

terrain

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RUNNING DRY

By [Casey Miner](#)

Standing on a raised stage in a small, dimly lit conference room, her head nearly touching the low ceiling, Wendy Martin is ready to call her audience to action. "I believe we are still in a drought," she says firmly. "And I'm not going to let up and say we're out of the drought until we are."

It's a sunny morning in mid-April, and about sixty Northern California "water people," as the speakers affectionately call themselves—managers, attorneys, and specialists in all things water-related—are gathered in a hotel conference room in San Francisco to discuss the condition of the state's water system. Between the end of 2008 and the beginning of 2009—the start of the state's "water year"—California had almost no rain. It was the state's third straight dry year. Officials and water managers were panicked; districts across the state began imposing mandatory rationing and long lists of rules for water use.

But then, in February, it rained. In March, it rained more. By the beginning of April, most regions of the state had received slightly less precipitation than average—it wasn't overly wet, but neither was it critically dry. The worst, it seemed, had passed.

Wendy Martin is not so sure. As the drought coordinator for the California Department of Water Resources, her job is to look beyond the rain's immediate effects. "We have to be careful," she tells the group. "We cannot give people a sense of relief that the crisis has passed. Because it hasn't."

While this may be obvious to the "water people," it's not so easy to sell the public, in part because the rain really did make a difference. While the state's biggest reservoirs are far from full, they're fairly close to average for this time of year. Add in a solid snowpack, and there's more water available for the coming year than anyone thought there would be.

But the longer-term picture isn't pretty. An increasing population and expanding agricultural needs, not to mention the wild card of climate change, are all putting pressure on the state's water system. Conservation and efficiency must become the norm. The problem is how to get people to look past the last big rainstorm. The door to the conference room is open, and across the hall a floor-to-ceiling window offers a panoramic view of the blue bay, the sky above it crisscrossed by planes arriving and departing San Francisco Airport. The scene is a fitting backdrop for a conference devoted to a fundamental California paradox: Even when you can see nothing but water, you still don't have enough.

In 1933, the California Supreme Court wrote in a landmark water rights decision that “it requires no extraordinary foresight to envision the great and increasing population of the state and its further agricultural and industrial enterprises dependent upon stored water.” The court continued, “The conservation of the waters of the state is of transcendent importance.”

Nearly eight decades later, California is still struggling to find ways to put that sentiment into practice. The state’s population has more than tripled in the last fifty years, driving up demand as supply remained relatively constant. Agricultural production increased as well: California now produces close to half of the nation’s domestic fruits and vegetables and nearly a quarter of its milk. All told, the state demands billions of gallons of water every day.

Yet the state is drier than ever. After suffering severe droughts in the late ‘70s and early ‘90s, California entered another dry spell in 2006. A dry year is one in which the state receives less water than normal from at least one of its main sources: precipitation, snowpack, runoff, and reservoirs. Local water districts can also run short for regulatory reasons—for example, when the state or federal government restricts pumping in order to protect fish stocks.

Water districts typically encourage conservation in dry years, shying away from mandatory restrictions unless they’re absolutely necessary. But last summer, the combination of dry weather and pumping restrictions meant to protect fish in the Sacramento-San Joaquin River Delta led Governor Arnold Schwarzenegger to declare a statewide drought for the first time in California’s history. As recently as this January, water districts around the state were instituting water rationing programs, drastic rate hikes, and supply cutbacks. San Diego encouraged residents to tattle on profligate neighbors. In the North Bay, the town of Bolinas threatened to cut off water to serial wasters. At the time of the drought conference in April, farmers in the Central Valley had just embarked on a four-day march to protest the state and federal regulations that, along with the dry weather, forced many farms to lie fallow.

The environmental and economic effects of the current drought will be felt for years. Over 16,000 fires burned more than 1.5 million acres of land and cost the state a billion dollars to fight; the state also suffered nearly \$400 million in agricultural losses, and more than 100,000 acres were left unplanted. Related job losses are projected to reach 23,000 this year.

Fortunately, February and March saw significantly more rainfall than expected—about eighty percent of the normal amount. In the Bay Area, it was enough that EBMUD, the East Bay’s water district, voted to repeal drought rates and stop requiring mandatory conservation as of July 1. Even Bolinas lifted all of its restrictions.

But the relief was short-lived. Rainfall in April was again below average, and at the end of the month, two of the state’s largest reservoirs, Shasta and Oroville, were at barely three-quarters of their average storage. The third reservoir, San Luis, was at just over half its average and significantly lower than last year. State and federal water allocations have been reduced as well, and in some cases cut off entirely. “We’re really thankful for February and March,” says Richard Harris, EBMUD’s water conservation manager. “Even May has started out with a bang. But we’re still below normal, and this is still the third

year in a row.” For Harris and the rest of the state’s water managers, the challenge now is to convince residents that the drought is just a symptom of a larger problem, one that won’t wash away with the rain. To create lasting change, people will have to adjust the way they think about water. Wendy Martin believes that this year’s restrictions, and the public awareness campaigns that accompanied them, present a unique opportunity to catch people’s attention. “This is about changing, long-term, what we do,” she tells the water managers at the drought conference. “We have to be more frugal.”

For water districts, conservation is a double-edged sword. As one speaker at the conference put it, “conservation is good, but so is revenue.” Water districts have a mandate to supply water to their customers, so it’s in their interest to conserve and make sure everyone gets enough. But when people use less water, the district makes less money. Higher drought rates can make up some of the shortfall, but not always enough to cover costs.

