

# Drought prompts good ideas for water efficiency

**I** WAS RECENTLY up in the foothills of the Sierra Nevada, walking along the bank of the Cosumnes River. In past years, the trail I was on would have been at least six feet under water, as the river swelled with spring precipitation and snowmelt. But this year the water level was several feet down the bank.

While I was happy to be able to take my beautiful hike along a dry path, it was a disturbing indicator of California's water supply status.

As summer approaches, the question of water is on everyone's mind. We are experiencing the third year in a row of lower than normal precipitation, and a variety of state agencies and nongovernmental groups are studying the problem and releasing recommendations on how best to move forward.

"California has a history of droughts, but there are some significant differences between the current drought and those of the past," notes a joint "Report to the Governor" from the California Departments of Water Resources and Food and Agriculture. Recent regulatory restrictions to protect endangered species, an increase in the number of California residents (by



AARON FRENCH  
EcoChef

9 million since 1990), and a change in agricultural crops toward orchards and vineyards have put increased strain on our water supply, the report continues.

## Feeling the shortage

Access to a steady supply of clean water is something that affects everyone, no matter where they live or what they do for a living. Some, however, will feel the effects of the water shortage more sharply than others. This is because different parts of the state have widely different water rights. While the overall water demand far outstrips the available supply (even in a "normal" year), some regions and agricultural districts have historical rights to unlimited water, while others have none.

Last year, California's farmers and food producers lost more than \$300 million

**"It's really hard to quantify how much water is actually used on a farm. It also gets very complicated when you start to see how some of the water applied to farmland benefits the ecosystem."**

— Katy Mamen

because of water shortages, and more than 100,000 acres of farmland remained unplanted or was abandoned. This year looks much more dire, as water shortfalls are expected to cause a loss of more than 20,000 jobs and billions in farm and producer income.

These projections make the recent headline in Economist magazine seem odd: "Dust to dust, good things can come from a drought." But as it turns out, a few good things may indeed come out of the dust.

Among them, a more efficient market mechanism to distribute water rights where they are most needed — and recommended in a report to the governor. The drought is also likely to prompt more efficient use of water in both urban and agricultural areas.

Making sure that water allocated for agricultural uses is used efficiently is not

simple, says Katy Mamen, Coordinator of the California Agricultural Water Stewardship Initiative.

## How much is too much?

"It's really hard to quantify how much water is actually used on a farm," Mamen says. "It also gets very complicated when you start to see how some of the water applied to farmland benefits the ecosystem. It's not a simple matter of water for farms versus water for the environment."

Mamen co-authored a report with Lisa Kresge of the California Institute for Rural Studies about innovative water management practices being implemented by farmers around California. Selecting a range of farm sizes and types, the report highlights the broad array of methods farmers are adopting.

Some methods might seem counterintuitive at

first. For example, permanent "cover crop" plants beneath trees in fruit and nut orchards might be thought to use more water than bare dirt. In fact, they "help retain water, reduce surface evaporation, and reduce or eliminate runoff and erosion," the report notes.

Other cutting-edge practices include reducing or even eliminating the plowing of fields, computerizing irrigation systems that respond to soil moisture levels, and creating on-farm drainage management systems.

While some of these systems may have high upfront costs, there can be significant long term savings with some unexpected secondary benefits. For example, if you reduce the amount of water used to irrigate your farm, you also reduce the amount of nutrients leached out of the soil. The result is healthier plants and better crops to sell at harvest.

Mamen sums it up this way: "This drought presents an opportunity to advance both practices and policy that encourage sustainable water management."

*Ecologist Aaron French is chef at the Sunny Side Cafe in Albany. He can be reached at aaron@eco-chef.com.*