

STORMWATER DATA PROJECT &

2018 WHITEPAPER

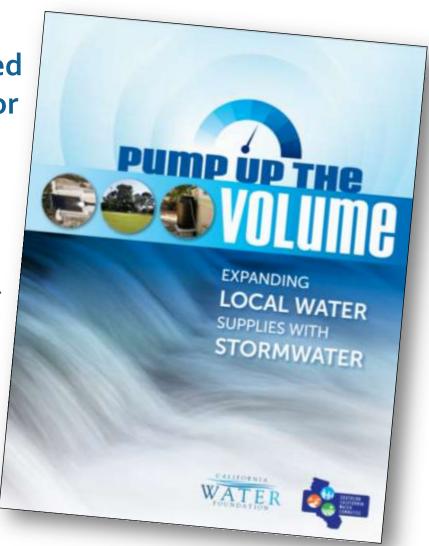
SOUTHERN CALIFORNIA WATER COALITION

OVERVIEW

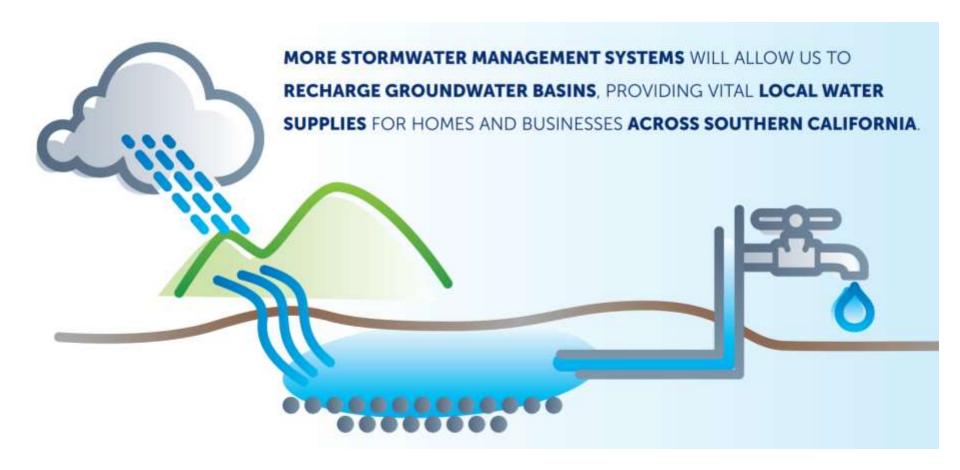


SCWC | STORMWATER TASK FORCE

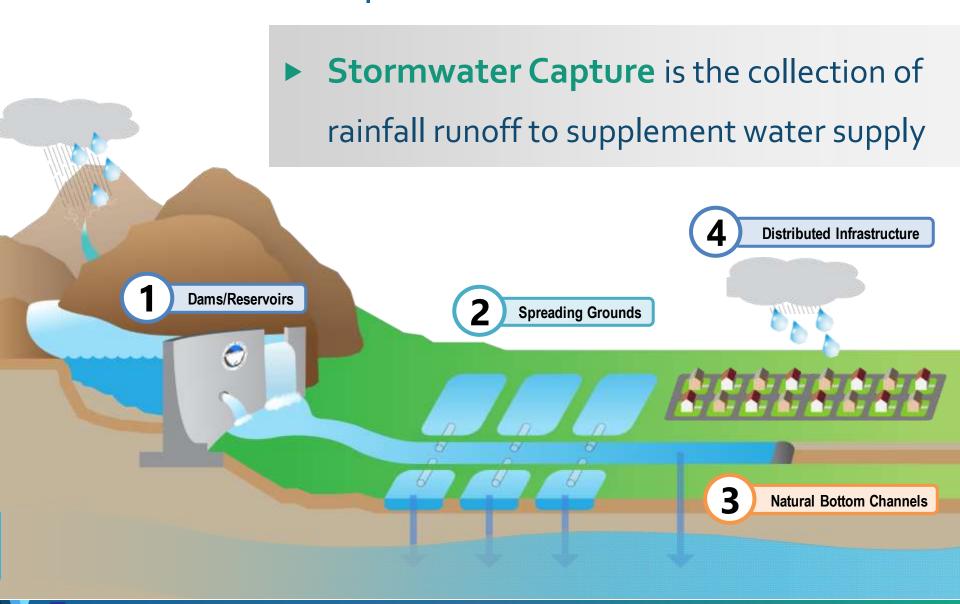
- ► Develop regional consensus-based strategies & recommendations for utilizing stormwater effectively
 - Identify potential issues
 - Recognize opportunities and constraints related to stormwater management
 - Provide a forum for discussion of challenges for watersheds within SoCal



