

For questions about Bellaire's Drinking Water Source Protection Plan, contact:

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Village of Bellaire
(740) 296-8276

Did you know...

- *Only 3% of the water on earth is drinkable.*
- *Less than 1 gallon of gasoline can pollute 1 million gallons of water.*
- *You can avoid contaminating your source of drinking water by properly disposing of chemicals that have the potential to cause ground water contamination.*
- *Improper disposal methods include: pouring chemicals on the ground, down a sink or toilet, or down a storm drain (many storm drains lead directly to rivers).*

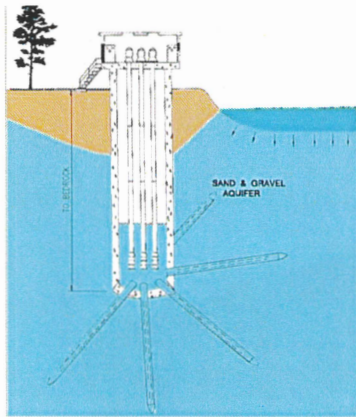
To Learn More about Drinking Water Source Protection in Ohio:

Ohio Environmental Protection Agency
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43215-1049
(614) 644-2752
www.epa.ohio.gov/ddagw/swap.aspx

Protecting Bellaire's Source of Drinking Water



Steps our community can take to limit the costs of water treatment and ensure a safe supply of water for the future



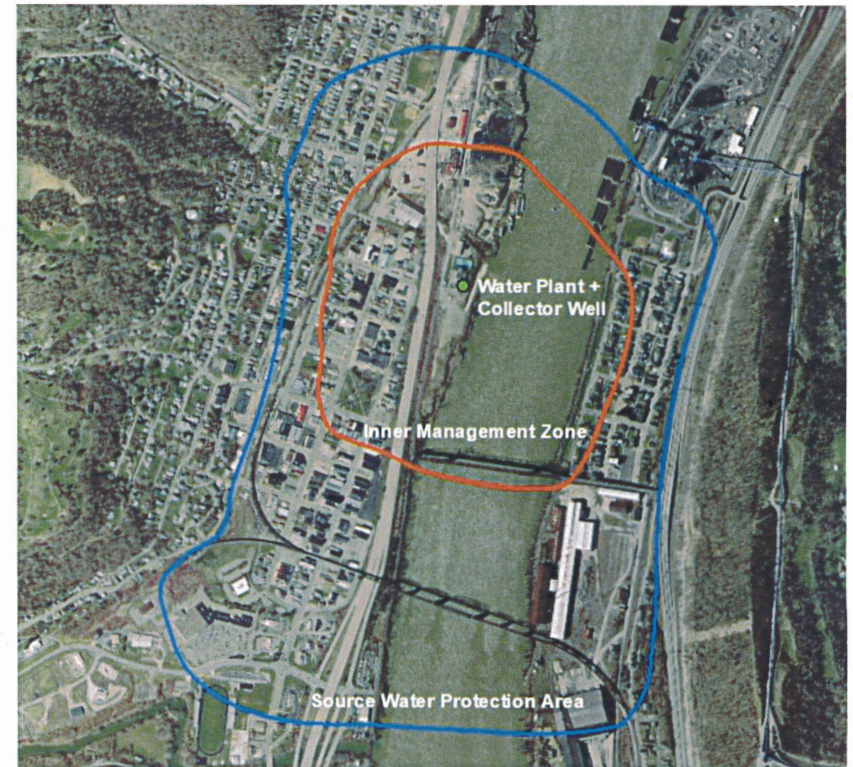
Where does Bellaire's drinking water come from?

The Village of Bellaire's municipal water supply serves approximately 4,300 people and pumps approximately 1,000,000 gallons of water per day from an underground sand and gravel source of water (aquifer). In order to produce that volume of water, the village operates one large horizontal collector well located just south of the water treatment plant. Part of that horizontal collector well extends eastward beneath the bottom of the Ohio River.

The ground water captured by the horizontal collector well is pumped to the water treatment plant where it is filtered and chlorinated. From there, it is pumped through an underground network of pipes to homes and businesses throughout the area.

Where does the ground water come from? All ground water originally comes from rain or melted snow that has seeped into the ground. Some ground water is also derived from surface water bodies, like streams, lakes or rivers. Once in the subsurface, water fills spaces between sand and gravel, as well as fractures in rocks. Where underground water is abundant, the water-rich sediments or rocks are called an aquifer. Bellaire's drinking water supply comes from a sand and gravel aquifer below the bottom of the Ohio River. This aquifer transmits water derived from both infiltrating rainwater and from leakage through the river-bed of the Ohio River.

Ground water does not stay in one place. The ground water supplying Bellaire's horizontal collector well moves slowly, sometimes following the gradient of the Ohio River Valley and sometimes following the land surface topography in the valley. If there was no withdrawal of ground water from the local aquifer, ground water would slowly flow from north to south, paralleling the river valley system. Ground water would also flow from west to east, following the slope of the land on the west bank of the Ohio River Valley. Because the Village of Bellaire and the Belmont County Sanitary District withdraws a large quantity of ground water daily (combined daily average of between 4 and 5 million gallons) beneath north and central Bellaire, local ground water flow direction is radial inward, towards the horizontal collector wells operated by the village and county. This means that if pollutants are spilled on the ground within the radial capture area for each of these wells, the pollutants may eventually enter the water that village customers are drinking. Although the village water plant provides some treatment, it would be very expensive to treat for every type of possible pollutant. This is why everyone in the Bellaire area should know about **Drinking Water Source Protection**.



To assist the Village of Bellaire with its drinking water source protection efforts, Ohio EPA provided a Drinking Water Source Assessment Report to the village in 2003. In 2020, the report was revised and updated by Ohio EPA. The report includes a map of the protection area (see image above) based on calculations of how far water travels through the aquifer in one year (referred to as the "Inner Management Zone") and in five years (referred to as the "Drinking Water Source Protection Area"). The report also includes information on land uses and facilities that may pose a contamination risk to the drinking water source. Potential risks are based on proximity to the drinking water source and the kinds/quantities of chemicals that are typically handled by these types of facilities. In the past, spillage or disposal of dry cleaning solvent at a downtown business contaminated the ground water beneath the central and southern portion of Bellaire. The village continues to deal with this legacy pollution today, as the water treatment plant must remove the dry cleaning solvent from the ground water source before sending clean water to its customers.

The Village of Bellaire used the 2020 Assessment Report to develop a Drinking Water Source Protection Plan. If you would like to be more involved with Bellaire's drinking water protection efforts, or if you would like to see a copy of the Source Water Protection Plan, please contact the Village Water Department at (740) 296-6496.