Assembly
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SELECT COMMITTEE ON REGIONAL APPROACHES
TO ADDRESSING THE STATE'S WATER CRISIS
JOSE SOLORIO
CHAIR

20 x 2020 Water Conservation: Are Regions on Track to Success?

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Water conservation has become one of the foundations for California water management. Agricultural and urban water agencies across California invest in water efficient technology and incentive programs to encourage customer conservation. They use conservation to reduce demand and improve overall reliability of existing water supplies. In some communities, conservation allows continued growth without the costs of building new water supply infrastructure. Many agencies consider water conservation the least expensive way to "create" new water supplies.

In 2009, the Legislature passed and the Governor signed a suite of bills that instituted substantial reform to water management, known as the 2009 Delta/Water Legislation. Water conservation principles appear in all of the bills, including recognition of the California Constitution's requirement for reasonable use, more effective monitoring and reporting of water use, enforcement of water rights, and funding for water conservation programs. One bill, SB 7 X7 (Steinberg/Pavley) focused exclusively on water conservation. Although the bill addressed some aspects of agricultural water conservation, its cornerstone set a statewide target of reducing per capita urban water use by 20% by 2020. This target, known as "20x2020," is the focus of today's hearing.

Water Conservation in California

When California achieved statehood, its water resources were abundant, but not necessarily located where needed. In Gold Rush mining camps, conflicts over taking water out of a stream arose and the miners established their own law of water rights to allocate limited water for what was water-intensive mining practices. As the state developed, water remained a critical ingredient in the state's growth and development. Initially, communities drew on local streams and groundwater aquifers. As cities grew, they developed water projects to draw water from distant Sierra Nevada watersheds. The abundance of Sierra water and snowpack allowed urban residents to use water with little concern for shortage or water conservation.

STATE CAPITOL ♦ P.O. BOX 942849 ♦ SACRAMENTO, CA 94249-0069
TEL: (916) 319-2069 ♦ FAX: (916) 319-2169

Reasonable Use Doctrine. California voters soon recognized the state's limitations on water supply in their arid western environment. In 1928, they approved an initiative establishing "reasonable use" as a limit on water rights and use. This doctrine considers a wide range of facts to determine what is "reasonable." As water use practices evolve, what is reasonable changes as well. As California grows and water demands increase, exercising judgment under the Reasonable Use Doctrine becomes more central to effective water management. Conservation becomes a critical tool.

Best Management Practices. Urban water conservation gained greater attention during the 20th Century's worst drought in the 1990s. As Californians suffered water cutbacks and restrictions, urban water agencies began developing "best management practices" (BMPs) for efficient water management and use. In 1991, almost 100 agencies signed a "Memorandum of Understanding Regarding Urban Water Conservation in California," committing to implement the BMPs for water conservation. In the next 15 years, increasing numbers of urban water agencies signed the memorandum of understanding and legislation adopted its terms as a requirement for obtaining state water funding, which voter-approved water bonds began offering in 1996. The agencies created the California Urban Water Conservation Council, which promotes and follows agency implementation of the conservation BMPs.

California conservation efforts have largely succeeded over the last 20 years, allowing for continued growth without corresponding increased water demands. Southern California, for example, has increased its population by approximately one-third over the last 30 years, but its water demands have remained stable. Conservation programs promote more efficient water appliances, such as showerheads and toilets, and State law has required low-flush toilets since 1992. Landscaping, which accounts for more than 50 percent of residential water use, increasingly relies on drought-tolerant, low-water vegetation.

Conservation Water Rates. As explained in last year's Select Committee on Regional Approaches to Addressing the State's Water Crisis hearing on landscape water use, water rates play a critical role in consumer decisions on water conservation. As water rates increase, consumer interest in conservation increases. Where water rates remain low (or are hidden in general taxes) consumers have little incentive to conserve water. Agencies commonly use some kind of conservation pricing, such as tiered water rates (use more, pay more) to encourage efficient water use. The Irvine Ranch Water District (IRWD) pioneered "allocation-based" water rates, where each property receives a "reasonable" allocation of water at a low rate. If the consumer uses more than the allocation, then the consumer pays a higher per-gallon rate. IRWD has enjoyed great success at reducing residential water use with these rates, achieving substantially less per capita water use than neighboring water agencies.

After 15 years, the BMPs resulted in more efficient urban water use statewide, although each region continued to reflect its different climate and water-use conditions. The coastal regions, with more temperate climates, use less water. According to Department of Water Resources statistics, the lowest 2005 residential water use occurred in the San Francisco Bay Area, at only 103 gallons per person per day in 2005. The highest combined urban use occurred in the desert regions of the Colorado River basin, at 346 gallons. The South Coast used approximately 180 gallons for all its urban uses, while the Sacramento Valley used about 250 gallons.