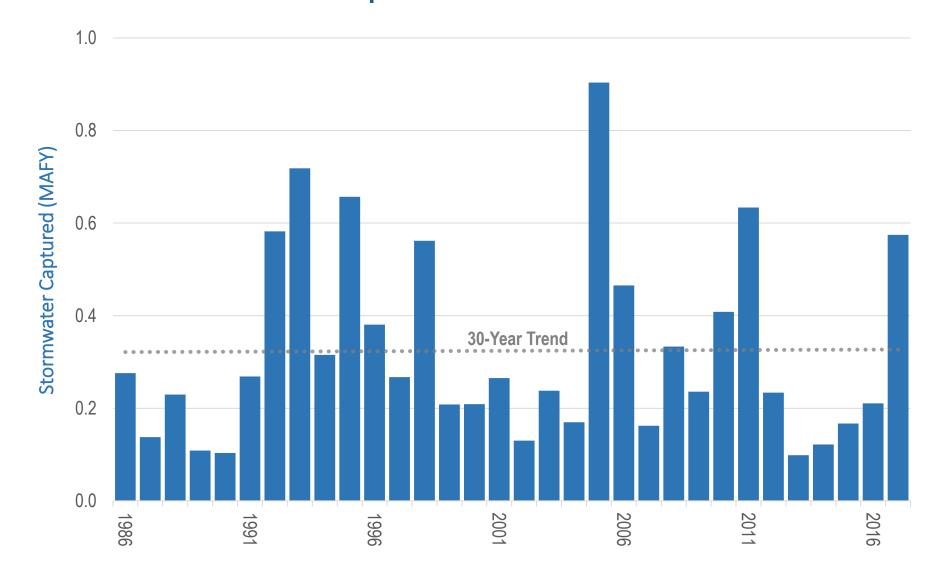
SCWC | PUMP UP THE VOLUME



STORMWATER | CAPTURE DEFINED



STORMWATER | HISTORIC CAPTURE TREND





STORMWATER CAPTURE

ENHANCING RECHARGE & DIRECT USE THROUGH DATA
COLLECTION

SOUTHERN CALIFORNIA WATER COMMITTEE
2018 WHITE PAPER UPDATE



SCWC Stormwater Task Force April 2018

2018 WHITEPAPER

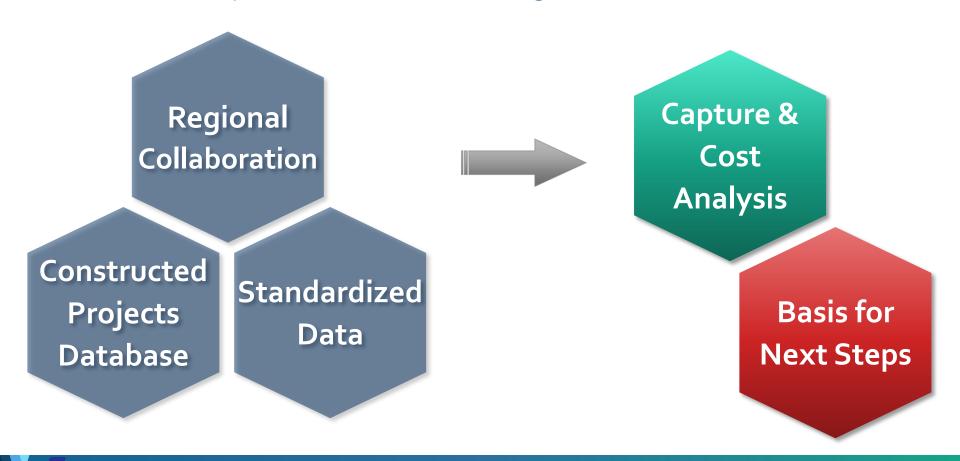
BACKGROUND 2012 WHITEPAPER

- Initial understanding of stormwater cost per AF
- Consisted mainly of conceptual stormwater projects
- ► Findings presented to water and regulatory agencies

