

# Business Connection



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## How The Delta Conveyance Project Would Make California's Water Supply More Resilient Against Earthquakes

Special from California Department of Water Resources

According to the United States Geological Survey (USGS), there is a 72% chance of a 6.7 or greater magnitude earthquake occurring in the Bay Area by 2043 that could cause levees in the Delta to fail. This could result in significant amounts of salt-water being drawn into the Delta region, raising salinity levels and crippling the state's ability to deliver fresh water because of the location of the State Water Project's (SWP) only diversion in the Delta.

Of the over 1,100 miles of Delta levees, many are not in a condition to withstand significant shaking. An earthquake could cause a possible outage in water supply delivery lasting anywhere from several months

to several years. Cessation of SWP operations would have catastrophic social and economic effects, including a loss of water necessary for public health and safety.

The Department of Water Resources (DWR) has a responsibility to safeguard California's main water supply against the potentially catastrophic disruption of water deliveries from a major earthquake.

The proposed Delta Conveyance Project, by adding intakes in the northern Delta and an earthquake resilient tunnel, provides some insurance against water supply disruption from an earthquake in the Bay Area or Delta. There are 27 million Californians and 750,000 acres of farmland that rely on this water supply.

Each year without "A Big One,"

the risk of disruption from a major earthquake significantly increases. Experts think it's likely that California will experience a serious event in the next 30 years.

A tunnel at the depth proposed in the Delta Conveyance Project is at less risk of earthquake damage than a canal or pipeline. Norm Abrahamson from University of California, Berkeley and University of California, Davis explains, "The advantage of a tunnel is that you're at depth, and the ground motion at depth is much less than the ground motion at the surface. Fundamentally you can design a tunnel with much more confidence that it will perform as planned during a major earthquake."

Without a guard rail in place, such as the Delta Conveyance Project, California's water supply is vulnerable to disastrous disruption caused by an earthquake event.



### EARTHQUAKE RISK

#### by the Numbers

The **Pacific Ocean's plate moves 50 mm per year** making California overdue for a major earthquake event

**72% chance of a 6.7 or greater** magnitude earthquake occurring in the Bay Area **by 2043**

**Over 1,100 miles of Delta levees**, many of which are not in a condition to withstand significant shaking

Several Delta islands are already subsided with many sitting **nearly 25 feet below sea level**

An earthquake could cause a possible outage in water supply delivery lasting anywhere from **several months to several years**

Likely economic impact of a major earthquake in the various regions of California is **\$9.6 billion a year**, on average, a **157% increase from the 2017 estimate**

