

# 5 things to know about uranium found in Central California drinking water

Ellen Knickmeyer and Scott Smith, Inside Bay Area News, 12-8-15

FRESNO -- Uranium is increasingly seeping at unhealthy levels into the drinking water of major farming regions of the U.S. West. While uranium is a naturally occurring element, it gets into water supplies as an unexpected by-product of irrigation, drought and over-pumping of groundwater.

The Associated Press found that authorities are doing little to inform the public of the growing health risk.

## WHAT ARE THE HEALTH ISSUES RELATED TO URANIUM?

Long-term exposure to uranium can damage kidneys and raise cancer risks. While people think mainly about uranium's radioactivity, the danger in water mainly comes from the toxic chemical effects of the metal.

## HOW DOES URANIUM GET INTO DRINKING WATER?

The spread of farming in California over the last 150 years is a factor. Mountain snowmelt washes uranium-laden sediment to the flatlands. Irrigation allows year-round farming, and the irrigated plants naturally create a weak acid that is leeching more and more uranium from sediment, say U.S. Geological Survey researchers.

Groundwater pumping pulls the contaminated water down into the earth, where it is tapped by wells that supply drinking water. California is now experiencing its driest four-year span on record, and farmers and other users are pumping groundwater at the highest rates ever, pulling yet more uranium into wells.

## HOW WIDESPREAD IS THE PROBLEM?

The eastern side of the San Joaquin Valley of California is a region of greatest concern.

In the 250-mile-long swath of farmland, as many as one in 10 public water systems have raw drinking water with uranium levels that exceed federal and state safety standards, the USGS has found.

The average level of uranium in public supply wells of the eastern San Joaquin Valley increased 17 percent from 1990 to the mid-2000s, researchers say. The number of public-supply wells with unsafe levels of uranium, meantime, climbed from 7 percent to 10 percent over the same period there.

More broadly, nearly 2 million people in California's Central Valley and in the U.S. Midwest -- another area garnering attention -- live within a half-mile of groundwater containing uranium over the safety standards, University of Nebraska researchers say.

#### ARE PUBLIC AND PRIVATE WATER SYSTEMS TREATED THE SAME?

No. Regulators require testing of public systems that supply water to communities and schools. California doesn't fully track all the spending on uranium, but confirms it has paid at least \$16.7 million since 2010 helping public water systems deal with the contaminant.

But homeowners with private wells and those on small water systems must test and treat their own water.

Even as evidence mounts that more groundwater is contaminated, officials are unable to point to any public health campaigns in the most-affected areas or any help with testing or dealing with wells that test for high levels.

#### HOW ARE SCHOOLS AND COMMUNITIES ADDRESSING URANIUM?

Westport Elementary School near Modesto, California, is one of about 10 water systems in the farm region that have installed uranium removal facilities. The uranium gleaned from Westport's well will be processed into nuclear fuel for power plants.

Other schools buy bottled water replacing drinking fountains, or they run a pipeline to a nearby source with clean water.

The city of Modesto, with a half-million residents, has spent more than \$500,000 to blend water from one contaminated well, diluting the uranium to safe levels.