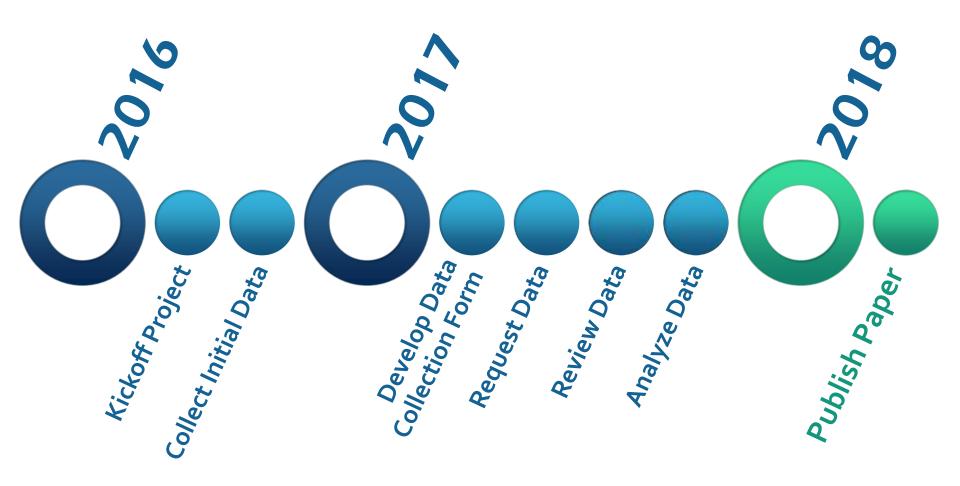


PURPOSE | 2018 WHITEPAPER

► Improve understanding of actual stormwater capture volumes, costs, benefits, and performance across the region to inform future discussions



APPROACH | WHITEPAPER DEVELOPMENT



DATA COLLECTION | AGENCIES CONTACTED

- ► Outreach to 30 agencies
- Received over 50 projects across the region
- Collaborated extensively
- Identified data collection challenges

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	mwater Task Force - Data Project						gull down m	
1	Project information (existing stormwater pr	ojects constr	ucted/built a	s of Decem	ber 2017)		200	
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	Project IO (Fagg#cable)							
	Staterwater Type Project (e.g., centralized, etc.)							
	Type of Project (e.g., new, expansion, etc.)	_						
	Primary Project Purpose Project Senerits (Check all that apply)							
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8.1	Other Partnering Agency/Organization(s)							
1.0	Contact Person	First:			Sast:			
	Contact information	Small			Phonec			
		Organization						
	Location (address or TG page/grid)							
	Latitude (decimal: e.g., 34.05)							
	Longitude (decimal: e.g., -118.05)							
	IRWM Region							
	Project Watershed Construction Completion Date (M/Ti/YYY)	$\overline{}$						
	Tobutary drainage area (Acre)							
	Groundwater Beam							
	Design Rain Gauge							
	Project Description and Benefits							
1.21								
	Project website (if available)							_
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DATA COLLECTION | PROJECT TYPES

Centralized for Recharge

Large projects that capture runoff for groundwater recharge

Distributed for Recharge

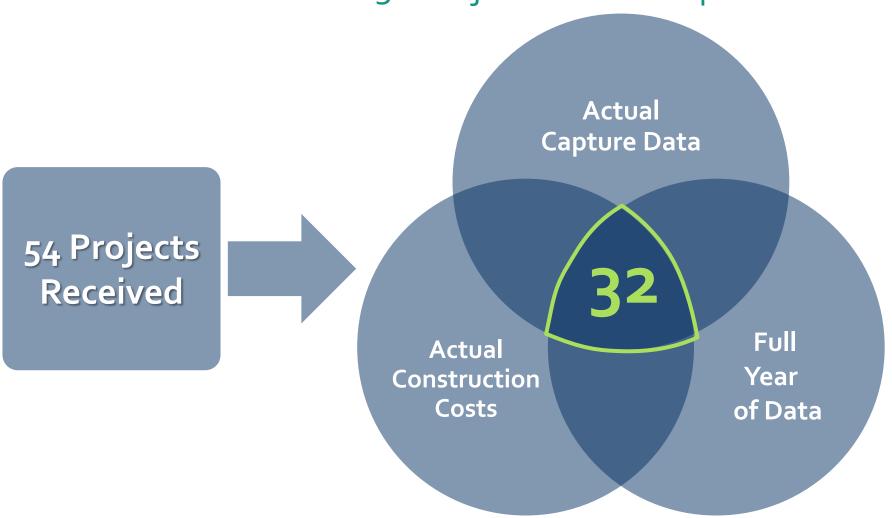
Small projects that capture on-site runoff for *groundwater recharge*

