

EVERY DROP COUNTS

Moderator: Dr. Mark Grey, Director of Environmental Affairs
Building Industry Association of Southern California

Peter Kavounas, General Manager
Chino Basin Watermaster

Andrea Macias, Associate Civil Engineer
Riverside County Flood Control & Water Conservation District

Carlos Moran, Watershed Coordinator
Council for Watershed Health



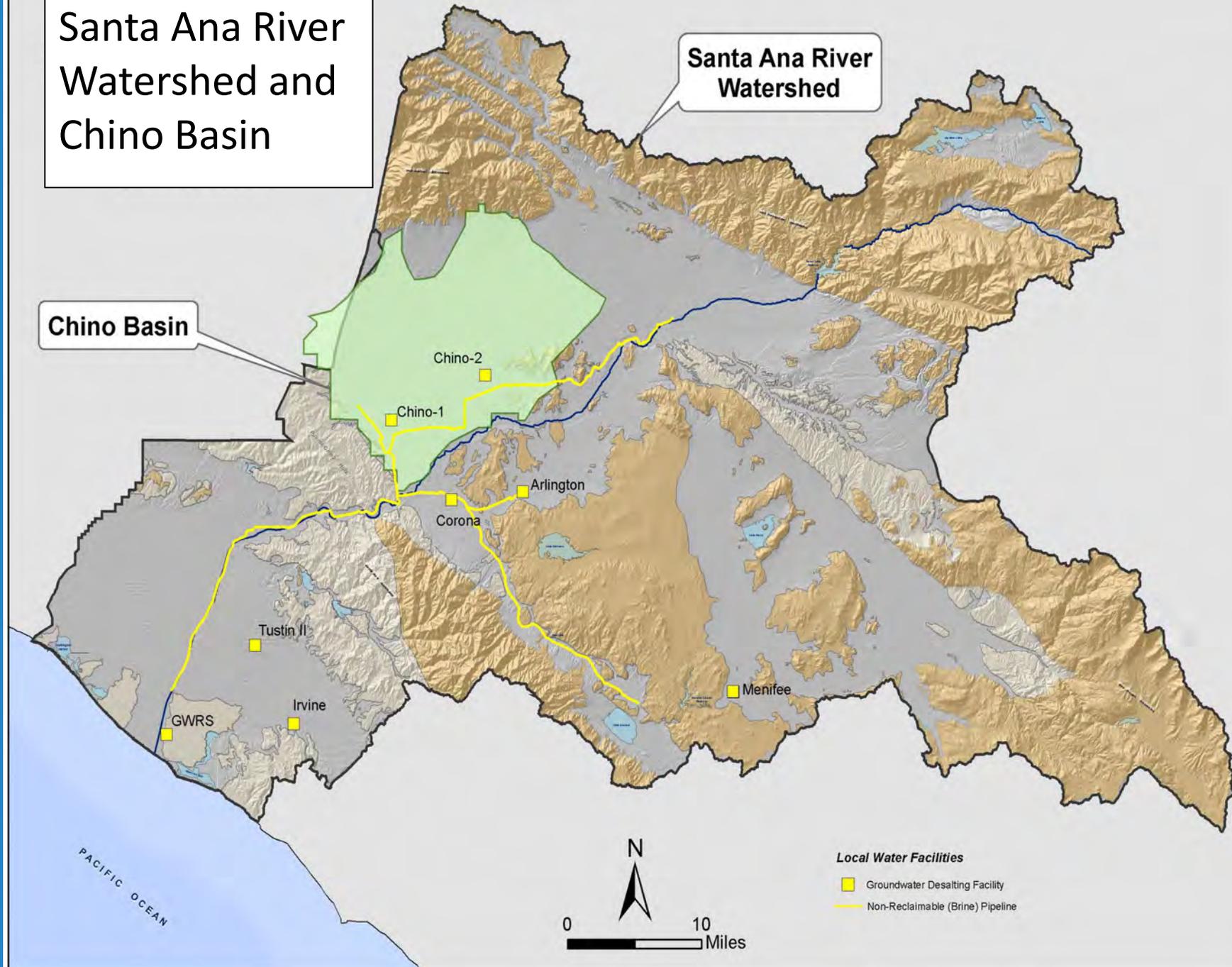
Santa Ana River Watershed



