**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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| a1statehydro State hydrogeologist Audrey Eldridge inspects a water sample from a Lane County homeowner's well. The sample falls within federal public health standards for nitrate, Eldridge said, but many others do not.  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.

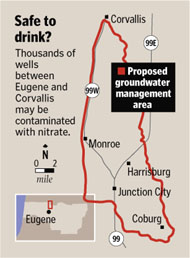
Nitrate can interfere with the ability of blood to carry oxygen to  
vital tissues in infants younger than 6 months. This can lead to "blue  
baby syndrome," a rare condition that can be fatal in extreme cases.  
Infants may be especially vulnerable if fed with formula mixed with  
contaminated well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