

# QUALITY WATER



#### Additional Information

For more information on this *Consumer Confidence Report* or other water quality concerns, please contact:

#### City of Boone Water Works

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#### Public Meeting Information

The Boone City Council meets at 7:00 p.m. on the first and third Monday of each month at the Boone City Hall. Inquiries may be directed to:

#### City of Boone

923 8th Street, P.O. Box 550  
Boone, IA 50036  
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## DRINKING WATER AND HEALTH INFORMATION FROM THE EPA

In order to ensure that tap water is safe to drink, the Environmental Protection Agency's (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

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 from their health care providers about drinking water. The EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Many customers wish to know if bottled water is safer than regular tap water. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water that must provide the same protection for public health. Any bottled water labeled "drinking water" has to meet EPA's drinking water regulations. 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 contacting the EPA's Safe Drinking Water Hotline.

EPA Safe Drinking Water Hotline:

**1-800-426-4791**

<http://water.epa.gov/drink>

AWWA Safe Drinking Water Web Site:

[www.drinktap.org](http://www.drinktap.org)

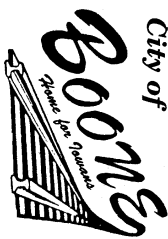
## WHERE DOES MY WATER COME FROM?

Water used by the City of Boone Water Works to supply the needs of our customers, comes from 14 shallow wells located along the Des Moines River in a groundwater alluvial aquifer. Every aquifer has a degree of susceptibility to contamination because of the characteristics of the aquifer, overlying materials, and human activity. Susceptibility to contamination generally increases with shallower aquifers, increasing permeability of the aquifer and overlying material, nearby development or agricultural activity, and abandoned or poorly maintained wells. The alluvial aquifer has a high susceptibility to contamination. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources, and is available from the Boone Water Works at (515) 433-0536.

## WATERSHED MAP



City of Boone  
923 8th Street, P.O. Box 550  
Boone, IA 50036



Postal Customer

Postal Permit

# 2012 CONSUMER CONFIDENCE REPORT

## CITY OF BOONE WATER WORKS

Water quality is our primary commitment at the City of Boone Water Works. We believe that the best way to assure you that your drinking water is safe is to provide you with accurate facts. The information in this *Consumer Confidence Report* summarizes the results of our water monitoring program as required by the Environmental Protection Agency (EPA) during 2011. Many of the analyses are required by the Safe Drinking Water Act and other regulations. However, we monitor for contaminants above and beyond the basic requirements. If you have any questions about the information in this report, please contact us at (515) 433-0536.

City of Boone Water Works is dedicated to providing you, the customer, with the safest and most dependable supply of drinking water available.

# WATER QUALITY

## 2011 WATER QUALITY RESULTS

SUBSTANCE	YEAR TESTED	VIOLATION YES/NO	HIGHEST LEVEL ALLOWED (MCL)	HIGHEST DETECTED LEVEL	UTILITY RANGE	EPA MCLG (EPA GOAL)	SOURCES OF CONTAMINANT
<b>MICROBIOLOGICAL CONTAMINANTS</b>							
Total Coliform	2011	No	5%	0	0	0	Naturally present in the environment
Turbidity (NTU)	2011	No	0.3	0.35	0.04-0.35	N/A	Soil runoff
<b>INORGANIC CHEMICALS</b>							
Free Chlorine (ppm)	2011	No	4 MRDL	1.7	0.4-1.7	4 MRDLG	Additive used to control microbes
Fluoride (ppm)	2011	No	4	1.1	0.5-1.1	4	Additive to promote strong teeth; discharge from fertilizer and aluminum factories; erosion of natural deposits
Nitrate as N (ppm)	2011	No	10	6.8	0-6.8	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Chlorine Contact (CT)	2011	No	N/A	43.3	6.8-43.3	>1	
<b>ORGANIC CONTAMINANTS</b>							
Total Trihalomethane TTHM (ppb)	2011	No	80	41 RAA	31-61	N/A	Byproduct of treatment process
Total Haloacetic Acids HAA5 (ppb)	2011	No	60	14	10-18	N/A	Byproduct of treatment process
Di(2-ethylhexyl)adipate (ppb)	10/2009	No	6	0.9	0.9	0	Discharge from rubber and chemical factories
<b>UNREGULATED CONTAMINANTS</b>							
Sodium (ppm)	2011	No	N/A	10	N/A	N/A	Erosion of natural deposits; added to water during treatment process
<b>RADIONUCLIDES</b>							
Combined Radium (pCi/L)	10/2011	No	5	4.9	N/A	0	Erosion of natural deposits
<b>DISINFECTANT</b>							
Chlorine (ppm)	2011	No	4	1 RAA	0.5-1.5	4	Byproduct of drinking water disinfection

