

# Water Well “Frequently Asked Questions”

Many water well owners know that ground water is pumped into their home, but often they do not know much else about ground water.

Myths abound about ground water, which often makes it seem mysterious. What follows are answers to several of the most common ground water questions as well as tips on protecting this drinking water source, which helps supply 47 percent of the U.S. population.

## **WHAT IS GROUND WATER, AND WHERE DOES IT COME FROM?**

Ground water is the water that fills cracks, voids and other openings in beds of rocks, sand and soil. Each drop of rain or snowmelt that soaks into the soil moves downward, fills available space, and forms a large subsurface storage of water that interacts with any substance that comes in contact with it.

Many people believe ground water comes from rapidly moving underground rivers and lakes. However, that is not true.

## **WHAT IS THE RELATIONSHIP OF GROUND WATER TO SURFACE WATER?**

Many streams and lakes are "windows" to the earth's water table. In large part, a stream represents water that has moved from the ground into the stream channel.

Most ground water flows directly into streams, rivers, and lakes through streambeds or the bottom of lakes. In Montana, water may move from rivers and streams into the adjacent aquifer during high stream flow periods such as spring run-off.

On occasion, ground water emerges out of an aquifer at a land surface- which makes a spring.

## **IS GROUND WATER PLENTIFUL?**

It certainly is. About 98 percent of the available fresh water on Earth is ground water. Every day, the United States uses about 83.3 billion gallons of this water for a variety of purposes.

The amount of ground water storage dwarfs the present surface water supply. At any given moment, it is 20 to 30 times greater than the amount of water in all the lakes, streams and rivers of the United States combined.

## **ARE THERE THINGS THAT CITIZENS CAN DO TO PROTECT GROUND WATER?**

Without a doubt. Unfortunately, some people think since ground water is underground there is nothing they can do to help ensure its quality, or they think only federal, state, and local agencies can determine protection. However, everyone can protect water quality to some degree.

## **WHAT IS THE BEST THING A WELL OWNER CAN DO TO PROTECT GROUND WATER?**

The first step-and the best one-is for well owners to regularly monitor the water quality within their own wells. In fact, it is recommended that well owners have their wells checked at least once a year for bacteria or other unwanted constituents. Devices such as water softeners, reverse-osmosis systems and ion-exchange systems can be used to treat the water for in-home applications.

To reduce the possibility of nitrates in ground water, well owners should have their septic tank cleaned and serviced every two years. This eliminates the opportunity for waste backing up and unwanted materials leaching into the soil.

## **WHAT ELSE CAN BE DONE TO AID GROUND WATER QUALITY?**

Everyone-including people who are not well owners- can aid in curbing non-point source pollution, which causes the majority of ground water contamination. Non-point source pollution includes runoff of pesticides and herbicides, septic system discharges, and street runoff.

The best practice to combat non-point source pollution is common sense. When mixing toxic chemicals such as motor oil, antifreeze or fertilizers, do so with extreme caution. And don't pour chemicals into sinks connected to septic systems.

Avoid spilling the chemicals on the ground because they can penetrate the soil and enter the ground water system. The best place to mix chemicals is on cement to avoid ground water infiltration or runoff into surface water caused by accidental spills.

Also, when working with chemicals, read the directions and never go above the recommended mixing ratio or over-apply chemicals to gardens and fields.

## **WHERE CAN I GET MORE INFORMATION?**

More information on private water wells is available by contacting a local water well contractor, local health department, Montana Department of Environmental

Quality, or your local extension office.