



Stormwater Capture Master Plan

Stormwater as a significant resource

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2015 AWRA Spring Conference

March 30, 2015



Stormwater Capture MASTER PLAN



Agenda

- LADWP's Mission
- Water Sources and Reliability Challenges
- Comprehensive Strategy for Future Reliability
- Stormwater Capture Master Plan
- Next Steps
- Q&A

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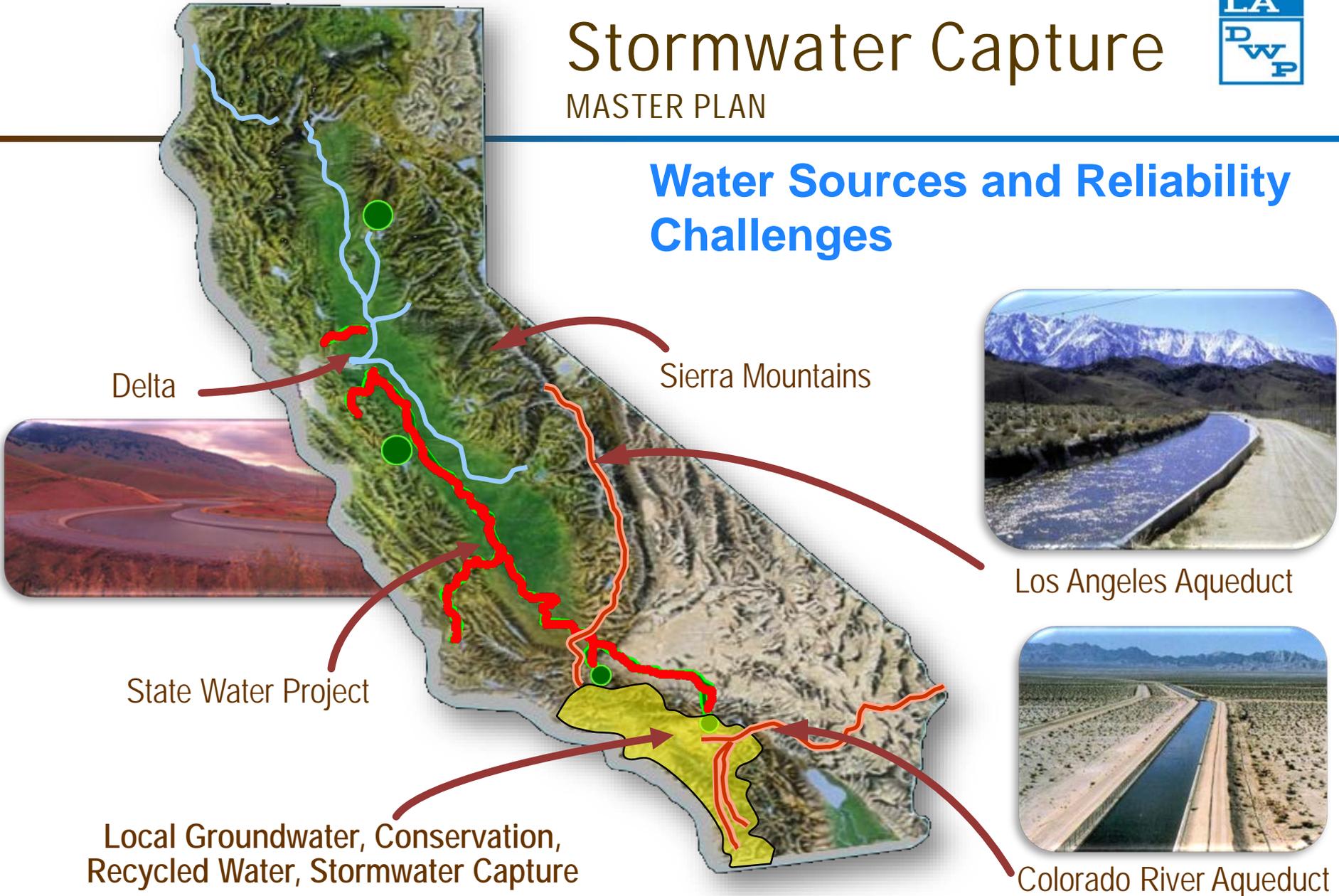
LADWP Mission

To provide our customers with safe, reliable, high quality and reasonably priced water services in a transparent and environmentally responsible manner.

