

Entering a New Era of Water Management

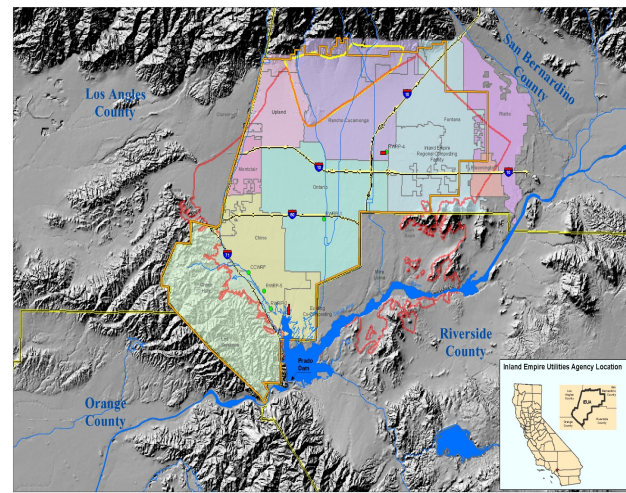
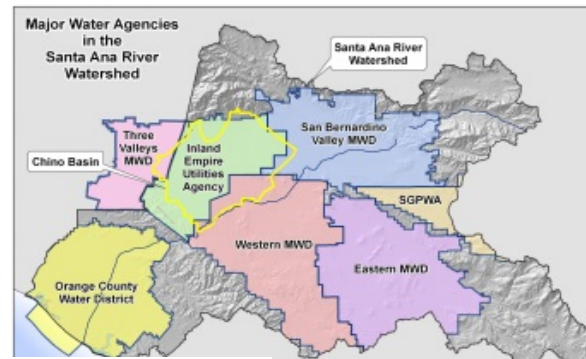
Building Livable Communities: Innovative Solutions for Changing
Communities
Local Government Commission
March 22, 2015

Martha Davis
Executive Manager/Assistant General Manager
Policy Development
Inland Empire Utilities Agency

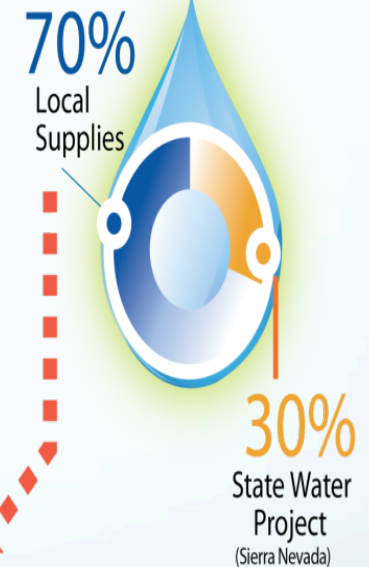
The Water Choices We Make NOW Matter for the FUTURE

Inland Empire Utilities Agency (IEUA)

- Regional Wastewater, Imported Water and Recycled Water Services
- MWD Member Agency
- 7 Retail Member Agencies
- 830,000 residents

