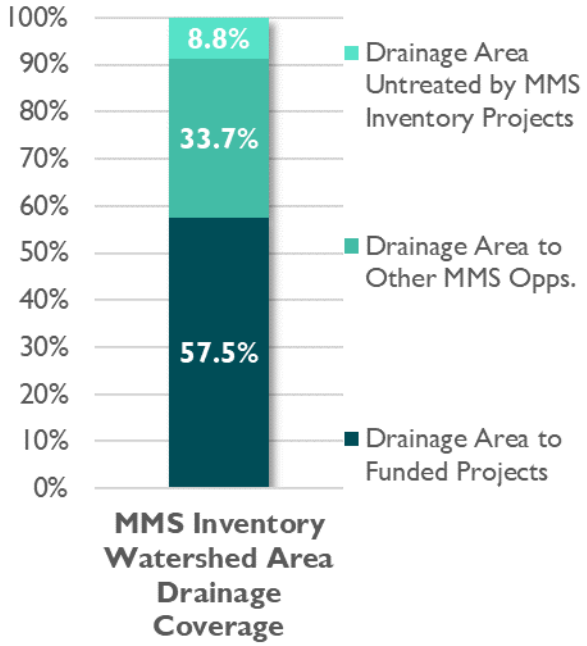
103 Total Project Opportunities in MMS Inventories

Major Tributary: Rio Hondo

Several major washes tributary to the mainstem

MMS Inventory by Status





Watershed Area Projects Characteristics:

15 SCW Program projects with momentum

48,600 acres of Watershed Area treated by SCW Program funded projects

88 additional opportunity projects from MMS Inventory to be considered

28,500 acres of Watershed Area potentially treated by additional opportunity projects

7,500 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (RH)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

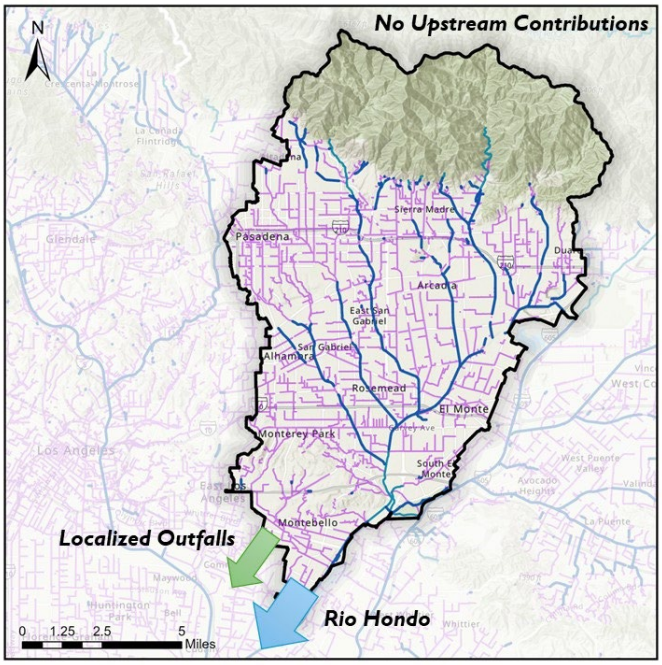
Targets

Water Quality Objective:
159.0 µg/L Total Zinc
(Los Angeles River and Tributaries Metals TMDL Wet Weather Targets (derived from acute CTR criteria using hardness of 80 mg/L specified in Staff Report)

Avg. Annual Zinc Load:
7,280 lbs/year

Approx. # Wet Days:
36.8/year

Indicator:
1,490 lbs/year Total Zinc



Initial Benefits

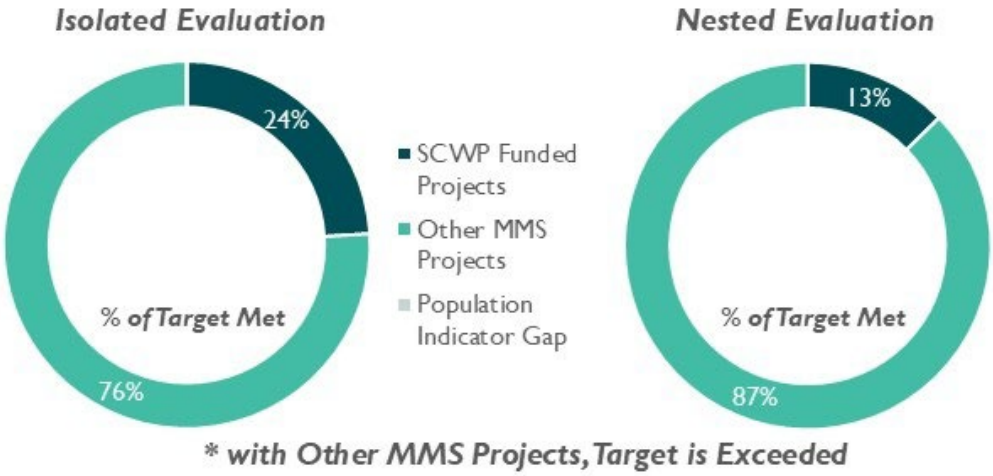
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

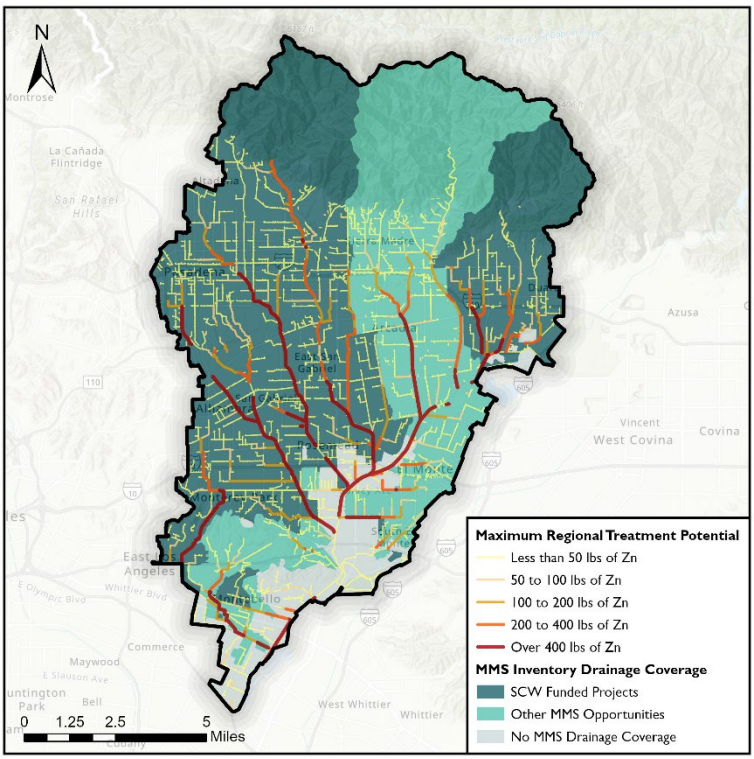
15
SCWP Funded Projects
(Regional & TRP projects)

350 lbs/yr
Total Zinc Removed
(pursuant to Indicator)

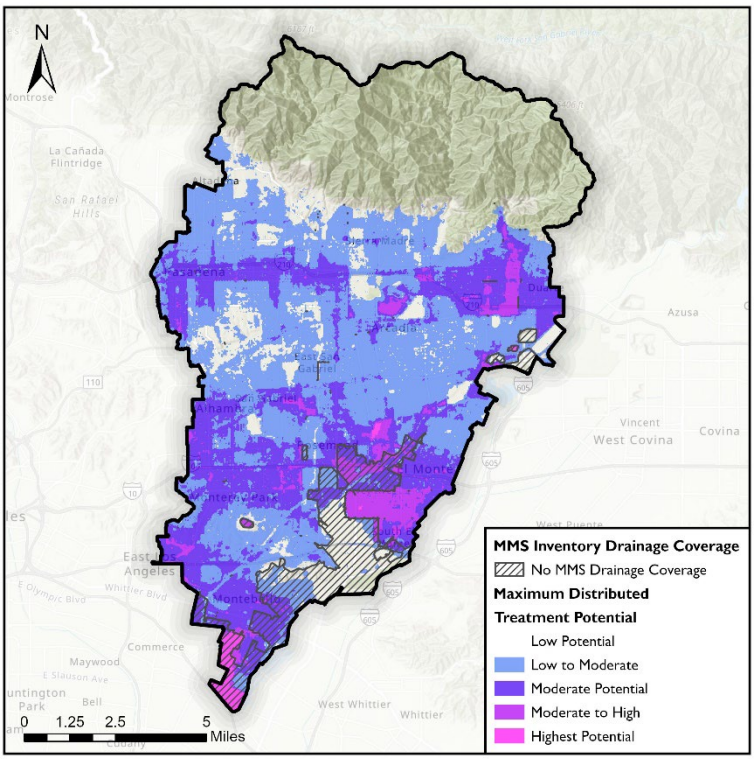
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



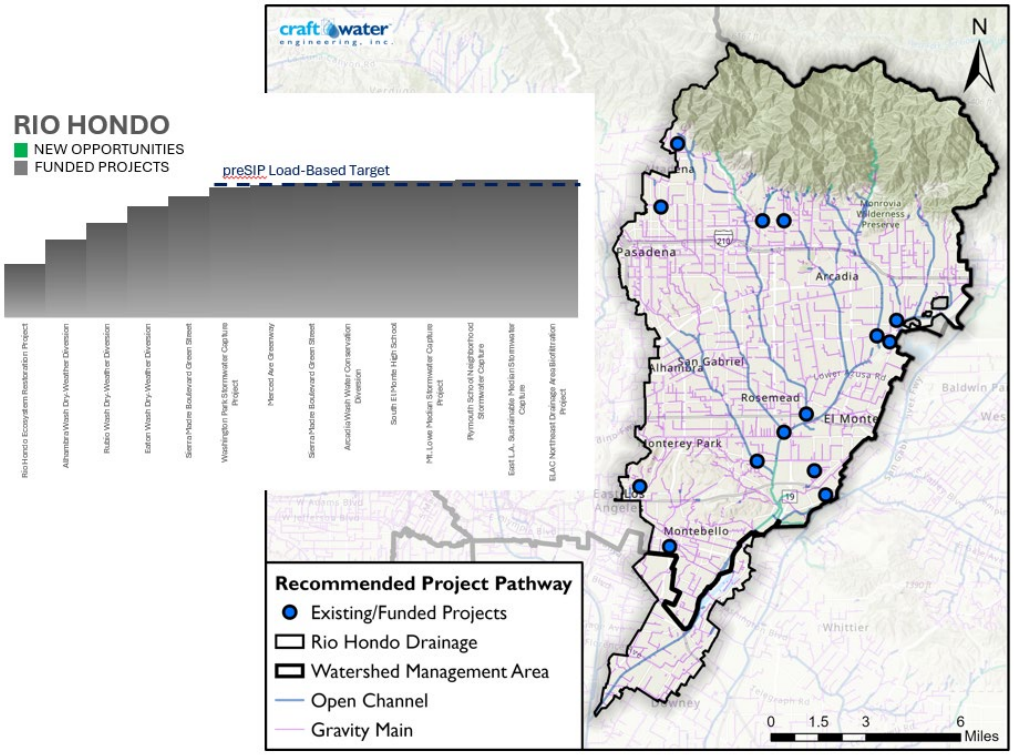
Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

Key Watershed Needs & Opportunities

- MMS inventory projects could be built out to reach example water quality Indicators
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects
- Most viable areas of the watershed outside of existing facilities at Whittier Narrows were covered by treatment in the MMS inventory. Some areas at the most southern region of the Watershed Area may benefit from localized treatment near the main Rio Hondo drainage channel. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the Rio Hondo watershed

Key Findings – preSIP Scientific Study (RH)

The preSIP Scientific Study used the most up-to-date science to assess the water quality realities and needs of the ULAR and RH Watershed Areas to meet regulatory pollutant concentrations across the watershed. This study utilized the most recent water quality data, locally calibrated baseline models, and a collaboratively built project library to identify compliance progress to date and to stand up an interactive platform to assist decision-making about the watershed areas next projects to pursue and to track progress along the way. Evaluations in the RH Watershed Area additionally assessed water quality realities on both sides of the existing facilities at Whittier Narrows to ensure compliance goals would be met on either side of this facility in the receiving waters. ***The outcomes of this analysis (an example of which is highlighted in the infographic below) indicate that the existing and planned projects that already have momentum in this Watershed Area may be sufficient to achieve water quality goals once built out. The additional certainty provided by incorporating the most recent water quality data and modeling gives managers in the RH Watershed Area assurances that they are well on the way to ensuring cleaner water for this watershed.***

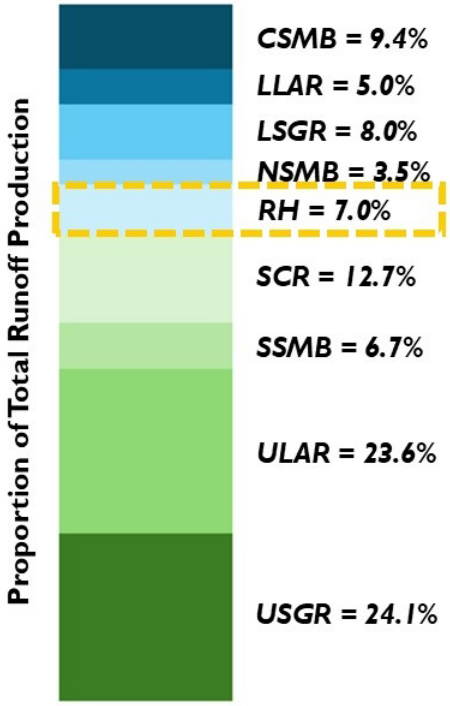


Water Supply (RH)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the RH Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

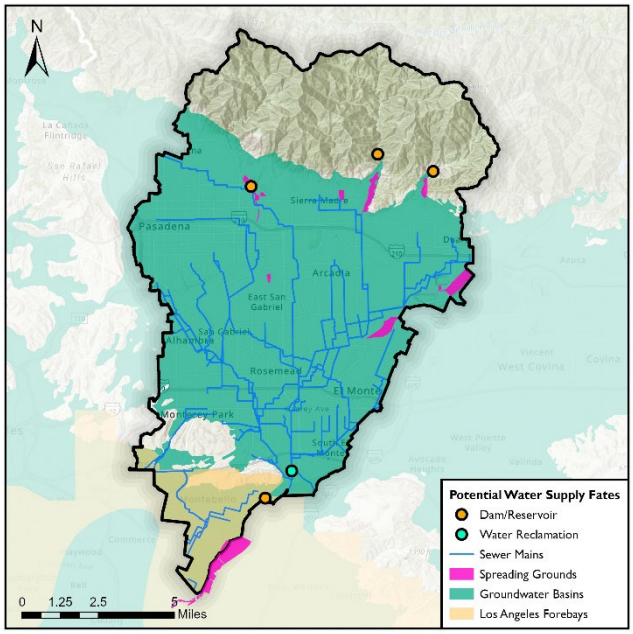
Avg. Annual Local Runoff:
52,100 ac-ft/year

Watershed Area Runoff %:
7.0% (of 746,000 ac-ft/year total)

Indicator:
21,000 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

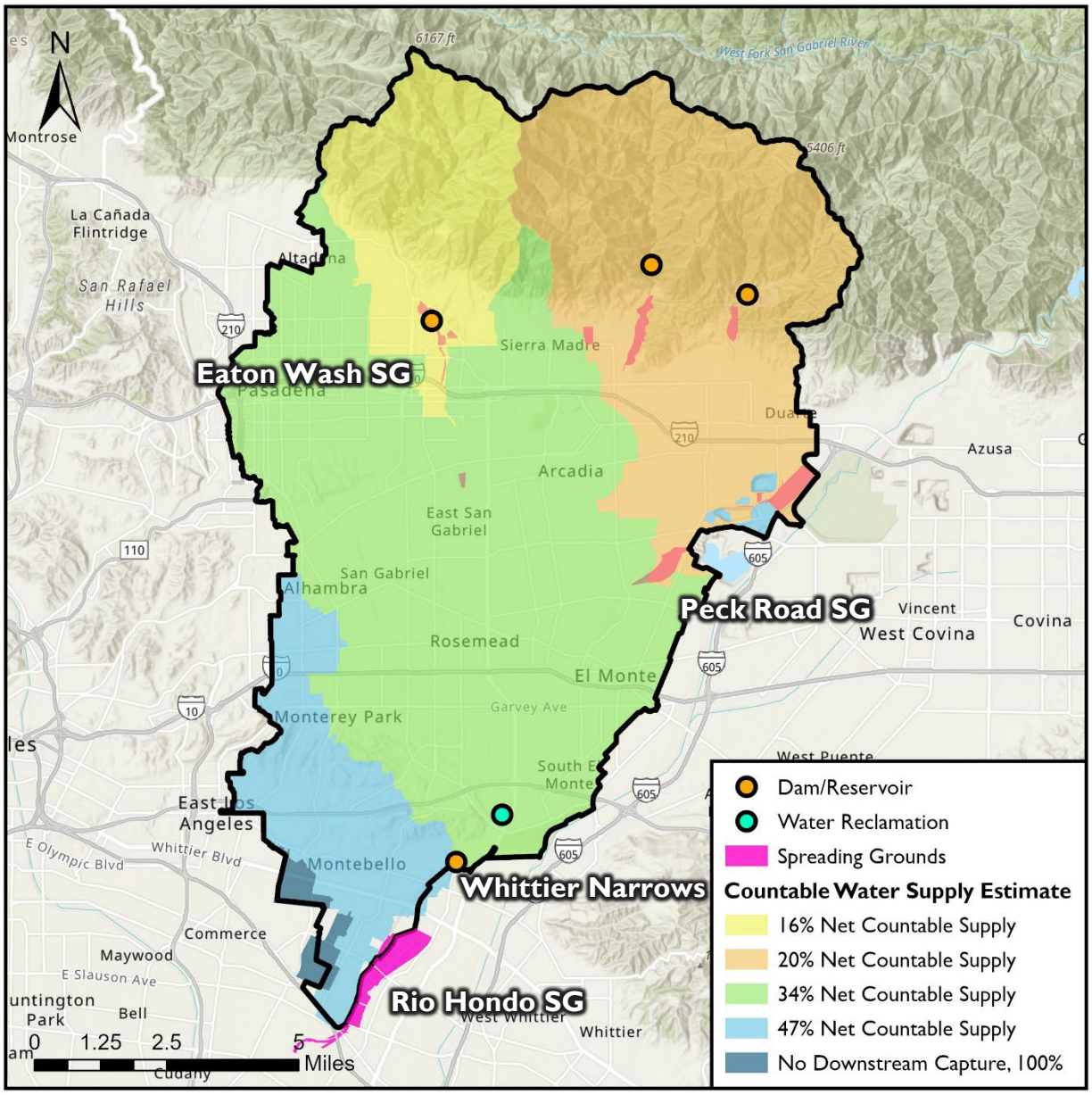
Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. MMS analysis calculated appropriate ratios to use to make these adjustments (see table). ***For this Watershed Area, adjustments are needed to account for the spreading grounds to the right and have been highlighted spatially in the map below.***

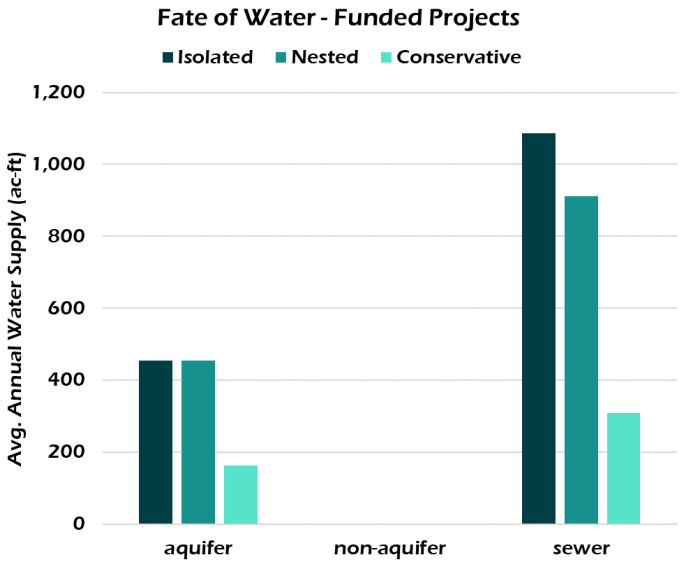
Existing Modeled Capture	Net Countable Supply Upstream
Eaton Wash SG	16%
Peck Road SG	21%
Whittier Narrows Basin Transfer	34%
Rio Hondo SG	47%

The map below highlights adjustments that were used to adjust project runoff capture to produce a conservative estimate to account for runoff already captured by existing facilities. Baseline modeling estimates of capture for these existing facilities and the routing between these was factored in to net countable supply adjustment ratios.



Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

1,365 ac-ft/year

(all fates included, no adjustment)

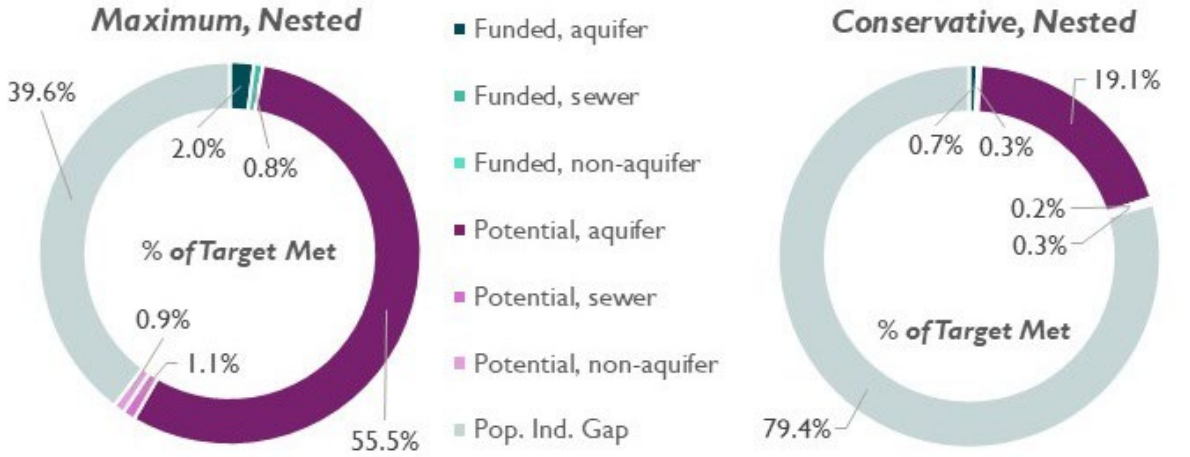
Conservative Adjusted Water Supply Estimate:

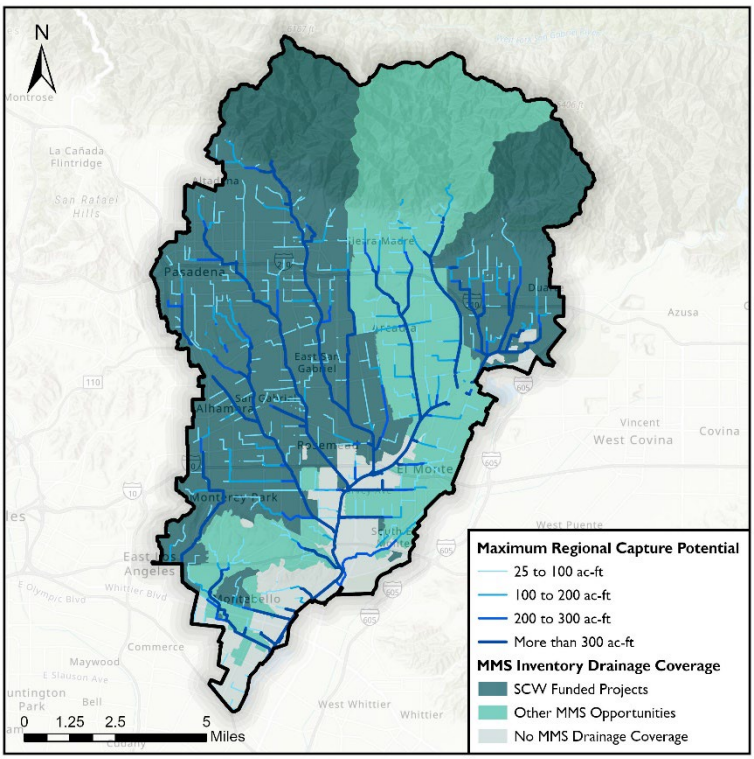
470 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

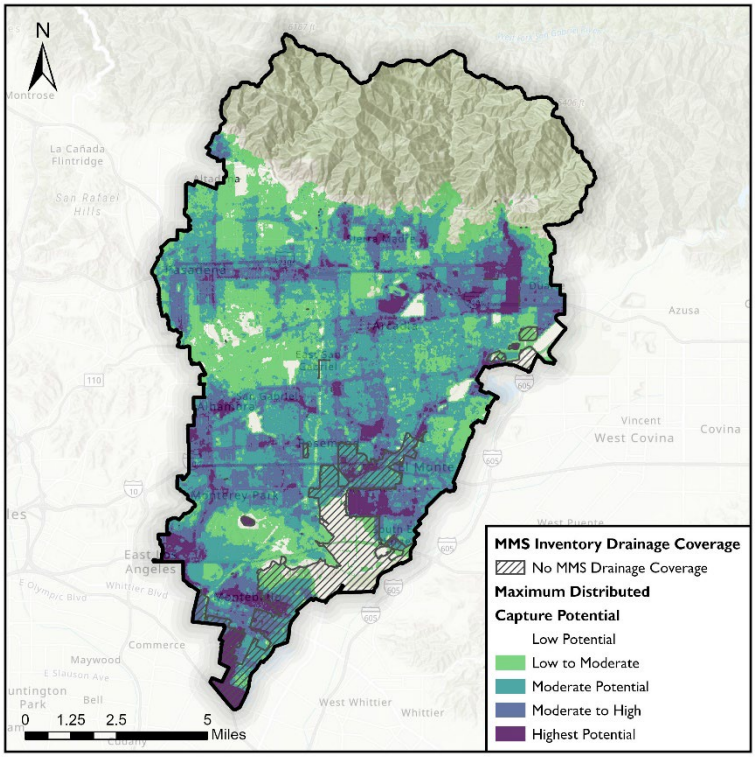
There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure.





Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



ry

Key Watershed Needs

- Much of this Watershed Area is understood to overlay unconfined aquifers.
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like water quality, additional projects may be needed to meet water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators.
- Targeting larger storm drains where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Targeting infiltration projects in the southern end of the watershed where unconfined aquifers exist is advised where possible. Projects with discharge to sanitary sewers are most likely to have countable supply and can be sited anywhere sewer capacity exists
- Existing capture at various facilities in this Watershed Area makes obtaining new countable supply more challenging. Strategies of capture, treatment, and controlled release for downstream capture at these locations might be a viable option given the unique conditions of this Watershed Area.

Community Investment Benefits (RH)

The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

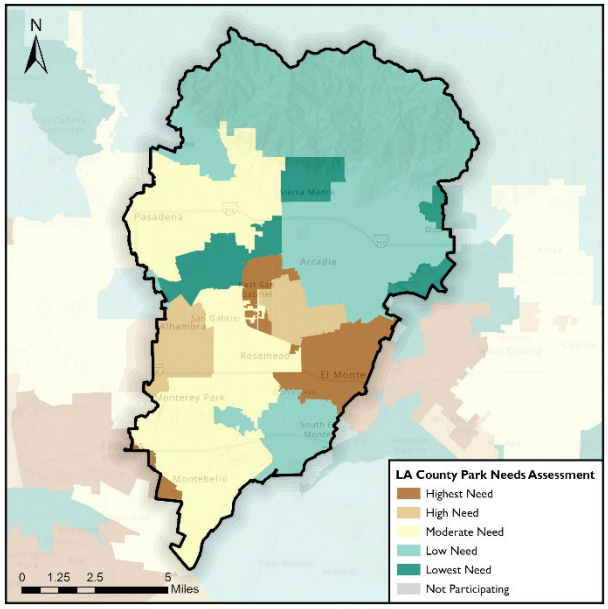
Indicators and Initial Benefits

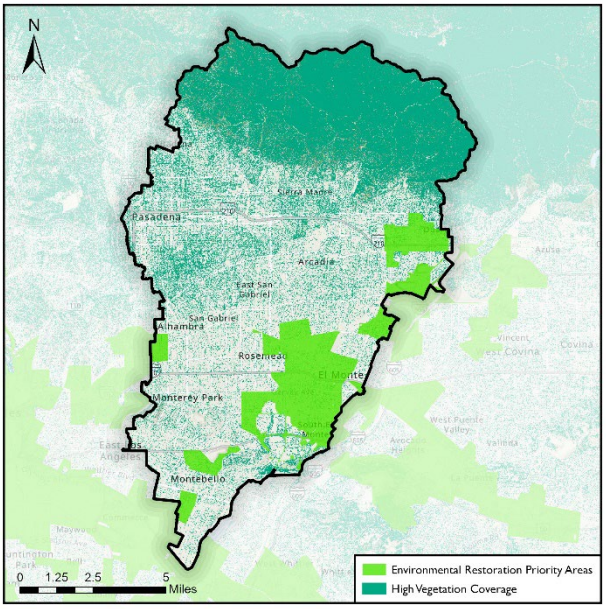
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

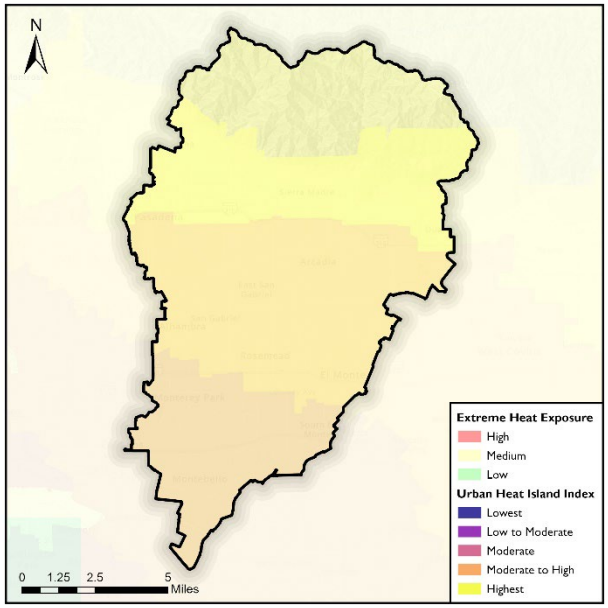
Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their

measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks needs are lower overall in this Watershed Area but could be improved near the El Monte and East San Gabriel areas
- Restoration Priority Areas overlap some areas with High Park Needs and would be multi-benefit places to target for improvement
- Heat exposure is worse in the upper areas of the Watershed Area with a Medium exposure to high heat; improving urban canopy can help locals

Place-Based Measures (RH)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

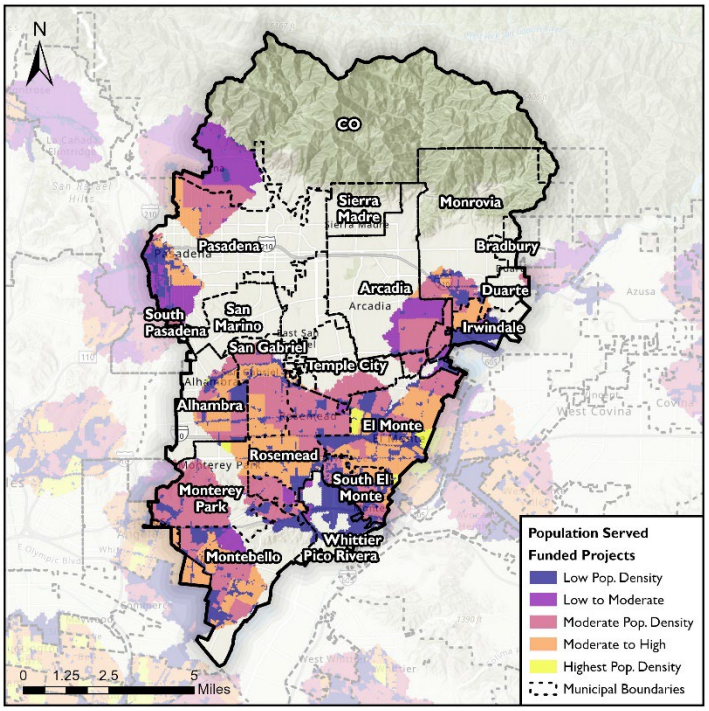
The following Targets can be evaluated using Place-Based Measures:

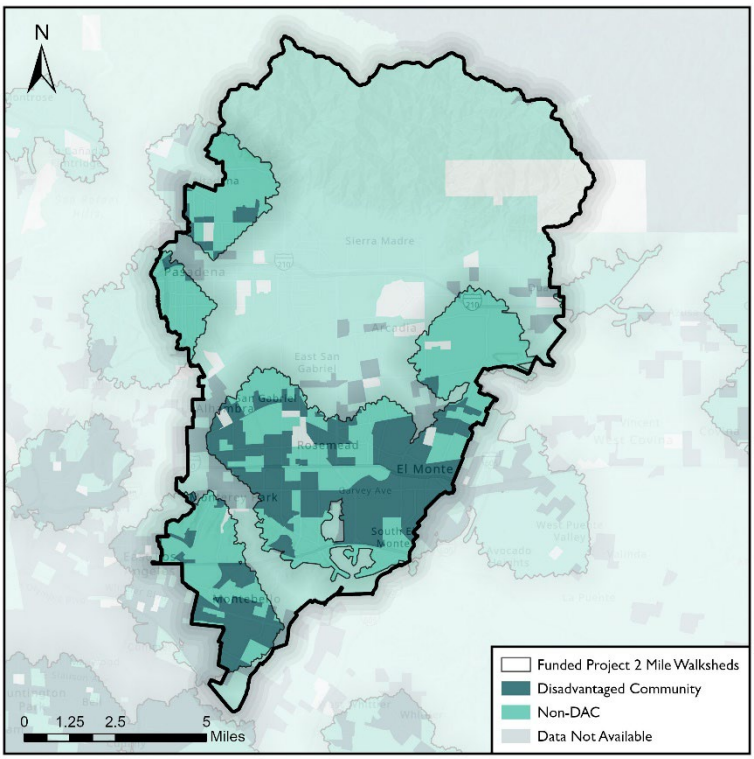
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
33% (minimum percentage of total benefits to Disadvantaged Communities)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

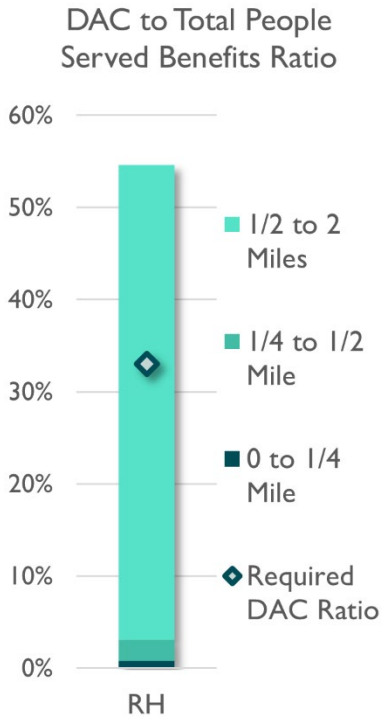
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

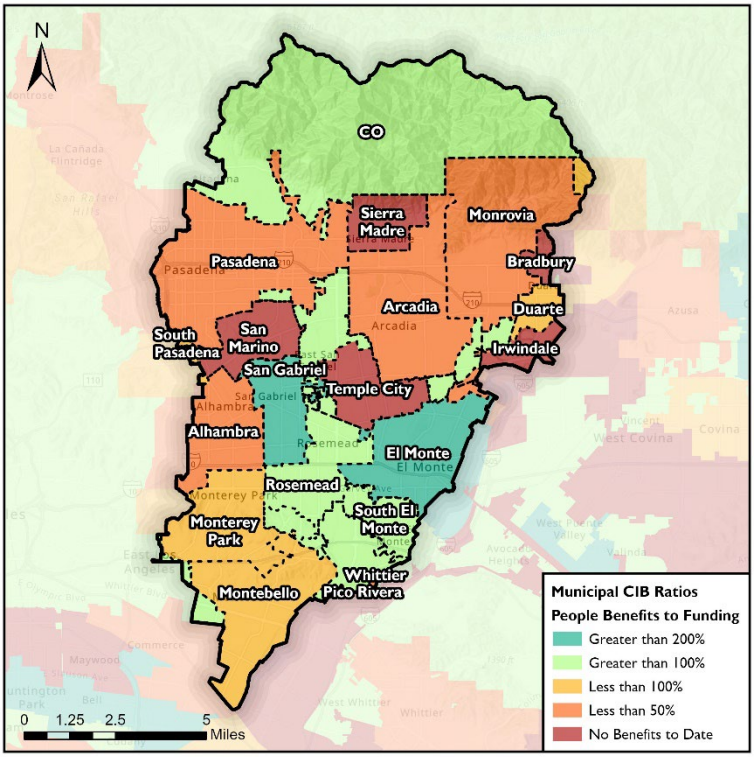
Initial Benefits

Over 496,000 (56%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 55% of Community Investment "People-Benefits" may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

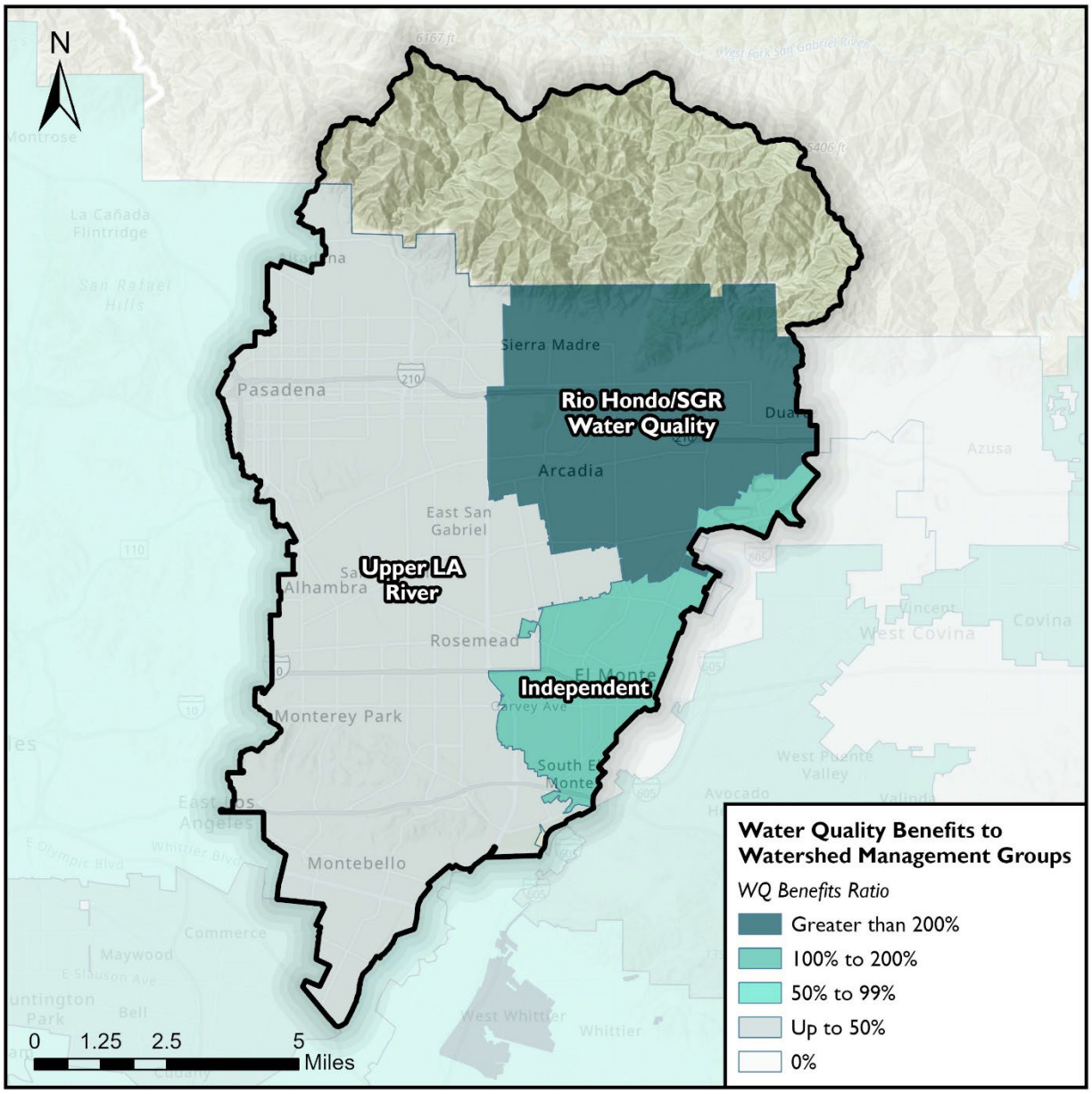
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Rio Hondo/SGR Water Quality	160 lbs/yr Total Zinc reduction	275%
Upper L.A. River	40 lbs/yr Total Zinc reduction	25%
Independent Municipalities	56 lbs/yr Total Zinc reduction	152%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be some (though limited) additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as areas of Alhambra between existing funded projects). See the map above highlighting DAC communities and these areas between funded project walksheds. Additionally, the results suggest that the Upper LA River areas of the watershed may be receiving Water Quality benefits from Regional Program projects that are disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.