Stormwater Capture

MASTER PLAN

Water Sources and Reliability Challenges



Water Supply and Reliability Challenges



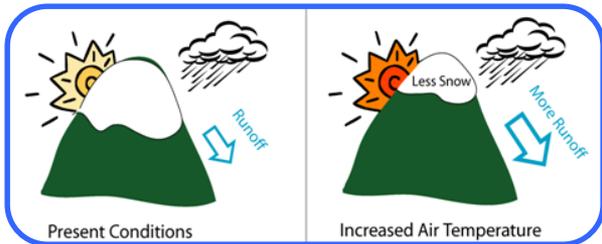
Bay-Delta and Colorado River supply uncertainties due to allocations, pumping restrictions, and other threats



L.A. Aqueduct supply reduction due to Owens Lake dust mitigation



Groundwater contamination in the San Fernando Basin



Climate change impacts, water/energy nexus, and carbon footprint

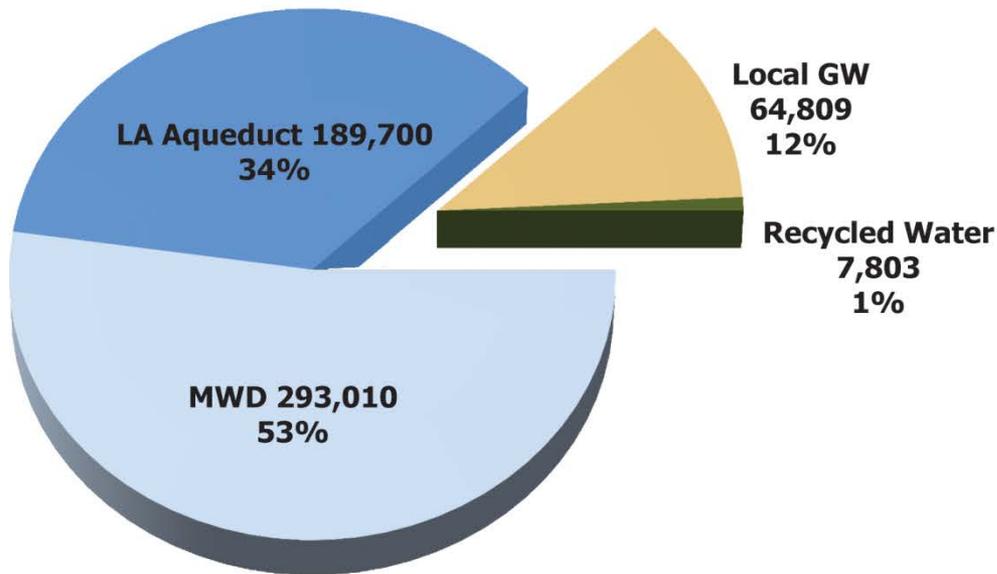


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Comprehensive Strategy for Future Reliability

