

LEADING THE CHARGE ON RECHARGE

Enhancing groundwater recharge as a priority for California

There is no greater threat to California's water supplies than climate change.

Hotter and drier weather conditions spurred by climate change could reduce California's water supply by up to 10 percent by the year 2040, according to Governor Newsom's *California's Water Supply Strategy: Adapting to a Hotter, Drier Future*.¹

This is a loss of 6 million to 9 million-acre-feet (MAF) of water per year. This is about the total amount of water used by urban California each year.²

The Water Supply Strategy proposes several approaches to this challenge. However, **groundwater recharge is the only solution that, alone, can meet the scale of this loss. It is also the lowest cost option per acre-foot.**



SCALE

Groundwater Recharge Potential:

- Over 13 MAF of groundwater recharge annually (with over 2.5 MAF possible with existing infrastructure), [according to the California Department of Water Resources \(DWR\)](#)³

Moreover, California's groundwater basins have the capacity to store 1 billion acre-feet of water statewide (about 20 times the total surface water storage capacity), according to DWR⁴

Compared to:

Conservation Potential

- 500 thousand acre-feet (TAF) in conserved water can be achieved by the urban sector in the foreseeable future, according to the Water Supply Strategy

Recycled Water Potential

- 1 MAF of recycled water can be developed by 2040, according to the Water Supply Strategy

Desalination Potential

- 84 TAF of water from desalination can be developed by 2040, according to the Water Supply Strategy

Stormwater Capture Potential

- 500 TAF in captured stormwater can be developed by 2040, according to the Water Supply Strategy

TOTAL: Less than 3 MAF by 2040

for Conservation, Recycled Water, Desalination, and Stormwater Capture combined

COST

Groundwater Recharge Cost:

- \$390 per acre foot, according to [Stanford University](#)⁵

Compared to:

Conservation Cost

- \$500 per acre-feet for the next increment of conserved water from a portfolio of options, according to the [Metropolitan Water District of Southern California](#)⁶
- \$1,000 per acre-foot for the next increment of conserved water from turf replacement, according to the Water Supply Strategy

Recycled Water Cost

- \$1,500 per acre-foot focused on recycled water in the urban sector, according to the Water Supply Strategy

Desalination Cost

- \$1,000 per acre-foot to reach the next increment of water produced by brackish groundwater desalination, according to the Water Supply Strategy
- \$2,000 per acre-foot to reach the next increment of water produced by seawater desalination, according to the Water Supply Strategy

Source: 1: <https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf>; 2: Urban water use in California ranges from 6.5 MAF to 8.5 MAF annually, according to the PPIC; 3: <https://cawaterlibrary.net/wp-content/uploads/2020/02/Water-Available-for-Replenishment-Final-Report.pdf>; 4: Figure 5: https://waterresilience.ca.gov/wp-content/uploads/2020/07/Final_California-Water-Resilience-Portfolio-2020_ADA3_v2_ay11-opt.pdf; 5: <https://waterinthewest.stanford.edu/groundwater/recharge/#note>; 6: <https://mwdh2o.legistar.com/View.ashx?M=PA&ID=993038&GUID=87D1D247-00EF-44A3-B629-8CF10FDB21EC>

Together, we must lead the charge on groundwater recharge.

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