



# **WIN 4 ALL: Securing Regional Resiliency Through Sustainable Groundwater**

***SECURING OUR WATER FUTURE TODAY***

# THE WATER REPLENISHMENT DISTRICT SERVICE AREA

## Service Area



420 Sq. Miles



43 Cities



Over 4 Million Residents

## Water Demand & Supply



550,000 acre-feet used per year



50% supplied from groundwater wells



50% supplied by imported water



WRD replenishes the groundwater basins and monitors water quality

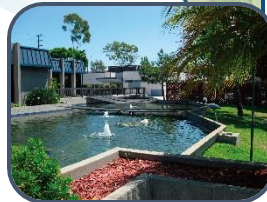


Seawater barriers & spreading grounds are owned and operated by the Los Angeles County Department of Public Works

# KEY WIN PROJECTS



**West Basin MWD  
Edward C. Little  
Water Recycling  
Facility**



**City of LA  
Terminal Island Water  
Reclamation Plant**



**Increased  
Stormwater Capture**



**WRD  
Leo J. Vander Lans  
Advanced Water  
Treatment Facility**

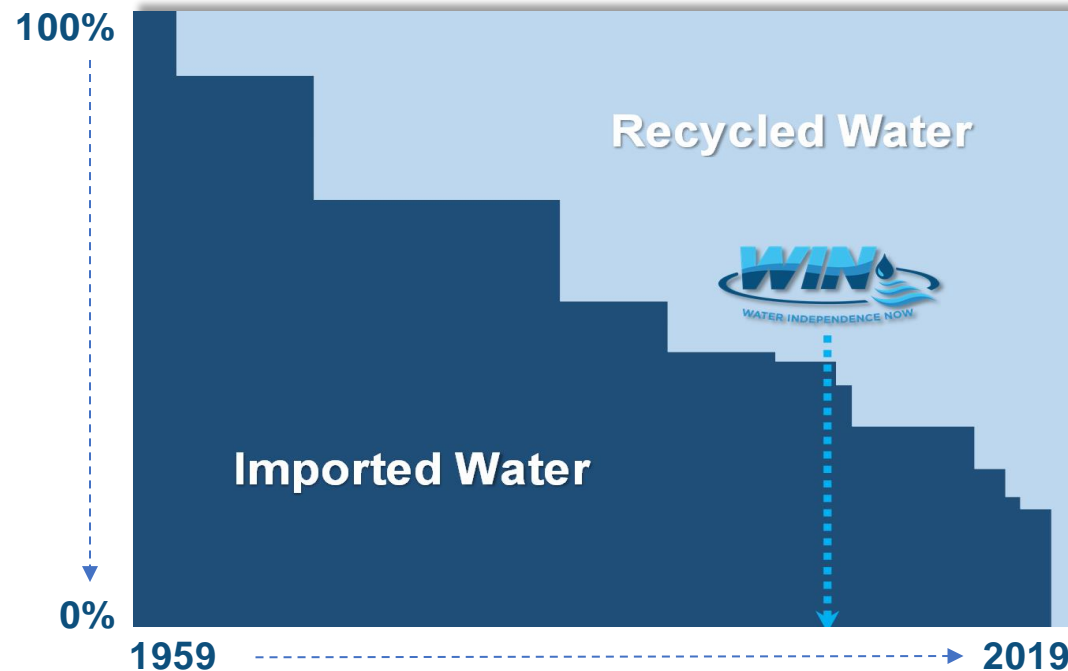
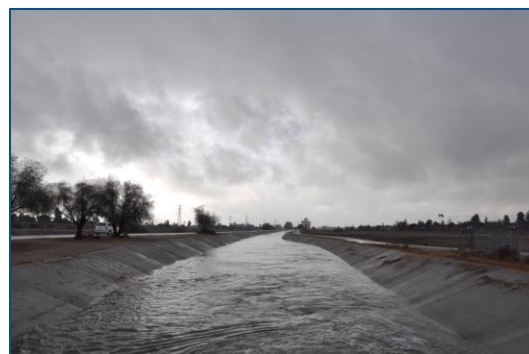


# SUSTAINABLE GROUNDWATER SUPPLIES



WRD developed local sustainable and resilience of our groundwater supply through:

