#OurCountyLA

Our County

Water and People: An ‘Our County’ Workshop

June 28, 2018

The Team

Our County

Los Angeles County
Chief Sustainability Office

Our County

Consultant Team

Our County

BUROHAPPOLD ENGINEERING

UCLA

Global leader in **sustainability consultancy** and **foremost academic institution** on sustainability in the U.S.

Liberty Hill

LA's **social justice epicenter** since 1976

STUDIO-MLA

U.S. Commission of Fine Arts 4 year-term appointed by Barack Obama

Estolano LeSar ADVISORS

Over 50 years expertise in **public policy** and **community development**

raimi + associates

Comprehensive planners with a focus on **health and equity**

FEHR & PEERS

Recognized leadership in **transportation**

gna GLADSTEIN, NEANDROSS & ASSOCIATES
CLEAN TRANSPORTATION & ENERGY CONSULTANTS

National and state expertise on **air quality**

The Plan

Our County

The County's Aims

The plan should be:

- Aspirational, Comprehensive, Long-Term, Regional, Actionable

The task:

- Develop a comprehensive framework for County and City sustainability initiatives
- Serve as template for local cities when preparing sustainability/climate action plans
- Prepare the region to be competitive for funding

Organizing Principles

Our County

Nurturing Healthy Communities

Cultivating a Just Economy

Fostering a Healthy Relationship with the Environment

Making It Happen

Stakeholder Process and Today's Agenda

Our County

Stakeholder Engagement
Equity Statement

Our County

Equity

Goal

Reduce disparities across geographies due to race, class, gender, and other social differences

Strategy

Commit resources to include those often left out of policy and planning discussions

Indicators

Distributional	Actions that repair current and historical imbalances
Procedural	Participatory decisionmaking with vulnerable communities
Transformational	Strategies securing future benefits for at-risk populations

Stakeholder Engagement Plan

Our County

Stakeholder Engagement Timeline

Our County

Today's Team Leaders

Our County

Stakeholder Engagement

- Liberty Hill: Michele Prichard & Ben Russak
- UCLA: Laurel Hunt and Ari Simon
- Estolano LeSar Advisors: Cynthia Guzman

Data & Analysis and Topic Teams

- UCLA: Mark Gold, Stephanie Pincetl
- BuroHappold: Christopher Rhie

Community-Based Anchor Organizations

- Supervisor District 1 (Solis): **East Yard Communities for Environmental Justice**
- Supervisor District 2 (Ridley-Thomas): **Strategic Concepts in Organizing and Policy Education**
- Supervisor District 3 (Kuehl): **Pacoima Beautiful**
- Supervisor District 4 (Hahn): **Communities for a Better Environment**
- Supervisor District 5 (Barger): **Day One**

Today's Agenda

Our County

10:10 **Our County Water Opportunities** (Mark Gold)

10:30 **Broad Goals and Strategies Review** (Chris Rhie and Stephanie Pincetl)

11:00 **Breakout Groups by Cross-Cutting Issues**

- Economy and Workforce Development
- Public Health and Safety
- Housing and Land Use

12:00 Report Back

12:30 Lunch

1:15 **"World Café" Sustainability Theme Tables**

- Nurturing Healthy Communities
- Fostering a Health Relationship with the Environment
- Cultivating a Just Economy

