

# **West Basin Municipal Water District Valuable Local Resources**

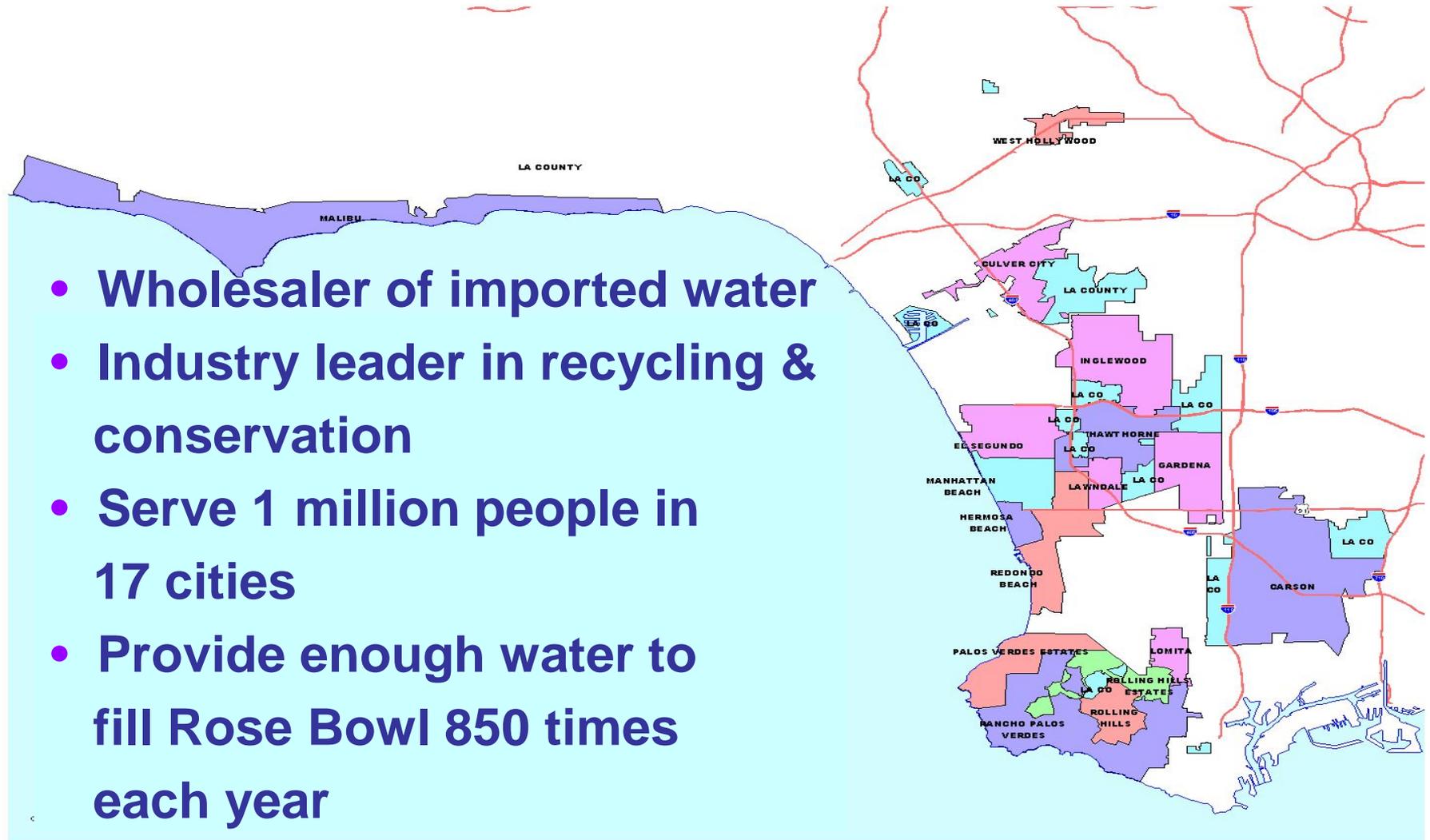
**November 1, 2012**



# Who is West Basin?



- Wholesaler of imported water
- Industry leader in recycling & conservation
- Serve 1 million people in 17 cities
- Provide enough water to fill Rose Bowl 850 times each year





# Water Reliability 2020



- By 2020, shift local supply from 33% to 66%

2x



- Avoid water supply fluctuations caused by:

- Environment
- Weather
- Natural disasters
- Competing interests

2x



20 MGD



# Conservation



## Residential

Toilet Distributions  
Ocean Friendly  
Classes  
Landscape Surveys  
Smart Controllers &  
Rebates  
Sprinkler Nozzles

## Commercial & Industrial

Commercial Restroom  
– Retrofit  
Cash 4 Kitchens  
Recirc & Save  
Ocean-Safe Car Wash

## Landscape

Large Landscape Surveys  
Controller Installations  
Ocean Friendly Demo  
Gardens

