

## Does California Have the Water to Support Population Growth?

California's population grew by over 10 million between 1980 and 2000, and it is expected to increase by another 14 million by 2030, reaching a total of 48 million. One of the most serious concerns of policymakers is whether the state will be able to supply the water needed to sustain this growth. Much of the state's population lives in areas that rely on "imported" water—water brought in from distant north-state rivers, Sierra Nevada watersheds, or even beyond California's borders. It is clear that the old way of doing business—simply damming up rivers and building aqueducts to move captured surface water—is no longer a viable strategy for accommodating this tremendous increase in population.

Policymakers and water planners have begun considering several alternative ways to bring supply and demand into balance over the years ahead. Options include expansion of non-traditional sources of supply (for example, underground storage, recycling, and desalination), reallocation through water marketing, and conservation incentives and regulations.

Although many large water projects in the past were undertaken with state and federal leadership, most current options are local or regional in scope. The California Department of Water Resources (CDWR) produces a statewide water plan every five years or so, but the frontline agencies responsible for water supply are the hundreds of municipal utilities serving the state's residential and commercial customers.

Key considerations of water demand growth are also in local hands: City and county governments are responsible for making land-use decisions—relating to general and specific plans, zoning, and subdivision maps—that affect not only the quantity but also the footprint of local development. The footprint is important because landscaping frequently accounts for more than half of all municipal water use.

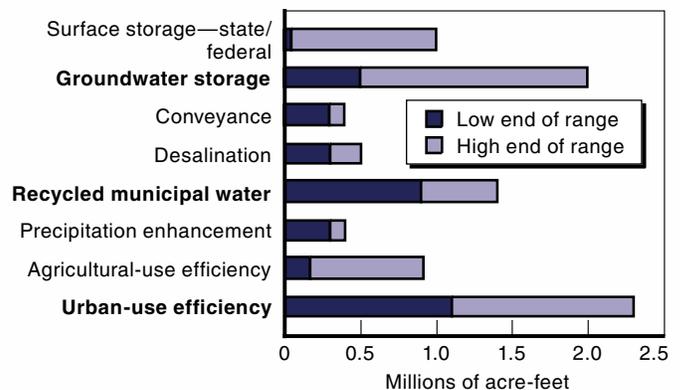
In *Water for Growth: California's New Frontier*, Ellen Hanak examines how well California is faring in meeting the water supply challenges of growth. Her report examines the performance of water utilities throughout the state and draws

on her original survey of local governments to see how they are integrating water supply concerns into their land-use planning.

She finds that if per capita urban water use remains at its 2000 levels of 232 gallons per person per day, California will face an expansion of water demand by 40 percent, or 3.6 million acre-feet, by 2030. Yet her review of supply options suggests that the situation may not necessarily prove dire. Ample opportunities are available over the coming decades to meet the state's needs through a diverse portfolio of conservation, groundwater banking, recycling, and water transfers that can help supplement surface storage.

Figure 1 illustrates CDWR estimates of how much water could be generated from various sources between 2000 and 2030. These estimates, which draw on assorted studies, indicate a scope for expansion well above the range of expected growth in urban and environmental demand.

**Figure 1—Annual Production Potential from New Water Supply Sources and Conservation, 2000–2030**



SOURCE: Department of Water Resources, "California Water Plan Update," Bulletin 160-05, Public Review Draft, Sacramento, California, April 2005.

*California's water supply could be greatly increased through groundwater storage, municipal wastewater recycling, and greater efficiency in urban water use.*

However, there are shortcomings with local agencies' water planning efforts. The Urban Water Management Planning Act introduced in 1983 requires that all large municipal utilities prepare a comprehensive water supply and demand planning document every five years. Yet in 2000, one-sixth of required municipal agencies submitted no water plans whatsoever, and a significant portion of submitted plans lacked detailed projections of supply and demand. Many utilities seem to be banking on "paper water" that is already being used by someone else within the state's water system. It does appear that water planning is more comprehensive and complete when water districts coordinate with other public agencies and seek information from the public on their intentions for future water use. And in terms of supply planning, there appears to be a positive movement toward recycling. But on the negative side, there seems to be limited focus on conservation and a threat of overexpansion of groundwater use in unmanaged basins.