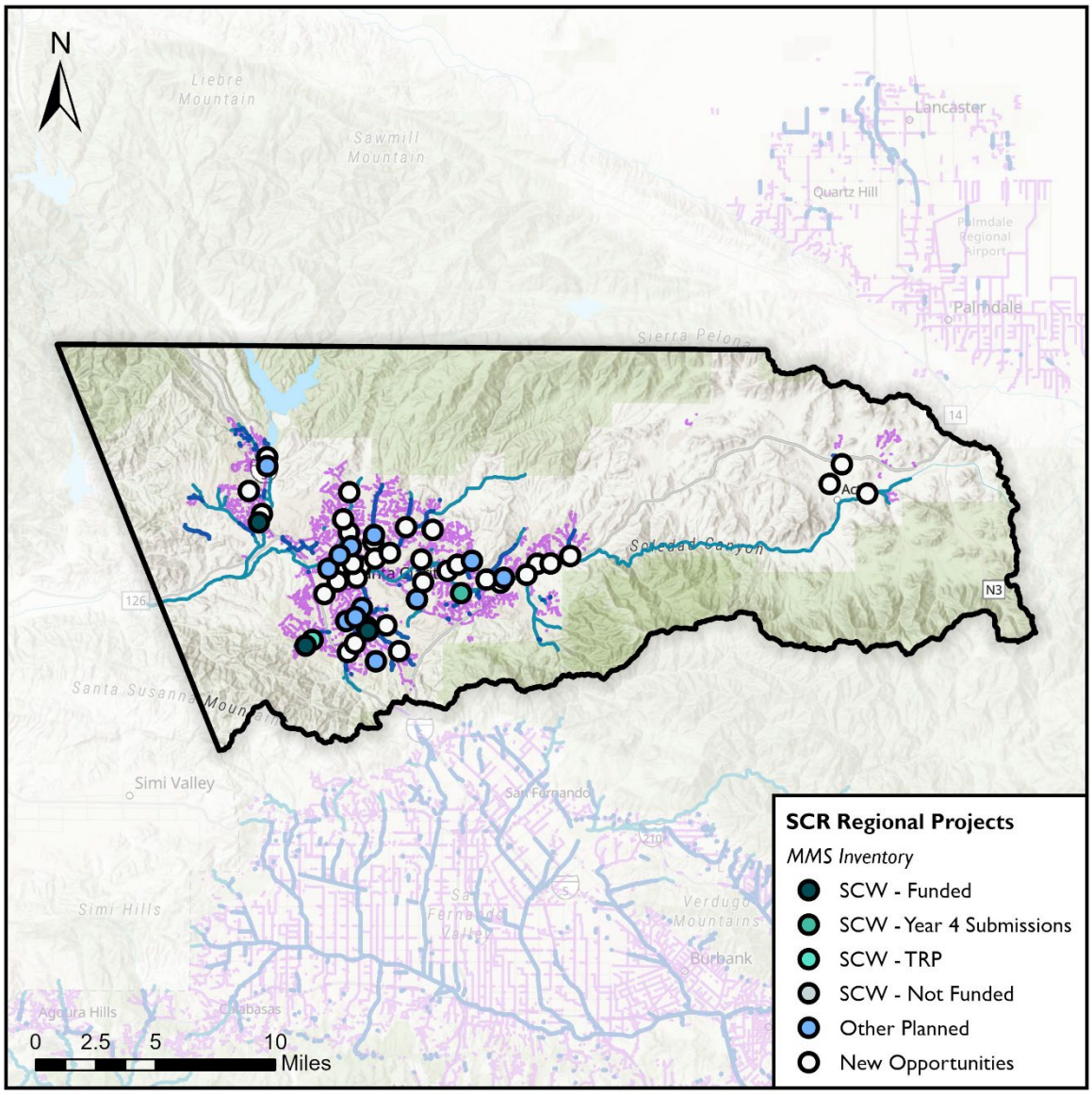


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

Santa Clara River

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~307,000 total acres

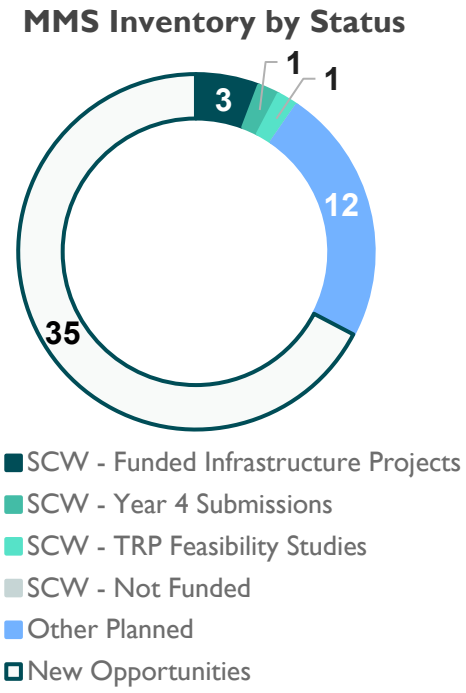
2% impervious

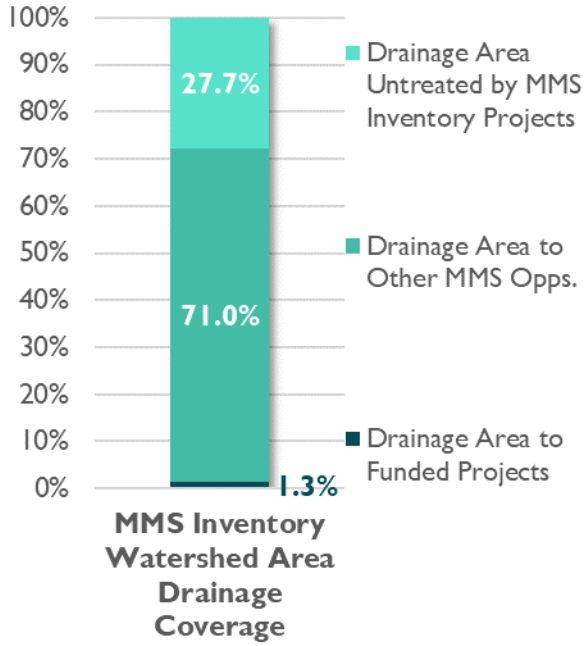
4 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

52 Total Opportunities in MMS Inventories

Major Tributary: Santa Clara River

Centralized developed center surrounded by mostly natural areas





Watershed Area Projects Characteristics:

4 SCW Program projects with momentum

4,000 acres of Watershed Area treated by SCW Program funded projects

48 additional opportunity projects from MMS Inventory to be considered

218,000 acres of Watershed Area potentially treated by additional opportunity projects

85,000 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (SCR)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

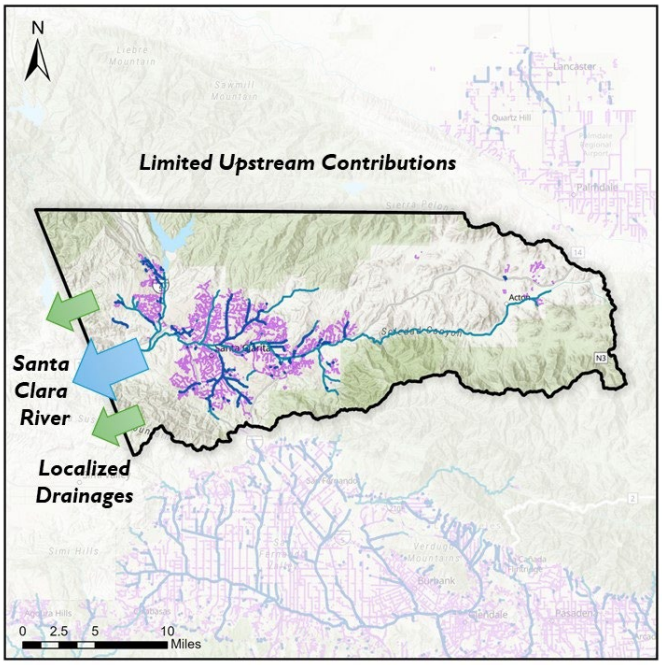
Targets

Water Quality Objective:
186.9 µg/L Total Zinc
(Upper Santa Clara River Enhanced Watershed Management Program derived from acute CTR criteria using hardness of 169 mg/L)

Avg. Annual Zinc Load:
8,550 lbs/year

Approx. # Wet Days:
37.7/year

Indicator:
2,900 lbs/year Total Zinc



Initial Benefits

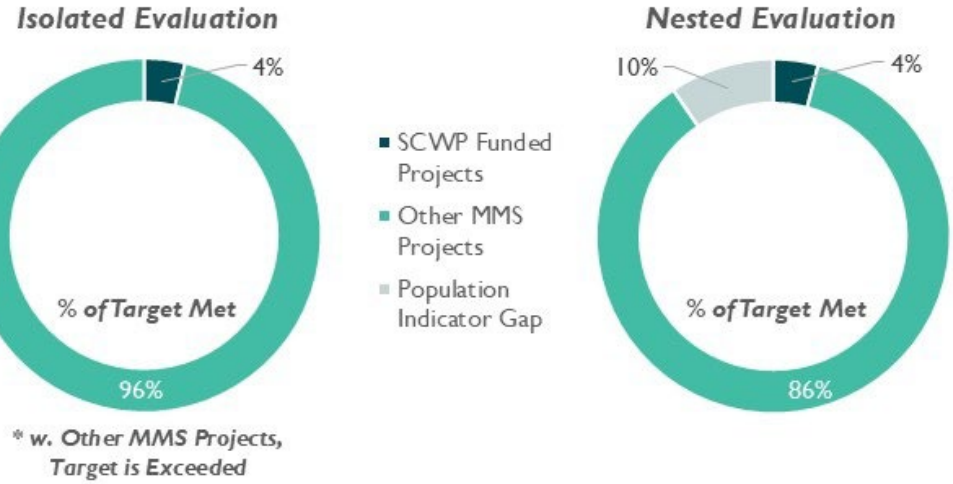
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

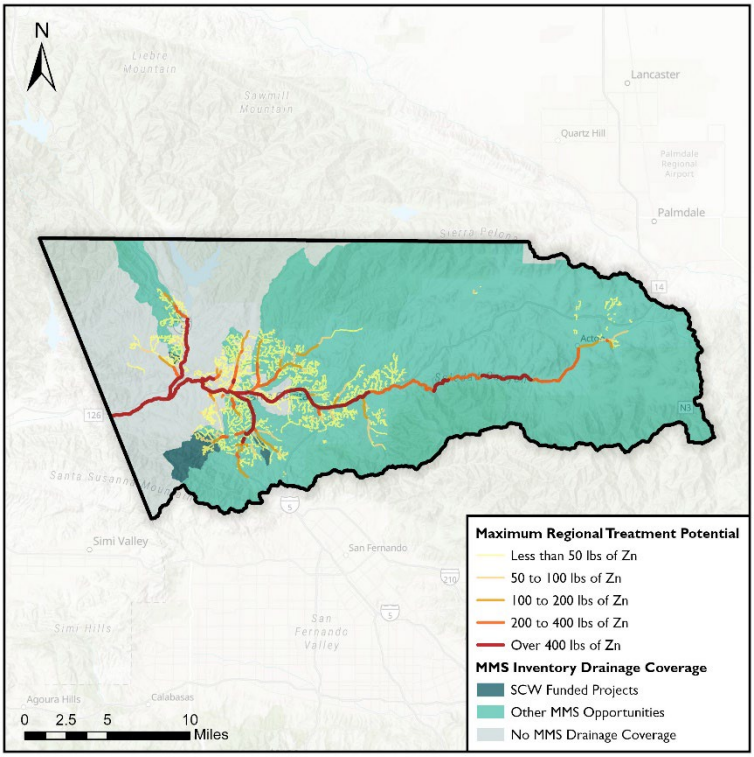
4
SCWP Funded Projects
(Regional & TRP projects)

120 lbs/yr
Total Zinc Removed
(pursuant to Indicator)

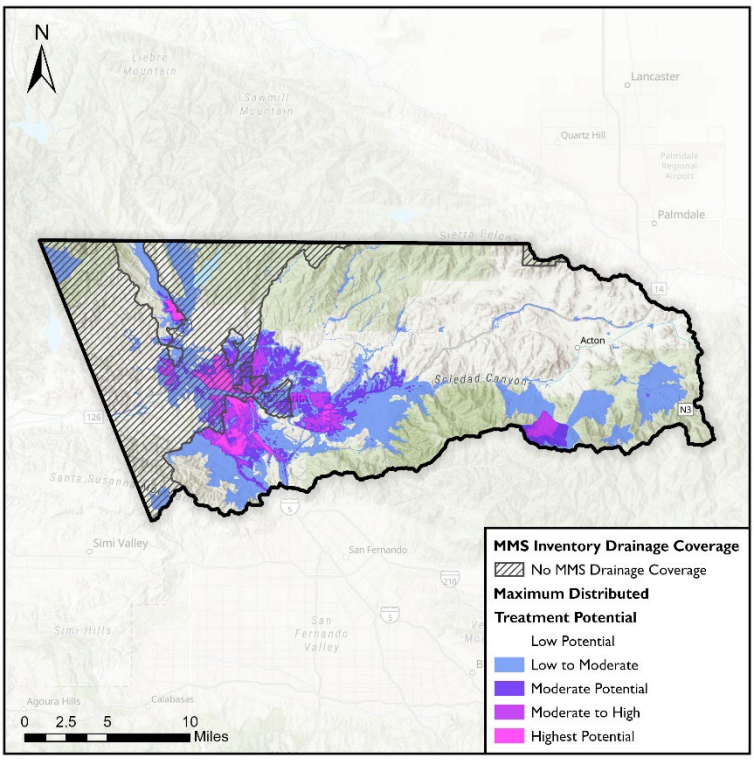
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

Key Watershed Needs & Opportunities

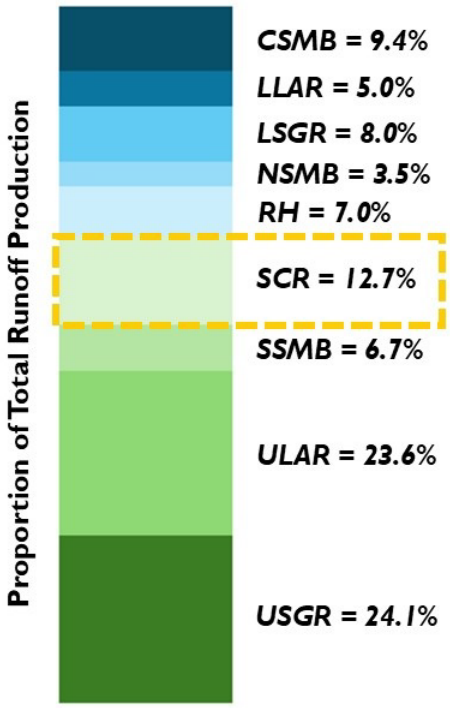
- MMS inventory projects may need to be supplemented with additional projects if example Indicators are to be met
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects, and those downstream of the more developed areas of the watershed
- Areas at the downstream areas of Santa Clarita were largely untreated by projects in the MMS inventory. These areas could be prioritized for project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the Santa Clara River watershed

Water Supply (SCR)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the SCR Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

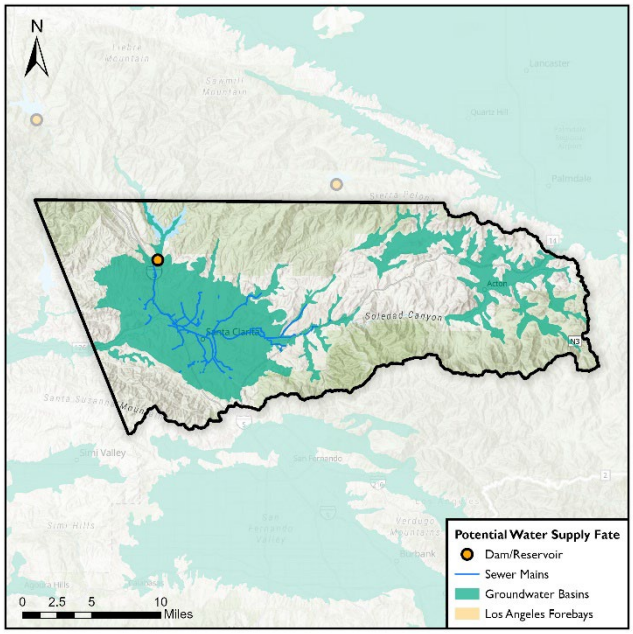
Avg. Annual Local Runoff:
94,600 ac-ft/year

Watershed Area Runoff %:
12.7% (of 746,000 ac-ft/yr total)

Indicator:
38,100 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

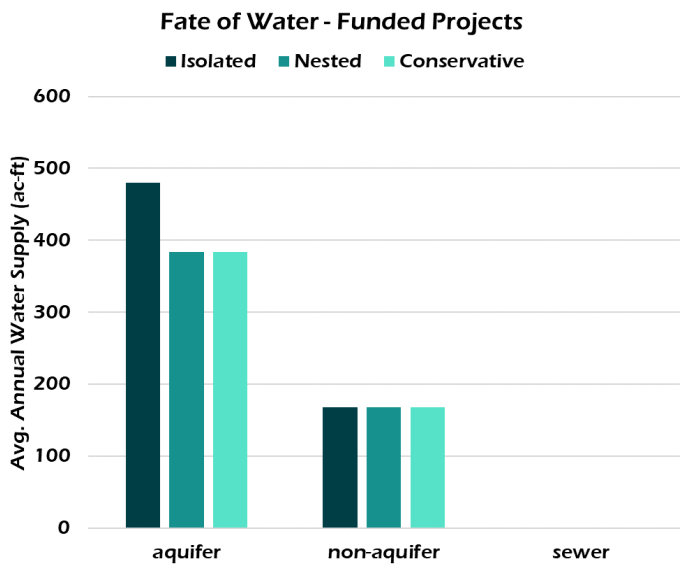
Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. MMS analysis calculated appropriate ratios to use to make these adjustments (see table). ***For this Watershed Area, adjustments are needed to account for the storages to the right, though no projects in The MMS inventory were upstream of these and most developed areas of the Watershed Area are downstream of them.***

Existing Modeled Capture	Net Countable Supply Upstream
Castaic Lake	11%
Bouquet Res.	45%
Pyramid Lake	0%

Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

550 ac-ft/year

(all fates included, no adjustment)

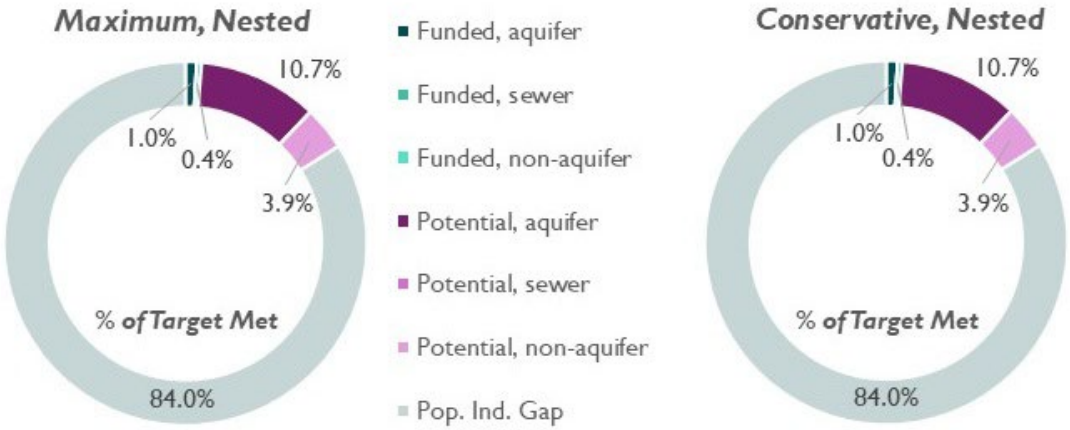
Conservative Adjusted Water Supply Estimate:

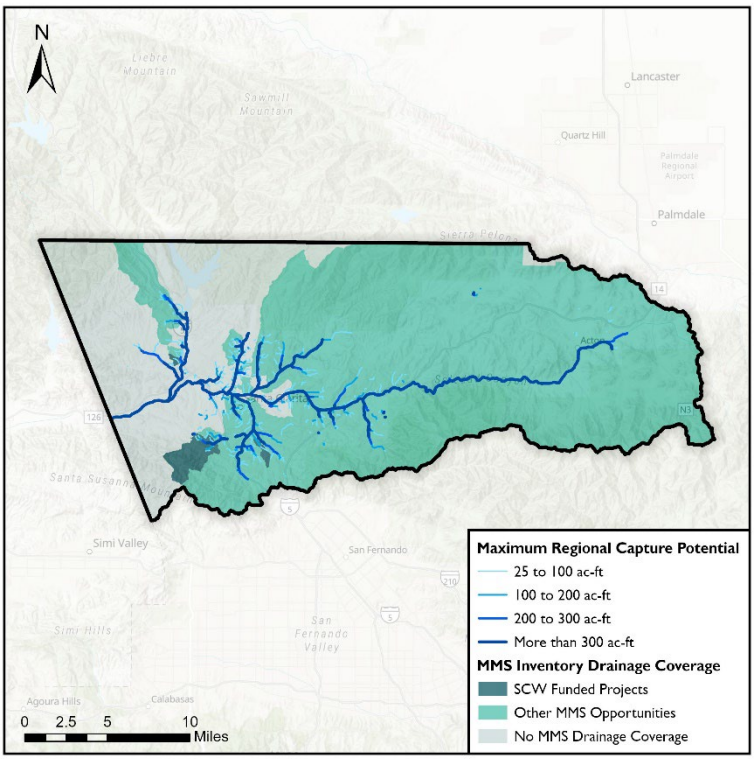
385 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

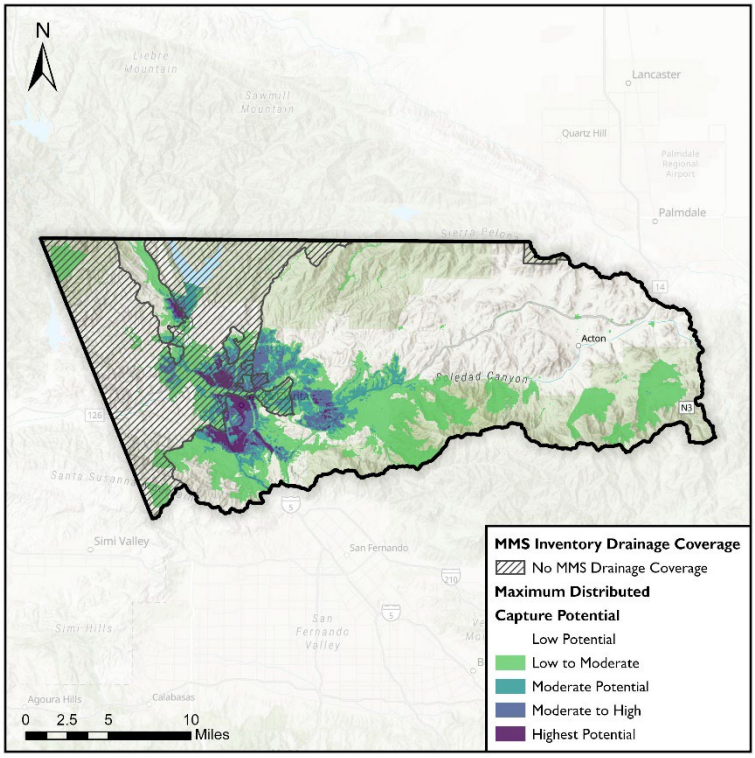
There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure. Also, Maximum and Conservative plots are the same here due to no existing capture facilities in this Watershed Area.





Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- Some unconfined aquifers exist in this Watershed Area and can be utilized to help meet stormwater goals for water supply contribution.
- Dense sewer networks in developed areas might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but coastal areas are still a good location to begin pursuing additional projects.
- Targeting larger storm drains near Santa Clarita where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Projects with discharge to sanitary sewers are most likely to have countable supply.

Community Investment Benefits (SCR)

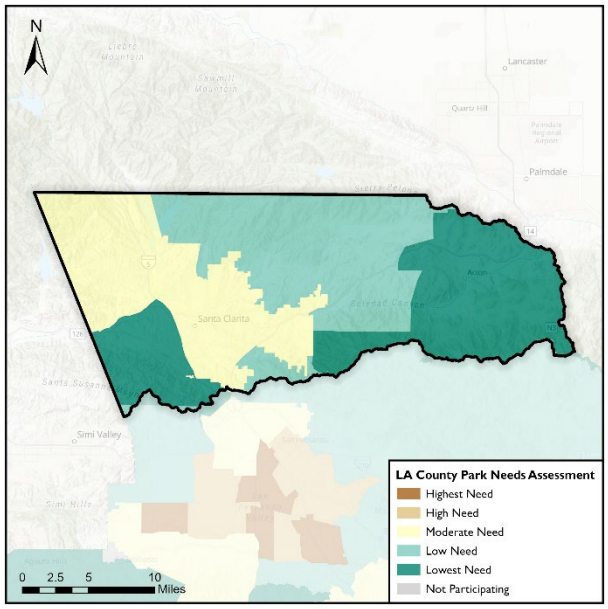
The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

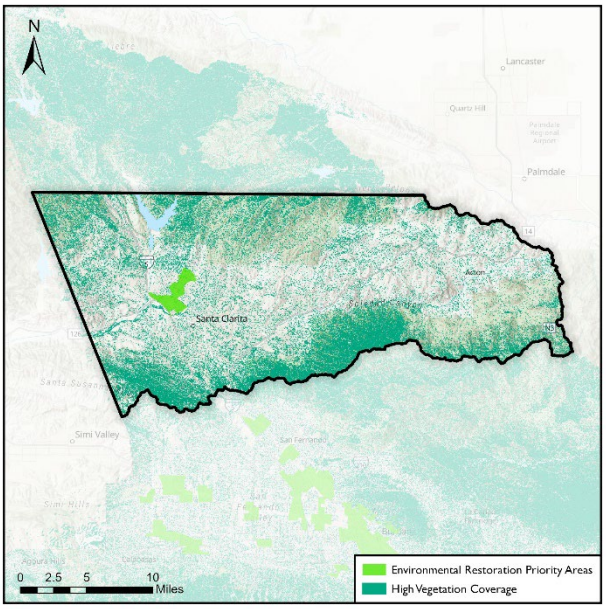
Indicators and Initial Benefits

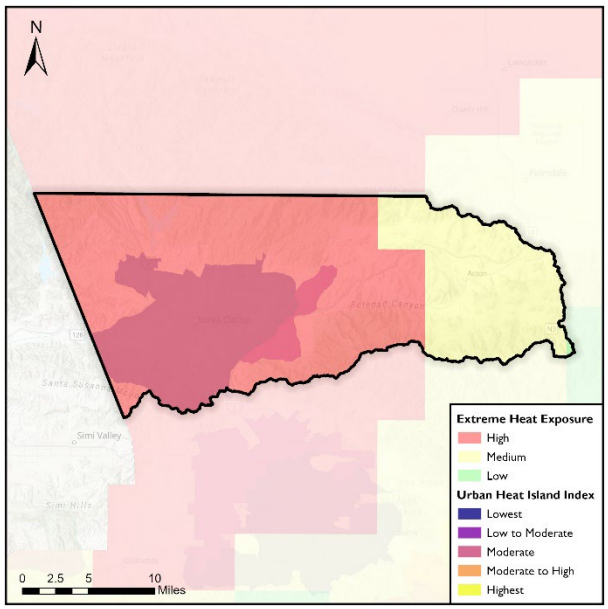
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks needs are lower overall in this Watershed Area but could be improved near developed areas and Santa Clarita particularly
- Restoration Priority Areas overlap some areas with Park Needs and would multi-benefit places to target for improvement
- Heat exposure is high and worse in developed areas; improving urban canopy can lessen these impacts and the experience of it

Place-Based Measures (SCR)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

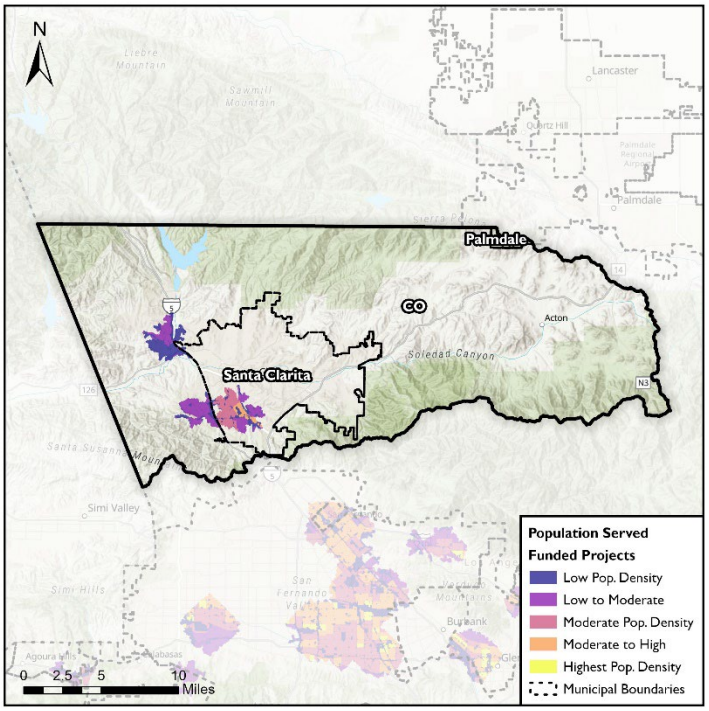
The following Targets can be evaluated using Place-Based Measures:

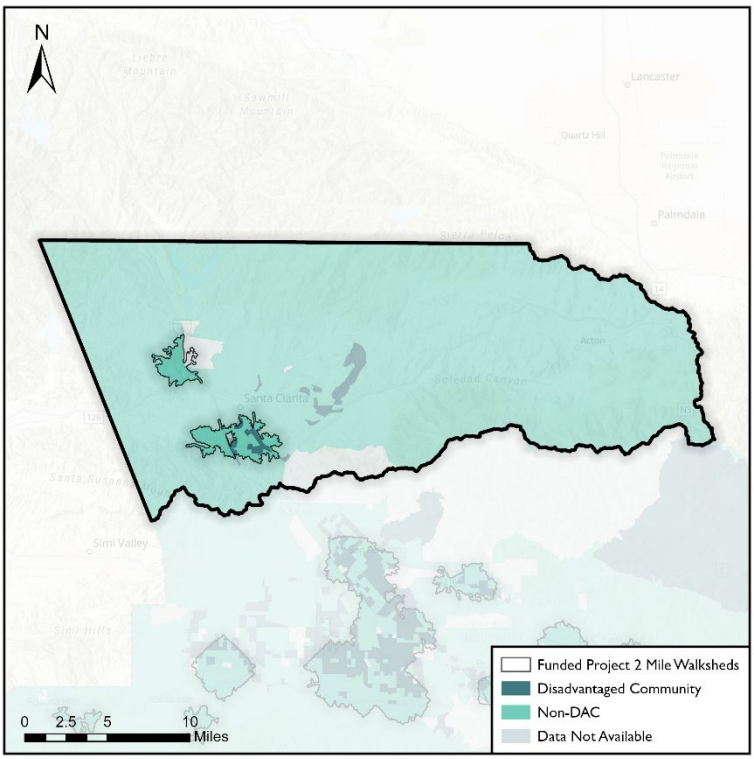
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
12%	100%*
(minimum percentage of total benefits to Disadvantaged Communities)	(Municipal benefits from Regional Program proportional to funds generated in each Municipality)

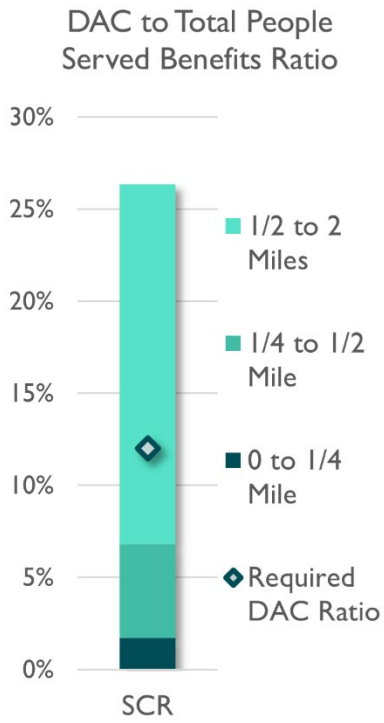
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

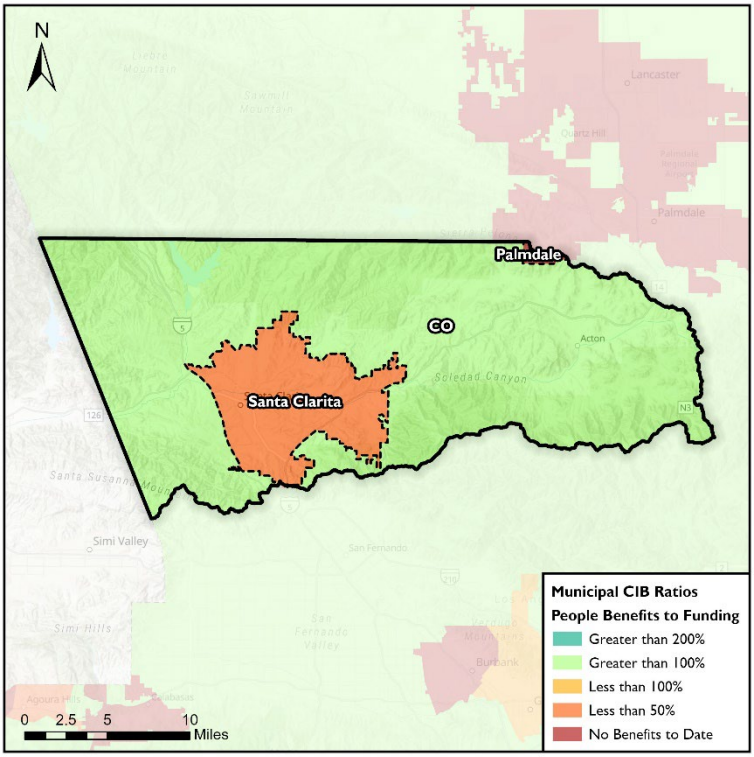
Initial Benefits

Over 59,000 (16%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 26% of Community Investment "People-Benefits" may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

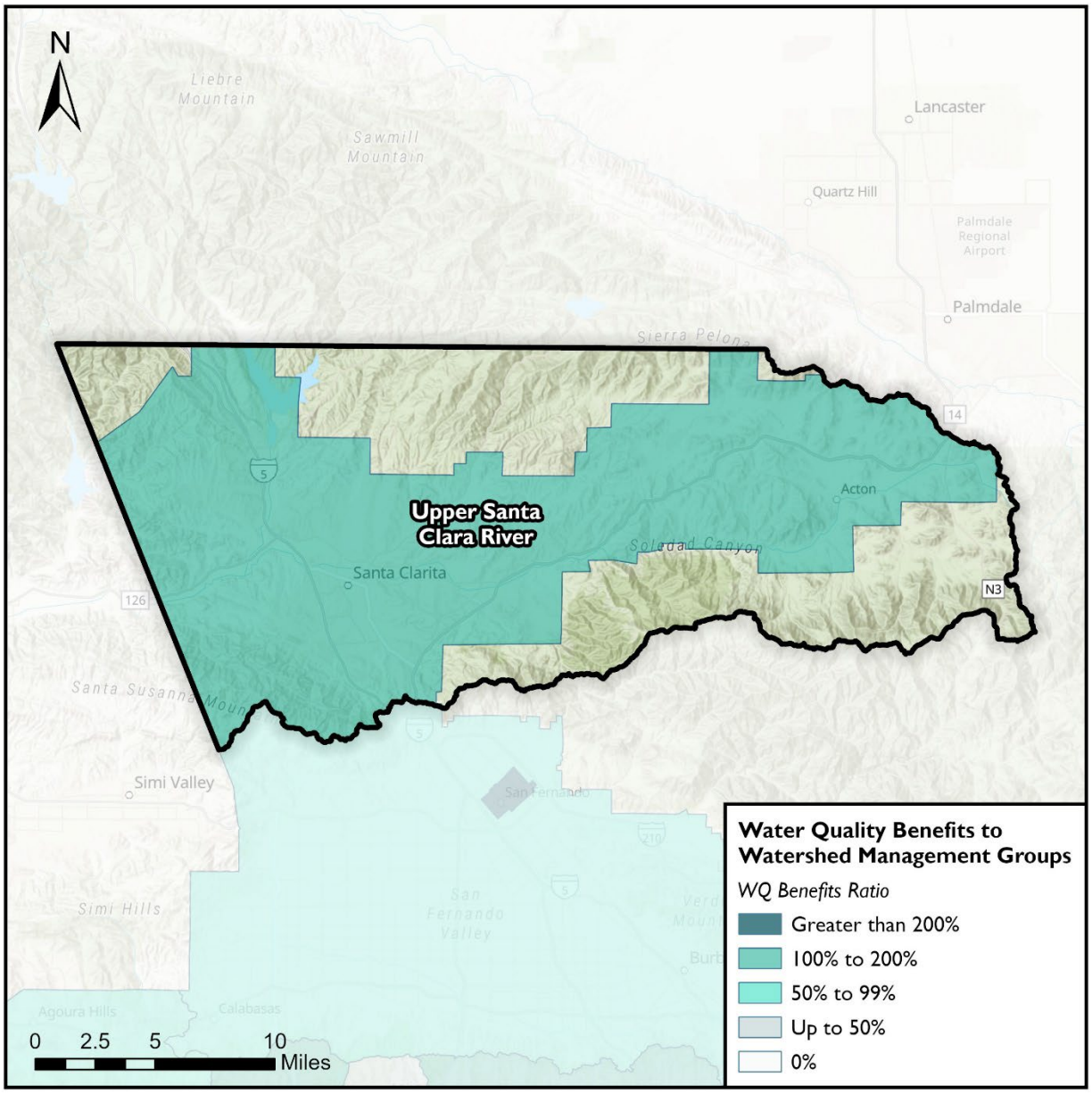
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Upper Santa Clara River	55 lbs/yr Total Zinc reduction	100%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as the DAC areas of Santa Clarita). See the map above highlighting DAC communities and these areas between funded project walksheds. Results suggest that the Upper Santa Clara River Group is receiving Water Quality benefits from Regional Program projects that are in line with the prorated funding generated in the WMG's Municipalities. This could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.