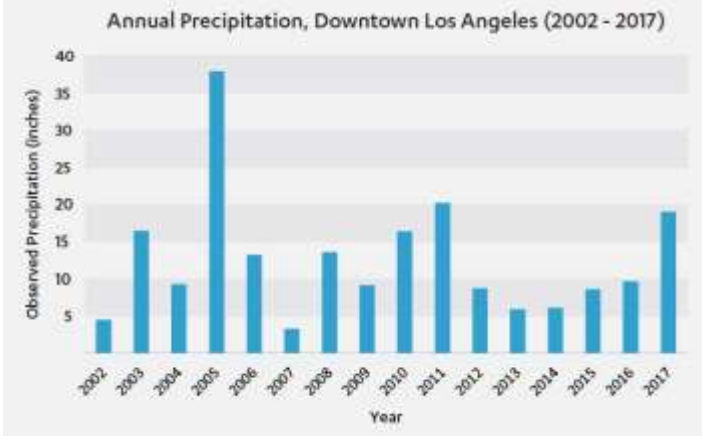
3:30 Wrap Up

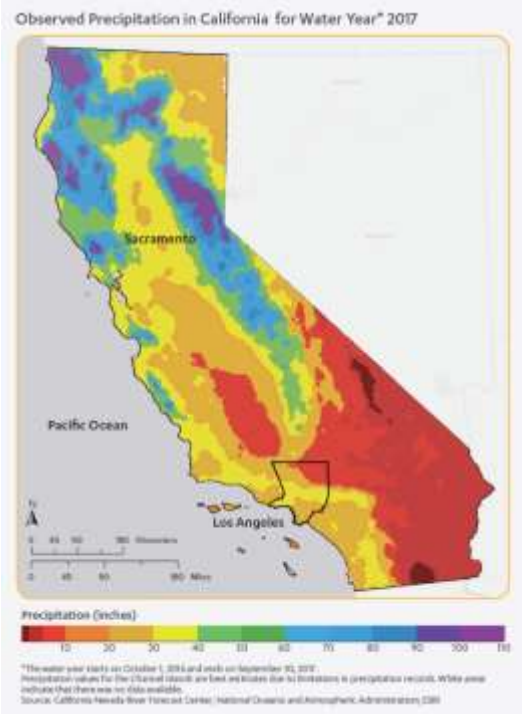
3:45 Evaluation

LA County Water Overview

Our County

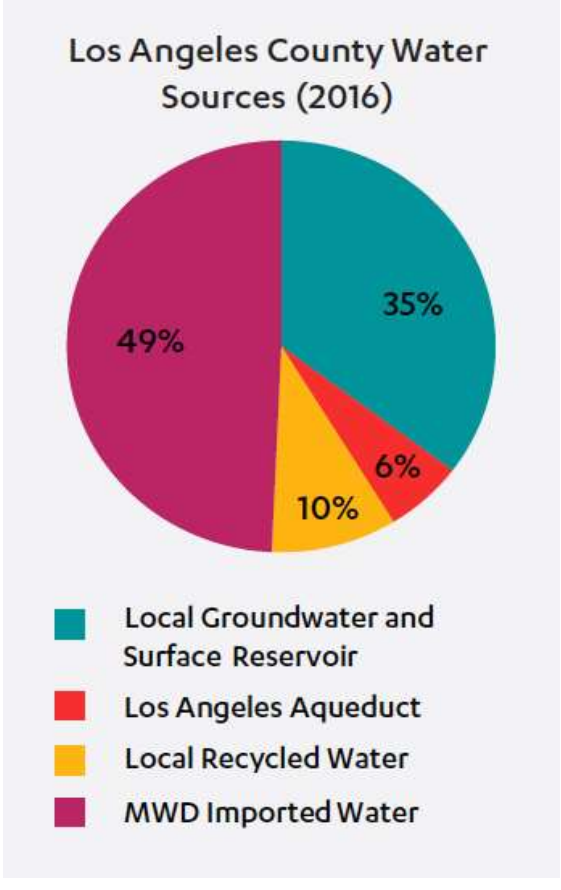
Where does our water come from?

