

## **What is the Aquifer?**

The Missoula Valley Aquifer is the sole source of water for residents in the Missoula Valley. It's a huge underground source of water. It's so big that more than 40,000 households depend on it for water every day. This underground treasure we call the Missoula Valley Aquifer is just below the ground surface. Run your finger along a map starting at Milltown all the way to Frenchtown and up to Lolo. The Missoula Valley Aquifer is just below this entire area---10-to-100 feet below the ground surface. It is considered one of the purest natural sources of water in America.

## **How did we get it?**

The Missoula Valley Aquifer is the result of the greatest flood in geologic history. Approximately 12,000-to-20,000 years ago, the great, frozen Glacial Lake Missoula covered much of Western Montana. One day its ice dam burst. Five hundred cubic miles of water rushed over the land. Walls of water higher than skyscraper rushed across the Missoula Valley, sweeping through Frenchtown, St. Regis and across the Idaho Panhandle to Spokane, the Columbian Basin, and ultimately the Pacific Ocean.

The catastrophic floods deposited huge boulders along with millions of tons of cobbles and gravel. They filled the ancient Missoula Valley and created the Missoula Valley Aquifer. Add a thin layer of soil and today these glacial deposits are the ground that you and I walk on.

Rainfall and snowmelt flowing out of the Clark Fork River and local streams seep down through glacial deposits to recharge the huge underground seep down through glacial deposits to recharge the huge underground water resource we call the Missoula Valley Aquifer.

## **The Missoula Valley Aquifer can be contaminated!**

It can be contaminated by all of us. It has been polluted in certain locations by solvents, gasoline, septic systems, mine waste and other pollutants. The very same porous soil that allowed billions of gallons of water to seep down and create the Aquifer can be penetrated by motor oil, fuels, solvents, and insecticides---many items that you use everyday around the house.

## **As a general rule of thumb ...**

If you pour anything on the ground, it can reach the Missoula Valley Aquifer. Some items you pour down the drain may also contaminate our water supply.

The key is to THINK before you pour anything down the drain or on the ground.

### **What are contaminants?**

Many basic household items are contaminants. Improper disposal of the following items may harm the Missoula Valley Aquifer:

-Motor Oils -Fertilizer -Pesticides -Anti-Freeze -Brake Cleaners -Oil-base Paints - Gasoline -Furniture Strippers -Chemical Spot Removers -Paint Thinners -Solvents

### **Even fertilizer can be harmful...**

Simple chores like fertilizing the lawn may contaminate the Aquifer. MORE IS NOT BETTER when you apply fertilizers, insecticides, or other lawn and garden chemicals.

Always use least toxic and most selective alternative. Be sure to use just what the manufacturer recommends. Don't over-irrigate after fertilizer or pesticide use. Too much will penetrate through your lawn or garden and seep deep into the ground, potentially contaminating the Aquifer. "Spillover" on driveways, concrete, or asphalt surfaces may be washed down storm drains and risk contaminating our Aquifer or nearby streams and lakes.

### **About Sewers and Septic Tanks**

If you are not connected to a public sewer system, it may be wise to promote sewer districting in your area. Why?

Most of our homes and businesses are connected to public sewage systems that process wastewater at treatment plants under strict guidelines. Yet, about 40% of the Missoula Valley homes use septic systems. Water from dishwashing, bathing, toilets and laundry is collected in a septic tank or cesspool, and discharged into the ground. This household wastewater contains bacteria and viruses that can spread human disease, as well as harmful chemicals such as nitrates and anything else poured down the drain. Wastes from commercial businesses can pose unique threats, depending on the types of chemicals used and disposed of in septic systems.

In areas with only a few septic systems on large acreages, the wastes are adequately treated or diluted and do not harm people or the environment. In areas that are packed with one or more septic systems per acre, contamination can occur. This is especially true in older neighborhoods where homes are served by outdated cesspools and seepage pits, which provide little or no treatment of wastes before discharge to the groundwater.