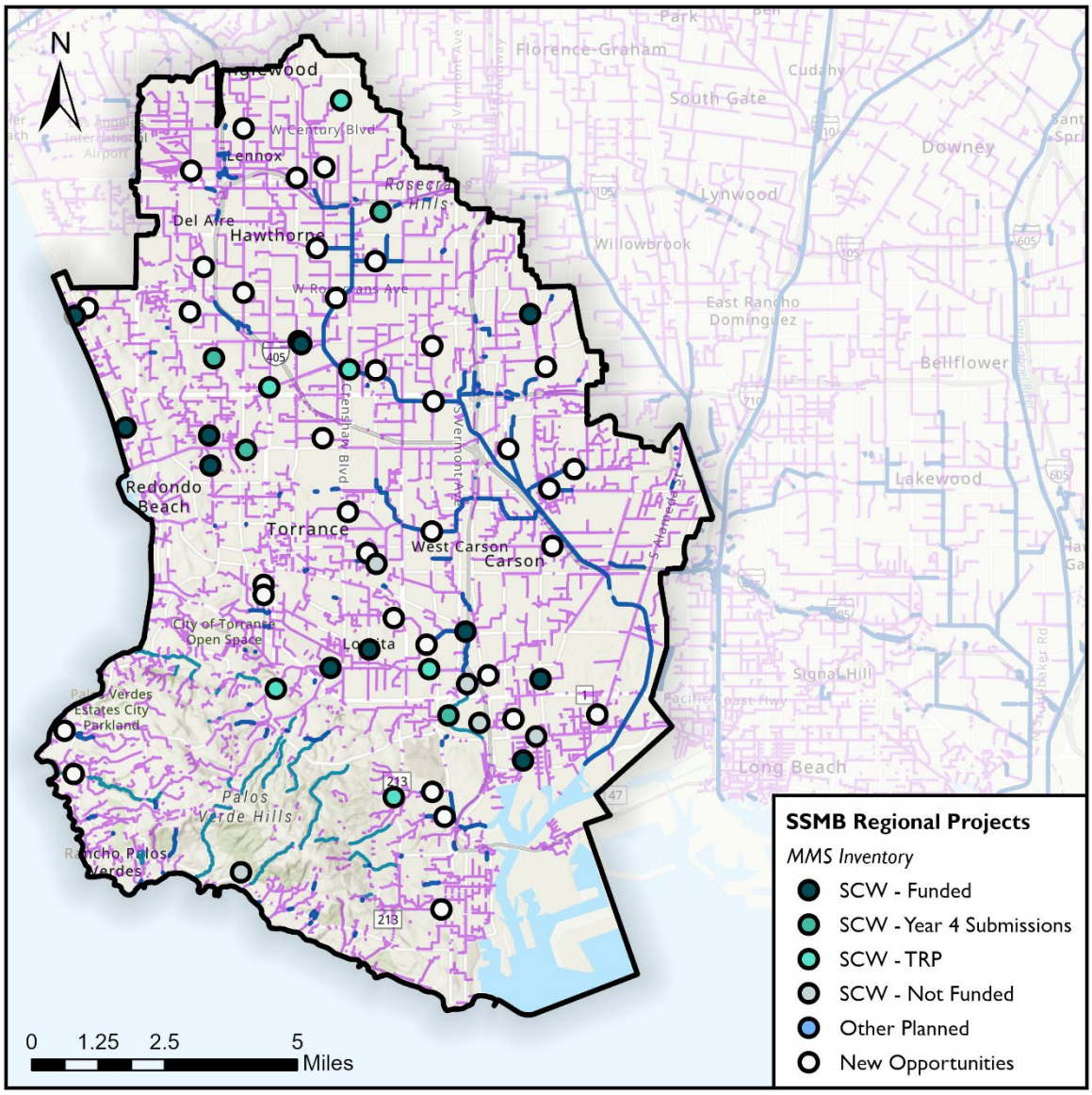


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

South Santa Monica Bay

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~96,100 total acres

42% impervious

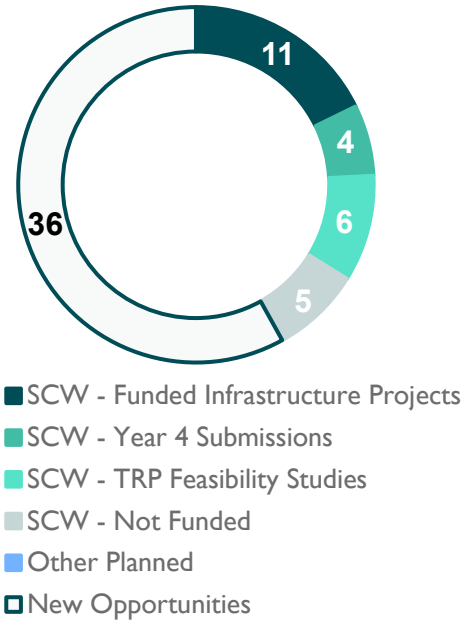
17 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

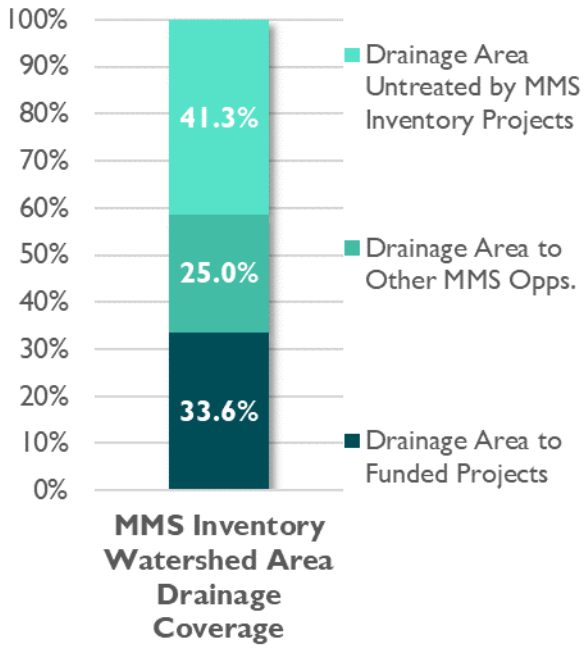
62 Total Opportunities in MMS Inventories

Major Tributary: Dominguez Chan.

Multiple, localized drainage outfalls to Santa Monica Bay

MMS Inventory by Status





Watershed Area Projects Characteristics:

17 SCW Program projects with momentum

32,300 acres of Watershed Area treated by SCW Program funded projects

45 additional projects from MMS Inventory to be considered

24,100 acres of Watershed Area potentially treated by additional opportunity projects

39,700 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (SSMB)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

Targets

Water Quality Objective:
69.7 µg/L Total Zinc
(Dominguez Chan. and Greater LA & Long Beach Harbor Waters Toxic Pollutants TMDL Freshwater Targets derived from acute CTR criteria using hardness of 50 mg/L specified)

Avg. Annual Zinc Load:
35,750 lbs/year

Approx. # Wet Days:
36.9/year

Indicator:
29,050 lbs/year Total Zinc Reduction

Initial Benefits

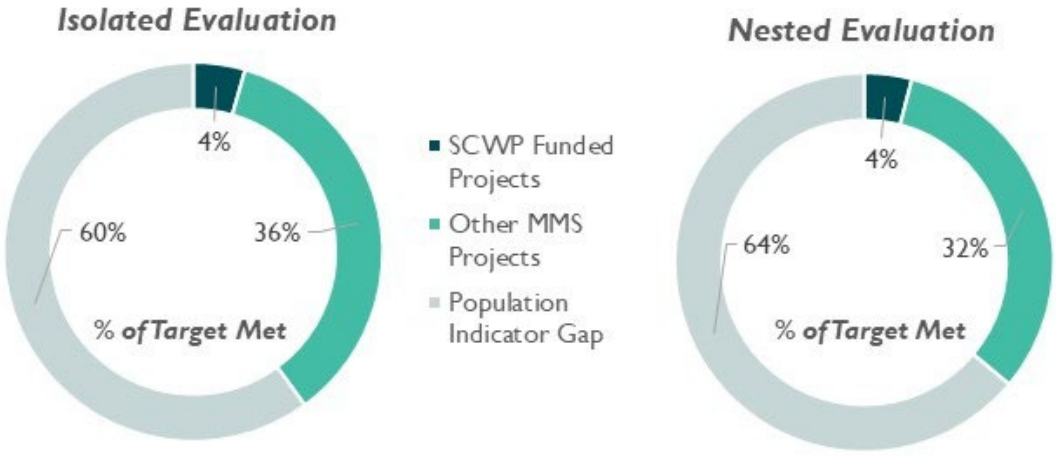
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

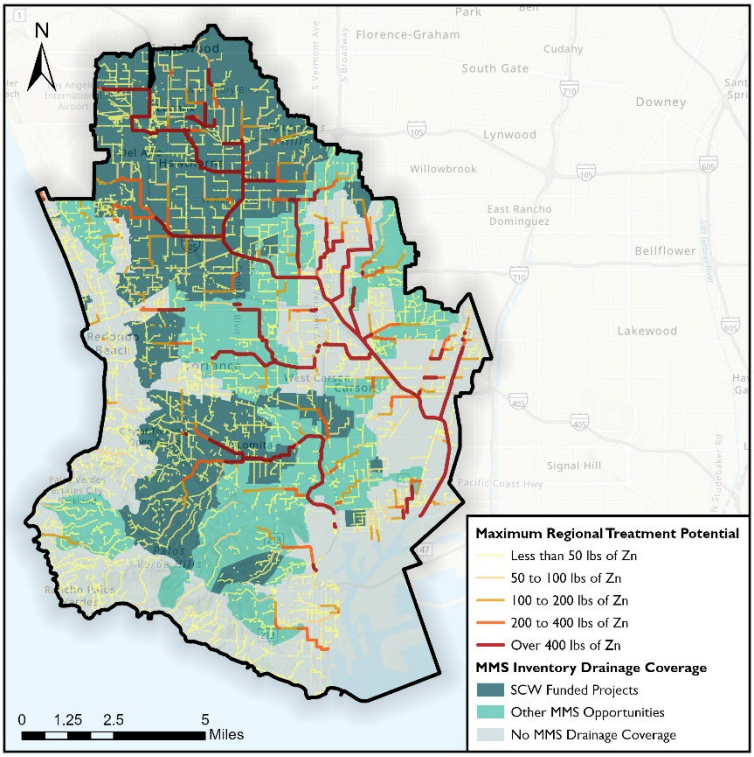
17
SCWP Funded Projects (Regional & TRP projects)

1,325 lbs/yr
Total Zinc Removed (pursuant to Indicator)

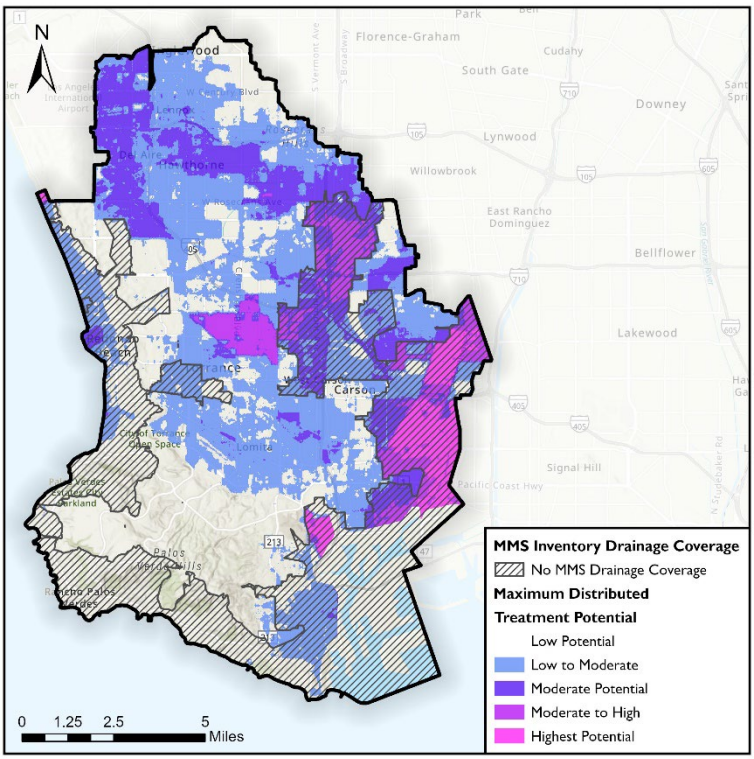
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



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Key Watershed Needs & Opportunities

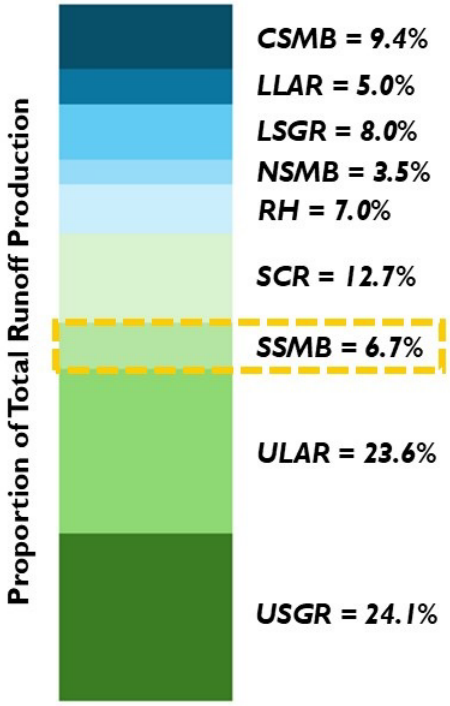
- MMS inventory projects may need to be supplemented with additional projects if example Indicators are to be met
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects
- Areas near the Dominguez Channel itself as well as areas near the coast draining away from Dominguez Channel are key regions untreated by projects in the MMS inventory. These areas should be prioritized for project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the South Santa Monica Bay watershed

Water Supply (SSMB)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the SSMB Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

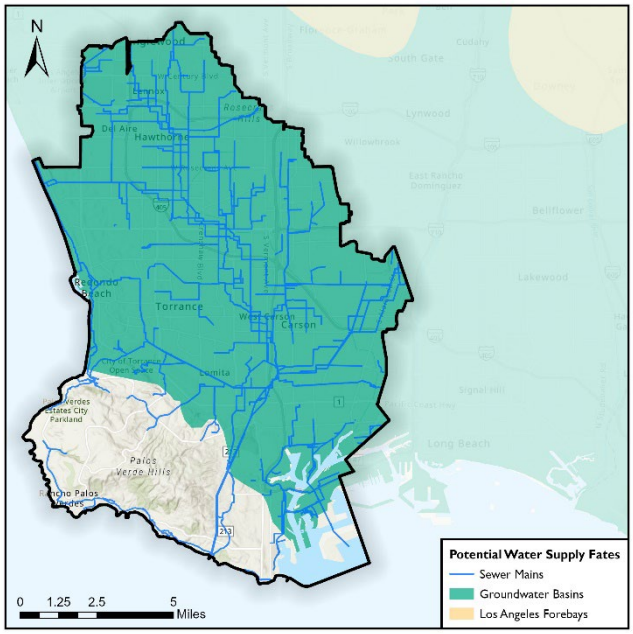
Avg. Annual Local Runoff:
50,000 ac-ft/year

Watershed Area Runoff %:
6.7% (of 746,000 ac-ft/year total)

Indicator:
20,100 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

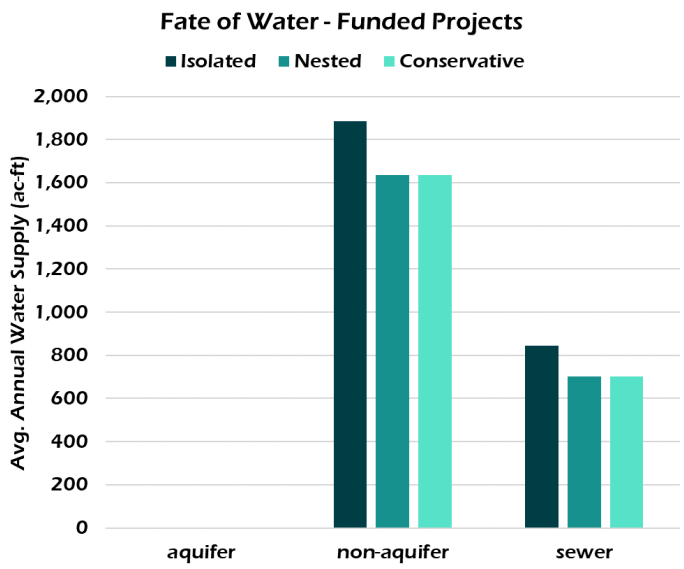
Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. ***For this Watershed Area, no adjustments are needed as there are no existing facilities to account for.***

Existing Modeled Capture	Net Countable Supply Upstream
No existing capture to be accounted for	

Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

2,335 ac-ft/year

(all fates included, no adjustment)

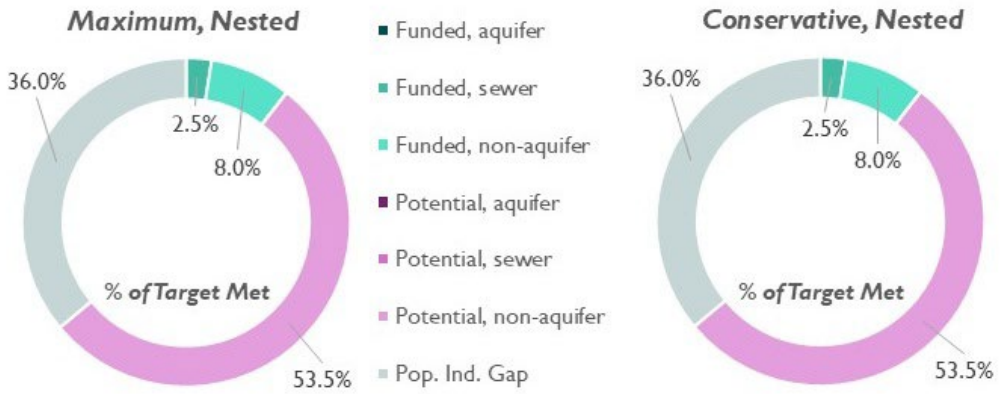
Conservative Adjusted Water Supply Estimate:

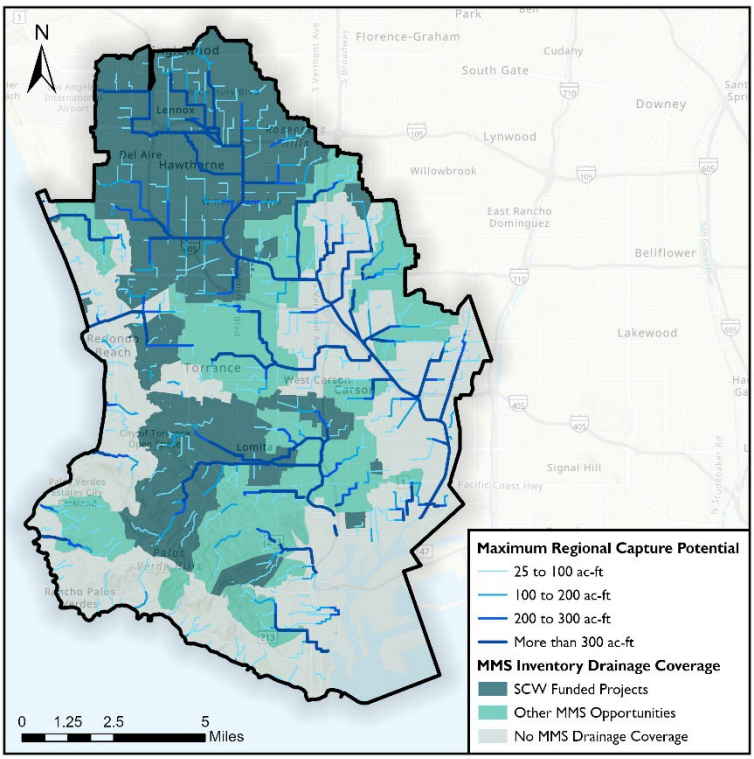
700 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

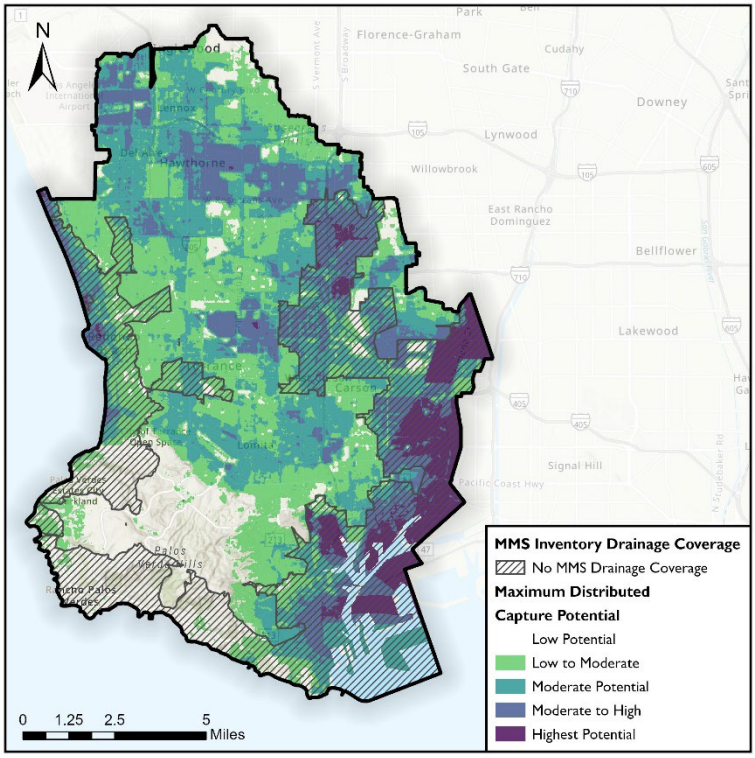
There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure. Also, Maximum and Conservative plots are the same here due to no existing capture facilities in this Watershed Area.





Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- Very little if any of the Watershed Area contains unconfined aquifers that might be tapped for sustainable groundwater supply
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but coastal areas are still a good location to begin pursuing additional projects.
- Targeting larger storm drains in coastal areas and areas near the Dominguez Channel itself where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Projects with discharge to sanitary sewers are most likely to have countable supply.

Community Investment Benefits (SSMB)

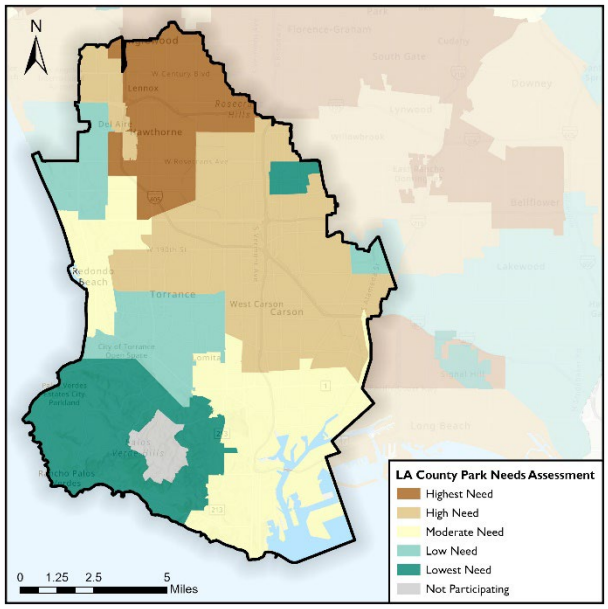
The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

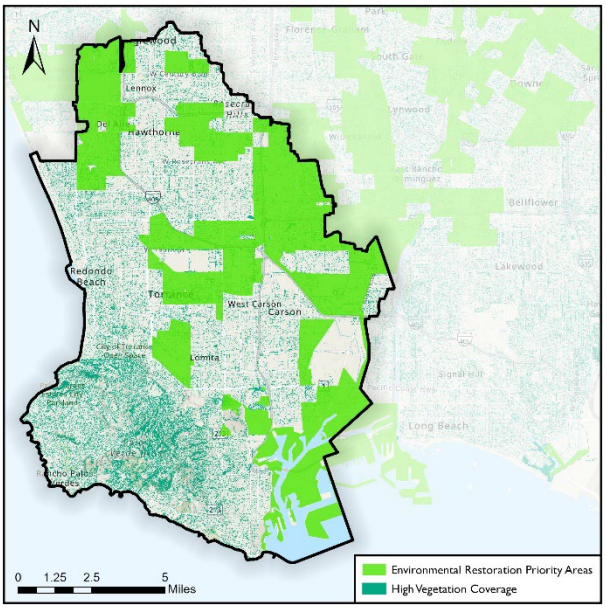
Indicators and Initial Benefits

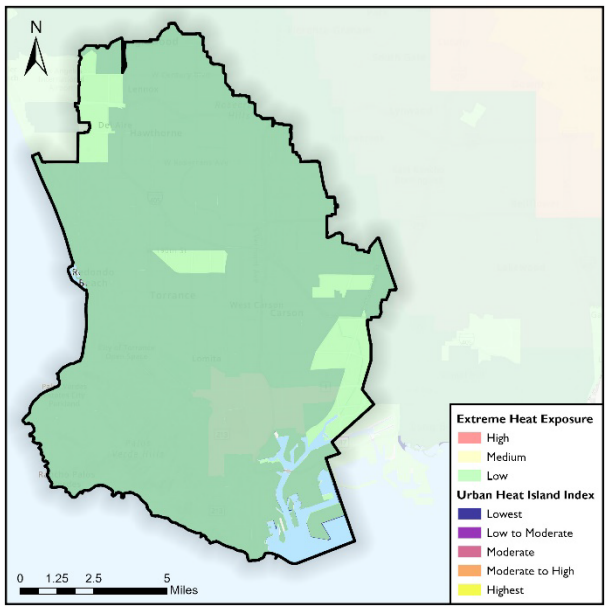
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks needs are highest in more developed interior areas of the Watershed Area
- Restoration Priority Areas overlap some areas with Park Needs and would be multi-benefit places to target for improvement
- Heat exposure is minimal in this Watershed Area due to coastal proximity; there are however densely developed areas with light vegetation that could be improved

Place-Based Measures (SSMB)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

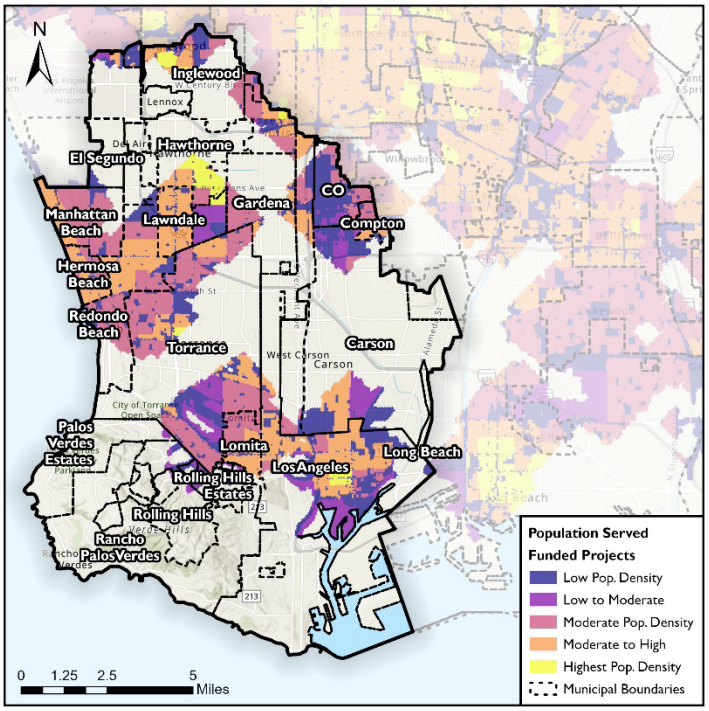
The following Targets can be evaluated using Place-Based Measures:

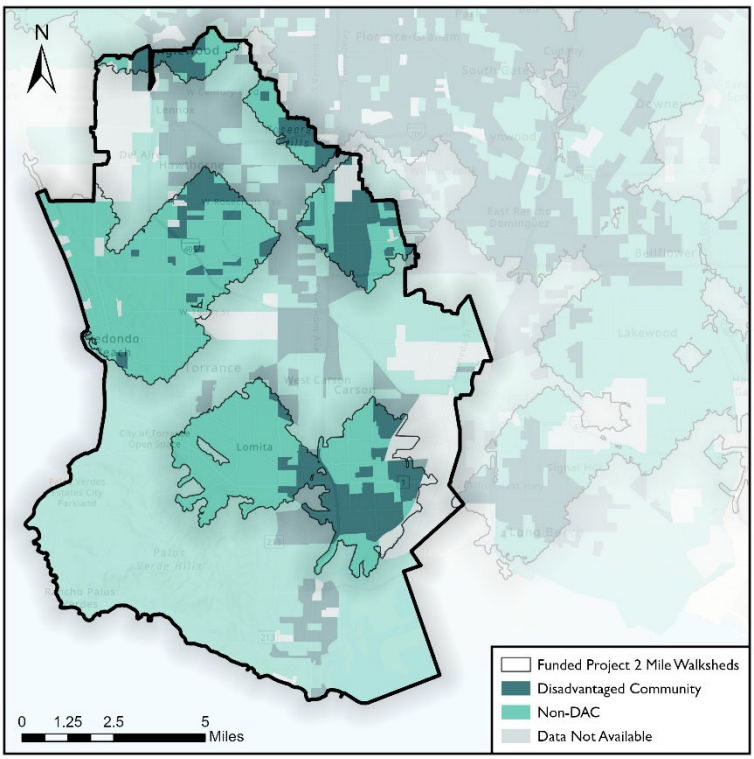
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
30%	100%*
(minimum percentage of total benefits to Disadvantaged Communities)	(Municipal benefits from Regional Program proportional to funds generated in each Municipality)

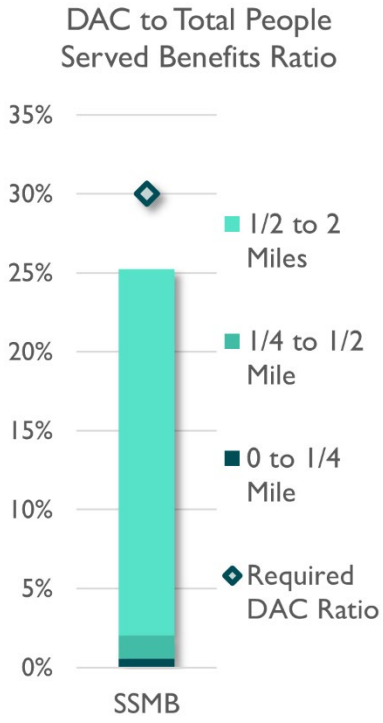
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

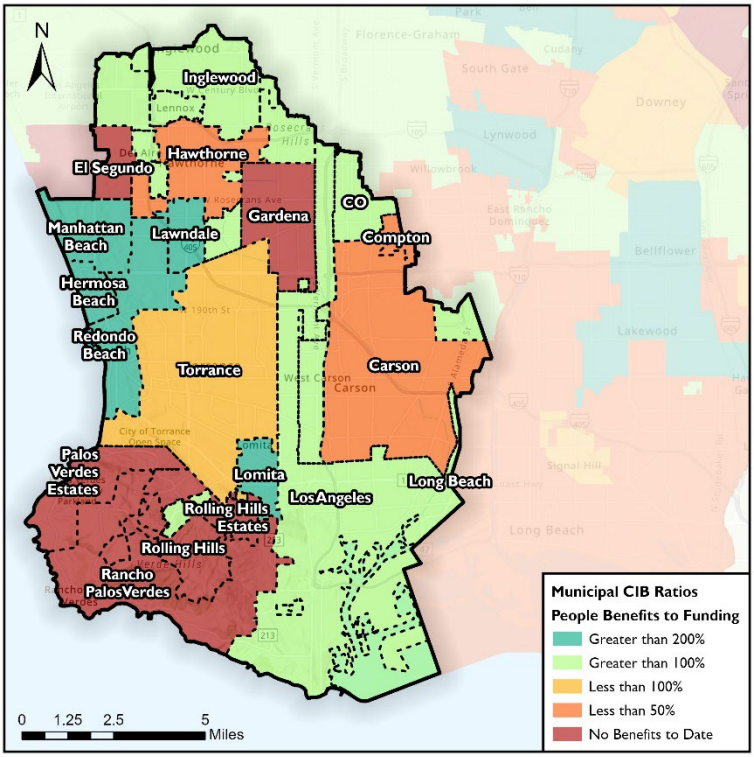
Initial Benefits

Over 559,000 (46%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 25% of Community Investment "People-Benefits" may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

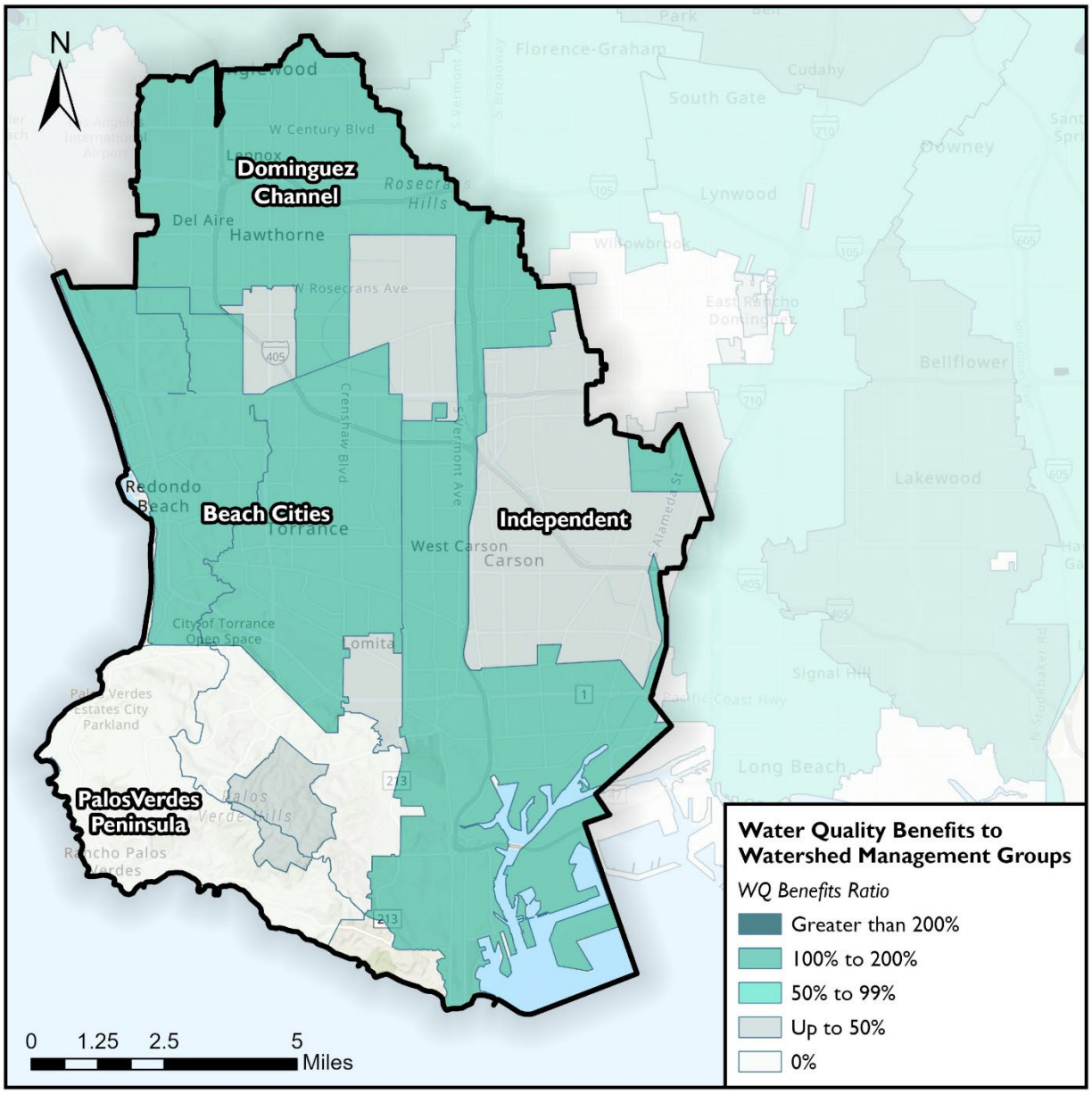
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Beach Cities	378 lbs/yr Total Zinc reduction	181%
Dominguez Channel	491 lbs/yr Total Zinc reduction	129%
Palos Verdes Península	0 lbs/yr Total Zinc reduction	0%
Independent Municipalities	45 lbs/yr Total Zinc reduction	20%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, the Watershed Area does not currently meet the Target for Disadvantaged Community benefits and the maps show that there may be additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as the areas like Gardena and Hawthorne for example). See the map above highlighting DAC communities and these areas between funded project walksheds. Additionally, the results suggest that the Palos Verdes Peninsula and Independent Municipalities may be receiving Water Quality benefits from Regional Program projects that is disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.