Santa Ana River Watershed and Chino Basin

Santa Ana River Watershed

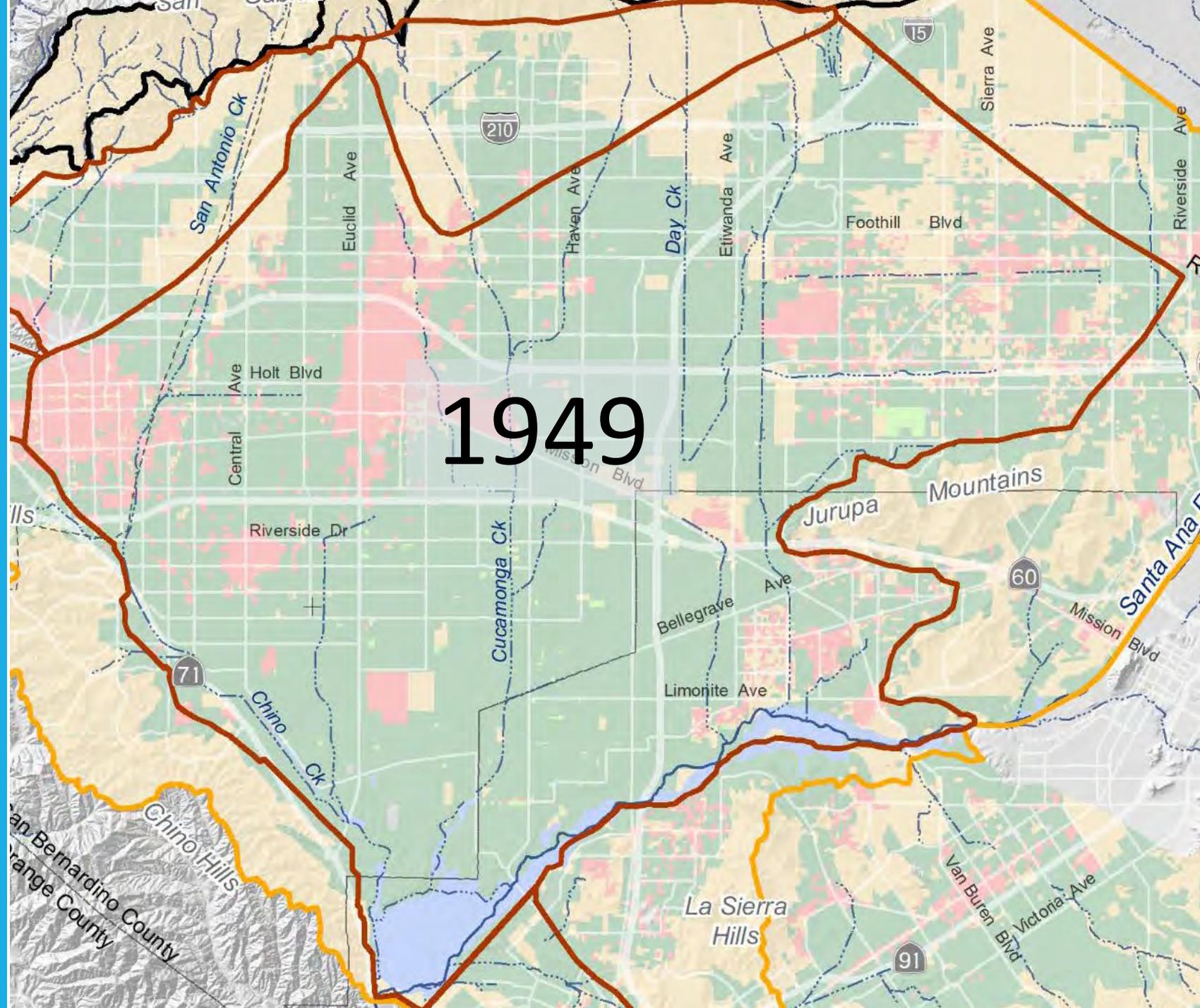
Chino Basin



General Land Use Type

- Agriculture
- Dairy
- Urban
- Vacant
- Riparian Vegetation

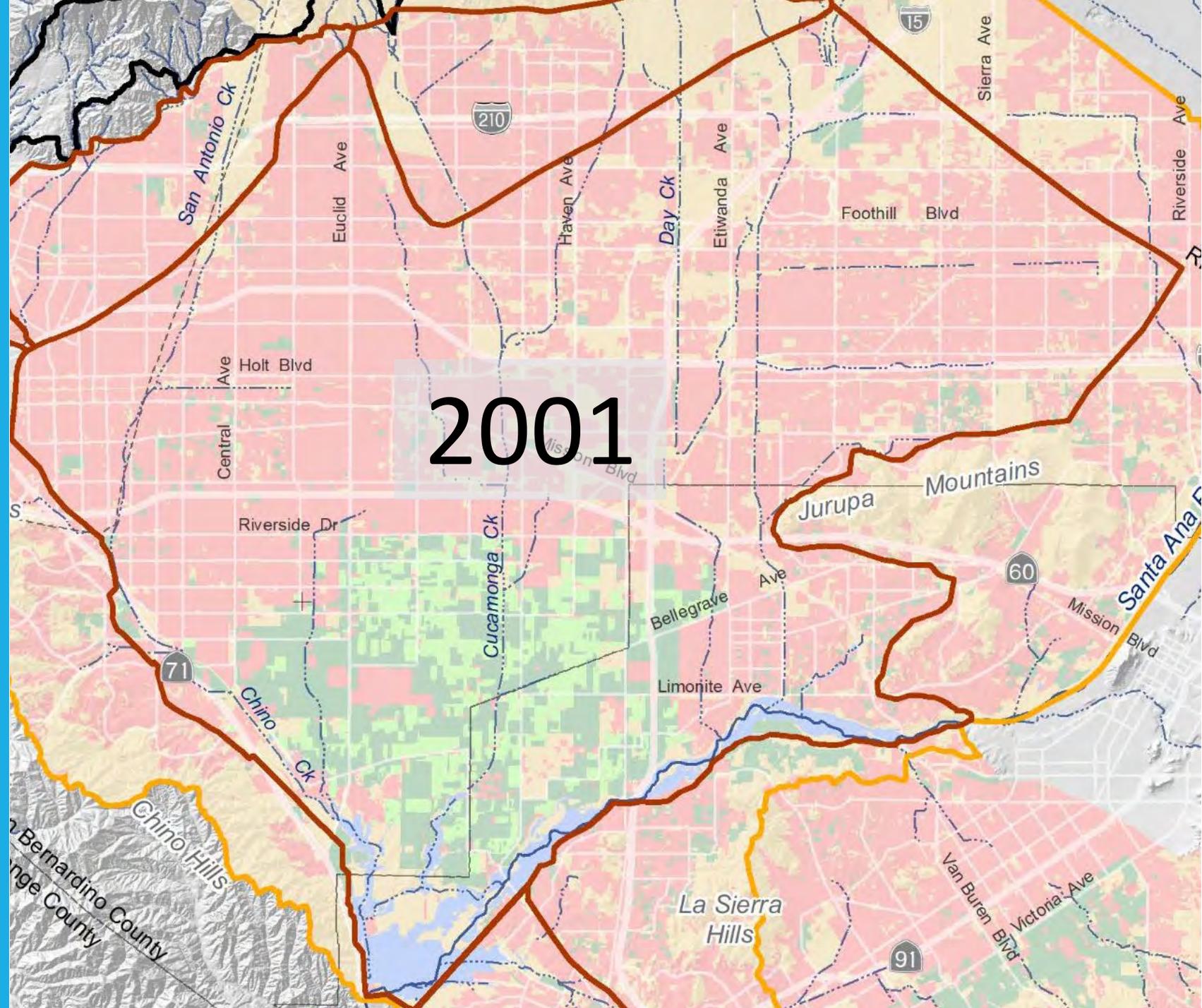
Land Use Changes in the Chino Basin



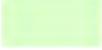
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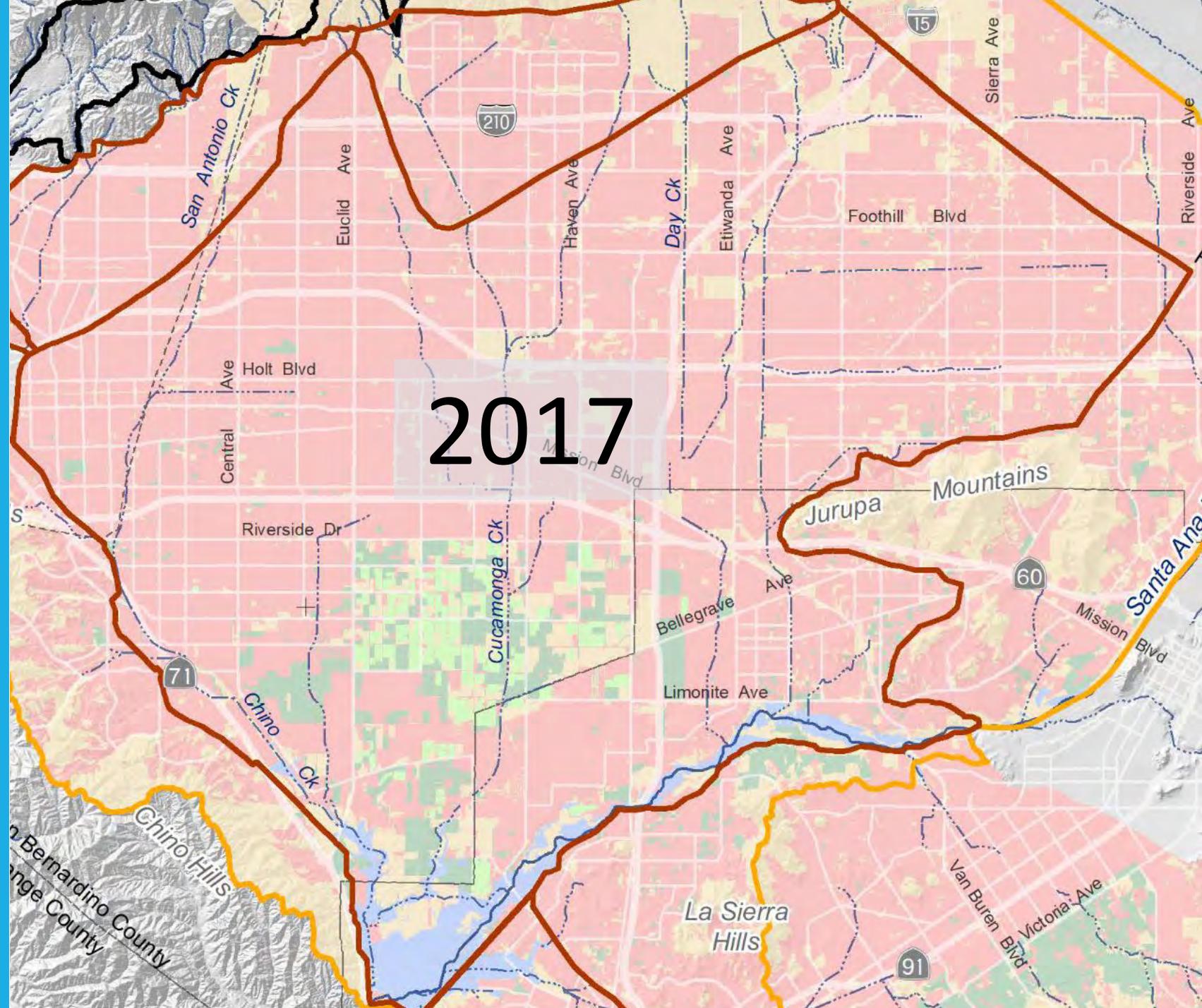
Land Use Changes in the Chino Basin