Distributed for Direct Use

Small projects that capture on-site runoff for *non-potable uses*

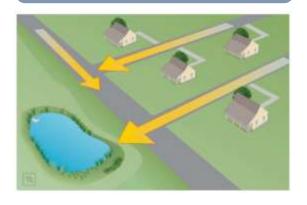
DATA REVIEW | ASSESSED DATA

32 Projects with Complete Data



DATA SET | 32 PROJECTS ANALYZED

29 Centralized



3 Distributed



25 Retrofit/Rehabilitation



4 New



3 New



DATA SET | PRIMARY PROJECT BENEFITS



Water Supply 27 projects



Water Quality

3 projects

Flood Risk Mitigation

2 projects



DATA SET | SUMMARY OF PROJECTS

Total **Construction Cost**

Average Rainfall

Average Stormwater Captured

\$132 million

10.0"

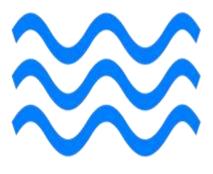
13,400 AFY



In 2017\$

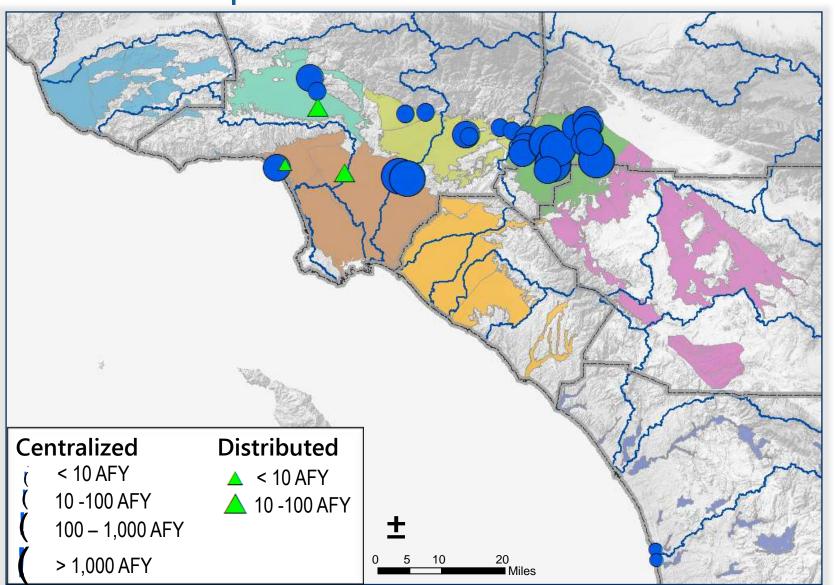


WY 2006-16 below Long-term Average of 15.2"