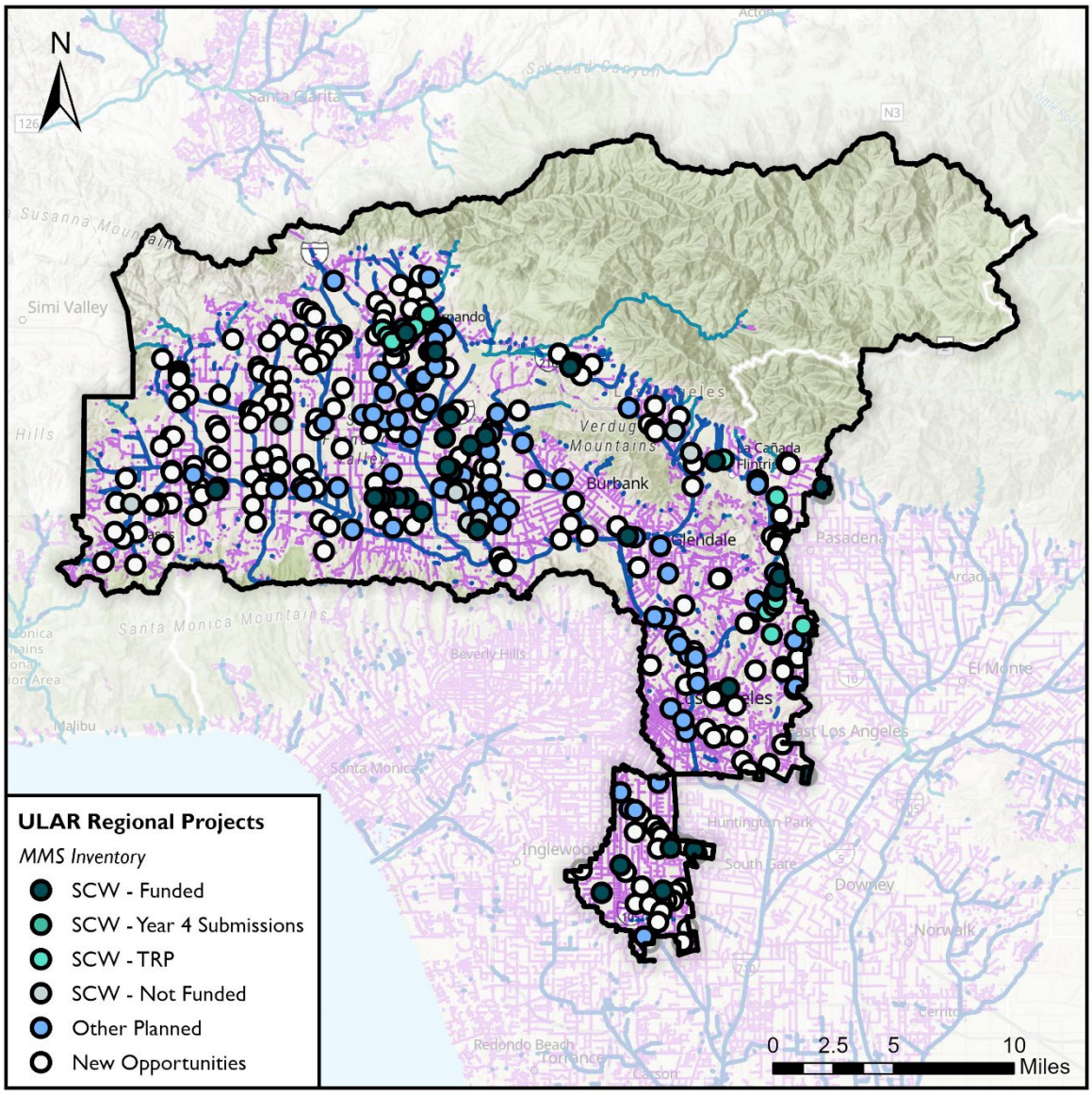


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

Upper Los Angeles River

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~392,200 total acres

20% impervious

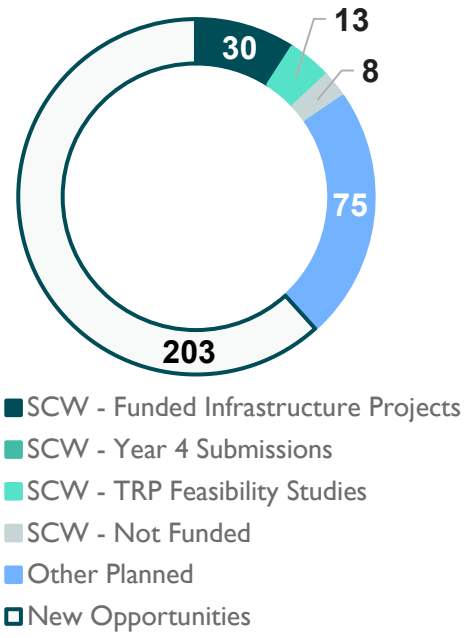
43 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

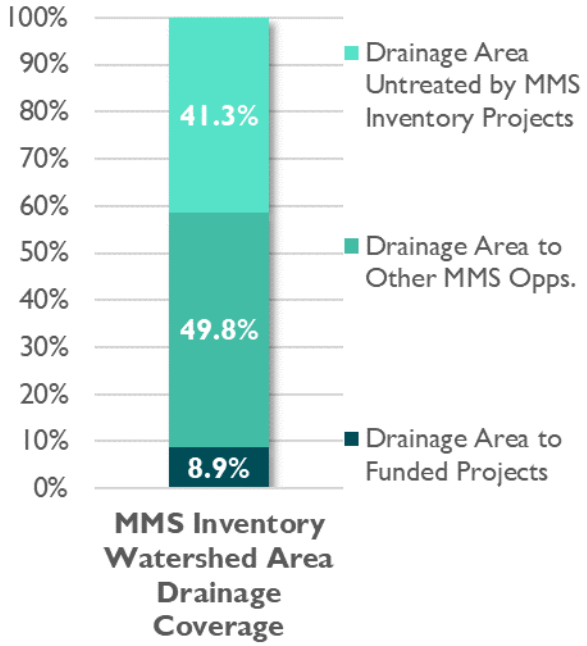
329 Total Project Opportunities in MMS Inventories

Major Tributary: Los Angeles River

Multiple large, developed tributaries drain to the mainstem

MMS Inventory by Status





Watershed Area Projects Characteristics:

43 SCW Program projects with momentum

34,900 acres of Watershed Area treated by SCW Program funded projects

286 additional opportunity projects from MMS Inventory to be considered

195,300 acres of Watershed Area potentially treated by additional opportunity projects

162,000 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (ULAR)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

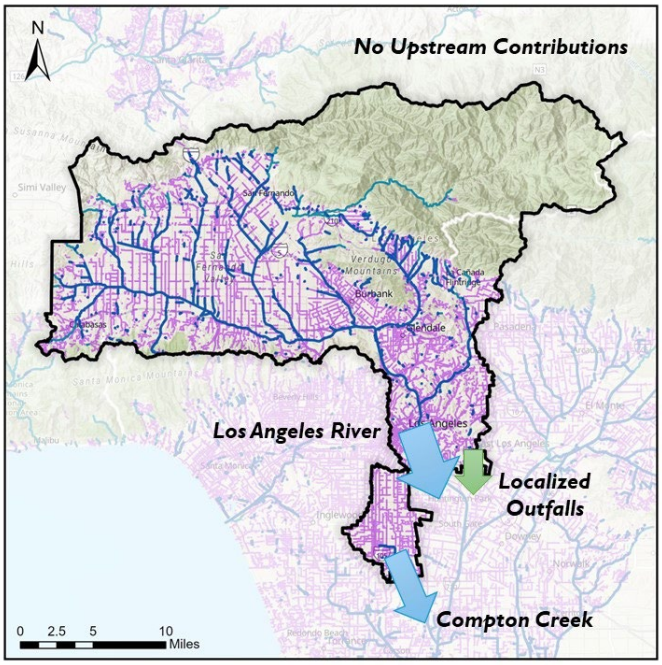
Targets

Water Quality Objective:
159.0 µg/L Total Zinc
(Los Angeles River and Tributaries Metals TMDL Wet Weather Targets derived from acute CTR criteria using hardness of 80 mg/L specified in Staff Report)

Avg. Annual Zinc Load:
59,990 lbs/year

Approx. # Wet Days:
36.6/year

Indicator:
21,220 lbs/year Total Zinc Reduction



Initial Benefits

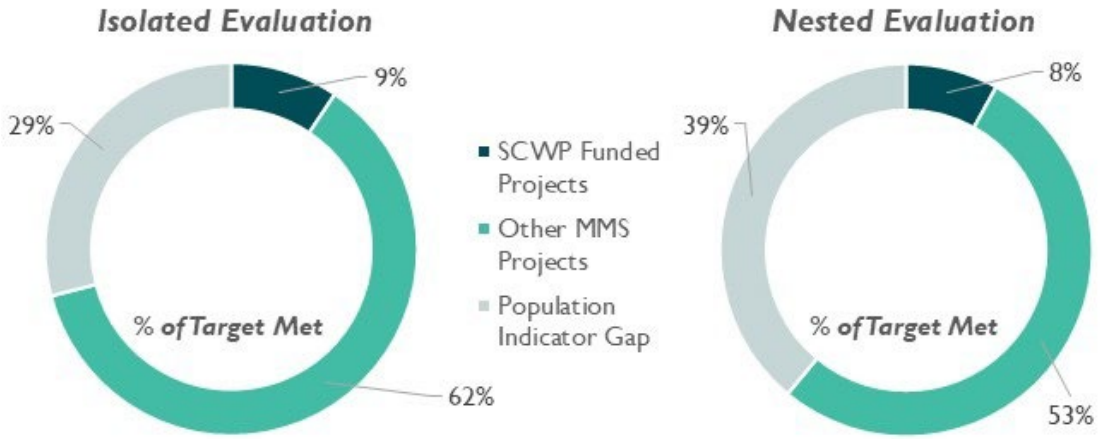
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

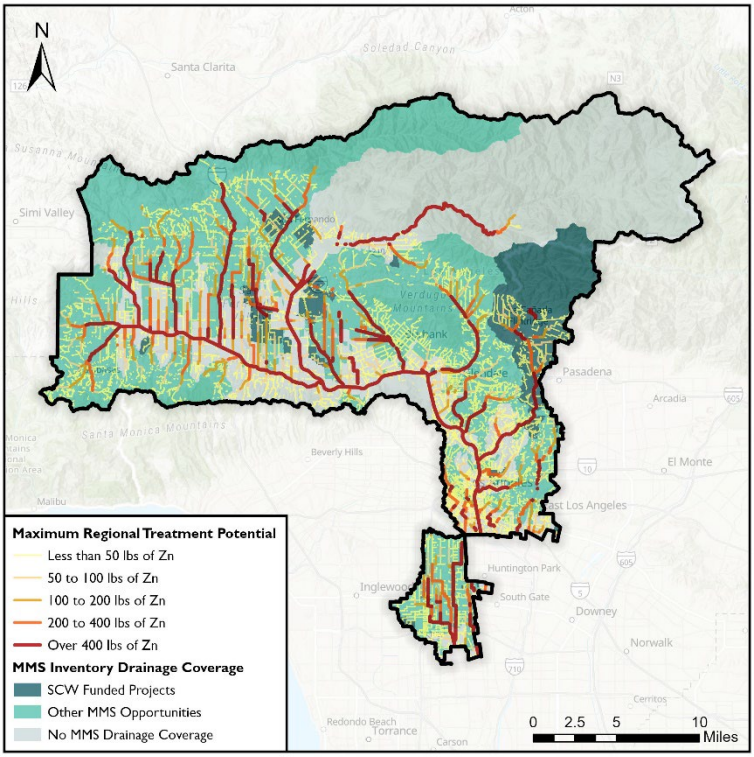
43
SCWP Funded Projects
(Regional & TRP projects)

1,825 lbs/yr
Total Zinc Removed
(pursuant to Indicator)

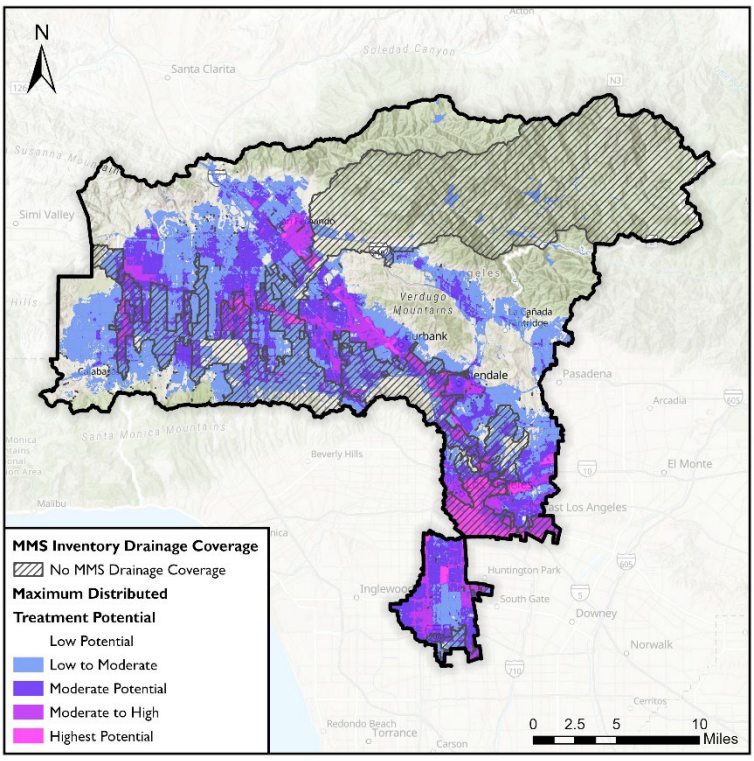
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



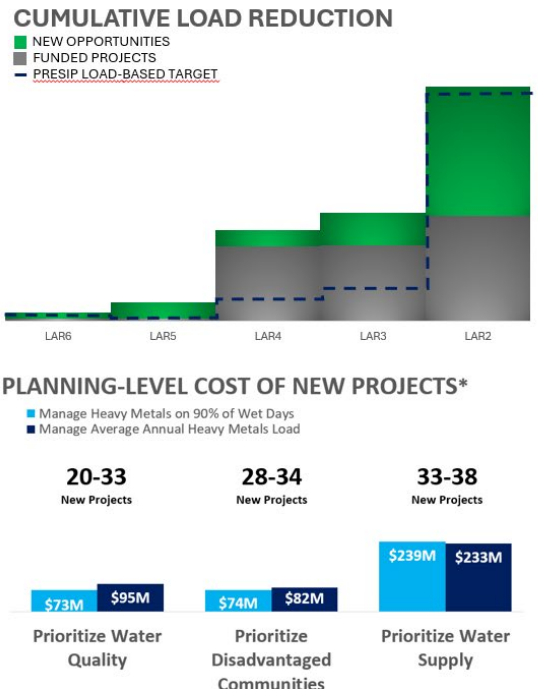
Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

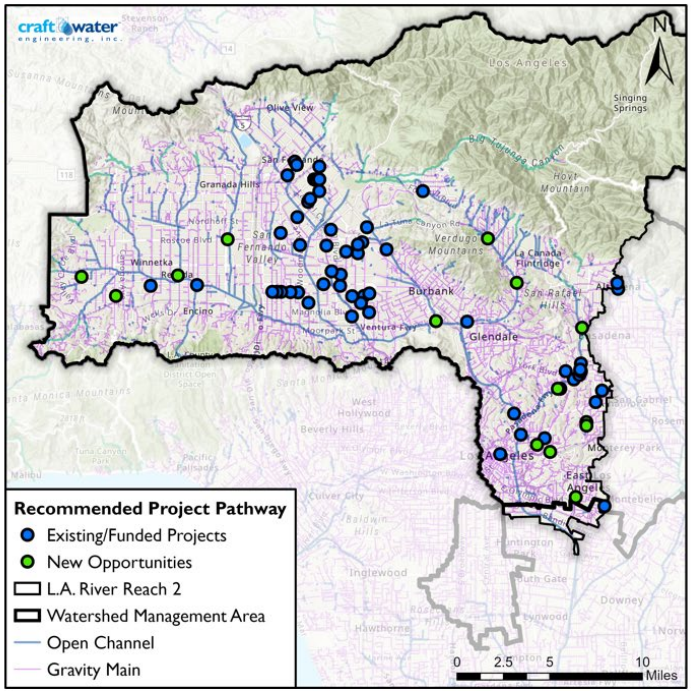
Key Watershed Needs & Opportunities

- MMS inventory projects may need to be supplemented with additional projects if example Indicators are to be met
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects, especially in the tributary drainages with the highest pollutant load accumulations
- Areas near large tributaries that are untreated by projects in the MMS inventory could yield potential additional opportunities. These areas should be prioritized for further project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the Upper LA River watershed

Key Findings – preSIP Scientific Study (ULAR)

Estimates of pollutant loading and work to be done to meet regulations in the Upper LA River watershed have at times seemed daunting. However, new data and updated models have begun to provide more clarity on the state of the watershed and what more needs to be done to meet water quality goals. The preSIP Scientific Study used the most recently collected water quality data to produce a more realistic snapshot of pollutant levels in the watershed and used this data to recalibrate baseline models to reflect this updated snapshot at points across the watershed, doing so from upstream to downstream to ensure models reflect differences across diverse regions and conditions. ***With this updated watershed understanding, revised targets and goals for pollutant removal were developed and the contributions of existing and planned projects were then revised. Finally, additional projects needed to meet water quality goals were selected from a collaboratively produced inventory and added to the system until goals were met across watershed assessment points.*** Pathways were established using different ideals for prioritization to highlight that different emphases can still result in desired water quality outcomes, but these pathways may have different (or not appreciably different) estimated costs associated with them.



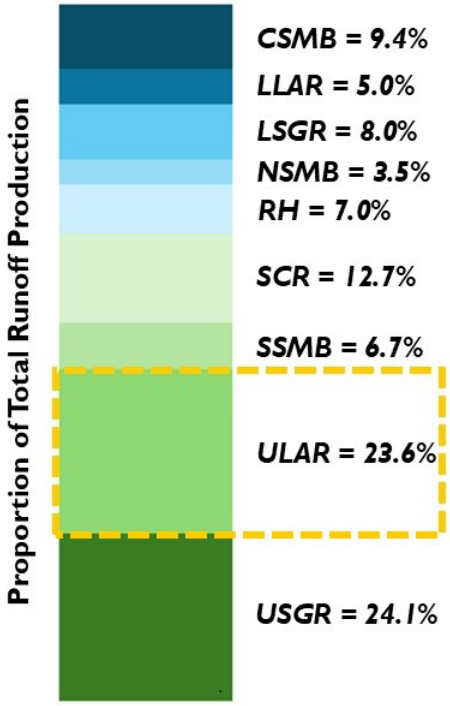


Water Supply (ULAR)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the ULAR Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

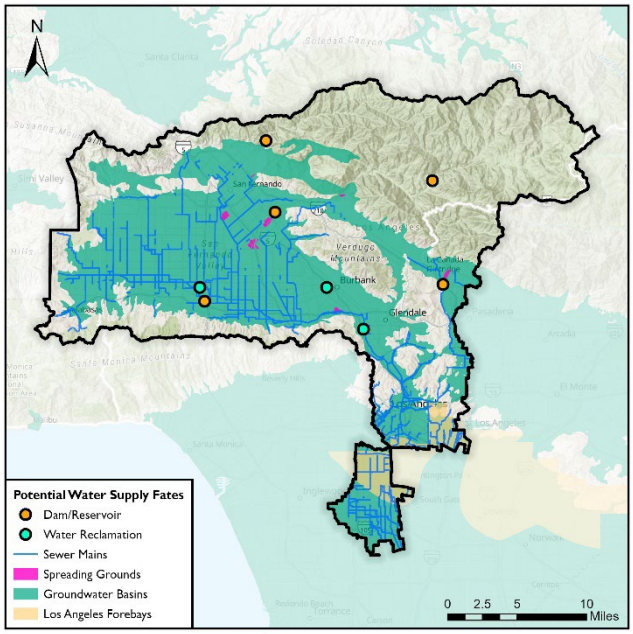
Avg. Annual Local Runoff:
176,000 ac-ft/year

Watershed Area Runoff %:
23.6% (of 746,000 ac-ft/yr total)

Indicator:
70,800 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

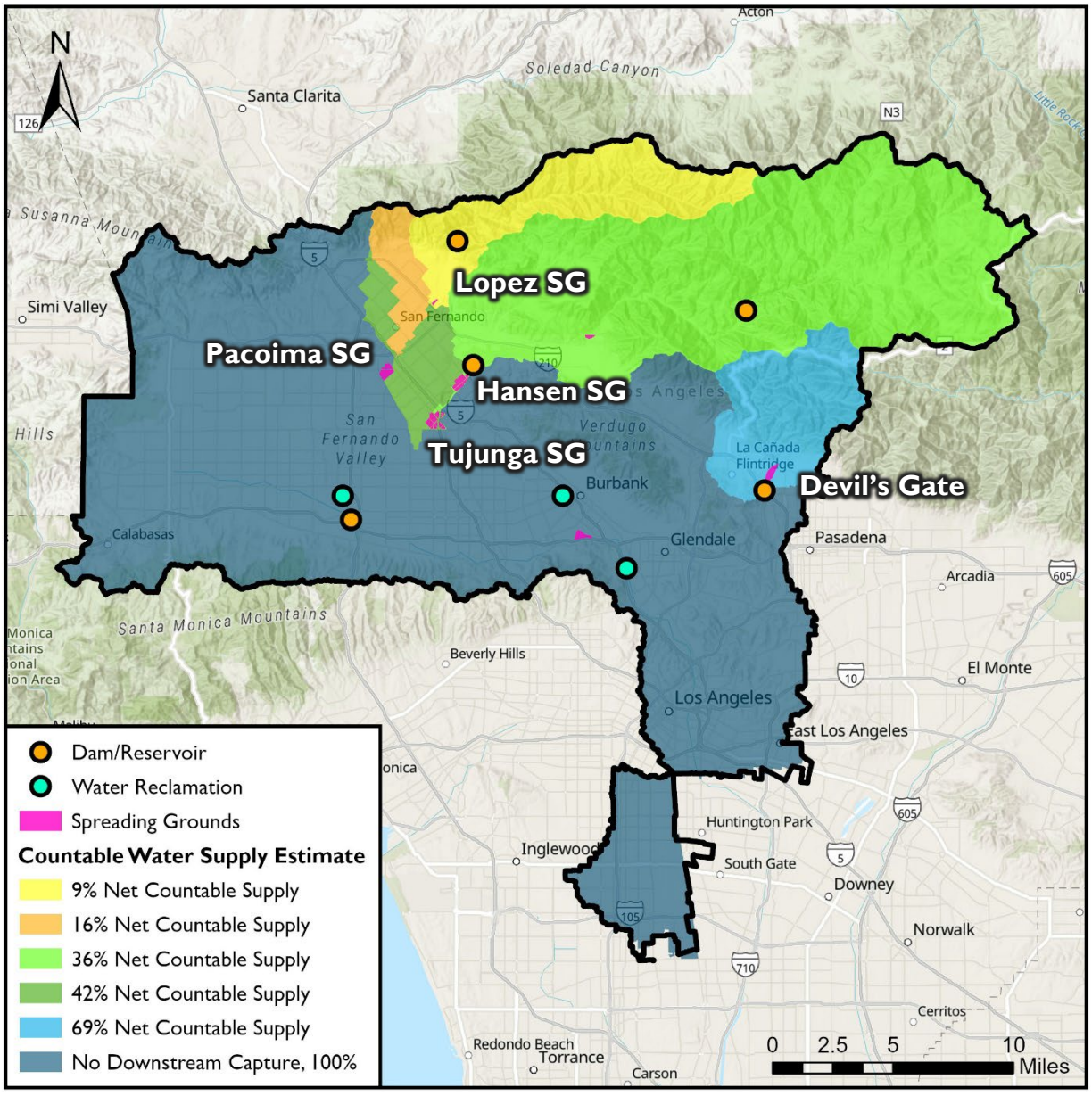
Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. MMS analysis calculated appropriate ratios to use to make these adjustments (see table). ***For this Watershed Area, adjustments are needed to account for the spreading grounds to the right and have been highlighted spatially in the map below.***

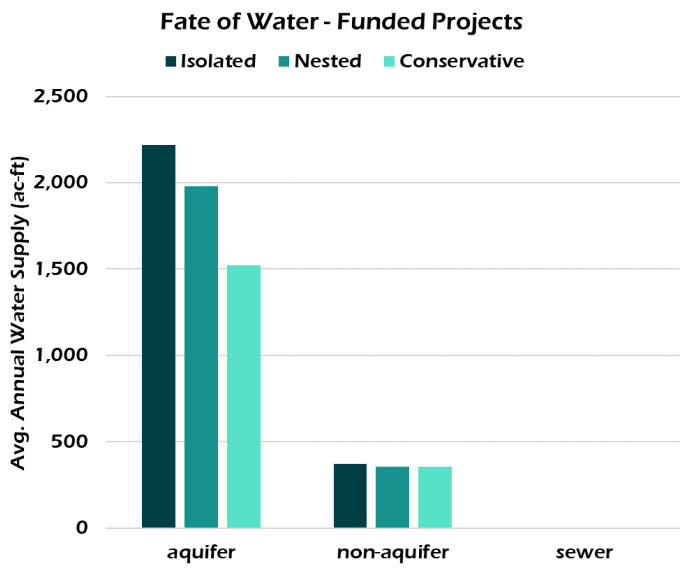
Existing Modeled Capture	Net Countable Supply Upstream
Devil's Gate	69%
Tujunga SG	42%
Pacoima SG	16%
Lopez SG	9%
Hansen SG	36%

The map below highlights adjustments that were used to adjust project runoff capture to produce a conservative estimate to account for runoff already captured by existing facilities. Baseline modeling estimates of capture for these existing facilities and the routing between these was factored in to net countable supply adjustment ratios.



Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

2,332 ac-ft/year

(all fates included, no adjustment)

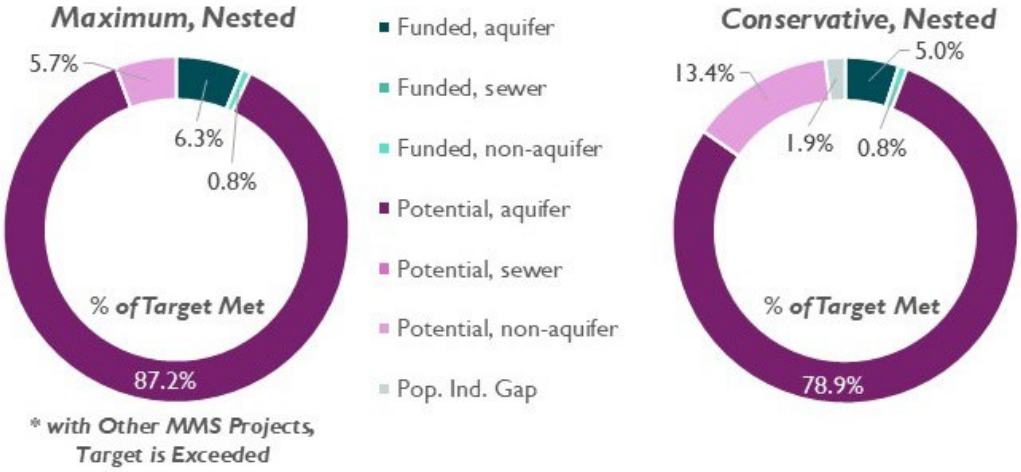
Conservative Adjusted Water Supply Estimate:

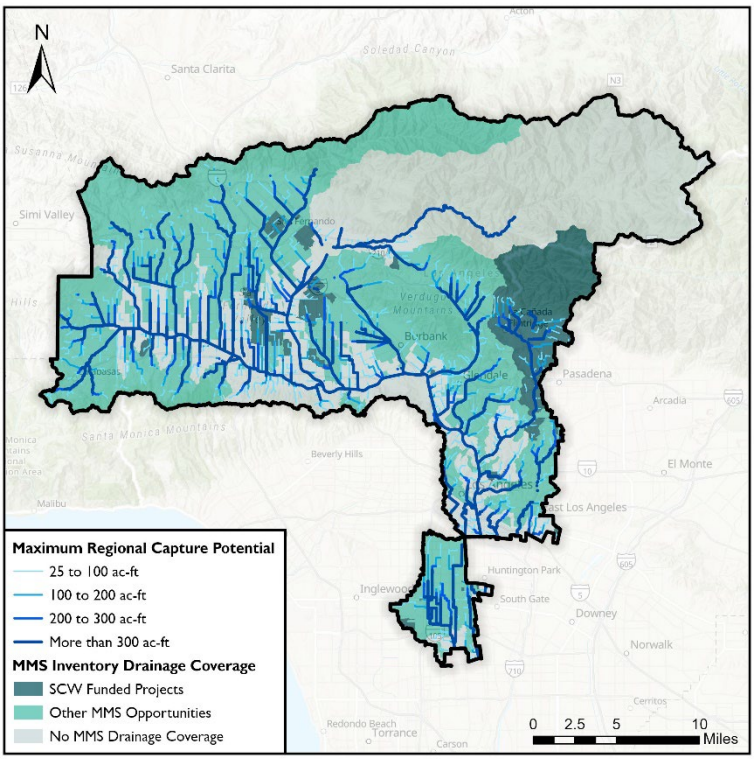
1,522 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure.





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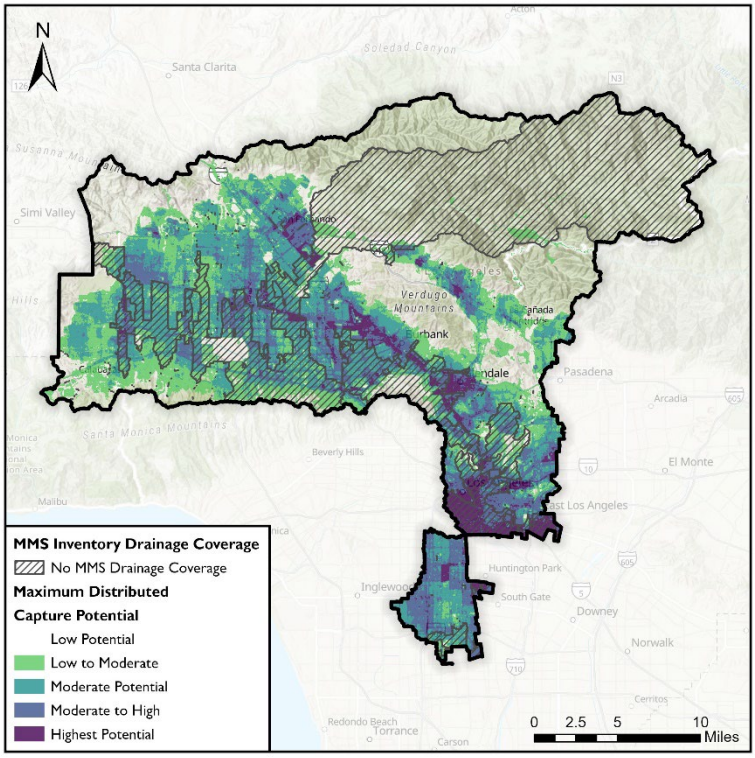
Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- Substantial infiltration rates and unconfined aquifers in regions of this Watershed Area make water supply contributions plentiful.
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area as well. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators, but coastal areas are still a good location to begin pursuing additional projects.
- Targeting larger storm drains in areas untreated by the MMS inventory where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Targeting infiltration projects in the northern end of the watershed where unconfined aquifers exist is advised. Projects with discharge to sanitary sewers are most likely to have countable supply and can be sited anywhere sewer capacity exists
- Existing capture at upstream spreading grounds and reservoirs should be encouraged, so focusing on projects outside of the area draining to these facilities will yield the highest net positive water supply capture for this Watershed Area

Community Investment Benefits (ULAR)

The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

Indicators and Initial Benefits

As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

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Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their

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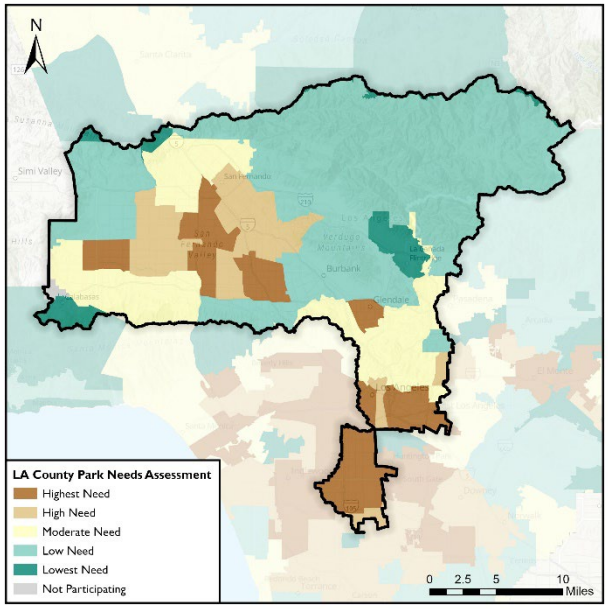
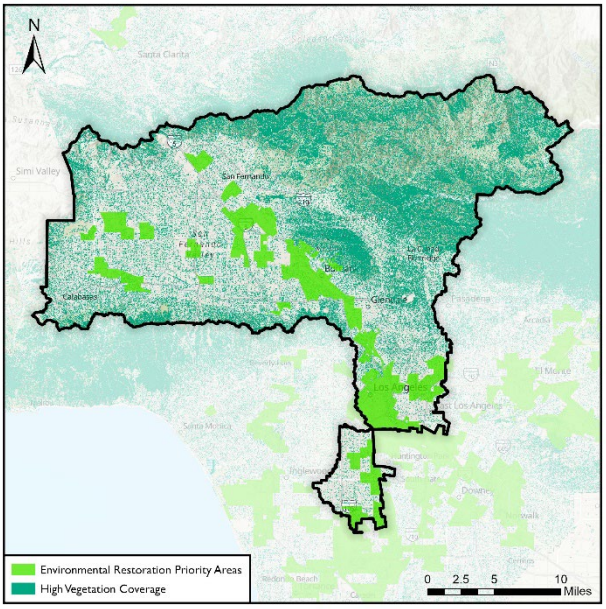
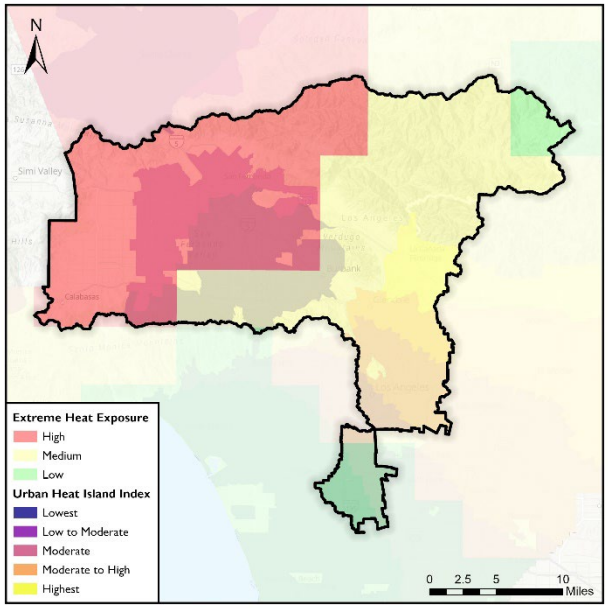






Key Watershed Needs

- Parks needs are highest in highly developed interior areas of the Watershed Area or southern industrial centers
- Restoration Priority Areas overlap some areas with High Park Needs and would be multi-benefit places to target for improvement
- Heat exposure is highest in the upper reaches of the LA River mainstem where Park Needs are also high, offering great opportunity