General Land Use Type

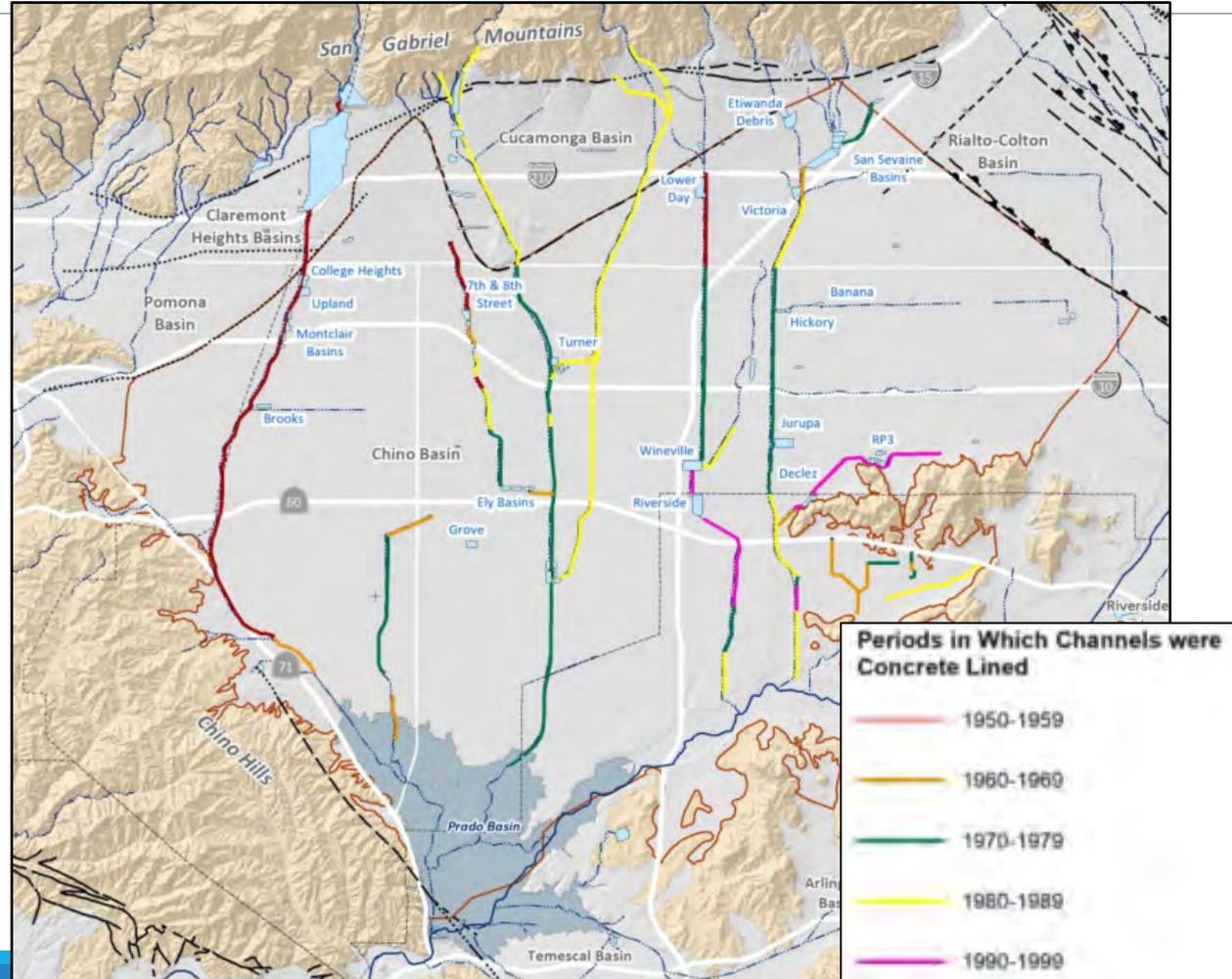
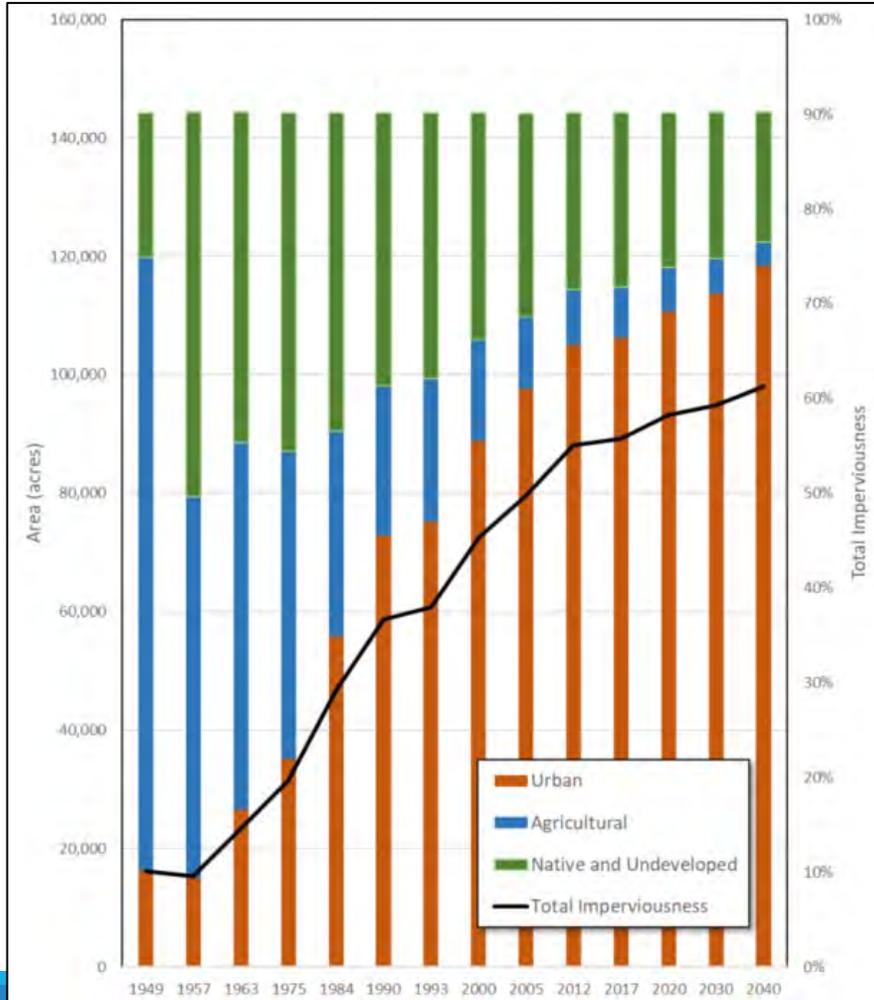
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Land Use Changes in the Chino Basin





Why was a Recharge Master Plan developed in 2000?





Chino Basin Groundwater Management

Adjudication in 1978: stipulated agreement became Court Order

Basin Management Plan developed in 1998-2000:

- Data collection
- Address resource management (storage, water supply, storage and recovery and, of course, recharge)
- Address undesirable results (subsidence, water quality, pumping sustainability)
- Reporting
- Agreement by all to fund and implement

Additional Agreement in 2007:

- Expand brackish groundwater desalting and commit to have recharge capacity for the future



Chino Basin Groundwater Management

Basin Management Plan was followed by programmatic level impact evaluation.

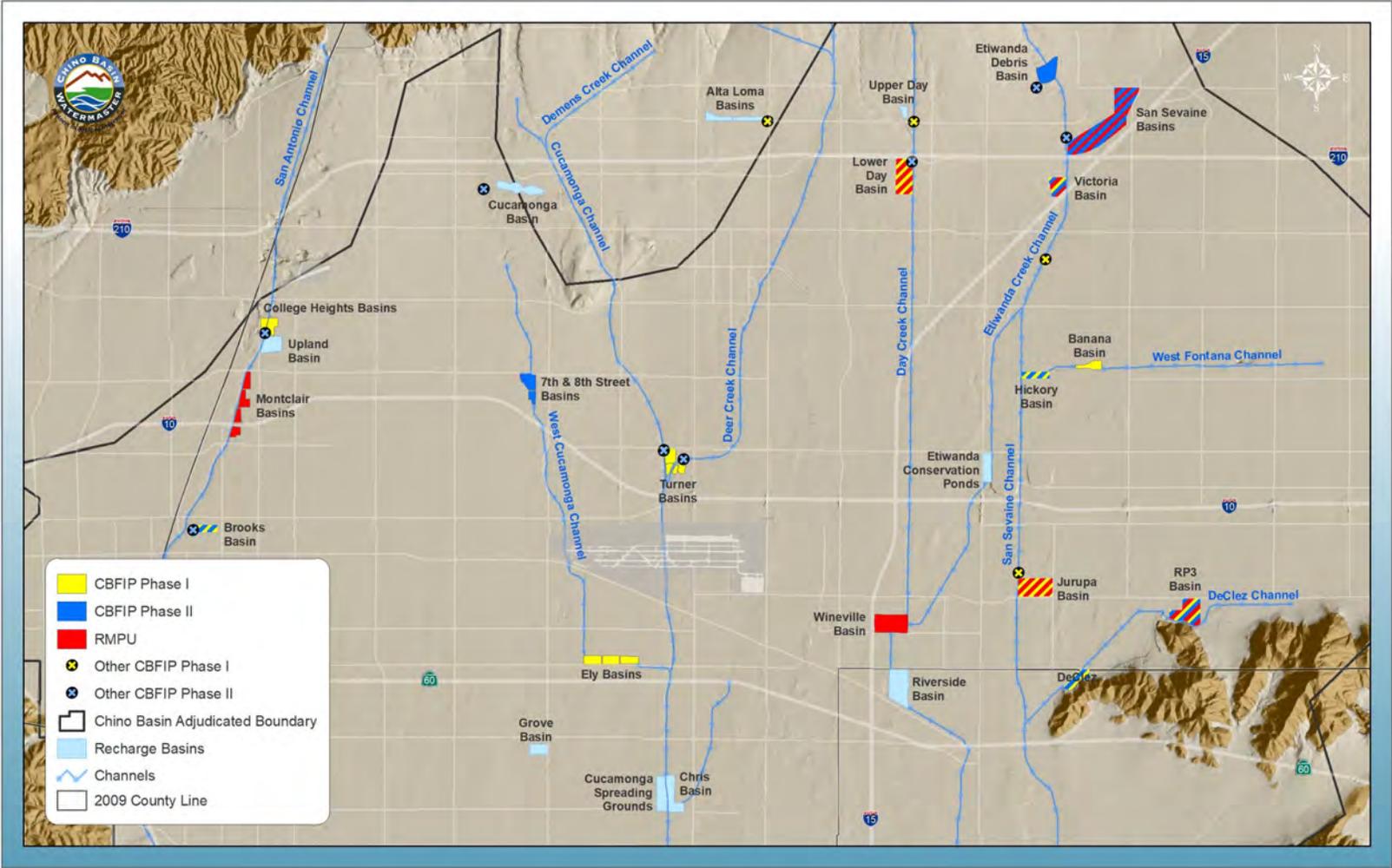
Stage was set for specific projects to advance and apply for grant funding.

The Recharge Master Plan was updated in 2013 leading to more projects.

KEY CONCEPT: REGIONAL COOPERATION MAKES THE PIE BIGGER FOR EVERYONE

Program	Project Details	Total Projects
<p>Chino Basin Facilities Improvement Plan Phase I</p>	<ul style="list-style-type: none"> - Basin development - Install rubber dams - Add drop inlet structures - Utilize MWD Turnouts - Improve SCADA modules - Install manifold and pump stations - Install discharge pipelines - Install pipeline connecting basins 	<p>24</p>
<p>Chino Basin Facilities Improvement Plan Phase II</p>	<ul style="list-style-type: none"> - Install monitoring wells - Install lysimeters - Install additional storm drain piping - Install additional surface pipeline improvements - Raise and harden existing berm structures - Upgrade SCADA systems, operational software and hardware 	<p>17</p>
<p>2013 Recharge Master Plan Update</p>	<ul style="list-style-type: none"> - Improvements to San Sevaine, Montclair, Lower Day, Jurupa, RP-3, Victoria, and Wineville Basins <ul style="list-style-type: none"> - Add diversion channels - Add drains to minimize deposits into basins - Install inflatable dam systems - Connect Wineville to Jurupa Basin - Construct force main discharge channel into Jurupa Basin 	<p>17</p>