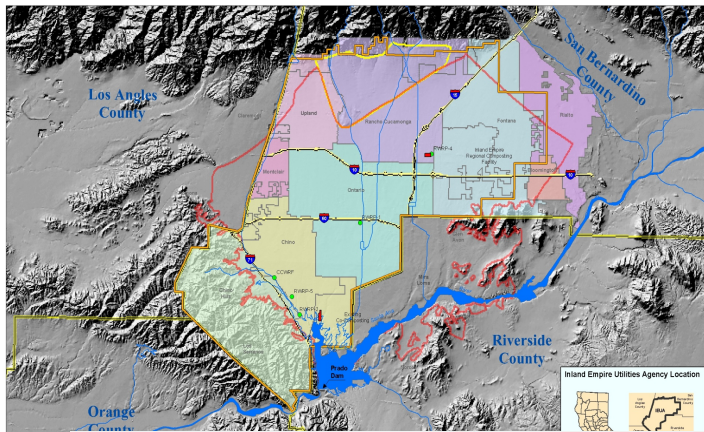


Water Portfolio

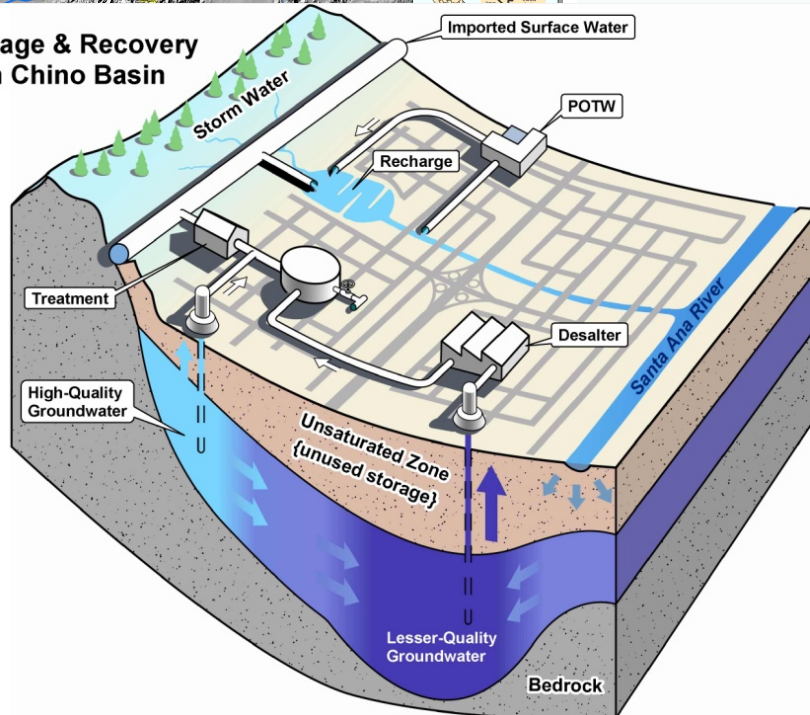


\$500 million regional investment in "local" water development over 15 years

The Good -- Chino Basin is Ahead on Groundwater Management



Storage & Recovery in Chino Basin



- One of the largest GW basins in Southern California
- Adjudicated, with 5+ MAF storage
- Safe yield = 140,000 AF/YR, 60% of drinking water supply
- Chino Basin Watermaster monitors and complies with **NEW** State reporting requirements
- **Unique:** Coordinated regional GW clean up and replenishment strategy (Maximum Benefit Plan)