Place-Based Measures (ULAR)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

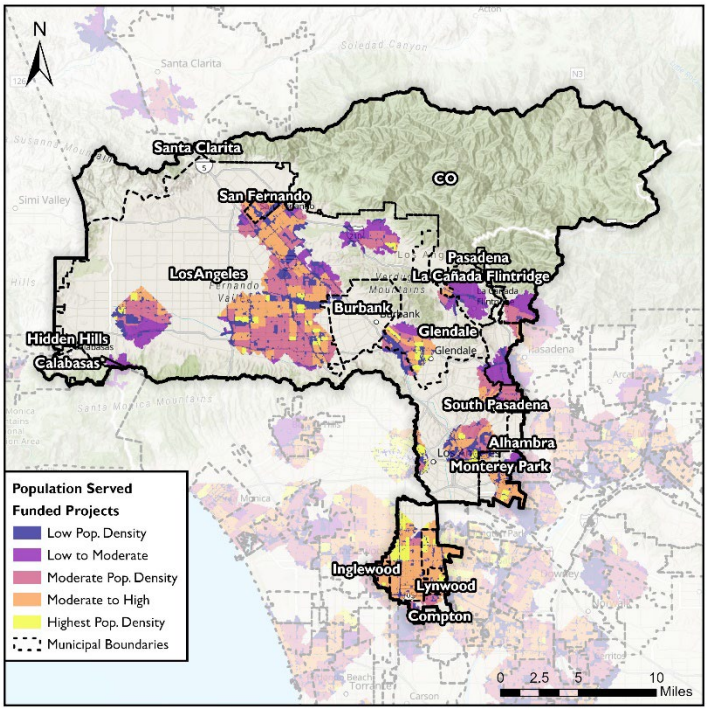
The following Targets can be evaluated using Place-Based Measures:

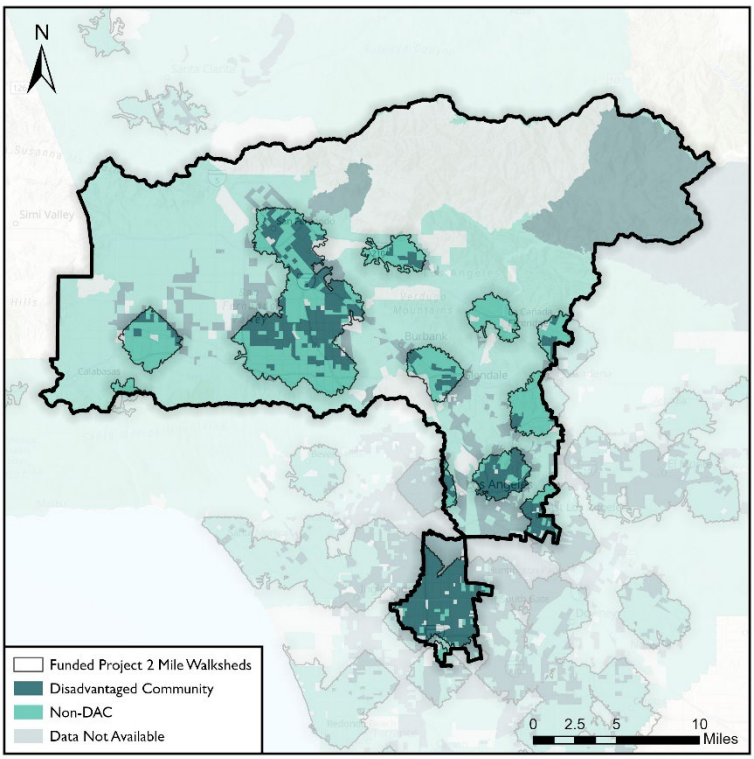
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
45% (minimum percentage of total benefits to Disadvantaged Communities)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

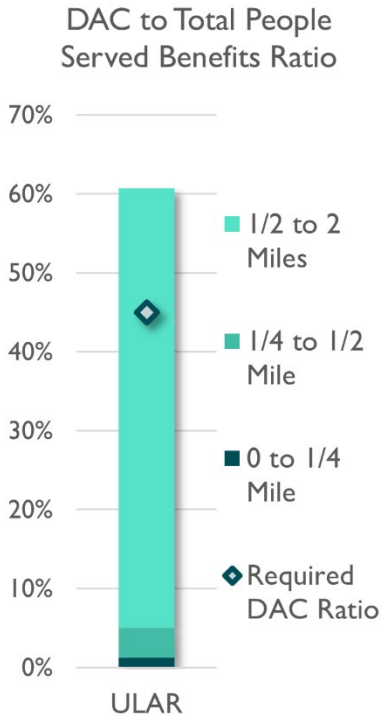
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

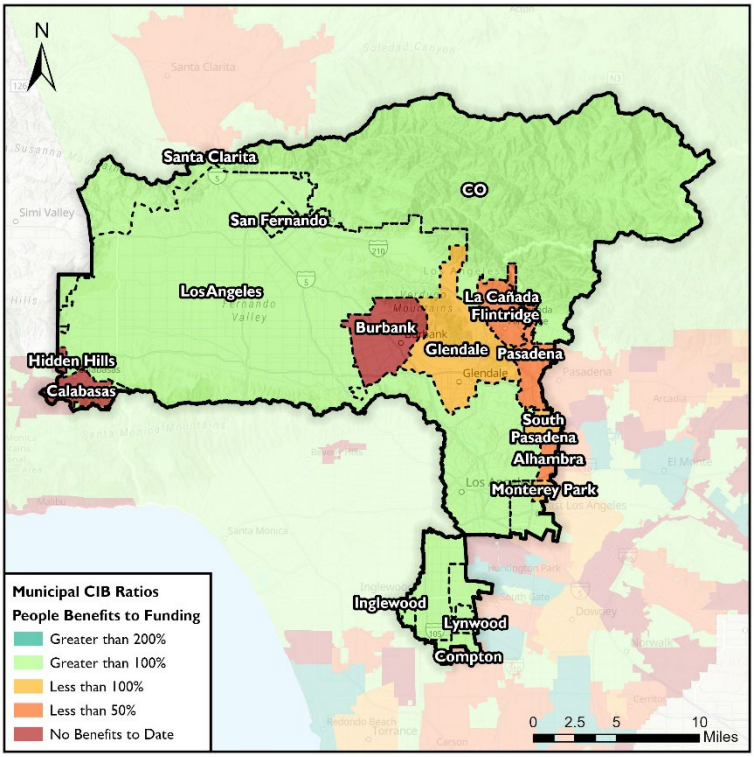
Initial Benefits

Over 1,596,000 (45%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 61% of Community Investment "People-Benefits" may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

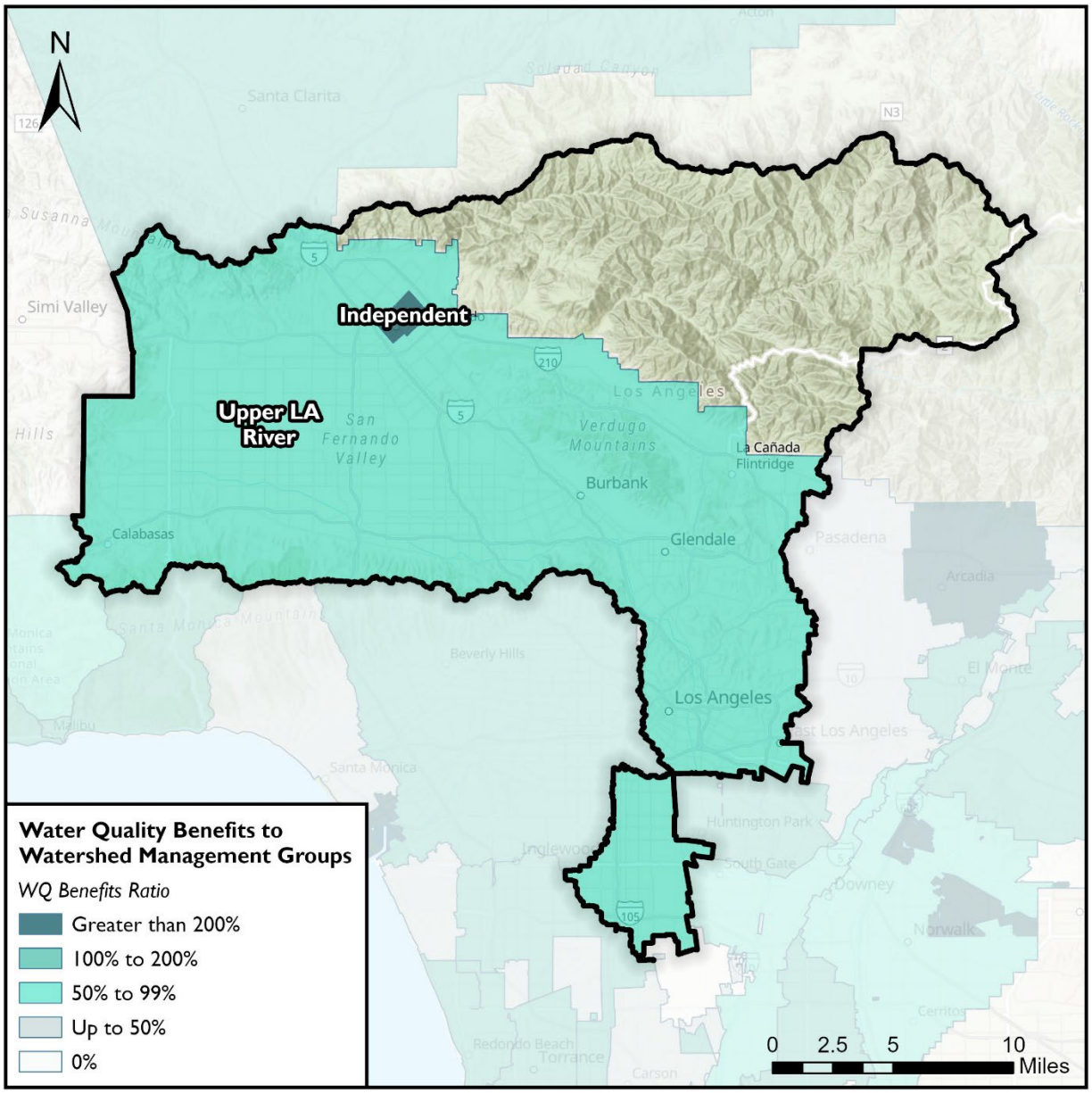
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
Upper LA River	1,566 lbs/yr Total Zinc reduction	98%
Independent Municipalities	64 lbs/yr Total Zinc reduction	429%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as areas in the upper portions of the LA River drainage where Park Needs are also Very High). See the map above highlighting DAC communities and these areas between funded project walksheds. Additionally, the results suggest that the Upper LA River Group may be receiving Water Quality benefits from Regional Program projects that are slightly disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development or ensuring all existing projects are accounted for in benefits estimates.

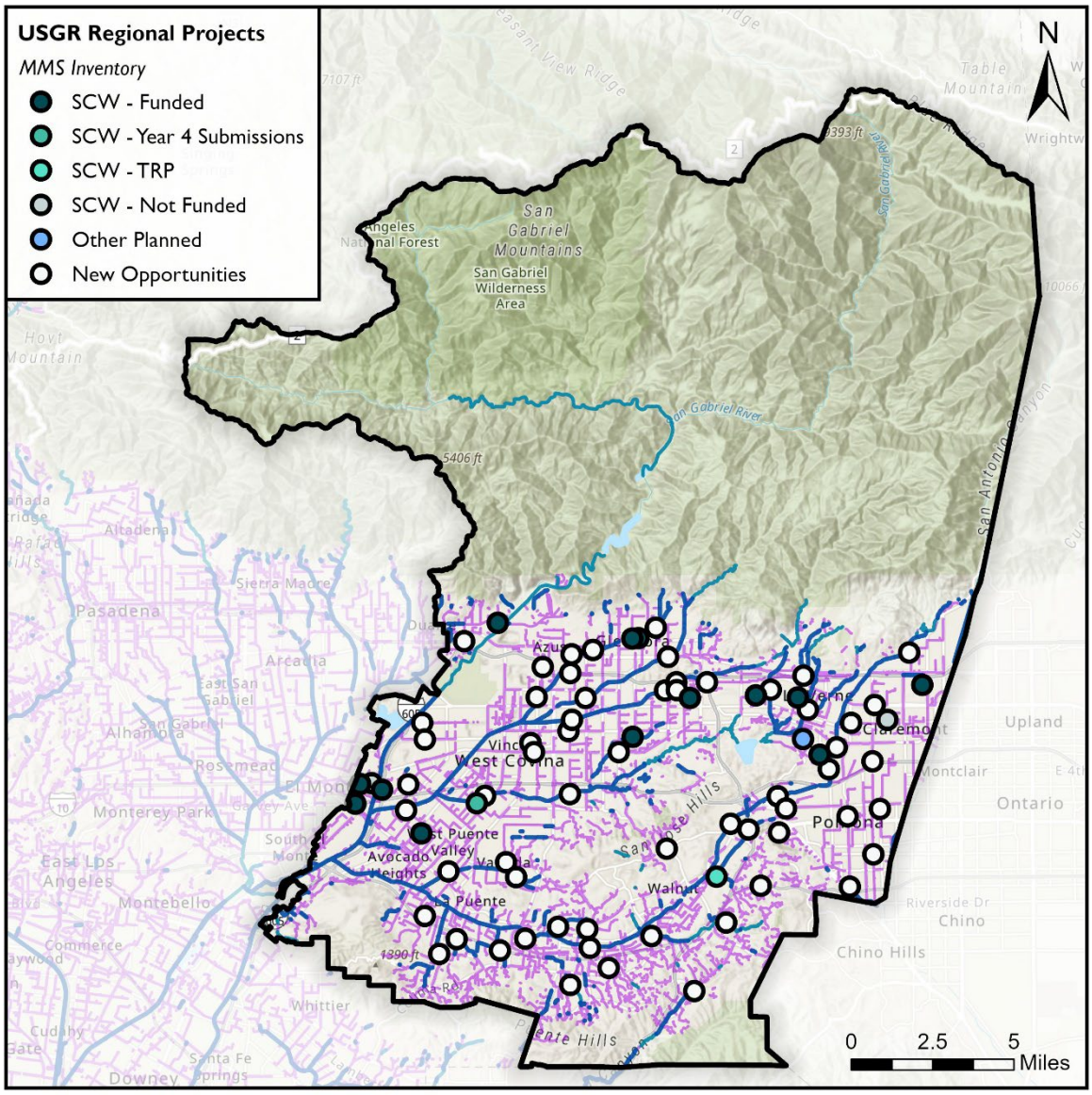


Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

Upper San Gabriel River

MMS Inventory Projects Overview

This section highlights key Watershed Area statistics, projects and other opportunities identified for MMS inventories (see map below), and the overall drainage area coverage for the MMS inventory of projects.



Watershed Area Projects & Overview:

~313,900 total acres

12% impervious

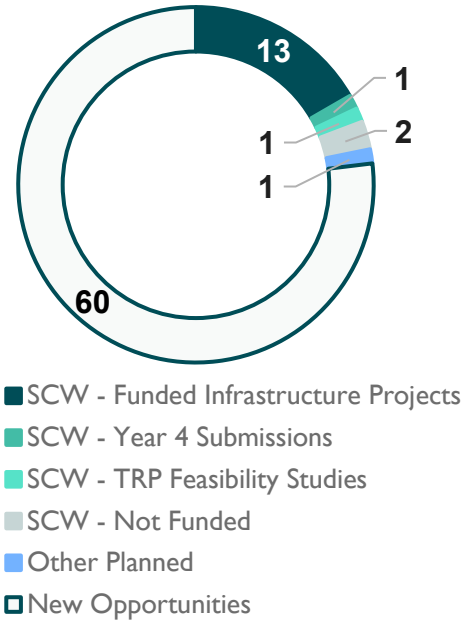
14 Funded SCW Program Projects (Infrastructure Projects & TRP Feasibility Studies) included to estimate Initial Benefits

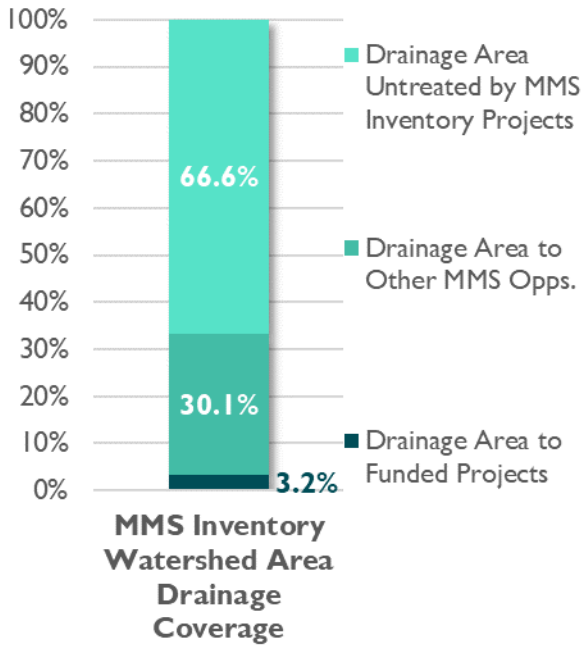
78 Total Opportunities in MMS Inventories

Major Tributary: San Gabriel River

Multiple large tributaries draining natural uplands and urban areas

MMS Inventory by Status





Watershed Area Projects Characteristics:

14 SCW Program projects with momentum

10,200 acres of Watershed Area treated by SCW Program funded projects

64 additional opportunity projects from MMS Inventory to be considered

94,500 acres of Watershed Area potentially treated by additional opportunity projects

209,200 acres of the Watershed Area is not yet treated by SCW Program funded projects

Water Quality (USGR)

Water quality improvement is a key goal of the SCW Program and the Watershed Area characteristics in terms of this goal can be summarized by highlighting progress and potential using the key Indicator of **average annual pollutant reduction** for projects in the MMS inventories.

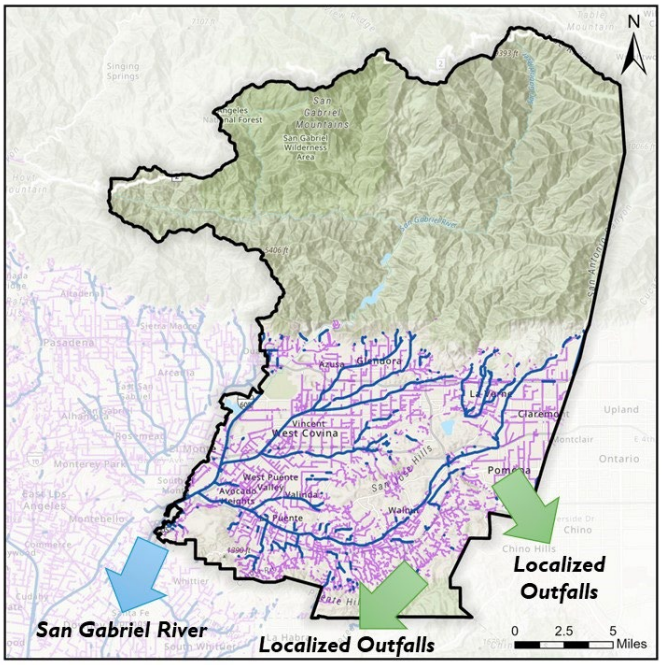
Targets

Water Quality Objective:
192.5 µg/L Total Zinc
(San Gabriel River Metals TMDL Wet Weather Targets derived from acute CTR criteria using median hardness of 175 mg/L specified in USEPA TMDL for the San Gabriel River Reach 2 portion)

Avg. Annual Zinc Load:
22,750 lbs/year

Approx. # Wet Days:
36.9/year

Indicator:
5,980 lbs/year Total Zinc Reduction



Initial Benefits

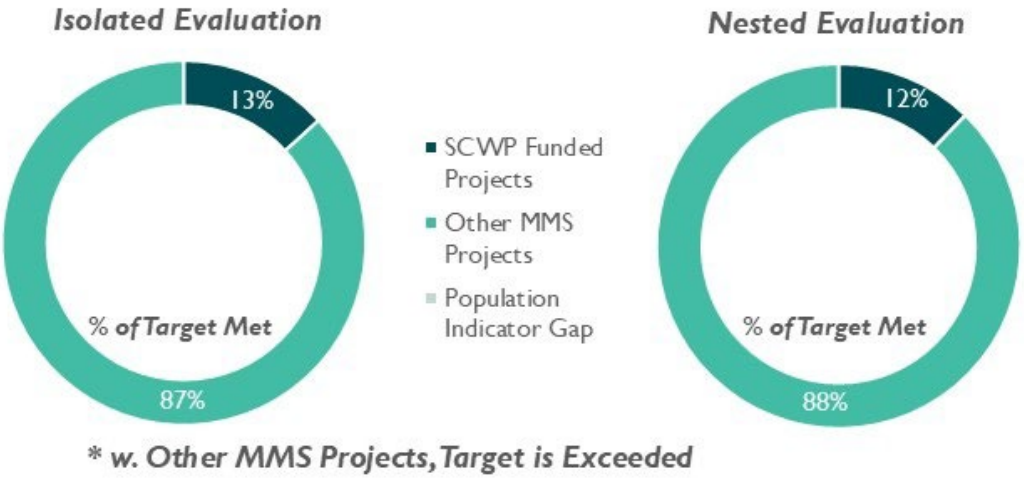
Initial Water Quality benefits for SCWP funded projects in MMS inventories:

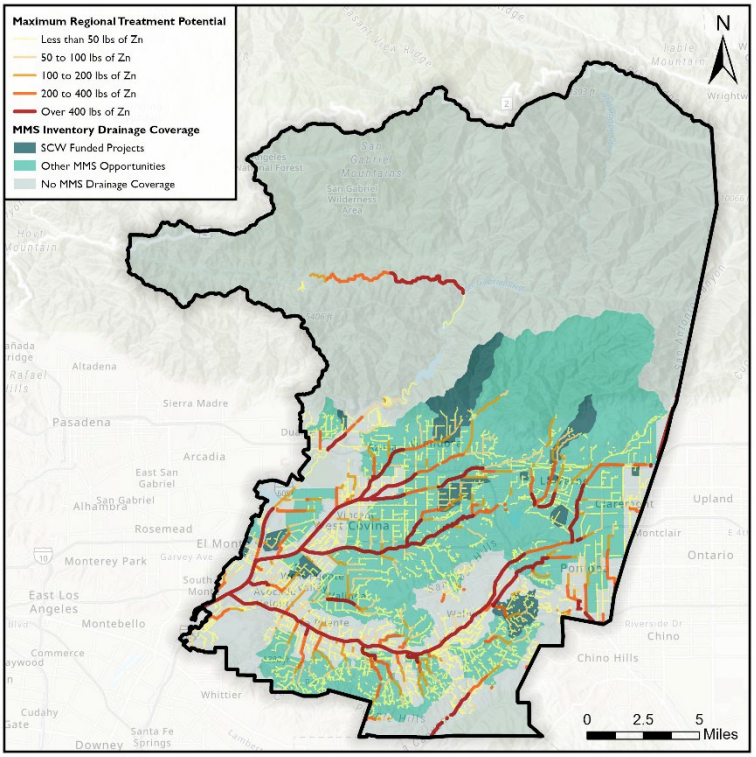
14
SCWP Funded Projects
(Regional & TRP projects)

790 lbs/yr
Total Zinc Removed
(pursuant to indicator)

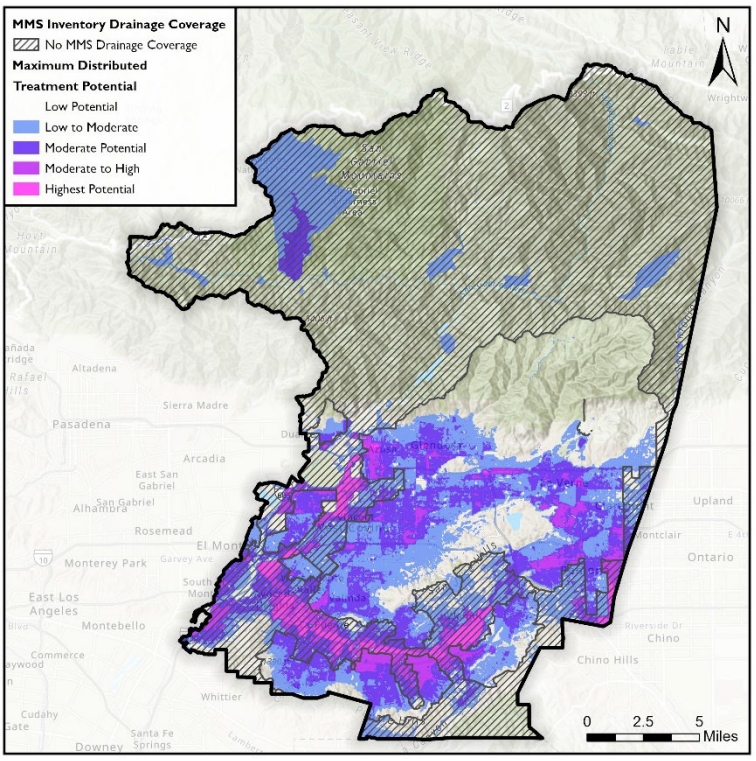
Watershed Potential

When all projects in the MMS inventory are included, there is a considerable amount of potential pollutant reduction that can be attained in this Watershed Area (***see plot below***). Overall contributions towards Indicators should be assessed by considering the net system realities of potential nested drainage areas to be conservative as highlighted below.





Regional projects have the potential to contribute a large amount of pollutant reduction for the Watershed Area. The map to the left demonstrates datasets produced during the MMS that pair drainage area coverage of funded and other projects in the MMS inventory with pollutant loading estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for impactful pollutant reduction by tapping into the associated storm drains where pollutant loading magnitudes are highest.***



Distributed projects can make meaningful contributions to water quality improvements as well. MMS analysis produced "heat maps" combining surface pollutant generation and impervious area data to show where distributed projects have the highest potential for water quality treatment. By focusing on areas without drainage area coverage from the MMS inventory of regional projects (map to left), ***this data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities.***

Key Watershed Needs & Opportunities

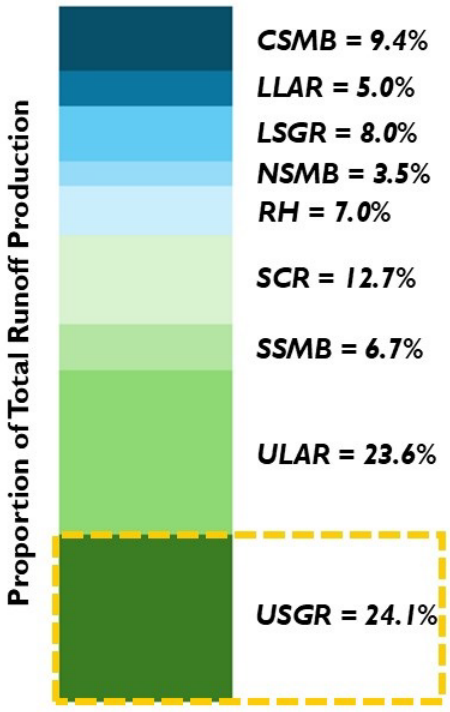
- MMS inventory projects should be sufficient to meet example Indicators but there are likely opportunities in areas untreated by MMS inventories
- Development of regional projects in the MMS inventory could focus first on areas of the watershed not currently treated by funded projects to maximize pollutant reduction contributions
- Localized drainage areas near the mainstem of the San Gabriel River, Walnut Creek, and Big Dalton Wash were in places untreated by projects in the MMS inventory. These areas should be prioritized for further project development. Targeting areas with high pollutant accumulation for regional project additions or areas with high distributed project treatment potential for distributed projects or green streets in these coastal areas will increase the overall treatment coverage for the Central Santa Monica Bay watershed

Water Supply (USGR)

Another goal of the SCW Program is to increase drought preparedness by capturing stormwater and/or urban runoff to augment local water supply. Progress towards this can be tracked by the key Indicator of **average annual runoff capture** for projects in the MMS inventory.

Targets

The amount of annual runoff captured by SCW Program funded projects is a regularly estimated statistic; definitions for what and how much of this water counts as contributing to regional water supply will be established in the Initial Watershed Plans. To contextualize characteristics in the USGR Watershed Area, an initial definition has been made below based on the relative proportion of local runoff produced in the Watershed Area to the total runoff production over all nine SCW Program Watershed Areas to ground the initial assessment of Watershed Area Characteristics in estimates of capturable runoff.



Water Supply Objective:
300,000 ac-ft/year
(Total Countywide Water Supply goal from the L.A. County Water Plan)

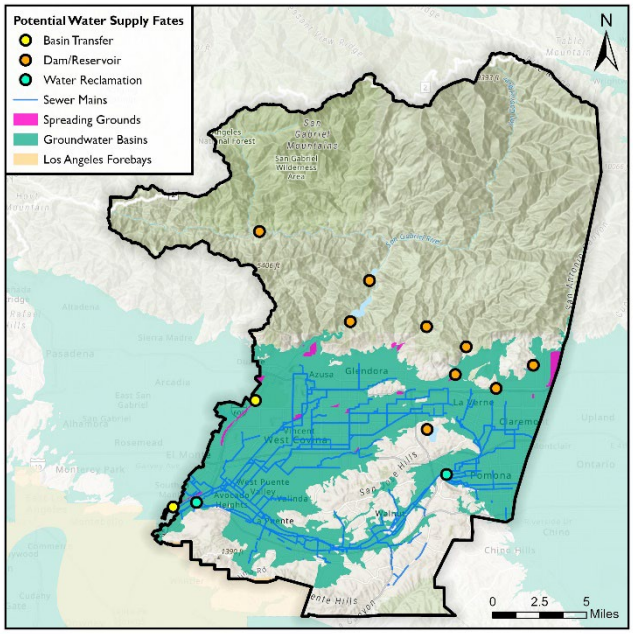
Avg. Annual Local Runoff:
179,800 ac-ft/year

Watershed Area Runoff %:
24.1% (of 746,000 ac-ft/yr total)

Indicator:
72,300 ac-ft/year

Water Supply Fate

The fate of water (i.e., where water ends up) is important in determining the amount of captured stormwater and/or runoff that contributes to the countable water supply. Most of the countable water supply is related to diversions or discharge to sanitary sewers or other water reuse facilities or infiltration to groundwater aquifers (highlighted in map to right). MMS analysis parsed all water supply estimates between the following fates:



- ***Aquifer*** - projects located over aquifers identified in SCWP datasets as recoverable
- ***Non-Aquifer*** – projects not located over unconfined aquifers or forebay areas
- ***Sewer*** - projects defined as diverting water to sanitary sewers for downstream treatment and reuse

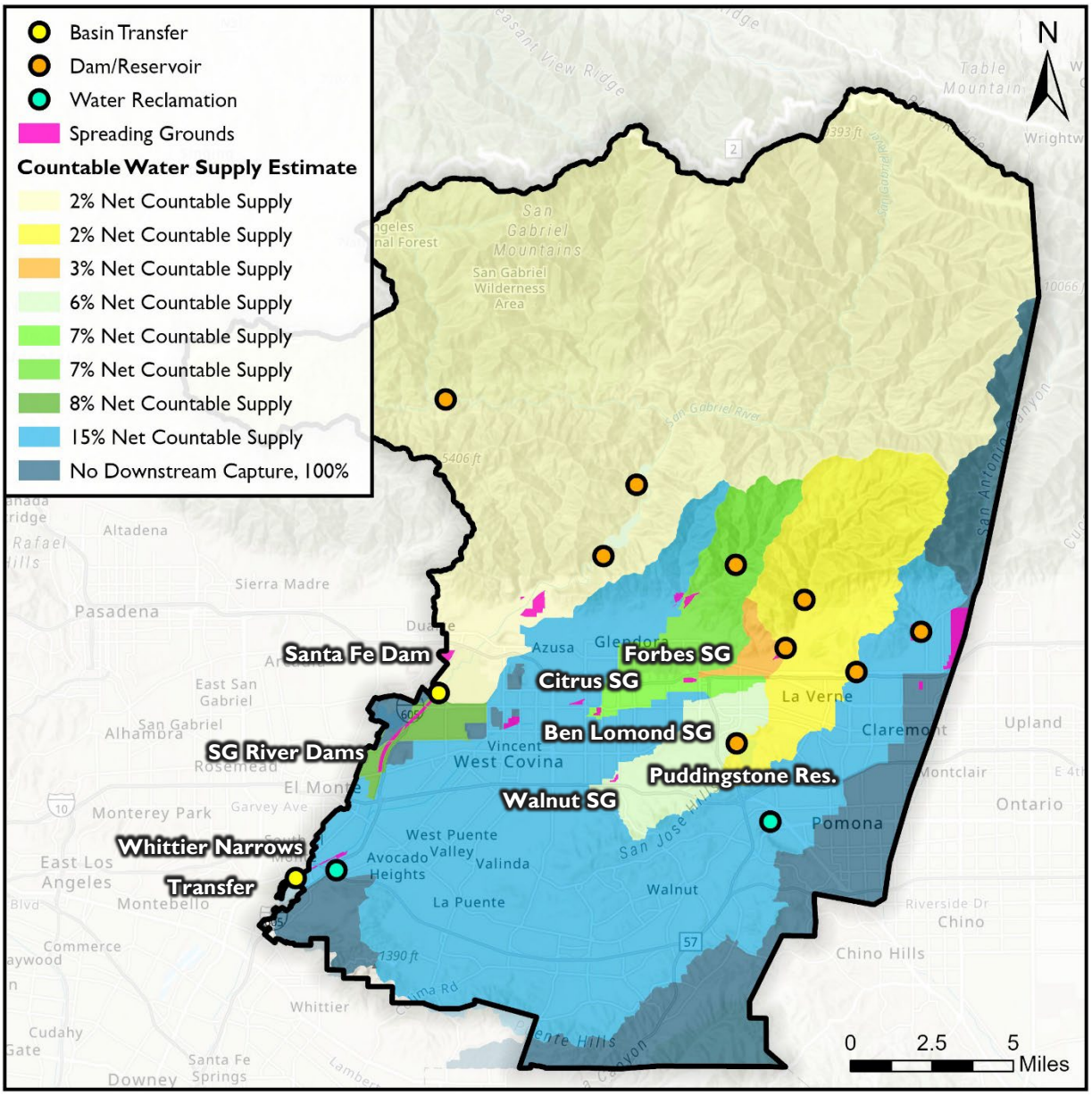
Local reuse of captured water was not part of this analysis, but this and any other countable fates could be integrated as definitions of water supply evolve and further project details are incorporated.

Accounting for Existing Capture

A substantial amount of stormwater runoff is captured by existing facilities in LA County. Capture of runoff upstream of these facilities can be adjusted to provide better estimates of "new" water supply contributions that projects may make. MMS analysis calculated appropriate ratios to use to make these adjustments (see table). ***For this Watershed Area, adjustments are needed to account for the spreading grounds to the right and have been highlighted spatially in the map below.***

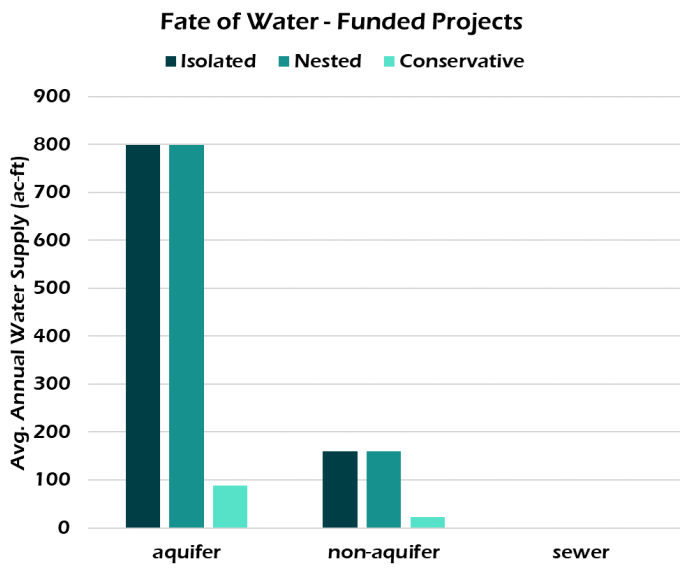
Existing Modeled Capture	Net Countable Supply Upstream
Citrus SG	7%
Forbes SG	3%
Ben Lomond SG	7%
Puddingstone Res.	2%
Walnut SG	6%
Santa Fe Dam	2%
SG River Dams	8%
Whit. Narr. Transfer	15%

The map below highlights adjustments that were used to adjust project runoff capture to produce a conservative estimate to account for runoff already captured by existing facilities. Baseline modeling estimates of capture for these existing facilities and the routing between these was factored in to net countable supply adjustment ratios.



