

***Legislative Water Commission- 2019 Legislative Recommendations:
Source Water Protection
Issue Summary and Draft Recommendations***

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B 3) Expand source-water protection programs to protect all drinking water including streams, and aquifers that supply drinking water for public and private water supplies. Identify our most-vulnerable aquifers used as sources of private drinking water. Adopt policy and incentives to protect vulnerable aquifers and groundwater used as sources of drinking water, including domestic wells. Begin a program of real-time, water monitoring detect potential threats to water supplies, develop early responses, and provide public reporting. Improve monitoring, public information and education, about contaminants in drinking water used for private wells. Support the Clean Water Council's recommendations by adopting policy and market- driven approaches to increase continuous vegetative cover on cropland with an initial focus on wellhead protection areas and vulnerable aquifers. This may include new agricultural production systems, markets, and supply chains.

Issue Summary: The safety of our drinking water is one of the most critical, responsibilities of government. Safe drinking water has been key in some of the greatest public health achievements of the last half-century, including the dramatic reductions in disease and improvements in longevity. The value of our water resources goes beyond even health and the health of our environment. Jobs and economic development depend on communities having a reliable source of clean and safe water. Investments in water protection not only provides assurances of continued delivery of safe drinking water, they also are key to local economies.

The Minnesota Department of Health (MDH) has delegated authority from the EPA to regulate approximately 6,900 public water-supply systems. That includes 961 community systems. Community systems include 729 municipal systems (towns or cities) and 232 systems that provide water to manufactured home parks, nursing homes, and treatment or correctional facilities. In addition, MDH regulates about 6,000 non-community systems that provide water to people in schools, lodging facilities, and businesses not connected to community systems. Source water protection is an important part of MDH efforts to protect public drinking water supplies. However, source water protection for rivers and lakes that are sources of public drinking water are not managed with the same level of scrutiny as are our groundwater aquifers that supply water to public-supply wells.

In addition, twenty-one percent of Minnesotans (1.2 million people) get their drinking water from private wells. Private-well users are not afforded the same water-quality safeguards as people who get their water from public systems. While public water system operators make sure water is safe, private well users are responsible for making sure their water is safe to drink. The MDH well code ensures that private wells are properly located and constructed. However, after wells are put into service, private well users are responsible for maintaining their well, testing wells, and treating the water when necessary. Since 2013, MDH has received some funding from the Clean Water Fund to evaluate the occurrence and distribution of contaminants in private wells and to develop additional education and outreach to protect private well users. This program should be expanded.

Threats to public and private sources of drinking water include point and non-point sources and natural and anthropogenic contaminants. These threats include:

Nitrate: Nitrate is found naturally in very low concentrations in ground and surface water but is at higher concentrations in areas affected by human activities. Nitrate sources include agricultural fertilizer and animal manure. Infants who drink water with high levels of nitrate can adversely affected by drinking water with high levels of nitrate. Other human illnesses can be associated with elevated nitrate in drinking water.

Lead: Lead is a well-known contaminant that has harmful health effects, especially for children. The greatest threat to children in Minnesota is the nearly one million homes in the state that contain lead paint. Water can be a smaller, but still important, source of lead.

Arsenic: Arsenic poses a health threat to people. Arsenic occurs naturally in our environment. As a natural component of underground rock and soil, arsenic works its way into groundwater. Groundwater in the west-central and northwestern parts of Minnesota tend to have higher concentrations of arsenic, although arsenic can be found throughout a large part of the state. Arsenic exposure in water, over many years, can result in increased risks of skin damage or problems with circulatory system and an increased risk of cancer.

Radon: Radon is a colorless, tasteless, odorless gas. It occurs naturally and is produced by the breakdown of uranium in soil, rock, and water. It can also dissolve into our water supply. Each year across the nation, 30 to 1,800 deaths are attributed to radon from household water.

Contaminant Spills: Protecting our drinking water starts by protecting the rivers, lakes, and groundwater that are our sources of drinking water. Threats to water supplies come from many places, including our current and past land uses, business and industrial activities, use of pharmaceuticals and personal care products. Accidents and chemical spills are rare, but results that can be devastating. Minneapolis, St Paul and St. Cloud all have surface-water intakes that would need to be closed in the event of an upstream spill.

Unregulated contaminants: During routine monitoring through samples testing, contaminant unregulated at the federal and state level can be detected in sources of drinking water.

Pesticides and Industrial Contaminants: MDH conducts tests for pesticides and industrial contaminants in community water systems. So far, no systems have violated drinking water standards for these contaminants.

Bacteriological Contamination: So far in Minnesota, eleven community systems, including eight municipal systems have tested positive for bacteriological contamination as of 2014. All non-community water systems are monitored for bacteriological contamination. There were 199 violations among the nearly 6,000 non- community systems. These communities have worked with MDH staff to disinfect their systems and retest the water.

Harmful Algal Blooms: HABS occur when algae grow out of control and produce harmful effects on humans, wildlife, and ecosystems. Contaminants called cyanotoxins can be produced by cyanobacteria. People or pets who drink or swim in water with dangerous levels of HAB contamination may experience stomach illness, skin irritation, allergic responses and damage to the liver and nervous system. One of the most significant events the United States was in 2014 when the city of Toledo, Ohio, issued a “Do Not Drink” advisory to its 500,000 residents. To the best of our knowledge, Minnesota has not yet had any incidents of drinking water exceeding safe levels of HABS.

