



# Ocean Desalination

*Bad for Our Ocean, Bad for Our  
Wallets, Bad for Our Future*

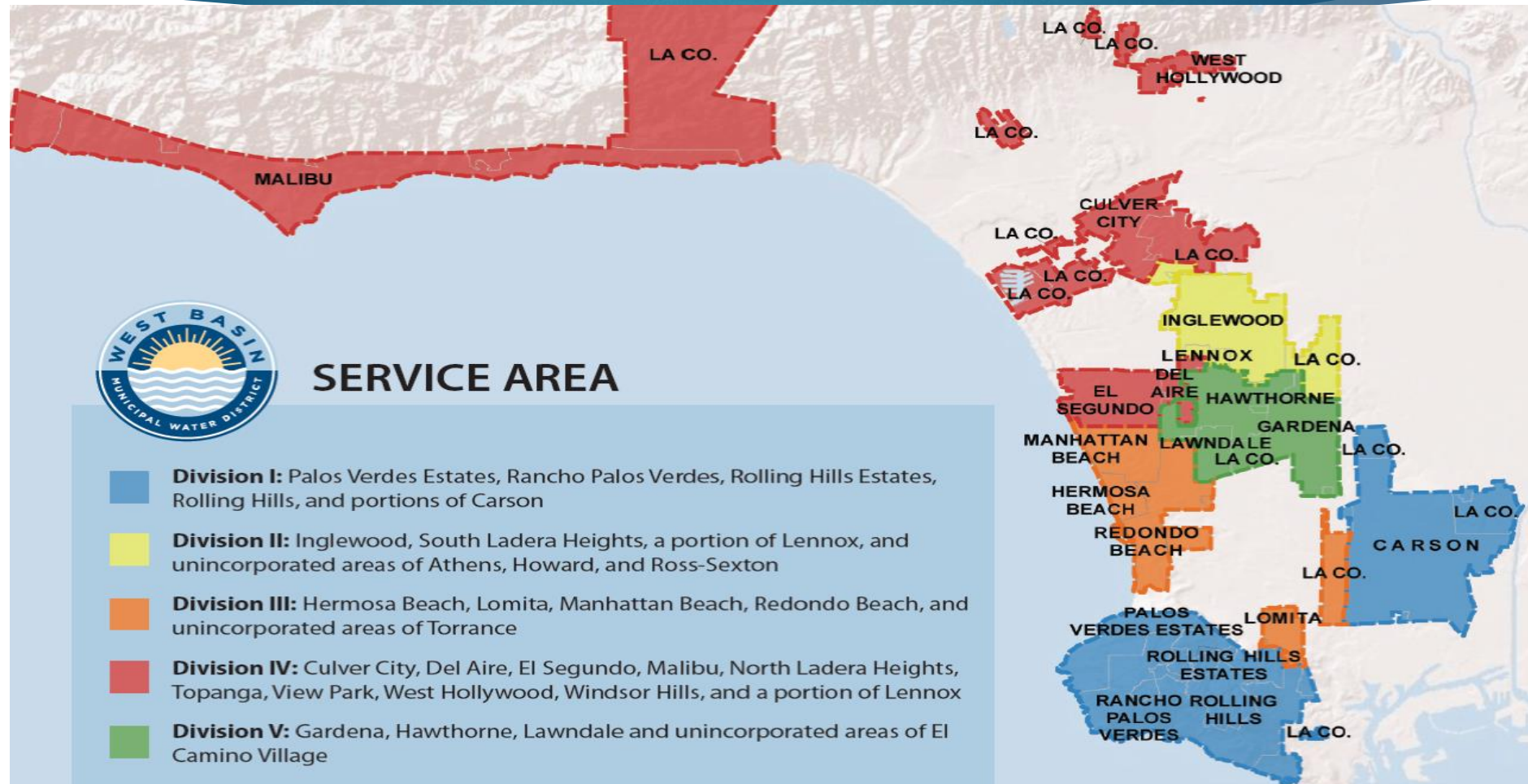
CONNER EVERTS

DESAL RESPONSE GROUP



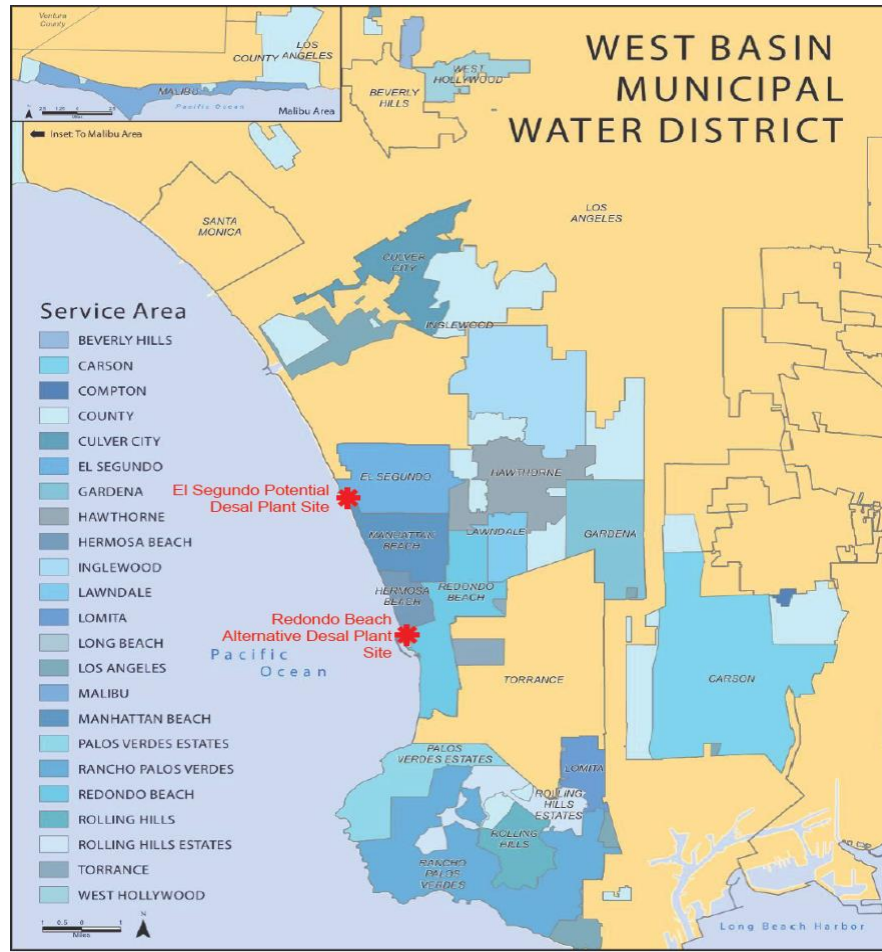
Background

# About West Basin





# Proposed Ocean Desal Plant