# Designer Waters



1



Tertiary Water

2



Nitrified Water

3



RO: Barrier Water

4



RO: Single Pass

5



RO: Double Pass

# Responsible Ocean-Water Desalination



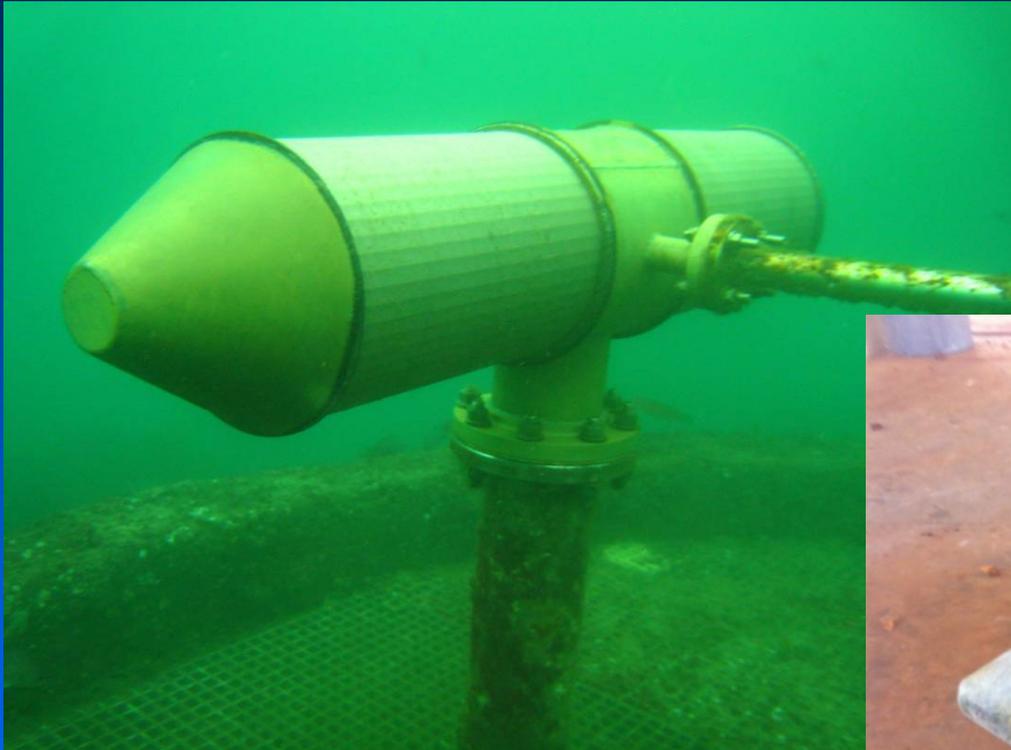
*A primary goal of the “responsible” desalination project is to design safe seawater intakes that protect reproductive adult fish, juvenile fish and mature (reproducible) larvae who will sustain future populations – the whole life cycle approach*