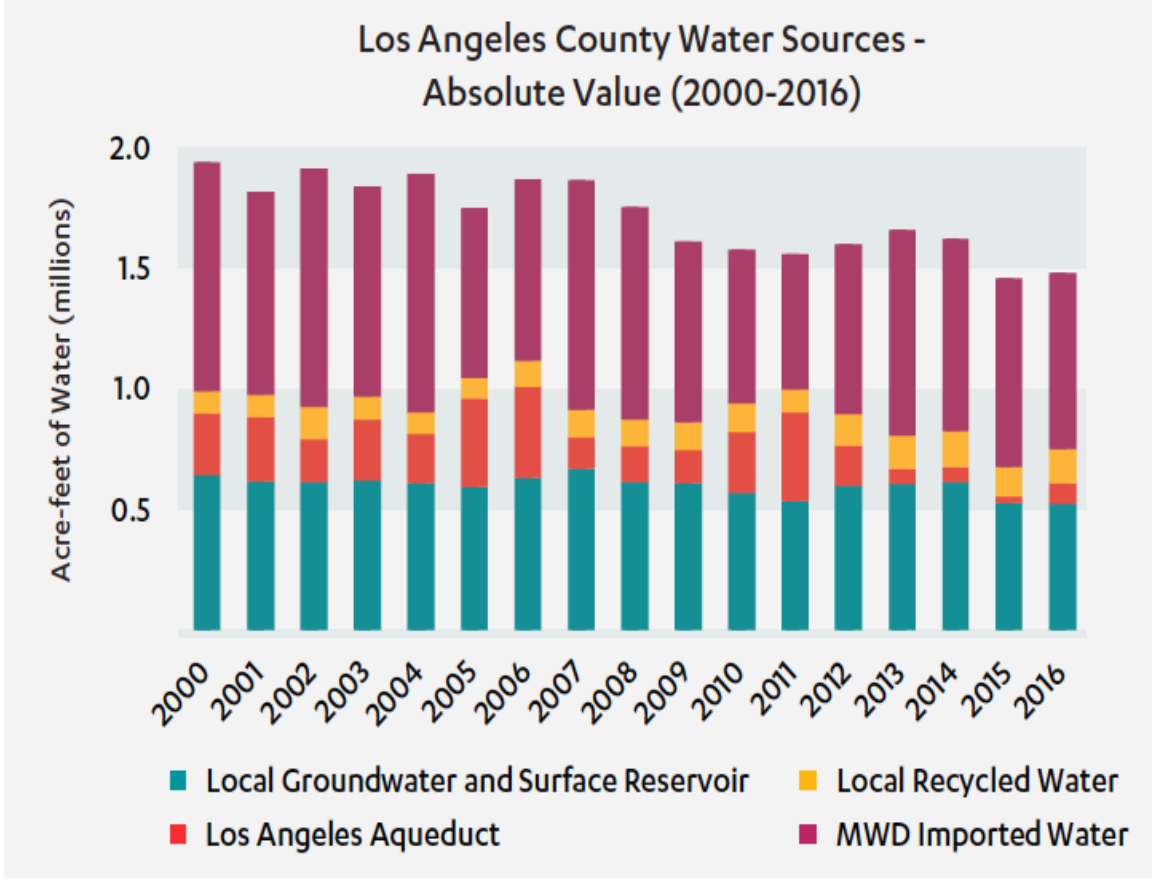




LA County Water Sources

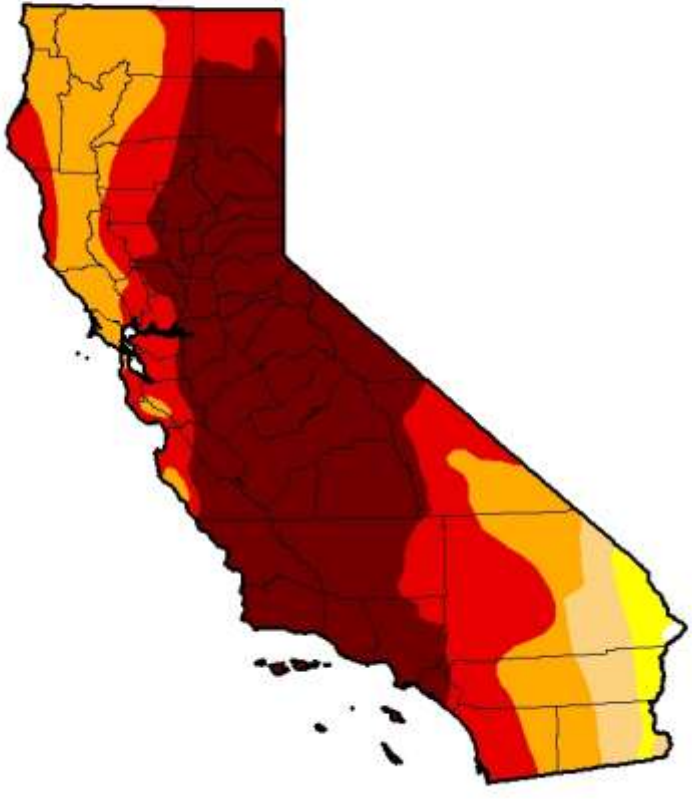
Our County





Our County

U.S. Drought Monitor
California



September 29, 2015

(Released Thursday, Oct. 1, 2015)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.14	99.86	97.33	92.36	71.08	46.00
Last Week 9/22/2015	0.14	99.86	97.33	92.36	71.08	46.00
3 Months Ago 6/30/2015	0.14	99.86	99.71	94.59	71.08	46.73
Start of Calendar Year 12/30/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 9/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 9/30/2014	0.00	100.00	100.00	95.04	81.92	58.41

Intensity:

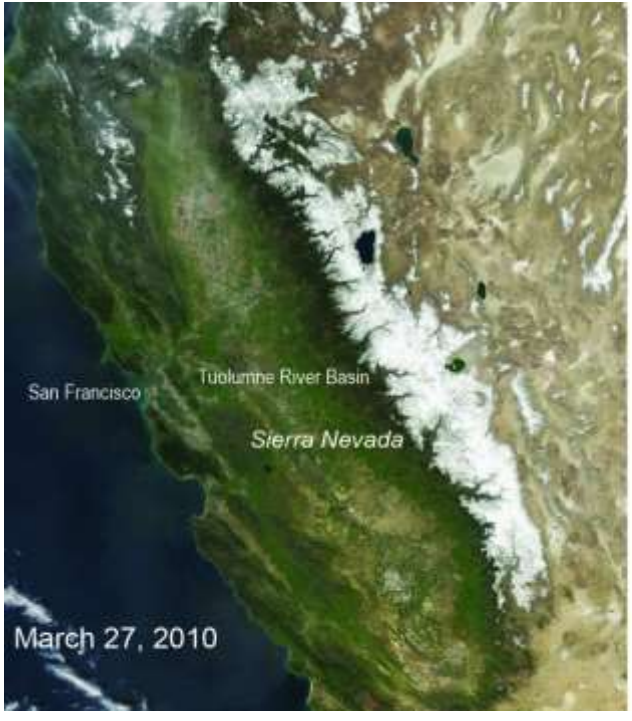
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

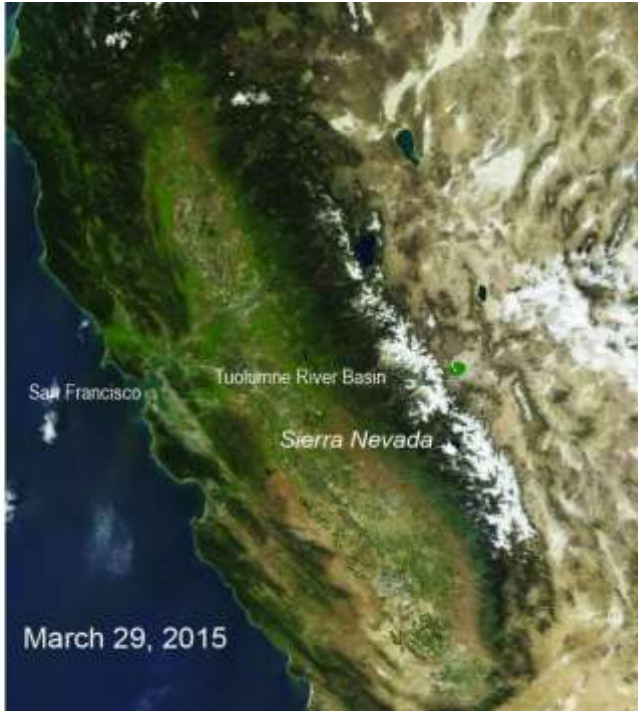
Author:
Eric Luebehusen
U.S. Department of Agriculture