<http://www.westbasindesal.org/master-plan.html>



# Environmental, Economic, and Community Impacts of Desal

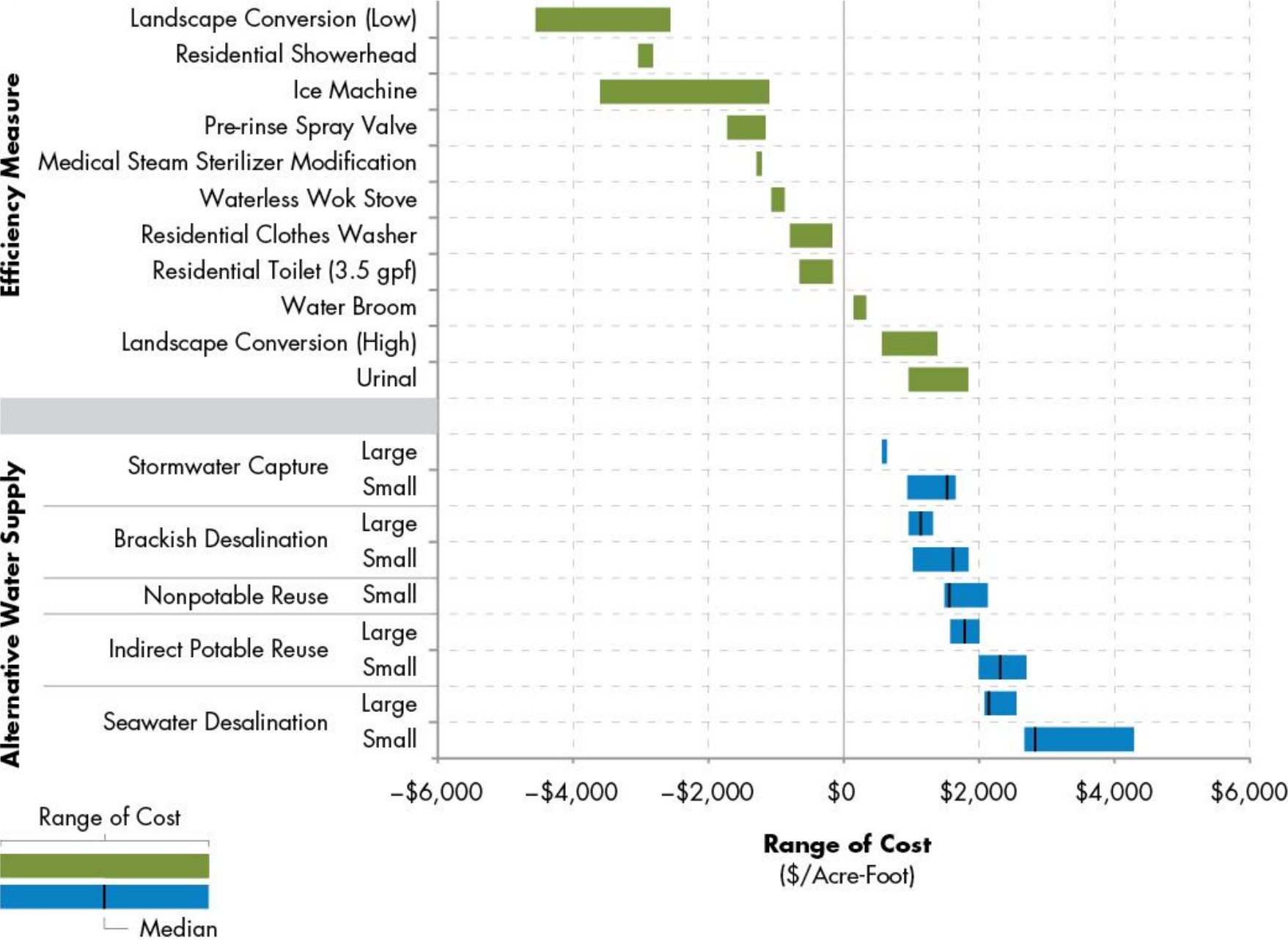


# Seawater Intake & Discharges Result in “Unacceptable Environmental Impacts”



Screened intakes result  
in ONLY a 1% reduction  
