

DRINKING WATER THREATS: Highly Vulnerable Aquifer (HVA)



FACT
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Drinking Water Source Protection is a provincial program to protect our municipal drinking water sources from contamination and overuse.



What is a Highly Vulnerable Aquifer (HVA)?

When a municipality draws drinking water from a well, it is getting that water from underground. This groundwater is found in aquifers. Aquifers are areas of soil or rock under the ground where cracks and spaces allow water to pool. They are considered highly vulnerable based on a number of factors, including how deep it is underground, what sort of soil or rock is covering it and the characteristics of the soil or rock surrounding it. An aquifer is considered highly vulnerable if it can be easily exposed to contamination from human activities or natural processes. The looseness or compaction of the soil or rock (fractured material) determines how easy and how quickly it is for water to flow through the ground to an aquifer. The faster water is able to flow through the ground the more vulnerable it is to contamination.



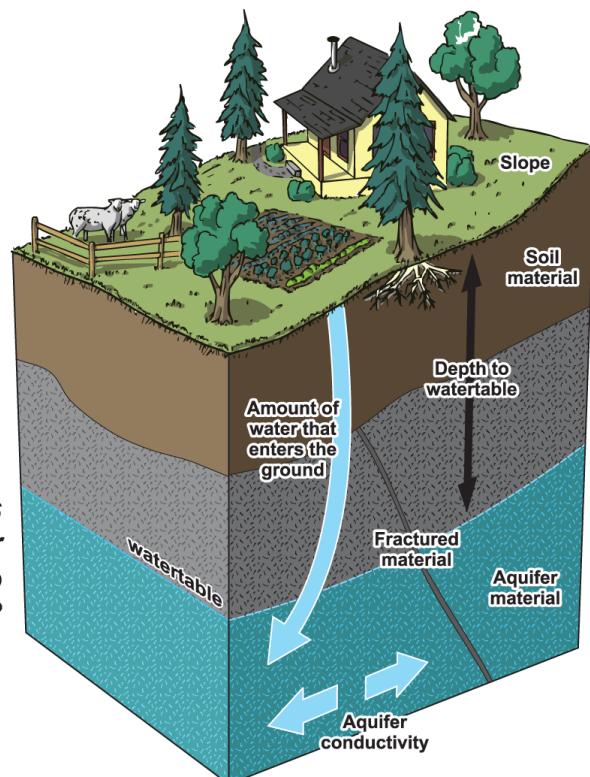
Why do HVA's need protection?

Our actions can impact how clean or contaminated our drinking water sources become.

Just like rain and melting snow can soak into the ground, so can pollutants. Protecting highly vulnerable aquifers is a good way to prevent municipal drinking water from becoming polluted. Treating contaminated groundwater can cost 10 times as much as preventing contamination in the first place.

Everyone has the responsibility to stop contamination from getting into our groundwater. When we work together, we can ensure clean drinking water now and in the future.

What makes an aquifer vulnerable to contamination?



Source: Regional District of Nanaimo / Richard Franklin (Illustrator)

How Can I Help Protect Highly Vulnerable Areas ?

The *Clean Water Act, 2006* identifies activities that could pose a threat to drinking water sources. These threat activities may range from significant, moderate to low level risks. Examples of threat activities in Highly Vulnerable Aquifer Areas (HVAs) are:

- Fuel Storage and Handling - Take care when refueling gas tanks for cars, lawn mowers, chainsaws, weed trimmers or other machinery to avoid spilling fuel on the ground. Only use CSA approved containers to carry and store fuel.
- Handling and Storage of Organic Solvents - This class of chemicals can be found in commercial industries and industrial sites but can also be found in household products like paint thinner like turpentine, nail polish removers and in glue solvents like acetone, and some detergents. Check labels on products in your home and always properly dispose of them at the Household Hazardous Waste Depot.
- Handling and Storage of DNAPLs- Dense, Non-Aqueous Phase Liquids, are toxic chemicals found in a variety of liquid products you may have in your home. They are found in products like paint removers, degreasers, adhesives, mothballs, automotive coolant, lacquers, and wood preservatives.

Fuels and chemicals can cause illness and even death if they reach a source of drinking water. Even if you don't live near one of these Highly Vulnerable Areas it is important to take steps to protect groundwater.



Benefits of Protecting HVAs

Much can be done to prevent contamination of highly vulnerable areas. Under the Clean Water Act, 2006 the local Source Protection Committee developed a policy in the Sault Ste. Marie Region Source Protection Plan for protecting our highly vulnerable aquifer areas. They looked at potential sources of contamination and what needed to be done to manage existing and future threats. Protecting highly vulnerable areas ensures a healthy supply of water now and in the future.

A very clear benefit of protecting HVAs is preventing drinking water contamination. Other benefits include:

- Protecting public health
- Reducing the cost of water treatment
- Ensuring a long-term supply of clean drinking water
- Not having to drill new municipal wells when old ones become contaminated.



Am I in a vulnerable area?

You can find out if you live or own property in a Highly Vulnerable Area by contacting your local Risk Management Official (RMO) or Risk Management Inspector (RMI). They will help you find solutions intended to keep our municipal drinking water safe. They are available to speak to you and to answer any questions you might have.

FOR MORE INFORMATION, CONTACT



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