http://droughtmonitor.unl.edu/

Drought Impact on Sierra Snowpack -
Also, 130 million trees killed



March 27, 2010



March 29, 2015

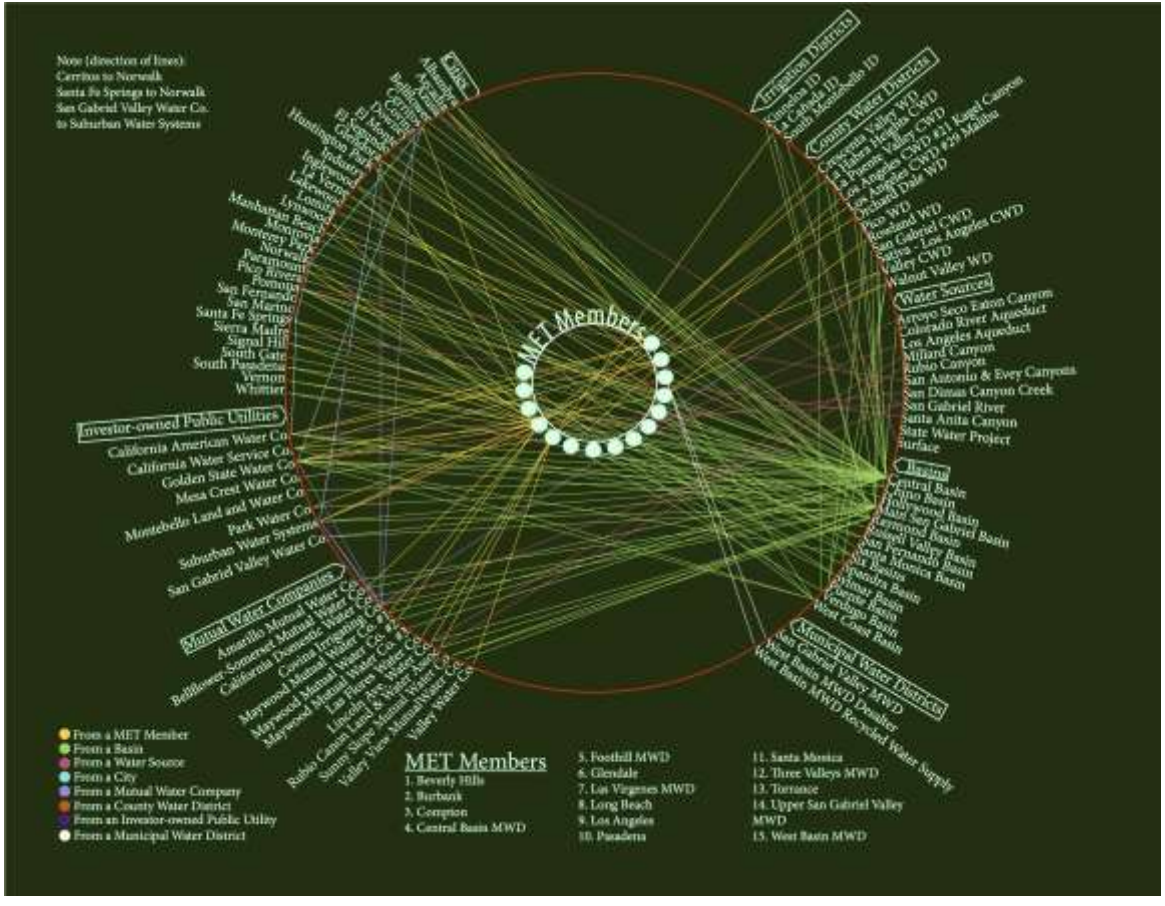
Source: NASA

Los Angeles County Basin Water Retailers

- Over 100 water retailers in the basin alone:

  Public, private and non-profit, of vastly different sizes and capacities (228 in the whole county, plus tiny ones)
  (Pincetl, et al.,)

- Premise plumbing



Adapting Los Angeles Water Systems for the 21st Century, Pincetl S., Pose E., Mika K.B., Litvak E., Manago K., Hogue T.S., Gillespie T., Pataki D.E., Gold M., Environmental Management 2018.

Water Portfolio GHGs

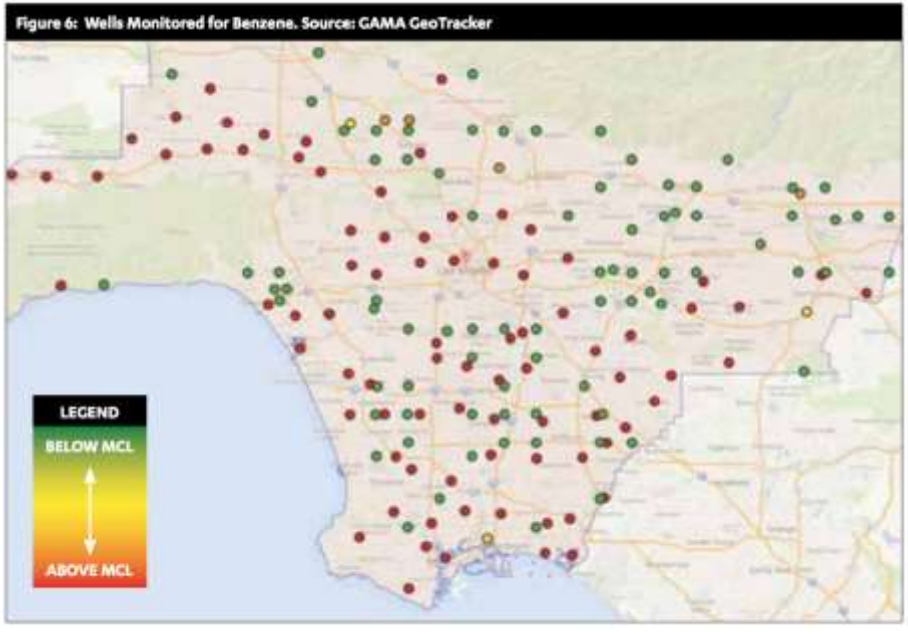
PP 2014	Energy Required (kWh/AF)	WS 2013 Average Volume (AF)	WS 2013 Total Emissions (MT of CO2e)	WS City 2035 Volume (AF)	WS City 2035 Total Emissions (MT of CO2e)	
SWP East	**4,520**	66,281	99,764	15,000	22,577	
SWP West	**4,110**	309,309	423,330	70,000	95,804	
CRA	**2,000**	66,281	21,984	15,000	4,975	
MWD	**-**	441,871	545,078	100,000	123,356	
LAA	**0**	61,024	-	139,400	-	
Ground-water (net)	**580**	79,403	25,393	114,100	36,490	
Recycled Water	**1,150**	10,054	6,375	88,500	56,117	
Stormwater	**174**	n/a	-	37,000	3,550	
Total	-	592,352	576,846	479,000	219,513	

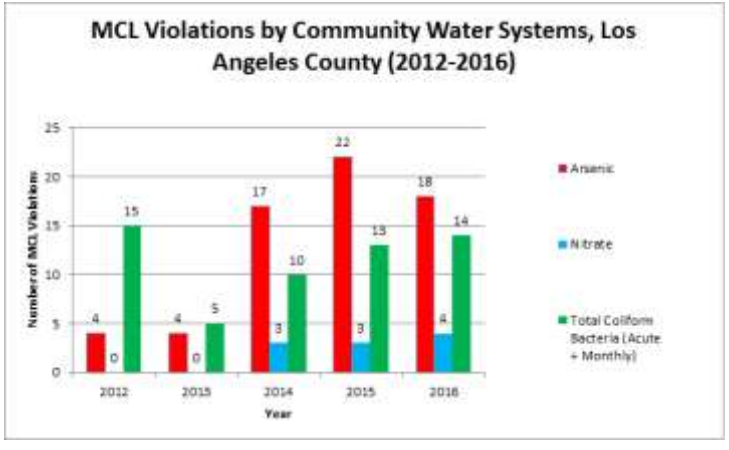
Additional calculations with potential future power portfolio (e.g., 50% renewables), GHG emissions are greatly reduced compared to current power mix with no change in water supply mix.