Initial Benefits

Initial Water Quality benefits for SCWP funded projects in MMS inventories:



Maximum Nested System Water Supply Estimate:

960 ac-ft/year

(all fates included, no adjustment)

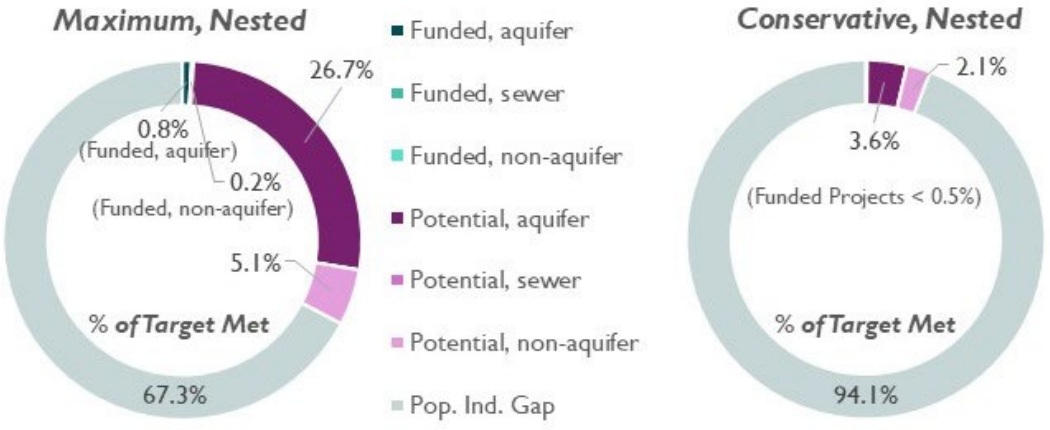
Conservative Adjusted Water Supply Estimate:

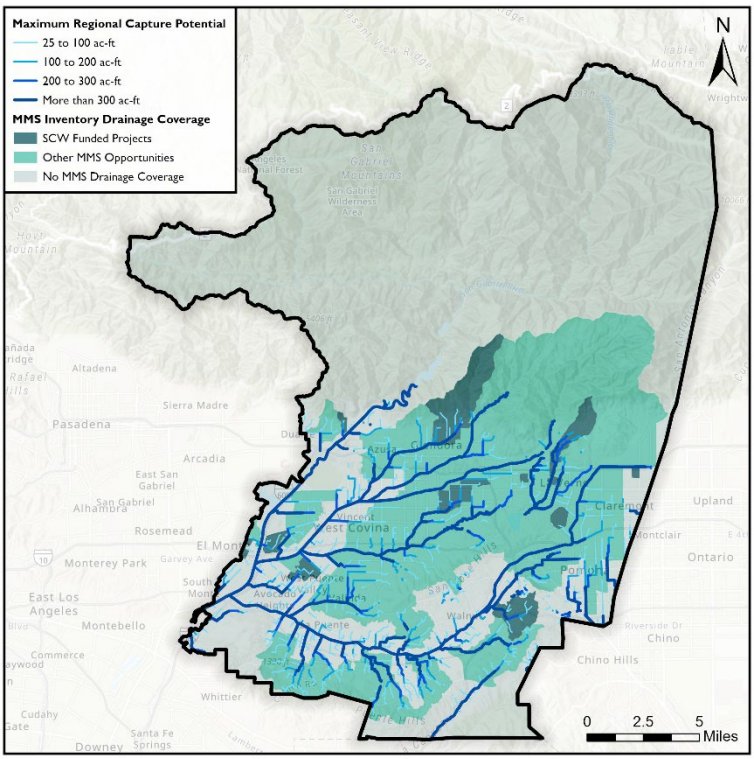
90 ac-ft/year

(limited to aquifer and sewer fates and adjusted for existing capture)

Watershed Potential

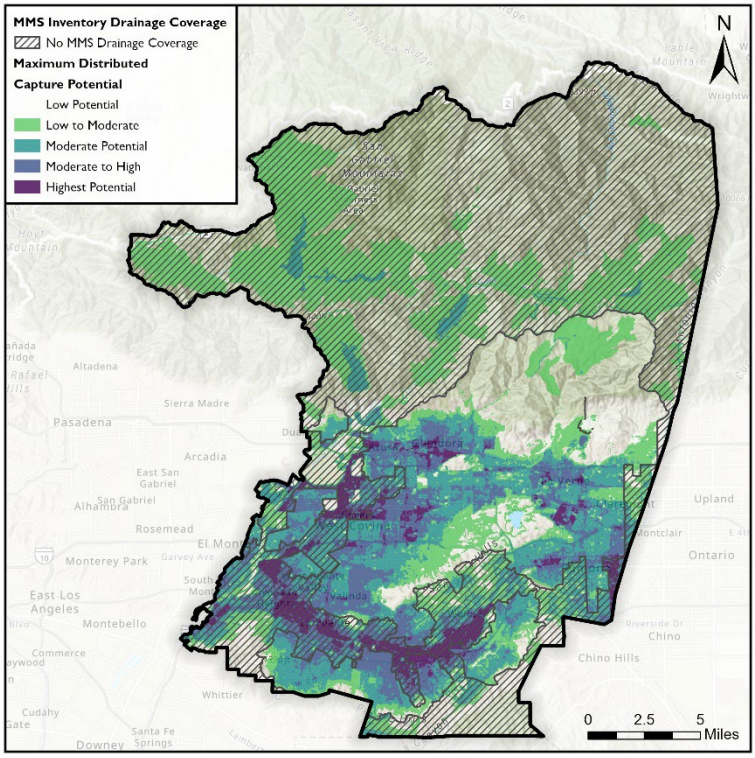
There is a considerable amount of potential runoff capture that can be attained in this Watershed Area, but whether this is countable remains to be defined. Overall contributions to Targets are presented in the below graphic, parsed by fate, and with system modeling reality to account for nested drainage areas. Capture is shown in full on the left and adjusted for existing facilities capture on the right. ***NOTE:*** Potential projects were not modeled as sewer diversions in MMS, but this type of stormwater treatment could be utilized depending on proximity to and capacity of nearby sanitary sewer infrastructure.





Regional projects have the potential to capture a large amount of runoff for water supply. The map to the left demonstrates datasets produced by MMS that pair drainage area coverage of funded and other projects in the MMS inventory with runoff estimates from baseline models. ***This data helps illuminate where project opportunities have the greatest potential for runoff capture and can be used with spatial definitions of countable water supply to target prime locations in the Watershed Area for this.***

Distributed projects can also contribute to water supply, though this might be subject to final definitions of what types of projects, capture, and fate of water count. MMS analysis produced “heat maps” combining surface runoff generation, impervious area data, and elevation to show where distributed projects have the highest potential for runoff capture. ***This data points to locations where distributed project opportunities can fill in gaps in areas that may be lacking regional treatment opportunities or drainage coverage and can contribute to overall stormwater capture goals.***



Key Watershed Needs

- Net countable water supply contributions in this Watershed Area may be difficult due to extensive existing capture and infiltration of runoff over the watershed
- Dense sewer networks might be an alternative fate to pursue for water supply contributions in this Watershed Area. More information about capacity in the system and the location of potential project tie-in would be useful for these purposes.
- Much like water quality, additional projects may be needed to meet example water supply Targets in this Watershed Area. The degree of this need will be subject to final decisions on water supply Indicators.
- Targeting larger storm drains in areas untreated by the MMS inventory where runoff accumulates or more impervious areas with higher runoff capture potential with distributed projects and green streets will yield the highest water supply contributions. Targeting infiltration projects in the northern end of the watershed where unconfined aquifers exist is advised. Projects with discharge to sanitary sewers are most likely to have countable supply and can be sited anywhere sewer capacity exists
- Existing capture at Watershed Area spreading grounds should be encouraged, so focusing on projects outside of the area draining to these facilities will yield the highest net positive water supply capture for this Watershed Area, but this is limited in this watershed and may prove challenging depending on final water supply definitions

Community Investment Benefits (USGR)

The following datasets provide an initial snapshot of Watershed Area characteristics related to Community Investment Benefits.

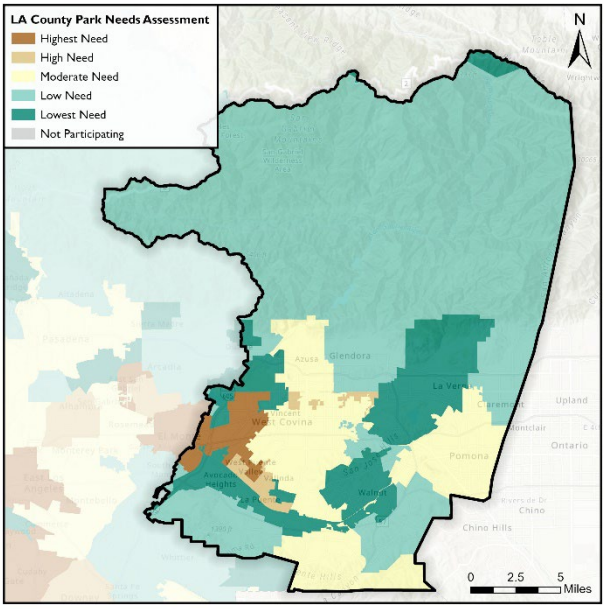
Indicators and Initial Benefits

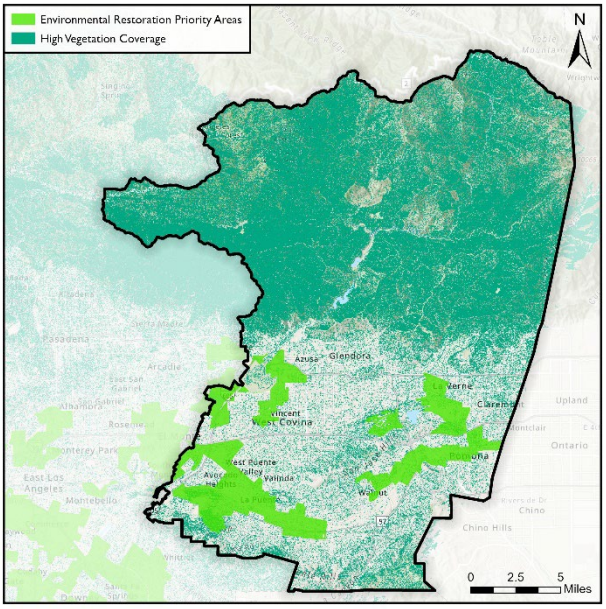
As discussed in the Introduction, most Performance Measures (PMs) describing Community Investment Benefits were newly proposed by MMS, so baseline benefits and Indicators will be established during Initial Watershed Planning. These can be informed by watershed needs related to each PM (below) and Place-Based Measures described in the following section.

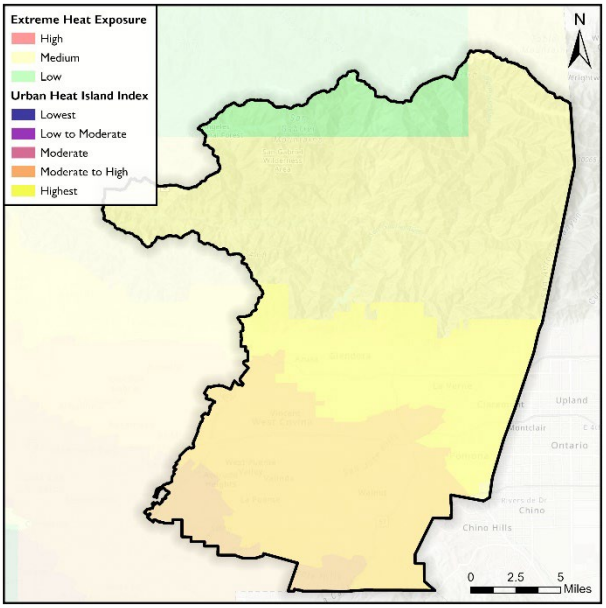
Watershed Potential

Select Community Benefit baseline datasets recommended by MMS are shown below to highlight potential opportunities. Definitions of PMs and Indicators for Community Investment Benefits and how they will be measured and quantified were not fully defined in MMS due to data gaps associated with SCW Program funded projects. These will be fully defined in the Initial Watershed Plans along with methods for their

measurement and quantification. The below maps are intended to begin to highlight spatial variability in this Watershed Area related to potential regional datasets identified in MMS.







Key Watershed Needs

- Parks needs are moderate in this Watershed Area
- Restoration Priority Areas overlap some areas with Park Needs and would be multi-benefit places to target for improvement
- Heat exposure is moderate in this Watershed Area but gets higher moving inland. Developed areas have lighter high vegetation coverage and could benefit from enhanced natural amenities

Place-Based Measures (USGR)

To supplement community-voiced Place-Based Measures that will emerge from the concurrent Community Strengths and Needs Assessment, the MMS evaluated initial benefits and needs using potential service areas to projects.

Targets

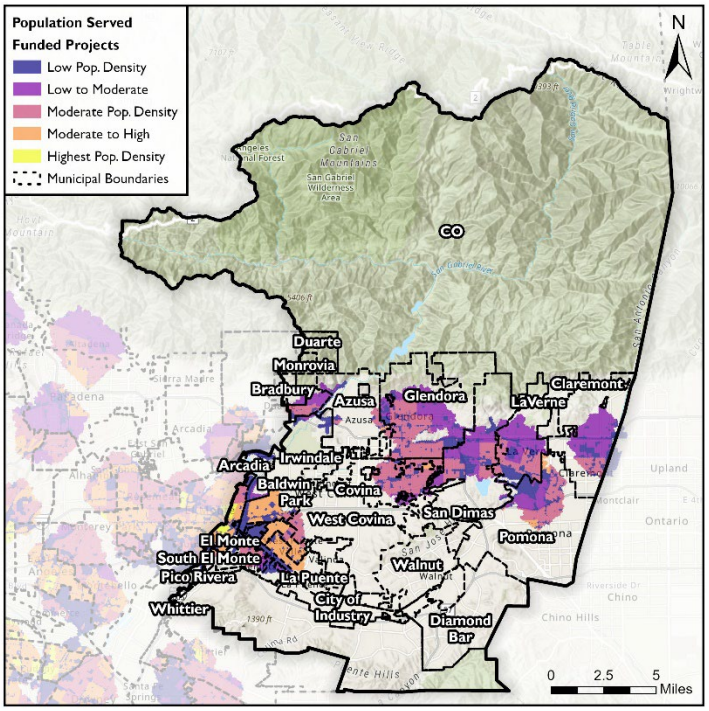
The following Targets can be evaluated using Place-Based Measures:

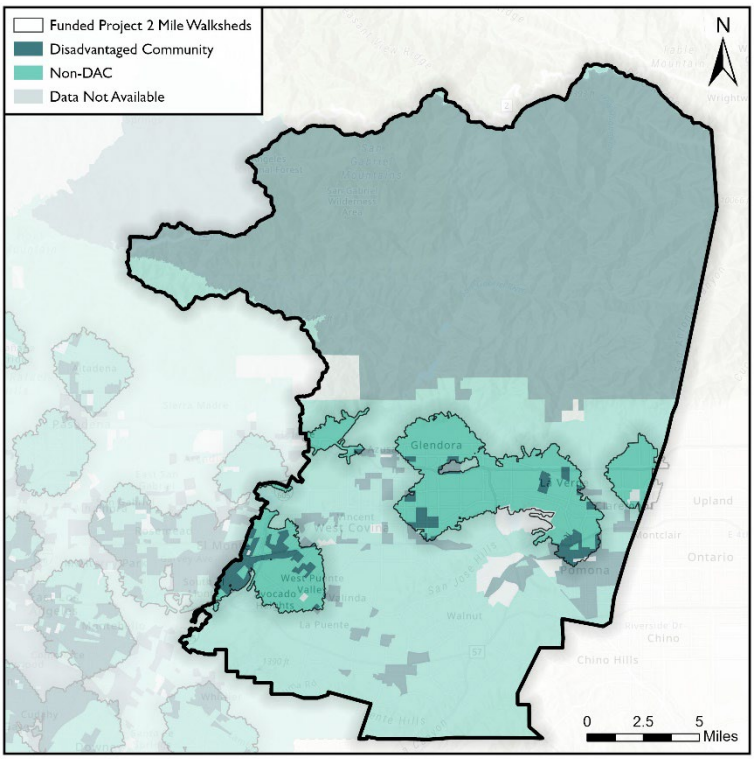
Disadvantaged Community Benefits Ratio Indicator:	**Municipal Benefits Ratio Indicator:**
22% (minimum percentage of total benefits to Disadvantaged Communities)	100%* (Municipal benefits from Regional Program proportional to funds generated in each Municipality)

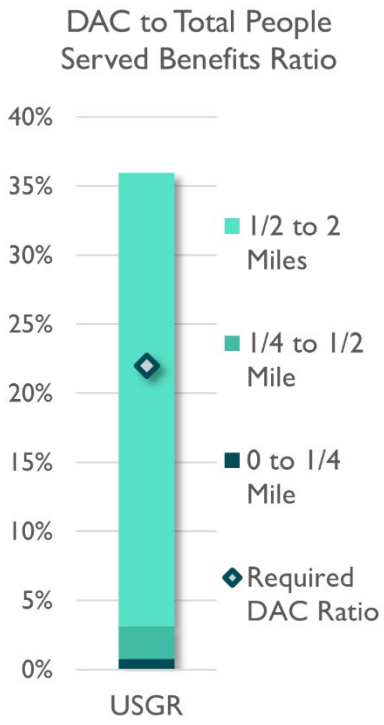
* the acceptable tolerance (e.g., +/- 25%) for this Indicator was identified in Task 1.1 as a definitional need to address in Initial Watershed Plans

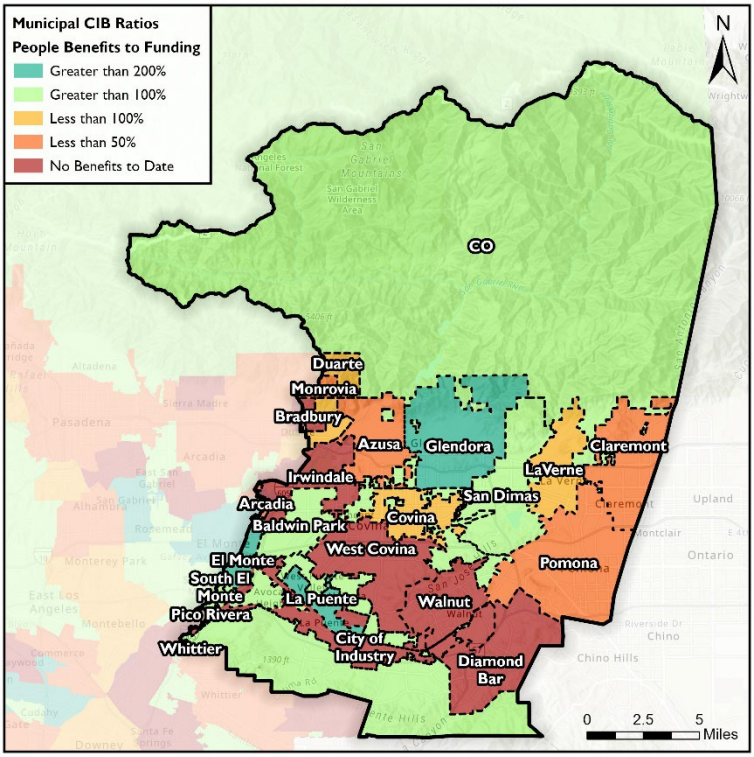
Initial Benefits

Over 546,000 (53%) of people in this Watershed Area live within 2 miles of funded SCW Program projects, and 36% of Community Investment “People-Benefits” may accrue to Disadvantaged Communities. The total population density is shown in the map to the right, and the next page shows Disadvantaged Communities within 2-mile service areas to funding projects. The next page also displays potential Program-wide accrual of Community Benefits to municipalities in this Watershed Area using a ½-mile service area.









The Municipal Community Investment Benefit Ratio (using a ½-mile service area) is computed SCW Program-wide. For Municipalities that span multiple Watershed Areas, the benefits shown in this map may be partially attributed to projects in another Watershed Area. See Table 3 for the Programmatic summary.

The ratio of Water Quality Benefits from Regional Program projects compared to the ratio of prorated funding generated by Municipalities in each WMG is tabulated below and shown in the map on the following page:

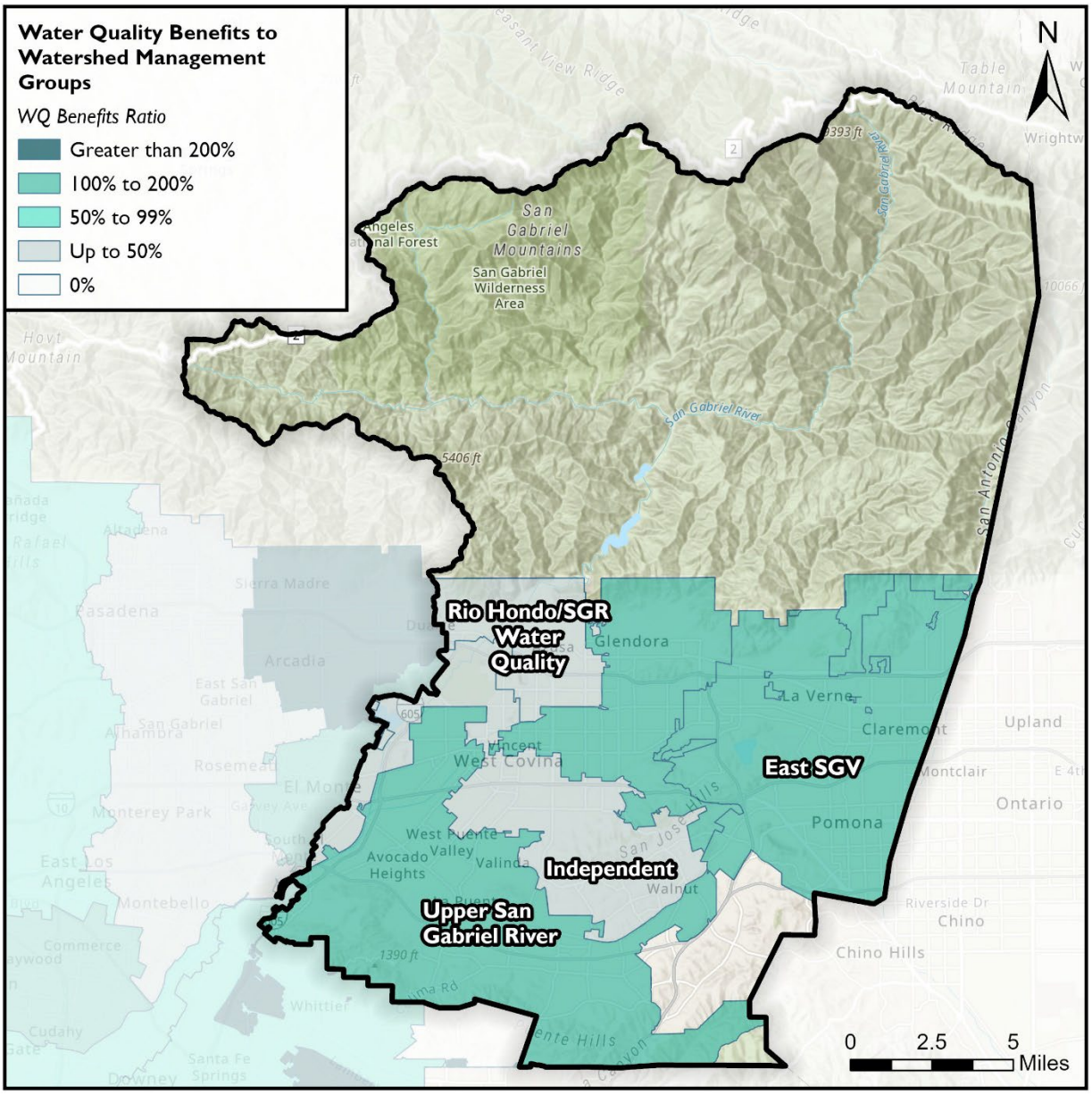
WMG or Individual Municipality	Water Quality Benefits from Regional Program Projects	Municipal Water Quality Benefits Ratio
East San Gabriel Valley	200 lbs/yr Total Zinc reduction	132%
Upper San Gabriel River	382 lbs/yr Total Zinc reduction	132%
Rio Hondo/SGR Water Quality	6 lbs/yr Total Zinc reduction	15%
Independent Municipalities	37 lbs/yr Total Zinc reduction	35%

Watershed Potential

To evaluate the watershed potential, service areas to potential projects can be delineated and compared to Disadvantaged Community populations, Municipal boundaries, and WMGs.

Key Watershed Needs

The findings in this section can be used to identify gaps and opportunity areas. For example, while this Watershed Area meets the Target for Disadvantaged Community benefits, the maps show that there may be additional opportunities for siting projects in or near Disadvantaged Communities—particularly in portions of Municipalities that may be greater than a ½-mile walking distance from existing SCW Program projects (such as areas of Pomona or unincorporated County areas). See the map above highlighting DAC communities and these areas between funded project walksheds. Additionally, the results suggest that the Rio Hondo/SGR Water Quality Group and Independent Municipalities may be receiving Water Quality benefits from Regional Program projects that is disproportionately low compared to the prorated funding generated in each WMG's Municipalities. These could be improved by aggressively targeting additional opportunities in the MMS inventory overlapping with these areas for future project development.



Map shows how the water quality benefits to Watershed Management Groups distributes across the Watershed Areas.

Appendix H. Preliminary Indicators and Performance Measures Based on MMS and ROC Discussions

While key Performance Measures (PMs) and definitions will adapt throughout Safe, Clean Water Program (SCW Program) Watershed Planning (Watershed Planning), the information herein provides a summary of preliminary Indicators and PMs currently prioritized for Watershed Planning.

Figure H-1 illustrates preliminary “Watershed Planning Indicators and PMs and demonstrates how SCW Program Goals (Goals), Watershed Planning Themes, Indicators, and PMs and are connected. Table H-1 presents these preliminary Indicators and PMs in a tabular format and provides additional details on PM units, definitions or consideration, and new or existing status. For reference, each of the 14 Goals are outlined below in *SCW Program Goals*.

These preliminary Indicators and PMs were developed based on Metrics and Monitoring Study (MMS) processes and results as well as Regional Oversight Committee (ROC) discussions. The *MMS Approach & Outcomes* section of this appendix describes the original process and approach developed by the Metrics and Monitoring Study (MMS) that was used to develop an initial set of Indicators and PMs. Watershed Planning is improving upon and customizing this approach to revise or identify additional Indicators and PMs as new datasets, and key efforts are identified through engagement and technical working groups discussions.

SCW Program Goals

Los Angeles County Flood Control District Code Chapter 18 Safe Clean Water Program Section 4 Program Goals 18.04 - SCW Program Goals. (Ord. 2019-0042 § 11, 2019.)

The Los Angeles Region Safe, Clean Water Program shall be implemented consistent with the following goals:

A. Improve water quality and contribute to attainment of water-quality requirements.

B. Increase drought preparedness by capturing more Stormwater and/or Urban Runoff to store, clean, reuse, and/or recharge groundwater basins.

C. Improve public health by preventing and cleaning up contaminated water, increasing access to open space, providing additional recreational opportunities, and helping communities mitigate and adapt to the effects of climate change through activities such as increasing shade and green space.

D. Leverage other funding sources to maximize SCW Program Goals.

E. Invest in infrastructure that provides multiple benefits.

F. Prioritize Nature-Based Solutions (NBS).

G. Provide a spectrum of project sizes from neighborhood to regional scales.

H. Encourage innovation and adoption of new technologies and practices.

I. Invest in independent scientific research.

J. Provide Disadvantaged Community (“DAC”) Benefits, including Regional Program infrastructure investments, that are not less than one hundred and ten percent (110%) of the ratio of the DAC population to the total population in each Watershed Area.

K. Provide Regional Program infrastructure funds benefitting each Municipality in proportion to the funds generated within their jurisdiction, after accounting for allocation of the one hundred and ten percent (110%) return to DACs, to the extent feasible.

L. Implement an iterative planning and evaluation process to ensure adaptive management.

M. Promote green jobs and career pathways.

N. Ensure ongoing operations and maintenance for Projects.

Preliminary Indicators and PMs

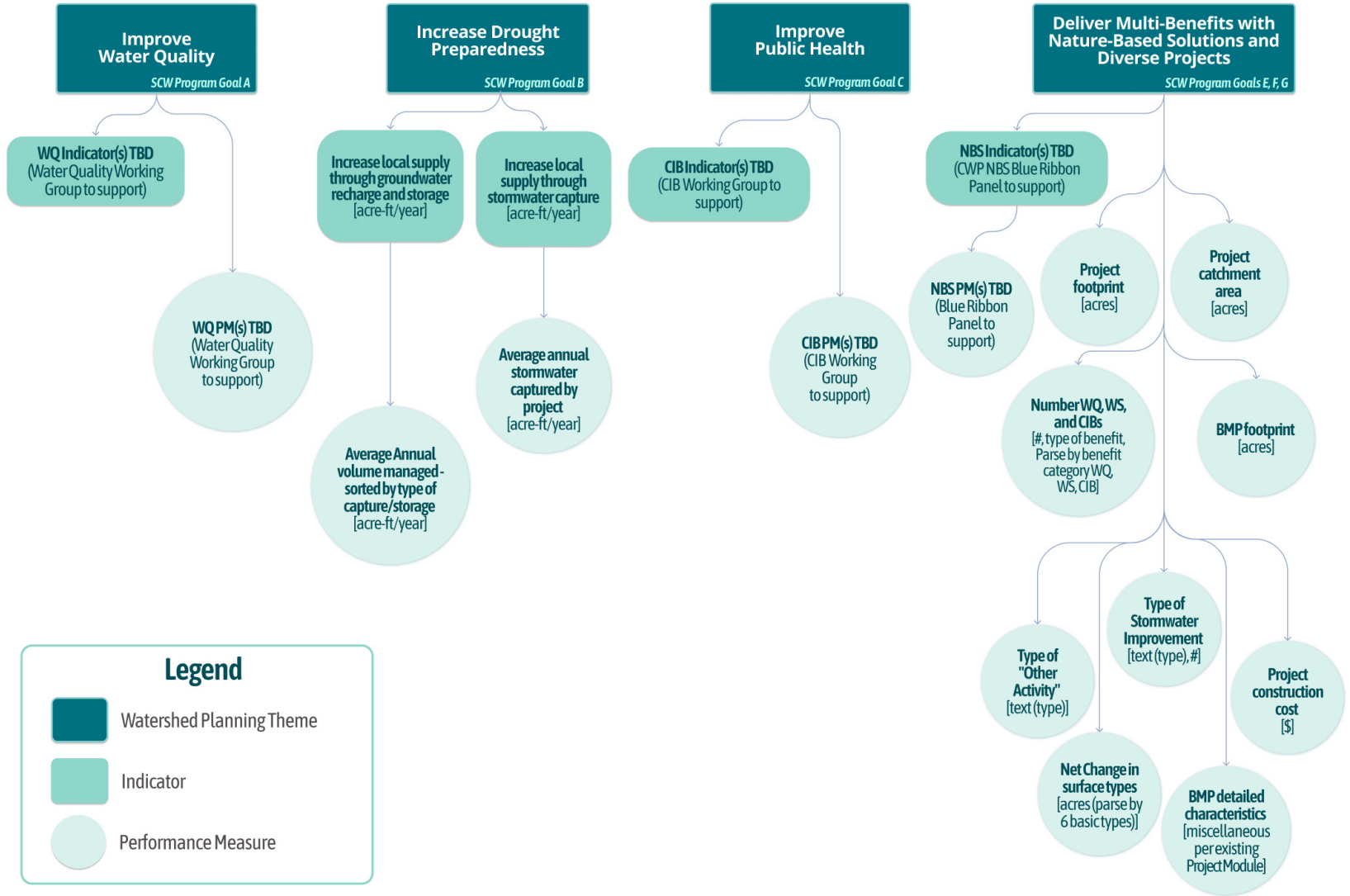


Figure H-1. SCW Planning Themes, Indicators, and Performance Measures

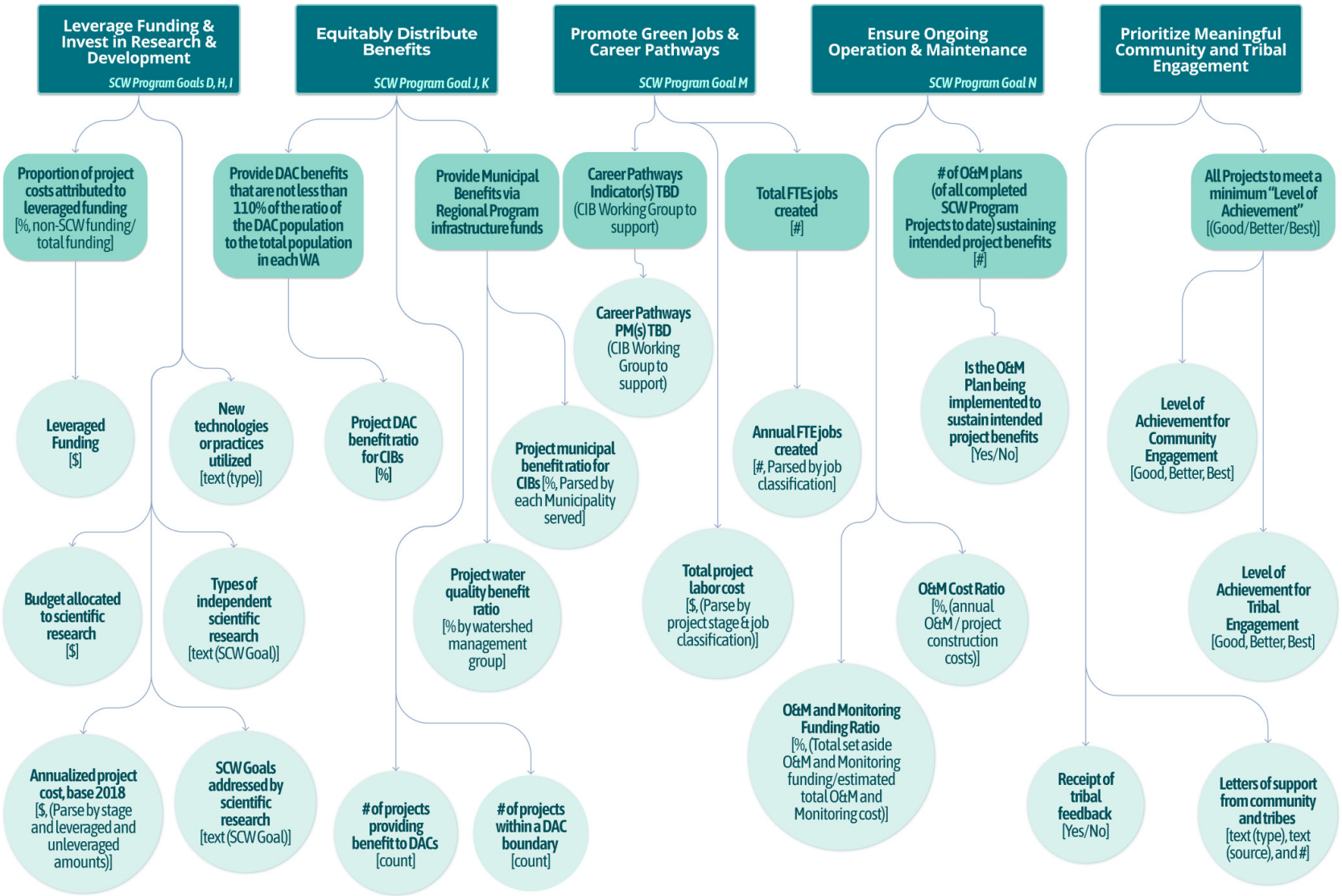


Figure H-1. SCW Planning Themes, Indicators, and Performance Measures (cont.)

