

# Protecting Idaho's Ground Water

## Ground Water Basics and 10 Things You Can Do to Protect Idaho's Ground Water in a Rural Setting

### Ground Water Basics

#### ***What is Ground Water?***

Ground water is water that fills the cracks and pores of rocks and sediments that lie beneath the surface of the earth -- much the same as water fills and saturates a sponge. Contrary to what some may think, ground water is rarely found as underground rivers and lakes.

Ground water accounts for 98% of the world's total supply of drinkable water. Nearly 95% of Idahoans rely on ground water for their drinking water and household needs.

#### ***How is Ground Water Contaminated?***

The quality of Idaho's ground water is influenced by both natural factors and by human factors. Natural factors that affect ground water quality include: the chemistry of precipitation, the dissolution of organic and mineral substances from vegetation, soil, and rocks as the water contacts the land surface and percolates through earth's materials; and the duration of contact of the ground water with soil and rocks in the subsurface.

Human factors cause changes in the ground water quality either by withdrawing water or by allowing chemicals and contaminants to infiltrate into the aquifers. Sources of human contamination are usually described as *point source* and *non-point source* contamination.

#### ***Can Contaminated Ground Water Be Restored?***

It is possible to remediate contaminated ground water but it is an expensive and time-consuming process. Communities whose ground water supply has been contaminated must sometimes spend millions of dollars to remove the contaminants from the ground water before it can be distributed to homes and businesses. Even when contaminants are removed, the remediation rarely removes all of the contamination and can greatly increase the cost of water. It is far more cost effective to prevent ground water contamination in the first place.

#### ***How is Ground Water Contamination Prevented?***

Communities can protect their ground water and prevent pollution by carefully monitoring land use, minimizing hazards such as shallow injection wells or pesticide spills, and making sure other practices, such as de-icing roads, use environmentally friendly materials. Individuals can help protect ground water from contamination by using and disposing of chemicals and pesticides properly and getting involved with monitoring and education activities. More preventative actions you can take are listed on the back of this document.



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**IDAHO STATE DEPARTMENT OF AGRICULTURE**  
<http://www.agri.idaho.gov>

**Contact Information:**  
ISDA Water Section (208) 332-8500

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## *Ground Water Basics and 10 Things You Can Do to Protect Idaho's Ground Water in a Rural Setting*

### *10 Things You Can Do to Protect Idaho's Ground Water in a Rural Setting*

1. Buy pesticides and fertilizers (and other household chemicals) only in the amount you expect to use and apply them only as directed by the label. More is not better.
2. Take unused or unwanted pesticides and other toxic materials to pesticide or hazardous waste collections. Do not pour them on the ground or down the drain as this can contaminate ground and surface water.
3. When landscaping your yard, select plants that have low requirements for water, pesticides and fertilizers.
4. If you suspect a pest infestation, properly identify the pest and extent of infestation before applying pesticides. Select the appropriate pesticide(s) after first considering non-chemical methods of control.
5. Locate all pesticide mixing, storage and supply areas (tanks) down slope and at least 150 feet away from any well or surface water body.
6. Test your soil before applying fertilizer. Over-fertilization is a common problem and the excess can leach into ground water or runoff into rivers and lakes.
7. Calibrate your equipment before applying pesticides or fertilizers. As equipment ages, annual adjustments may be needed. Proper calibration of equipment ensures that the correct amount is being applied, which can save money and protect from over-application.
8. Reduce your water use. Do not over-water your lawn, garden or fields. Over-watering may increase leaching of fertilizers or pesticides to ground water or contribute to runoff to surface water.
9. Inspect your septic system annually. Pump your septic system regularly. (Pumping out every 3 to 5 years is recommended for a 3-bedroom house with a 1000-gallon tank; smaller tanks should be pumped out more often.)
10. Keep your well protected. Make sure it is sealed and capped properly. Do not store, mix or apply pesticides or fertilizers near your well. Well owners are responsible for ensuring their water is safe to drink. It is recommended that well owners have their wells tested annually for at least nitrate and bacteria.



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