Sierra Nevada Water Facts

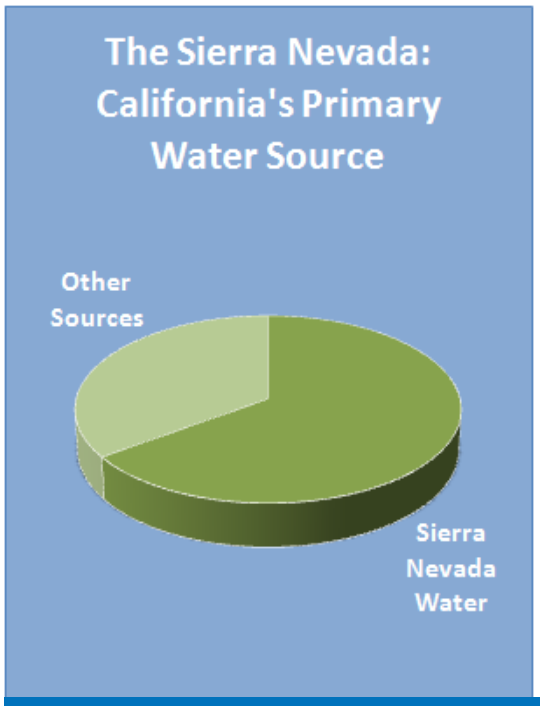
More than 60% of California's developed water supply originates in the Sierra Nevada

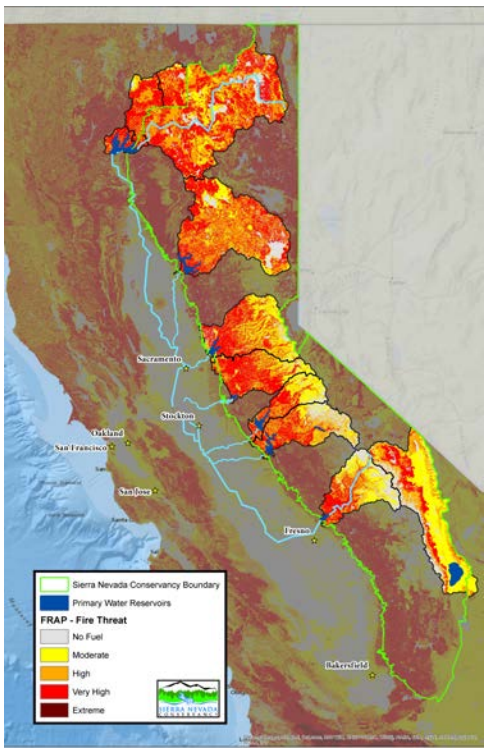
- Sierra Nevada watersheds provide all or part of the **drinking water for 23 million people**.
- Up to **half of the water flowing into the Delta** starts its journey in the Sierra's forested watersheds.
- Snowpack in the **Sierra region provides a natural form of water storage**, and Sierra forests and meadows play a role in ensuring water quality, yield and reliability.

Sierra forest and watershed health is declining

- Average **temperatures** in the Sierra Nevada **are rising**. This may **result in drier summer conditions**, more precipitation as rain than snow, **earlier snowmelt**, more **large damaging fires**, and **longer fire seasons**.
- The Sierra Nevada contains thousands of abandoned mines. **Toxic substances** associated with legacy mining, **such as mercury**, are **carried downstream** to the Sacramento-San Joaquin Bay Delta and the San Francisco Bay.

Investment in the state's primary watershed - the Sierra Nevada - is needed to ensure water reliability and improve water quality. Investing to reduce the risk of catastrophic fire, restore meadows, address legacy toxins like mercury, and protect natural lands from conversion to other uses, will preserve Sierra benefits that are shared statewide.





Fire threat and California's Water

The Sierra Nevada is the **primary source of water** for the **California State Water Project (SWP)**, which delivers water to two-thirds of California's population. The Sierra is also a **major contributor** to the **federal Central Valley Project**, which provides irrigation water for about one-third of the agricultural land in California and drinking water for close to one million households. Decades of fire supression, a changing climate, and a shortage of forest restoration efforts have led to current unhealthy conditions in many of our Sierra forests where this drinking water originates. The result has been an increase of larger, more damaging fires.

The **map to the left** highlights the **current fire threat** in watersheds that are major contributors to California's water supply. Fire threat is the liklihood of a fire to start combined with the potential damage a fire might have on the landscape.

The Rim Fire: What happens in the Sierra doesn't stay in the Sierra

The Rim Fire, which burned in the rugged canyons of the Stanislaus National Forest and Yosemite National Park, illustrates both the need to address existing forest conditions and the direct relationship between the Sierra Nevada and the rest of California:

- On August 23, 2013 Governor Brown declared a **state of emergency for the City of San Francisco** due to the threat that the fire posed to the city's drinking water and power supply at Hetch Hetchy Reservoir
- The Rim fire burned so hot in some areas - **five times hotter than boiling water** - leaving large areas without any living vegetation. These "high burn" areas are **more erosion-prone**.

The Rim Fire's **impacts will be long term**. Denver Water is still spending **millions of dollars** to stem erosion **12 years after** the Hayman Fire burned across 215 square miles in the foothills south of Denver. The Rim Fire consumed nearly 2 times that area at 402 square miles.

Fire is a major contributor to sediment that reduces storage capacity and the amount of water available for urban and agricultural users around the state.
According to a modeling exercise by the US Geological Survey:

- **Over 120 California reservoirs have capacities reduced to less than 20% of original capacity**
- **190 reservoirs have less than 50% of original capacity remaining**

Estimating reservoir sedimentation rates at large spatial - and temporal - scales: a case study of California, USGS

The Sierra Nevada Conservancy is a state agency that carries out a mission of protecting the environment and economy in a complementary fashion across 25 million acres, one-quarter of the state. To learn more, please visit the Sierra Nevada Conservancy Web site.

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