of entrainment

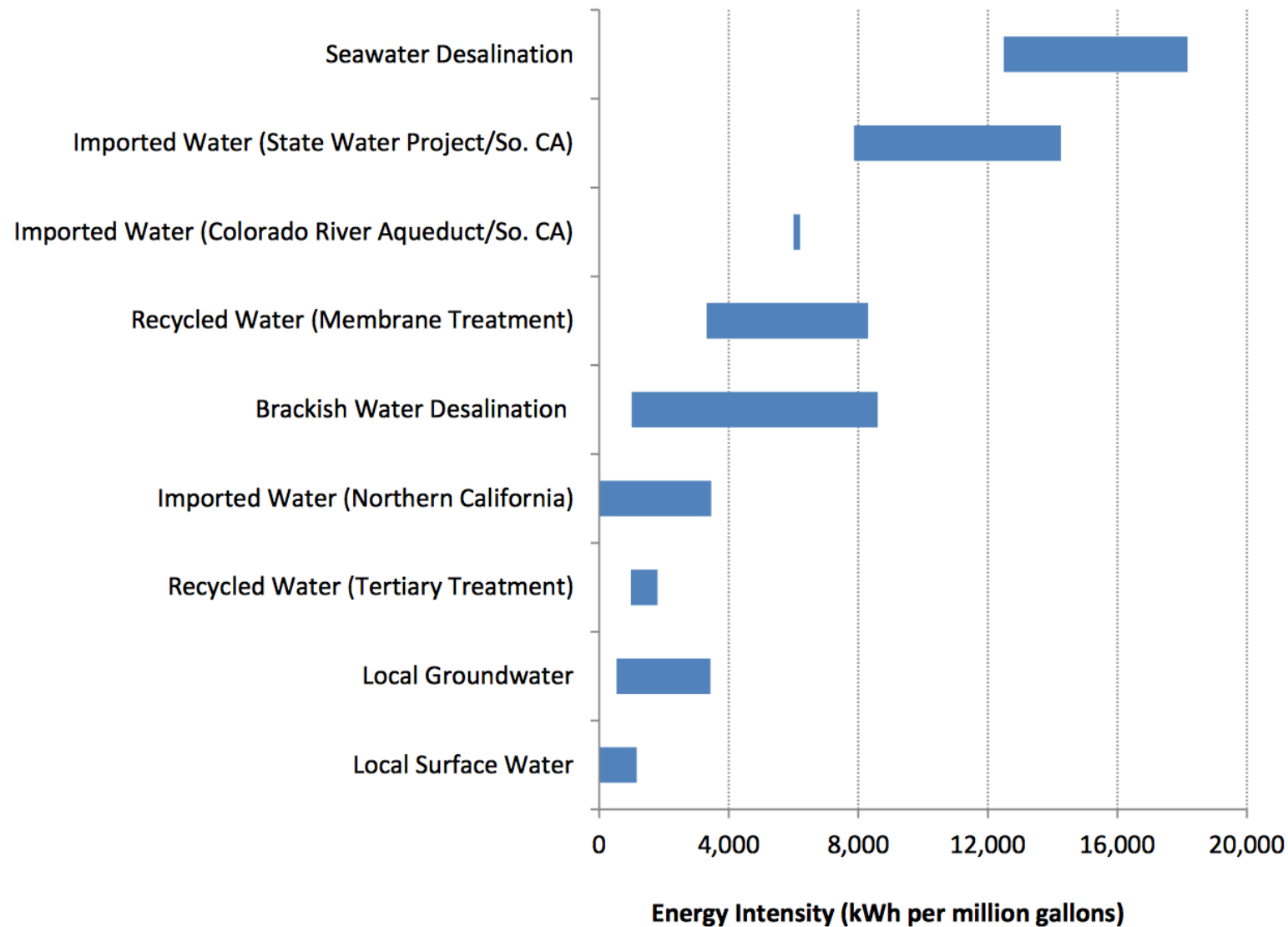
Levelized Cost of Alternative Water Supply and Water Conservation and Efficiency Measures, in 2015 dollars per acre-foot 🔍





Costs of West Basin's proposed project  
may be as much as **50% more** than  
originally projected

