

# Water Scarcity in Southern California

**THE PROBLEM:** Population growth coupled with drought are challenging LA's ability to sustainably supply residents with enough water to meet demand.

## Ecological Impacts of Water Scarcity

### Agricultural Challenges:

Reduced snowmelt due to climate change lowers reservoir levels over time. This strains already-decreasing stores of the precious resource. As vegetation is affected by water scarcity, trees weaken and fall susceptible to fire and disease. This increases the rate and intensity of wild fires. Riparian habitats (along waterways/lakes) are incredibly important to bird species and their migratory patterns. These are degraded as natural water sources decrease, or in many cases, disappear entirely.

Annual snowmelt supplies many freshwater lakes, but is threatened by climate change.

80% of all the water used in California is for agricultural use, 20% of that goes to tree nuts.

## Economic Impacts of Water Scarcity

### Agricultural Challenges:

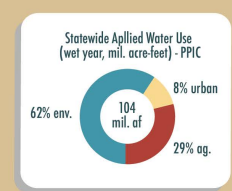
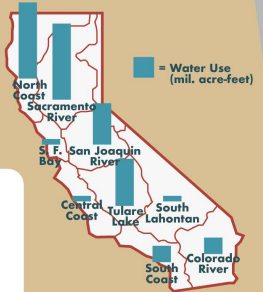
"Challenges of growing water scarcity for agriculture are heightened by the increasing costs of developing new water, soil degradation, groundwater depletion, increasing water pollution, the degradation of water-related ecosystems, and wasteful use of already developed water supplies" -Rosegrant 2009

## Social Impacts of Water Scarcity

A lack of accurate metering systems for large-scale users like factories creates inefficiencies.

Low-income and historically marginalized groups are being disproportionately affected by recent California droughts. Lack of consideration for state and federal grants and system-wide neglect have left many communities struggling to keep up with rapid aridification.

Average Annual Applied Water Use (1998-2015) - PPIIC



**Water Usage by Category:**  
A very large portion of California's total water usage is agricultural. On average, this takes up roughly 40% of the millions of acre-feet used per year.

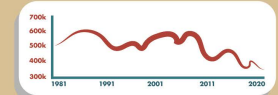
## An Equitable Solution: Incentivization and Regulation:

### Regulation:

Water measurement must be equal and accurate, especially for large-scale commercial users, and water prices must reflect water's economic value.

### Incentivization:

Creating reward systems for personal water conservation and strictly limiting extraneous public water use are the key to progress.



## A Viable Solution: Diversify Sourcing and Reuse:

### Diversifying Water Sources.

California needs 200 million acre-feet of water per year. There is no single "golden ticket" solution. Sources such as desalination may source sustainably but create byproducts that negate these effects.

### Maintaining Current Infrastructure.

"Utilities statewide lose an average of 10 percent of water produced, with a range of 5 to 50 percent, largely due to aging infrastructure." - SWSC

**Wastewater Recycling.**  
Reuse requires treating wastewater to a much higher quality to be recycled after being re-released into a lake/reservoir. The largest obstacle facing wastewater reuse is not cost, but public support.

Desalination plants source sustainably but can discharge brine into aquatic ecosystems.

## A Bearable Solution: Traditional Ecological Knowledge (TEK):

### What is TEK?

TEK is the practice of using generational data about environmental change to inform holistic land and resource management.

### Why Involve TEK?

TEK is shown to develop long-term relationships with the land and help in earlier identification of biotic changes across temporal and spatial scales.

### How to Involve TEK.

Prioritize TEK through efforts with tribes on regional watershed management plans for implementation of TEK projects, and grant tribes management responsibilities and greater access to land and water rights.

## What can you do?

Effective change will require all of us to participate. You can begin by talking to neighbors, friends, and even local politicians, about achieving a water-secure future. Help to encourage recycled water, limiting personal water use, and educating yourself on water conservation practices. And remember, water scarcity is much bigger than Southern California - everyone needs to do their part.

9.6 million acres in California are irrigated with roughly 34 million acre-feet of water.

### DATA SOURCED FROM:

- The LADWP Urban Water Management Plan
- Public Policy Institute of California (PPIIC)
- California Department of Water Resources
- The California TEK Summary Report
- Annual Review of Environment and Resources
- The Public Broadcasting Service (PBS)
- United States Geological Survey (USGS)

### ACCOUNTS TO FOLLOW:



Calculate your water footprint: <https://www.watercalculator.org/>

Track the drought: <https://www.latimes.com/projects/california-drought-status-maps-water-usage/>