CITY OF LOS ANGELES

Moving To One Water LA
Using Source Control To Sustain The Transition

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WERF Exploratory Team

Representatives

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• City of Los Angeles
• University of Illinois
• Kelly & Weaver
• Eastman Chemical
• Aqua-Aerobic Systems

Collaborating Agency Liaisons

• Water Environment Research Foundation
• Water Research Foundation
• WaterReuse Foundation
• Water Quality Research Australia
• Water Research Commission, South Africa
• Suez Environment
• STOWA, Netherlands
• Veolia Environment
Urban Water Transition Framework

- Water Supply City
  - Supply hydraulics

- Sewered City
  - Separate and combined sewerage schemes

- Drained City
  - Drainage channels

- Waterways City
  - Point & diffuse source pollution management

- Water Cycle City
  - Diverse, fit for purpose sources & end-use efficiency, waterway health restoration

- One-Water City
  - Adaptive, multi-functional infrastructure & urban design reinforcing “one-water” values and behaviors

Source: Urban Water Transition
LA’s Challenges

- Groundwater 11% (71,087 AFY)
- Recycled Water 1% (5,072 AFY)
- Metropolitan Water District 52% (326,012 AFY)
- Los Angeles Aqueduct 36% (221,289 AFY)

Total = 621,700 AFY

Source: LADWP 2010 UWMP Exhibit 11c
LA’s Challenges

Stormwater
- Stormwater runoff
- Flooding caused by extreme rainfall
- Aging infrastructure

Wastewater
- Emerging pollutants
- Advanced treatment & Recycling
- Aging infrastructure

Potable Water
- Heavy reliance on imported water
- Climate change impacts
- Aging infrastructure
Planning Together

Providing multiple benefits

Meeting all challenges

Addressing multiple issues

One Water LA
One Water Paradigm

- **Stormwater**
  - Flood Control
  - Water Quality through Regional and Distributed Methods including Green Streets, Parks, Low-Impact Development

- **Wastewater**
  - Sewer Planning
  - Treatment Facility Plans
  - Recycled Water Planning
  - Biosolids Reuse

- **Potable Water**
  - UWMP Conservation
  - Supply Planning
  - Stormwater Capture
  - Recycled Water
  - Groundwater
  - Owens/LA Aqueduct
  - MWD Supplies
One Water Los Angeles 2040

Stakeholder Engagement

LA Department of Public Works
- Enhanced Watershed Plans
- LA River Master Plan
- Green Streets Program
- Wastewater Planning

Communication

LADWP Water Reliability Program
- GW Remediation
- Stormwater Capture Plan
- Conservation Potential Study
- Recycled Water Master Plan

Coordination
Wastewater Planning

• Integrate water supply, water conservation, water recycling, and runoff management with wastewater facilities planning
• Focus on sustainable planning with community involvement
• Policies in place that drive all immediate activities and actions inline with greener projects and innovative approach
LA’s Recycled Water Masterplan

- **Goal:** Achieve 59,000 AFY (53 MGD) of recycled water to displace imported water
- **Strategy:** Maximize use of recycled water via identification of potential new customers, expansion of recycled water infrastructure and groundwater replenishment project.
Source Control Strategies

- Diversion and Minimization of Pollutants
- Regulation and Control of Pollutants
- Trace Identification and Source Determination
Diversion and Minimization of Industrial Pollutant in Wastestream

• Public Outreach and Industrial Source Reduction
Diversion and Minimization of Non-Industrial Pollutant

- Public Outreach and Product Ban

Assembly Bill No. 2318
Commencing January 1, 2002, any product used for the treatment of lice or scabies in human beings that contains the pesticide Lindane shall not be used or sold in the state.
Regulation and Control of Pollutants

Industrial Waste Management Division

- Canvassing
- Inspection & Monitoring
- Permitting
- Enforcement
- Source Control
Trace Identification and Source Determination

- Identify the industries
  - Literature Search
  - Inspection Report
  - Sampling
  - Active Surveillance

- Locate the IUs Contributing to:
  - Treatment Plant
  - Major Outfalls
  - Primary Basins
  - Maintenance holes
Trace Identification and Source Determination
Trace Identification and Source Determination
The Multiplier Effect

- For every $1 Million in Water Quality investments, there is up to $22 Million in added benefits or avoided costs.
LA’s Water Future

- **Reliable Water Supply**
  - Increased Local Water Supply

Livable Communities
- Green Streets
- Parks & Open Space

- **Healthy Environment & Communities**
  - Clean Water
  - Ecosystem Restoration
  - Reduced Carbon Emissions

- **Economic Benefits**
  - Local Job Creation
  - Utility Efficiencies

- **Energy Management**
  - Lower Energy Needs
  - Greener Energy