The 20x2020 Legislation: SB 7 X7 (Steinberg/Pavley)

The 2009 water conservation legislation originated in AB 2175, a 2008 bill by Assemblymembers Laird and Feuer, that originally proposed that the Department of Water Resources (DWR) set a target for reducing urban water use. Shortly after its introduction, Governor Arnold Schwarzenegger called on all Californians to reduce per capita water use by 20 percent by 2020, which the Laird/Feuer bill adopted as their target. AB 2175, however, did not reach the Governor's desk. In 2009, Feuer introduced AB 49, which again proposed 20x2020. That bill, along with an alternative by Senator Dutton (SB 261), proceeded through the Legislature and ultimately was consolidated into SB 68, a single water reform bill by Senator Steinberg which failed on the last night of the regular session. When the 7th Extraordinary Session on water convened, Senator Steinberg introduced SB 7 X7, which contained the provisions of AB 49 as amended.

In essence, the resulting bill, SB 7 X7 (Steinberg/Pavley), set a statewide target of reducing urban per capita water use by 10 percent by 2015 and 20 percent by 2020, but provided several options for each water agency to set its own target and contribute its share of water conservation. It allowed water agencies to set their own targets:

- *Baseline:* Each agency can select any 10-year period ending between 2004 and 2010, which allows selection of the highest-water-use decade to achieve a higher 2020 target.
- *Method:* Calculating the agency's 2020 water conservation target requires selection of the amount and method of calculation. While the statewide target remains 20 percent, some agencies may set a lower target, if they already have low water-use. In any case, agencies must achieve a 5 percent minimum reduction, except for agencies whose customers already use less than 100 gallons per day. Agencies may choose:
  - *Statewide Target of 20%.* The agency baseline may affect the actual gallon target.
  - *Combination of Conservation Practices.* The combination includes indoor use of 55 gallons per person, landscape water use standards, and 10 percent reduction in commercial/industrial water use.
  - *Regional Five Percent.* Target is 95 percent of regional targets set by DWR.
  - *DWR Method.* The legislation required DWR to establish a compliance method that incorporates regional differences in water use (*e.g.* climate, population, industry).
- *Commercial/ Industrial Use:* Agencies may set policies that incorporate commercial, industrial and institutional water use – or "process water" – into per capita water use, but may not mandate specified reductions in such uses.

These variables reflected numerous amendments to AB 49 to address a wide range of regional concerns from water agencies that would implement the 20x2020 target. Regions in the "area of origin" for water supply (*e.g.* Sacramento Valley) objected to the requirements because they had enough water, but the Legislature decided to impose the conservation requirement statewide. So, the Legislature worked with stakeholders to develop the amendments designed to address the regional diversity of water use practices, climate, history of investment in water conservation and reductions in urban water use. Water suppliers also were allowed to join with a broader group of suppliers to meet the targets regionally. Finally the bill provided urban water suppliers with the option of shifting more water use to recycled water to meet their targets.

Urban Water Management Plans

SB 7 X7 utilized the long-standing requirement for "Urban Water Management Plans" to structure state oversight of the development of agency conservation targets. The five-year deadline for urban water suppliers to submit their plans to DWR had been December 31, 2010. SB 7 X7 extended that deadline to July 1, 2011, but required those suppliers to determine their water use baseline and set their water conservation target, applying the bill's provisions. State law has long required urban water management plans to include information on the supplier's water conservation programs, so the 2009 bill simply expanded the connection between the plans and the State's water conservation targets.

California established the urban water management planning process in 1983. Every urban water supplier – both public agencies and private utilities – that either provides over 3,000 acre-feet of water annually or serves more than 3,000 or more connections, is required to assess the reliability of its water sources over a 20-year planning horizon considering normal, dry, and multiple dry years. The plans support the suppliers' long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. The supplier includes its long-term assessment in its plan, which the law requires such suppliers to prepare and submit to DWR every five years. DWR then reviews the submitted plans to make sure they have completed the requirements identified in the Urban Water Management Planning (UWMP) Act (Division 6 Part 2.6 of the Water Code §10610 - 10656), and reports to the Legislature.