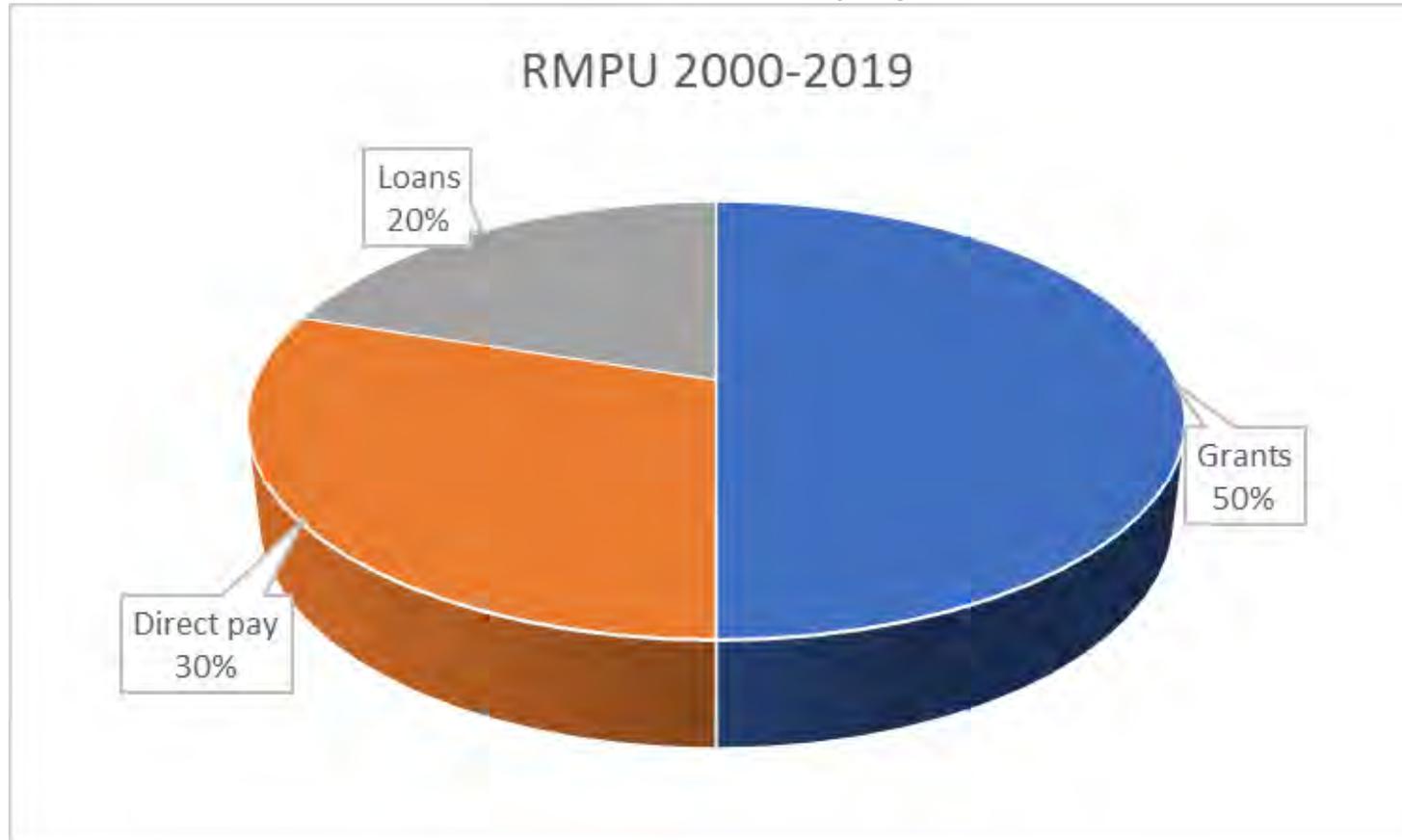
Location of Recharge Improvement Projects – Capacity Of Almost Every Existing Basin Was Increased

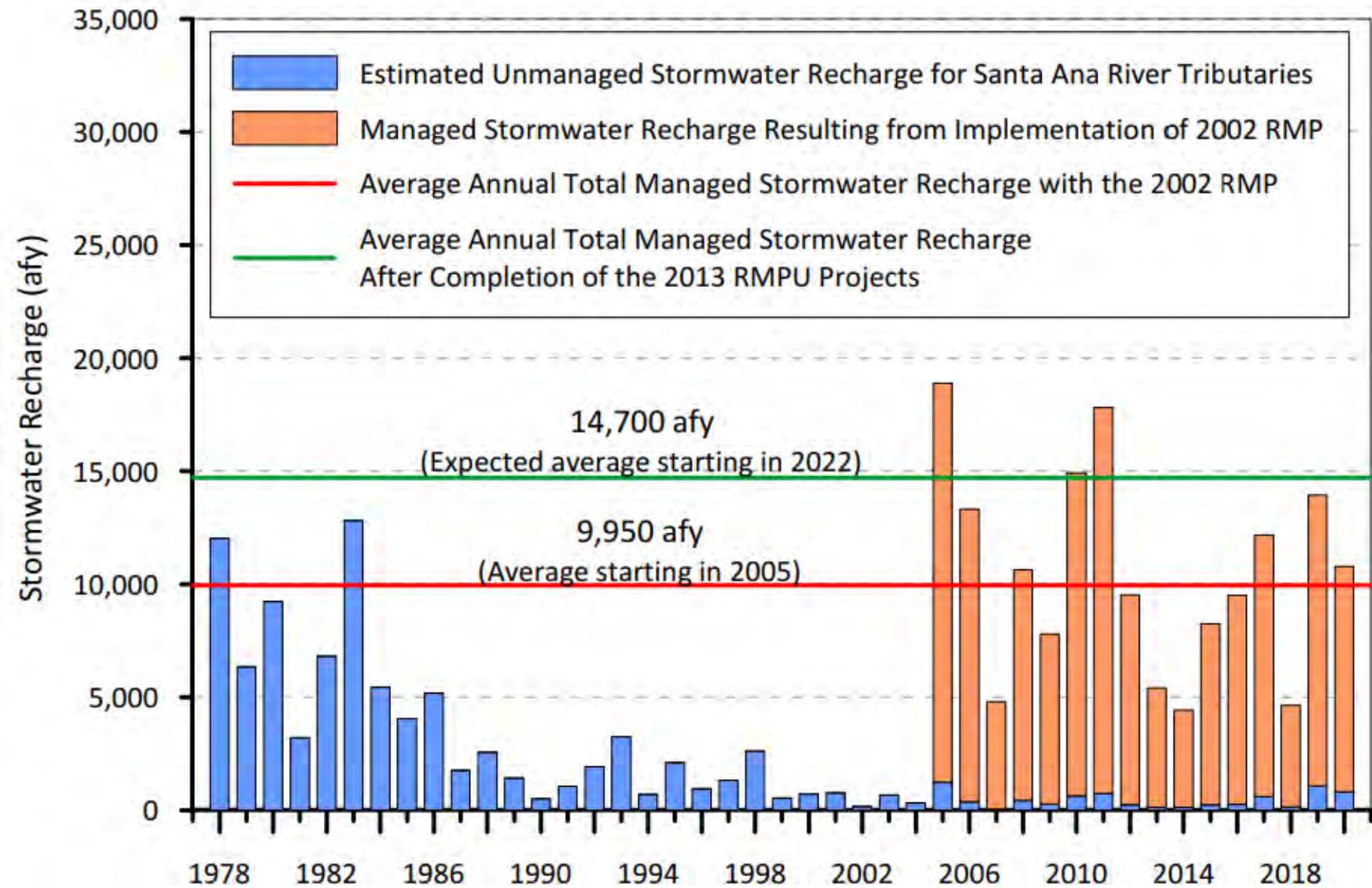




Regional, Cooperative Effort → Grants!

Over \$81 Million in projects





By 2022, the OBMP recharge projects implemented by Watermaster, IEUA, CBWCD and SBCFCD will have mitigated the stormwater recharge lost through channel lining



Chino Basin Stormwater Recharge

Groundwater is a shared resource- the largest source of supply in the region - and cooperative management produces better results than fractioned, “everyone for themselves” approaches.

Enhanced recharge capacity maximizes the value of a groundwater basin for everyone: higher yield and potential solutions to water quality challenges.

REGIONAL COOPERATION MAKES THE PIE BIGGER FOR EVERYONE

Santa Ana Region Stormwater Resources Plan

August 12, 2022

Andrea Macias, MPA, PE

Riverside County Flood Control and Water Conservation District



Southern California Water Conference
Every Drop Counts Panel



RIVERSIDE COUNTY
WATERSHED PROTECTION



Outline

- District Overview
- Stormwater Resource Plan
- Questions

District Overview

- Partnership
 - County of Riverside
 - Riverside County Flood Control & Water Conservation District
 - Coachella Valley Water District
 - 27 Cities