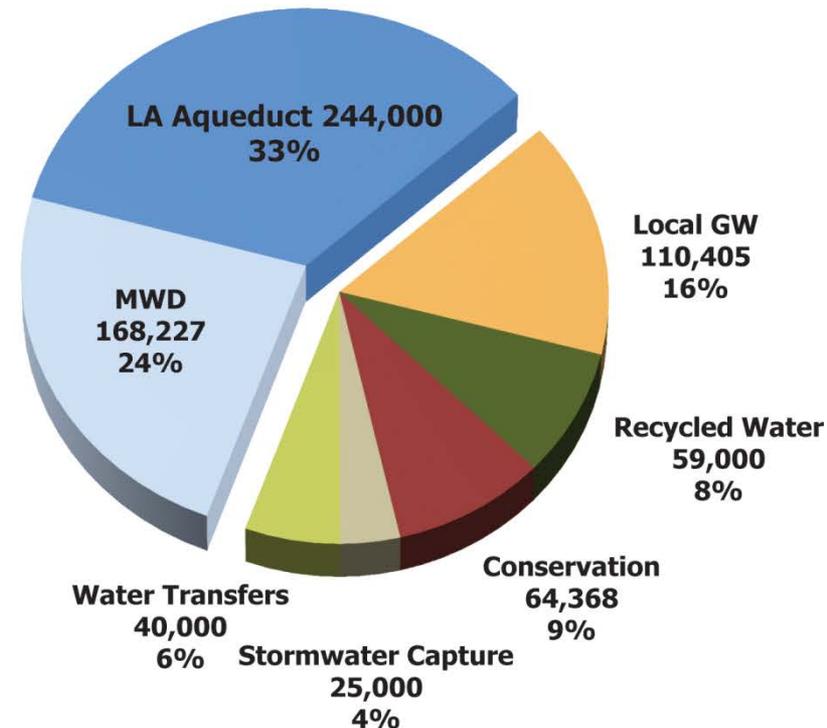
Today

FYE 2010 - 2014 Average
Total: 553,876 AFY

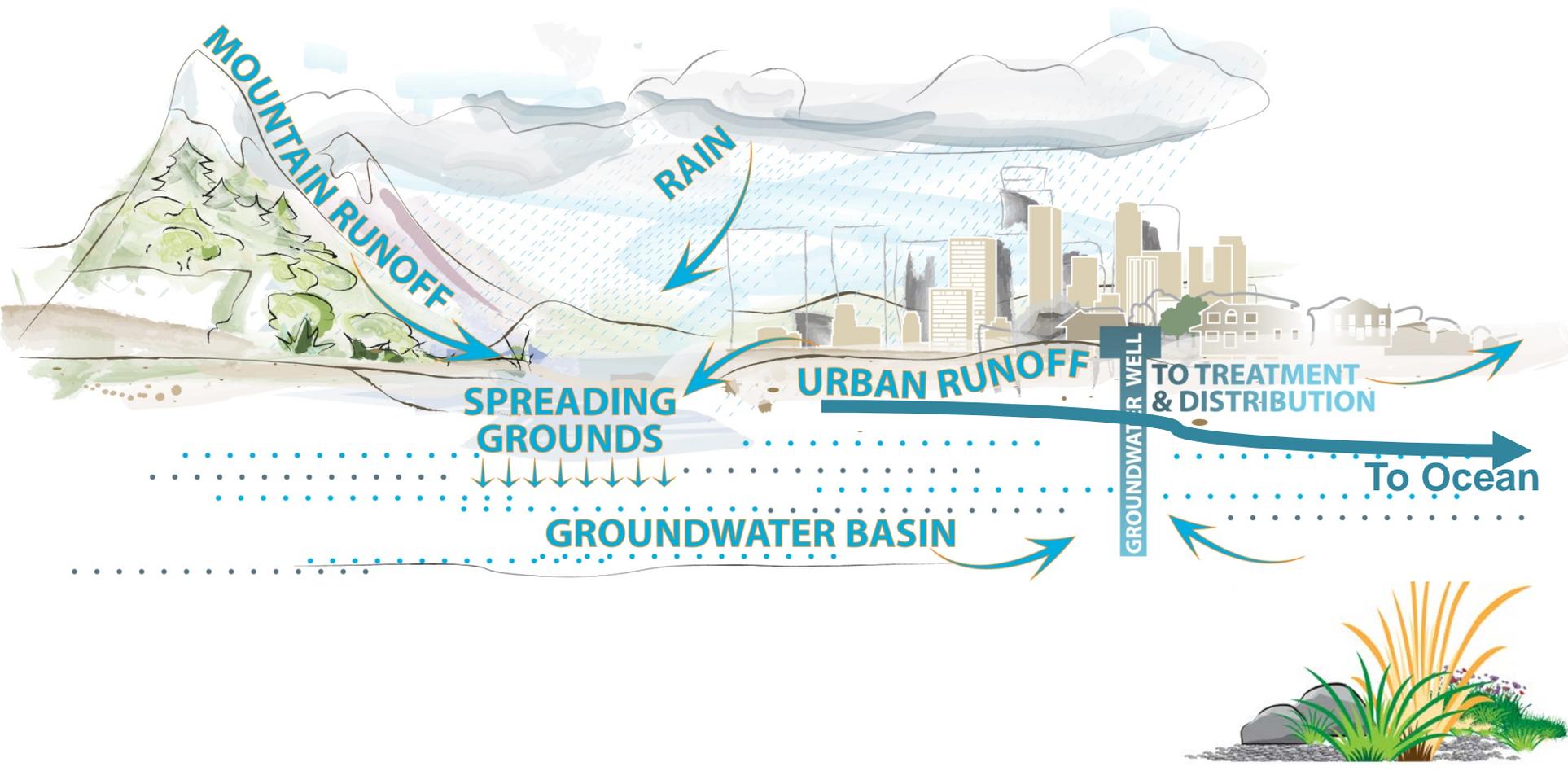


Future

Fiscal Year 2034 - 35
Total: 711,000 AFY



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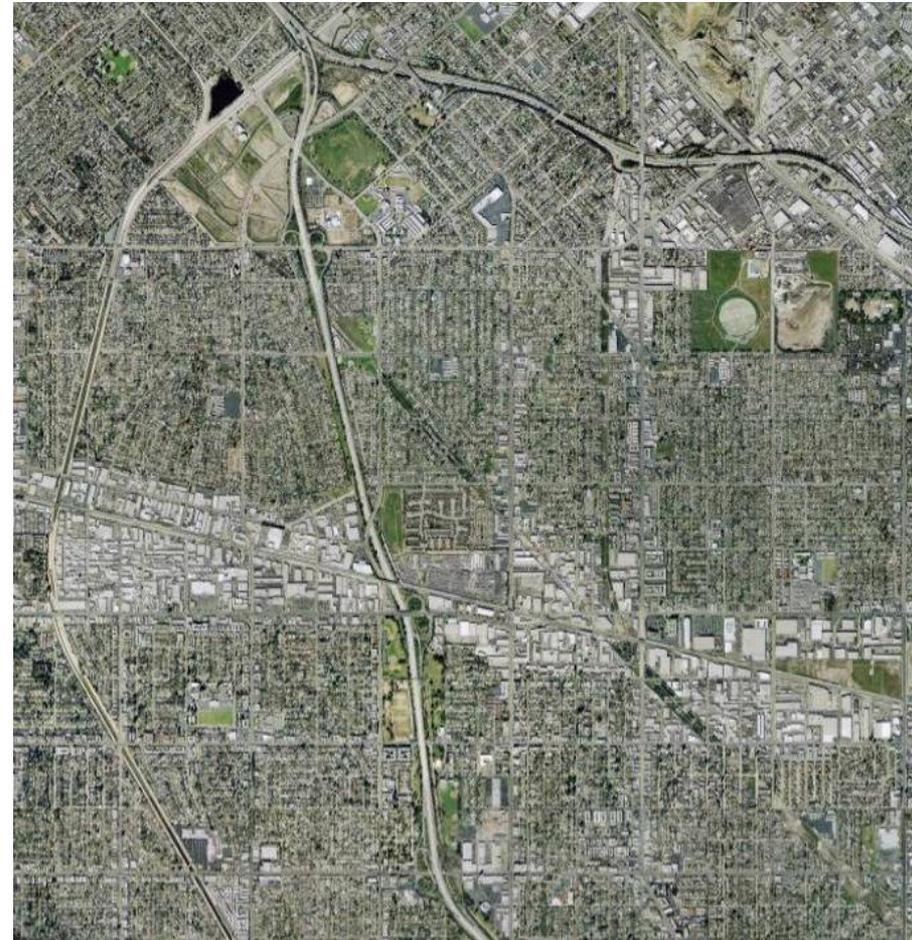
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Why we need to take action



**Eastern San Fernando Valley
1949**



**Eastern San Fernando Valley
2008**

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Dam Improvements



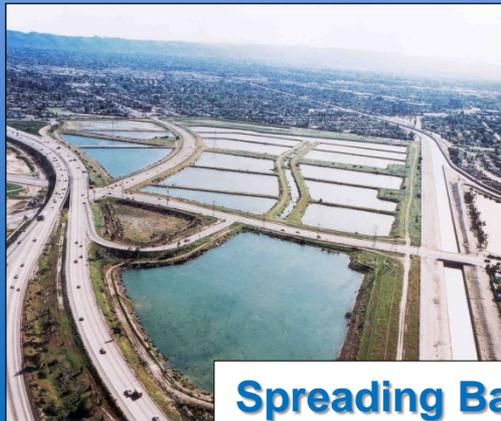
Cisterns



Centralized ←

CAPTURE

→ Distributed



Spreading Basins



Rain Gardens



Rain Barrels

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Centralized Stormwater Capture Projects

