

Drought Lessons From Down Under

blogs.kqed.org/science/audio/drought-lessons-from-down-under



Farmer John Magill ponders a dried-up reservoir on his farm in Parkes, Australia, in 2006. (Ian Waldie/Getty Images)

Three years into a historic drought, we're hearing a lot of talk about resilience in California. For inspiration, Californians might do well to look south — all the way to Australia.

“We had here a phenomenon that people called ‘bucket back,’” says [Rebecca Nelson](#), describing the back strain Aussies would suffer from catching the excess shower water in buckets and hauling it outside to water the garden. Nelson is a research fellow at Stanford’s Woods Institute for the Environment. She lives in Australia, which recently endured [a nine-year drought](#) — something that hasn’t happened in California for at least a century. (There were two six-year droughts in the 20th century.)

Bucket back was the least of it. The stretch that came to be known as the Big Dry was [the worst drought in Australia’s history](#). During the first decade of this century, it devastated the farm economy (at one point halving the number of sheep, the nation’s principal livestock) and triggered severe restrictions on urban water use. But Nelson says it also transformed the water culture in that country. She says some ways they found to adapt were relatively painless — and much of it stuck.

“We are now a couple years out of the drought, so I think people’s attitudes are starting to slide a little,” she admits, “but absolutely, the ethical and moral dimension of water use, I think really built during the drought.”

Urban Water Use

Nelson lives in Melbourne, which gets just about the same average rainfall as San Francisco — about 23 inches a year. She estimates that about half the homes in Melbourne now have systems to capture and store rain, and newer homes are being built with dual plumbing systems to recycle graywater. (For

example, rinse water from the washing machine goes to the toilet for flushing.)

The result is that residential water use in Melbourne is down to about 40 gallons per person, per day — including outside watering. Californians average two to four times that, depending on how much landscaping they have.

“I think there’s a lot of lessons we can learn,” says [Matthew Heberger](#), a water analyst at Oakland’s [Pacific Institute](#). He’s written extensively about the Australian experience.

Heberger says the Big Dry inspired major changes: “Lots of initiatives to capture runoff and infiltrate it into the ground, where you can later use it for water supply,” he notes. “Not allowing stormwater to just run off into the sea.”

Desalination: A Cautionary Tale

The government there spent \$25 billion on drought countermeasures — that’s twice as much as the contentious water bond that may be on California’s ballot this fall — for a country with a little more than half the population of California. That ambitious program included a string of desalination plants along the coast, a decision that many question in retrospect.

“Desalination is considered a holy grail by water managers,” says Heberger. “The ocean is essentially a limitless source of water. The problem is that it’s expensive, and it’s energy-intensive to take the salt out of the water.”

Consequently, when the rains returned, which they did with a vengeance at the end of 2010, desalted seawater could no longer compete price-wise with water that fell from the sky. “And so you’ve got these very expensive projects that have, for now at least, been sort of mothballed,” says Heberger.

Three years into California’s drought, the desal train is gaining speed in California. This nation’s [largest plant](#) is scheduled to go online in 2016 in Carlsbad, with at least a dozen more on the drawing board. Rebecca Nelson says there’s a cautionary tale here: the best decisions for drought planning are not made during the drought.

“I think most ordinary citizens would say it’s fantastic to have a climate-independent source of water,” she said. “But the panic that’s generated during drought, many people say, led the [Melbourne] desal plant to be built many, many more times bigger than it really should’ve been. And as a result, it’s very, very costly, even though it’s not being used.”