- Environment
- Energy Efficiency
- Economics
- Education



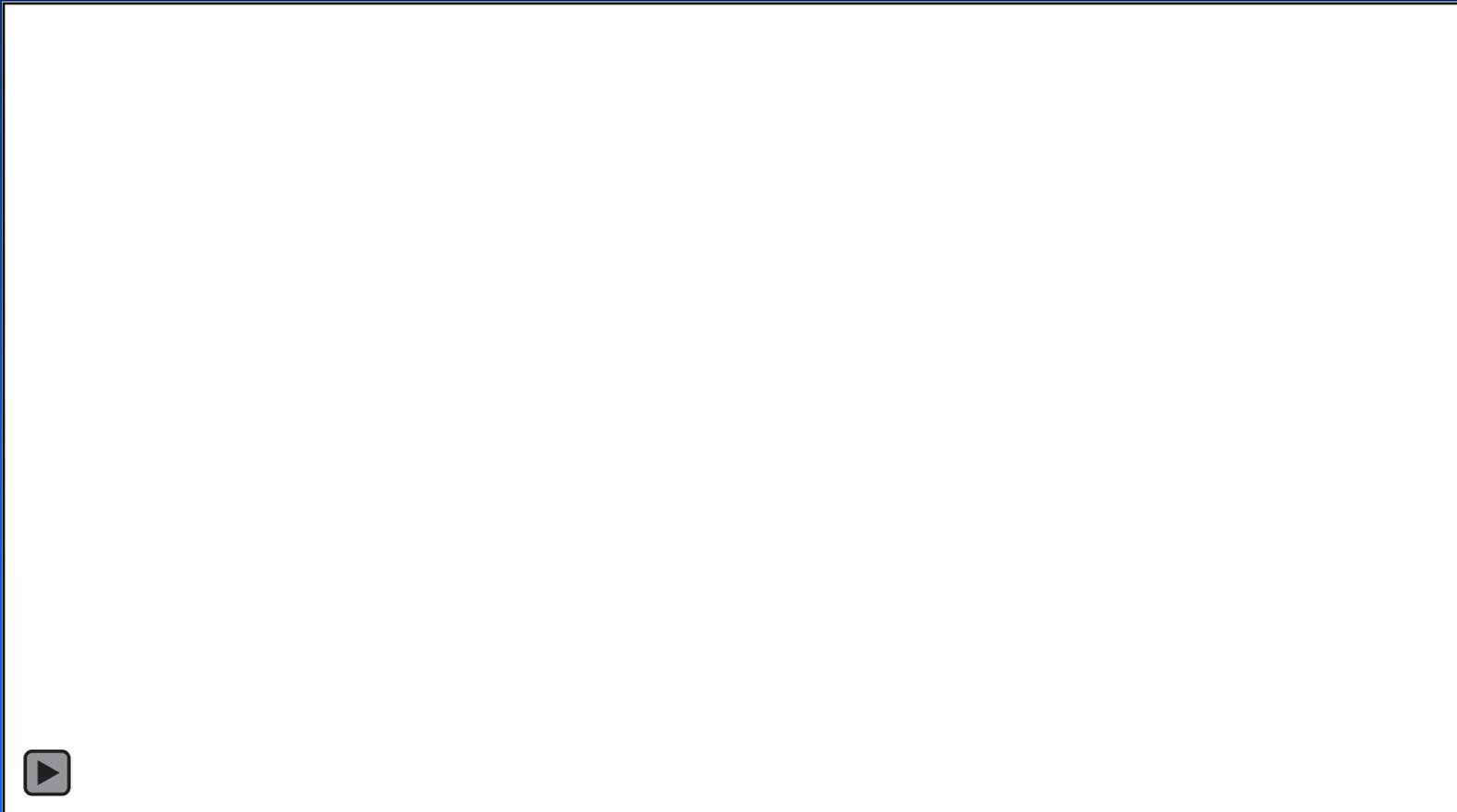
# Environment

## *Wedge Wire Intake Screens*



# Environment

*Wedge Wire Intake - August 2012*



# Environment

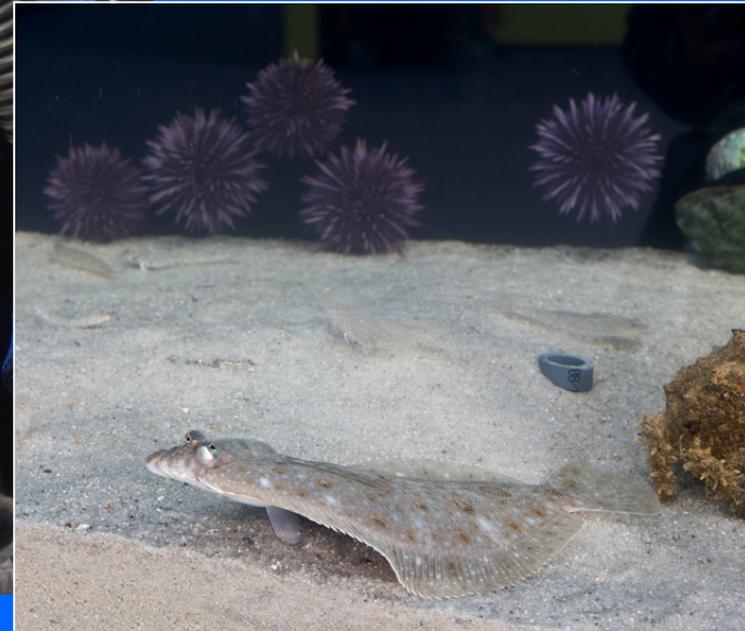
## *Wedge Wire Intake Lessons Learned*



1. No impingement
2. Entrainment substantially reduced