The Bad: Loss of Natural Recharge Problem for All Urbanizing Basins

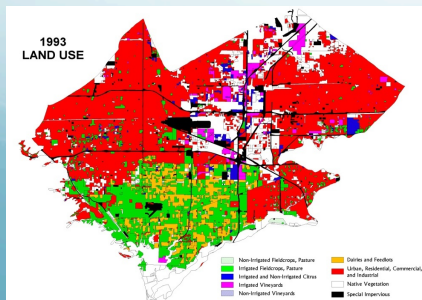
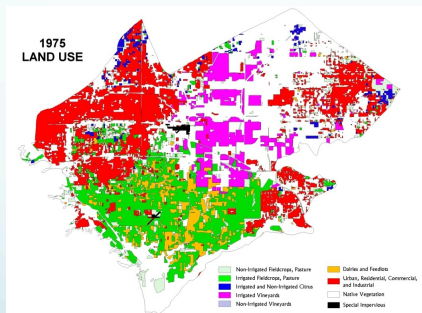
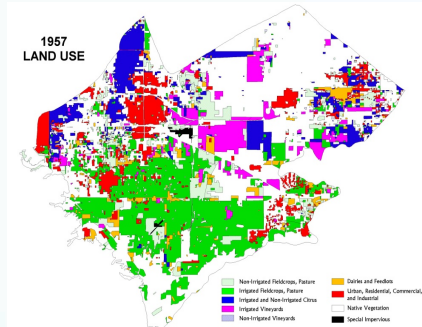
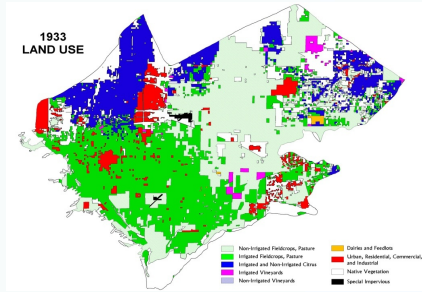
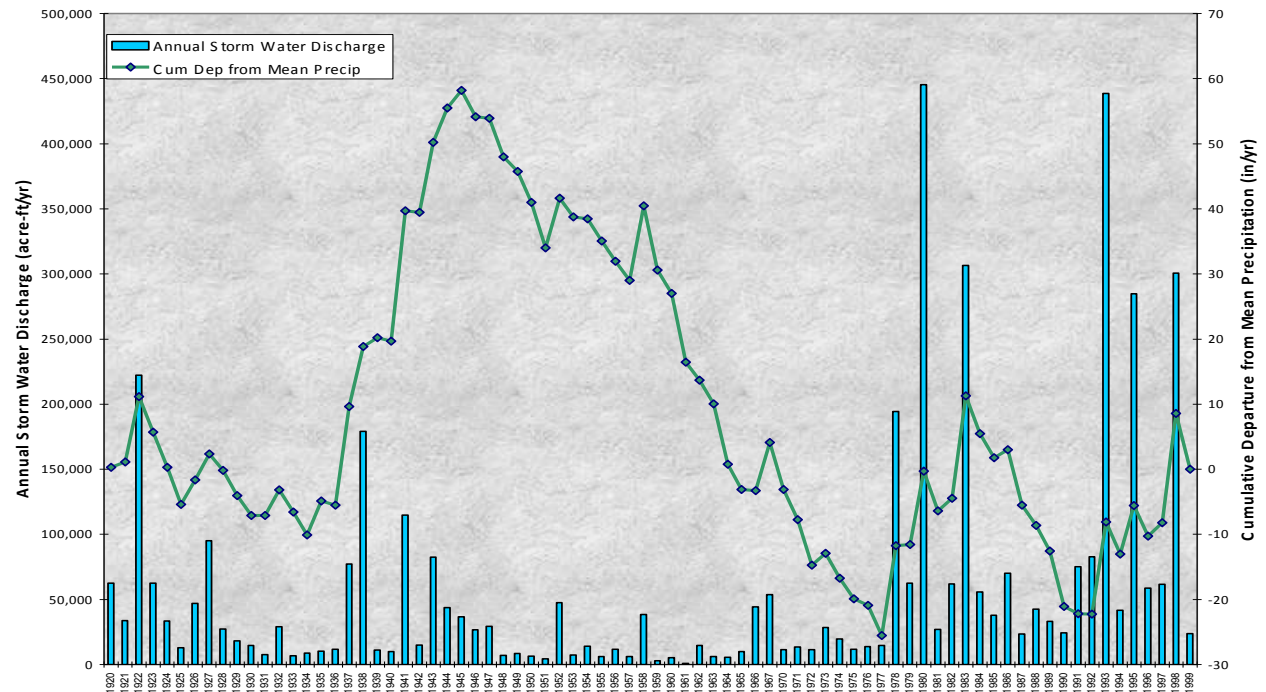


Figure 2-6 Storm Water Discharge Time History for the Santa Ana River Below Prado Dam

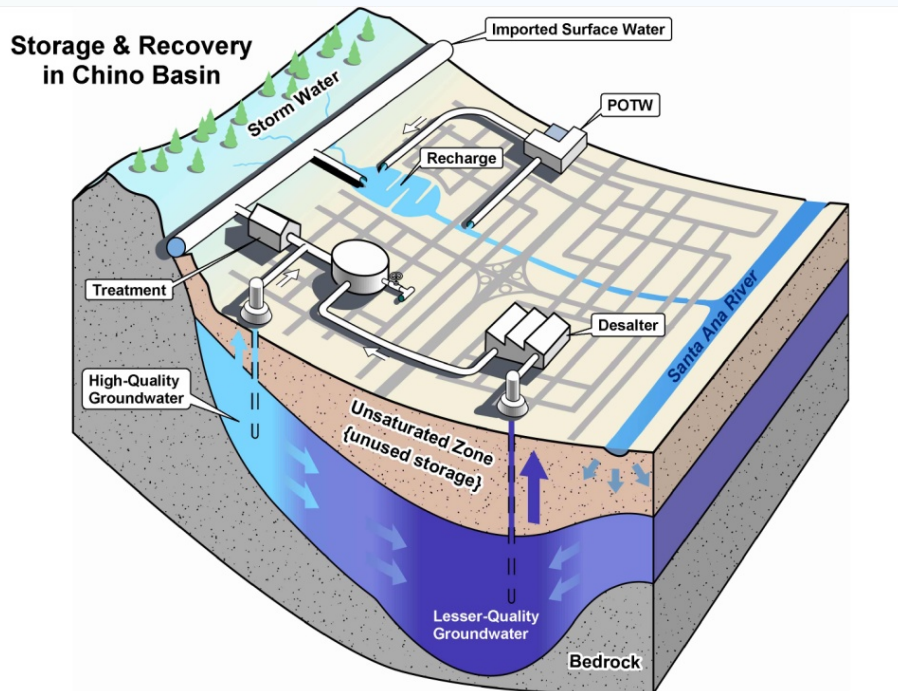


Average estimated loss of 40,000-60,000 AF/YR of natural groundwater infiltration