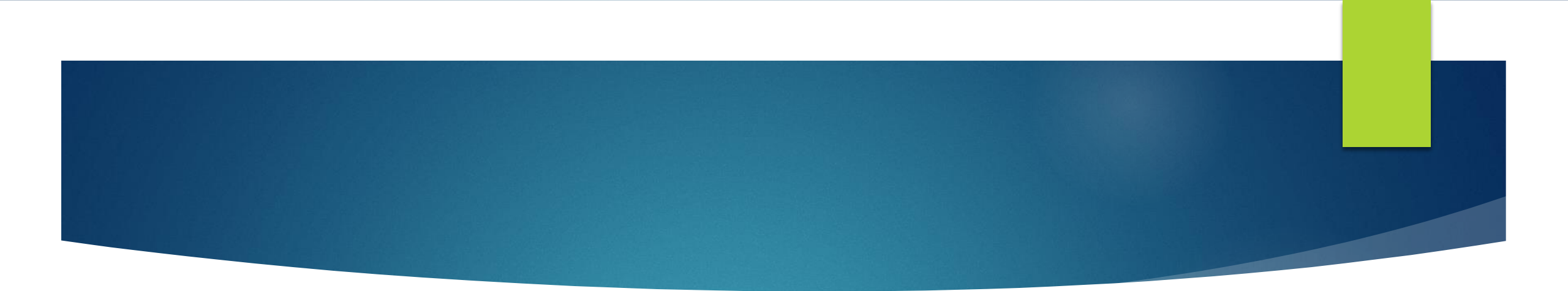




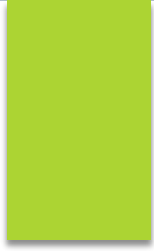
**Figure 2. Comparison of the Energy Intensity of California Water Supplies**

Notes: Estimates for local and imported water sources shown here do not include treatment, while those for desalination and recycled water include treatment. Typical treatment requires less than 500 kWh per million gallons. The upper range of imported water for Northern California is based on the energy requirements of the State Water Project along the South Bay Aqueduct. Energy requirements for recycled water refer to the energy required to bring the wastewater that would have been discharged to recycled water standards. Estimates for brackish water desalination are based on a salinity range of 600 - 7,000 mg/L.

Sources: Veerapaneni et al. 2011; GWI 2010; Cooley et al. 2012; GEI Consultants/Navigant Consulting, Inc. 2010



West Basin's proposed 20MGD desal plant will contribute an estimated 44,000 metric tons of carbon into our atmosphere each year