LA County Spreading Grounds

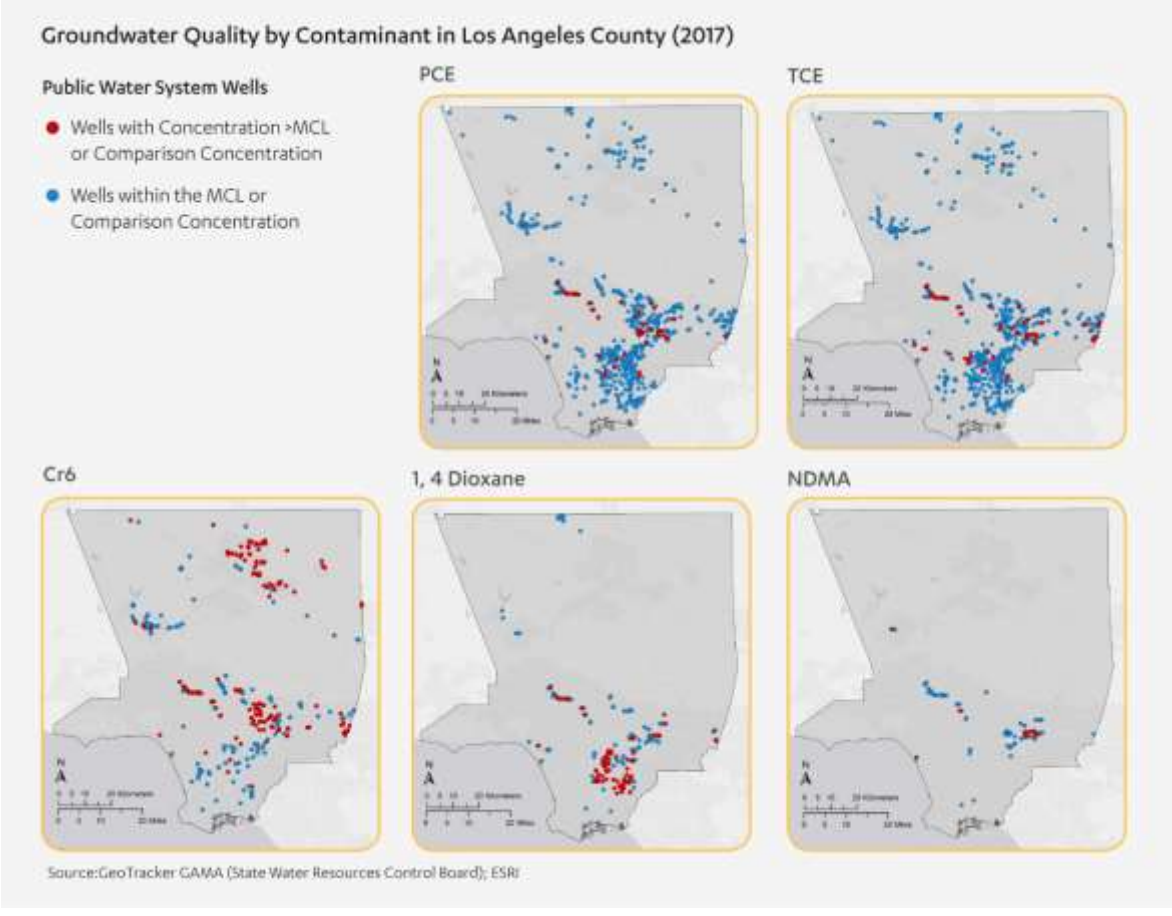
Water Quality in Groundwater Wells

Figure 6: Wells Monitored for Benzene. Source: GAMA GeoTracker

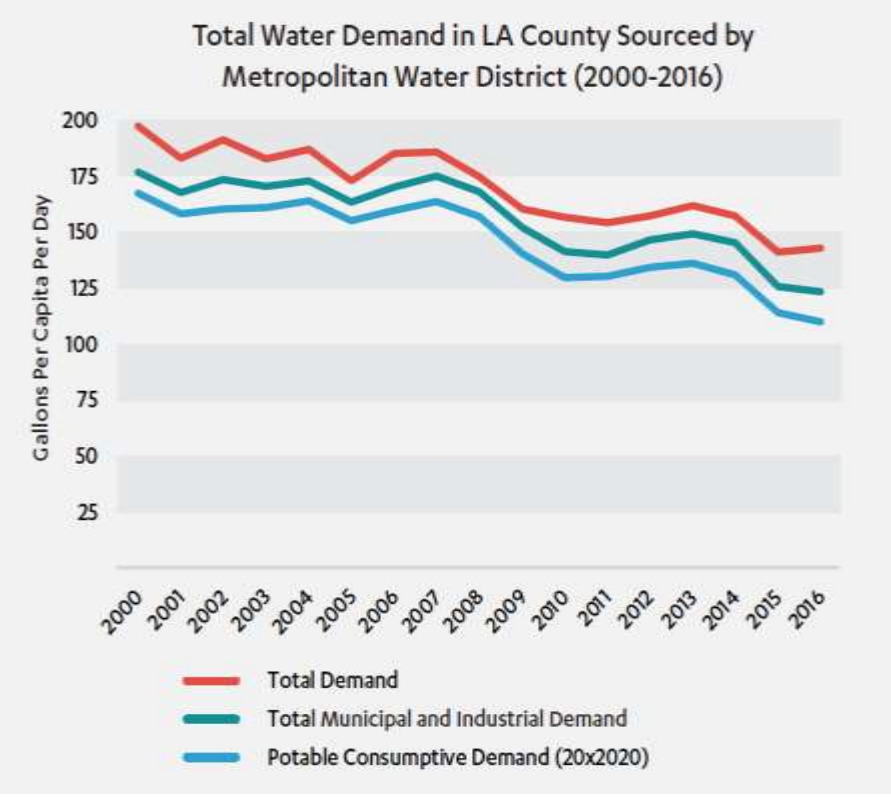




Groundwater Quality by Contaminant



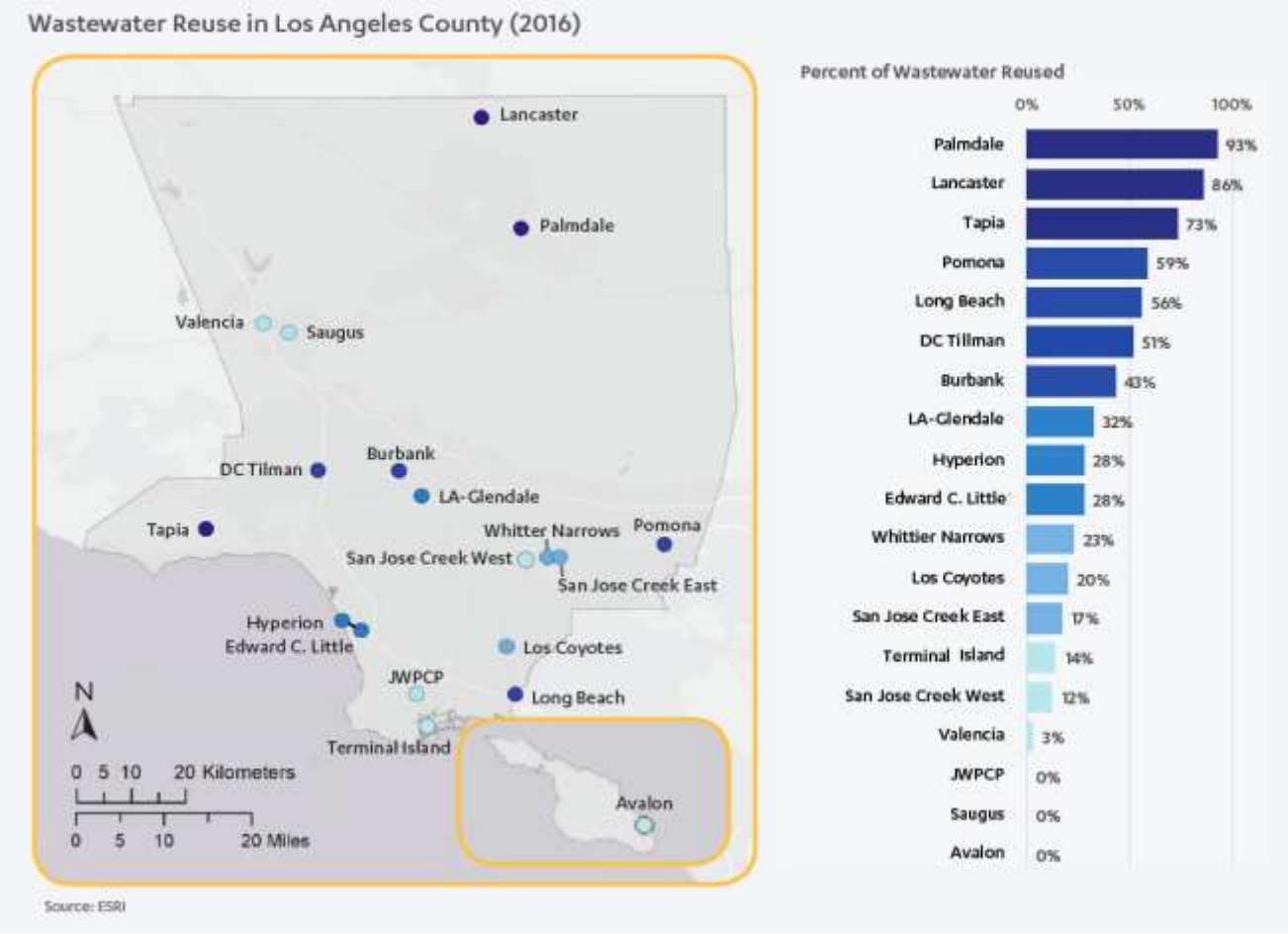
LA County Water Demand



Some LA County Demand and Infrastructure Facts