SOURCE WATER	VIOLATION YES/NO	% REMOVAL RANGE	% REMOVAL REQUIRED	SOURCES OF CONTAMINANT
<b>TOTAL ORGANIC CARBON</b>				
Alluvial Wells	No	16-36%	15%	Naturally present in the environment

SUBSTANCE	YEAR TESTED	VIOLATION YES/NO	ACTION LEVEL	MAXIMUM 90% DETECTION	UTILITY RANGE	# SAMPLES ABOVE ACTION LEVEL	SOURCES OF CONTAMINANT
<b>COPPER AND LEAD - Regulated at Customer Tap</b>							
Copper (ppm)	2010	No	1.3	0.0325	0-0.0495	0 of 30	Corrosion of home plumbing; erosion of natural deposits
Lead (ppb)	2010	No	15	5	0-27	1 of 30	Corrosion of home plumbing; erosion of natural deposits
Lead (ppb)	2010	No	15	6*	0-27	1 of 30	Corrosion of home plumbing; erosion of natural deposits

\*95% Detection. **NOTE:** The EPA requires monitoring of over 80 drinking water contaminants. Those listed above are the only contaminants detected in your drinking water. For a complete list, contact the City of Boone Water Works.

## Definitions

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

**Inorganic Contaminants** Such as salts and metals, which can occur naturally or come from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

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

**Maximum Contaminant Level Goal (MCLG)** The level of a contaminant in drinking water below which there is no known or expected risk to health.

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

**Maximum Residual Disinfectant Level Goal (MRDLG)** The level of a 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.

**Microbiological Contaminants** Vsuch as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**N/A** Not applicable.

**ND** Not detected at testing limit.

**NTU** Nephelometric Turbidity Units.

**Organic Contaminants** Including synthetic and volatile organic chemicals, which are industrial and petroleum process byproducts and can also come from gas stations, urban stormwater runoff and septic systems.

**pCi/l** Picocuries per liter.

**ppb** Parts of contaminant per billion parts of water. One part per billion (ppb) is equivalent to a single penny in ten million dollars. ppb may also be referred to as ug/l or micrograms per liter.

**ppm** Parts of contaminant per million parts of water. One part per million (ppm) is equivalent to a single penny in ten thousand dollars. ppm may also be referred to as mg/l or milligrams per liter.

**Pesticides and Herbicides** May come from agriculture, urban stormwater runoff and residential use.

**RAA** Running Annual Average

**Radioactive Contaminants** Occur naturally or result from oil and gas production and mining activities.

**TOC** Total organic carbon in untreated water.

**Treatment Technique (TT)** A required process intended to reduce the level of a contaminant in drinking water.

### Chlorine Disinfectant

The most common drinking water treatment is disinfection. Disinfection is considered to be the primary mechanism to kill bacteria and other germs to prevent the spread of waterborne diseases. Chlorine is the most widely used disinfectant. Disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts. EPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water. The chart above reflects these standards and the utility's ability to meet those standards.

### Fluoride

Some fluoride is naturally present in the source water. The amount is carefully monitored every day so optimum concentration is maintained. If you have concerns about fluoride, you should discuss this topic with your dentist and doctor.

### Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agriculture activity. If you are caring for an infant, you should ask advice from your healthcare provider.

### Lead

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. City of Boone Water Works 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 water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### TTHMs (Total Trihalomethanes)

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

### Unregulated Contaminants

EPA requires systems of our size to take samples in an assessment monitoring phase for Unregulated Contaminant Monitoring Regulations (UCMR). There were no detectable levels in our drinking water. For more information about unregulated contaminants, please contact us at (515) 433-0536.