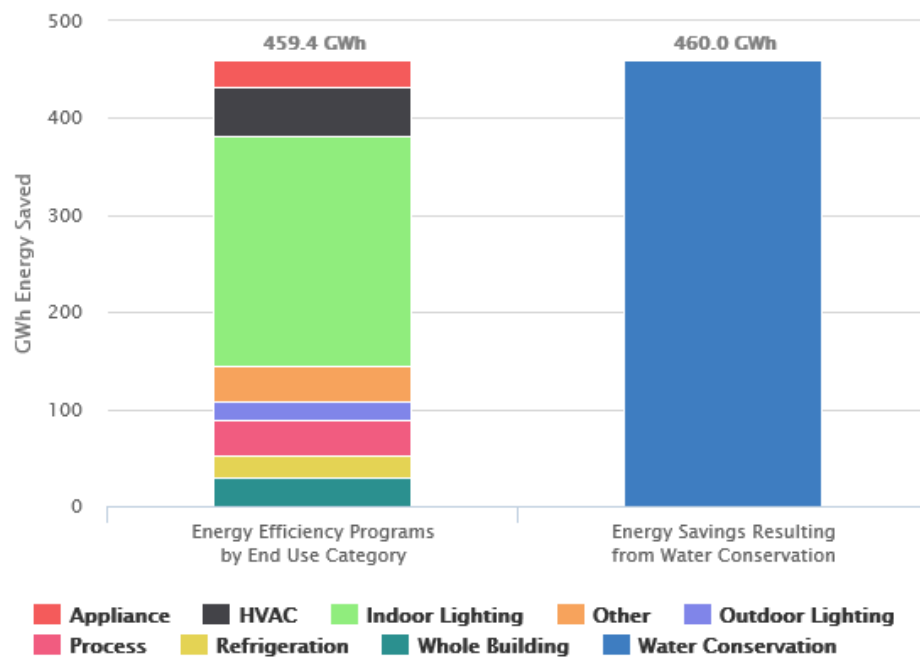


# Alternatives: Smarter Water

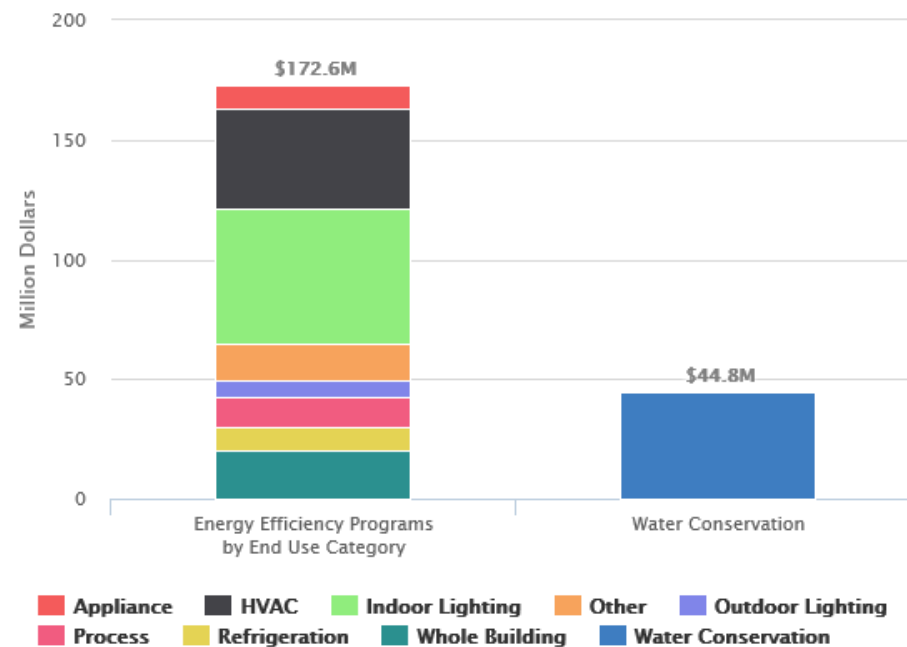


# Reduce: Conservation & Climate

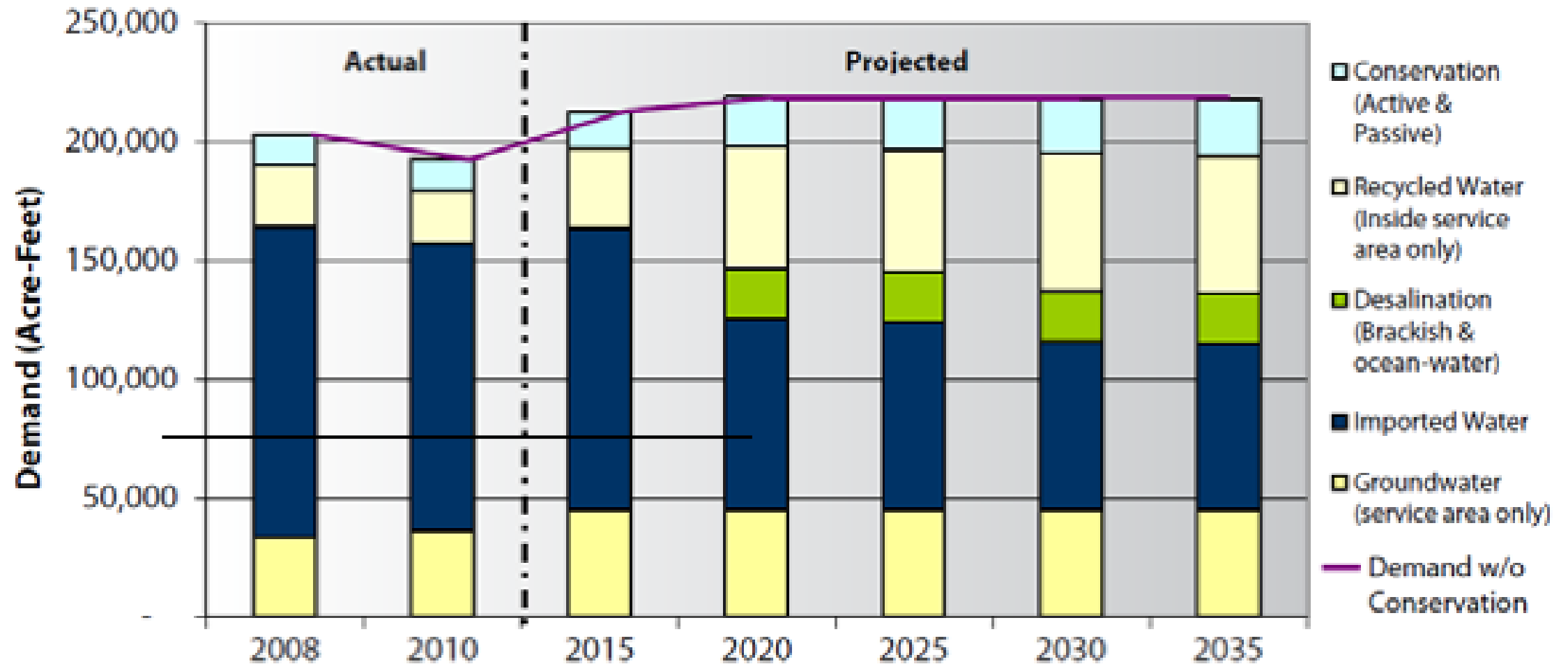
Electricity Savings from Statewide Water Conservation vs. Total First-Year Electricity Savings from Energy IOU Efficiency Programs (Jul – Sep 2015)



