**State issues warning on well water**

By Scott Maben

**The
Register-Guard**
Thousands of rural residents in the southern Willamette Valley may be
drinking water contaminated with nitrate, a potentially harmful substance
that comes from fertilizers, leaky septic systems and animal manure.

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| a1statehydroState hydrogeologistAudrey Eldridge inspects a water sample from a Lane Countyhomeowner's well. The sample falls within federal public healthstandards for nitrate, Eldridge said, but many others donot. Photo:**Paul Carter /** The Register-Guard  |
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Widespread evidence of nitrate in shallow water wells between Eugene
and Corvallis has prompted the state Department of Environmental Quality
to propose the first groundwater management area in Western Oregon.

The area is between Highway 99 West
and Muddy Creek in Lane, Linn and Benton counties. It includes the cities of Coburg, Junction City, Harrisburg and parts of Monroe.

Water samples collected in the area during the past three years show that nitrate levels in more than 10 percent of the wells approach or exceed the federal government's safe drinking water standard.

Significantly high nitrate levels in drinking water may be harmful to people and animals. Infants and pregnant or nursing women are especially vulnerable to health problems from water with nitrates above 10 milligrams per liter.

"There are a lot of folks in the southern Willamette Valley who are drinking groundwater, and a lot of that groundwater is contaminated with nitrate," said Audrey Eldridge, a hydrogeologist with the DEQ's
groundwater program.

The agency will work with affected
residents, agricultural interests and other agencies on a plan to restore underground sources of drinking water and protect aquifers from further pollution. It has scheduled seven public hearings later this month on the proposed groundwater management area.

The DEQ also has started to reach out to residents whose wells may have
high levels of nitrate, encouraging them to have their well water tested,
and to explain the cause of the contamination and its potential health
risks.

Nitrate can interfere with the ability of blood to carry oxygen to
vital tissues in infants younger than 6 months. This can lead to "blue
baby syndrome," a rare condition that can be fatal in extreme cases.
Infants may be especially vulnerable if fed with formula mixed with
contaminated well water.

Little is known about the long-term effects of drinking water with
elevated nitrate levels. Some research suggests that nitrate may play a
role in spontaneous miscarriages and in the development of some cancers in
adults.

The elevated nitrate levels stem from multiple sources that may include
livestock, fertilized crops and failed septic tanks, combined with shallow
groundwater - only 10 feet deep in places - that lacks a protective layer
of silt or clay, as found elsewhere in the valley.

Making matters worse, many residential wells are too shallow, drawing
water that's more likely to be contaminated than deeper wells, Eldridge said.

Some residents have drilled deeper in search of cleaner water. Others
have stopped drinking from their wells altogether and switched to bottled
water. Still others have installed costly home treatment systems.

Cecil Phillips of Coburg spent $600 on a system to treat his two wells,
which tests showed to have elevated nitrate levels.

"I don't want to start glowing at night," quipped Phillips, a fitness
consultant and former bodybuilder who was named Mr. Oregon in 1958. "I
want to stay as healthy as I can."

Phillips lives on Bottom Loop Road, a residential and agricultural area
west of Coburg, where the DEQ found a cluster of high nitrate samples in
well water.

"I have no idea what made it get that strong," he said. "The only thing
I can figure out is the amount of fertilizer used in the area."

The city of Coburg is looking to upgrade its municipal water wells
within the next year and is gearing up to build the town's first sewer
system, estimated to cost $12 million, in part due to concerns over
nitrate contamination.

The sewer system would replace septic tanks for about 1,000 residents
and help prevent the groundwater contamination, Public Works Director
Craig Costello said.

"Well improvements are not able to solve the problem of groundwater
contamination completely," Costello said. "It needs to be addressed at the
source as well."

In two recent groundwater studies, the DEQ found widespread nitrate
contamination at levels greater than 7 milligrams per liter. The federal
standard for nitrate in public water supplies is 10 milligrams per liter,
but levels exceeding 7 milligrams are cause for concern, Eldridge said.

"When we see a concentration like this, we really need to focus our
energy and resources on dealing with this issue," she said.

The DEQ sampled about 500 wells in fall 2000 and summer 2001. One
hundred of the wells had nitrate levels at or above 7 milligrams per
liter.

Most of those 100 wells were resampled the following summer, with
additional tests for pesticides and bacteria. Generally, nitrate levels
were similar the second year, and pesticides were found at very low
levels.

About 10 percent of wells in the Willamette Valley exceed Environmental
Protection Agency standards for nitrate, according to a U.S. Geological
Survey report from 1997. The report also said a third of the valley's
wells are polluted with pesticides.

Public water systems, including those serving cities within the
proposed management area, are required to test regularly for nitrate.
There is no standard for private well water, but well owners should have
their water tested at least annually, Eldridge advised.

The designation of a groundwater management area is required by state
law in cases such as this, but the DEQ does not intend to impose new rules
on wells, septic tanks or agricultural practices. Instead, the agency will
promote voluntary methods to address the problem - the same approach the
state took in Eastern Oregon near Hermiston and Ontario, the other two
groundwater management areas in the state.

TO LEARN MORE

The state Department of Environmental Quality will host a series of
meetings and hearings on a proposed groundwater management area for the
southern Willamette Valley. Free tests on water samples will be offered at
each meeting.

Oct. 22: 7 p.m., Greenberry Grange, Highway 99 West and
Greenberry Road

Oct. 23: 2 p.m., public service building, 530 NW 27th St.,
Corvallis

Oct. 23: 7 p.m., Tangent Farm Service Agency, 33630 McFarland
Road

Oct. 28: 2 p.m., Harrisburg Town Hall, 354 Smith St.

Oct. 29: 7 p.m., City Hall council chambers, 680 Greenwood St.,
Junction City

Oct. 30: 2 p.m., Coburg Municipal Court, 32694 E. Pearl St.

Oct. 30: 7 p.m., Corvallis Library, 645 NW Monroe Ave.

Contact: Audrey Eldridge, 1-877-823-3216, Ext. 223, or e-mail eldridge.audrey@deq.state.or.us.
On the Web, visit [www.deq.state.or.us/wq/groundwa/UpperWillBasin.htm](http://www.deq.state.or.us/wq/groundwa/UpperWillBasin.htm)

WHAT TO DO

If your water well has high levels of nitrate:

• Infants and pregnant or nursing women should stop drinking the water

• Boiling does not help, nor do chlorine, charcoal filters and water
softeners

• Switch to bottled water, drill a deeper well or consider installing a
treatment system

• Have water tested once or twice a year, and keep records

• Find and manage potential sources of nitrate on your land