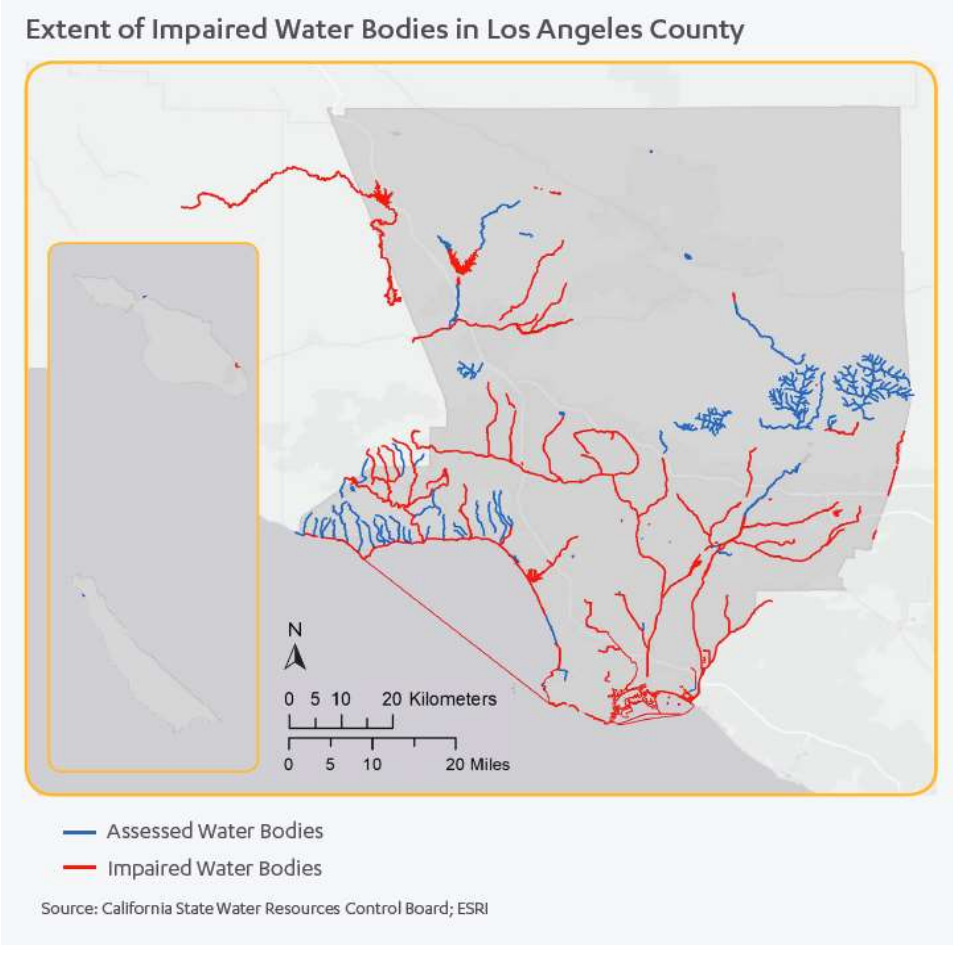
- Overall – approximately 1.3-1.5 MAFY
- South Coast – approximately 83 GPCD
- Range – Huntington Park – 38 gpcd to LACo Waterworks District 29 at 232 gpcd. DWP at about 60 gpcd. LB at 57.
- Approximately 280K AFY infiltrated
- LA County – 27 spreading grounds, 14 dams (plus 4 dams managed by the Army Corps), multiple seawater intrusion barriers, 172 debris basins, 