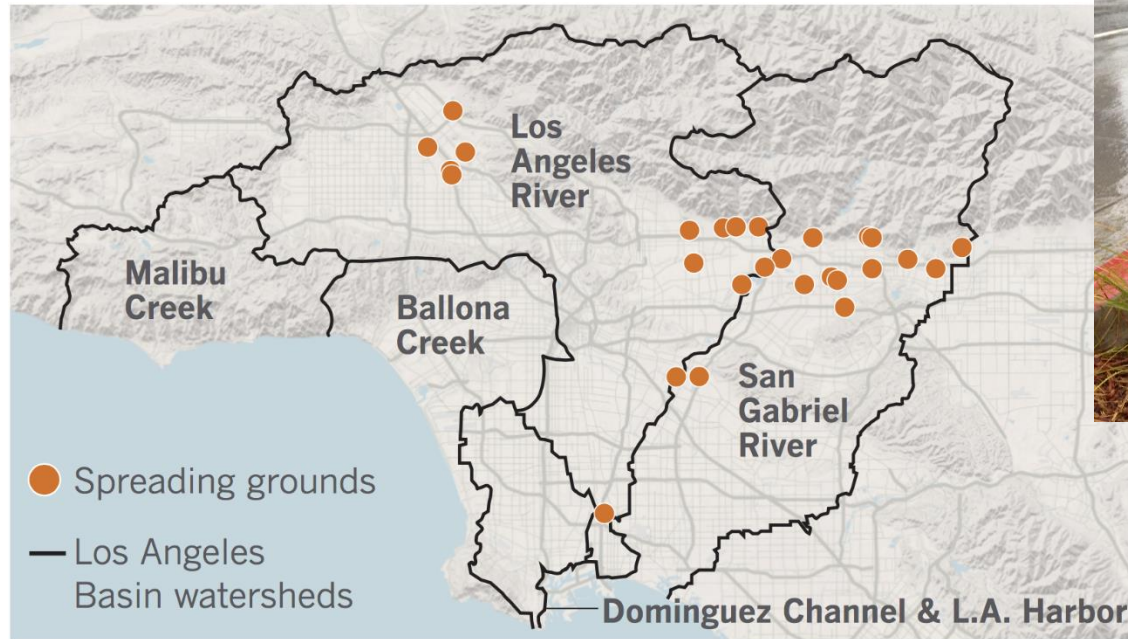
Cost of Statewide Water Conservation vs. Expenditures on Energy IOU Efficiency Programs (Jul – Sep 2015)