- On average, 27,000 acre-feet per year have been recharged through spreading ground operations in the San Fernando Basin from 1968 through 2014



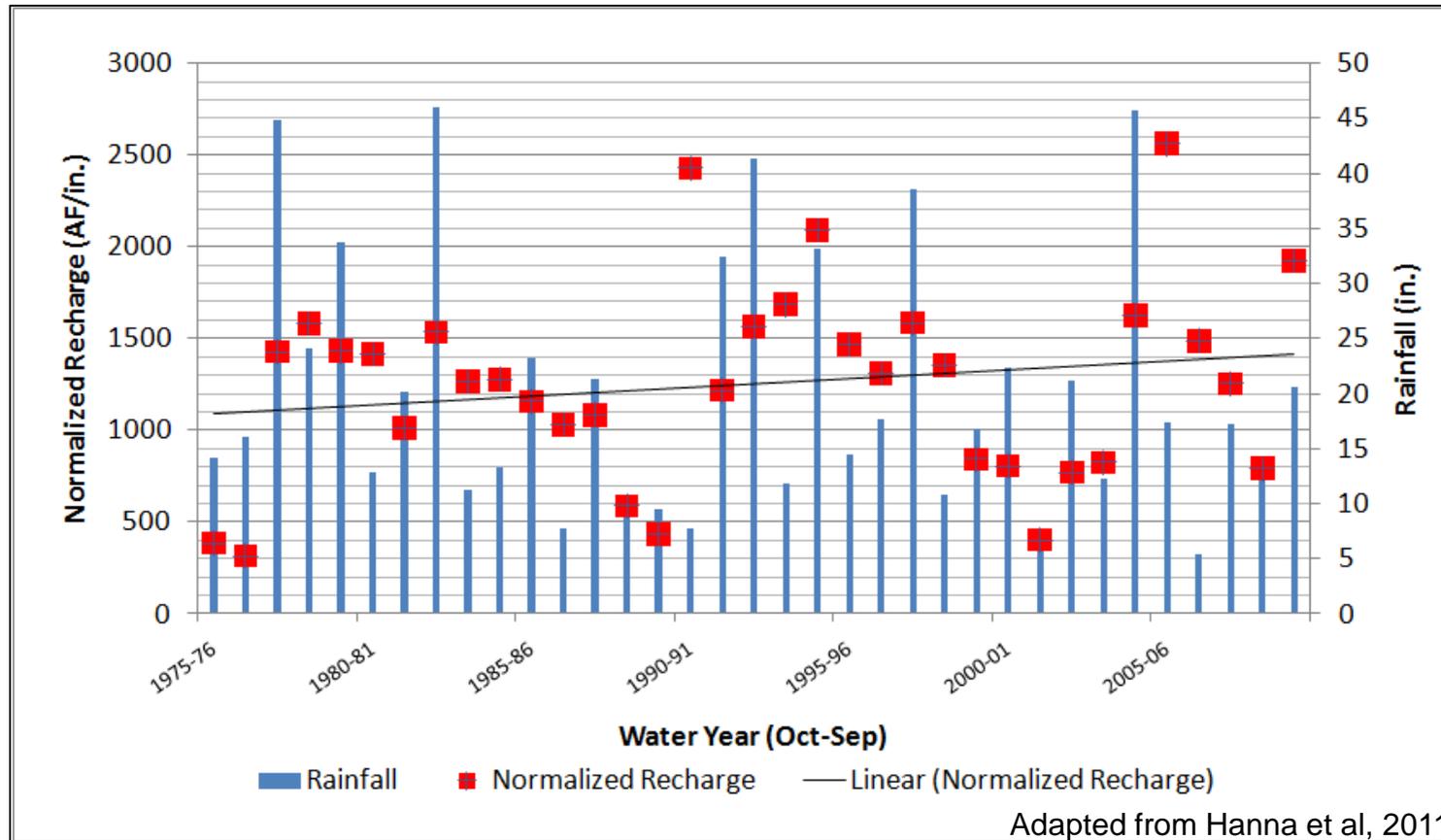
Hansen Spreading Grounds

(1 acre-foot = 325,851 gal)

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50% increase in capture efficacy per inch of rain over the past 40 years



Adapted from Hanna et al, 2011

Annual Groundwater Recharge Normalized by Rainfall in the San Fernando Basin

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Distributed Stormwater Capture Projects



North Hollywood Alleys



Sun Valley Park



Glenoaks and Sunland Street Improvements

Elmer Avenue Retrofit



What is the Stormwater Capture Master Plan?