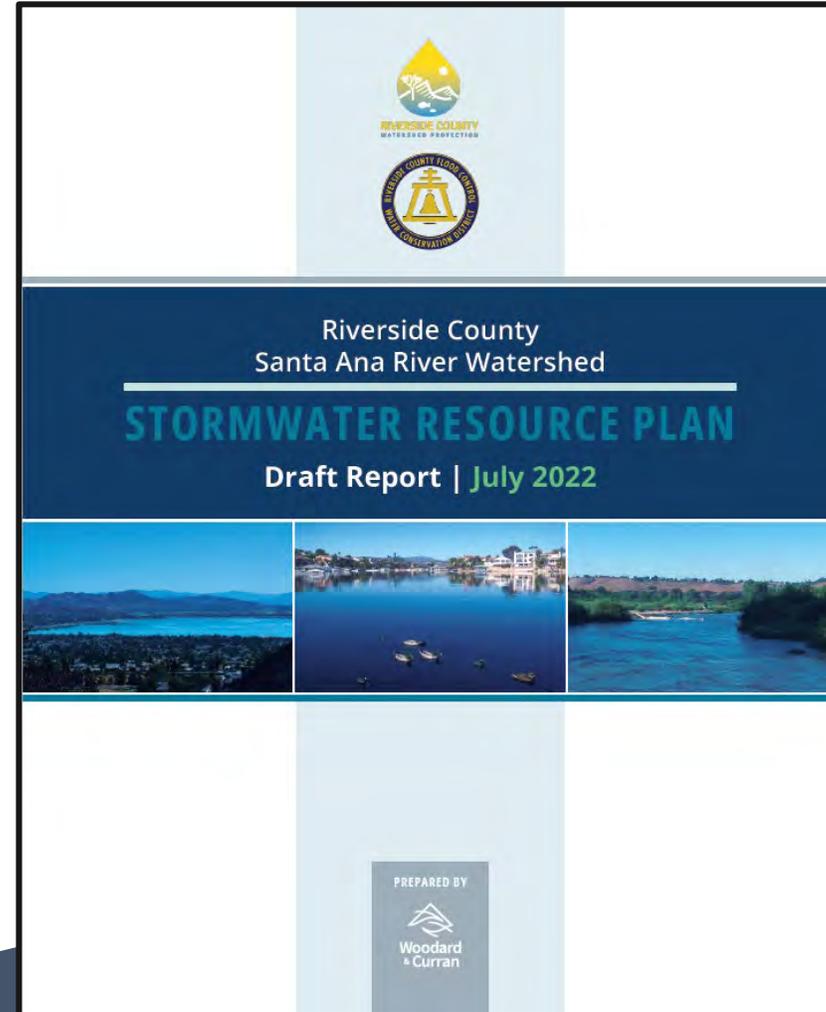
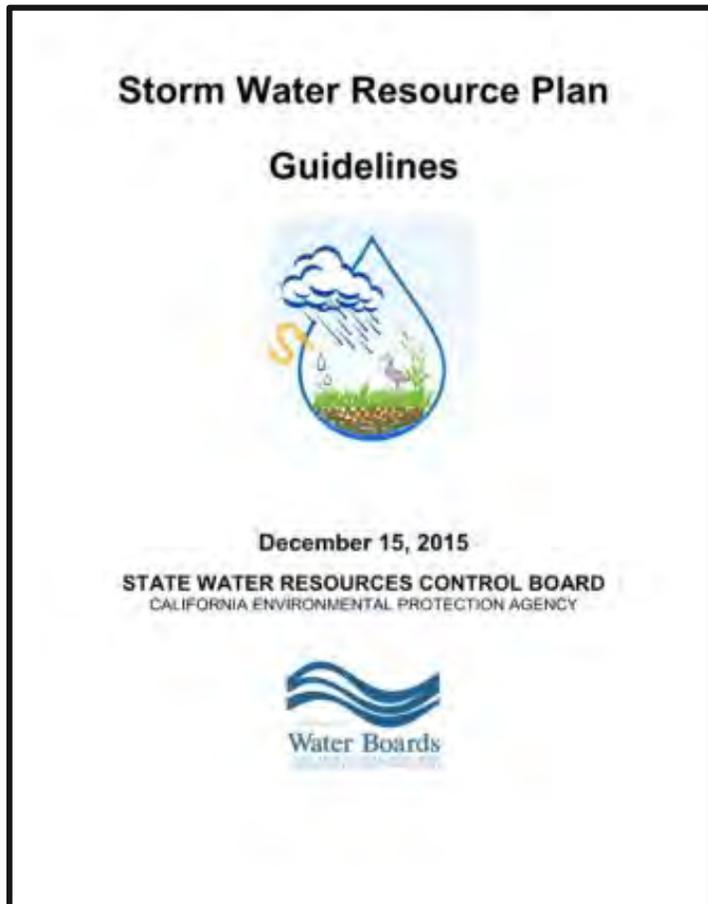


RIVERSIDE COUNTY
WATERSHED PROTECTION

- Our Mission:
“To protect, preserve, and enhance the quality of Riverside County watersheds by fostering a community-wide commitment to clean water.”

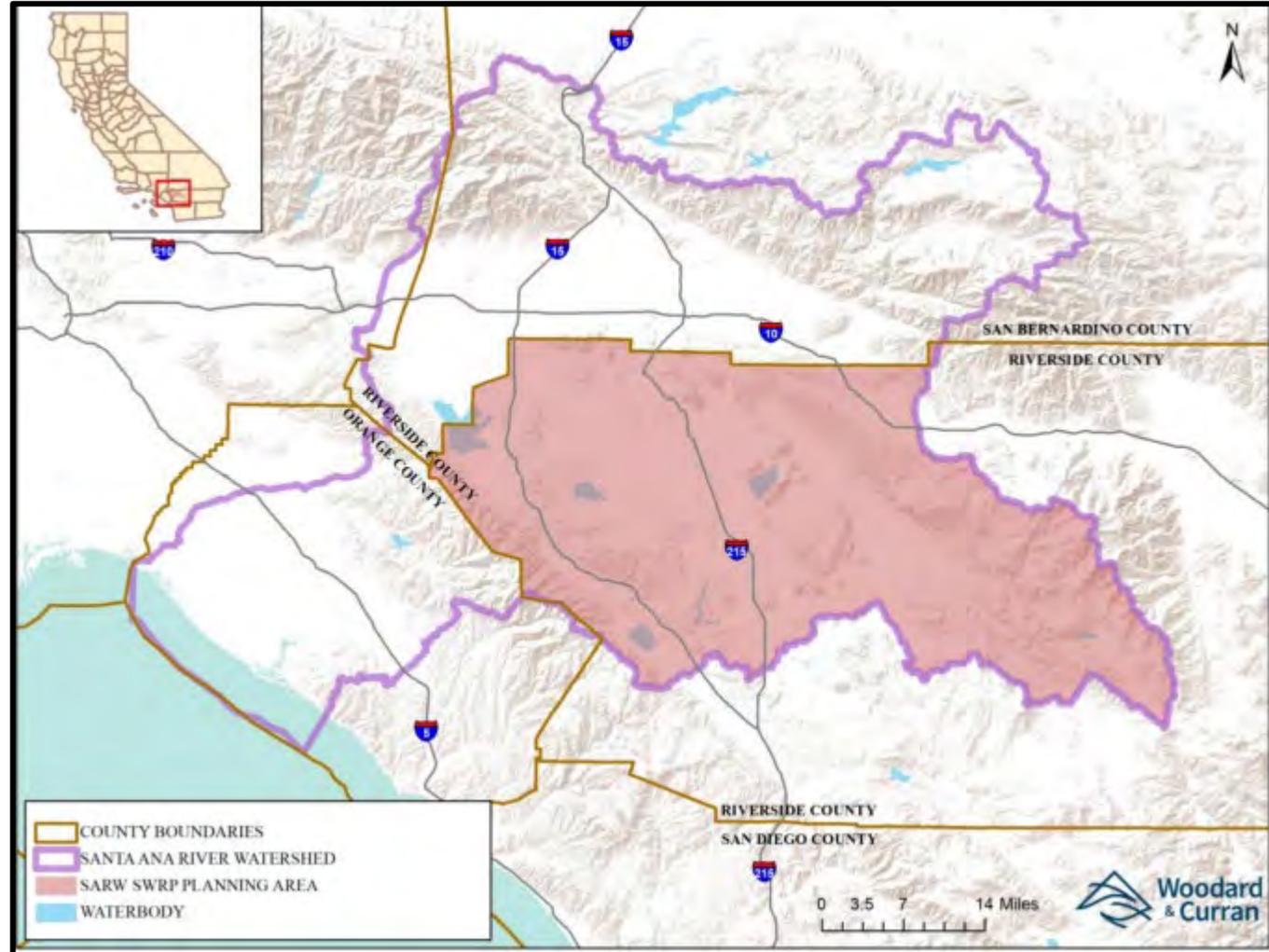
Santa Ana Region Stormwater Resources Plan

- *What is a SWRP?*



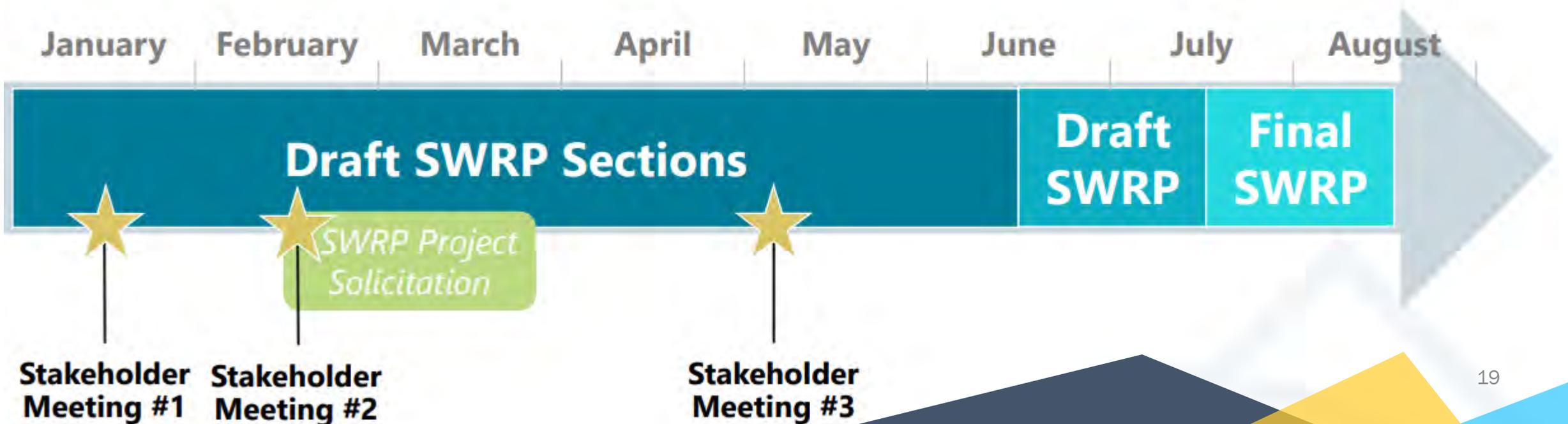
Santa Ana Region Stormwater Resources Plan