500 miles of open channel, 2800 miles of underground stormdrains, approx. 120K catch basins

LA County Water Recycling

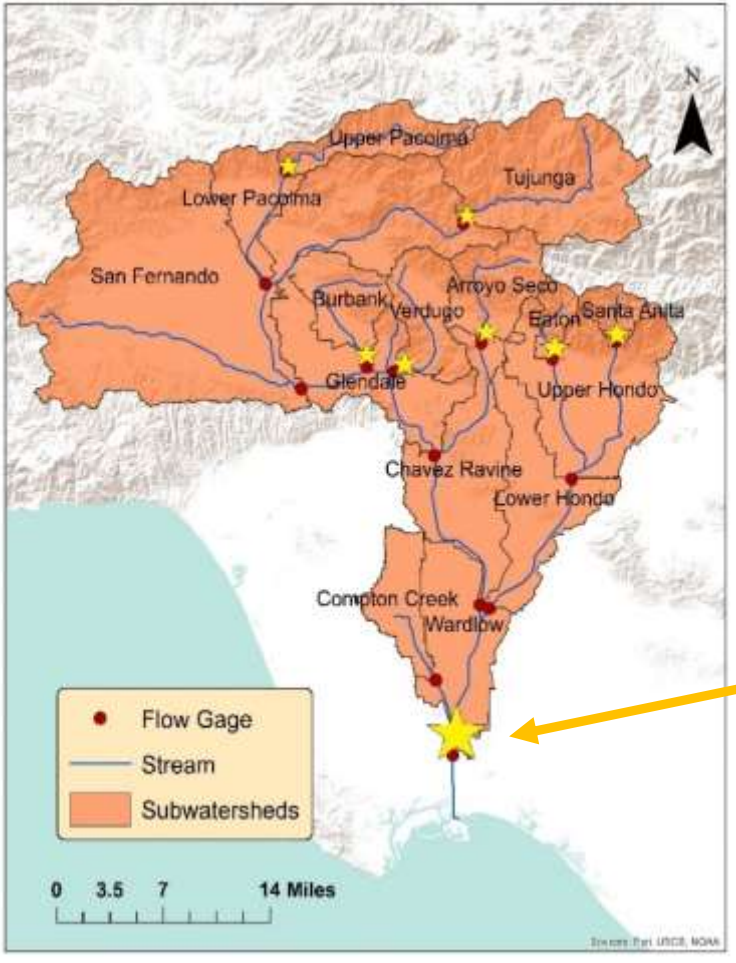


LA County Surface Water Quality

Our County



LA River Watershed Study Area



- 825 square mile watershed
- Approximately 35% of watershed within LA City boundary
- Measured flows at Wardlow Gage: 274,000 AFY (2004-2013)