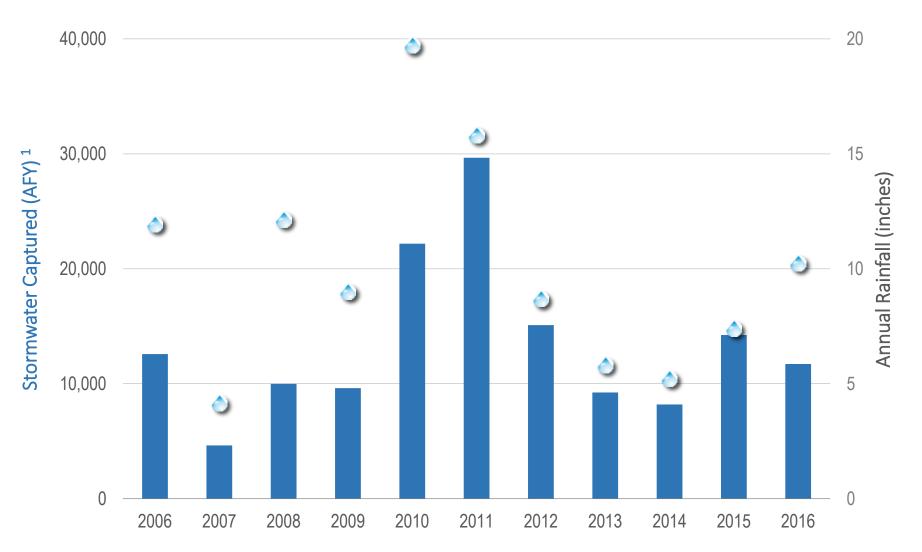


WY 2006-16 From 32 Projects

LOCATION | ACROSS SOUTHERN CALIFORNIA

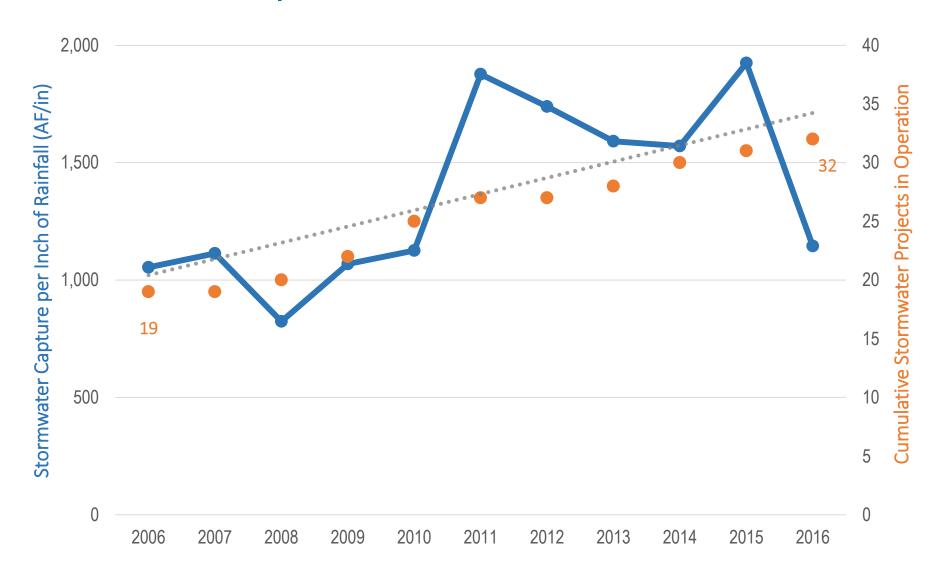


ANALYSIS | ANNUAL CAPTURE & RAINFALL

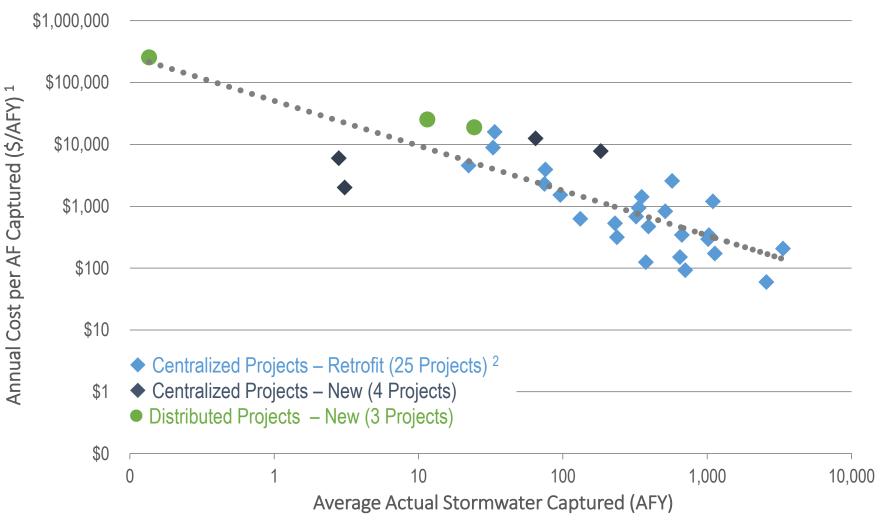


¹Total annual stormwater captured by the 32 projects.