- *SWRP lead: Riverside County Flood Control and Water Conservation District*
- Other SWRPs in the Santa Ana Region:
 - Orange County SWRP
 - Chino Basin SWRP
 - San Bernardino SWRP



Santa Ana Region Stormwater Resources Plan

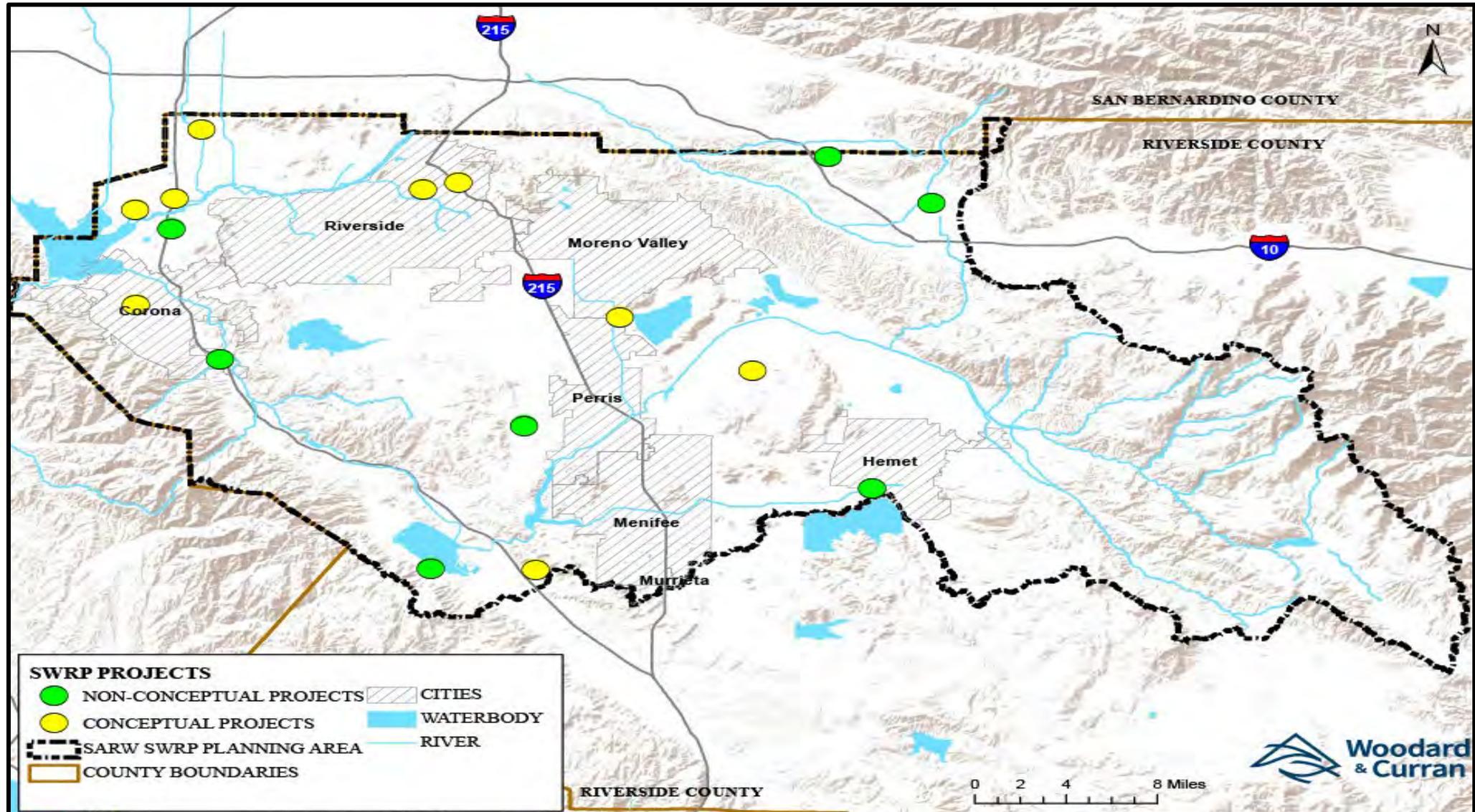
SWRP Stakeholder Process



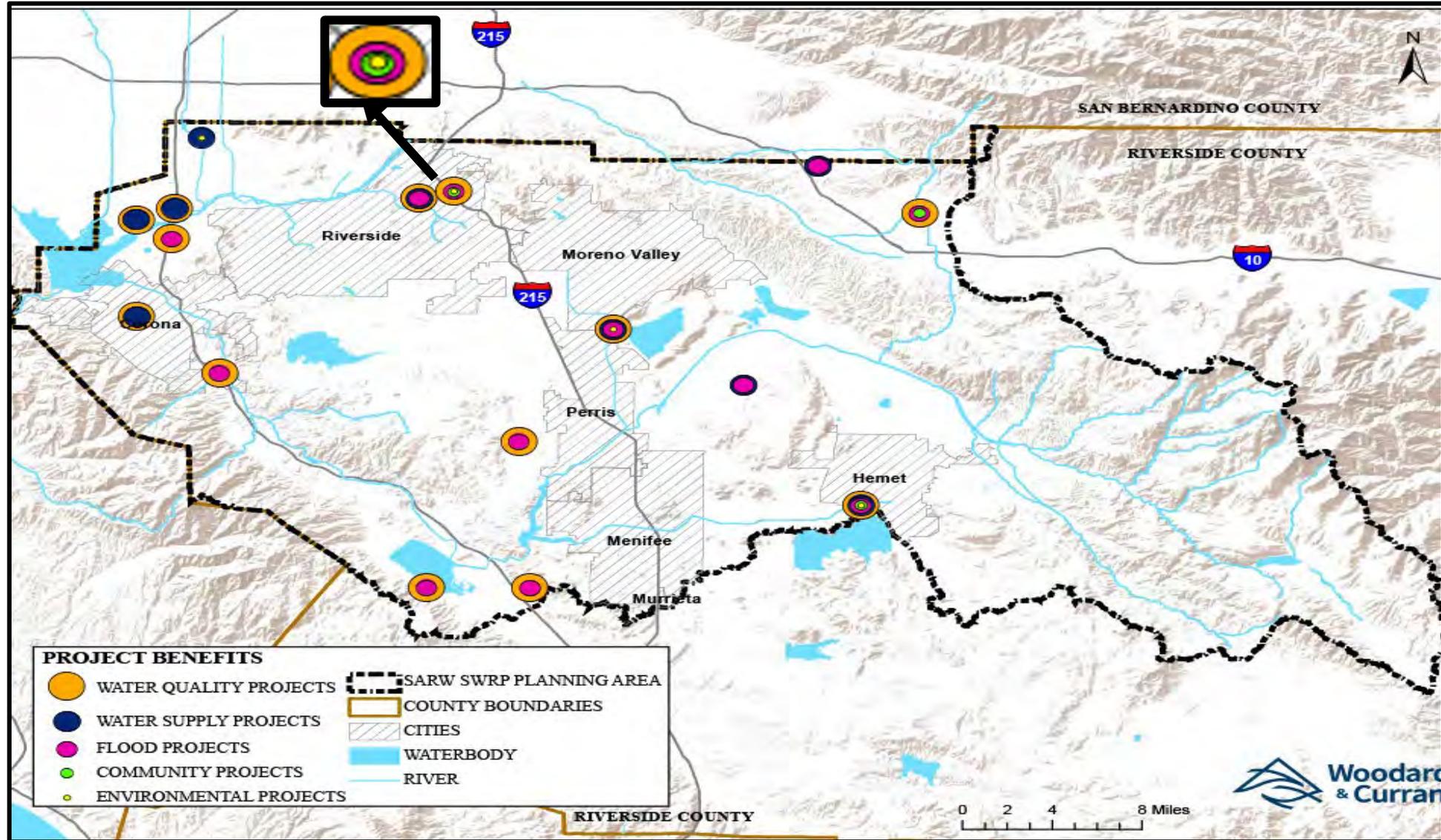
Santa Ana Region Stormwater Resource Plan