3. Be particular about metallurgy design
4. Consider unique marine environment in structural design
5. Wedge wire does NOT foul

# Environment

*High Salinity Aquarium*

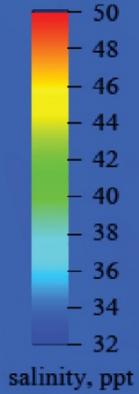


# Environment

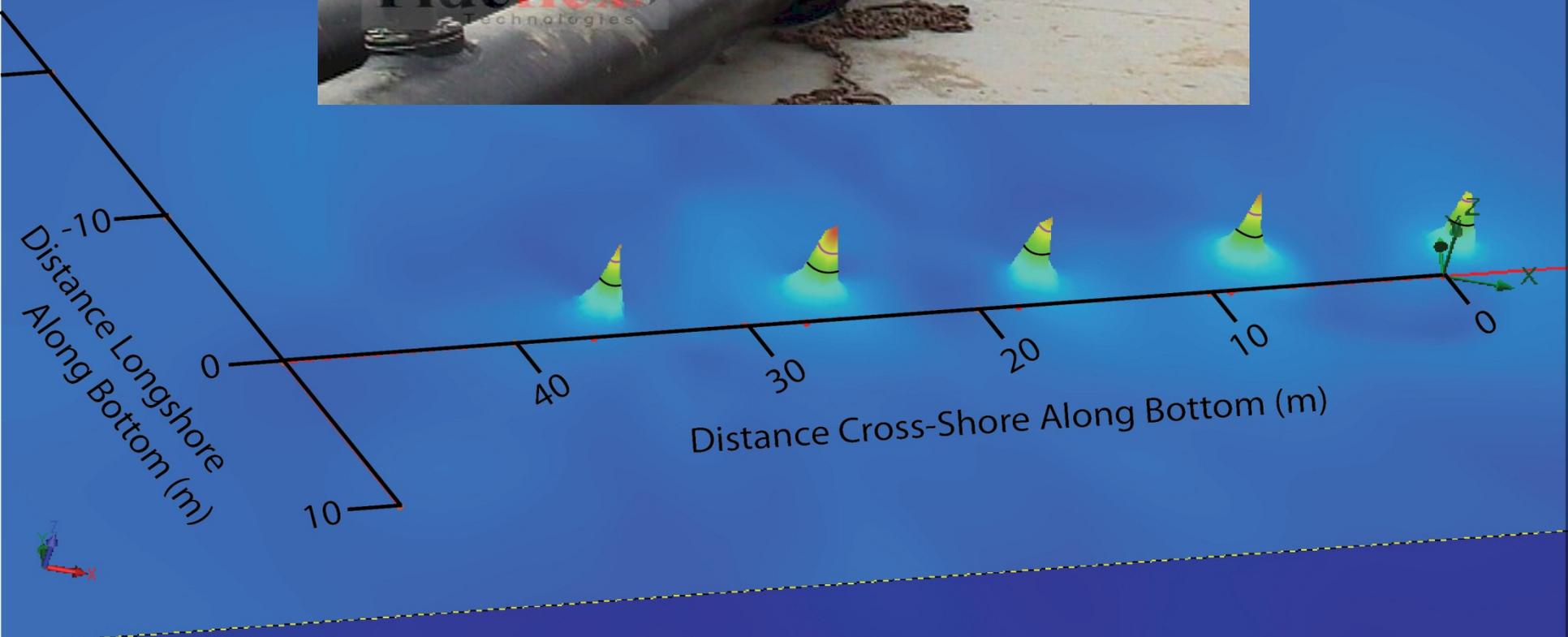
## *High Salinity Sensitivity Study Lessons Learned*



