Introduction to Source Water Protection

By Ken Halvorsen, Source Water Specialist

I have been at this job for four months so now I guess I am a specialist. Now that my quick introduction to Source Water is over I'm realizing how much there is to learn.

Source Water Protection is comprised of a lot of parts put together to make a plan work. We start with a well or wells' delineation area. Water supplies from surface water go through that same process.

The delineation area is the area the DEQ has decided needs to be protected. In this area all possible contaminant sources are identified. Managing the possible contaminant sources is a very important part of the plan.

A contingency plan is developed to help maintain water supplies during an emergency. Public education and involvement during the formation and then implementation of the plan is very important.

Why mess with Source Water Protection?

In my short four months I have met with systems that have no contamination issues and never have had to systems that have lost one or more wells. Contaminant sources include nitrates, atrazine, by-products from factories, feedlot runoff, fuel storage tanks, cemeteries, grain storage, junkyards, chemical supplies, etc. The most common contaminant in Nebraska is nitrate. Nitrate can occur naturally in the soil up to 3 ppm. Over 3 ppm indicates possible human activity. Above 5 ppm indicates human involvement. The EPA has set a limit of 10 ppm. Above this level water sources can't be used for potable water.

Where do nitrates come from?

Excessive fertilizer applied to lawns is a major source of nitrates in the groundwater. Higher than necessary rates of fertilizer on farm fields contribute to runoff during heavy rains which percolates through the soil. Leaching runoff from feedlots is another source of contamination.

Since my pen is running dry you will have to wait 'til the next issue for more exciting information about Source Water Protection. Also, if you want help with a source water protection plan, give me a call at 402-607-9750.