

Los Angeles Times

14 PAGES EST

latimes.com

A utility that fills its own aquifers

In the Inland Empire local supply quenches local demand, bucking an old import habit.

BETTINA BOXALL

Thick clouds veiled the peaks of the San Gabriel Mountains. Not far away, just south of East Riverside Drive in Ontario, water gushed into an earthen basin the size of 10 football fields.

It had washed up there from the rain-filled gutters of East Merion Drive, Doral Court and South Grove Avenue. Most parts of Southern California would have shunted the storm runoff to the sea as fast as they could.

But here, on the southwestern edge of San Bernardino County, a local utility hoarded it, letting it sink into the earth and into the future drinking supplies of the Inland Empire.

The simple act defied a century of Southern California tradition.

Ever since cold Sierra meltwater first tumbled into the San Fernando Valley from the Los Angeles Aqueduct, the Southland has been addicted to water from someplace else.

But as the big straws that carry that water hundreds of miles from the Eastern Sierra, Colorado River and Northern California all shrivel under long-term environmental forces, water managers are shifting their gaze homeward, toward sources that Martha Davis calls "overlooked, mistreated or underutilized."

Davis is executive manager of water policy for the Inland Empire Utilities Agency, a district at the forefront of the emerging local-is-good movement. About 70% of the agency's water comes from its own

[See Water, Page A6]

Utility reverts to the long ago and not-so-far-away

[Water, from Page A1] backyard: a patchwork of dairies, industrial parks and planned communities overlooking the big Chino Groundwater Basin.

In Los Angeles, local sources make up less than 15% of the city supply. The South-

ern California region overall gets more than half its water from afar. In a typical year, the L.A. Basin sends the equivalent of three-quarters of Los Angeles' annual water demand into the ocean in the form of runoff and treated wastewater. "We're going to have to live

within our means," says Richard Atwater, chief executive of the Inland Empire agency. "Do you really want to wait until we all go over a cliff?"

Davis, 55, and Atwater, 57, are at first glance an unlikely management team.

Atwater grew up in Long car.

Beach, wears white button-down collar shirts and spent a decade working for the U.S. Bureau of Reclamation and the Metropolitan Water District of Southern California — powerful agencies that move water around California and the West as though it were a railroad box



GINA FERRAZZI/LOS ANGELES TIMES

FAUCET: At a desalination facility in Chino, groundwater is pumped from 14 wells and purified into a potable supply.

As an MWD official in the late 1980s, he helped kill a state water board proposal to cut water shipments from Northern California for environmental reasons, decrying the plan as a recipe for drought "forever" in the Southland.

Davis grew up in Marin County and worked for Greenpeace after college.

For much of the 1980s and '90s, she headed the small but tenacious Mono Lake Committee, which took on L.A.'s mighty water brokers and won, eventually forcing the city to give up much of its water from the ecologically fragile Mono Basin on the edge of the Eastern Sierra.

A state lawmaker once described her as "a baby-faced killer" who possessed the endearing looks of a cocker spaniel and the jaw hold of a pit bull.

When Atwater left the MWD in 1990 to become general manager of two water districts in Los Angeles County, their interests converged. He was developing recycled water — a.k.a. cleansed sewage — to inject into coastal aquifers as a seawater barrier.

Davis' group, meanwhile, was exploring water recycling as a way for Los Angeles to make up for its Mono losses. The two wound up working together to pursue federal funding and Atwater came out in support of the "Save Mono Lake" campaign.

When Atwater was hired to run the Inland Empire agency in 1999, he called Davis — though she had never envisioned herself as a water utility executive. "Heavens no!" Davis exclaims.

Since then, she's learned it's easier to tell public agencies what to do than to do it herself from the executive suite.

"Particularly when you're on the outside looking in, you say, 'Why aren't you doing this? Isn't this obvious?'" she says. "But to put together the combination of resources, engineering design, political support — that's very complicated. Very doable but very complicated."

In early February, days of storms had filled the 25-foot-deep catchment south of East Riverside Drive, where rainwater began to seep into the sand and gravel at a rate of a quarter-foot a day, starting a years-long, subterranean journey to the utility's well fields a few miles south.

