

**Testimony of Jill D. Jonas, Director of the Bureau of Drinking Water and
Groundwater, Department of Natural Resources
Before the Joint Informational Hearing on Groundwater Protection
Assembly Committee on Natural Resources
Senate Committee on Environment
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Good Morning Chairman Miller and Chairman Black and members of the committees. My name is Jill Jonas and I am the Director of the Bureau of Drinking Water and Groundwater in the Department of Natural Resources (DNR). Thank you for the opportunity to be here today.

I was invited to speak about water quality, concentrating on Wisconsin's Groundwater Quality law, the Safe Drinking Water Act (SDWA), and their relationship to water quantity. I focus my comments today, knowing that Wisconsin has lost ground in adequately protecting water quality. That, in turn, has resulted in fewer areas of our state that provide safe drinking water. Although this provides challenges for any next step in new water quantity legislation, it does not limit the need. To have clean and sustainable water resources, water quality and quantity must be managed together, with an eye towards environmental protection, economic stability and societal health.

Wisconsin began protecting water back in the 1930's. I know of no other state with earlier well construction standards protecting consumers and the water they drink, along with the groundwater resource.

We continued leading the nation in 1984, when Wisconsin's Comprehensive Groundwater Protection Act was signed into law. The law expanded Wisconsin's capacity for controlling groundwater pollution and serves as the backbone of Wisconsin's program. It provides a multi-agency comprehensive regulatory approach, using two-tiered numerical standards, based on the premise that all groundwater aquifers in Wisconsin are entitled to equal protection.

In conjunction with other state agencies, DNR establishes groundwater quality standards based on recommendations from the Department of Health Services. Once standards are established, each state regulatory agency must manage its programs to assure that the groundwater standards are met and require appropriate responses when the standards are not met.

Although all state agencies must comply with the groundwater standards, the processes by which groundwater becomes contaminated, the technology for cleanup, prevention mechanisms, and the environmental and health effects of the contamination are not always well understood. In addition, the basic data on geology, soils, and groundwater hydrology is often not available.

When the Environmental Protection Agency (EPA) was working to develop a national groundwater approach, it proposed aquifer classification, meaning each aquifer would be classified according to its potential use, value or vulnerability. Some aquifers would not be protected, and potentially never usable for human water supply. Wisconsin does not classify aquifers. In Wisconsin, all groundwater is to be protected as potential drinking water.

Continuing with drinking water, about 30% of Wisconsin's population relies on private wells for their drinking water. We estimate having 800,000 private wells in Wisconsin, with thousands of new wells being constructed every year, including a few hundred new high capacity wells. A relative newcomer and fast growing industry is drilling for geothermal systems.

The rest of Wisconsin's population is served by public water systems. Under the SDWA, Wisconsin is approved to regulate public water supply systems.

Our state has about 11,400 public water systems ranging from small restaurants and gas stations up to the largest cities such as Madison and Milwaukee. Some find it hard to believe that Wisconsin has the second highest number of public water systems in the country, surpassed only by Michigan. The majority of systems rely on groundwater to supply their drinking water. Federal law sets sampling and reporting requirements. How frequently water samples are collected and tested depends on the system type and the contaminant and its risk to human health. For example, bacteria and nitrate pose an immediate risk to human health—people can get sick after one glass of water contaminated with certain bacteria. All public water systems must monitor for these acute contaminants, with the largest systems collecting hundreds of water samples every month. Contaminants that pose a long-term health risk are called chronic and are monitored less frequently. For some perspective, Wisconsin's municipal systems test for more than 85 regulated contaminants to protect public health in addition to sampling for aesthetic standards.

But how does this relate to water quantity. We know that the quality and quantity of Wisconsin's waters responds to changes in climate, weather patterns, precipitation, temperature, and land and water use. We know one critical use is the fundamental human need for safe drinking water.

Today, we have fewer areas with adequate and/or clean water. In some cases, problems are caused by too many pumping wells too close together. In other cases, how we use the land and the water diminishes aquifer infiltration and degrades water quality.

I'll give a few examples, keeping in mind the acute contaminants of nitrate and bacteria. A 2008 survey completed by the Wisconsin Center for Groundwater Science and Education found 78% of the private wells sampled in the Town of Leeds, Columbia County, exceeded the nitrate drinking water enforcement standard. A 2007 survey in the Town of LaPrairie, Rock County found 90% of the sampled private well above the enforcement standard.

In 2005, a review indicated more than 24 Million dollars had been spent to mitigate nitrate contamination in municipal systems.

With increased calls from private citizens concerning livestock waste and their wells, DNR asked scientists from the Wisconsin State Laboratory of Hygiene and the University to develop a quicker, reliable sampling protocol to better understand whether the problem was related to livestock or human waste. As of June, 2009, forty nine Microbial Source Tracking (MST) samples resulted in 57% positive for grazing livestock animals while negative for human waste; 6% were positive for human waste and negative for livestock; and 2% were positive for both livestock and humans.

The City of Sturgeon Bay now obtains water from a shallower aquifer, the Niagara Dolomite. The lower aquifer of Cambrian Sandstone has brackish water that requires significant and costly treatment. As the city abandoned use of the deeper wells some of their existing and newly drilled Niagara Dolomite wells started testing positive for bacteria. The Department conceded that it may simply not be possible to obtain safe water in the Niagara Dolomite and requires continuous treatment and sampling of positive wells.

In northeastern and southeastern Wisconsin, the two designated groundwater management areas, over pumping has resulted in wells drawing radiological, saline and arsenic contaminated water.

With all the discussion surrounding the Little Plover River, include water quality. Wells pumping closer to the river, including public water wells, more severely impact the quantity of water in the river. Yet they also produce cleaner drinking water. Public wells located away from the river can't escape high nitrate levels, creating the need for expensive treatment.

Although I've talked mainly about societal health and environmental protection, our next step won't succeed without the economic stability of rural and urban areas and key Wisconsin industries such as agriculture. We need to take the next step; it's a balance of our health our environment and our economy; and it's a balance of water quality and quantity.

All human beings have a basic right to clean drinking water at an affordable price. I will end by quoting my mother. This is from a conversation we had nearly a decade ago about Wisconsin's water, "Why Jill" she said, "it's the most important thing, that and air".

Thank you again for allowing me to be here today.