Project Name	Project Proponent	Project Type	Benefit Categories Met
UC Riverside Gage Basin Green Infrastructure Restoration Phase I	University of California, Riverside Environmental Health & Safety	Conceptual	Water Quality, Flood Management, Environmental, Community
City of Hemet Salt Creek Mitigation Project	City of Hemet	Preliminary Design	Water Quality, Flood Management, Environmental, Community
Box Springs SD-Groundwater Rescharge at Kansas Basin	Riverside County Flood Control & Water Conservation District	Conceptual	Water Quality, Water Supply, Flood Management
Bradley Channel Enhancement Project	City of Perris	Conceptual	Water Quality, Water Supply, Flood Management, Environmental
North Norco Channel, Stage 11	Riverside County Flood Control & Water Conservation District	Ready to Implement	Water Quality, Flood Management
Lakeland Village MDP Line H	Riverside County Flood Control & Water Conservation District	Ready to Implement	Water Quality, Flood Management
Calimesa Channel Stage 3	City of Calimesa	In Design	Water Supply, Flood Management
Good Hope- Olive Avenue Storm Drain, Stages 1 and 2	Riverside County Flood Control & Water Conservation District	In Design	Water Quality, Flood Management
Eastvale Line D	Riverside County Flood Control & Water Conservation District	Conceptual	Water Quality, Water Supply
Eastvale Line E	Riverside County Flood Control & Water Conservation District	Conceptual	Water Quality, Water Supply
Lakeview Subbasin Recharge Feasibility Study	Eastern Municipal Water District	Conceptual	Water Quality, Water Supply
Day Creek Channel Water Conservation Restoration	Riverside County Flood Control & Water Conservation District	Conceptual	Water Supply, Environmental
Marshall Creek, Stage 1	Riverside County Flood Control & Water Conservation District	In Design	Water Quality, Flood Management, Community
Bedford Canyon Channel, Stage 1	Riverside County Flood Control & Water Conservation District	In Design	Flood Management
Temecula Basin Stormwater Capture and Recharge	City of Corona, Utilities Department	Conceptual	Water Quality, Water Supply
Sedco MDP Line F-2	City of Wildomar	Conceptual	Water Quality, Flood Management

Santa Ana Region Stormwater Resources Plan

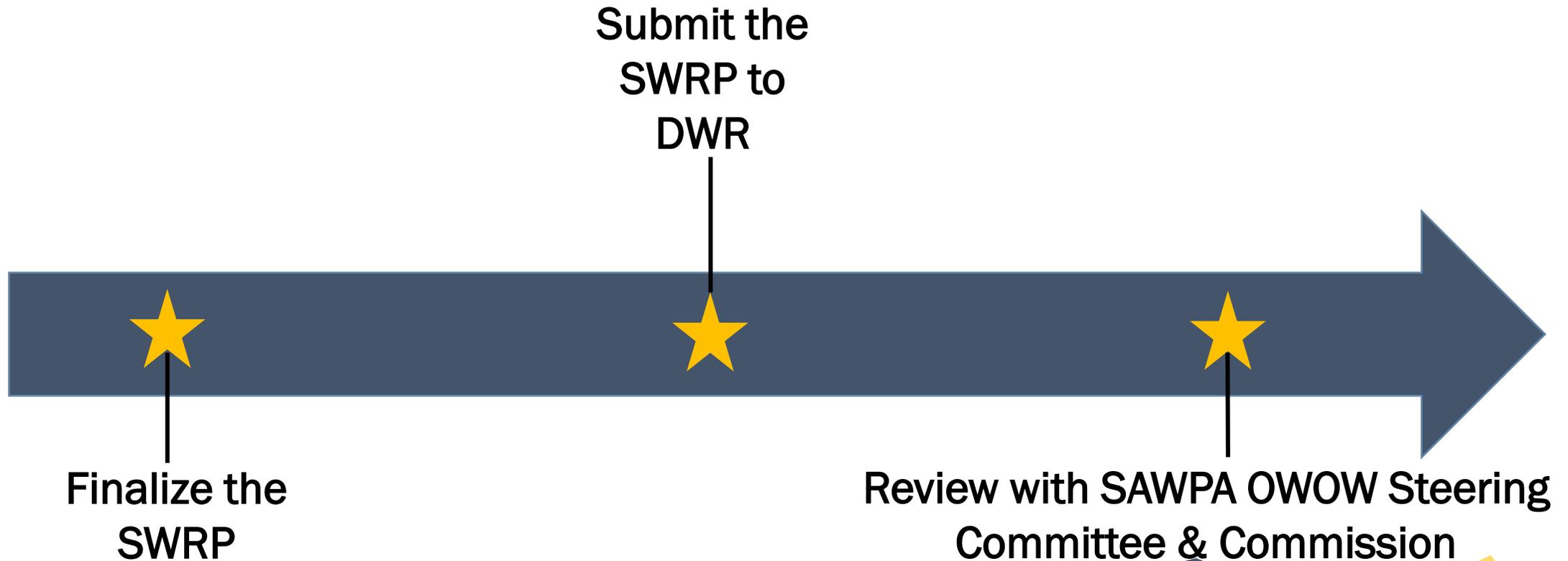


Santa Ana Region Stormwater Resources Plan



Santa Ana Region Stormwater Resources Plan

- *What's next?*



Questions?

- For more information:
<https://rcwatershed.org/watersheds/middle-santa-ana-river-watershed/engagement/>
- Andrea Macias, MPA, PE | Associate Civil Engineer
 - almacias@rivco.org

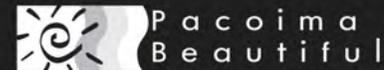




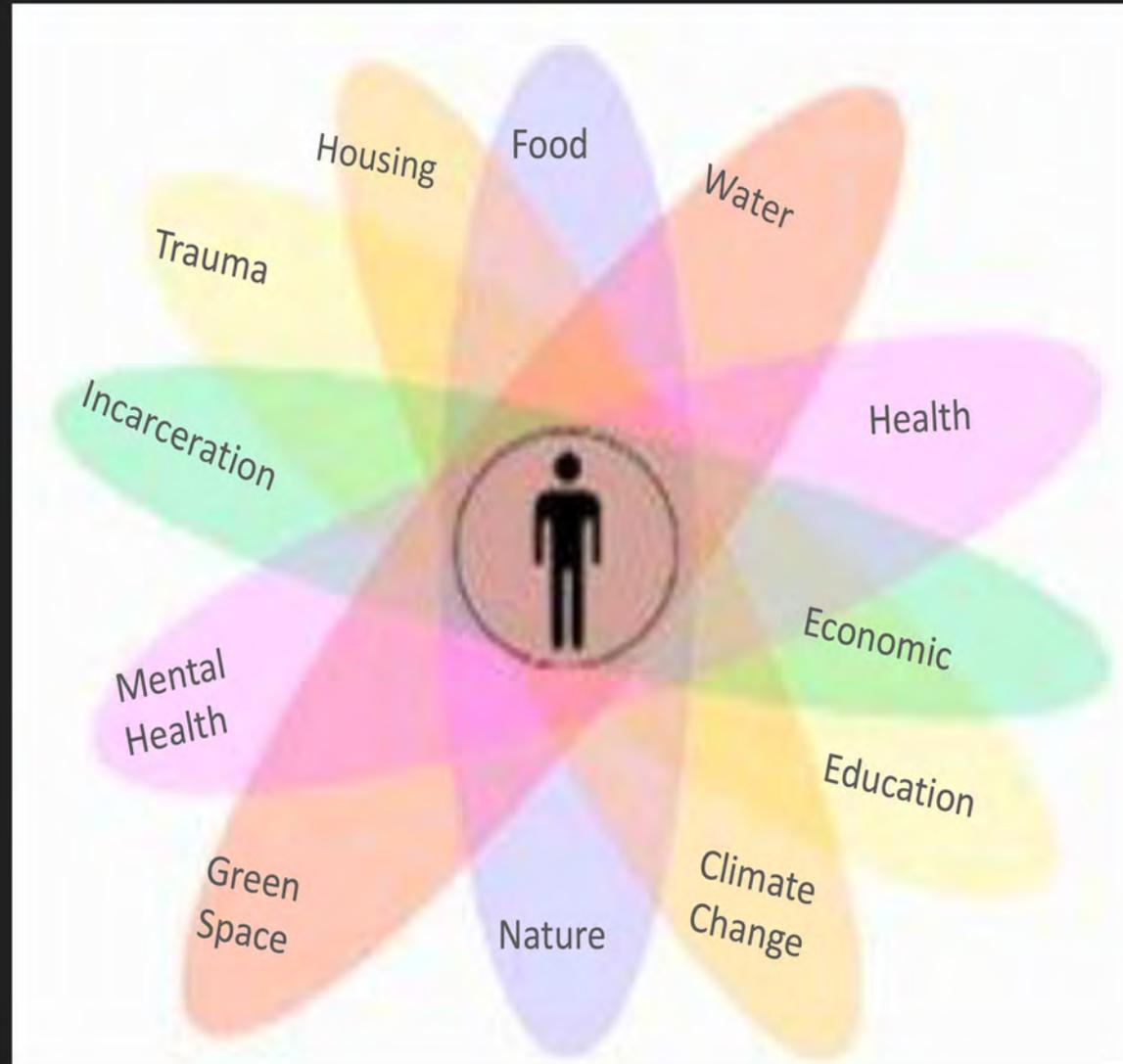
ReDESIGNLA: EMPOWERING COMMUNITY-BASED ORGANIZATIONS TO ENGAGE IN MULTI-BENEFIT PROGRAMS AND PROJECTS



