

# POTENTIAL CONTAMINANT SOURCES

Emphasis on Potential  
By Tim Tice, Groundwater Specialist

In the last article by yours truly, the question was posed to the reader, where does the water you use come from?

It is the intent of the author to help in your understanding that as water flows through your system, it is yours, but prior to entering those wells, pipes and reservoirs, does anybody have claim of it? Now you may be thinking, "Why sure the water belongs to this system or that, we have a water right to it." All may be true, yet can you wrap it up in your arms and protect it?

Protect water from who or what? Documentation states when water rights were obtained, and the older the water rights the more weight it carries, this establishes who owns it, but how do you protect what you own? Or what do you protect it from? I am glad you asked!

Potential contaminant sources stem from a variety of factors that occur within a drinking water protection area. Let me jog your memory a little and remind you that a drinking water protection area is a hypothesis showing the approximate location on a map estimating how far water moves under the ground in a given amount of time towards the wellhead, or down a stream towards the intake.

Now when you review this map and spot potential contaminant sources inside the boundaries, there MAY be a significant source of pollution occurring in your backyard.

The state has a considerable amount of information compiled and taken from databases; allowing an inventory of sources to be plotted on a map and ranked accordingly. It is this list that many water system personnel never knew existed, or let us say, "probably out of sight, out of mind."

Some examples of the many different types of potential pollutant sources include landfills, underground or above-ground fuel storage tanks, residential or commercial septic systems, storm

water runoff from streets and lawns, farms that apply pesticides and fertilizers.

Oregon's database also includes many types of sources not usually considered such as small livestock areas, salvage yards and automotive repair shops. If one would consider potential sites as those manufacturing, storing, transporting or using hazardous materials, chemicals or substances, then one could fathom; "why isn't the water we drink already polluted?" To take matters one step further, a number of areas within our state have been deemed groundwater management areas due to high levels of nitrates consistently found in water monitoring samples.

Let's look at two worst case scenarios:

Specific site: Leaking underground storage tank in close proximity to the wellhead.

How would one go about determining the extent of the leak? Would you allocate an increase of funds to do more testing? Contacting the regulatory agencies could assist in obtaining the recent amount of information. Such a situation leaves many of us in a quandary state of mind

Area specific: Samples taken from a general area are all showing elevated levels of nitrates.

Both circumstances could increase to a point where the water that flows in the water system's pipes would not be fit for consumption. Simple fix, just treat the water! At what cost would it take to remove MTBE, (gasoline additive) or nitrate to a level that is adequate for your consumers. Many water systems tend to work from a limited budget. The thought process regarding drinking water protection has been stated before. A proactive approach versus a reactive course infers costs are substantially less. "An ounce of prevention is worth a pound of cure."

Many other aspects factor into determining how susceptible your water is to pollution. Depth of well, soil during both dry and saturated conditions, in addition to poor wellhead construction plays into determining how easily a water supply can be tainted. On the other side of the coin, there are factors that prove the water supply is from a confined aquifer or under an impervious layer. A

natural layer of protection that lowers the overall risk to your water source, in a small way seems comforting.

Understanding the recharge rate of your aquifer may scare the living daylight out of you, knowing more water is being extracted than replenished, may make you scratch your head in wonder if you will run out of water.

So the next time you go out for a walk, driving to visit a friend, look at the surroundings, considering where your water comes, then consider how many contaminants could be flushed through the soils and into the water table by all the rain we have had these past few months.

One last point that needs to be driven home is that the sources sighted in the databases in addition to windshield surveys are “potential”. Statistics show that in time, many of the so called potential contaminant sources will cause some type of pollution to water. It is not “if” but “when” it happens, and then the real work begins. The earth has immense ability to degrade many contaminants through its natural filter, but we shouldn’t push the limits of such a wonderful means. With communication, both locally and regionally, we can be more cognizant of water protection, and wrap our arms around it to enjoy for years to come. Appreciate the change that nature brings us this time each year. The best that life has to offer! Mr. OpTIMist