

# Southwest HYDROLOGY

The Resource for Semi-Arid Hydrology

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Sustainable water, unlimited growth, and  
quality of life: Can we have it all?

Southwest Hydrology  
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# Southwest HYDROLOGY

The Resource for Semi-Arid Hydrology

A bimonthly trade magazine for hydrologists, water managers, and other professionals working with water issues.



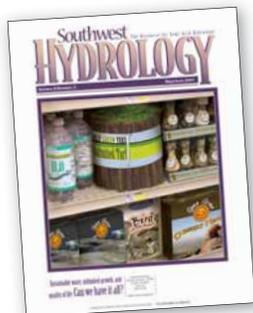
From the Publisher

*Sustainable water, unlimited growth, and quality of life: can we have it all? This issue not only tackles that thorny topic, it also presents a preview of Southwest Hydrology's first symposium, sponsored jointly with the Arizona Hydrological Society, in Tucson Aug. 29-Sept. 1, 2007. Interestingly, the response to our call for abstracts produced several that faced the question head on, but with some saying, "yes, of course we can," and others, "absolutely not!" What do you think? The articles here explore aspects of trying to "have it all" related to accommodating growth, preserving ecosystems, management options, and the strong link between energy and water supplies—they may change your mind or reinforce your initial response. And if you like what you read here, you won't want to miss the symposium, where we're bringing together preeminent scientists, planners, and policy makers to confront the difficult issues that lie before us.*

*The symposium will also offer optional workshops and field trips. Four concurrent technical sessions and a robust poster session will present wide diversity of work. We're covering science, policy, and technology, and it's all happening in a beautiful resort setting where the room rates are low! Check out our website for more details ([www.watersymposium.org](http://www.watersymposium.org)). Registration is now open and the room block is filling up, along with exhibit spaces and sponsorships. What are you waiting for?*

*As always, we thank our advertisers, whose support of the magazine is critical. In addition, thanks to our authors, and we look forward to seeing you all at the symposium!*

Betsy Woodhouse, Publisher



Cover design by Mike Buffington.

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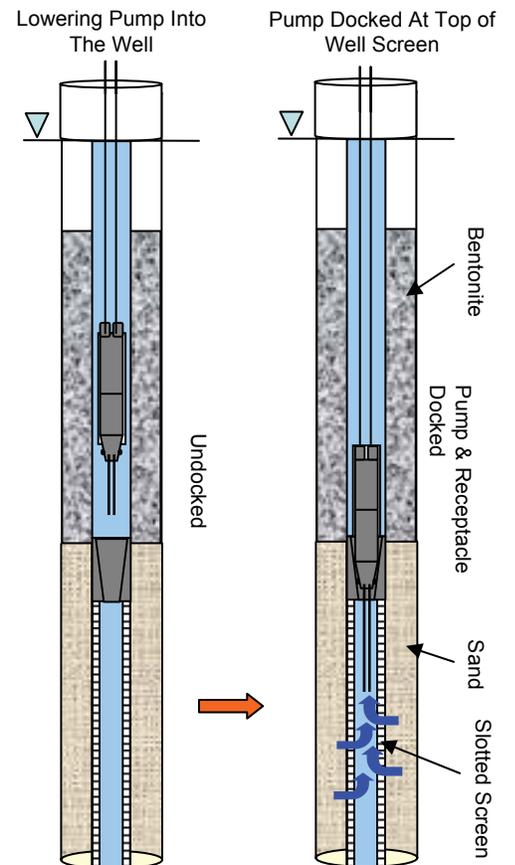
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## Can We Have It All?

In this preview of our first regional symposium, we consider some of the tough questions facing scientists, planners, and policy makers: Do our water policies reflect the actual physical limits of our water resources? How tightly are growth and energy consumption tied to water demand? How can we sustain our ecosystems, knowing today's activities may not impact the hydrologic system for decades? How can we grow differently? Only by answering questions such as these can we try to accommodate the interests of the economy and the environment, and still have a place we want to live in.

### 18 Sustainable Water Resources in the Southwest: Can We Have It All?

*Jeffrey Loux*

Can we create a sustainable water supply, maintain thriving economic development, and sustain or even enhance aquatic ecosystems? Now? For the next 50 years? The next century? If so, what must happen?

### 20 Limits to Groundwater Development: Toward a Better Understanding

*William M. Alley and Stanley A. Leake*

Depletion of a small part of the water in storage can significantly impact surface water, water quality, and land subsidence. Furthermore, impacts may not become evident until decades after pumping ceases.

### 22 Rivers and Water Management in the Southwest

*Jeanmarie Haney*

At the negotiating table, when water needs are discussed, riparian health is often overlooked. Ecologically sustainable water management can be achieved only if we recognize riparian needs and identify the connections between aquifers, streams, and consumptive groundwater use.

### 24 At the Crossroads: Energy Demands for Water Versus Water Availability

*Mike Hightower*

More people in the Southwest create a higher energy demand, which in turn requires greater water use. How much more depends on the type of power plants built, cooling technologies used, emission requirements, and the use of alternative fuels.

### 26 Shifting the Burden: Developers Take on Water Services Roles

*Michelle Henrie*

Developers have begun to locate and purchase their own water rights, install water infrastructure, and initiate water-savings measures. In short, they are acting like municipalities. How well does this work, and who benefits?

### 28 Wringing Water-Thrifty Urban Design from Southwestern Water Plans

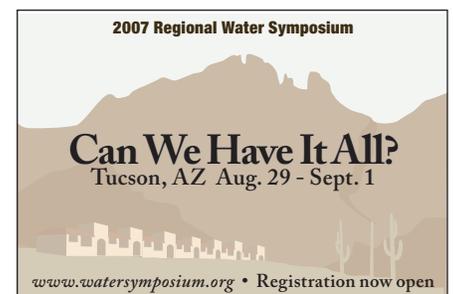
*Jan C. Bush*

The strategies a city uses to accommodate growth affect its water consumption. Urban density can be a water demand management tool, but not all municipalities take advantage of it. Read how four Southwest municipalities are planning for the future.

### 30 Adapting Water Policy to Meet Future Challenges

*Lester A. Snow, John K. Woodling, and John T. Andrew*

California's new water plan identifies and prioritizes numerous programs that can be collectively implemented to augment water supplies while reducing demands. However, new policies in support of the plan must be instituted at state, regional, and local levels for the plan to be successful.



Publishing **Southwest Hydrology** furthers SAHRA's mission of promoting sustainable management of water resources in semi-arid regions.



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