1. No effects <24 hours
2. Concern should be for **benthic species**
3. Larvae in the **water column** wont be effected by the hyper-saline plume
4. Discharge design criteria should be **site specific**
5. **No adverse effects** on any species exposed for 2 weeks at **42.5 ppt**, (20%+ higher than ambient salinity)



— acute toxicity  
— chronic toxicity



3-dimensional salinity plot of the 20 mgd discharge plume(s) at Redondo Beach California.

# Energy

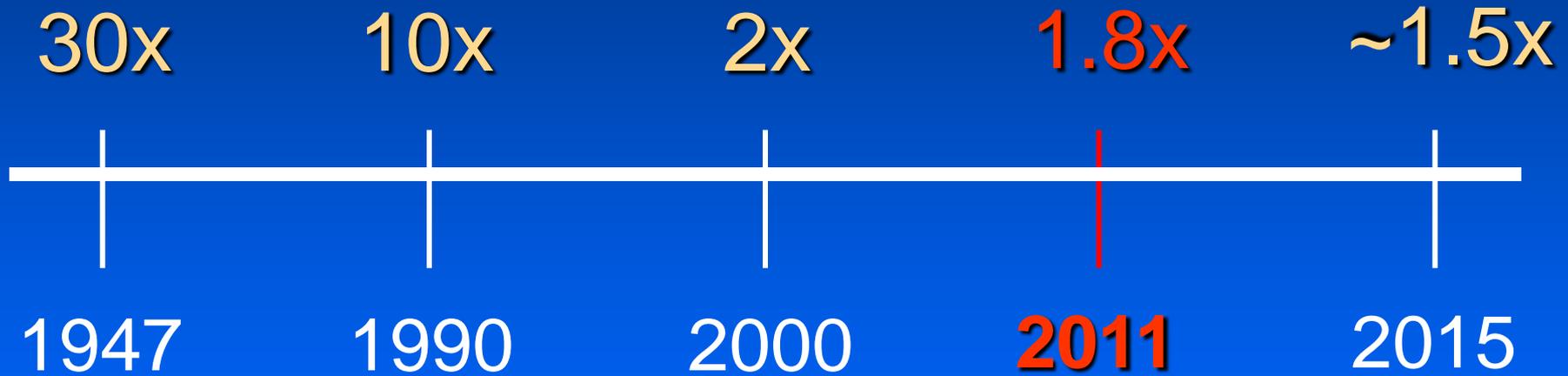


Energy Recovery Device can receive 98% of energy from the concentrate

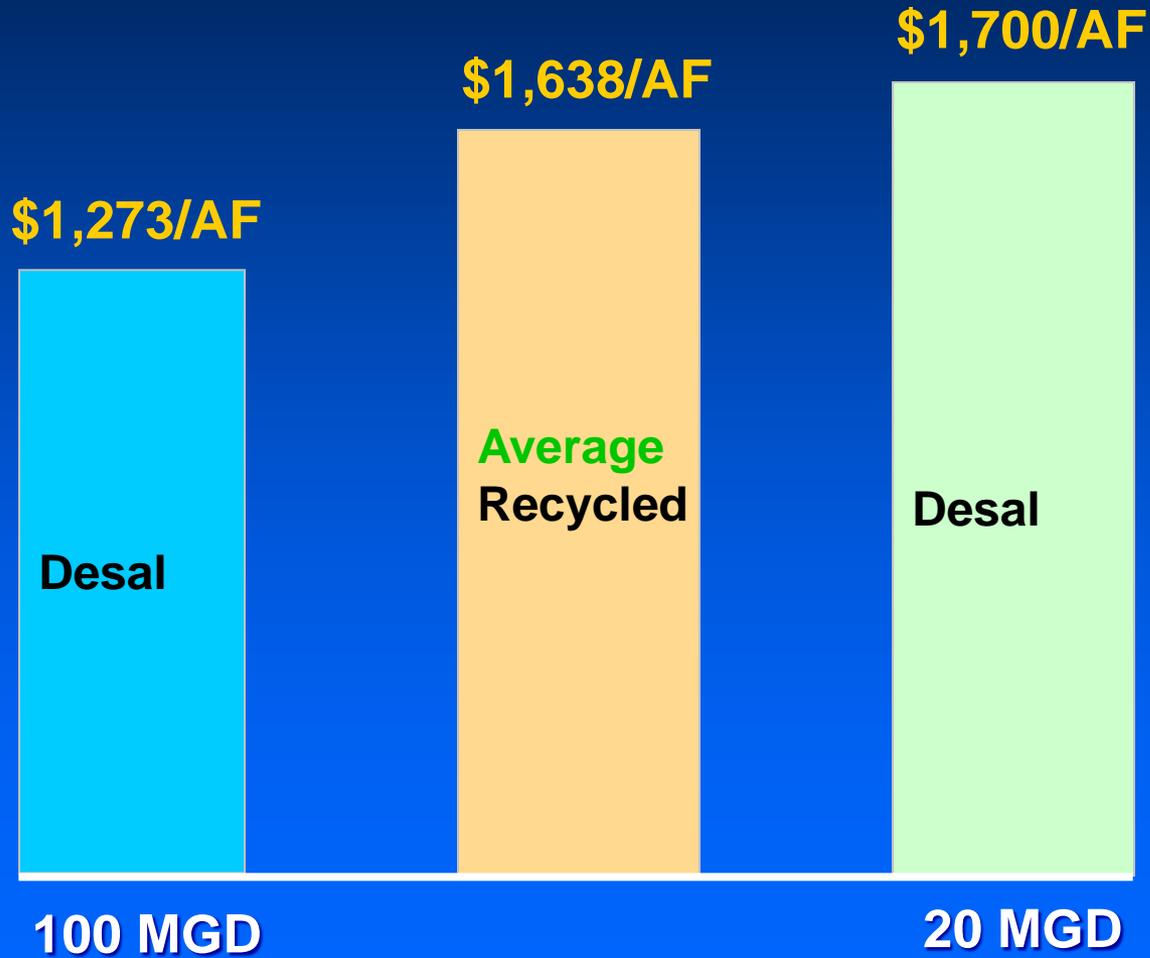


# Economics

## *Desal Costs vs. Imported Costs*



# Economies of Scale



# Education

## *Public Outreach*



- Stakeholder briefings to local, state and federal elected officials
- Free public tours
- Presentations and tours to civic groups
- 8,000+ individual supporters