By the time it arrives, it will have mingled with natural drainage from the San Gabriel foothills, as well as treated wastewater, other storm runoff and some imported water the district uses to help replenish the aquifer.

At the wells, pumps suck the brew into desalting plants that strip out contaminants, including the nitrates and salts left by a century of farming. From there, the purified water

[See Water, Page A7]

Utility curtails water import

[Water, from Page A6] goes to the bathrooms and kitchens of Chino, Norco, Ontario and Chino Hills.

The utility's reliance on homegrown supplies is partly an artifact of geography. It overlies one of the biggest groundwater basins in Southern California, nourished by runoff from the mountains that tower in the background.

But Atwater argues that parts of the Southland can do much the same, weaning themselves from an imported water habit that is getting harder to satisfy.

Climate change threatens the Sierra snowpack, while environmental restrictions — including those Davis fought for — have slashed the amount of water Los Angeles can suck from the Owens Valley and neighboring Mono Basin. Drought has cut Colorado River flows, while rising demand from up-river is ending the surplus deliveries that helped fill the Colorado River Aqueduct.

Shipments through the 444-mile-long California Aqueduct could be permanently constricted by the ecological collapse of the Sacramento-San Joaquin delta, the heart of the state's waterworks.

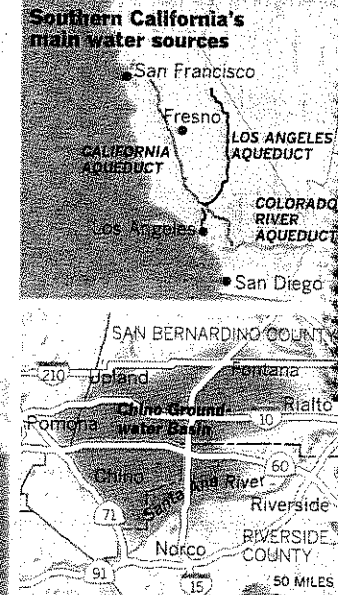
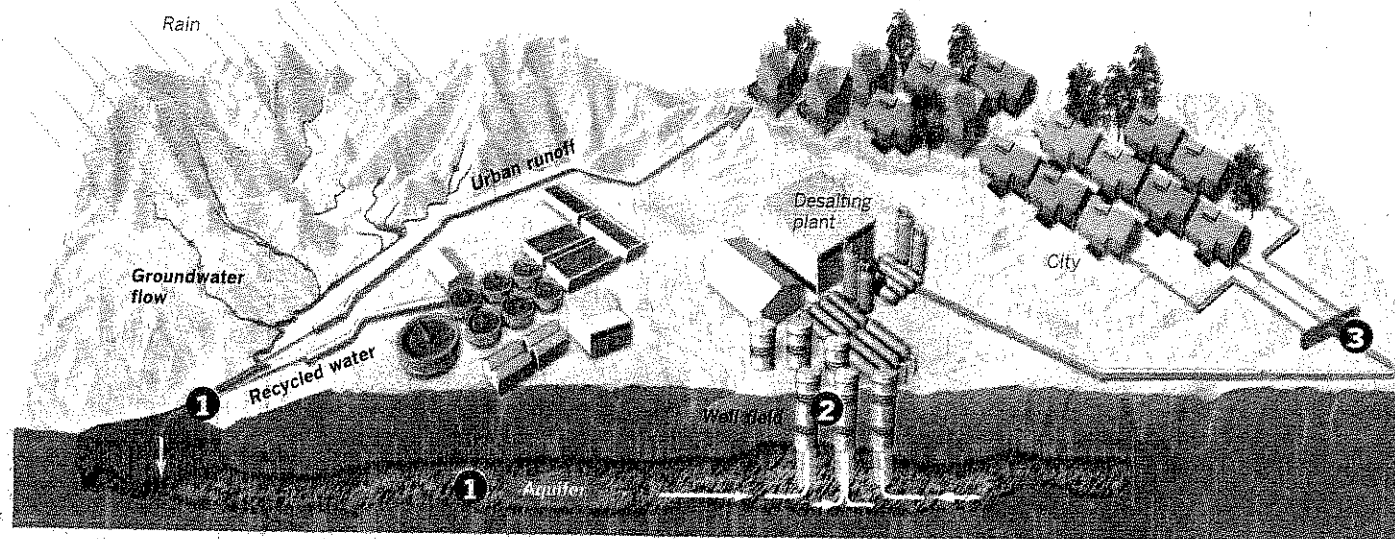
When the Los Angeles County Economic Development Corp. studied potential water sources for the region last year, it concluded that increasing conservation, capturing storm water and recycling could yield roughly as much water as the Southland is getting from the delta.