For these reasons, we encourage sewer districting in areas that have or will have residential densities or commercial activities.

If you are on a septic system, we recommend that your system be inspected and serviced at least every three years. This extends the life of the system and allows it to function more efficiently.

### **What can we do?**

A lot! It is so simple. Just ask yourself before you pour anything on the ground or down the drain, "Would I drink this?"

Many items are safe to dilute and pour down the drain. But other substances should be given to someone who will use them, or be properly disposed of at the annual hazardous waste collection event.

If you are not on a municipal sewer system, and live in a high density residential area, promote sewer districting in your area. Septic systems pose a great risk to the Missoula Valley Aquifer.

### **Can you have water problems?**

The Missoula Valley is one of the few places in America where the water is clean, tastes good, and is in adequate supply. Most of Missoula is on a community water system, which is tested regularly. However, if your water is from a private well, it is wise to test it periodically.

How often and for what you test your well depends on several factors: Closeness to a pollution source, well depth, and state of repair. If you live in a high groundwater area, test your well for bacteria during the spring when it is most likely to be contaminated. Wells in areas with a lot of septic systems should be tested for bacteria and nitrates. Shallow wells are more likely to be contaminated, as are wells which are not sealed or in poor repair.

Call the Missoula City-County Health Department at 258-4890 for the number of a certified lab to test your water.

## What is a hazardous waste collection event?

It's your opportunity to properly dispose of household items that you no longer need. Each year the Missoula Valley Water Quality District sponsors hazardous waste days. It's an opportunity to do your part to help protect Missoula's drinking water. Paint thinner, lead, acid batteries, degreasers, solvents, aerosol paints, lubricants and limited amounts of used motor oil, antifreeze and highly toxic materials such as pesticides are accepted.

### **Be a Safe Water Consumer**

1. Buy the least toxic product available - read the label.
2. Buy only the amount you needed for the job.
3. Follow the label instructions.
4. Pass leftovers to someone who can use them.
5. Dispose of wastes at the annual hazardous waste collection event.

Your drinking water is protected by the most comprehensive locally-based program in the State of Montana. The Missoula Valley Water Quality District was created by the Missoula County Commissioners and City Council in 1993 to protect and improve surface and groundwater quality.

Every improved real property and mobile home in the valley pays a small fee that supports groundwater monitoring, public education, household hazardous waste collection, enforcement, inspection, and on-call/around-the-clock response to contamination incidents.

### **How can you dispose of toxic materials?**

If you have oil, fertilizer or chemicals that are unused, share them with someone. It is a common mistake to purchase more fertilizer or paint than you need. Rather than dump it, give it to a neighbor or friend who can use it.

If you have any of the following hazardous items, you may dispose of them year-round at the following locations:

Waste Oil – Allied Waste will collect up to 2 gallons in clear plastic jugs with weekly trash collection for most residential customers. Do not mix antifreeze or

solvents. **543-3157**

Antifreeze –Firestone on North Reserve will recycle antifreeze. Also, check with your mechanic or bring to Haz Waste Days in September.

Automotive Batteries - May be disposed of at most retail outlets.

Rechargeable batteries – Most “box stores” accept these for recycling

Fluorescent bulbs - Ace Hardware and Home Depot accept compact fluorescent bulbs for free. Palmer Electric (**543-3086**) accepts compact fluorescent and fluorescent tube bulbs for free.

### **Do your part!**

The Missoula Valley Aquifer must be protected. If we are to continue enjoying clean, pure and healthy drinking water, steps must be taken by all of us, now!

Support laws and ordinances that protect our water.

Many people in the Missoula area are unaware of the impact of simple actions we discuss on these pages. Do them a favor. Let them know about the Aquifer. Be a "Safe Water" resident.

### **Important numbers:**

Missoula Valley Water Quality District - 258-4890, Mountain Water Co. - 721-5570  
Allied Waste - 543-3157