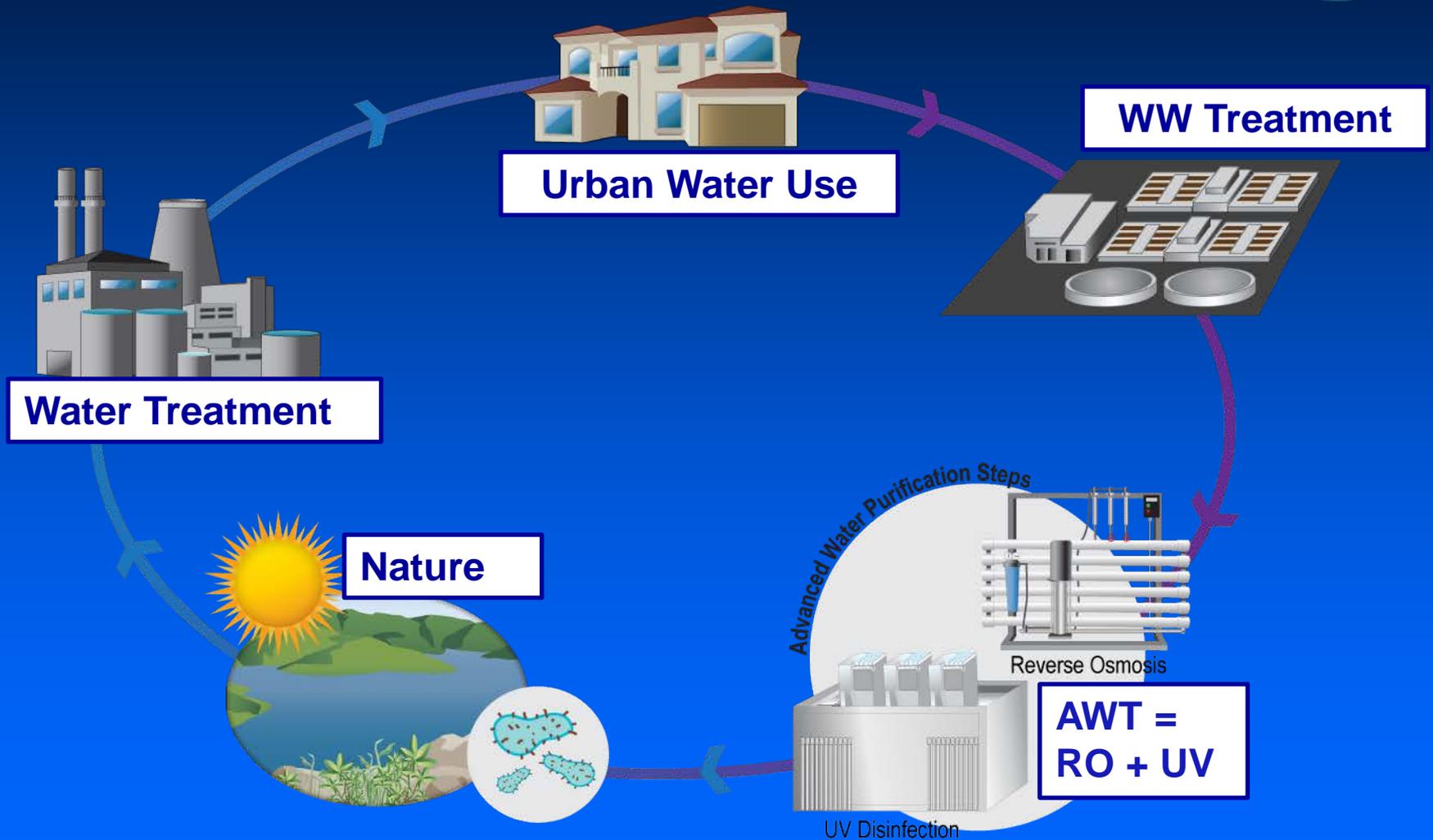


# WATER REUSE

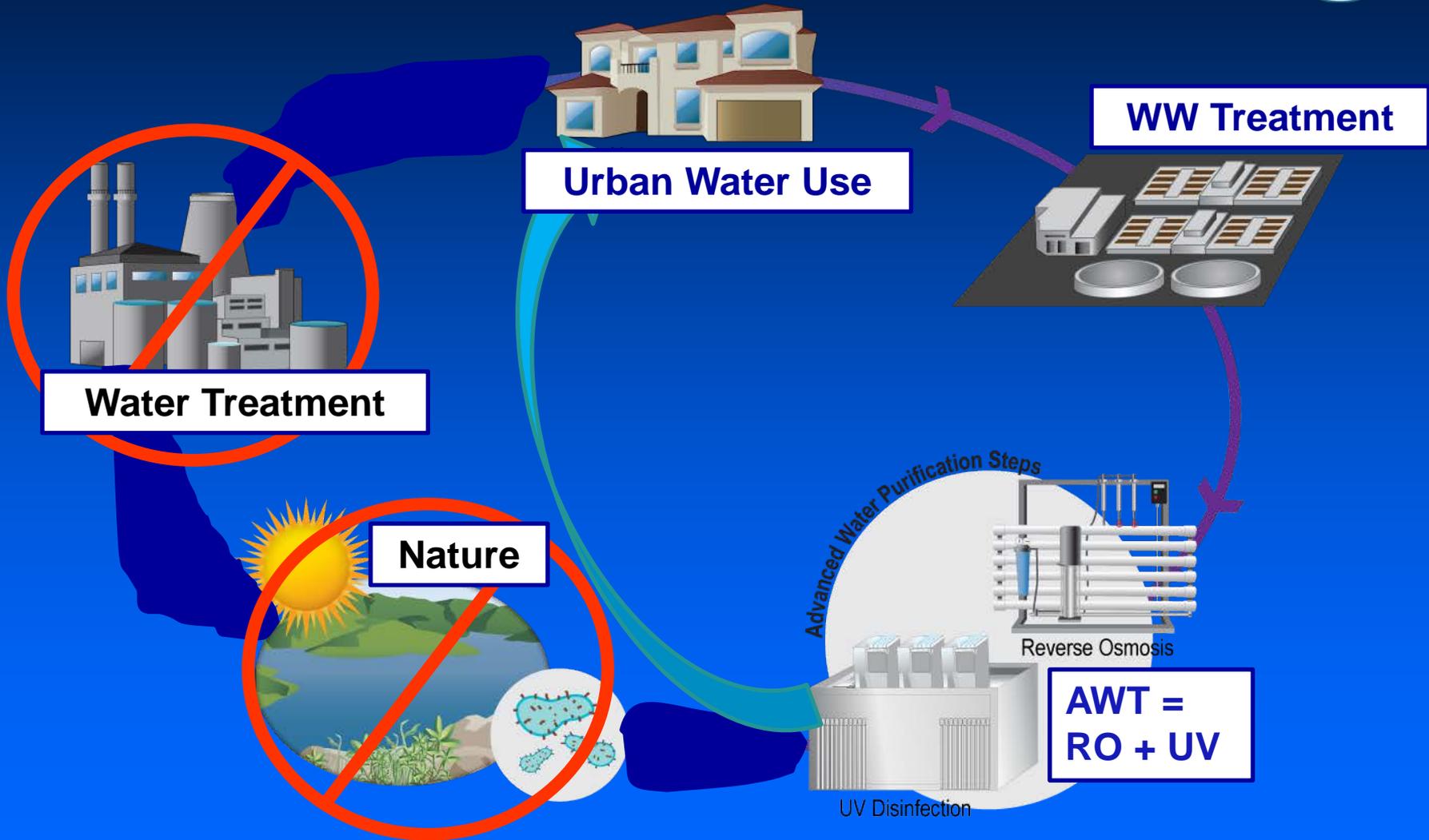
ASSOCIATION

A large, white, stylized infinity symbol graphic is positioned below the word "REUSE". The symbol is formed by two overlapping loops, with a thick white line connecting the top of the right loop to the top of the left loop, creating a continuous path.

