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CREATIVITY ON TAP

Clients are using inventive strategies to source and manage their drinking water supplies

With growing populations, stricter regulations, more frequent periods of drought and few traditional sources to tap for new supplies, many utilities are finding it tougher than ever to meet the public's increasing demands for drinking water.

Pressure on supplies has reached a point, especially in arid regions of the country, where the choices aren't easy anymore. Many pristine sources have been diminished by persistent drought or threatened by pollutants while population and demand keep rising.

Water utilities are struggling to fill the gap and address security and reliability concerns by developing backup, alternative supplies of drinking water. At the same time, they're trying to keep water rates affordable and find adequate funding to replace aging facilities and pay for climbing energy costs.

Pushing the envelope

As a result of these pressures, many of our water utility clients are starting to think differently these days. They're pushing the envelope and looking beyond standard solutions to protect and optimize their drinking water supplies to meet demand. They're getting more creative, considering alternative sources, and taking steps to secure drinking water safety and quality.

The approaches they're using range from storm-water controls and groundwater management plans to recycling, conservation and desalination. For example, instead of seeing storm water as a nuisance to remove as quickly as possible, many clients now look at it as

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a valuable resource that can augment existing water sources.

Utilities are also looking at better ways to manage their groundwater and surface water resources. In some areas, for example, clients are losing drinking water wells due to water-quality issues such as migrating pollution in the groundwater. We're working with them to assess the quality and quantity of their wells and develop comprehensive groundwater action plans to ensure they maintain reliable, long-term supplies.

Other clients are depleting their groundwater resources by overpumping. We're helping them develop smart "conjunctive use" approaches that balance their available groundwater and surface water supplies. These strategies call for reducing pumping during wet years when plenty of surface water is available, and increasing groundwater use when rivers are running dry, along with increasing reliance on additional supplies like recycled water. These plans can also help clients deal with increasingly stringent drinking water standards and potential well shut downs by developing dependable, alternative water sources.

Environmental demands are also adding to the pressure on supply for many clients. Some utilities, for example, are agreeing not to withdraw river water during midsummer drought periods, when low river flows can threaten salmon runs. As a result, these agencies face even greater need for auxiliary water supplies so they don't come up short in a dry year.

Resources and regional solutions

To maximize all their water resources, of course, utilities need to have the right infrastructure, including wells and water treatment facilities. As a result, rates and funding are increasingly big issues for our clients. Some are meeting the challenge with creative, regional solutions—sharing costs, planning and infrastructure with other water districts on a regional basis.

At Brown and Caldwell, we're helping clients meet their water resource challenges by emphasizing solid science and creative, integrated approaches. We see all water as a resource, whether it's in the ground waiting to be pumped, in pristine mountain streams, in runoff (urban, agricultural or other) or discharged from a wastewater treatment plant.

In this issue, we've assembled a wide array of articles that reflect the water issues that many of our clients are facing and the creative strategies and solutions they're employing. Our approach, in each case, is to help them develop efficient, innovative and integrated strategies that can balance supply and demand, cost-effectively, for the long term.