"I'm not going to say it would be easy, or could be done overnight or would be cheap," said Gregory Freeman, the corporation's vice president. But "there are all these great opportunities for us to do self-help projects.

"The water solution of the next 100 years will be different

Tapping into local resources

Most of Southern California is highly dependent on water that comes from hundreds of miles away. But the Inland Empire Utilities Agency in southwestern San Bernardino County gets most of its water locally, from the Chino Groundwater Basin.



1 Recharging

The basin is naturally recharged by runoff and groundwater from the San Gabriel Mountains. The utility also replenishes the aquifer with recycled water, urban storm water and imported supplies piped to settling grounds around the basin.

2 Desalinating

Groundwater pumped from the basin's southern portion contains a high concentration of salts and contaminants, which are removed at two desalinating plants using high-tech processes, including reverse osmosis.

3 Distributing

Treated water is piped into the local drinking supply. The agency also delivers recycled water from its sewage treatment plants to industrial customers, local parks and golf courses for irrigation.

Sources: Inland Empire Utilities Agency, Chino Basin Watermaster. Graphics reporting by BETTINA BOXALL

Water sources

Los Angeles relies much more heavily on imported water than the Inland Empire Utilities Agency.

IEUA's supplies

Local:
Groundwater 52%
Surface water 6%
Recycled 12%

Imported: 30%

L.A.'s supplies

Local:
Groundwater 11%
Recycled 1%

Imported: 88%

Sources: IEUA, City of Los Angeles. Graphics reporting by BETTINA BOXALL. LORENA I. ELEBEE Los Angeles Times

from the water solution of the past 100 years," he said.

Last year, the Orange County Water District began operating what it calls the world's largest water reclamation plant, which purifies sew-

age that then is pumped into a groundwater basin supplying 2.3 million people. In Oxnard, a desalination plant is cleaning up local groundwater. Cities in San Diego County have contracted with a private firm that hopes to break ground this year on a seawater desalination facility in Carlsbad.

Even the Los Angeles Department of Water and Power is getting the message. Last year, the utility drew up a plan that calls for more outdoor water conservation, collecting storm flows and expanding the city's recycled water pipeline system.

H. David Nahai, DWP's general manager, calls the document "revolutionary" in its departure from L.A.'s historic water hunts.

Among the ideas: reviving a proposal to pump treated wastewater into the San Fernando Valley aquifer, a project that died nearly a decade ago under a fusillade of "toilet-to-tap" criticism by Valley residents.

The plan would also require a \$1-billion cleanup of the Valley's groundwater basin, heavily contaminated by industrial pollutants.

And Nahai would like to see new developments built with porous parking lots, landscape swales and water-holding cis-

terms to retain more of the rain that sheets down streets during winter storms.

In the wet winter of 2004-2005, enough water poured from the mouth of the Los Angeles River into the Pacific Ocean to supply the city for more than a year.

When a master planned community called The Preserve was approved in Chino six years ago, developer Randall Lewis recalls, Davis and Atwater asked if he would mind "trying some things."

Lewis installed pipes to carry reclaimed water to common areas, median strips and parks, all of which are irrigated with recycled water supplied by the Inland Empire agency's sewage treatment plants.

Many lots are landscaped with drought-tolerant plants rather than grass. Runoff from streets lined with two-story houses flows into a 20-acre basin.

The area doubles as a burrowing owl sanctuary and a wetland, filtering the drain water before it flows into creeks and percolates back into the aquifer.

When the development is finished, Atwater says, none of its roughly 10,000 homes will need a drop of imported water.

bettina.boxall@latimes.com