# Indirect Potable Reuse Concept



# Direct Potable Reuse Concept



# WaterReuse California's Direct Potable Reuse (DPR) Program



1. Conducted workshop to identify barriers (4/10)
2. Senate Bill 918 (Pavley)
3. Path forward direct potable
4. Funding initiative \$6 million
5. DPR research needs workshop December 12, 2012
6. Work plan
  - Schedule, roles
  - Identify potential funding sources
7. Assembly Bill 2598 (Hueso)



# Thank You



Rich Nagel

General Manager

West Basin Municipal Water District

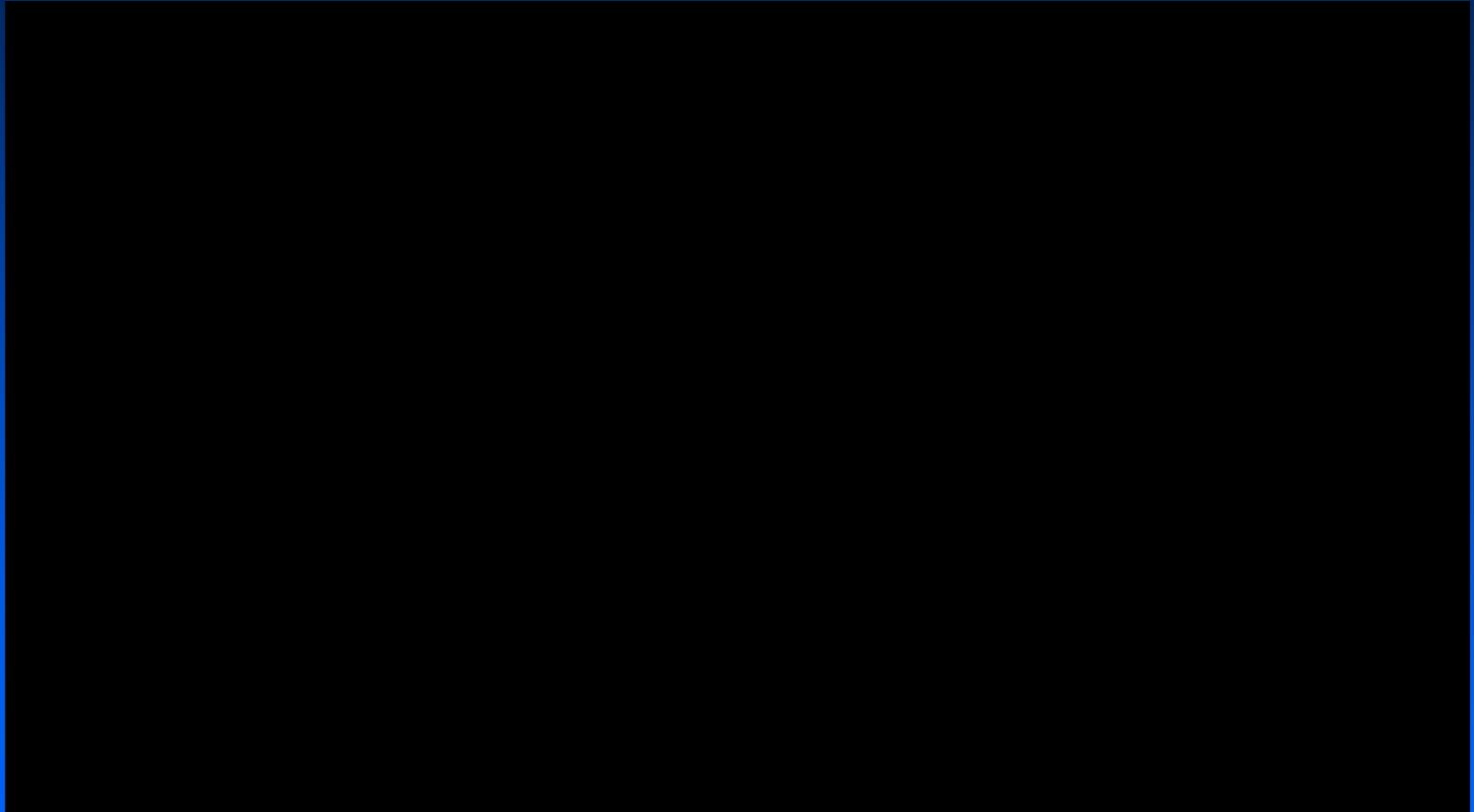
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# Supplemental Slides