Equivalent of 25% of IEUA regional water supply
Loss primarily due to hard surfacing and flood control

Our First Solution: Integrated Water Management Strategies

Cooperation by IEUA, Chino Basin Watermaster, San Bernardino County Flood Control, Chino Basin Water Conservation District (and state and federal agencies):



- Restored 20 GW recharge basins, 110,000 AF of recharge capacity
- Maximized integrated use of stormwater, recycled water, imported wet year water
- 20,000 AF/Yr of new stormwater and recycled water; more planned for future (+ 20,000 – 40,000 AF/Yr)
- 40,000 AF/Yr new GW supply from brackish water desalting to clean up GW Basin



Groundwater Challenge: How Achieve “Dynamic Sustainability”

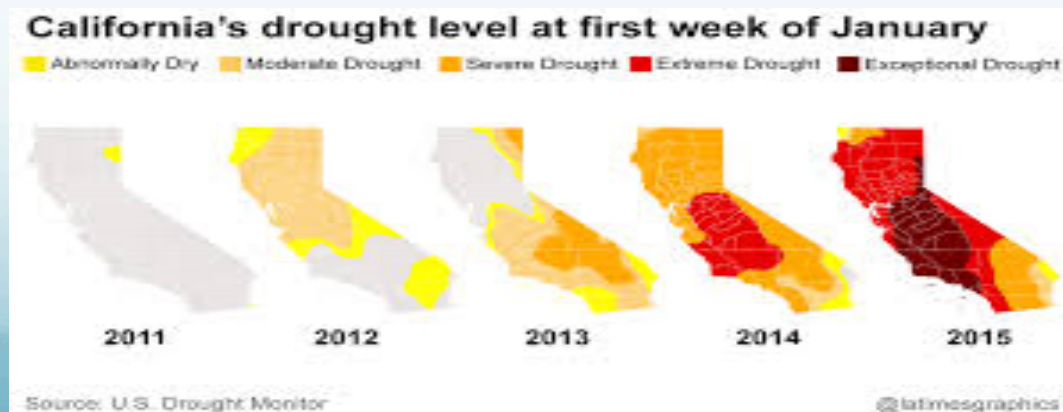
Even with best management, infiltration conditions change:

- Drought (last longer, more intense?)
- Climate Change (permanent warmer, drier weather?)
- Development continues using conventional land use/flood control patterns
- Lack of understanding of groundwater impacts of land use conversion from irrigated agriculture (high return flows) to urban irrigation (low return flows)

Chino Basin Watermaster: Now re-evaluating safe yield

- Is it 140,000 AF/Yr? 130,000 AF/yr? Is it less???

**But what would Chino Basin safe yield look like today
WITHOUT the regional investments???**

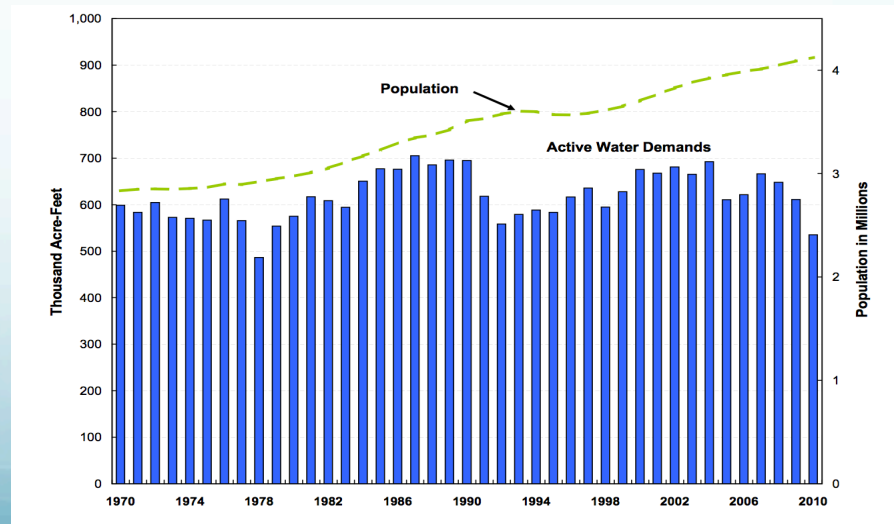


What is the Next Generation of Integrated Water Management?

