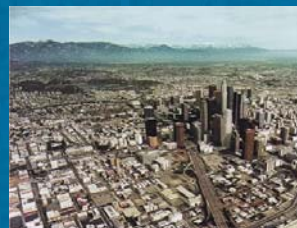


## Recycled Water Program for the City of Los Angeles

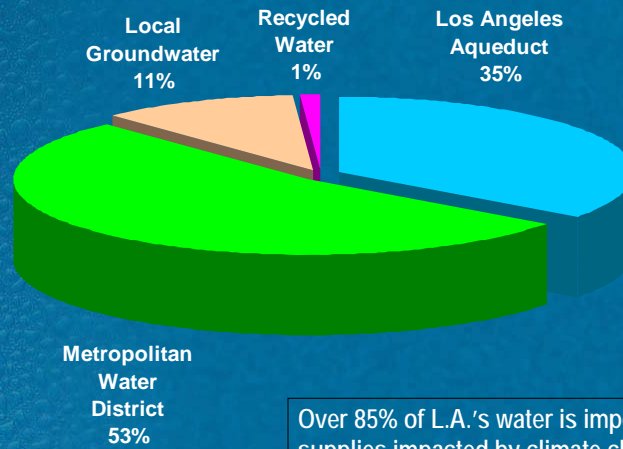


## LA's Water Management Challenges

- ▶ Unreliable water supply
- ▶ Imported water dependence
- ▶ Aging infrastructure
- ▶ Health & Environmental regulations
- ▶ Limited funding
- ▶ Water quality



## A New Challenge



Over 85% of L.A.'s water is imported; supplies impacted by climate change, environmental and legal issues

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## Stresses on the City's Water Supply

- ▶ MWD water storage less than 1/3 of capacity
- ▶ Colorado River is in its eighth year of drought
- ▶ Colorado River levels are nearing shortage trigger elevations
- ▶ Court ruling limits water exports from Bay-Delta
- ▶ Environmental enhancement in Owens Valley
- ▶ Groundwater contamination in San Fernando Basin
- ▶ Uncertain climate change impacts

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## Strategies for Sustainable Water Supply Sources

### **CITY'S WATER SUPPLY ACTION PLAN "Securing L.A.'s Future Water Supply"**

- ▶ Issued May 2008
- ▶ Contains strategies to ensure a sustainable water supply for Los Angeles
- ▶ Increased water conservation and water recycling to achieve 100,000 acre-feet per year by 2030

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## Strategies for Sustainable Water Supply Sources

- ▶ Increase water conservation
- ▶ Maximize water recycling
- ▶ Enhance stormwater capture
- ▶ Accelerate groundwater cleanup
- ▶ Expand groundwater storage
- ▶ Green Building initiatives

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## Maximizing Water Recycling

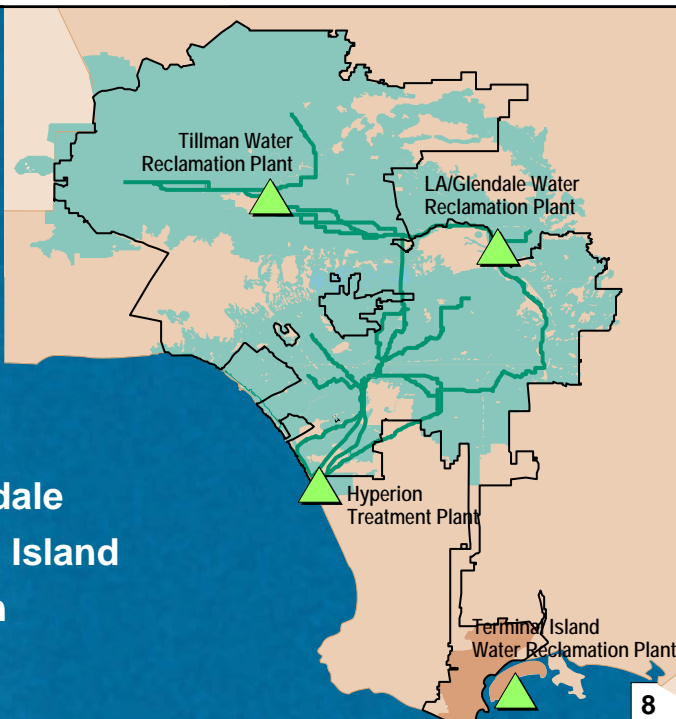
**GOAL: Increase recycled water use six hundred percent**

- ▶ Initial water savings: 50,000 Acre-Feet per Year
  - 35,000 AFY irrigation/industrial uses
  - 15,000+ AFY groundwater replenishment
- ▶ Joint collaboration with the Bureau of Sanitation
- ▶ An acre-foot is approximately 326,000 gallons, one year's supply for two average families

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## Sources of Recycled Water

- ▶ Tillman
- ▶ LA/Glendale
- ▶ Terminal Island
- ▶ Hyperion



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## Actions to Maximize Water Recycling

1. Inform and engage stakeholders
2. Develop Recycled Water Master Planning Document – Feasibility Study
3. Increase recycled water for irrigation/industrial uses
4. Purify recycled water for Groundwater Replenishment
5. Upgrade Tillman & potentially Hyperion Plants
6. Pursue all possible funding sources, including Federal and State Grants
7. Work with Regulatory Agencies for permit approvals
8. Pursue options to maximize recycling beyond 50,000 AFY

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## Information and Engagement