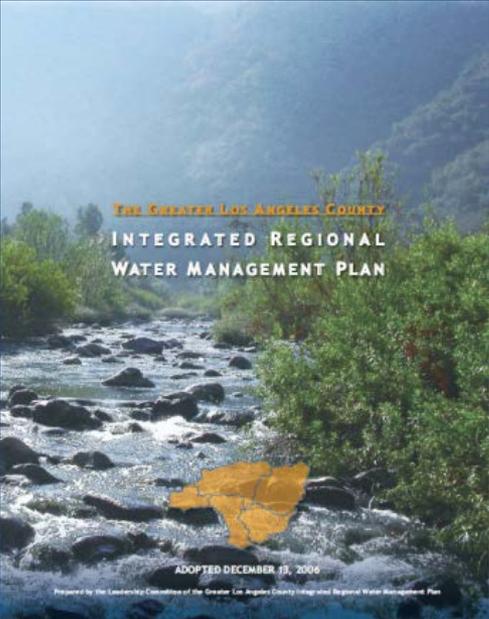


# IEA Study





# INTEGRATED REGIONAL WATER MANAGEMENT PLAN

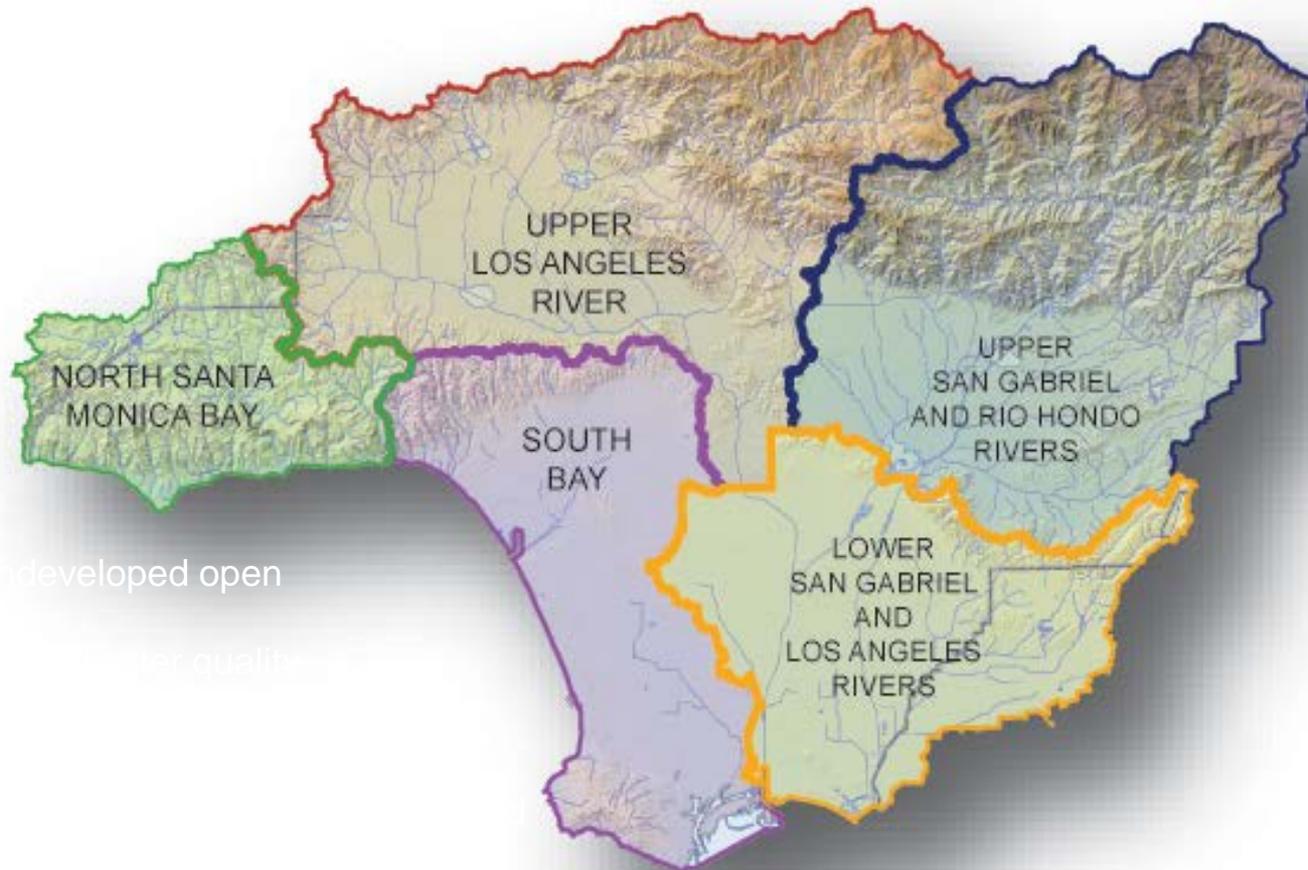


The **mission** of the Greater Los Angeles County Region Integrated Regional Water Management Plan is **“to address the water resources needs of the Region in an integrated and collaborative manner.”**



# GLAC SUBREGIONS

Major Urbanization + Unique Challenges



undeveloped open

water quality

- intense urbanization issues

# Diverse Water Resources...

# Diverse Issues...Diverse Players



**Most local agencies operate with single-purpose mission.**



# INTEGRATED REGIONAL WATER MANAGEMENT PROGRAM

## \$25.6 Million Proposition 84 Implementation Grant