In early April, at the meeting where EBMUD voted to lift its drought rates, board members debated for some time about whether to leave them in place over the summer to make up the money they lost by imposing mandatory conservation—customers had reduced water use by an average of thirteen percent. Ultimately, the board decided it couldn’t justify continuing an emergency rate structure without an emergency. The board hopes that people will use more water than they did under mandatory conservation, but less than they would if supply were no concern at all.

Complicating matters in the East Bay is the fact that around the time the drought charges disappear, a regular rate hike of 7.5 percent will start appearing on bills. Customers will pay less than they did under drought rates but more than they did before the drought began. Harris acknowledges that some customers may feel that their conservation doesn’t mean anything if their bills don’t change. But, he says, relative to most other necessities, water is cheap. “Water is still very, very inexpensive,” he says. “It’s still one of the best bargains going.”

The fact that it’s a bargain may be part of the problem, says David Zetland, a UC Berkeley economist who studies California’s water: “Pricing should reflect the scarcity of water,” he says. Zetland, who keeps a blog about water economics at Aguanomics.com, thinks that until prices reflect demand, the state will continue to run short because no one has an incentive to conserve. “Eighty percent of the people do not care,” he says. “It’s just not worth their time. And they will only use less when it comes down to price.” Harris says that in many cases, people don’t even have to conserve. If they fixed leaks and installed new appliances, they would save significantly without having to alter their lifestyles. Still, Harris says that lifting the drought restrictions will ease up on the need for some conservation measures that people considered truly drastic, like letting their lawns go brown and taking shorter showers. “People will relax on some of those changes that are considered doable, but a little uncomfortable,” he says.

Art Jensen would like to find a happy medium. As the general manager for the Bay Area Water Supply & Conservation Agency, he oversees the water for 27 cities around the bay. One of the last people to speak at the April conference, Jensen is witty and able to get a rise out of the crowd, even at the end of the day. Over the long term, he tells them, there isn’t enough water; he worries that people will have to migrate out of population centers and into areas where water is more abundant, and he believes that

Californians can no longer “build our way out” of water shortages by constructing more dams and pumps to haul it longer distances.

But in the short term, he advocates a more moderate, flexible approach to saving water. His district, for example, has reduced water use sixteen percent over the last two years, and has purchased the same amount of water for nearly two decades, despite population growth. But as he’s keen to point out, users’ behavior isn’t uniform: In his district, per capita consumption ranges from 50 to 338 gallons a day. “Should everybody be made to live the same way?” he asks. “This country hasn’t adopted that kind of a philosophy. And yet, when we’re talking about limited resources, it can’t just be ‘as much as you want.’ Because that much doesn’t exist.”

Although Jensen agrees that some change is necessary, “we don’t have to change our lifestyles dramatically,” he says. “I don’t think we have to disadvantage ourselves.” Instead, he urges compromise. For example, he says, you don’t have to sacrifice having a yard; a homeowner could skip the moisture-sucking rhododendrons, planting drought-tolerant or native plants instead. Combined with high-efficiency appliances and sensible watering patterns, that homeowner would conserve a good deal. “A low water-use yard doesn’t have to be ugly,” Jensen stresses. “You can still have blooms and nice smells all year around. I think that’s important.” (He’s a little less flexible about another conservation issue, though: “I think we have to spend the public’s money on replacing toilets,” he tells the crowd at the conference. “Even if we have to break into their homes to do it.”)

In his district, Jensen is pursuing long-term solutions: landscape audits for corporate clients, city conservation ordinances, and massive outreach and education campaigns that seek to make conservation the norm. These kinds of approaches would give people some breathing room, he says, and help them feel like they’re making their own choices rather than being forced to live a certain way.

At EBMUD, Harris says conservation workers will continue to pursue many of the strategies they already use: targeting heavy water users for outreach and education, giving out rebates for high-efficiency washing machines and toilets, conducting public education campaigns, and encouraging people to voluntarily cut their use by ten to fifteen percent. “It’s a testament to our customers that we’re able to pull out of this early,” he says, referring to the drought restrictions. “But we’re not out of the woods yet. We still need you to continue to do what you did two years ago, so we can stretch next year’s supply and avoid mandatory rationing if we have a fourth dry year.”

While Harris doubts everyone will participate, he believes that once acquired, conservation habits die hard. In the long term, it’s all about perception. “I think people have to view the resource differently,” he says. “They shouldn’t see [conservation] as a hardship or a takeaway. We want people to see this as a solution.” As an example of water frugality, Wendy Martin cites Australia, which has suffered from a decade-long drought. Some regions limit citizens to thirty or forty gallons of water each day, mandate four-minute showers and graywater systems, and forbid outdoor watering. At the conference, these numbers provoke a collective gasp; “low use” in California is more in the range of 100-150 gallons per day.

California’s situation is not yet as dire as Australia’s—but it could be. Martin believes that

achieving Australia-like savings would require people to view water scarcity as a permanent condition, rather than a temporary inconvenience. "When it's abundant, we use it," she says. "That's human nature." Although Martin admits she would have a hard time managing an Australian-style shower, she thinks it's a matter of perspective. "There are places where people don't have water to drink," she says. "Decadence is a twenty-minute shower."

Even among water people, perceptions of decadence are relative. Martin recalls that an Australian water official recently insisted to her that California didn't have a water shortage. "He said, 'You have turf everywhere,'" she explains, referring to the ubiquitous lawn. The Australian official reasoned that if all the water devoted to outdoor landscaping went to personal consumption, hygiene and agriculture, California would be out of its drought.

But will Californians buy into conservation as a lifestyle? For now, the state is back from the brink. But that edge is still visible, even if Martin sees it more clearly than the millions of water users she seeks to protect. "As a state, we need to start developing strategies," she says. "There's not going to be more water."