Table H-1. Preliminary SCW Program Watershed Planning Indicators and PMs

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
Improve Water Quality	A	Water Quality Indicators and PMs to be determined through a water quality technical working group.				
Increase Drought Preparedness	B	Increase local supply through stormwater capture	Average annual stormwater captured	acre-ft/year	• Project attributes and drainage area • Existing upstream/ downstream project attributes or net countable supply fraction • Annual volume managed - sorted by type of capture/storage	Existing
	B	Increase local supply through groundwater recharge and storage	Average annual stormwater captured and recharged	acre-ft/year	• Project attributes and drainage area • Existing upstream/ downstream project attributes or net countable supply fraction • Fate or use types: ○ Treated (flow-through) and discharged to storm drain ○ Treated (flow-through) discharged to a receiving water body or aquatic ecosystem (creek, river, lake, estuary, lagoon, wetland etc.) ○ Infiltrated over unconfined or perched aquifer ○ Infiltrated over confined aquifer ○ Diverted to existing treatment and reuse plants ○ Diverted to future planned treatment and reuse plants ○ Used on-site for potable offset ○ Other	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
Improve Public Health	C	Total net area of park created, enhanced, restored (acres)	Net area of park created, enhanced, restored	acres	• Category of improvement: ○ Create new park ○ Enhance existing park ○ Restore existing park • Type of improvement, for example: ○ Walking trails ○ Exercise equipment ○ Tennis courts ○ Playing fields ○ Picnic / BBQ area ○ Play equipment ○ Outdoor seating ○ Other • Area of park created, enhanced or restored park ○ If enhanced or restored, description of how enhanced or restored	New
	C	Total net change in hardscape (acres)	Net change in hardscape	acres	• Hardscape removed • Hardscape added	New
	C	Total net change in green space on school grounds (acres)	Net change green space school grounds	acres	• Is the project location on school grounds (Yes/No) • Area of new green space	New
	C	--	Public access to waterway provided	text (type), quantity	• Type of access to waterway: ○ Boat ramp ○ Viewing platform ○ Walking path ○ Pedestrian waterway access ○ Water feature (wetland) ○ Water feature (arroyo) ○ Water feature (lake/pond) ○ Splash pad ○ Other • Quantity of each feature • Parsed by new or improved ○ If improved, briefly explain how	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]

	C	--	Net area new habitat created, enhanced, restored, protected	acres	• Type of habitat:
					  ○ Native
					  ○ Climate Appropriate
					  ○ Non-Native Irrigated
					• Parsed by area of habitat created, enhanced, restored or protected
						New

	C	--	Net new green space created	acres	• Net new green space created	New
	C	--	Net change in canopy at maturity	acres	• Quantity of trees planted, parsed by species. • Quantity of trees removed, parsed by species. • Net change in canopy at maturity	New
	C	--	Area of accessible park or green space	acres	• Is the project publicly accessible? (Yes/No) • Is the entire project site publicly accessible? (Yes/No) • Parsed area by publicly accessible park or green space • Parsed by enhanced or new	New

	C	--	Type and quantity of enhanced or new recreational opportunities provided	text (type), quantity	• Type and quantity of opportunities:
					  ○ Walking trails
					  ○ Exercise equipment
					  ○ Tennis courts
					  ○ Playing fields
					  ○ Picnic / BBQ area
					  ○ Play equipment
					  ○ Outdoor seating
					  ○ Other
					• Parsed by enhanced or new
						New

	C	--	Net new area of cooling and shading surfaces	acres	• Area by type:
					  ○ Net new green space
					  ○ New tree canopy
					  ○ Manmade shade structures
						New

	C	--	Does project mitigate flooding issue	Yes/No/ Partial	• Does the project mitigate flooding issue? (Yes/No/Partial)	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
	C	--	Type of flooding issue mitigated	text (type)	• Type of flooding issue mitigated: ○ Capital flooding (river or channel flooding) ○ Urban flooding (surface flooding) ○ Nuisance flows (ponding/local flooding) ○ Sewer surcharge ○ Coastal ○ Other	New
	C	--	Net change canopy at maturity at schools	acres	• Is the project location on K-12 public school grounds? (Yes/No) • Area of new tree canopy at maturity	New
	Additional Community Investment Benefits (CIBs) Indicators and PMs to be developed through CIB technical working group and engagement.					
Deliver Multi-Benefits with Nature-Based Solutions and Diverse Projects	E	--	Quantity of Water Quality, Water Supply, and CIBs	quantity, text (type of benefit)	• Quantity of Water Quality Benefits claimed (based on Water Quality PMs, up to three pollutants) • Quantity of Water Supply Benefit fates claimed. towards "local water supply" (based on Water Supply PMs, up to eight fates) • Quantity of CIBs claimed (based on other PMs, up to seven types)	New
	F	--	Net Change in surface types	acres	• Area of pre-project surface types, parsed by each basic surface type (see definitions associated with CIB PMs) ○ Impermeable hardscape ○ Permeable hardscape ○ Lawn and turf ○ Native vegetation ○ Climate appropriate vegetation ○ Irrigated non-native vegetation • Area of post-project surface types, parsed by each surface type as per above	New
	G	--	Project catchment area	acres	• Area of drainage area to project	Existing
	G	--	Project construction cost	$	• Total capital cost	Existing
	G	--	Project footprint	acres	• Area of project extents, including all improvements	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
	G	--	BMP footprint	acres	• Area of stormwater management project only	New
	G	--	Type of Stormwater Improvement	text (type), quantity	• Type of Stormwater Improvement: ○ Bioretention ○ Biofiltration ○ Infiltration Well ○ Cistern ○ Rain Barrel ○ Infiltration Facility ○ Treatment Facility ○ Diversion to Sanitary Sewer ○ Other Activity List to be expanded based on project proponent input of other types	Existing
	G	--	Type of "Other Activity"	text (type)	• Type of "Other Activity": ○ Admin Municipal NPDES program, permit compliance, inspection, or required testing. ○ Data acquisition / purchase ○ Prepare and implement WMP or CIMP ○ Design of new structural projects (pre-SCW submittal) ○ Community outreach and engagement ○ Installation of monitoring equipment ○ Monitoring activities ○ Street sweeping ○ Trash capture device installation ○ Fees, for example, Permit Renewal ○ Other List to be expanded based on project proponent input of other types.	New
	G	--	BMP detailed characteristics	Misc. per existing Project Module	• These are the same as those currently being collected through the SCW Project Modules for each project type.	Existing

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
Leverage Funding & Invest in Research & Development	D	Proportion of project costs attributed to leveraged funding. (%, non-SCW funding/total funding)	Leveraged Funding	$	• Leveraged planning funding through SCW submittal ○ Leveraged design funding ○ Leveraged construction funding ○ Leveraged annual O&M funding ○ Leveraged Annual monitoring funding (default 3 years monitoring)	New
	D	--	Annualized project cost, base 2018	$	• Planning costs through SCW submittal, parsed by stage: ○ Design costs ○ Construction costs ○ Annual O&M costs ○ Annual monitoring costs (default 3 years monitoring) • Planning costs through SCW submittal, parsed by leveraged and unleveraged amounts • Expected useful life (parsed by Project Type) • Annual cost inflation All total costs inclusive of leveraged amounts. Include entry for year incurred and amount leveraged.	New
	H	--	New technologies or practices utilized	text (type)	• Does project or study utilize or investigate new technology? • Types of new technology or practice	New
	H	--	Types of independent scientific research	text	• Is project or study undertaking independent scientific research? (yes/no) • Type or subject of independent scientific research	New
	I	--	Budget allocated to scientific research	$	• Total SCW Program project or study budget allocated to independent scientific research	Existing
	I	--	SCW Goals addressed by scientific research	text (SCW Goal)	• SCW Program goals addressed by independent scientific research	New
Equitably Distribute Benefits	J	Provide DAC benefits that are not less than 110% of the ratio of the DAC population to the total population in each WA [ongoing]	Project DAC benefit ratio for CIBs	%	• DAC population within project benefit tributary (quantity of residents) • Total population within benefit service area • DAC population within each Watershed Area • Total population within each Watershed Area • Project boundary and service area (shapefile)	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
	J	--	Does the project provide benefit to DACs	Yes/No	• Does the project provide benefit to DACs?	Existing
	J	--	Is the project within a DAC boundary	Yes/No	• Is the project within a DAC boundary? (Yes/No)	Existing
	K	Provide Regional Program infrastructure funds benefitting each Municipality in proportion to the funds generated within their jurisdiction, after accounting for allocation of the 110% return to DACs, to the extent feasible [ongoing]	Project water quality benefit ratio	% by WMG	• Primary pollutant reduction parsed by Watershed Management Group served by project (from Water Quality PMs) • Primary pollutant reduction in Watershed Area (from Water Quality PMs) • Watershed Management Group containing project location • Municipal funding from Municipalities in Watershed Management Group • Municipal funding from all Municipalities in Watershed Area	New
	K		Project municipal benefit ratio for CIBs	%	• Municipal populations within project benefit tributary, parsed by municipalities served by project • Total population within project benefit service area, parsed by 1/4-mile, 1/2-mile, 2-mile tributary • SCW Program Municipal Program funding, parsed by Municipalities served by project • Total SCW Program Municipal Program funding for all Municipalities served by project • Project and municipal boundaries boundary	New
Promote Green	M	Total FTEs jobs created (quantity)	Annual FTE jobs created	quantity	• Estimated total (direct and indirect) labor cost per full-time equivalent job created, parsed by job classification	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
	M	--	Total project labor cost	$	• Total direct labor costs (as wages) for each project stage and job classification • Indirect labor costs parsed by job classification or design stage • Design Stages may include: ○ Project Stage ○ Planning ○ Design ○ Construction ○ O&M ○ Monitoring	New
Ensure Ongoing Operations and Maintenance for Projects	N	Quantity of O&M plans (of all completed SCW Program Projects to date) sustaining intended project benefits	Is the O&M Plan being implemented to sustain intended project benefits	Yes/No	• Yes or No	Existing
	N	--	O&M and Monitoring Funding Ratio	%	• Estimated net present value of all O&M cost over project life • Total set aside O&M funding, parsed by SCW Program and Other funding sources • i.e., Total set aside O&M and Monitoring funding / estimated total O&M and Monitoring cost	New
	N	--	O&M Cost Ratio	%	• Estimated net present value of 1st year O&M cost • Project construction cost • i.e., annual O&M / project construction costs	New
Community and Tribal Engagement	All	All Projects to meet a minimum “Level of Achievement” (Good/Better/Best) [ongoing]	Level of Achievement for Community Engagement	Good, Better, Best	• Quantity and types of community engagement activities undertaken by project proponent. • Project "Level of Achievement" for Community Engagement. (Good/Better/Best) • Supporting documentation	New
	All		Level of Achievement for Tribal Engagement	Good, Better, Best	• Quantity and types of tribal engagement activities undertaken by project proponent. • Project "Level of Achievement" for Tribal Engagement. (Good/Better/Best) • Supporting documentation	New

Theme	Goal	Indicator	PM	PM Units	Preliminary Definitions and Considerations	PM Status[1]
	All	--	Receipt of tribal input	Yes/No	• Was input received from tribes based on community engagement activities undertaken? (Yes/No)	New
	All	--	Letters of support from community and tribes	text (type; source), quantity	• Type, source and quantity of letters of support or MOUs from community groups and tribes	New

1: Initial Watershed Planning will collect data needed to quantify new PMs to support development of the benefits baseline and forecasts and targets.

MMS Approach & Outcomes

The MMS developed an extensive series of metrics to measure project performance and programmatic progress towards the 14 codified Goals of the SCW Program; as defined in Chapter 18 of the Los Angeles County Flood Control District [LACFCD] Municipal Code). A select set of those metrics will be carried forward by Public Works to inform SCW Program adaptations, including guidance, reporting, and planning.

Following the conclusion of the MMS, Los Angeles County Public Works (Public Works) adopted the terminology in Figure H-2 to quantify and communicate progress toward Goals:

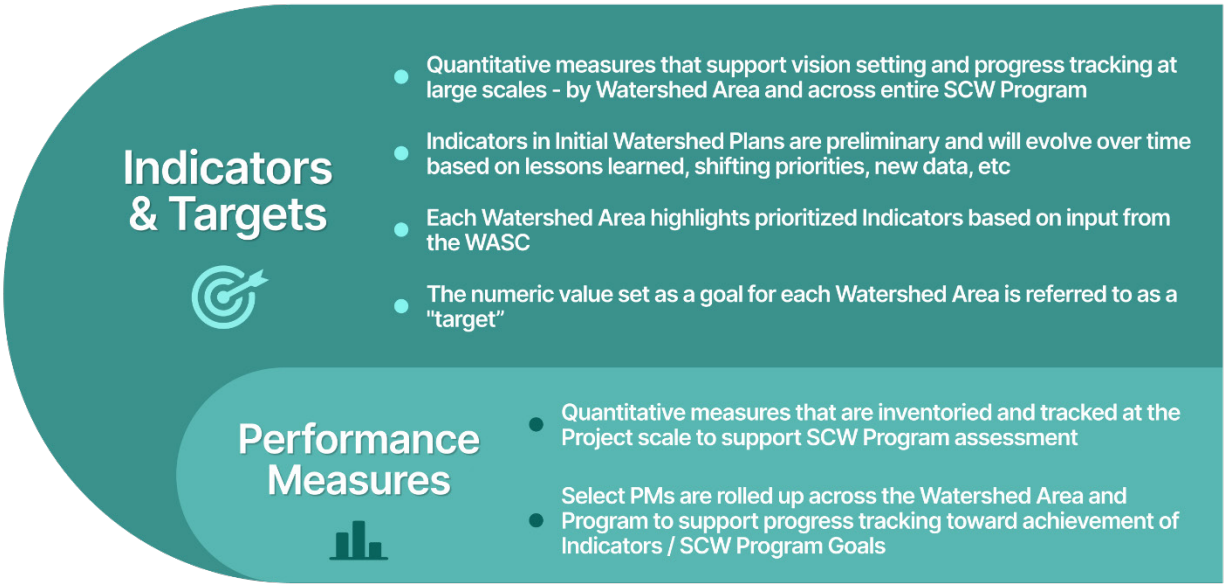


Figure H-2. Indicators and Performance Measures

Initial Watershed Planning will rely on clearly defined PMs and Indicators to estimate current program benefits, determine Watershed Area Needs, and forecast initial Strategies to achieve Goals. To inform the Initial Watershed Plans, the MMS:

1. Recommended **which PMs to prioritize** for consideration in the Initial Watershed Plans
2. **Described key data** for project submissions and to be tracked for reporting
3. Highlighted PMs that could be prioritized **candidates in the future**
4. Included a **glossary of definitions** to facilitate consistent terminology building upon the MMS
5. Prioritizes a list of **planning and data gaps**, along with initial **recommendations** to address those gaps (*Appendix J*)

The goal of the MMS was to:

> **develop program methods, PMs, and monitoring criteria to inform tracking, planning, reporting, and decision making within specific areas of the SCW Program.**

The MMS was conducted in coordination with Public Works by an interdisciplinary consultant team with expertise in both the technical and socio-political elements of PM-setting and was informed by extensive input and involvement by interested parties. To develop meaningful PMs and methods for consideration across all nine Watershed Areas and three Programs (i.e., Municipal, Regional, and District Programs), MMS implemented an interested-party-informed and expert-guided technical approach (Figure H-3), including public and expert engagement, scientific research, watershed opportunity screening, modeling, and analysis. Although the MMS engaged interested parties about every SCW Program Goal, some Goals warranted significant discussion with interested parties, others required analysis to validate alternative PMs, and some could be synthesized using existing data or are programmatically enforced by the SCW Program Ordinance and guidance.

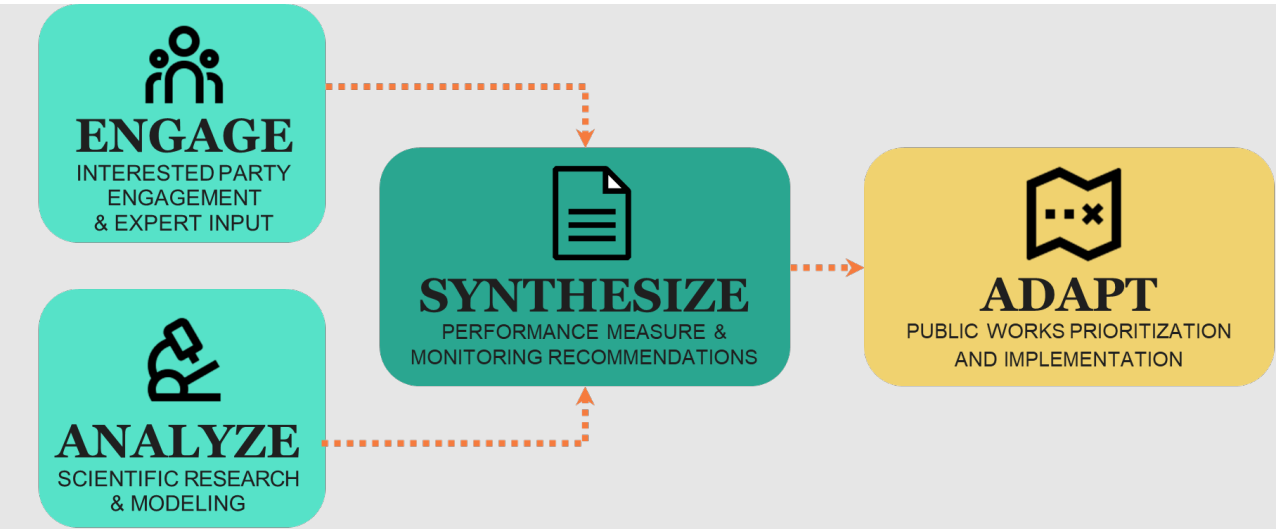


Figure H-3. Overview of MMS Process

The process above started with 174 candidate PMs focused on answering key questions related to each SCW Program Goal. Through an iterative process, the list was refined, and "profiles" were then developed for each PM defining the units, data gaps, data gathering approach, and programmatic relevance across three different project stages (Figure H-4):

- **Stage 1 — Planning through Submittal:** During Regional Program Application or Municipal/District planning, project proponents provide data to predict the

performance against all PMs for a planned project. Information is also collected for planned non-structural activities.

- **Stage 2 — Design through Construction:** Once projects are constructed or programs are initiated, the Stage 1 data is replaced, as appropriate, with updates that reflect what is actually designed and implemented.
- **Stage 3 — Post-Construction:** Monitoring occurs for a subset of PMs to determine actual performance. Some of these Stage 3 metrics are only relevant at this stage and are not intended to replace the Stage 1 and 2 data.

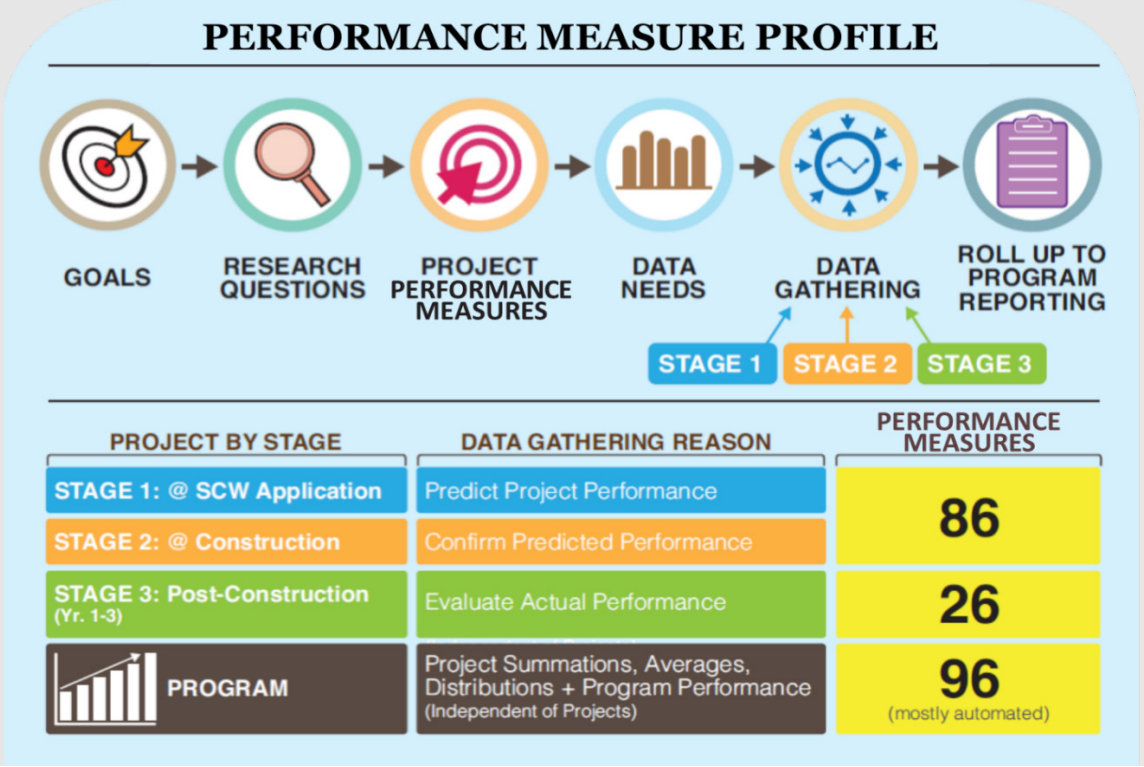


Figure H-4. Summary of profile elements and number of MMS PMs by project stage

The PM profiles were then reviewed by Public Works and an **advisory committee of 16 interested parties**, from which **over 250 comments** were collected and considered. All PMs were then prioritized based on criticality (i.e., how important the data is to better understanding the Goal) and the anticipated level of effort to estimate or collect the data.

To validate the prioritization, select PMs were analyzed across all nine Watershed Areas using historical Regional Program project application data, and a proof-of-concept was conducted to confirm the level of effort (and outstanding data gaps) to characterize a hypothetical project using the pre-construction PMs.

Ultimately, a list of 86 pre-construction (Stage 1 and Stage 2) PMs were recommended to Public Works for use in reporting and planning, of which 49 were further prioritized by Public Works as useful for Initial Watershed Planning and featured to the Regional Oversight Committee (ROC) on June 12, 2024 (Figure H-5). **Note that, while the term "project" is prominently used throughout this appendix, the PMs can also apply to the pre-implementation phases of non-structural programs, activities, and studies.**

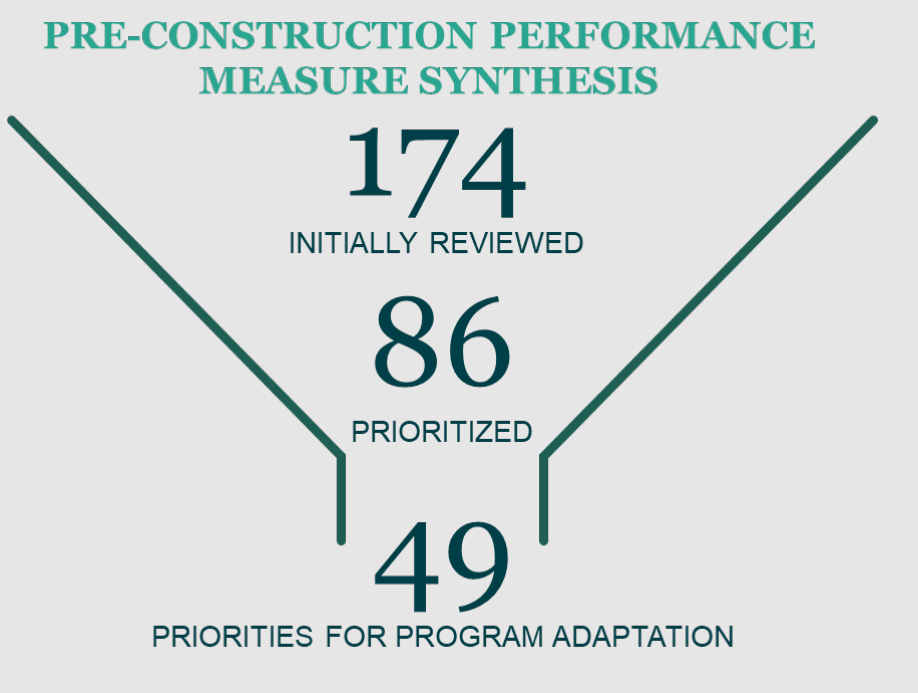


Figure H-5. MMS Synthesis of Pre-Construction (Phase 1 and 2) PMs Relevant to SCW Program Watershed Planning

Key assumptions and limitations of the MMS included:

- Focused on specific issues voiced prior to biennial reporting (e.g, equity, water supply, Community Investment Benefits [CIBs]),
- Used first 4 rounds of SCW Program Regional Program project application data (FY2021-FY2024),
- Used proposed project data (not reported) to analyze and test select PMs,
- Did not redefine SCW Program Implementation Ordinance terms (e.g., Water Supply Benefits), but documented key definitional gaps,
- Did not directly change Regional Program project scoring criteria, but recommended strategic adaptation,
- Did not conduct Watershed Planning nor recommend specific projects, but did generate an initial, coarse library of project opportunities used to test select metrics, and

- Did not establish Indicators but generated valuable watershed data useful for benchmarking the range of existing and future potential benefits.

The sections below summarize by Watershed Planning Theme the key MMS methods and background for PMs relevant to Initial Watershed Planning. **Note that *Appendix J* summarizes outstanding definitional gaps to be addressed through Initial Watershed Planning engagement and technical working groups.**

Improve Water Quality

SCW Program Goal (18.04.A)

Improve water quality and contribute to attainment of water-quality requirements.

Water quality PMs are most useful when developed at scales that are both **environmentally meaningful and practically measurable**. Interested parties echoed this sentiment during MMS engagement events by voicing the need to set PMs that clearly communicate progress towards compliance with Total Maximum Daily Loads (TMDLs); however, MMS demonstrated that the current Infrastructure Program Water Quality Benefit scoring criteria (pollutant removal efficiency relative to project inflow) may not directly correlate to meaningful reduction of pollutant loading to receiving waters. In addition, because the primary pollutants of concern may vary between Watershed Areas, no quantitative pollutant removal PM is currently reported on the SCW Program's dashboard.

Based on these findings, MMS defined and tested PMs that more closely translate project performance into progress towards attaining beneficial uses in downstream receiving waters, and that are scalable to the Watershed Area scale. Considering the majority of Watershed Management Groups (WMGs) list zinc and bacteria as limiting pollutants—while others focus on nutrients and toxics— MMS suggested that a singular representative and "limiting" pollutant could be established at the Watershed Area-scale to measure progress towards cleaner water and TMDL objectives. Although bacteria is a predominant driver for regional water quality planning, MMS did not test bacteria-risk-related PMs. This was because the science of bacteria risk reduction in LA County is rapidly evolving (driven in part by SCW Program-funded Scientific Studies) and because bacteria risk reduction is generally best accomplished through non-structural *Programs* that are expected to self-report Water Quality Benefits (as compared to *Projects,* for which PMs can be modeled from standard inputs).

There are potential limiting pollutants that could serve to define PMs and Indicators at the Watershed-Area scale. As discussed above, MMS acknowledged that specific TMDL and stormwater permit compliance requirements may vary by WMG—or even subwatershed—but that the SCW Program must compare project performance and report progress at the *Watershed Area*-scale. Limiting pollutants could allow the SCW Program to strike a balance between standardizing water quality PMs for each Watershed Area and aligning more closely with TMDLs.

Key MMS Finding:

To accurately estimate the net Water Quality Benefits of projects and Programs, it is important to consider interactions between upstream and downstream projects that are "nested" within a watershed

MMS also demonstrated the importance of modeling upstream and downstream projects as a system when estimating average annual pollutant reductions. This helps prevent "double counting" Water Quality Benefits in situations where projects are operating in series (Figure H-6). This is also important when considering the additional runoff volume managed in a Watershed Area that is already storing or infiltrating water in existing dams, spreading grounds, or regional stormwater capture projects.

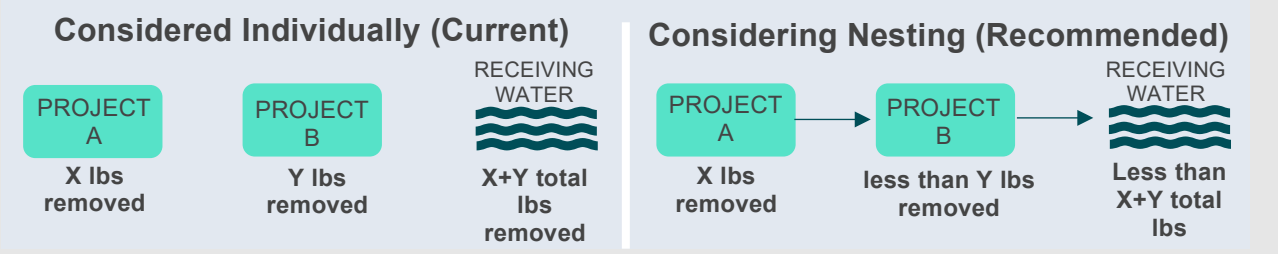


Figure H-6. Conceptual comparison of water quality PMs for projects in series

Additional Performance Measure Considerations

MMS also recommended evaluating Water Quality Scoring adaptations to more closely align with pollutant reductions, which would ideally be standardized across all Watershed Areas. For scoring criteria consistency at the SCW Program scale, MMS recommended measuring performance using one common representative pollutant—such as heavy metals (specifically zinc)—that tends to be a ubiquitous indicator of polluted runoff from developed landscapes. The Initial Watershed Plans could consider expanding on this recommendation to also summarize nutrient (i.e., phosphorus) reductions at the SCW Program scale to provide a more holistic summary of water quality improvement.

Additionally, the SCW Program-funded preSIP: A Platform for Watershed Science and Project Collaboration (preSIP) and the Gateway Area Pathfinding Analysis Scientific Studies featured an array of alternative PMs and Indicators focused on watershed-specific water quality compliance. While the SCW Program Initial Watershed Plans are not intended to conduct detailed compliance analysis, those studies could be leveraged and referenced by the Initial Watershed Plans to more closely align with compliance objectives.

Water Quality Indicators & Performance Measures

The Initial Watershed Plans will consider the drivers above and incorporate key MMS findings to facilitate a Water Quality technical working group which will support the establishment of Water Quality Indicators and PMs.

Increase Drought Preparedness

SCW Program Goal (18.04.B)

Increase drought preparedness by capturing more Stormwater and/or Urban Runoff to store, clean, reuse, and/or recharge groundwater basins.

Captured runoff has multiple potential pathways to increase the amount of locally available water supply, with the most common being infiltration to groundwater aquifers or direct discharge to sanitary sewer systems for subsequent treatment and reclamation/reuse. The SCW Program also defines conservation practices, reuse, and offset of potable demand as qualifying Water Supply Benefits, given there is "a nexus to Stormwater or Urban Runoff capture."

Interested parties have noted that accounting for the *net* Water Supply Benefits of SCW Program projects can be confounded by hydrogeological uncertainties **(i.e., "could water infiltrated above a shallow, confined aquifer eventually become a new, locally available water supply?")** and the existing benefits of regional infrastructure **(i.e., "would runoff captured upstream have been eventually stored or infiltrated anyway in a downstream dam or spreading ground?").** As discussed above in *Improve Water Quality*, it is important to consider how projects that are nested in a watershed operate as a system to avoid double-counting the potential benefits. The 2022 Interim Guidance directs project proponents to "…complete a good faith effort to establish and describe the relationship to downstream projects…" when computing Water Supply Benefits.

While the SCW Program currently collects and reports average annual stormwater capture volume, new PMs were needed to provide additional insight and inform decisions about "what counts" towards Water Supply Benefits.

Performance Measures Prioritized for Planning

MMS explored PMs intended to better account for net Water Supply Benefits in a watershed context, and to provide insight on potential endpoints of captured water. While MMS did not attempt to clarify hydrogeological assumptions, the study did use available spatial data to make assumptions about shallow versus deep groundwater recharge potential. MMS also developed a simplified approach to estimate the net water capture of a project or program based on the current (modeled) runoff that bypasses major regional dams and spreading grounds in a Watershed Area.

There are several existing, large-scale recharge and storage facilities in the region that are already diverting a substantial amount of stormwater from drainage channels to be used as a local supply. The question of whether runoff captured by new SCW Program projects upstream of these facilities should be counted has come up in regional water supply discussions. To account for this, the relative capture efficiencies of these recharge facilities was accounted for and the portion of runoff bypassing these facilities (net countable supply ratio) was determined using Public Works' regionally calibrated watershed model as follows:

$$\textit{Net Countable Supply Ratio} = \frac{\textit{Average Annual Runoff Bypassing Recharge Facility}}{\textit{Total Average Annual Runoff Reaching Recharge Facility}}$$

To calculate a conservative estimate of water supply contributions upstream of these recharge facilities, the modeled average annual runoff capture for a project can be multiplied by the net countable supply (NCS) ratio to downscale the water supply estimates and account for portions of water that are most likely already captured by these existing facilities (Figure H-7). Where projects were located above multiple existing recharge facilities, the NCS ratios for the downstream facilities can be multiplied together and then multiplied by the modeled project runoff capture to represent the compounding impact of these existing facilities on watershed runoff capture. A summary of NCS ratios used to test MMS PMs is provided in

Table H-2.

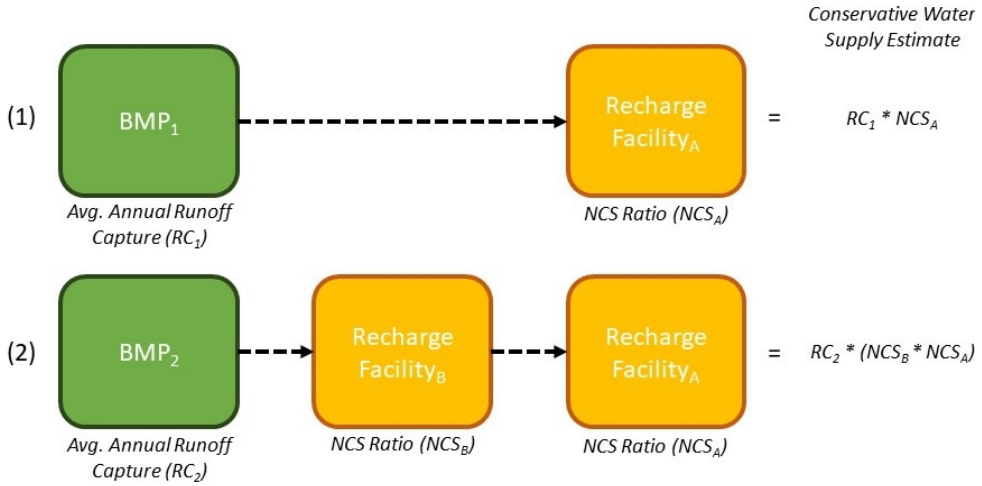


Figure H-7. Net Countable Supply (NCS) ratio concept

Table H-2. Estimated NCS Ratio used in MMS

Watershed Area	If Project is Upstream from…[1]	Net Countable Supply Ratio
North Santa Monica Bay	No existing facilities	Not Applicable
Central Santa Monica Bay	No existing facilities	Not Applicable
South Santa Monica Bay	No existing facilities	Not Applicable
Santa Clara River[2]	Castaic Lake	11%
	Bouquet Reservoir	45%
	Pyramid Lake	0%
Rio Hondo	Eaton Wash Spreading Grounds	16%
	Peck Road Park Lake	21%
	Whittier Narrows Dam	34%
	Rio Hondo Spreading Grounds	47%
Upper Los Angeles River	Devils Gate Dam	68%
	Tujunga Spreading Grounds	42%
	Pacoima Spreading Grounds	16%
	Lopez Spreading Grounds	9%
	Hansen Spreading Grounds	36%
	Dominguez Gap Spreading Grounds	98%
Lower San Gabriel River	San Gabriel Coastal	39%

Watershed Area	If Project is Upstream from…[1]	Net Countable Supply Ratio
Upper San Gabriel River	Citrus Spreading Grounds	7%
	Forbes Spreading Grounds	3%
	Ben Lomond Spreading Grounds	7%
	Puddingstone Reservoir	2%
	Walnut Spreading Grounds	6%
	Santa Fe Dam	23%
	San Gabriel River Dams	58%
	Whittier Narrows Basin Transfer	37%

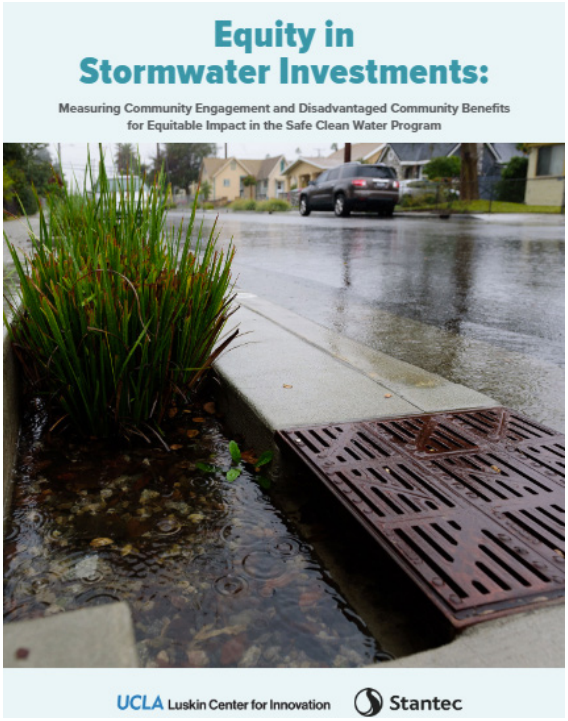
1: Projects and NCS ratios were assessed based on their location relative to the first of the existing facilities downstream; compounding of capture between downstream facilities (where applicable) is accounted for in the ratio.
2: Facilities in the Santa Clara River Watershed Area are upstream of more developed areas and did not have any impact on projects assessed.

Improve Public Health

SCW Program Goal (18.04.C)

Improve public health by preventing and cleaning up contaminated water, increasing access to open space, providing additional recreational opportunities, and helping communities mitigate and adapt to the effects of climate change through activities such as increasing shade and green space.

The SCW Program definition for CIBs lists meaningful, yet somewhat subjective or limiting PMs for measuring success, which are also reflected in the Feasibility Study Guidelines. The Scoring Criteria awards projects points on an all-or-nothing basis if the project proponents can demonstrate that the benefits defined by the Program are achieved to any extent, and do not currently consider the magnitude, number, or extent of benefits created; for example, a project that eliminates repetitive loss flooding conditions from a DAC may be scored the same as a project that plants a single tree.



The 2022 white paper by UCLA and Stantec entitled *Equity in Stormwater Investments: Measuring Community Engagement and Disadvantaged Community Benefits for Equitable Impact in the Safe, Clean Water Program* advised MMS that achievement of SCW Program goals could be strengthened with the addition of a needs-assessment resource to identify specific community needs and align PMs (and projects/programs) with those needs. Ultimately, MMS recommended that Public Works develop a Community Strengths and Needs Assessment (CSNA) process to build-out a robust database of CIB needs; that process is being started concurrently with the Initial Watershed Planning efforts.

Considering the development of a robust database of community input fell outside the scope of MMS, MMS also tested presumptive PMs for measuring Community Investment Benefits. MMS focused assessment on the seven elements currently defined as CIBs in the SCW Program Implementation Ordinance and Infrastructure Program Scoring Criteria because these represent one set of community-voiced priorities (i.e., voters agreed via adoption of Measure W that these specific types of CIBs should be represented). The elements included:

- Improved flood management, conveyance, or flood risk mitigation
- Creation, enhancement or restoration of parks, habitat
- Improved public access to waterways
- Tree canopy
- Greening of schools
- Accessible parks/green space and enhanced or new recreational opportunities.
- Reducing urban heat

Additional Performance Measure Considerations

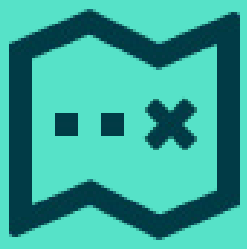
In addition to the PMs prioritized above, MMS recommended “place-based” measures for describing CIBs, including responsiveness to community- and tribe-stated needs and population within ¼-mile, ½-mile, and 2-mile distances (by public road network)

who may have access to the benefits of a project. These are described further in the section.

MMS also recommended PMs useful for prioritizing CIBs in areas with known needs related to parks, waterway access, habitat, canopy, and urban heat. While MMS did not compile spatial gap data, it provided some initial recommended resources (below) to Public Works when building out the datasets. Note that Community Benefit and Place-Based PMs and baseline datasets will be adapted following engagement and community needs assessment as part of ongoing Watershed Planning efforts.

Key Community Benefit Needs Datasets for Initial Watershed Planning

The MMS recommended building out needs datasets related to park access, habitat, tree canopy, and urban heat



- **Location within LA County Park Needs Assessment Priority Areas**
  - Parks Priority
  - Recreational Priority
  - Environmental Restoration
  - Environmental Conservation
- **Location of project in area of waterway access need**
  - Sourced from local communities/organizations
- **Location in areas of canopy need**
  - Urban Forest Management Plan for LA County (Chief Sustainability Office)
  - Urban Forestry Management Plan for the City of LA (Office of City Forest Management)
  - LiDAR-based land cover (LARIAC)
- **Location within high priority urban heat areas**
  - Yale Center for Earth Observation Surface Urban Heat Islands
  - LA County Climate Vulnerability Assessment

Promote Green Jobs & Career Pathways

SCW Program Goal (18.04.M)

Promote green jobs and career pathways.

Jobs resulting from implementation of stormwater-related projects are typically thought to include occupations in landscaping and groundskeeping; maintenance and repair; skilled craftspeople; scientists, hydrologists, engineers, botanists, and horticulturalists; and program managers and administrators. Equally as important as providing green

jobs is providing the opportunity for the skilled workforce to have career mobility, such as taking on more managerial and supervisorial roles as they progress in their career. Other nuances to consider in tracking the progress of green job development include targeted local hiring (with special attention to the needs of members of DACs) and increasing access to high quality jobs for people with high barriers to employment.