1. Increasing Production & Use of Recycled Water
2. Capturing & Conserving Additional Stormwater



# WHAT'S NEXT?



**COMPLETE  
GROUNDWATER  
SUSTAINABILITY**



**REGIONAL  
GROUNDWATER  
RESILIENCY**

## WEST COAST BASIN



## CENTRAL BASIN



## WIN 4 ALL PROCESS

- 1 Fully Utilize Unused Groundwater Pumping Rights and Replenish with Locally Sustainable Resources
  - Increase Stormwater Capture
  - Develop New Recycled Water Supplies
- 2 Use Available Groundwater Storage Space to Increase Regional Resiliency
  - Develop Groundwater Storage Programs to Store Excess Supplies for Drier Years
  - Develop Groundwater Augmentation Programs to Meet Annual Water Demands

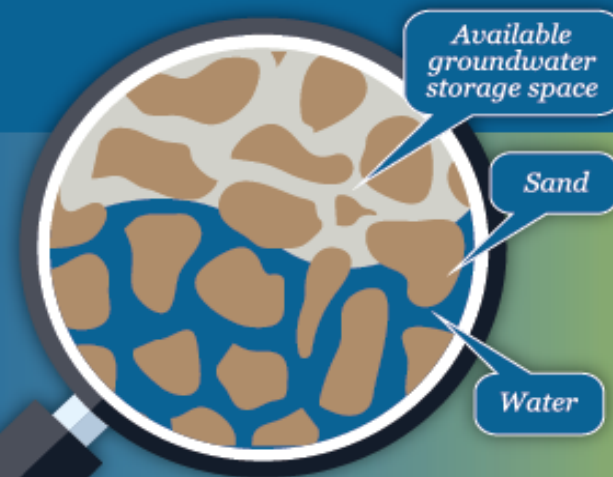
Replenishment for current pumping is entirely locally sustainable through WIN



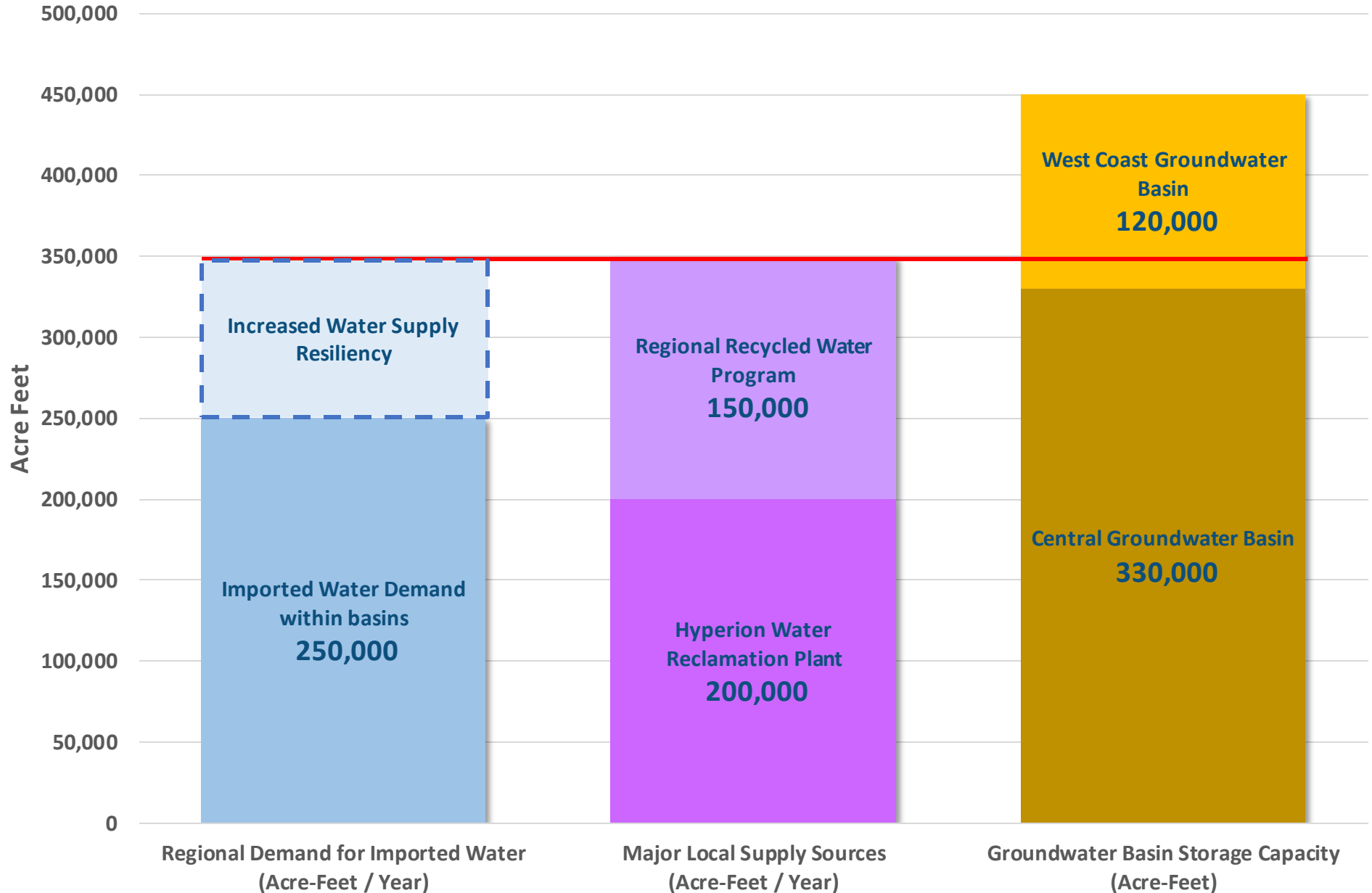
## WHAT IS GROUNDWATER STORAGE?

