

What is nitrate?

Nitrate is a naturally occurring chemical compound of nitrogen and oxygen. Nitrate is an essential plant nutrient, often created by the decomposition of plants and animal waste. However, certain human activities can increase the amount of nitrate added to the environment. Things such as fertilizer for lawns and cropland, animal manure, and human waste from failing septic tanks, have the potential to contaminate drinking water.

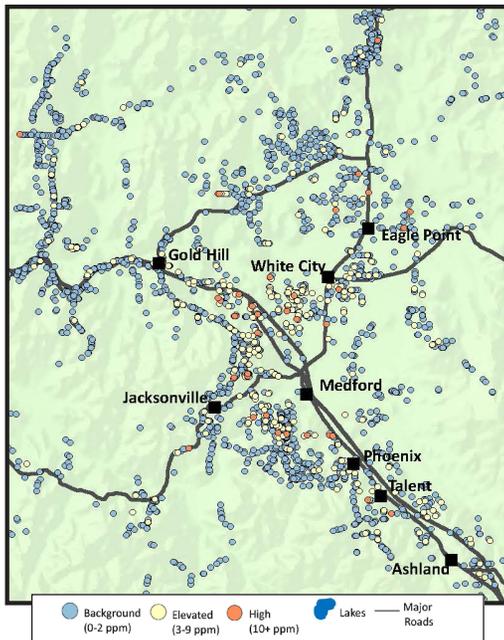
Nitrate: Too much of a good thing

An overabundance of nitrate in the soil can leach into and contaminate surface and groundwater. In fact, nitrate is one of the most common pollutants found in privately-owned wells in Oregon.

High concentrations of nitrate (above 10 ppm) can present a serious health concern for infants, pregnant, and nursing women.

Methemoglobinemia is a condition affecting infants in which nitrate inhibits the transport of oxygen in the blood, and in extreme cases, may even result in death. The elderly and those with lowered immunity may also be susceptible to health impacts.

Finding high levels of nitrate in your well water may also indicate that other pollutants, such as bacteria and possibly pesticides, are getting in.



Jackson County Nitrate Test Results, taken from real estate transaction data for domestic wells 1989-2015

What you need to know about Septic Systems

Waste discharged to a septic system is full of disease-causing bacteria and viruses, as well as high levels of nitrogen and phosphorus. A functional system will remove most of these contaminants but if a system is overwhelmed, clogged, or damaged by chemicals it can create an unhealthy and expensive problem.

Although pumping your system every 3 years for \$200-\$400 may seem costly, it's much less than several thousand dollars to replace a dysfunctional system.

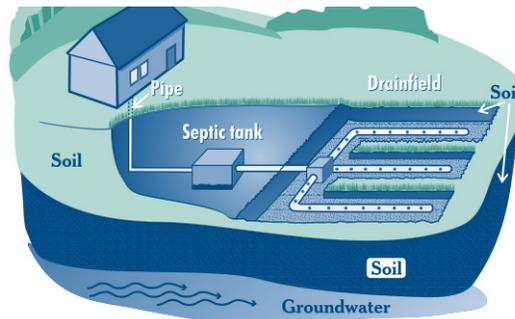


Diagram from the EPA's Homeowner's Guide to Septic Systems

Maintaining your septic system

- ▶ Know the location, age and maintenance history of your septic tank and drain field.
- ▶ Don't wait until there's a problem, have your tank inspected and pumped every 3-4 years, depending on household size and use.
- ▶ Watch for wet spots or pooling in the drain field, which can indicate system failure.
- ▶ Keep trees with extensive root systems and deep rooted plants away from tank and drain field. Grass is the best covering.
- ▶ Keep heavy machinery and large animals off of the drain field to avoid damage.

- ▶ Extensive use of bleach and ammonia cleaners can kill beneficial microbes that treat your sewage. Don't flush medicines, paint thinners or other chemicals down the drain.
- ▶ Due to the harmful chemicals associated with them, do not dispose of RV and boat waste in a septic system. A septic system also cannot process diapers, feminine hygiene products, cat litter, coffee grounds, or cigarettes.
- ▶ Retain a large open area in case a replacement drain field is needed.