1. More accurate water demand forecasts

- Wastewater flows down from ~65 gpcd to 45 gpcd due to water efficient building codes
- New urban designs with higher density, larger housing footprint use significantly less water
- New Normal for outdoor landscaping – Ca. “Friendly”
- **The Past IS NOT the Future...** Need better forecasts to plan appropriate investments

City of Los Angeles uses less water today than 40 years ago, despite significant growth in population



Invest in Conservation as a Water Management Tool

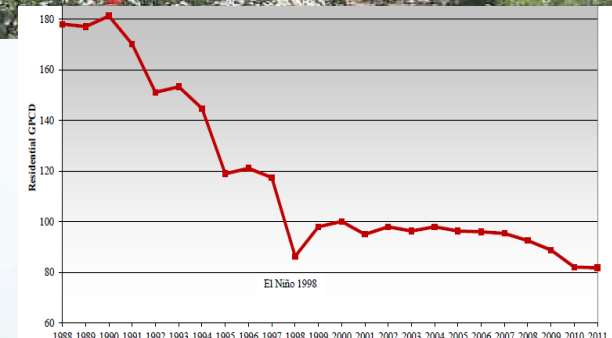
2. Reduce Demand

- More water can stay in local storage
- More drought resiliency
- More water supply flexibility
- Less dependence on imported water
- More cost savings



Run the Numbers – See the \$\$\$ value of keeping water use under control. New water supplies are expensive.

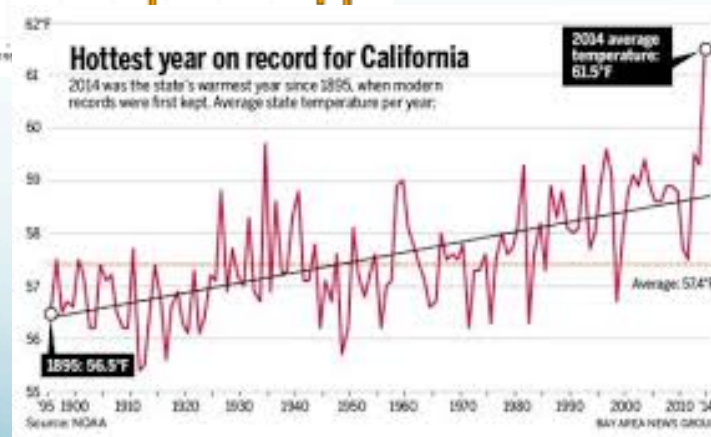
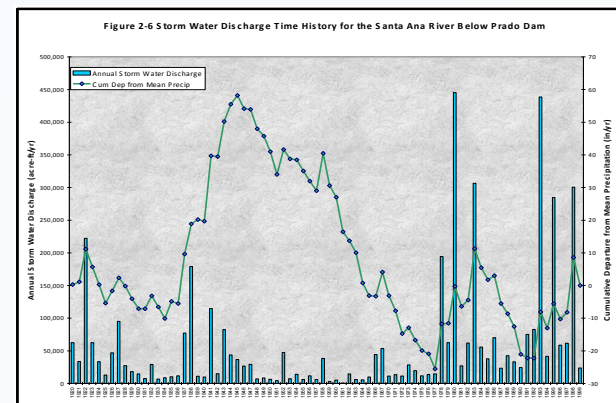
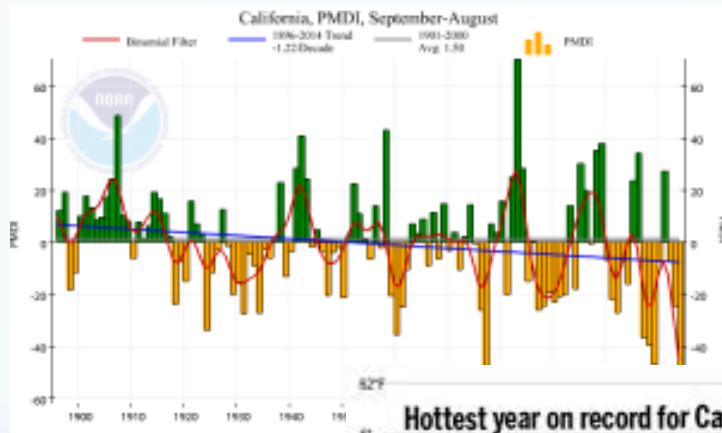
If serious conservation causes lost revenue, RUN DON'T WALK to change rate structure to cover fixed costs. Best Practice: Budget Based Rate Structures which rely upon state indoor/outdoor performance standards to define “reasonable” levels of use



