How Natural Disasters Affect Drinking Water

Natural disasters, including floods, hurricanes, tornadoes, earthquakes, and tsunamis, can disrupt and contaminate water supplies. Flooding and other disasters can damage drinking water wells and lead to well contamination from livestock waste, human sewage, chemicals, and other impurities.

Take the Necessary Precautions: Do not drink or come into contact with any water that is contaminated from a natural disaster until health authorities declare that the water is safe. During and after a natural disaster, especially flooding, drinking water may not be available or safe to consume. To be safe, do not use water to wash dishes, brush your teeth, wash or prepare food, make ice, or prepare baby formula if you suspect or have been told it is contaminated.

Your public water system is required to notify you if your drinking water is deemed unsafe. If your local water system is contaminated as a result of a natural disaster, you should avoid drinking or coming into contact with any tap water. Check with your local water system or public health organization during times of emergency and follow their instructions closely.

Ensure Your Drinking Water Is Safe: To ensure you have access to safe, usable water, we advise you follow the boil water order instructions given by your local public water system or health organization. Although, using bottled water is often the safest option.
Hartsville has NEVER had ANY drinking water VIOLATIONS!

Why am I getting this report?
The U.S. Environmental Protection Agency (EPA) requires water suppliers to deliver annual drinking water quality reports to their customers. This requirement was adopted in the 1996 Amendments to the Safe Drinking Water Act. These reports give consumers valuable information to make personal health-based decisions regarding their drinking water consumption. The results from January 2016 to December 2016 are included in this report.

Where does my water come from?
The City of Hartsville’s water source is groundwater; therefore, we treat water from four deep wells around the city (shown on the map below).

Source Water Assessment Report
SCDHEC has conducted an assessment of the City of Hartsville’s water source (wells). The assessment report includes a list of all potential contamination sources near our wells. Information about the Source Water Assessment Report and whom to contact to read the report is available on the internet at http://www.dhec.sc.gov/HomeAndEnvironment/Water/SourceWaterProtection/.
If you do not have internet access, but would like to make arrangements to view the Source Water Assessment Report, please feel free to contact us at (843) 383-3006.
**About this report...**

Each day, our staff works to ensure that the water delivered to your home meets all regulatory requirements and your expectations for safety, reliability and quality. For your protection, the staff at the City of Hartsville tests your drinking water for many parameters. The following tables show only the parameters detected in your water during calendar year 2016. We are proud to report that there were no violations during that time.

### Microorganisms/Indicators

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Treatment Requirement</th>
<th>Levels Detected</th>
<th>Violation?</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Coliform</td>
<td>≤ 1 sample that is positive</td>
<td>0 positive samples</td>
<td>No</td>
<td>Naturally present in environment</td>
</tr>
</tbody>
</table>

### Inorganic Chemicals

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MCL</th>
<th>MCLG</th>
<th>Highest Level Detected</th>
<th>Range Detected</th>
<th>Violation?</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoride</td>
<td>2 ppm*</td>
<td>2 ppm*</td>
<td>ND</td>
<td>ND</td>
<td>No</td>
<td>Erosion; discharge from fertilizer; drinking water additive</td>
</tr>
<tr>
<td>Nitrate</td>
<td>10 ppm</td>
<td>10 ppm</td>
<td>0.17 ppm</td>
<td>0 – 0.17 ppm</td>
<td>No</td>
<td>Erosion; runoff from fertilizer</td>
</tr>
</tbody>
</table>

* EPA’s MCL for fluoride is 4 ppm, however, SCDHEC has set a lower level to ensure human health.

### Disinfectants

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MRDL</th>
<th>MRDLG</th>
<th>Highest Compliance Value</th>
<th>Range of Monthly Averages</th>
<th>Violation?</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine</td>
<td>4 ppm (based on RAA)</td>
<td>4 ppm</td>
<td>0.43 ppm (RAA)</td>
<td>0.4 – 0.43 ppm</td>
<td>No</td>
<td>Drinking water additive used to control microbes</td>
</tr>
</tbody>
</table>

### Disinfection Byproducts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MCL</th>
<th>MCLG</th>
<th>Highest Compliance Value</th>
<th>Range</th>
<th>Violation?</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAAs</td>
<td>60 ppb (based on RAA)</td>
<td>N/A</td>
<td>3 ppb* (RAA)</td>
<td>1.77 – 3.6 ppb*</td>
<td>No</td>
<td>Byproduct of drinking water disinfection</td>
</tr>
</tbody>
</table>

* Based on most recent sampling results (2015).

### Metals

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MCL</th>
<th>MCLG</th>
<th>90th Percentile Value</th>
<th>Number of Sites Exceeding AL</th>
<th>Date Sampled</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>AL = 1.3 ppm (based on 90th percentile)</td>
<td>1.3 ppm</td>
<td>0.042 ppm</td>
<td>0</td>
<td>2015</td>
<td>Erosion; corrosion of plumbing system</td>
</tr>
</tbody>
</table>

### Radioactive Contaminants

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MCL</th>
<th>MCLG</th>
<th>Highest Level Detected</th>
<th>Range</th>
<th>Violation?</th>
<th>Potential Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Radium 226/228</td>
<td>5 pCi/L</td>
<td>0 pCi/L</td>
<td>2.2 pCi/L</td>
<td>0 - 2.2 pCi/L</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Gross alpha excluding radon and uranium</td>
<td>15 pCi/L</td>
<td>0 pCi/L</td>
<td>3.5 pCi/L</td>
<td>0 - 3.5 pCi/L</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

### About Lead in Drinking Water?

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Hartsville is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information is available from the Safe Drinking Water Hotline or at [http://www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).
Violations are rare. The level of microbial contaminants in water is measured in parts per billion (ppb). A level of 1 ppb equals one part in one million.

Maximum Contaminant Level Goal (MCLG): The highest level of a contaminant that is allowed in drinking water. MCLGs are set as close to the MCLs as feasible using the best available treatment technology.

Maximum Contaminant Level (MCL): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLs allow for a margin of safety.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

Trihalomethanes (THMs) and Haloacetic Acids (HAAs): By products of the disinfection process.

MCL Violations: Violations are rare. When there is a violation of a MCL, the elevated level of the contaminant usually occurs for just a day or so. MCLs are set very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Running Annual Average (RAA): A moving average based on the four most recent quarterly averages.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

pCi/L: Measures the level of radioactivity in water.

For People with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Why are there contaminants in the water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline (1-800-426-4791).

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Realizing that this information is a little difficult to understand, we have included this section to help you with understanding some of our terminology!

ND: Not Detected

ppm (parts per million): One ppm equals one part in a million.

ppb (parts per billion): One ppb equals one part in a billion.

mg/l (milligrams per liter): In water, mg/l means the same as ppm.

Inorganic Compounds: Compounds such as salts, minerals, and metals.

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pCi/L: Measures the level of radioactivity in water.

Definitively Speaking...

Any Questions?

If you would like to know more about the quality of your drinking water, please contact the Department of Public Works at (843) 383-3006. City Council meetings are held on the 2nd Tuesday of each month at 6pm in the Council Chambers at City Hall. We will be glad to talk to you. You can also find more information about drinking water on the EPA’s drinking water web site http://water.epa.gov/drink/.