# West Basin's Projected Portfolio

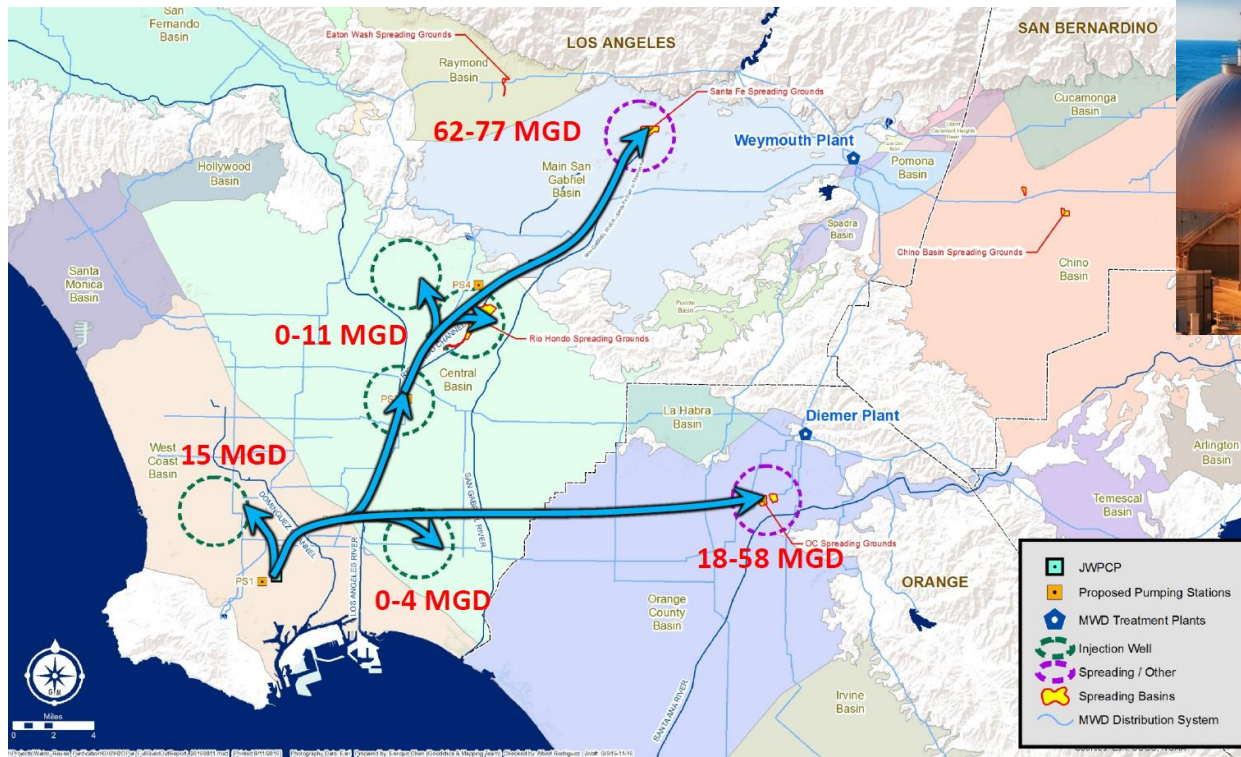


# Reuse: The Multi-Benefits of Stormwater





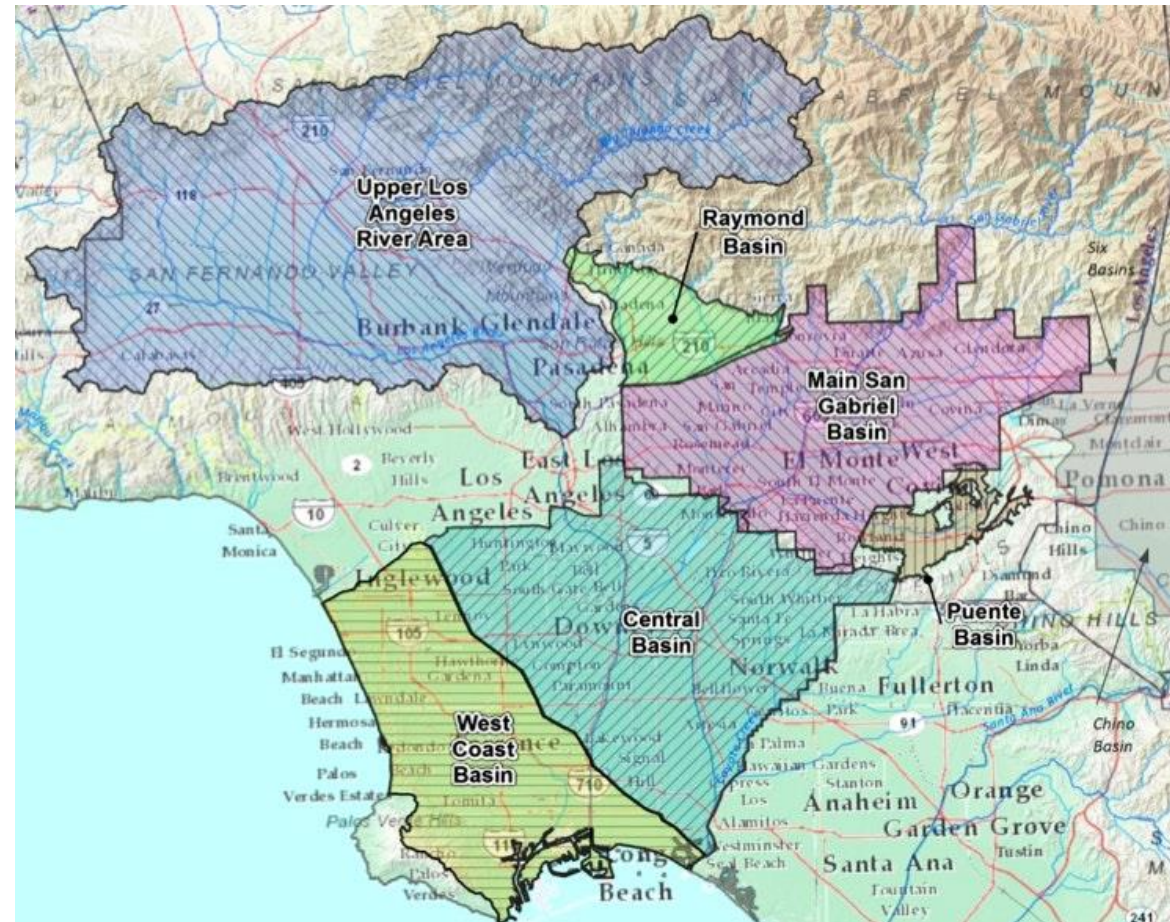
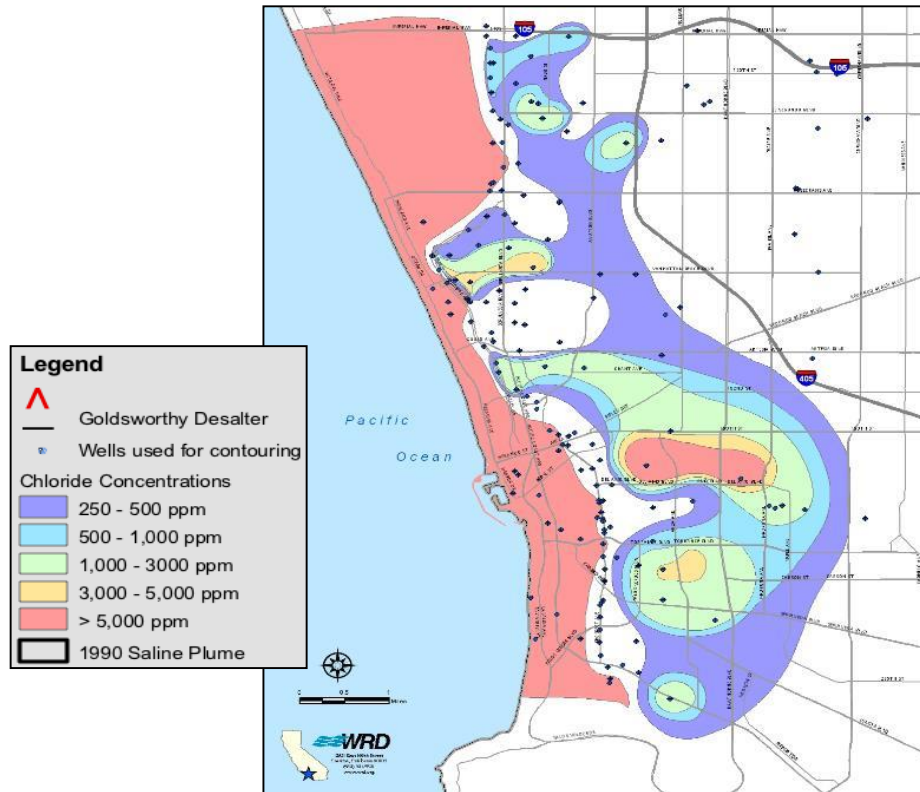
# Recycle: The Potential of Wastewater