Document that will outline LADWP's strategies over the next 20 years to:

- Implement stormwater programs and projects in the City of LA
- Contribute to more reliable and sustainable local water supplies.

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GOALS of the Master Plan

- Quantify stormwater capture potential
- Identify new projects/programs/policies
- Prioritize based on water supply criteria
- Develop cost/benefits for proposed projects/programs/policies
- Define timing and key milestones

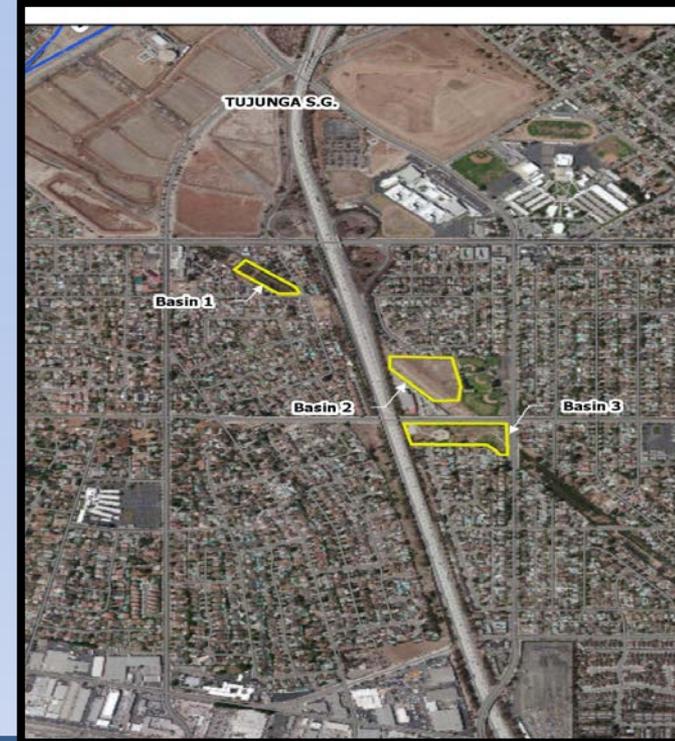
PARTNERS



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Canterbury Power Line Easement

- 24 recharge basins to be excavated within the 18 available acres of the Canterbury Avenue



Old Pacoima Wash

- Infiltration basins created by installing rubber dams along 2 miles of the Old Pacoima Wash

Strathern Park

- 3 infiltration basins to be excavated within Strathern Park



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On-site Infiltration

- Collecting stormwater runoff from impervious areas for infiltration within the same parcel
- ✓ Permeable pavement with run-on
- ✓ Simple, rain garden
- ✓ Complex bioretention
- ✓ Dry wells with pretreatment



Residential rain garden

On-site Direct Use

- Collecting stormwater runoff from impervious areas and store in cisterns and rain barrels for use at a later time
- ✓ Irrigation through hand watering, drip feeds, gravity fed irrigation



Residential Cistern

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Subregional Infiltration

- Collect stormwater runoff from multiple parcels, city blocks, or entire neighborhoods into an infiltration facility within the public right-of-way or adjacent public/private lands
- ✓ Underground infiltration galleries
- ✓ Bio-infiltration basins



Elmer Avenue Infiltration Gallery

Subregional Direct Use

- Collect stormwater runoff from a larger tributary area into an underground storage reservoir
- ✓ Pump, smart cistern technology, and treatment enables reuse of water for irrigation



Pelican Hill Golf Course Cistern, Newport

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Green Streets

- Public right-of-way projects capturing stormwater through BMPs
- ✓ Permeable pavement with run-on
- ✓ ROW bulb-outs
- ✓ Simple rain gardens