ANALYSIS | INCREASING CAPTURE ABILITY



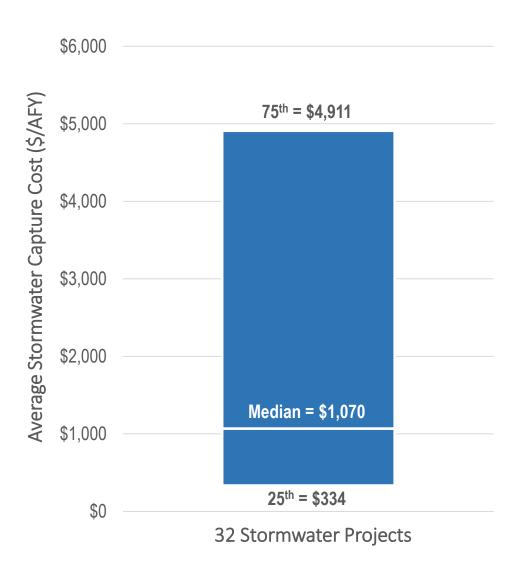
ANALYSIS | STORMWATER UNIT COST



¹Capital costs amortized over 30 years

²Includes capture by the entire spreading grounds (does not isolate the marginal capture of the retrofit)

ANALYSIS | RANGE OF CAPTURE COSTS



Median Unit Stormwater Cost

Centralized Retrofit = \$600/AF

Centralized New = \$6,900/AF

Distributed = \$25,000/AF

SUMMARY | KEY INSIGHTS & FINDINGS

- Retrofit Projects tend to be more cost effective than new projects
- Distributed Projects are usually designed for multiple benefits, a key one being water supply
- Good Monitoring is essential

DATA CHALLENGES | COMMON PROBLEMS

Actual Flow Data

- No monitoring
- Technical difficulties
- Difficult to isolate benefits from retrofit projects

Actual Cost Data

- Difficult to isolate stormwater costs
- O&M costs are averaged over time
- Historical costs difficult to obtain

NEXT STEPS | FUTURE OPPORTUNITIES

- SCWC Whitepaper on stormwater project implementation and funding challenges
- Study the relationship between stormwater capture and water supply yield
- Explore opportunities for multiple agencies to partner on stormwater projects
- Continue regional collaboration on stormwater data and monitoring

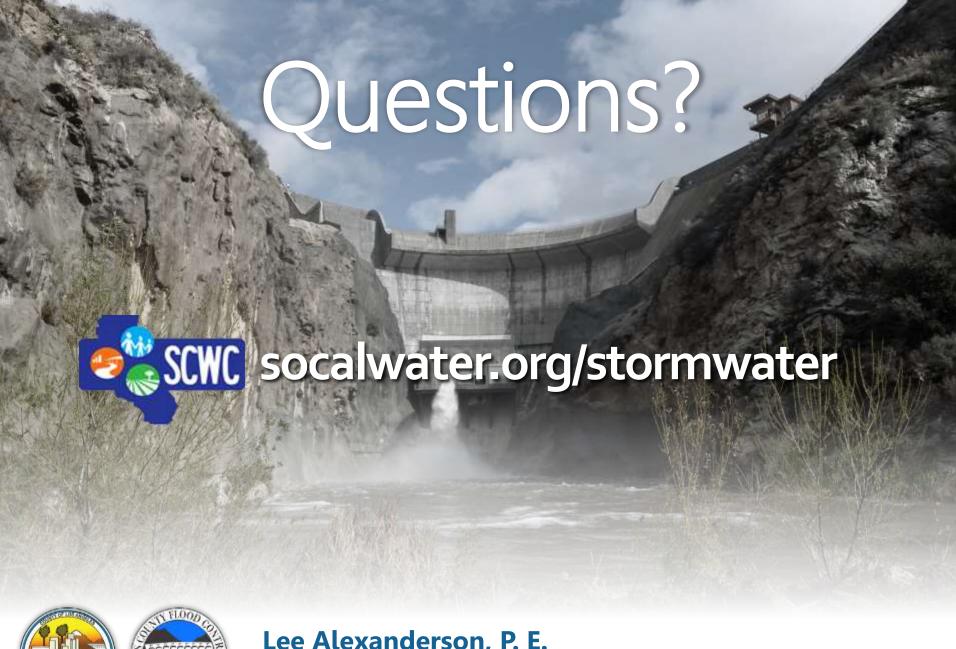
ACKNOWLEDGEMENTS | THANKYOU

Data Submission

► IEUA, OCFCD, EMWD, LACFCD, LADWP, LASAN, San Elijo JPA, Cities of Santa Monica and Torrance, County of Ventura

Working Group

- ► HATCH Pavitra Rammohan
- ► IEUA Andy Campbell
- ► MWD Matthew Hacker and Miluska Propersi
- ► SCWC Rich Atwater







Lee Alexanderson, P. E.