

Experts: Ethanol's water demands a concern

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City officials in Champaign and Urbana took notice when they heard that an ethanol plant proposed nearby would use about 2 million gallons of water per day, most likely from the aquifer that also supplies both cities.

"There was concern about impacting a pretty valuable resource," said Matt Wempe, a city planner for Urbana. "It should raise red flags."

The proposal for a 100 million gallon-per-year ethanol plant is just one of many that have popped up in the past several months across Illinois, which already has seven operating plants and is the nation's No. 2 ethanol producer after Iowa.

High oil prices and support from Washington have inspired such interest in the corn-based gasoline additive that the Illinois Corn Growers Association now says at least 30 plants are in various stages of planning across the state.

All will use a lot of water.

It would take about 300 million gallons of water for processing the product and cooling equipment to make 100 million gallons of ethanol each year, according to the Renewable Fuels Association.

While water scientists in Illinois and Iowa say they're concerned about the impact of that much demand, they're not sending out alarms yet.

"On a statewide scale, it's not a huge amount of water," says Allen H. Wehrmann, director of the Center for Groundwater Science at the Illinois State Water Survey. "Illinois is a fairly water-rich state, so I don't think this is going to drain us."

The demand for water by the two dozen operating ethanol plants in Iowa has not damaged water sources or supplies, said Monte Shaw, executive director of the Iowa Renewable Fuels Association. Improving technology means new plants use as much as 80 percent less water than plants built just five years ago, and most plants recycle their water so it has more than one use, he said.

Still, the draw on Midwest water supplies is a concern.

"It's an issue that is certainly at the forefront of our minds," said Paul VanDorpe, a scientist at the Iowa Geological Survey in Iowa City. But he does not perceive as much concern among the public, he said.

The possibility of a new ethanol plant is one reason the city of Aberdeen, S.D., decided to seek new water sources, perhaps from deeper wells, Mayor Mike Levsen said.

"We felt that for the current demand we had plenty of water to supply them, but that would begin to run us up to our limit," he said.

Many industries use more than a million gallons of water each day, still far less than the 23 million gallons per day used by Champaign and Urbana or the 500 million gallons per day that Chicago pumps from Lake Michigan.

The Mahomet Aquifer, along which several ethanol plants are proposed, has plenty of water. Running across the midsection of the state from the Indiana line to the Illinois River, it supplies an estimated 250 million gallons of water per day to municipalities, industry, farms and homes.

That is a pittance given the estimated 13 trillion gallons of water in the aquifer, Wehrmann said. It would take more than a century to pump the aquifer dry even if no water returned through rainfall and other natural recycling, which amounts to about 40 million gallons per day, he said.

Even so, there can be a cumulative effect as demand is added.

"When you get down to the local level, there will be impact," Wehrmann said. "You can't take the water out of the ground without lowering water to some degree. Other well owners may see water levels fall. In some cases their pumps may go out of the water, and that may mean lowering a well or pump."

That bothers Dan Meyer, a retired food processing company worker who lives near Lincoln. A proposed plant near there would tap the aquifer, and he worries not only about supply, especially if there is a long drought, but also about the risk of groundwater contamination.

"If the Mahomet Aquifer gets contaminated, we'll be buying our water in 500 gallon tanks," he said. "I'm extremely nervous because of the numbers and where they're located. Your subdivisions, your towns are going to be affected."

But ethanol proponents say there is virtually no risk ethanol will contaminate groundwater, and there is almost no wastewater from its production.

"The water that comes out of the plant may be cleaner than was pumped into it," said Matt Hartwig, a spokesman for the Renewable Fuels Association.

Ethanol supporters also say there is more danger of running out of corn than there is of using too much water, and that will wind up limiting the number of plants in a particular area.

"Corn generally comes from a 50-mile radius around an ethanol plant, so there's only so many plants you can put in and get the corn you need to operate them," said Phil Shane, marketing director for the Illinois Corn Growers Association

As for the plant near Champaign, the city and Urbana lifted their objections after the company proposing it agreed to study the potential impact on the Mahomet Aquifer before moving ahead. The Champaign County Board voted last month to allow ethanol plants as a special use in heavy industry zones.

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On the Net:

Center for Groundwater Science: <http://www.sws.uiuc.edu/gws/>

Iowa Renewable Fuels Association: <http://www.iowarfa.org/>

Illinois Corn Growers Association: <http://www.ilcorn.org/>

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