

Brown sees smallest snowpack in history, orders first-ever mandatory cutbacks

By Mark Grossi

The water frozen in snow throughout the Sierra Nevada is 8% of average — less than a third the size of the smallest on record. Video by Mark Grossi. [Read his story](#) THEFRESNOBEE

The [Sierra snowpack](#) is a ghastly one-fifth the size of the smallest one ever recorded in the mountain range, state leaders said Wednesday as California's storm season ended in disappointment for the fourth straight year.

The previous record snowpack was 25% of average, both in 1977 and last year. This year, it's only 5% of average, coming after three years of an intense drought.

Gov. Jerry Brown, who watched a snow measurement Wednesday at Lake Tahoe, announced [the state's first mandatory water reductions](#), aiming at cutting water use by 25%. He promised more enforcement in cities and actions against water agencies in groundwater-depleted areas that have not shared data with the state.

Among other measures, he ordered state officials to partner with local governments to replace 50 million square feet of lawns with drought-tolerant landscape.

"Today we are standing on dry grass where there should be five feet of snow," he said Wednesday. "This historic drought demands unprecedented action. Therefore, I'm issuing an executive order mandating substantial water reductions across our state. As Californians, we must pull together and save water in every way possible."

State regulators this month will propose regulations to impose on residents to achieve the 25% reduction, officials said Wednesday. Local water officials, cities and counties will have the authority to enforce the regulations, including up to \$10,000-a-day penalties for violators.

The 25% reduction order will be measured against water use in 2013, before the drought emergency began, said Mark Cowin, director of the Department of Water Resources.

Officials said they don't expect much more rain and snow this year. So with the small snowpack, will there also be a record low flow of snowmelt to depleted reservoirs in Central California this summer?

That's a good bet, say water leaders, who add that the tiny April 1 snowpack total looks more like something they would see at the beginning of the wet season, not the end.

"The snowpack is so far off the scale, you find yourself saying this just can't be right," says Steve Haugen, water master of the [Kings River Water Association](#), which focuses on the Kings River watershed, east of Fresno. "The runoff almost certainly will set a record this year."

Up and down the 400-mile range, snow surveyors have found only wisps of snowpack. The Sierra's average water content is less than two inches — at a time when it should be closer to 30. That's the number of inches expected to melt out of the snowpack as it runs off in spring and summer.

The snowpack has been shrinking for the last three months, says the California Department of Water Resources. A wet December raised hopes, but the state has had only a few storms since then, and they were warm storms.

[Northern California reservoirs](#), such as Shasta and Oroville, have more water than they did last year, accumulating rainfall from the warm storms. But Pine Flat Reservoir on the Kings River east of Fresno has only 18% of its capacity.

The runoff of snowmelt from April to July on the Kings River averages 1.2 million acre-feet a year. This year, the runoff will likely drop below 190,000 acre-feet — dramatically below 280,000 acre-feet, the benchmark low runoff recorded more than 90 years ago.

The runoff may actually be worse than anyone knows yet, experts say.

[Researcher Roger Bales](#) of the University of California at Merced said the three previous dry years have dried out the forests. Trees and other vegetation will consume a lot more water as the weather warms up, so less water will make it to streams.

“There could be very little runoff,” Bales said. “We know that runoff forecasts are notoriously inaccurate on dry years. The whole regime is different than the historical average.”

Data from the state show that 50.2% of California’s water is used by the environment, while 40.9% goes to agriculture. Urban residents and businesses use 8.9%.

State officials acknowledge that excluding the portion of water dedicated to the environment makes agriculture, by far, the major user, at about 80%.

Environmental uses include wild and scenic rivers, the Sacramento-San Joaquin River Delta, wildlife refuges and wetlands. Some of the water dedicated to the environment also provides recreation or navigation.

Given the drought, farmers are expected to fallow acreage on many kinds of row crops and pump groundwater for more permanent crops, such as orchards and vineyards. West Valley farmer Dan Errotabere, a board member of [Westlands Water District](#), says he will fallow about 1,800 acres of his 5,200-acre operation.

He will grow fewer acres of tomatoes and garlic this year, so he can keep his almonds and pistachios alive. He said he will be forced to use his wells and buy expensive river water, if it can be found on the market.

“Our allotment is zero again this year,” he said. “We’ve got to find some way to get through this.”

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