In consultation with an advisory committee of interested parties, MMS proposed initial PMs describing the quantity and quality of green jobs and career pathways, although MMS recommended engaging with the separate SCW Program Workforce Development Program being developed per Section 18.05 of the SCW Program Implementation Ordinance, paraphrased below:

> The Chief Engineer shall implement and administer the following…Local workforce job training, which will provide certification classes and vocational training at the community level for the construction, inspection, operations and maintenance of Stormwater or Urban Runoff management and Multi Benefit Projects, including instruction regarding applicable design concepts; and educational Programs…Not less than twenty percent (20%) of District Program funds shall be allocated for these Programs over a revolving five (5) year period…These Programs will be implemented throughout the District with special attention to the needs of DACs. The Chief Engineer shall partner with Stakeholders to collaboratively develop and implement these Programs.

Additional Performance Measure Considerations

Following the completion of MMS, the Regional Oversight Committee (ROC) emphasized the importance of effectively measuring job quantity and quality. The PMs above were designed to provide insight into the magnitude and type of program investments in green jobs, but additional insight could be provided by directly tracking the following PMs:

- Number of employees who participated in SCW Program training programs during project execution, parsed by name of SCW Program funded training program or other program (e.g. LA County Targeted Local Hire Program.)
- Number of employees hired through a SCW Program funded training program, parse by name of SCW Program training program

Equitably Distribute Benefits

In addition to better quantifying the magnitude of benefits provided by the SCW Program, MMS recommended approaches to measure *to whom* those benefits may apply and accrue. These place-based measures can be articulated by engaging communities and tribes to document local needs and by measuring the quantity and quality of engagement. **MMS recommended developing a CSNA process**—which is currently being developed as part of the Initial Watershed Plans—to build-out-related PMs.

MMS also recommended presumptive methods for estimating how many people and which Municipalities may benefit from a project based on proximity and potential accessibility. A range of "service areas" were defined using the walkable road network to estimate the population within reasonable walking, biking, and/or driving distances from projects. Because the analysis considers population density, the benefits of projects theoretically increase with higher population served; this helps differentiate the total magnitude of benefits with respect to both "what" (e.g., acres of new park) and "who" (e.g., how many people now have access to the new park space). **This approach is useful for Initial Watershed Planning because it can help better define initial benefits and gaps related to SCW Program Goals (especially CIBs, DAC Benefits, and proportional benefits to Municipalities from the Regional program). Note that additional analysis is needed to evaluate service areas for other benefits, such as Water Quality and Water Supply Benefits.**

Service Areas for Community Investment Benefits.

For most CIBs, the MMS suggested that people living within ¼ mile (approximately equivalent to a 5-minute walk) have the potential to experience a benefit. For parks and green space opportunities that may draw users from farther away, a ½-mile walking distance (using the walkable road network) could be used to evaluate potential access, which is consistent with the assumptions of the 2016 LA County Park Needs Assessment (PNA). A ½-mile (or approximately 10-minute walk) is also supported by the National Household Travel Survey average distance for social and recreational trips. The National Household Travel Survey also supports the use of a 2-mile travel distance as the threshold for acceptable recreational access by bicycle.

It is important to consider the walkable road network when defining service areas to account for features that can impede pedestrian or cycle travel (e.g., freeways, river channels, large private parcels, etc.).

To develop service areas and estimate population within different travel distances from projects, the MMS recommended the following steps:

1. Use the Network Analyst tool in ArcGIS to delineate 0.25-mile, 0.5-mile, and 2-mile services areas to SCW Program projects. The tool uses the walkable road network when evaluating distances, so it inherently accounts for pedestrian or cyclist barriers like parcels, rivers, and freeways. For larger projects, the public access point (i.e., entrance) to the project should be used to accurately estimate distances.
2. Intersect the service areas with population data to estimate the population within each project service area range.
    a. The MMS used population estimates provided on a census tract level that originated with the 2014 American Community Survey (ACS) Population Estimates from the U.S. Census Bureau, and that are adjusted annually by both the County and the California State Department of Finance to improve accuracy.
    b. To improve the accuracy of the spatial analyses, the PNA converted these data into a probable distribution of population within each census tract. This was accomplished by dividing the entire County into one-acre hexagons. Population was distributed among the grid cells within each census tract based on the underlying LA County Assessor's parcel land use type. This hexagonal population data was used by the MMS.
    c. Note that the hexagonal population data provided by the LA County Parks and Recreation Department also included attributes identifying park needs.

3. Intersect the service area and population data with DAC boundaries to estimate the population within and outside of DACs that could be served by each project (Figure H-8). For the MMS analysis, the DAC boundaries were defined based on the SCW Ordinance Section 16.03.H definition: “A Census Block Group that has an annual median household income of less than eighty percent (80%) of the Statewide annual median household income (as defined in Water Code section 79505.5).”
4. Intersect the service area and population data with other potential community needs layers—such as park needs, urban tree canopy needs, and urban heat—to quantify which projects may help meet those needs and for how many people (Figure H-9).
5. Multiply the number of projects providing specific benefits by the population in the service area to estimate the magnitude of “people-benefits” provided; if service areas from nearby projects overlap, then the same population could be benefited by multiple projects (Figure H-10). The total population served can also be estimated. The analysis can also quantify the specific magnitude of benefits (e.g., *acres* of new/enhanced recreation) instead of simply counting each project on a binary basis as providing benefits to the surrounding population.

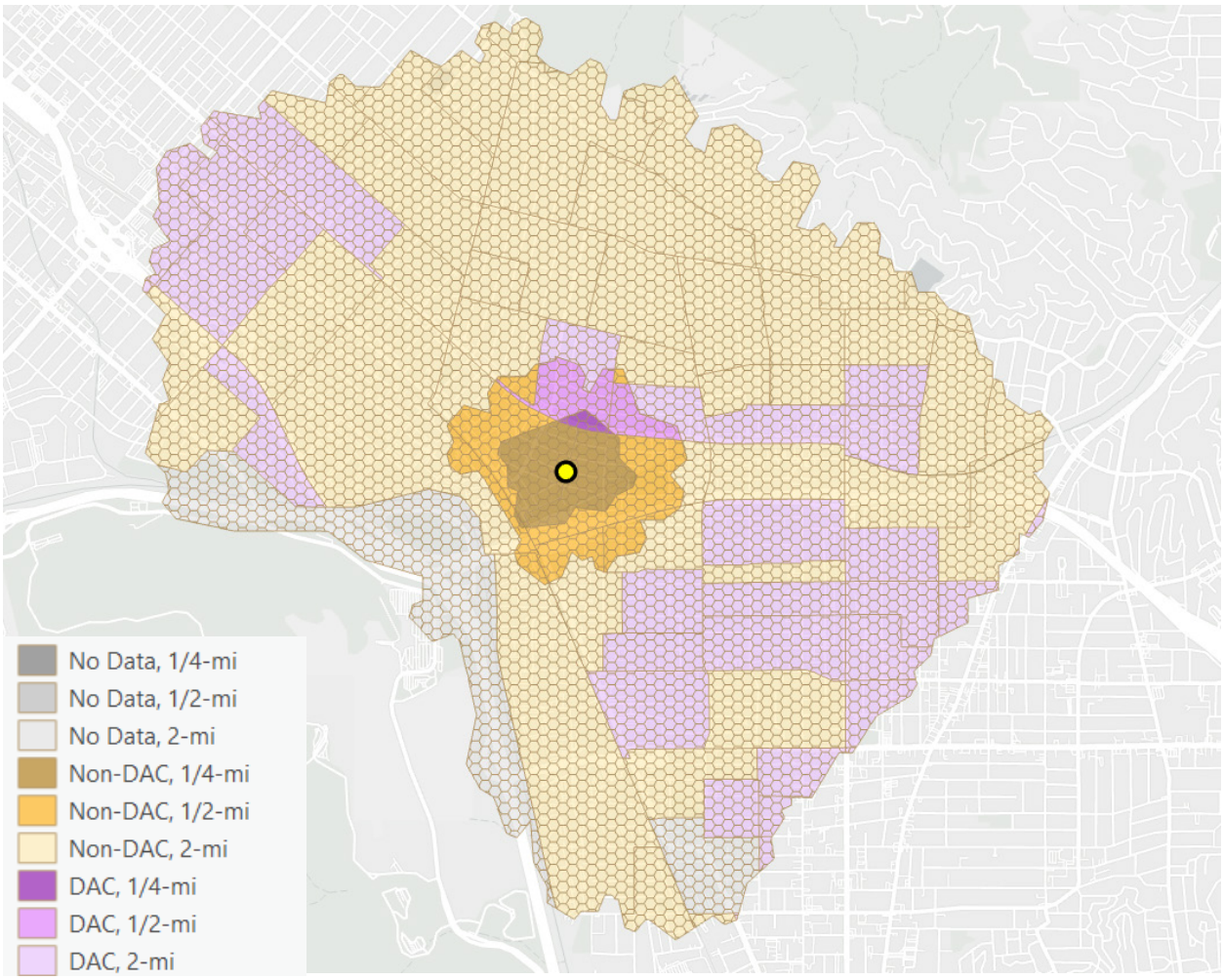


Figure H-8. Example delineation of alternative service areas to a project using the walkable road network, intersected with DAC boundaries

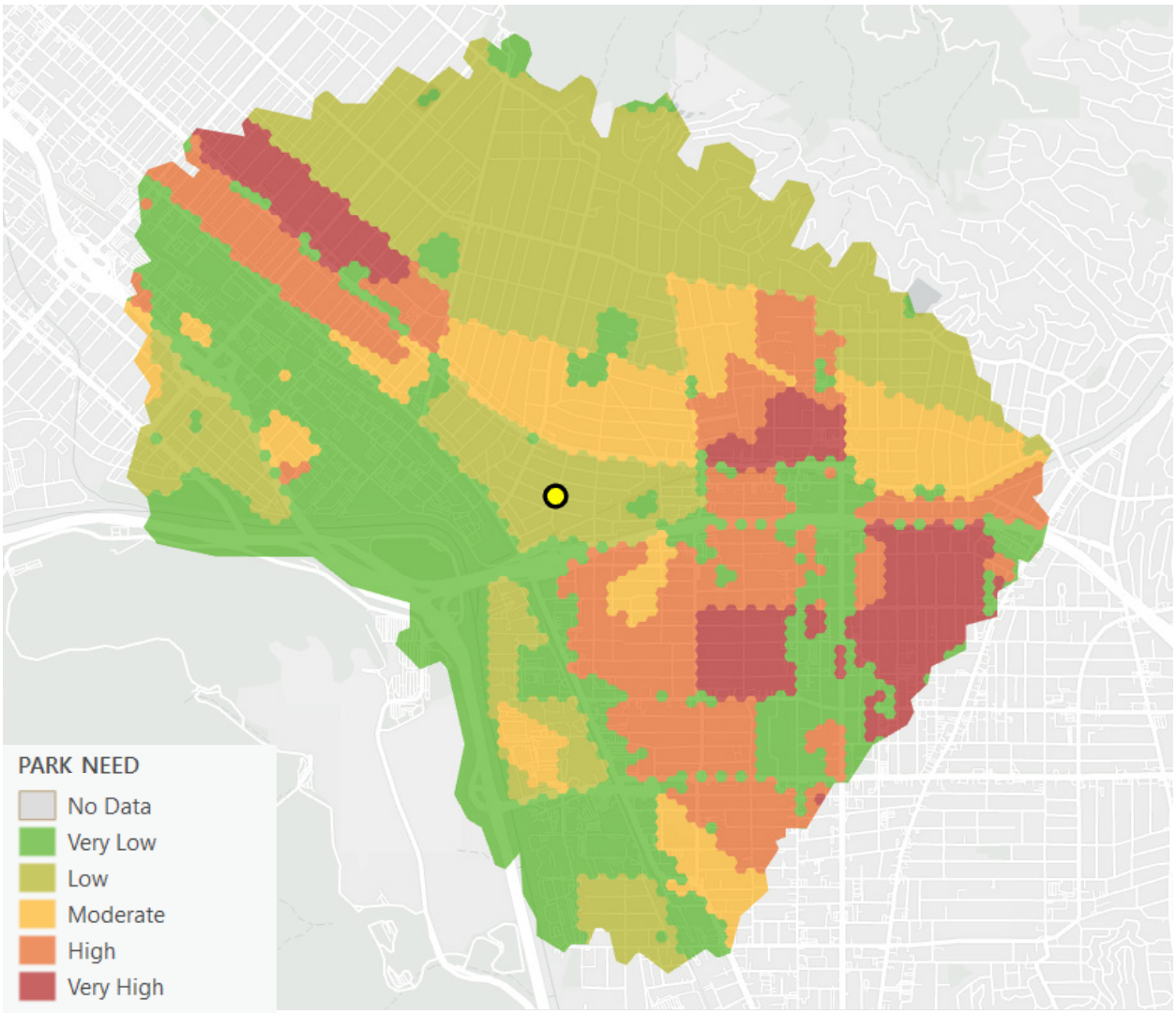


Figure H-9. Example delineation of alternative service areas to a project using the walkable road network, intersected with PNA data

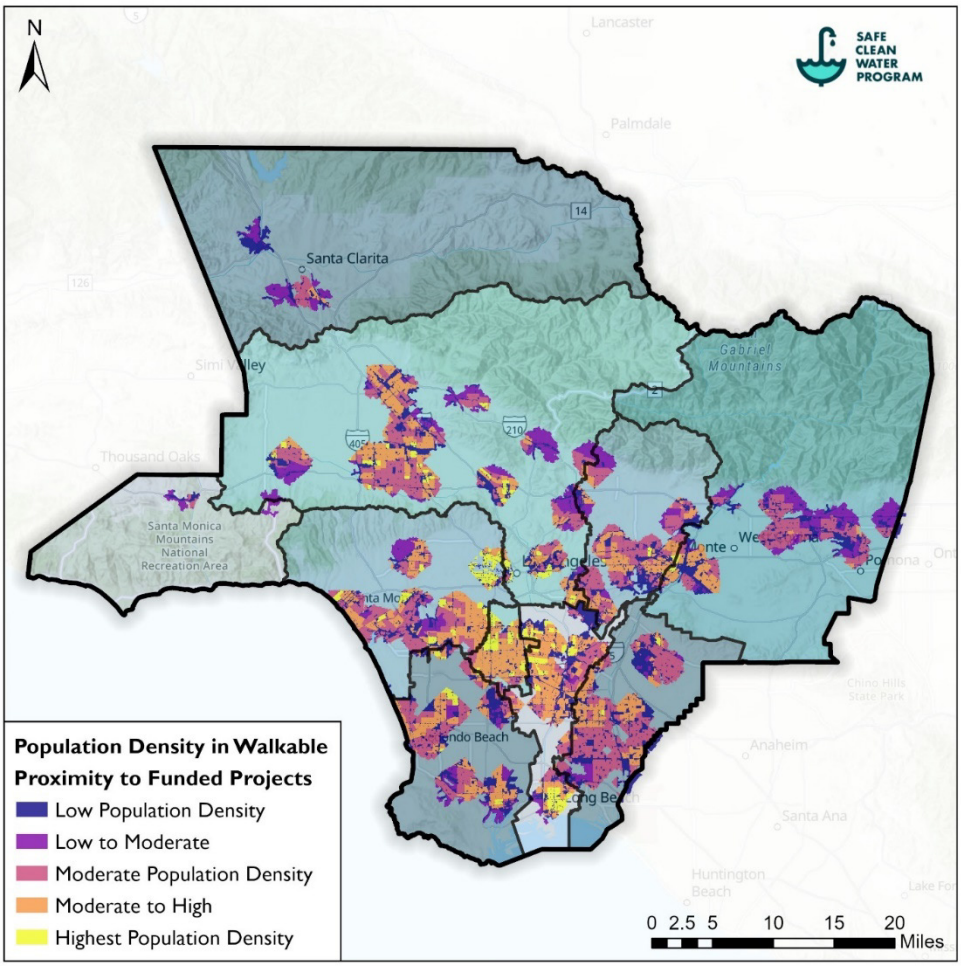


Figure H-10. Example delineation of service areas for funded SCW Program projects to estimate the total population potentially served and to identify gaps where future projects may be warranted to meet unmet needs.

Applicability to Disadvantaged Community Benefits

Currently, benefits provided to DACs are measured based on the total dollars invested in projects that are within or directly benefiting a DAC; however, that approach does not account for the magnitude of benefits nor how many people may experience those benefits.

SCW Program Goal (18.04.J)

Provide DAC Benefits, including Regional Program infrastructure investments, that are not less than one hundred and ten percent (110%) of the ratio of the DAC population to the total population in each Watershed Area.

Additionally, the *Equity in Stormwater Investments: Measuring Community Engagement and Disadvantaged Community Benefits for Equitable Impact in the Safe, Clean Water Program* white paper concluded that most census block groups in the County are located within a half-mile of a DAC block group. So, if projects were

allowed to claim a DAC Benefit by proximity alone, the vast majority of projects would be able to make such a claim regardless of benefit type, magnitude, and actual impact on a nearby DAC.

Because it weights benefits with population, the service area method recommended by MMS could be used to better estimate the accrual of CIBs to people living in DACs within various walking or biking distances from SCW Program projects. Specifically, the total magnitude of "people-benefits" can be compared with the people-benefits provided specifically to DACs in a project's service area as an alternative method to test if benefits are being provided to DACs above a ratio of 110% of the DAC population to the total population in each Watershed Area. **This method can also be used during Initial Watershed Planning to identify geographic and demographic gaps where SCW Program benefits may be prioritized. Note that additional analysis is needed to evaluate service areas for other benefits, such as Water Quality and Water Supply Benefits.**

Applicability to Proportional Municipal Benefits from the Regional Program

The MMS conducted a workshop focused on how Municipalities experience benefits from the Regional Program. During that workshop, the MMS team suggested that Water Supply Benefits may accrue to all Municipalities in a Watershed Area, Water Quality Benefits may accrue to Municipalities who share a Watershed Management Group (WMG), and CIBs may accrue to Municipalities if a SCW Program project benefits their residents.

SCW Program Goal (18.04.K)

Provide Regional Program infrastructure funds benefitting each Municipality in proportion to the funds generated within their jurisdiction, after accounting for allocation of the one hundred and ten percent (110%) return to DACs, to the extent feasible.

MMS therefore developed the following approach to evaluate how the proportionality of benefits could be measured and validated to evaluate the SCW Program Goal 18.04.K:

1. **For Water Supply Benefits**, under the current definition, MMS suggested that new local water supply benefits all Municipalities in a Watershed Area, so no analysis is required.
2. **For Water Quality Benefits**
    a. The location of each project is used to attribute pollutant load reductions (see *Improve Water Quality*) to a WMG, and the total load reductions are summed for each WMG.

b. The proportion of funds generated in each WMG is estimated by tabulating the Municipal Program funds apportioned to each Municipality in each WMG; for Municipalities that span multiple WMGs, the Municipal Program funds can be area-weighted based on the area of the Municipality in each WMG.
c. Then, the proportion of Water Quality Benefits experienced in each WMG in each Watershed Area was compared to the proportion of Municipal Program funding (water quality benefit ratio) to identify any disparities.

$$\textit{Water Quality Benefit Ratio for WMG "A"} = \frac{\left(\frac{\textit{Regional Program Water Quality Benefits to WMG "A"}}{\textit{Total Regional Program Water Quality Benefits in Watershed Area}}\right)}{\left(\frac{\textit{Municipal Funding to WMG "A"}}{\textit{Total Municipal Funding from All WMGs in Watershed Area}}\right)}$$

3. **For Community Investment Benefits**
   a. The methods described above estimate the accrual of CIBs based on service areas can be used to estimate the proportion of people-benefits accrued to each Municipality in each Watershed Area compared to the proportion of Municipal Program funding to each respective Municipality (CIB ratio for Municipality). As noted earlier in , the CIBs should be cross-referenced with community needs to better understand the value; for example, provision of new park space to a population in a park-poor area may have higher value than serving people with ample access to existing parks.

$$\textit{Community Investment Benefit Ratio for Municipality "B"} = \frac{\left(\frac{\textit{Regional Program Community Investment People} \cdot \textit{Benefits to Municipality "B"}}{\textit{Total Regional Program Community Investment People} \cdot \textit{Benefits in Watershed Area}}\right)}{\left(\frac{\textit{Municipal Funding to Municipality "B"}}{\textit{Total Municipal Funding to All Municipalities in Watershed Area}}\right)}$$

Additional Performance Measure Considerations

As discussed in , the significance of place-based measures could be further articulated if local needs are understood. Public Works should consider if accrual of benefits should only apply to populations within area of defined need (e.g., park needs, tree canopy needs, urban heat needs, etc.).

Deliver Multi-Benefits with Nature-Based Solutions & Diverse Projects

The MMS recommended a collection of numerous PMs related to project characteristics that inform evaluation of multiple SCW Program Goals.

SCW Program Goal (18.04.E)

Invest in infrastructure that provides multiple benefits.

Section 16.03.S of the SCW Program Implementation Ordinance defines a multi-benefit project as the following: "*a Project that has: (1) a Water Quality Benefit, and (2) a Water Supply Benefit or a Community Investment Benefit, or both.*" The SCW Program Implementation Ordinance states that Infrastructure Program projects submitted to the Scoring Committee must be multi-benefit projects, and the current Scoring Criteria implicitly addresses this requirement by requiring projects to qualify for additional points beyond Water Quality Benefits to achieve the threshold score; however, the breadth of project elements that can be described as a CIB can vary greatly between communities. While the provision of multi-benefit projects is enforced by the Regional Program's Infrastructure Program scoring criteria, the Municipal Program has no such enforcement or incentive. To evaluate the extent to which the Municipal Program is investing in muti-benefit projects, the MMS synthesized a PM to express the number and percentage of projects claiming any Water Quality, Water Supply, and/or CIBs.

SCW Program Goal (18.04.G)

Provide a spectrum of project sizes from neighborhood to regional scales.

Project modality PMs are also useful for describing the spectrum of project sizes. This Goal includes two main components: size and scale. For size, the MMS evaluated the distribution of project footprints and drainage area sizes. For scale, the MMS synthesized the number of projects that manage runoff from just one jurisdiction versus projects managing runoff from multiple jurisdictions.

SCW Program Goal (18.04.F)

Prioritize Nature-Based Solutions.

Finally, project modality measures can also be useful for describing how a project provides NBS per the definitions in the 2022 Interim Guidance.

Ensure Ongoing Operations & Maintenance

MMS ensured that PMs were developed to describe every SCW Program Goal, including measures that may already be collected and Goals that may be programmatically enforced by the structure of the program. For example, ensuring ongoing operations and maintenance (O&M) for projects is generally enforced by the Feasibility Study Guidelines, which require project applicants to prepare a plan for long-term operations and maintenance.

SCW Program Goal (18.04.N)

Ensure Ongoing Operations and Maintenance for Projects

Leverage Funding & Invest in Research & Development

The SCW Program encourages innovation and scientific endeavors that advance the regional understanding of multi-benefit watershed management. MMS developed PMs to gather additional insights on these goals.

The MMS also evaluated how leveraged funds can be characterized to gain additional insight into the true cost-effectiveness of SCW Program projects.

SCW Program Goal (18.04.H)

Encourage innovation and adoption of new technologies and practices.

SCW Program Goal (18.04.I)

Invest in independent scientific research.

SCW Program Goal (18.04.D)

Leverage other funding sources to maximize SCW Program Goals

Appendix I. Strategies Implemented to Date and Identified for Watershed Planning

The following overviews outline the strategies employed by the Safe, Clean Water Program (SCW Program) to date (FY20-21 to FY24-25) for the Regional, Municipal, and District Programs. These strategies have focused on expenditures, investments in disadvantaged communities (DACs), Project types and design details, and the spatial distribution of investments.

Overview of Regional, Municipal, and District Programs

773

Number of Projects, Studies, Concepts and Program Activities Funded to Date

Number of Projects funded

300

Projects, Studies, or Program Activities are being implemented across

86
MUNICIPALITIES

$308M

SCW Program Expenditures reported in first 3 years

Includes District Program expenditures in FY19-20 to launch SCW Program

Special parcel tax collected for SCW program in first 3 years

$837
MILLION

Projected investment in Activities benefiting Disadvantaged Communities totaling over

$820
MILLION

Infrastructure Program Projects (FY20-21 to FY24-25)

137

Approved Infrastructure Program (IP) Project

Primary BMP Types

- **46** Infiltration Facilities
- **36** Treatment Facilities
- **46** Infiltration Wells
- **9** Diversion to Sanitary Sewer
- **8** Cistern
- **8** Bioretention
- **7** Bioinfiltration

$935M

Budgeted and Projected to Date (up to FY28-29)

Project Types

- **29** Dry Weather Capture
- **108** Wet & Dry Weather Capture

Capture Area Sizes

- **45** < 0-200 acres
- **48** 200-1,000 acres
- **44** >1,000+ acres

Leverage other funding nearing

$622 MILLION

Provide an increase in total 24-hour storage capacity of

4,293 AF

Capture stormwater from over

276,262 ACRES

Are being implemented across

52 MUNICIPALITIES

Invest in projects benefiting disadvantaged communities totaling

$755

Provide an increase in annual average stormwater capture of

60,364

Projects Addressing Primary Pollutants

- **52** Zinc
- **17** Bacteria
- **6** Nitrogen
- **45** Other

Projects using NBS

- **132** Mimic natural processes
- **129** Use natural materials

Projects providing Water Supply benefits

- **72** Recharge stormwater to an aquifer
- **21** Send captured stormwater to a Wastewater Treatment Plant for reuse
- **40** Reuse captured stormwater onsite

Projects Providing CIBs

- **117** Reduce heat island effect
- **109** Provide recreational opportunities
- **122** Increase shade and tress
- **109** Improve flood protection
- **42** Improve waterways access
- **116** Enhance habitat or park spaces
- **29** Enhance green spaces at schools

Technical Resources Program – Project Concepts (FY20-21 to FY24-25)

41

Funded Technical Resources Program Project Concepts

$12.3M

Budgeted to Date

Number of Project Concepts that completed development

21

Number of developed Project Concepts that have applied for Infrastructure Program

16

Number of developed Project Concepts that have been funded as Infrastructure Program Project

11

Regional Program – Scientific Studies (FY20-21 to FY24-25)

18

Unique Funded Scientific Studies

$26.2M

Budgeted and Projected to Date (up to FY28-29)

Number of Studies completed

13

SCW Program funding disbursed up to FY22-23

$7.7

Reported SCW Program expenditures up to FY22-23

$4.5
MILLION

Reported Cost Share expenditures up to FY22-23

$30
THOUSAND

Municipal Program – Reported Activities (FY20-21 to FY22-23)

571

Project and Program Activities for the Municipal Program

$168.1M

Expenditures of SCW Municipal Program in first 3 years toward Projects

Number of Projects constructed

12
PROJECTS

Cost share towards Regional Program Infrastructure Program Projects

20
PROJECTS

$7.7
MILLION

Projects are being implemented across

61
MUNICIPALITIES

Total Municipal Program Projects being implemented

160
ACTIVITIES

Municipal Program activities are being implemented across

83
MUNICIPALITIES

Total reported expenditures on all activity types

$83.9
MILLION

Watershed Planning is using interested party (see *Appendix D* for details on the Watershed Planning engagement process) input to refine the strategies above to address Watershed Area-specific Needs. Outcomes from Phases 1 and 2 of WASC engagement, which was completed in Fall 2024, include the identification of Priority Strategies and Opportunity Areas. The input provided by members of WASCs during Phase 1 and 2 of their engagement was focused on the uniqueness of each Watershed Area, and the individual communities and landscapes the Committees represent. However, there were common ideas contributed by several WASCs. In each case these synergies suggest that Priority Strategies related to these contributions may be appropriate Program-wide. Figure I-1 provides initial examples of Program-wide Priority Strategies for achieving Goals identified through WASC engagement. Priority Strategies will continue to evolve with Initial Watershed Planning engagement and technical analyses.

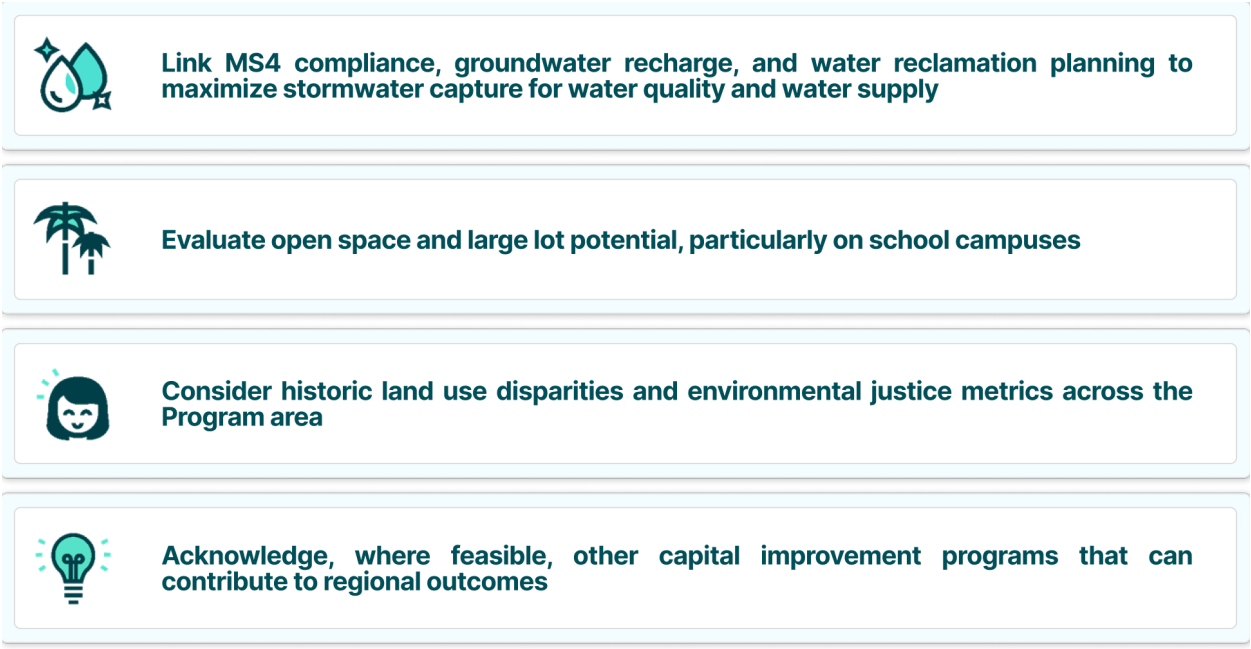


Figure I-1. SCW Program-wide Priority Strategies

Appendix J. Definitional Gaps

Table J-1. Definitional Gaps identified to date to be addressed by Watershed Planning

Topic	Category	Definition Gap	Summary of Current Interpretation
Watershed-Area Water Quality Indicators	Technical Definition	Define Watershed-Area-scale Indicators aligned with Total Maximum Daily Loads (TMDLs) and Watershed Management Programs (WMPs) (to the extent that compliance targets can be aggregated to Watershed-Area scale); explore options for where objectives differ across Watershed Areas and for bacteria objectives.	None (to be developed through water quality technical working group).
PMs for Dry vs Wet Weather Projects	Technical Definition	Explore Performance Measures (PM) options for dry weather projects and areas where dry weather objectives dominate.	"Only Projects designed for 0.25-inch rain events or below may utilize the dry weather scoring section".
Increase in locally available water supply	Policy Definition	Define how to quantify an increase in locally available water supply, in the context of: • Existing capture/conservation infrastructure (and maintenance thereof, such as sediment removal behind dams), • Recharge potential (all water infiltrated vs. infiltrated over confined/unconfined aquifers vs. geotechnical analysis to estimate deep percolation), • Environmental water*, and	"'Water Supply Benefit' means an increase in the amount of locally available water supply, provided there is a nexus to Stormwater or Urban Runoff capture. Activities resulting in this benefit include, but are not limited to, the following: reuse and conservation practices, diversion of Stormwater or Urban Runoff to a sanitary sewer system for direct or indirect water recycling, increased groundwater replenishment or available yield, or offset of potable water use."

Topic	Category	Definition Gap	Summary of Current Interpretation
		• Future water reclamation/reuse programs *Environmental water refers to the maintenance of natural flow regimes for the ecological health of receiving waters, and has been described as a water supply benefit by some interested parties.	"Where a Project's Water Supply Benefits include an increase in water supply through soil infiltration, the Feasibility Study should include an engineering analysis demonstrating that that the infiltrated water is reaching a managed, usable groundwater aquifer and confirmation that the agency managing the groundwater basin concurs."
Access to, and accrual, of CIBs	Policy Definition	Define Community Investment Benefit (CIB) quantification in terms of: • Accessible distances (e.g., ¼-mile, ½-mile, 2-mile), • Population data to use for different types of CIBs and projects • Definition of “accessible", • Other non-proximity criteria for "benefiting" (e.g., what if a project is a field trip destination), and • Watershed Area Steering Committee’s (WASC’s) role in confirming claimed project benefits	WASCs currently determine which projects provide Disadvantaged Community (DAC) benefits using community support public testimony. If a project benefits a DAC, total project funding is considered to benefit DACs in that Watershed Area.
DACs	Policy & Technical Definition	Define DACs and severely DACs, with consideration of how to prioritize severely DACs.	"Disadvantaged Community" ("DAC") means a Census Block Group that has an annual median household income of less than eighty percent (80%) of the

Topic	Category	Definition Gap	Summary of Current Interpretation
			Statewide annual median household income (as defined in Water Code section 79505.5). Interim guidance allows alternative definitions if they tie back to median household income.
Community	Policy Definition	Define the scope of a “community” as it relates to the strengths and needs assessment.	The use of the census boundaries as community boundaries is a convention in these programs, not a formal policy. Because a “community” is undefined within the Water Code related policy system, any appropriate geographic boundary that supports the median household income statistical test can be deemed as a “disadvantaged community.” The Safe, Clean Water Program (SCW Program) directs that Census Block Groups are communities, some of which are disadvantaged, and some of which are not. Functionally, Census Block Groups are rarely perceived as a community by any community members, the agencies that serve them, or the elected representatives at various levels. In fact, Census Tracts and Blocks rarely have any familiarity or utility outside the Census itself, and the use of the demographic data that is

Topic	Category	Definition Gap	Summary of Current Interpretation
			differentiated with those boundaries. Census Places, however, are another geographic unit used by the Census and are typically drawn to contain political or social geographies that have meaningfulness for the people who live and work there. Future guidance is intended to include efforts to bring more certainty for community members, elected leaders, municipal and county staff, Project proponents, and decision-making bodies inside SCW Program about how to judge or quantify the beneficiaries of a Project.
Parks	Policy Definition	Confirm definition and needs related to park creation, enhancement, restoration.	None - relies on supporting documentation from Project Developer.
Habitat	Policy Definition	Confirm definition and needs related to habitat creation, enhancement, restoration.	None - relies on supporting documentation from Project Developer.
Tree Canopy	Policy Definition	Confirm definition and needs related to mature tree canopy and guidance for developers to estimate it.	None - relies on supporting documentation from Project Developer.

Topic	Category	Definition Gap	Summary of Current Interpretation
Access to Waterways	Policy Definition	Confirm definition and needs related to access as a benefit vs safety concern, and in context of homelessness.	None - relies on supporting documentation from Project Developer.
Flood protection	Policy Definition	Define or confirm the types of flood protection benefits reported, how they relate to CIBs scoring, how they relate to flood declarations, and if flood improvements should be measured using Place-Based Measures (i.e., population served).	None - relies on supporting documentation from Project Developer.
Municipal benefit ratio	Policy Definition	Clarify “extent feasible” language in Municipal benefits Goal (18.04.K) to understand the numeric tolerance for what is acceptably “proportional” to the funds generated within each jurisdiction (e.g., decide that Municipalities should realize benefits at a ratio +/- X% of the proportion of funds generated in their jurisdictions).	Each Municipality shall receive benefits in proportion to the funds generated within their jurisdiction, after accounting for allocation of the one hundred ten percent (110%) return to DACs, to the event feasible, to be evaluated annually over a rolling five (5) year period.
Surface types	Policy Definition	Confirm definitions for surface types to be reported and tracked.	None - relies on supporting documentation from Project Developer.
Green jobs	Policy & Technical Definition	Ensure Indicators and PMs reflect career quality, advancement opportunities, various job classification/labor distributions, and other input from the ROC.	The Chief Engineer shall implement and administer the following…Local workforce job training, which will provide certification classes and vocational training at the community level for the

Topic	Category	Definition Gap	Summary of Current Interpretation
			construction, inspection, operations and maintenance of Stormwater or Urban Runoff management and Multi Benefit Projects, including instruction regarding applicable design concepts; and educational Programs…Not less than twenty percent (20%) of District Program funds shall be allocated for these Programs over a revolving five (5) year period…These Programs will be implemented throughout the District with special attention to the needs of DACs. The Chief Engineer shall partner with Stakeholders to collaboratively develop and implement these Programs.
NBS Guidelines Achievement	Policy & Technical Definition	• Explore efficacy of Achievement Unit approach or other methods via Nature-Based Solutions (NBS) Blue Ribbon committee. • Define what interim Indicators and PMs should be used	The 2022 Interim Guidance provides a Good, Better, Best framework to judge the quality of a project with respect to 6 categories of NBS.
NBS	Policy Definition	Clarify definitions of “natural process,” “mimics natural processes,” and “utilizes natural materials”.	The 2022 Interim Guidance provides a Good, Better, Best framework to judge the quality of a project with respect to 6 categories of NBS.

Topic	Category	Definition Gap	Summary of Current Interpretation
Impermeable Area Removal Criteria	Technical Definition	Validate the range of percent impermeable area removed used in CIB scoring criteria.	The 2022 Interim Guidance provides a Good, Better, Best framework to judge the quality of a project with respect to 6 categories of NBS.
Benefits of programs/non-structural activities	Technical Definition	Define guidance for estimating PMs for SCW Program-funded non-structural activities.	None
Tribal engagement	Policy Definition	Establish a process for consultation with Native American Indians regarding the SCW Program.	The 2022 Interim Guidance provides a Good, Better, Best framework for engagement.
Cost-effectiveness and leveraged funding	Policy Definition	Consider if leveraged funding should be included/excluded when computing cost-effectiveness metrics; if included, deconflict with periodic indexing conducted for scoring rubric updates (e.g., Water Supply Scoring Pilot).	The total lifecycle cost estimate used for computing cost-effectiveness criteria includes total project costs and does not exclude leveraged funding.