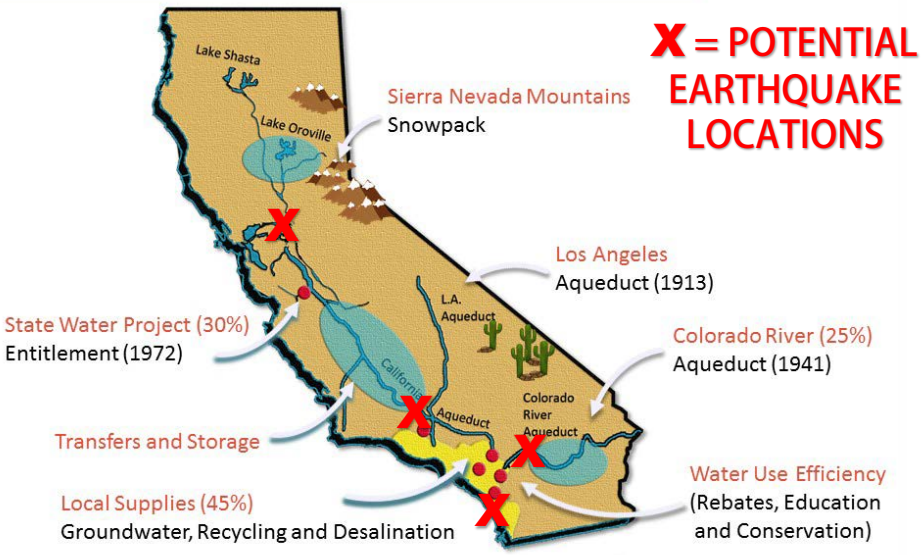
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY (MWDOC)

OC WATER RELIABILITY STUDY (THE STUDY)

A COMPREHENSIVE STUDY OF ORANGE COUNTY'S LONG TERM WATER RELIABILITY PROVIDES VALUABLE INFORMATION TO KEY DECISION MAKERS

Where Southern California Gets Water



ABOUT 50% OF ALL ORANGE COUNTY'S WATER SUPPLY IS IMPORTED

Nearly half of all Orange County's water supply comes from an underground aquifer that is augmented by Orange County Water District's Groundwater Replenishment System project. The remaining half is imported from the Colorado River, and through the State Water Project from northern California. South Orange County is nearly **100%** dependent on imported water.

THE STUDY: KEY FACTORS CONSIDERED

- Reliability of imported water supplies from The Metropolitan Water District of Southern California (MET) given more extreme weather in the future
- Population Growth
- Water demands and water conservation efforts
- Climate variability (using **93 YEARS** of historical data to predict impacts of future climate fluctuation)
- Success of the California WaterFix and a major MET water-recycling initiative
- Development of local projects in California

25 YEAR PROJECTION

A comprehensive study of Orange County's water supply reliability through the year 2040 was necessary because of ongoing drought conditions, environmental challenges in completing new projects, and uncertainty in reliable imported supplies from outside of Orange County. The Study is not intended to provide support for specific projects, but instead, to provide valuable information for key decision makers.

OVER 18 MONTHS AND 25+ MEETINGS

The Study was conducted under the guidance of water managers from MWDOC member agencies, the Orange County Water District, and the cities of Anaheim, Fullerton, and Santa Ana.

The Study focused on water **supply** and **system** reliability gaps under both hydrologic and seismic events for three areas of Orange County: The Orange County Basin, Brea/La Habra, and South Orange County.

Supply Reliability involves having sufficient supplies and storage, allowing demands to be met while facing historical and future extreme weather; **System Reliability** is planning for how to meet reduced demands after a serious event.

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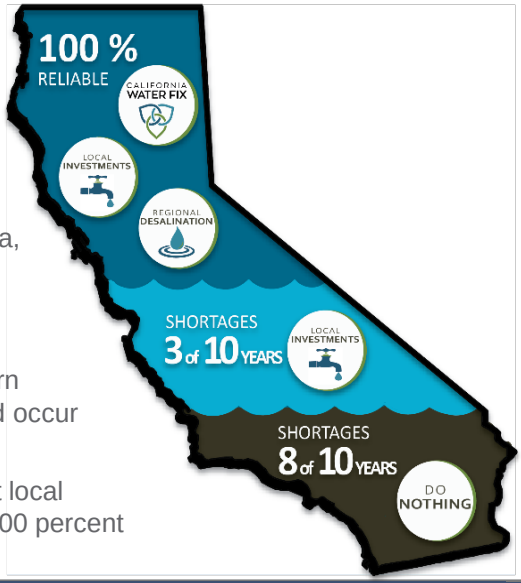
THE STUDY: KEY FINDINGS

- The WaterFix is the most cost-effective large-scale reliability investment and should be vigorously supported.
- Without the California WaterFix and any new local investments in southern California, Orange County will face water shortages in eight of 10 years.
- Without the WaterFix, but with significant investments in southern California water, shortages would occur three of 10 years.
- With the WaterFix and significant local investments, Orange County is 100 percent reliable.



EMERGENCY WATER SUPPLY

For emergency outages such as earthquakes or other catastrophes, the Study set a planning benchmark to meet demands for up to 60-days without receiving imported water from MET. Brea and North County cities served by the Orange County Water District basin need only to add emergency generators to meet that standard. South Orange County however, will need new local supplies and/or new emergency supplies.

CALIFORNIA WATER FIX
RELIABLE. CLEAN. WATER.

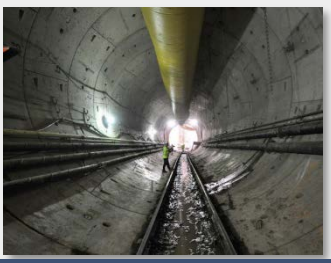
www.californiawaterfix.com

The California WaterFix is a **$15 BILLION** plan to construct two tunnels up to 150 feet below ground, designed to protect California's water supply from the north, improve public safety, and enhance the environment by moving water around the Sacramento-San Joaquin Delta rather than through it.

PLAN A AND PLAN B

The next 18 months are key for the California WaterFix ('Plan A'), which faces regulatory hurdles, decisions on how to share project costs, and the end-of-term for a supportive Governor. Recognizing the challenges, the Study looked at the year 2020 as a go/no go year for the WaterFix and developed a 'Plan B' should the WaterFix fail to materialize.

The Study concluded that other paths to achieving reliability not contingent on the WaterFix are viable ('Plan B'). This would include projects such as MET's proposed Carson (CA) Indirect Potable Reuse Project which would recycle water to replenish aquifers, additional water transfers, various local projects, and large scale ocean desalination.



SOUND PLANNING CALIFORNIA WATERFIX
WATER SUPPLY DEVELOPMENT RELIABILITY
APPROPRIATE INVESTMENTS LOCAL PROJECTS
EMERGENCY SUPPLY & STORAGE TRANSFERS
CONSERVATION OCEAN DESALINATION
REGIONAL PROJECTS RECYCLED WATER

OBSERVATIONS FOR SOUTH ORANGE COUNTY (SOC)

- SOC reliability depends on local and regional investments. Without new local investments, shortages projected for 2020 appear manageable only if conservation efforts by consumers continue.
- Under the recommended planning scenario and without new local investments, shortages get worse by 2030, and further deteriorate by 2040.
- In the event of a seismic or other catastrophic outage, SOC will need more designated local or emergency supplies to meet a minimum **60-DAY** demand.
- A number of significant issues, such as the WaterFix, will be resolved in the next several years. SOC should develop an investment strategy aimed at the recommendations established in the Study, but also use adaptive management methods to adjust for these events.

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