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By: Rachel Leingang March 23, 2015 , 7:31 am



Dan Thelander operates a farm outside the City of Maricopa in Pinal County. If a shortage is declared on the Colorado River, his farm will lose some of its water and have to adjust operations. (Photo by Rachel Leingang/Arizona Capitol Times)

For farmers like Dan Thelander, it's a waiting game.

The Colorado River may see a shortage as soon as next year, and the probability of one in 2017 jumps to 61 percent. If Lake Mead's water level drops below 1,075 feet, agricultural users of Central Arizona Project water will see a big cut.

Thelander runs a 5,000-acre farm outside the city of Maricopa, where he grows alfalfa, durum wheat, cotton, corn and barley. To water the crops, Thelander gets about 4 acre-feet of water per acre he farms from the Maricopa-Stanfield Irrigation and Drainage District. He also sits on the district's board.

Should a shortage be declared, Thelander will have to make some tough decisions. He could farm fewer acres of all his crops to account for the loss of water, or he could eliminate some crops altogether. It'll depend heavily on what's happening in the market at the time and how much money he can get for certain crops, he said. For example, alfalfa, which he sells to dairies, takes more water than other crops, but it usually sells well. It's a trade-off.

"There's not really much that a farmer can do to get ready. ... Like if you knew you were losing your job in a few years, you would start saving money. But we can't save water, we're already as efficient as we can get. There's more that can be done, but it takes time and it takes money," Thelander said.

If Lake Mead falls below 1,075 feet in 2017, the agricultural CAP users will lose approximately half of their allocation, said Mitch Basefsky, a spokesman for CAP. Level 2 shortages kick in at 1,050 feet, and Level 3 at 1,025 feet, triggering more stringent cutbacks extending beyond agriculture.

"They are going to be affected pretty radically," Basefsky said.

Agriculture would get 300,000 acre-feet of water from CAP in 2017 if a shortage doesn't go into effect. But if the secretary of the Interior Department declares a shortage, the agriculture pool will lose about 143,000 acre-feet. To make up for losing nearly half of its water allotment, the agricultural community will likely backfill with groundwater resources or fallow fields.

Arizona is the first state to see curtailment orders under the Law of the River, since the state has junior rights to the water. California, which uses the most water from the Colorado River and has senior rights, would not see a cut in a level 1 shortage since it has a senior priority. Yuma-area farmers also have a senior priority and will not see cuts.

In order to dip under 1,075 feet by 2017, the sustained drought would need to continue.

"Every day we have a fickle partner called Mother Nature," said Basilio Aja, director of the Arizona Cattlemen's Association. "If we had two years of above average snowfall, then we would be having different discussions about the Colorado River."

DANGERS OF PUMPING

Agricultural districts have the right to pump groundwater to make up the difference, according to the 1980 Groundwater Management Code. The districts have been working to rehabilitate their wells and make sure they're operable in preparation for less CAP water, said Tom Buschatzke, director of the Arizona Department of Water Resources.

"They've been rehabilitating their systems, their wells and things, knowing that this is coming and seeing that this will occur," Buschatzke said.

But pumping more groundwater has its dangers. CAP began as a way to have a more sustainable water supply and not deplete groundwater resources. Before CAP, Basefsky said, groundwater levels in Pinal County had dropped 500-to-600 feet over a couple decades. Now, making wells work requires going deeper into the aquifers. Groundwater pumping will likely be an option for about 10-to-20 years, but the aquifers will eventually lose water, he said.

"It takes us back into a regime of unsustainable pumping," Basefsky said.

Buschatzke said it's tough to predict what will happen to groundwater resources without knowing if, when or how long a shortage of Colorado River supplies would be. The Department of Water Resources has no real basis on which to make assumptions at this point, he said.

Agriculture in Arizona has long been managed for drought and water scarcity, said Aja. While no one wants to see a shortage on the Colorado, he said farmers and ranchers have been planning for years in case it happens.

"While it's not good news, I think there's been a lot of preparation for it," Aja said.

The sustained drought and potential curtailment has farmers in Arizona apprehensive, said Arizona Farm Bureau spokesman Joe Sigg. Water is one of agriculture's biggest expenses, so farmers are doing what they can to reduce costs and manage resources, he said.

"They are business people. They see things coming. They're getting prepared and beginning to make business decisions. ... But they're still apprehensive," Sigg said.

AHEAD OF THE CURVE

Meanwhile, farmers work to become more efficient in their water usage and stave off a potential curtailment as long as possible.

Practices like drip irrigation use less water, but installing the systems cost a lot of money. Thelander installed drip irrigation systems on about 900 of his 5,000 acres. For each acre, it costs about \$2,500 and will save about one acre-foot of water, he said.

"Even though it saves one foot of water, right now our water costs are about \$60 an acre-foot. You can't spend \$2,500 an acre to save \$60 an acre per year," he said.

CAP provides some incentives for agriculture users who prioritize efficiency and best practices, which can amount to a \$21 discount per acre-foot of water, Basefsky said. The agriculture community in Arizona knows what's coming and has been preparing for years, he said.

"Farms in Arizona served by CAP tend to be among the most efficient in the country in terms of their productivity for the amount of water they use. ... We are very well ahead of the curve in terms of preparing our agriculture for potential shortage in the future," Basefsky said.

By contrast, since California's Colorado River allotment won't be cut, there isn't much incentive for farms there to become more efficient or use less water, Basefsky said.

One major issue: More water is allocated out of Lake Mead than goes into it in a given year, Basefsky said. CAP would like to see the imbalance corrected to at least put Lake Mead at net-zero. CAP also wants to see all the parties who receive water from the Colorado River come to the table and agree to take less water, while figuring out some other options for water sources, he said.

"Nobody really wants to reopen the Law of the River and the allocations. We don't want to open a legal Pandora's box, but there might have to be some alterations in how things are done," Basefsky said.

To stave off the shortage as long as possible, agricultural users joined CAP in voluntarily forgoing a portion of their water allotment to keep it in Lake Mead and keep the water level higher. As of February 2015, Lake Mead's water

level was 1,089 feet, according to the Bureau of Reclamation.

CAP will keep 345,000 acre-feet of water in Lake Mead, joining cuts made by water districts from Southern California and Nevada, and the Bureau of Reclamation. In total, the forbearance agreement will keep an added 740,000 acre-feet in the lake through 2017, equating to about 8 vertical feet of water.

Maricopa Stanfield's district will give up 20,000 acre-feet of its 110,000 acre-foot allotment, Thelander said. In exchange, the district gets a price cut on the water it does use from CAP.

"We're hoping that by doing this for a couple years, it'll be our part to help push that shortage further into the future," Thelander said.

If the shortage can be pushed out past 2016 and 2017, the hope is a big snowfall could happen and help boost Lake Mead's levels, he said.

"It's costing the farmers some money because we don't have as much water to farm with, but it's a gamble because if we can push the shortage declaration off into the future then that will be a win for us," Thelander said.

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