Irvine Ranch Water District has reduced water use by 100 gallons per capita daily since 1988
Irvine Ranch Water District, 2014

Require storm water capture and infiltration wherever possible...even site retrofits

3. Land use decisions matter...



...especially with climate change.

Can we afford to waste any water?

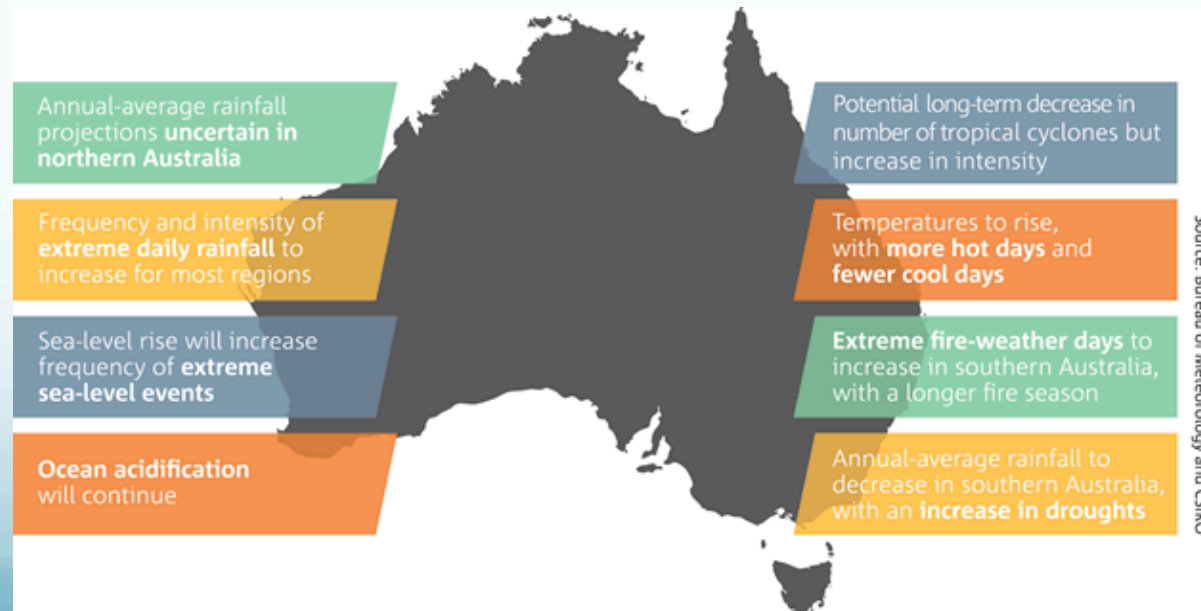
Lessons from Australia's Mega-Drought

Lesson #1 – “We would have saved more water much sooner”

Lesson #2 - “We started planning for a worst-case scenario in 2006, nine years into the drought.”

Lesson #3 – “Unite the public behind conservation and water policy reforms.

(Source: Aust. Dept. of the Environment, Sac Bee, 12/2014)



Every Drought Brings its Lessons

- 1977 – Public Will Voluntarily Conserve...but are water savings temporary or permanent?
- 1988-1992 – Incentive Programs to Promote Widget-Based Conservation...generate long-lasting water savings.
- 2008-2010 – Development of Water Supply Portfolios...importance of local and regional water supplies that offset vulnerable imported water supplies and provide greater drought resilience.
- 2012 - ????????? - My Prediction:
 - **Conservation becomes a Critical Water Management Tool**
 - **Most water providers will have adopted Budget Based Rate Structures for revenue stability**
 - **Water savings will be significant (15%-30% reductions) and permanent**

Our Sustainable Water Future

Thank You

California Natives