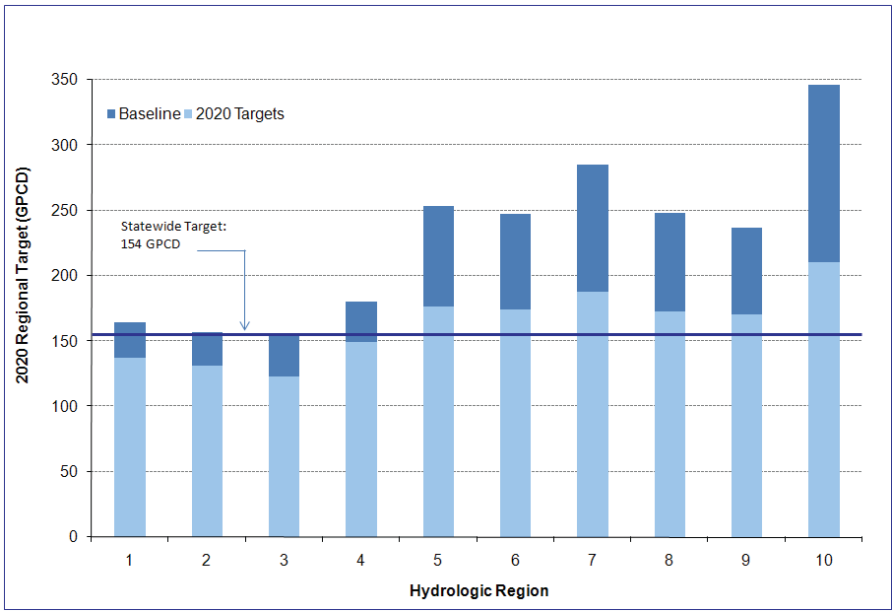
Outcomes. Water suppliers submitted almost 400 plans to DWR, which is in the process of reviewing those plans in detail. DWR, however, extracted each supplier's information on its baseline and conservation target (for both 2015 and 2020). The DWR presentation will further explain the outcomes, but the following chart shows the regional averages for baseline and conservation targets.

	Hydrologic Region Number									
	1	2	3	4	5	6	7	8	9	10
Baseline (1995-2005)	165	157	154	180	253	248	285	243	237	346
Interim Targets (2015)	151	144	139	165	215	211	237	208	204	278
Targets (2020)	137	131	123	149	176	174	188	173	170	211

Regions

1- North Coast
2- SF Bay
3- Central Coast
4- South Coast
5- Sacramento R.
6- San Joaquin R.
7- Tulare Lake
8- N. Lahontan
9- S. Lahontan
10- Colorado R.

The graphic form shows that the coastal regions (the first four) start out close to the statewide target for water use – 154 gallons per person per day. The top of these bars shows the region's baseline and the lighter part of the bars shows the region's target.



Looking to the Future

As this hearing will show, urban water agencies have accepted this challenge to reduce urban water use. Two decades have passed since leading urban water agencies agreed to implement best management practices to achieve conservation. The 20x2020 targets changed the water conservation dynamic, setting a firm objective for those BMPs, to move from doing good things to achieving actual reductions in per capita water use. While many states promote urban water conservation, California's 20 percent target remains a unique policy in the United States.

This hearing offers an opportunity to look ahead, to the next steps for California in promoting water conservation. SB 7 X7 took some significant steps toward the future, but it was not able to do all that the legislators who led the effort hoped to achieve. In addressing local concerns and allowing flexibility in achieving the statewide target, issues will continue to arise, including:

- *Higher Targets?* Some agencies already have achieved their 2020 conservation targets, given a weaker economy and a wet 2011. Should the Legislature, at some point in the future, consider higher targets or would those targets penalize success?
- *Variation in Regional Targets?* The regions show substantial variation in their per capita water use and their conservation targets, given their varying conditions. Should those differences lead to different targets for each region?
- *Water Recycling?* SB 7 X7 allows recycled water to count toward reductions in water use, which may suggest the next stage of water "conservation" may focus more on water-use "efficiency," or the maximum use of each drop of water that arrives in California. Does recycling provide benefits similar to those provided by conservation? (The Water, Parks & Wildlife Committee will hold a hearing on this issue next week.)

- *Stormwater/Rainwater Capture?* California stormwater policy has focused on the water quality challenge of polluted runoff, especially for the State's beaches. In recent years, water leaders have paid increasing attention to capturing and using this rainwater and stormwater as a valuable resource. This practice may reflect a more efficient approach to water management. If recycled water counts toward conservation targets, should capturing water that otherwise flows to the ocean count as well?
- *Agricultural Water Conservation?* The bill required agricultural water management plans and certain "critical" practices (*e.g.* volumetric pricing), but the original bill set a 500,000 acre-foot target for agricultural water conservation. There is much debate about the benefits of agricultural water-use efficiency, given that excess water often flows back to the river. Will the new agricultural water management plans show ways that agriculture might achieve additional water conservation?
- *Positive Effect of Conservation?* Water conservation affects available regional water supply differently. In regions that import water (Southern California and the Bay Area), water conservation reduces demand for exports or frees up water for other uses. In contrast, water managers in upstream areas assert that their conservation has little impact on total water supply, because excess water flows back into the River, either directly or through a water treatment plant. Should conservation be assessed in terms of actual impacts on California rivers?
- *Baseline/Target Flexibility.* Agency flexibility in setting their own baselines and targets may allow some agencies to do very little in conserving their water use. This flexibility rewards agencies that have a history of water conservation investments or current low levels of water use. Does this flexibility impair statewide achievement of 20x2020?

The Legislature may have an opportunity to consider these issues in future years. SB 7 X7 requires DWR to report to the Legislature on the achievement of the 2015 interim water conservation targets by the end of 2016, including recommendations on how the Legislature could adjust the law to help achieve the 2020 targets. This hearing provides an opportunity for an interim review, to see if information may suggest any interim measures – by the Legislature or state agencies, now or later.