COUNCIL FOR
WATERSHED
HEALTH

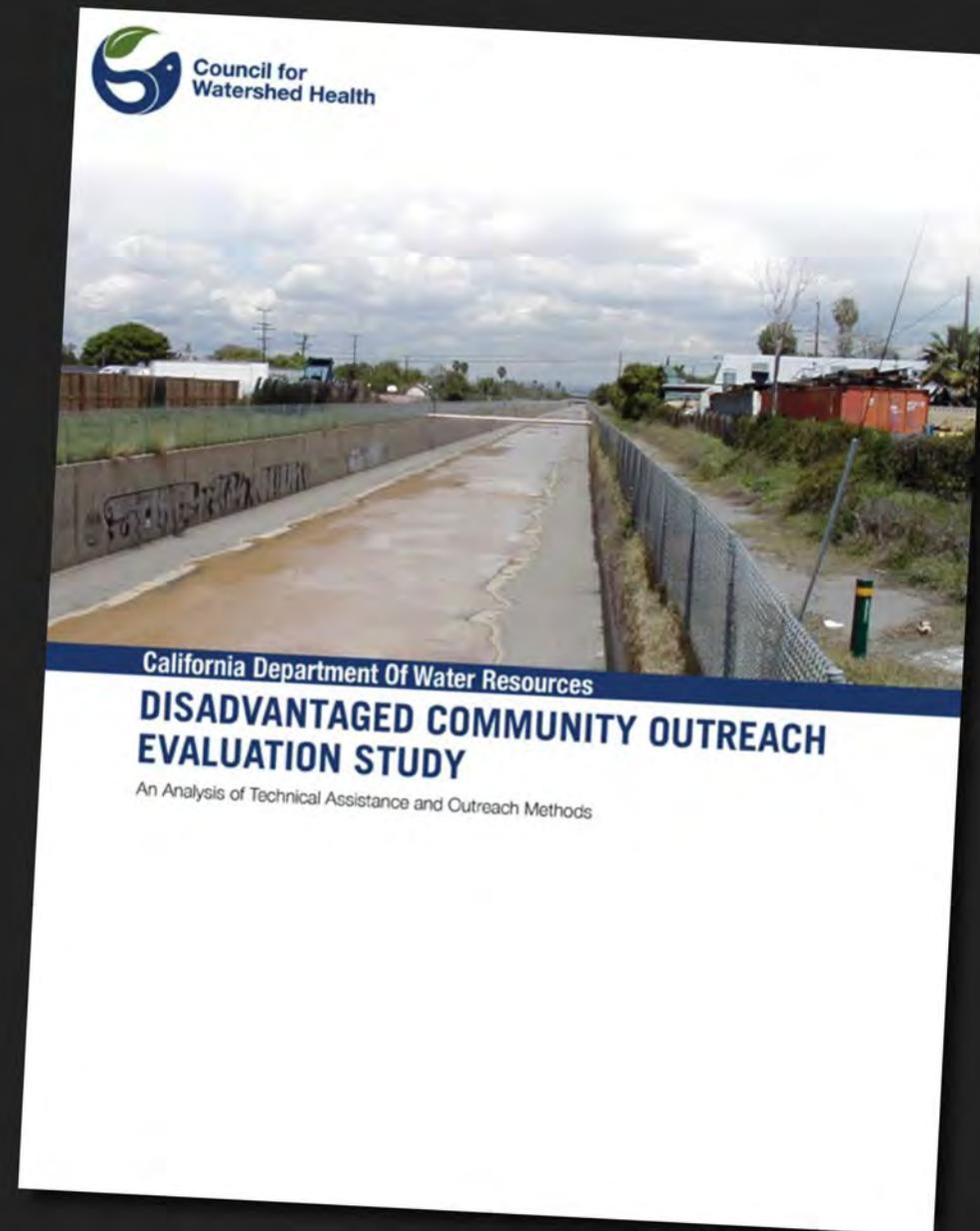


INTERSECTIONALITY



DWR DISADVANTAGED COMMUNITY OUTREACH EVALUATION STUDY

Published Spring 2014



FUNDING AROUND WATER & CLIMATE RESILIENCY



- CNRA/SGC
- CalFIRE
- State Conservancies (Coastal, RMC)

- LA County Public Works
- Regional Parks and Open Space District
- MTA

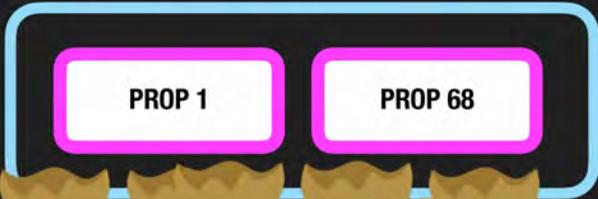
**MULTI-BENEFIT
COMMUNITY
DRIVEN
PROJECTS**

**NATURE-BASED
SOLUTIONS**



**STATE OF
CALIFORNIA**

**LOS ANGELES
COUNTY**



PROP 1

PROP 68



Measure W

Measure A

Measure M



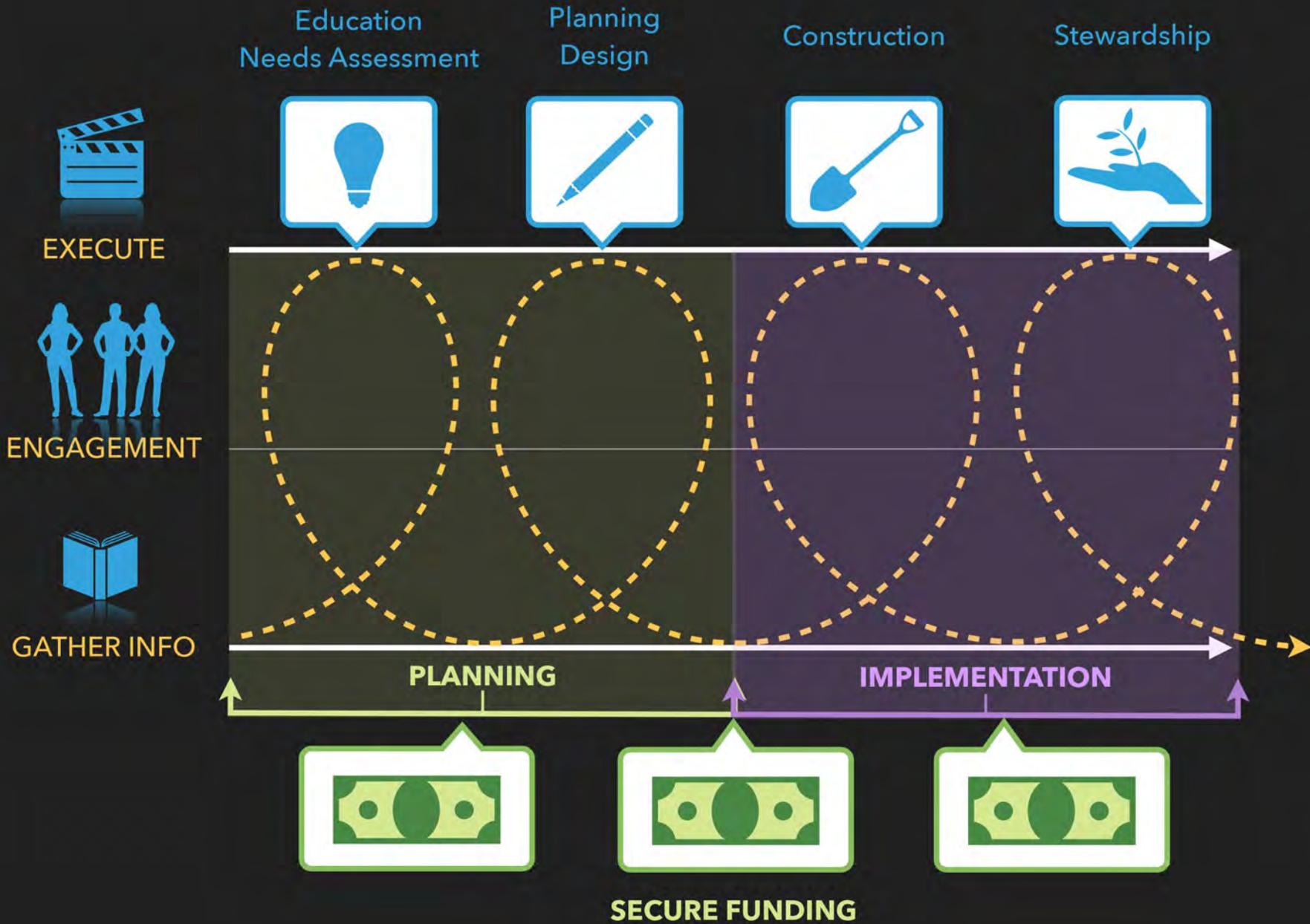
COMMUNITY BENEFITS

MAKING THE CONNECTION TO WATER





MAP DESIGNED BY THE COUNCIL FOR WATERSHED HEALTH, 2012



ReDesignLA

MEASURE
A



**LINK Advocates,
Governments, Families,
and Parks Initiative**

*Upper LA River and
Tributaries*



LA RIVER
MASTER PLAN



2016

2017

2018

2019

2020

2021

2022

ReDesignLA

MEASURE W



**SAFE
CLEAN
WATER
PROGRAM**



MEASURE
A

Parks and Open Space



DACIP IRWM

Upper LA River and Tributaries
Revitalization Plan



**LINK Advocates,
Governments, Families,
and Parks Initiative**



**LA RIVER
MASTER PLAN**



County Sustainability Plan
OurCounty

Creating Multi-Benefit Opportunities Around Water

OUR RESOURCES

Tools and lessons learned for community engagement, project design, implementation, and funding.



PARTNER PROJECTS

Community-based project examples to help spark ideas and generate interest.



OUR BACKGROUND

We are a growing collective of organizations developing resources to help others build multi-benefit water projects.



GET INVOLVED

Interested in being part of the collective? Are we missing a resource that should be included? Contact us here.



redesign.la

redesign.la/dacip

EQUITY ENGAGEMENT INVESTMENT



MERCED AVENUE GREENWAY

A MULTI-BENEFIT GREEN INFRASTRUCTURE PROJECT

CURRENT
CONDITIONS



THANK YOU

Carlos Moran, MSW

carlos@watershedhealth.org

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