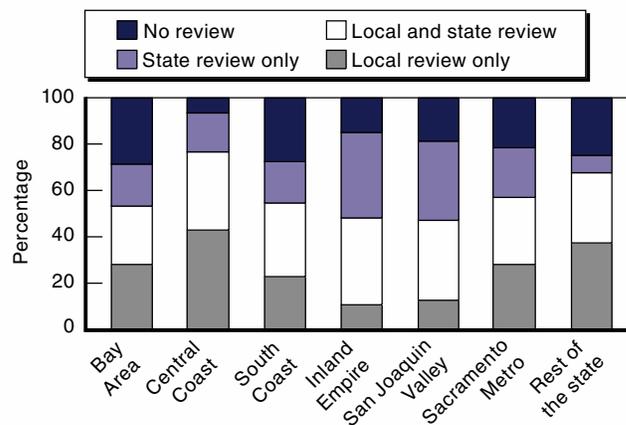
### *Integrating Water and Land Use*

Hanak's survey of city and county land-use planners suggests that the "disconnect" between utilities and local governments is not as large as many might have imagined or feared. Six out of 10 land-use agencies participate in the planning activities of at least some of their local utilities, and nearly as many are active in water policy groups concerned with regional resource management.

A central concern has been that the local government-utility disconnect will lead to the approval of new development without adequate water supplies, putting existing and new residents at risk of shortages. However, the survey showed that over half of all cities and most counties—housing over half of the state's residents—have some form of local oversight policy to guard against this possibility (Figure 2). In addition, the passage in 2001 of Senate Bills 610 and 221—the "show me the water" bills—requires the demonstration of adequate long-term water supply before approval of large development projects. These new laws have already made their mark. Developers are being sent back to the drawing board to come up with more secure supply options, and many projects are being designed to incorporate recycling and conservation.

Appellate court rulings have also put developers, land-use authorities, and utilities on notice that project water supply assessments can be successfully challenged if they do not adequately analyze long-term supply reliability.

**Figure 2—Regional Patterns of Water Adequacy Review Activity**



SOURCE: PPIC land-use planner survey.

*New state laws are filling a gap where local oversight policies were lacking.*

### *Meeting the Water Supply Challenge*

The author notes that although success is not guaranteed, California is well positioned to tackle the challenges of finding and managing water for growth. She points out that if communities reject growth rather than finding water supply solutions compatible with it, the state faces the prospect of more critical housing shortages. To avoid either scenario—a water shortage or a housing shortage—she argues that California's utilities and local governments must focus on four key challenges: (1) strengthening long-term water planning; (2) streamlining water adequacy screening for new development, so that local planners look carefully at the situation without unreasonably slowing housing growth; (3) realizing the potential of water conservation (especially in the fast-growing inland areas where tiered rates could do the most to moderate use); and (4) consolidating progress in groundwater management.

### *How Can the State Help?*

To date, the state's main role has been to facilitate better local water and land-use planning through certain pieces of legislation, financial incentives, and technical support. However, water management laws have relied on citizen enforcement rather than direct state oversight. Billions of dollars in state water bond funds have enabled the state to reward local entities for taking positive actions. Yet, the author suggests, there is more room for regulatory actions—in particular, withholding new water-rights permits, as a way to encourage local entities to manage water resources responsibly.

*This research brief summarizes a report by Ellen Hanak, Water for Growth: California's New Frontier (2005, 196 pp., \$15.00, ISBN 1-58213-108-2). The report may be ordered online at [www.ppic.org](http://www.ppic.org) or by phone at (800) 232-5343 or (415) 291-4400 [outside mainland U.S.]. A copy of the full text is also available at [www.ppic.org](http://www.ppic.org). The Public Policy Institute of California is a private, nonprofit organization dedicated to independent, objective, nonpartisan research on economic, social, and political issues affecting California.*

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