Groundwater is stored in layers of sediment or rock beneath the surface called aquifers. Within an aquifer, the water is found in the pore spaces between sand and gravel grains or in fractures in bedrock.

When groundwater is extracted, available space is created that can be replenished either naturally or by humans with stormwater, imported water, or recycled water.



# AVAILABLE STORAGE COMPARED TO BASIN DEMANDS AND SUPPLIES



# WIN PROJECTS





# REGIONAL BRACKISH WATER RECLAMATION PROGRAM

## A Collaborative Regional Effort to Remediate a Brackish Groundwater Plume in the West Coast Basin

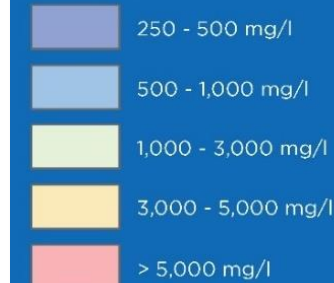
- ✓ Enables pumpers to utilize unused pumping rights
- ✓ Provides a new, locally sustainable potable water supply
- ✓ Program replenishment provides a beneficial use of available recycled water sources
- ✓ Remediation enables use of available groundwater storage space (120,000 Acre-Feet)

### ESTIMATED BRACKISH PLUME TOTAL VOLUME

= 600,000 acre-feet  
(20,000,000,000 gallons)

### 2017 Saline Plume Concentrations for the Silverado Aquifer

mg/l = milligrams per liter



 West Coast Basin Barrier Project



## Feasibility Study Being Completed by WRD & 7 Stakeholder Agencies



Los Angeles



Department of Water & Power



Golden State  
Water Company  
A Subsidiary of American States Water Company

# CONTAMINATION REMEDIATION & INFRASTRUCTURE IMPROVEMENTS

## Safe Drinking Water Program & Disadvantaged Communities Outreach Assistance Program

- ✓ Promotes groundwater cleanup through installation of wellhead treatment at existing production wells
- ✓ Provides grants or loans to well owners
- ✓ Provides technical support for project development

## Well Construction and Rehabilitation Loan Program

- ✓ Enables use of unused existing pumping rights
- ✓ Provides 0% interest loans to pumpers for well rehab or construction



# NEW LOCAL WATER SUPPLY PARTNERSHIPS

## Available Local Recycled Water Supplies



**Hyperion Water  
Reclamation Plant**  
City of Los Angeles



**Regional Recycled Water Program**  
Metropolitan Water District & Sanitation  
Districts of LA County



**Los Coyotes Water  
Reclamation Plant**  
Sanitation Districts of LA County

**Current Regional Partnership Planning Efforts are Underway to Evaluate Use of Available Supplies for:**

**Resiliency for  
Replenishment  
Demand**

**Groundwater Storage  
Projects**

**Groundwater  
Augmentation Projects**