

## **UC study -- cropland threatens drinking water for 250,000 in valley**

**Mark Grossi, Fresno Bee, 3-13-12**

A growing sea of underground pollution from farm fertilizers and dairy waste threatens drinking water for a 250,000 people from Fresno to Bakersfield, a new University of California study shows.

The bad water would fill Millerton Lake 64 times, according to estimates in the UC Davis study released today, and the annual cost of cleaning it up for residents in small towns, such as Seville in Tulare County, would be \$36 million.

Rural San Joaquin Valley residents are unlikely to be surprised by the study, which covered the Fresno, Tulare, Kings and Kern land within the vast Tulare Lake Basin and the Monterey County portion of the Salinas Valley. In small towns, drinking bottled water is a way of life to avoid unhealthy tap water.

But the study might come as unwelcome news to some farmers, who have said in the past they were unfairly blamed for the bad water. They've argued that leaky septic tanks and sewage treatment plants could be just as culpable.

The state-sponsored \$1.7 million study shows agriculture is responsible for 96% of the contaminants, called nitrates.

The four San Joaquin Valley counties in the study are among the top five farming counties in the country. Many farm leaders have worried about water cleanup costs ruining their businesses.

But scientists say there is a possible low-cost fix for the Valley's No. 1 industry: Growers could pump up the tainted water and reuse it as fertilizer or nutrients for crops.

The study says the pump-and-fertilize option would cost \$1 million a year, mostly for testing several thousand wells, while the conventional cleanup method -- pumping water and removing nitrates -- would cost up to \$30 billion, according to the study.

"We're talking about 5 million acres or more of land," said UC Davis hydrologist Thomas Harter, lead author of the study. "The amount of water is enormous."

The study said current regulation does not adequately protect residents in small towns and on small water systems. It suggests additional fertilizer fees to raise money for fixes.

Scientists also detailed several other suggestions, such as intense monitoring and a task force to explore better fertilizer and waste management. The goal is to apply only as much nutrient as crops can absorb.

The California Farm Bureau Federation in Sacramento defended fertilizing practices, saying growers have recognized the nitrate problem for years. Spokesman Dave Kranz said today's ground-water problems come from practices that were used decades ago.

"Farmers have strong incentives to use only the precise, appropriate amount of fertilizer," said Kranz. "Using too much fertilizer can actually hurt crop quality in many fruits and vegetables."

The study did not look at individual wells, so the argument about septic tanks and waste-water treatment plants

fouling some water systems may still be valid.

But Harter says an overwhelming amount of nitrates in the area comes from farm fertilizers and animal waste. The contamination must be cleaned up and fertilizing practices must change throughout the industry, he said.

Harter and UC Davis engineering professor Jay Lund led a study that included more than two dozen other researchers. The study area has about 40% of the state's irrigated agriculture and more than half of the state's dairy herd.

More than 2.5 million people in the study area drink water that comes from wells. Many small towns in the Tulare Lake Basin are among the poorest in California.

Nitrates in drinking water can cause birth defects and "blue baby syndrome," a blood disorder that can be fatal in infants. Small-town residents said their children had skin rashes and stomach upsets. Some said they were losing their hair.

The \$36 million annual price tag to fix small water systems would include many kinds of solutions, such as consolidating several systems to spread the cost of treating the water or obtaining river water.

The UC Davis study will be used to help state lawmakers better understand underground water contamination, possible solutions and funding sources.

A public meeting is expected to be scheduled in May at the State Water Resources Control Board in Sacramento.

"We hope to bring people together and move this process forward," Harter said. "Agriculture around the world must meet demands for more food over the next several decades. We need to find solutions."

Lawyer Laurel Firestone, who works for the nonprofit advocacy group Community Water Center in Visalia, said the study confirms that small towns shoulder a big financial burden for buying bottled water and paying for broken water systems.

But the study also shows the problem could wind up hitting many more residents in the wallet if it is not addressed, she said.

"Nearly 80% of residents in our region will be affected in the future if we don't make progress on this problem," she said.

One regional water leader, General Manager Dave Orth of the Kings River Conservation District, said many groups are ready to help. He works with 49 local agencies and districts in the Kings Basin Water Authority, trying to create a sustainable, clean ground-water supply from the Fresno-Clovis area to Hanford.

"Some may want to deflect criticism over the problem," he said. "But I believe water districts and water users in our region are committed to continue the process of addressing these critical issues."