Elmer Avenue Green Street, Los Angeles



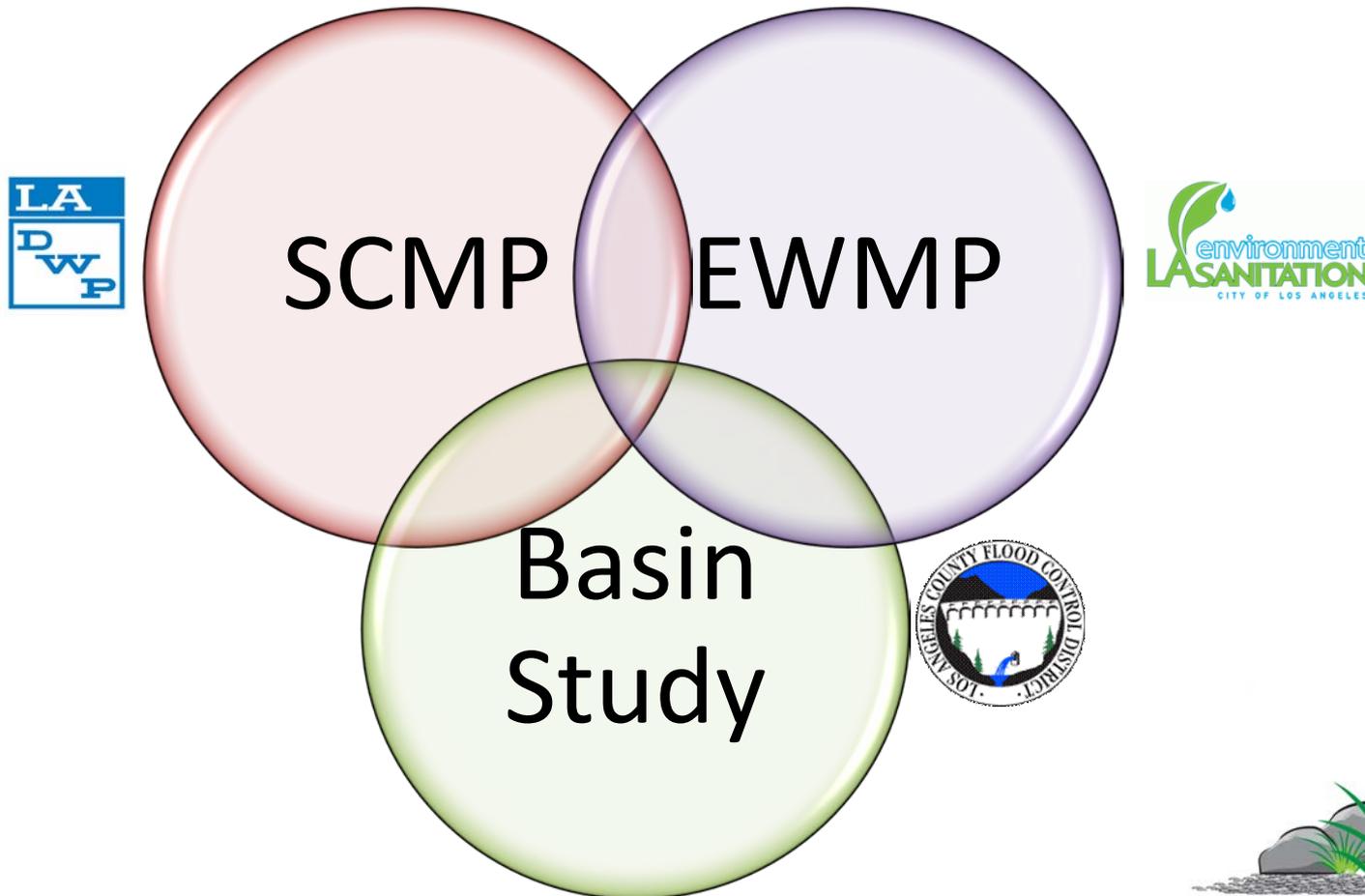
Permeable interlocking concrete pavers

Impervious Replacement

- Removal of impermeable hardscape and replacement with highly permeable hardscape surfaces
- ✓ Porous concrete and asphalt
- ✓ Interlocking concrete pavers

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Regular Coordination



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For more information

www.ladwp.com/stormwater
www.ladwp.com/scmp

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