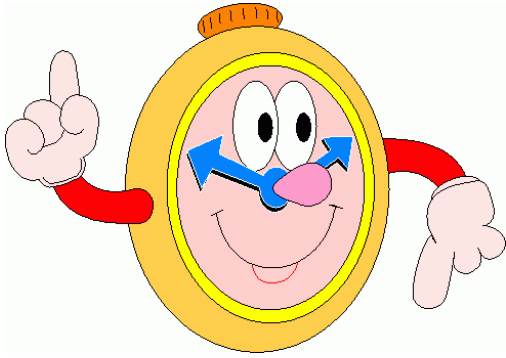
We could be recycling an additional ~250 MGD of wastewater



# Restore: Cleaning Up our Groundwater



# The Fallacy of “All of the Above” in a World of Limited Resources







California State Assembly Select Committee on  
Water Consumption and Alternative Sources

## New Sources for California's Water Supply



Select Committee Report of March 2016

Richard S. Gordon, Chair

Katcho Achadjian  
Luis Alejo

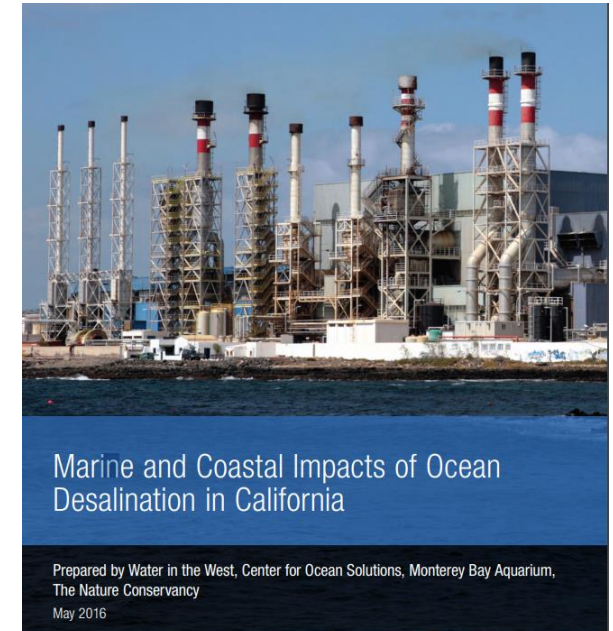
Autumn Burke  
Rocky J. Chávez  
Young Kim

Miguel Santiago  
Anthony Rendon

Nuriel Moghavem, Committee Staff

50% reduction in imported water over the next decade with none of the local water coming from desal

*“[n]ot all alternative water source options are equal . . . **[d]esalination should be used as an option of last resort.**”*

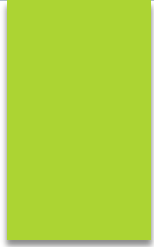


## Marine and Coastal Impacts of Ocean Desalination in California

Prepared by Water in the West, Center for Ocean Solutions, Monterey Bay Aquarium, The Nature Conservancy  
May 2016



*“[desalination] is unlikely to be a major part of California's water supply portfolio*



# Lessons Learned?



# A Cautionary Tale

## TOO BIG

### Builder's desal disclosure

**\$310** maximum increases to water bills in Victoria in 2013 because of desalination plant cost

**\$1.8m** amount Victorians will pay each day to have access to desalination plant water

**\$1b** amount of damages claimed by Suez Environment because of rain delays and industrial action

**\$24b** nominal cost of desalination plant over 28 years

**\$3.5b** construction cost of Wonthaggi desalination plant

**34%** increases in Victorian water bills

**19%** drop in water use by Victorians in 2010-11

**150GL** per year – Wonthaggi plant

SOURCES: sydneydesal.com.au, desalination.edu, environment.gov.au, Australian Bureau of Statistics, Essential Services Commission, Suez Environment.





# The Carlsbad Example – The Aftermath


- \$1B
- Dumping water
- Decreasing conservation mandates
- Higher than expected carbon footprint (CCC)
- 4 clean water violations (SDRWQCB)
- Rising costs (own intake)
- Threatening Pure Water

Los Angeles Times

FRIDAY DEC. 4, 2015 MOST POPULAR LOCAL ENTERTAINMENT SPORTS SAN BERNARDINO CLIMATE CHANGE OPINION PLACE AN AD 57°

LOCAL / L.A. Now

**While other parts of California are bone dry, San Diego faces the opposite problem: too much water**



The desalination plant in Carlsbad in September. (Lenny Ignels / Associated Press)

By **Morgan Cook**

NOVEMBER 25, 2015, 1:05 AM | REPORTING FROM SAN DIEGO

**T**he \$1-billion desalination plant coming online next month in Carlsbad will fit right in with years of careful planning and investment in water supply in San Diego County.

It will also worsen a peculiar San Diego problem amid a multiyear drought: an oversupply

QUESTIONS ABOUT FRACKING AND WATER?

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# Conclusion

We look forward to working with YOU & West Basin on a Reduce, Reuse, Recycle, Restore approach to enhancing local water reliability





Thank You!

For More Info:

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**310.804.6615**

**<https://www.smarterwaterla.org>**