**Special note: Owners of ATT and sand filter systems, installed after Jan 1, 2014, must maintain a Service Contract with a certified maintenance provider. The maintenance provider must inspect the system at least once every year and submit a report and required fees to the Oregon Department of Environmental Quality.*



Resources that can help

For a list of septic inspectors, licensed pumpers and certified installers, or to learn more about septic systems, visit the Oregon Department of Environmental Quality Septic Smart website <http://oregon.gov/DEQ/WQ/pages/onsite/septicSMART.aspx>

For information on septic systems and well water, visit the Oregon State University Well Water Program website <http://wellwater.engr.oregonstate.edu/>

For questions about your system or to locate records, contact the Medford DEQ Onsite Septic Program at (541) 776-6010 x6214

If your system is failing, you may be able to connect to a sewer line. Contact Rogue Valley Sewer Service to find out (541) 664-6300.

Know your well

If you depend on a well to provide your drinking water, it's in your best interest to ensure that it is safe to drink. Protect your water by scheduling regular checks and maintenance of your well pump and casing to ensure that everything is functioning properly.

Shallow and older wells may have higher risk. Wells less than 100 ft. deep lack the soil thickness to adsorb contaminants seeping into the ground, while older wells may not have a good seal around the well casing, a watertight cap, or may not have a well casing that extends above ground. These conditions can make older and shallow wells more susceptible to drinking water contamination.

Keeping well water safe for drinking

Locate a copy of your well log

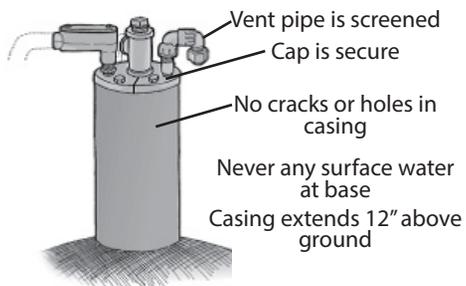
Well logs provide information on geologic formations encountered in a well and list details concerning well design, construction and yields. You can obtain a well log through the Oregon Water Resources Department (OWRD) with an online Log Query (see "Resources") or contact the OWRD Watermaster's office. They can help you find your well log and decipher it.

Keep records and a maintenance plan for your well

This should include pump information, maintenance, your well log and any water tests that have been performed.

Make sure your well seal is in good condition

A well should be capped with a seal that protects your well from foreign objects and is screened to exclude insects and small animals from entering. The seal around the casing should be damage free. Water should not pool at the base.



From the OSU Well Water Program
<http://wellwater.engr.oregonstate.edu/>

Store and use chemicals properly

Keep chemicals sealed and away from your well. Mix chemicals, and conduct vehicle maintenance on a cement surface to ensure spills do not enter the soil.

Keep a safe distance between your well and septic system

Wells should be placed at least 50 ft from a septic tank and 100 ft from a drain field.

Ensure that abandoned wells are sealed

Unused wells are essentially pipes that create direct pathways for surface contamination to groundwater. It is essential that old wells have tight, secure caps. Even better, hire a well driller to properly decommission the well to avoid the potential of future groundwater contamination.

Test your well water

In Jackson County, naturally occurring fluoride (above 2 mg/L) and arsenic can also pose health concerns. Taste and odor are not reliable indicators of these contaminants, or of nitrate and bacteria.

The only way to know if your drinking water is contaminated is to have it tested. If you obtain drinking water from a private well, it is recommended that you test your water at least every 3 years. Test for coliform bacteria and nitrate every year if you have an older or shallow well, or live in an area with a history of high nitrate levels.

Resources that can help

Maintaining your well

<http://wellwater.oregonstate.edu/>

Oregon Department of Water Resources (OWRD) Well Log Query

http://apps.wrd.state.or.us/apps/gw/well_log/

For more info about groundwater in Jackson County contact the OWRD Watermaster (541) 774-6880

<http://jacksoncountyor.org/Departments/Watermaster/Home>

Oregon Health Authority Domestic Well Safety Program

<http://healthoregon.org/wells>

For downloadable information on wells, see the Water Systems Council's wellcare® factsheets online

<http://watersystemscouncil.org/well-owners/wellcare-info-sheets/>

Jackson Soil and Water Conservation District

Septic Systems and Well Water

Protect your drinking water from contamination



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