



The Delta Tunnel: Not a Solution to Earthquakes and Sea Level Rise

The Delta Conveyance Project—the Delta tunnel—is a massive, environmentally destructive and expensive project that will divert water away from the San Francisco Bay Delta estuary complex. It will neither prevent nor mitigate earthquakes or sea-level rise, two phenomena that threaten California's future water supply and reliability.



Photo by Department of Water Resources

Earthquakes

Proponents for the tunnel, including big agribusiness, large water wholesalers and The California Department of Water Resources, argue that a single tunnel will protect against an earthquake that causes Delta levees to fail and disrupts exports from the Delta. They are wrong.

Even if the tunnel were built, reliability would still be uncertain because the single tunnel does not address earthquake vulnerabilities in existing infrastructure.

Any water exported through the single tunnel would eventually flow to and through existing water redistribution systems in the southern San Joaquin Valley and southern California regions owned and/or operated by either the state, cities, or local water agencies.

Much of this infrastructure is at a greater risk of earthquake damage than Delta levees for reasons ranging from geographic location to negligent maintenance and upkeep. That said, strengthening the levees in the Delta- not the Delta tunnel- is the biggest safeguard against the threat of earthquakes and sea level rise. Improvements to levees in the Delta will protect local ecosystems, local communities, and the water supply to those south of the Delta. The Freshwater

Pathways plan, proposed by Southern California's Metropolitan Water District, would add \$400-700 million levee improvements to the Freshwater Pathway (the route that water travels to Southern California), while about \$5 billion would improve levees throughout the Bay-Delta. The improvements would mostly include stockpiles of rocks for emergencies, and widening the levees in a wedding-cake shape so layers can be added decades into the future if climate disaster conditions worsen.

Instead of assuming the single tunnel will resolve their earthquake concerns, state and local agencies should invest in and develop projects that promote regional resilience and restore existing infrastructure to be more seismically resistant.



Photo by Department of Water Resources

Sea Level Rise

Climate change will bring sea-level rise that will lead to more salt water flowing into the Delta from the San Francisco Bay.

Salinity in the Delta is very important. The locations and amounts of salt in Delta waters are carefully regulated to protect various agricultural, municipal and industrial, human, and fish and wildlife uses. Saltwater intruding too far into the Delta could make the water unusable.

However, the single tunnel will worsen saltwater intrusion impacts by exporting more fresh water and decreasing Delta outflow.

Delta outflow—the amount of freshwater allowed to flow out of the Delta into San Francisco Bay—is critical for the health of the Delta's ecosystem. This fresh water pushes against the tides that bring saltwater in from the Bay. It also maintains water quality for Delta communities by flushing out salt and any pollutant discharge from upstream industries, municipal water systems, and agricultural operations.

The single tunnel will decrease Delta outflow by diverting fresh water from the Sacramento River before it reaches the Delta, taking away adequate amounts of water necessary to flush out and dilute salts and pollutants in the upper San Francisco Bay and lower Delta. The lack of freshwater flows will create more stagnant conditions in Delta waters that are conducive to the proliferation of harmful algal blooms (HABs). HABs produce air and water toxins that are dangerous to humans and wildlife. A decrease in freshwater flows also reduces the ability to push out salt and toxins, and manage temperatures. Shallow waters warm faster, which kill fish and allow HABs to proliferate.

The system should be managed to produce increased freshwater flows to combat sea level rise impacts in the Delta.

For more information, go to our website www.sierraclub.org/california/sf-bay-delta-protection or contact Molly Culton, molly.culton@sierraclub.org, 916-557-1100 x 1100