Agriculture

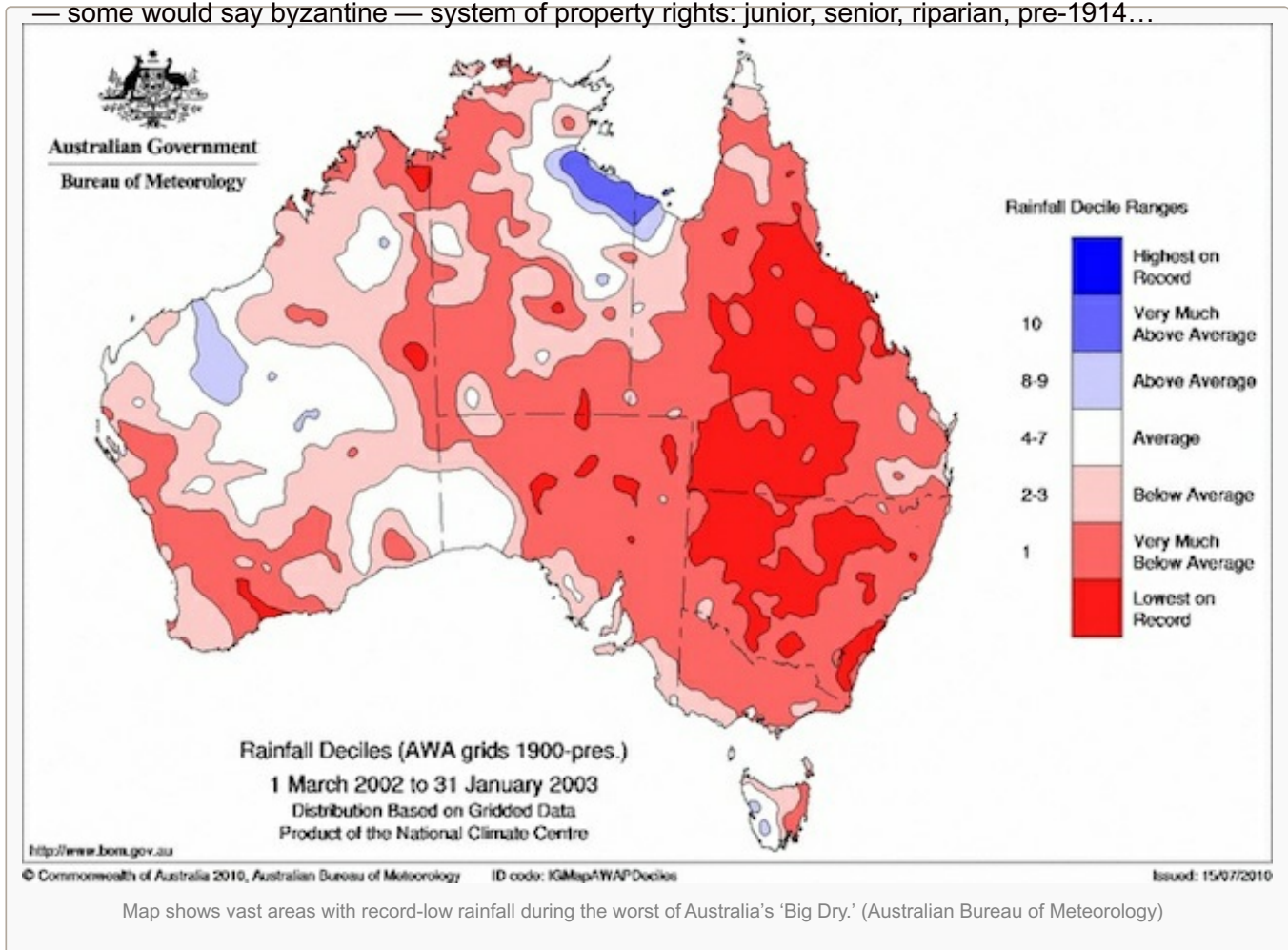
There are lots of parallels between here and there when it comes to water. In both places, most of the water is in the north, most of the people in the south. The rain tends not to fall during the growing season.



Many Australian homes now have rainwater capture systems.
(Albert Barlow, Rain Water Systems)

And Australia's agriculture — like California's — uses by far the biggest volume of water, more than two thirds in Australia, closer to three quarters in California.

And that's where transplanting lessons gets a little tricky. Here, farm water is meted out by a longstanding — some would say byzantine — system of property rights: junior, senior, riparian, pre-1914...



“That consideration just doesn't exist in Australia,” says Nelson. “The way that Australian water law manages scarcity is, if there's less water around, everybody takes a haircut.” She and many water policy experts in California agree, that's made it easier for Australians to develop an enviable system of water marketing for farmers and ranchers.

“It's almost as easy to sell water from your water bank account as it is to just transfer money from a normal bank account,” says Nelson.

As more than one observer has put it, Californians tend to settle their accounts in the courts.

So while Australia may be a useful laboratory for developing drought resilience, does that mean that California needs its own 9-year drought as a kind of shock therapy?

“I wouldn't wish that on anyone,” says Heberger. “But it did certainly do a lot to raise awareness. Everyone could tell you, you know, how high the water level in the reservoir is, that people become much more attuned to where our water comes from, that we're taking it out of the environment and using it. And that has repercussions and an impact.”

Awareness helps. But to make the Golden State truly drought resistant — that will take political will and compromise — something else that is often in short supply.

[Related](#)

