

**American Council of Engineering Companies (ACEC) California
Policy Platform
Water Storage**

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Issue

- The nature of California's water supply is defined by two key elements: weather and geography. The vast majority of the precipitation in the state falls during the winter and spring months, much of it as snow in the mountains of the Cascades, the Sierra Nevada, and the transverse ranges that split southern California from the north.
- The vast majority of demand comes in the hot summer and fall months and is mostly found along the densely populated coastal areas and the prime agricultural regions of the central and inland valleys.
- As a result, the main challenges facing water management in the state are the capture and storage of the precipitation when it falls and the efficient delivery of those supplies to the areas when and where it's needed.
- In the 1950's the State embarked on a very impressive program to address both storage and delivery. Known as the State Water Project (SWP), the system is dependent on large reservoirs located on the state's major watersheds, ready to capture the runoff from winter rains and spring snowmelt for release later in the season.
- As the system grew, the state added reservoirs that included some off-stream storage to provide for carry-over reservoirs during the regular dry periods that typify the state's climatic conditions. These reservoirs augmented the federal government's surface water and conveyance program known as the Central Valley Project (CVP), which was constructed primarily to provide a reliable water supply for the rich agricultural lands of the Central Valley.
- Over a half-century later, the state's population has dramatically increased and the overall demand for the state's water supplies has increased as well.
- Furthermore, variability in the state's climate has led water managers to seek additional carry-over to maintain a safe buffer during periods of drought.
- Finally, the state has long depended on the winter's snowpack to provide the principal form of storage, allowing for the slow release of snowmelt as temperatures warm and demand increases.
- However, the recognition that potential future changes in the timing and nature of the state's precipitation (i.e., rising snow elevations result in increased early runoff and has direct impacts to the storage capacity of existing reservoirs) has led water managers to consider the need for additional storage, both on-stream and off-stream in order to ensure that we will continue to be able to meet demand and provide for consistent and sustainable water deliveries.

Policy

- ACEC California believes that sustainable management of our surface water resources can substantially improve the overall reliability of potable water supplies in California and help meet future demand.
- ACEC California supports the design and construction of additional responsible water storage facilities to help equalize water distribution and provide carry-over storage during periods of drought. These water storage facilities may include surface impoundments as well as water “banking” in the underlying groundwater aquifer(s).
- ACEC California supports the use of Proposition 1 funds to develop water storage facilities to help address the state’s water needs.

Rationale

- Surface water provides roughly two-thirds of the state’s overall water supplies.
- Many of the state’s dams were built for flood protection in the last century and do not function as efficiently as they could for multi-purpose or water storage uses.
- Many of the state’s reservoirs are still operated primarily to deliver water for agricultural uses during the summer months. These reservoirs are not easily converted for use to meet municipal and/or commercial/industrial demands.
- Sediment build-up has reduced the storage capacity of many of the existing reservoirs in the state’s system and no plans were ever developed to make up for lost capacity.
- Groundwater recharge can serve to “bank” water for future extraction via aquifer storage and recovery wells.
- Changes in precipitation that may be associated with global climate change could result in the need for adaptation. This will be essential if predictions regarding warmer temperatures results in rising snow elevations, increased percentages of winter precipitation falling as rain instead of snow, higher intensity storms, and reduced spring snowmelt all combine to put added pressures on existing storage facilities.
- The added pressures that may come from climate changes and rising snow elevations will exceed the storage capabilities of the existing reservoirs, increasing the potential for flood damages downstream and the inability to capture and store needed water supplies during periods of early run-off.
- Following the recent period of unprecedented drought, many of the state’s reservoirs are operating at less than half or even lower capacity. If the drought continues the state will be severely short in terms of stored water supplies.
- The potential for a devastating earthquake to disrupt the state’s existing water delivery systems makes redundant storage facilities and reservoirs a sound investment for the future of California.

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