

Don't forget land use in drought debate

By Roger Dickinson Special to The Bee

As California moves into its fourth year of prolonged drought, state and local agencies are mulling further restrictions on the use of water in urban settings. From prohibiting yard watering on cold or rainy days to stopping the operation of fountains, the search for ways to reduce water consumption continues.

But in a state where water has always been precious and where climate change presents an even more challenging future, we must consider the backdrop for our policy decisions about water and other natural resources.

The fact is that in normal times, about one-third of our water for municipal and agricultural use comes from the ground. During droughts, as much as two-thirds of our supply comes from groundwater. As we increasingly rely on groundwater, that source is depleted even further. If there is insufficient rainfall or we do not take other steps to restore our groundwater basins, then this vital source cannot be sustained over time.

Land use is the context from which all our other decisions about resources follow. How much land we devote to urban and suburban uses and how much is saved for farmland is determined by the land-use pattern we adopt.

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To the extent that we spread further outward with urban uses, we often sacrifice wetlands and forests, removing valuable land for capturing and filtering groundwater. As we pave over more land, we create more impervious surfaces, leading to increased runoff and greater evaporation of rainfall. That causes us to lose even more water that otherwise would go into the ground, as much as 10 percent. A study by SmartAmerica shows that urban areas can lose tens of billions of gallons of water annually due to the loss of wetlands and forests and the increase in impervious surfaces. Moreover, with more runoff, the likelihood of urban flooding increases, while water quality declines.

The implications for our immediate and long-term health and well-being, as well as our public treasuries, are dramatic. We spend more on infrastructure to contain and transport increased runoff safely away from our neighborhoods. To protect plants, animals and ourselves, we spend additional money to try to capture pollutants in the runoff. Under both state and federal law, we are committed to intensive public and private initiatives to lessen the impacts of increased runoff.

Longer term, the loss of water that would otherwise recharge groundwater aquifers increases the challenge of developing sustainable practices as mandated by the Legislature last year. For the first time in California, that legislation requires the establishment of local groundwater agencies and the development of sustainable management plans for the basins at greatest risk of overdrafting. In many of the affected basins, we have been depleting the aquifer for decades. Restoring and maintaining a sustainable groundwater supply while continuing to provide for needed municipal and agricultural uses will be an arduous and time-consuming task.

How, then, should we change our land-use decision-making?

First and foremost, we should carefully consider urban development proposals to avoid eliminating forest land or wetlands, whenever possible. Second, we should tailor any urban expansion to minimize impervious surfaces and to maximize groundwater recharge. A host of techniques, including narrower streets, more open areas and use of porous materials, have been identified. Third, we should look for opportunities within existing cities to accommodate more people. Fourth, we should reduce the amount of impervious surface through such approaches as “green streets” like Freedom Park Drive in North Highlands and Dixieanne Avenue in North Sacramento.

We all recognize how precious and limited our water is. Now, we need to make land-use decisions like we understand it.

Roger Dickinson, a former state assemblyman and former Sacramento County supervisor, was the author of [Assembly Bill 1739](#), part of the Sustainable Groundwater Management Act.