LA’s Water Supply Future

“Attaining a Sustainable Wet Infrastructure for Southern California”

Loyola Marymount University

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LADWP Today

- Service area (469 square miles)
- Provide Water and Power to approximately 4 million people every day
- Over 494 million gallons of water delivered per day – 553,900 acre-feet per year
- Provide over 77 million kilo-watt hours of electricity on typical day
Sources of Water for Los Angeles

Bay Delta

State Water Project

Sierra Mountains

LA Aqueduct

Colorado River Aqueduct

Local Groundwater, Stormwater, Conservation & Recycling
Reliance on MWD in Dry Years

Fiscal Year Ending 2011 - 2015
Average Production: 550,355 AFY

- MWD: 313,988 (57%)
- LA Aqueduct: 160,461 (29%)
- Recycled Water: 8,549 (2%)
- Local GW: 67,135 (12%)

Fiscal Year 2014 - 2015
Total Production: 513,540 AFY

- MWD: 362,607 (71%)
- LA Aqueduct: 53,546 (10%)
- Recycled Water: 10,437 (2%)
- Local GW: 87,046 (17%)
Local Water Supply Reliability
Key Programs

- Conservation
- Recover Use of Aquifer
- Handle Stormwater and Indirect Potable Reuse
- Explore Options for Direct Potable Reuse

Increase Stormwater Capture
Develop Recycled Water Recharge
Remediate the San Fernando Groundwater Basin
TODAY
FYE 2010-2014 Average
Total: 553,876 AFY

FUTURE*
FYE 2035
Total: 711,000 AFY

*Estimated from the 2010 Urban Water Management Plan
ED5 Progress Tracking – Total GPCD

17% reduction over 20 years

16% reduction over 6 years
Water Loss Control
Local Supply Development
Recycled Water

Reuse

Non-Potable Reuse

Indirect Potable Reuse

Urban Water Use

Water Treatment

Nature

Advanced Water Purification

Reverse Osmosis

UV Disinfection

Wastewater Treatment
Local Supply Development
Stormwater Capture

- Dam Improvements
- Centralize
- Spreading Basins

- CAPTURE

- Cisterns
- Distributed
- Rain Gardens
- Rain Barrels
Remediation of San Fernando Basin and Restoration of up to 110,405 AFY groundwater supplies

Planned groundwater basin remediation crucial to fully utilize the San Fernando Basin
Summary Comparison of Energy / Carbon Intensity

Energy Use

Total CO₂ Emission
To Date:
- Use of energy efficient pumps and motors
- Planned start –up and testing to reduce grid and bill impacts

The Future:
- Optimizing equipment selection
- Time of day pumping
- Set realistic pricing structures
- Reduce overall water usage
Projected Water Supply
Energy Demands

<table>
<thead>
<tr>
<th>Year</th>
<th>Status Quo</th>
<th>Projected MWh</th>
<th>Projected No MWD offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Based on 2010 UWMP Projections (average hydrologic conditions)</td>
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<tr>
<td>2020</td>
<td></td>
<td>Based on ED5 goals (average hydrologic conditions)</td>
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</tbody>
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* including MWD estimates
Urban Water Management Plan
Supply Growth

TODAY
FYE 2010-2014 Average
Total: 553,876 AFY

- LA Aqueduct 189,700
  34%
- MWD 293,010
  53%
- Local GW 64,809
  12%
- Recycled Water 7,803
  1%

FUTURE*
FYE 2035
Total: 711,000 AFY

- LA Aqueduct 244,000
  33%
- MWD 168,227
  24%
- Local GW 110,405
  16%
- Conservation 64,368
  9%
- Recycled Water 59,000
  8%
- Water Transfers 40,000
  6%
- Stormwater Capture 25,000
  4%

*Estimated from the 2010 Urban Water Management Plan
Local Water is Critical to Secure our Water Future

**Increased Reliability** by using a local, drought-resistant supply

**More Sustainable** with lower carbon footprint associated with greenhouse gas emissions

**Provides Local Jobs** for the construction and operation of new facilities

**Will Cost Less** than projected purchased imported water costs
New Normal – Vision for future
LA Landscaping

Greetings from
Los Angeles, California

Los Angeles Department of Water & Power