

Getting to the Point of Non Point Source Pollution...

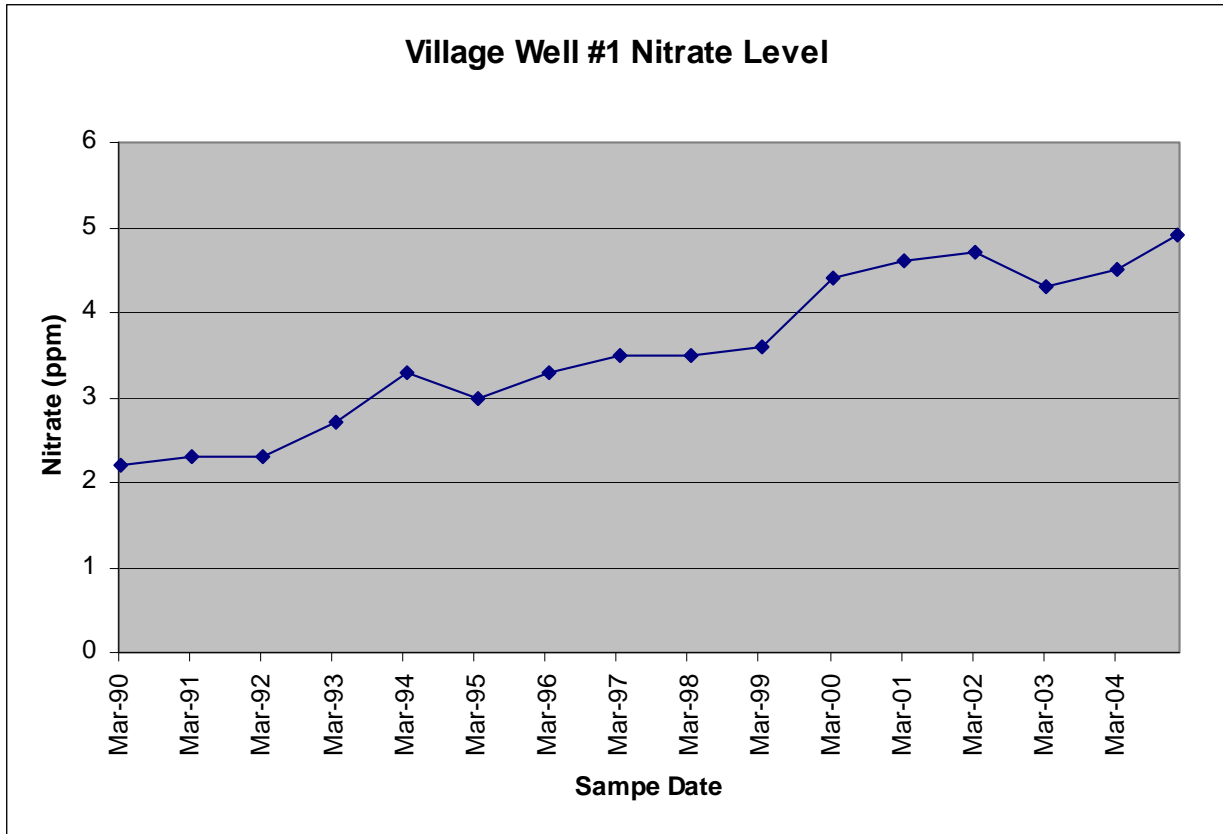
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The word “pollution” conjures up many thoughts and images. One of my earliest memories dates back to 1989 and the Exxon Valdez oil spill in Prince William Sound, Alaska, which dumped 11 million gallons of raw oil into the ocean. The Exxon Corporation estimated cleanup costs at 2.1 billion dollars. Yet today money is being spent to monitor the long-term effects of the spill. Living in Nebraska it is easy feel to secure from such an event and the associated cleanup costs. But are we really that far removed from significant pollution problems?

Pollution that is easily identifiable, distinct, and measurable is known as Point Source pollution. Some examples of Point Source that come to mind: a factory smokestack that bellows dark smoke against a blue sky or an industrial drain pipe emptying waste into a fast flowing river. These sights are relatively uncommon in our state. Throughout much of the Midwest our greatest concern is over Non-Point Source (NPS) pollution. NPS pollution is not as easy to identify as the factory smokestack or industrial drain pipe. NPS occurs over a large area and does not originate from a distinct facility or location. It is often difficult to trace NPS pollution back to an exact source and as a result it can be hard to control.

Many day-to-day activities contribute to NPS pollution. Our lawns stay green and our crops grow tall thanks to the fertilizer that we apply each year. Unfortunately, a lush lawn or a good crop yield may come at the price of impaired groundwater and drinking water quality.

Currently there are 20 community water systems in the state on Administrative Order for exceeding the drinking water maximum contaminant level for nitrates of 10 parts per million (ppm). Although nitrate levels can fluctuate quite a bit over time, it may be possible to detect an overall trend. A review of your old test records may help to identify a future problem. As you can see in the graph, this fictitious community has what most would consider to be low nitrates – less than 5 ppm. But there is an obvious trend of increasing nitrates and reason for concern.



When dealing with high nitrates (over 10ppm) a community must choose from a short list of options: drill new wells, blend water from different wells to reduce nitrates, or construct a water treatment facility to remove nitrates. A combination of these scenarios might also work. Each will come at a price, none will be cheap, and water system customers ultimately pay the bill. Given the expense of these options, more and more communities are realizing the value of addressing nitrates by developing a wellhead protection plan.

Managing your community's wellhead protection area to minimize the impact of nitrates, or any other contaminant, is not without a great deal of effort. But it will be the least expensive alternative in most cases. For areas where nitrates are a concern, it has probably taken decades for the problem to fully materialize. It could take just as long or longer for a wellhead protection plan and corresponding nitrate management strategy to yield appreciable results. This reinforces the premise of wellhead protection...it is a proactive approach to protecting the groundwater that becomes your drinking water. In other words, sooner is better than later.

In upcoming articles, I will explain how several communities are addressing nitrates through wellhead protection. In the meantime, feel free to give me a call at Nebraska Rural Water if I can assist you with your wellhead protection plan. Thanks for your time.