

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.

A highly vulnerable aquifer (HVA) is one of four types of vulnerable areas identified in the Ontario *Clean Water Act, 2006*.

The four types of vulnerable areas in the Ontario Clean Water Act, 2006 are:

- Significant groundwater recharge area
- Highly vulnerable aquifer
- Intake protection zone (for surface-water sources of drinking water such as a Great Lake or large river).
- Wellhead protection area (a zone of protection around a municipal well).

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 factors such as how

deep it is underground, what sort of soil or rock is covering it, and the characteristics of the soil or rock surrounding it.

It is easier for water to pass through some surfaces than others. For instance, water can pass through sand easier than it can pass through clay or pavement.

When water can pass through soil such as sand or gravel we call that surface permeable. An aquifer is more vulnerable to contamination if the soil layer is thin.

Policies in local source protection plans, that apply to highly vulnerable aquifers, rely on education and outreach to reduce risk to drinking water sources.

The policies in those areas are only recommendations as they do not have legal effect that requires property owners to comply. However, municipalities, implementing bodies, and local people should have regard for these policies.



This photo shows a local sinkhole. This is an example of an area where surface water, and contaminants, could reach groundwater sources. That's why it's important you take actions to reduce risk to the water underground.

How can I help protect water in local HVAs?

We thank you for all you do to reduce risk to your community's drinking water sources.

- Take care when refueling gas tanks for cars, lawn mowers, chainsaws, weed trimmers, or other machinery to avoid spilling fuel on the ground.
- Check the labels on products in your home. If a product is flammable or corrosive or hazardous, it may contain chemicals that could contaminate a drinking water source. You need to properly dispose of it.
- Use containment containers, drop cloths or tarps when working with hazardous materials such as paints, driveway sealers or wood stain to prevent spills from leaking into the ground. If a spill occurs, clean it up with an absorbent material such as kitty litter or sawdust and scoop the contaminant into a container.
- Protect and enhance the vegetation along the banks of ponds, streams and lakes to help control erosion.

- Use a broom to clean your driveway – not your garden hose.
- Clean up pet waste which contains pathogens that can run into storm sewers during a rain storm.
- Prevent pollutants from entering into runoff by reducing or eliminating the use of pesticides, fertilizers, sidewalk salts and by not over-watering your lawn.

Fuel and chemicals, including organic solvents and light and dense liquids, and pathogens, such as *E. coli O157:H7* bacteria, can cause illness and even death if they reach a source of drinking water.

That's why we need your help to keep contaminants out of the water in Lake Huron and our local wells.

Visit sourcewaterinfo.on.ca for maps of highly vulnerable aquifers in your area and for other information products with more ideas on how you can protect local municipal drinking water sources. Or call us!



Ausable Bayfield
Maitland Valley
Source Protection
Region

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