Wardlow Gage

LA River WQ Modelling Decision Matrix

Our County

		Los Angeles River Scenarios BMPs	Baseline No BMPs	1a BR	1b PP + BR	2a VS + DP	2b PP + VS + DP	3a VS + IT	3b PP + VS + IT
		Volume Capture	0	10,396	10,396	10,396	10,396	10,396	10,396
		Storm Capture %	0	85th %	85th %	85th %	85th %	85th %	85th %
Ancillary Criteria		Cost (Billions)	-	6.60	6.80	3.80	5.20	3.80	5.20
		BMP area (mi^2)	-	10.8	5.8	14.4	9.6	14.4	9.6
		Infiltration (% of Precip)	-	20.8%	22.0%	16.4%	20.4%	22.6%	22.9%
		Infiltration (Million AFY)	-	0.16	0.17	0.13	0.16	0.17	0.17
		Peak Flow Reduction	-	47.0%	53.0%	29.0%	46.0%	55.0%	57.0%
Water Quality Criteria		Dry Weather Days/yr	333	358	360	350	358	361	361
		DW Total Possible Exceedances/yr (Cu, Pb)	2997	3222	3240	3150	3222	3249	3249
		DW Total Possible Exceedances/yr (Zn)	333	358	360	350	358	361	361
	Dry Weather Exceedances/yr	Concentration Based TMDL (Cu)	13	47	49	35	39	43	44
		Concentration Based TMDL (Pb)	0	12	13	7	10	16	14
		Concentration Based TMDL (Zn)	3	8	8	3	7	9	9
		Load Based TMDL (Cu)	307	68	71	62	69	75	75
		Load Based TMDL (Pb)	127	51	53	47	52	57	57
		Load Based TMDL (Zn)	214	18	18	15	18	19	19
		Wet Weather Days/yr	32	7	5	15	7	4	4
		WW Total Possible Exceedances/yr (Cu, Pb, Zn	32	7	5	15	7	4	4
	Wet Weather Exceedances/yr	Concentration Based TMDL (Cu)	5	1	2	1	1	0	2
		Concentration Based TMDL (Pb)	2	0	0	0	0	0	0
		Concentration Based TMDL (Zn)	14	5	5	2	5	2	4
		Load Based TMDL (Cu)	6	1	2	0	1	0	2
		Load Based TMDL (Pb)	2	0	0	0	0	0	0
		Load Based TMDL (Zn)	14	6	5	3	6	2	4
		Cu Average Annual Load % Reduction	-	71.0%	60.8%	58.6%	55.6%	77.2%	61.2%
		Pb Average Annual Load % Reduction	-	83.1%	62.9%	59.7%	53.9%	79.4%	59.7%
		Zn Average Annual Load % Reduction	-	83.6%	63.1%	62.4%	59.4%	80.1%	59.9%

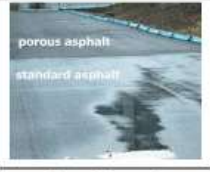
BR: Bioretention; **PP:** Porous Pavement; **VS:** Vegetated Swales; **DP:** Fry Ponds; **IT:** Infiltration Trenches; **BMP:** Best Management Practice.

Examples of Low Impact Development or Nature Based Solutions

Our County

Some Common LID Best Management Practices [5]

			
Vegetated Swales / Bioswales	Rain Gardens	Rain Cisterns	Green Roofs

			
Permeable Pavers	Porous Pavement	Curb Bump-Outs	Curb Cuts

Low Impact Development Benefits

Los Angeles River	% Redeveloped (2028)	Redeveloped Area (mi^2)	Volume Captured (AF)
Residential	12%	35.9	1,436
Commercial	10%	5.9	235
Industrial	22%	10.9	437
Educational	10%	1.8	70
	Pre - redevelopment	Post - redevelopment	% Reduction
Volume Captured (AF)	10,396	8,218	20.95%

City of LA-type LID ordinance implemented across the watershed. These numbers could be greatly expanded by expanding ordinance to include resale, and by establishing partnerships with NGOs to increase voluntary implementation.

Volume Captured (AF)	Pre - redevelopment	Post - redevelopment	% Reduction
Ballona Creek	3621	2902	19.85%
Dominguez Channel	2353	1837	21.91%
Los Angeles River	10396	7378	29.04%

Potential for LID ordinance across watersheds, 2035.

Draft Plan Goals

- Reduce water use
- Advance water self sufficiency
- Enhance water infrastructure while prioritizing a natural systems/ green infrastructure approach
- Protect and improve water quality
- Reduce water related impacts on, and improve benefits to, disadvantaged communities

A Sampling of Local and State Water Policies

Our County

- City of LA pLAn – 106 gpcd by 2017. 98.25 gpcd by 2035
- City of LA pLAn – 50% reduction in purchased imported water by 2025. 50% locally sourced water by 2035
- City of LA pLAn – 100 sewage spills per year by 2025. 67 spills per year by 2035
- City of LA pLAn – beach water quality GPA – 4.0 dry weather, 3.5 wet by 2035
- City of Santa Monica – Water self sufficiency by 2020
- City of Santa Monica – Zero trash on beach by 2020. Zero summer exceedances of beach water quality standards by 2020
- Long Beach – 20% consumption reduction by 2020. 50 green roofs by 2016
- State – Conservation as a Way of Life Laws (AB 1668 and SB 606) – Indoor consumption of 55 gpcd by 2022. 50 gpcd by 2030
- State – 2015-16 25% urban water use reduction mandate

Plenary – Goals and Strategies

Our County

Key Terms

Our County

Vision

A core value or values at the heart of the plan – the "why"

Goals

Broad, aspirational statement of what we want to achieve

Strategies

Approach or approaches that we take to achieve a goal (strategies may support multiple goals)

Actions

Specific policy, program, or tool we take to achieve a strategy

PERFORMANCE MONITORING

Indicators

Quantitative measures used to assess performance on a regular basis

Targets

Levels of performance that are sustainable

Key Terms

Our County

Vision

A core value or values at the heart of the plan – the "why"

Goals

Broad, aspirational statement of what we want to achieve

Strategies

Approach or approaches that we take to achieve a goal (strategies may support multiple goals)

Today's Focus

Key Terms (Examples)

Our County

Vision

"Fostering a Healthy Relationship with the Environment"

Goals

"Reduce Water Use"

Strategies

"Implement strong water conservation measures"

Actions

"Require low impact development retrofits at time of sale for large properties"

PERFORMANCE MONITORING

Indicators

Water consumption per capita

Targets

Reduce regional per capita water demand by 25% by 2030

Goals

Our County

1. Reduce Water Use
2. Advance Water Self-Sufficiency
3. Enhance Water Infrastructure while Prioritizing a Natural Systems / Green Infrastructure Approach
4. Protect and Improve Water Quality
5. Reduce Water-Related Impacts on, and Improve Benefits to, Disadvantaged Communities

Our County

lacounty.gov/sustainabilityplan

#OurCountyLA