### **COMPREHENSIVE, TRANSPARENT PUBLIC OUTREACH:**

- ▶ Meet with City Council Offices
- ▶ Identify key stakeholders and concerns
- ▶ Meet with key stakeholders and community leaders, including Neighborhood Councils
- ▶ Solicit stakeholder input on Recycled Water Master Planning Document – Feasibility Study during its development

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## Information and Engagement

### RECYCLED WATER ADVISORY GROUP

- ▶ 200+ stakeholders invited to participate: 50+ CONFIRMED
- ▶ Communicate directly with LADWP & BOS leadership
- ▶ Specific input on recycled water expansion and GWR
- ▶ 5-8 workshops per year, next 3-4 years: LAUNCHED 12/2009



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## Information and Engagement

### COMMUNITY WATER ROUNDTABLES

- ▶ Will be launched in 2010
- ▶ Opportunity for input on general water issues
- ▶ Periodic evening or weekend meetings
- ▶ Various locations throughout the City
- ▶ Less time-intensive than RWAG

East L.A./Metro  
Harbor  
South L.A.  
East Valley  
West Valley  
Westside



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## Recycled Water Goals for Los Angeles

- ▶ **Current recycled water use: 8,000 AFY**
- ▶ **Water Supply Action Plan Goal: 50,000 AFY**
  - 35,000 AFY non-potable (irrigation/industrial)
  - 15,000+ AFY Groundwater Replenishment
- ▶ **LADWP is also evaluating:**
  - *Opportunities to go beyond 50,000 AFY Future expansion to maximize recycled water use beyond 50,000 AFY*

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## Recycled Water – Completed, Current, and Planned Projects

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>▶ <b>Completed Projects</b> <ul style="list-style-type: none"> <li>– 45 miles of purple pipe</li> <li>– 2 storage tanks</li> <li>– 3 pump stations</li> <li>– <i>Costing Approx. \$ 200M</i></li> </ul> </li> <li>▶ <b>Planned Projects</b> <ul style="list-style-type: none"> <li>– 20 miles of purple pipe</li> <li>– 2 storage tanks</li> <li>– 2 pump stations</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>▶ <b>Customers</b> <ul style="list-style-type: none"> <li>– Playa Vista Development</li> <li>– Golf Courses &amp; Parks</li> <li>– Valley Generating Station</li> </ul> </li> <li>▶ <b>Potential New Customers</b> <ul style="list-style-type: none"> <li>– Refineries</li> <li>– Golf Courses &amp; Parks</li> <li>– Schools / Hospitals</li> </ul> </li> </ul> |
|--|---|

**TOTAL = 19,350 AFY by 2014**

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## About the Recycled Water Master Planning Process

- ▶ **LADWP's Recycled Water Master Planning Document – Feasibility Study will outline strategies to offset potable water demand in the City by utilizing recycled water, including projects to:**
  1. Initially increase recycled water use to 50,000 AFY
  2. Maximize recycled water use in the City beyond 50,000 AFY
- ▶ Being developed in collaboration with Bureau of Sanitation
- ▶ Should be completed by early 2011

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## About the Recycled Water Master Planning Process

### ACTIVITIES TO INITIALLY INCREASE TO 50,000 AFY

- ▶ **Expand Distribution System - 15,650 AFY For**
- ▶ **Irrigation & Industrial Usage**
  - Identify customers with approved uses for recycled water
  - Expand purple pipe distribution system (pipes, tanks, pump stations)
  - Layout distribution system in practical and cost effective manner
- ▶ **Groundwater Replenishment – 15,000+ AFY**
  - Evaluate Advanced Treatment Technologies for GWR
  - Pilot Testing of Advanced Treatment at Tillman (3-year pilot)

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## About the Recycled Water Master Planning Process

### ACTIVITIES TO MAXIMIZE USE BEYOND 50,000 AFY

- ▶ Review of Satellite recycled water facility opportunities
- ▶ Evaluate Tertiary and Advanced Treatment at Hyperion
- ▶ Evaluate upgrades at Tillman and LA/Glendale Plants and improvements to sewers tributary to all the Plants
- ▶ Increase recycled water system reliability
- ▶ Evaluate inter-agency/City partnership opportunities to support additional GWR and recycled water activities

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## About Groundwater Replenishment (GWR)

- ▶ Advanced treated recycled water can be sent to spreading basins to percolate underground
- ▶ Becomes part of groundwater supply
- ▶ Successfully implemented in US & Worldwide:
  - *Orange County, California*
  - *Carson, California*
  - *Scottsdale, Arizona*
  - *El Paso, Texas*

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## About Groundwater Replenishment (GWR)



- ▶ GWR for L.A. will use recycled water from Tillman
- ▶ Plant currently treats wastewater to safely reuse for irrigation and industrial uses
- ▶ Plant will be upgraded with multiple advanced treatment steps (*microfiltration, reverse osmosis, and other purification steps*)

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## About Groundwater Replenishment (GWR)



- ▶ Highly purified water will be transported through existing pipes to spreading grounds near Hansen Dam
- ▶ Will be absorbed into ground along with stormwater
- ▶ Mixed supply of purified water and stormwater will migrate underground to potable supply wells over time
- ▶ Water pumped from wells will mix with other supplies and be sent to DWP customers

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LADWP seeks support from all stakeholders  
for the Recycled Water Program,  
including Groundwater Replenishment  
and your input on how to  
communicate these goals

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