

GROUNDWATER AWARENESS

Kentucky Division of Water

What is Groundwater and where does it come from?

Groundwater is the water from rain or other precipitation that soaks into the ground and moves downward to fill cracks and other openings in soils and rocks. Groundwater is an abundant natural resource making up 90 percent of all of the freshwater in the world.

Why is groundwater important to you?

Kentucky's groundwater is an important source of drinking water for close to 2 million Kentuckians, as well as a source of water for industry and irrigation.

Who uses groundwater?

An estimated 3.5 million Kentuckians are served by 475 public water systems that rely on groundwater, in whole or part, as their source. An additional 0.8 million rural Kentuckians not connected to public water systems rely on private wells or springs for their drinking water. Groundwater also contributes significant recharge to streams; it is the groundwater that keeps water in streams when it is not raining.

Why be concerned about groundwater contamination?

Protection of this resource is crucial to Kentucky's economy, public health and the environment. Healthy streams rely on clean groundwater to provide normal flow in the stream. The costs to clean up groundwater, once contaminated, are great. Many contaminated sites cost tens of thousands to millions of dollars to clean up. The cost to replace drinking water sources is also very expensive. So, protecting groundwater from contamination is not only environmentally sound, but also economically sound.

What can I do to protect groundwater?

If you are an industry or business conducting activities with the potential to pollute groundwater, make sure you are in compliance with all regulatory requirements. Ensure your Groundwater Protection Plan is current and is being implemented properly. If you are a business or industry in a community that receives its public water from a groundwater source, participation in local wellhead protection planning and implementation activities can be an important and useful civic project.



GROUNDWATER AWARENESS

Kentucky Division of Water

How are karst issues pertinent to groundwater awareness?

More than 50 percent of Kentucky is underlain by karst topography, including sinkholes, sinking Groundwater in karst regions is particularly susceptible to contamination because water migrates rapidly into the subsurface, which does not allow for the filtering of contaminants in the soils and rocks before arriving in the aquifer.

Here's how you can help:

- Never use sinkholes as dumps.
- Create detention basins for parking lot runoff.
- Make sure home septic systems are working properly.
- Keep cattle and other livestock out of sinkholes and streams.
- Border sinkholes with trees, shrubs, or grass buffers to filter runoff flowing into sinkholes.
- Construct waste-holding lagoons in karst areas carefully to prevent collapse and potentially catastrophic emptying of waste into the aquifer.

Further background information

Municipalities that rely on groundwater for drinking water should work with political leaders, businesses, and citizens to develop and implement meaningful and effective programs to protect groundwater sources from contamination.

Individual citizens also have a responsibility to protect groundwater. Potential sources of groundwater contamination should be properly managed and maintained, and activities should be conducted in a groundwater friendly manner. If you live in a community that receives its public water from a groundwater source, find out more about the community wells and springs. Your individual participation in local wellhead protection planning and implementation activities can be critical to making wellhead protection programs work to protect drinking water.

Agricultural facilities conduct many activities that have the potential to contaminate groundwater. Many farmers rely on groundwater for drinking water, for watering stock and for irrigation. It is important that farmers conduct their business in a way that allows them to optimize their activities and also protect the environment they rely on.

Agricultural operations are required to have and implement an Agriculture Water Quality Plan. Farmers should review their agriculture water quality plans to make sure they are current to the activities being conducted or planned for the season and that the best management practices in their plans are appropriate to the operation and properly implemented.

For more information, visit the [DOW Groundwater webpage](#).