The Potential and Cost of Water Conservation and Efficiency

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We Are Living Beyond Our Means: Dry Rivers

The San Joaquin River (in red) was dewatered when water was sent down the Friant-Kern Canal. The red and blue parts of the river are in the early stages of being reconnected with releases from Friant Dam.
We Are Living Beyond Our Means: Groundwater Depletion
What are Our Options and How Do We Prioritize Among Them?
Urban Water Supply and Efficiency Options in California

- **Seawater Desalination**: 330 - 560 thousand acre-feet
- **Stormwater Capture**: 420 - 630 thousand acre-feet
- **Water Reuse**: 1,200 - 1,800 thousand acre-feet
- **Urban Efficiency**: 2,900 - 5,200 thousand acre-feet
Urban Efficiency Potential

Potential Water Savings (thousand acre-feet)

- **Industrial**: 130-260
- **Commercial & Institutional Indoor**: 230-420
- **Commercial & Institutional Landscapes**: 390-900
- **Residential**: 2,200 - 3,600
Potential Residential Water Savings

- Dishwashers: 11,000
- Faucets: 160,000
- Showers: 170,000
- Clothes washers: 270,000
- Toilets: 290,000
- Household Leak Repair: 430,000
- Landscapes: 870 - 2,000

Potential Water Savings (thousand acre-feet)
How Much Does it Cost?

Efficiency Measure
- Landscape Conversion (Low)
- Residential Showerhead
- Ice Machine
- Pre-rinse Spray Valve
- Medical Steam Sterilizer Modification
- Waterless Wok Stove
- Residential Clothes Washer
- Residential Toilet (3.5 gpf)
- Water Broom
- Landscape Conversion (High)
- Urinal

Alternative Water Supply
- Stormwater Capture
  - Large
  - Small
- Brackish Desalination
  - Large
  - Small
- Nonpotable Reuse
  - Small
- Indirect Potable Reuse
  - Large
  - Small
- Seawater Desalination
  - Large
  - Small

Range of Cost
- Median

Range of Cost
(S/Acre-Foot)
21st Century Water Utility

- Shift in thinking: from water supplier to water service provider
- Improved planning: integration and demand forecasting
- Smarter infrastructure: green infrastructure, decentralized systems, and modular, just-in-time systems
- New financial models: financing efficiency improvements, rate structures and reserves, affordability programs
- Better communication and relationship with the public