

2010 WATER QUALITY REPORT

What You Should Know About Your

drinking water

Your drinking water, treated and delivered by Beaufort-Jasper Water and Sewer Authority (BJWSA), consistently met or surpassed all the water quality standards and inspections from both the EPA and the South Carolina Department of Health and Environmental Control in 2010.



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¿habla español? Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.
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High Quality Water for Low-Country Living

You turn on your tap, fill your glass, and enjoy a cool drink of water. Pretty easy, huh? Not as easy as you might think – your drinking water goes through a carefully monitored, step-by-step process to make sure it is clean and safe before it reaches your faucet. BJWSA and the S.C. Department of Health and Environmental Control (DHEC) regularly sample and test water quality at our treatment plants, in the distribution system, and at water taps in homes across our service area.

At the Savannah River

- Daily sampling to check tritium levels
- Annual sampling and independent lab testing for regulated contaminants

At our Water Treatment Plants

- Quarterly, daily, hourly, and automatic testing
- Regular test results reporting to DHEC and EPA
- Unscheduled tests and regular water sampling checks by DHEC

In the Distribution System

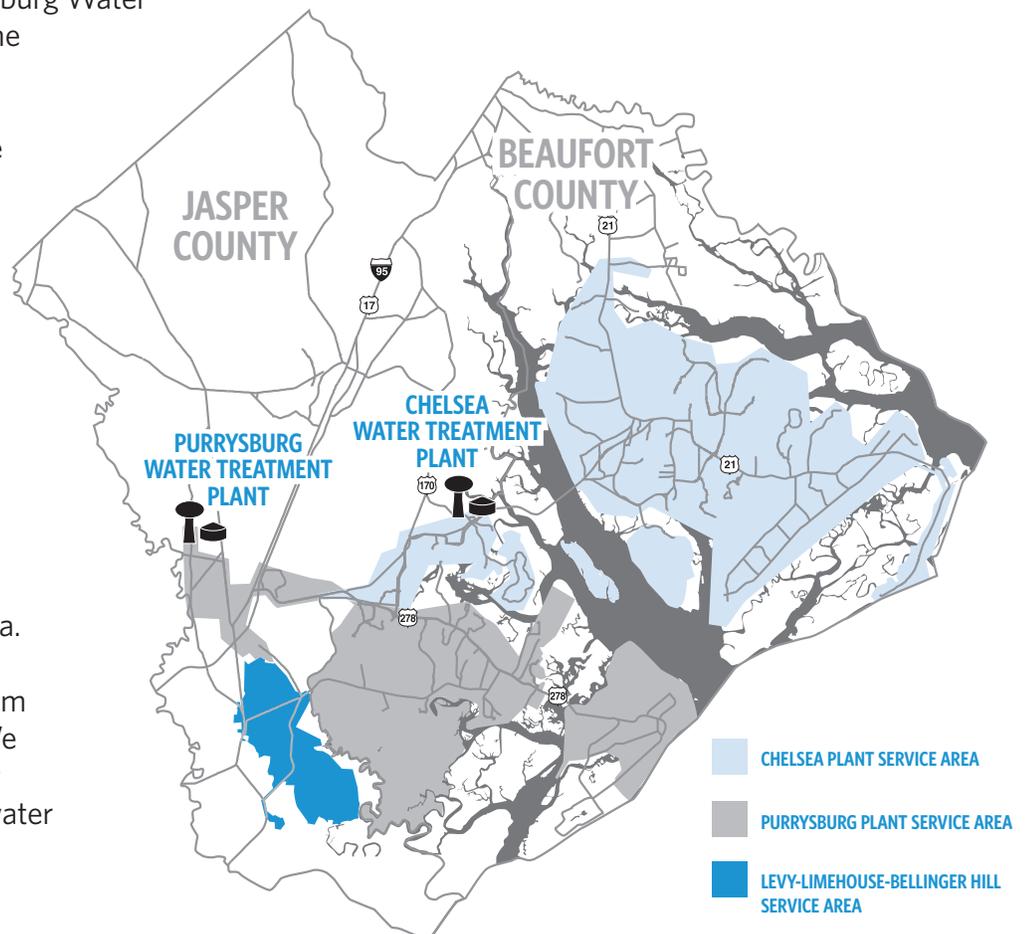
- Over 125 monthly samples
- Quarterly sampling by DHEC



Where Your Water Comes From

The Savannah River supplies water for both of our water treatment plants. The Chelsea Water Treatment Plant primarily provides drinking water to residences and businesses in northern Beaufort County and supplements the Purrysburg Water Treatment Plant when necessary. The Purrysburg Water Treatment Plant supplies drinking water to southern Beaufort and Jasper counties. These treatment plants provide a total of up to 39 million gallons of water per day to residences, businesses and organizations.

BJWSA also uses water from the Floridan Aquifer, a large, underground limestone structure that holds and provides groundwater to streams and wells. The Floridan Aquifer extends through Florida, south Georgia, and parts of Alabama and South Carolina. If you live in the Levy-Limehouse-Bellinger area, your water comes from two of our Floridan Aquifer wells. We also maintain three Floridan Aquifer wells in Bluffton, which add to the water supply during times of high water demand in the summer months.



Protecting Drinking Water Supplies

In order to protect public drinking water supplies – our rivers, lakes, and streams – the State of South Carolina established a Source Water Assessment Program. As part of this program, the South Carolina Department of Health and Environmental Control (DHEC) compiled the assessments from all water utilities, including an assessment of the Savannah River basin.

The Savannah River Basin Source Water Assessment Report has helped to identify what and where pollution prevention efforts are necessary to ensure the future safety of our community's drinking water. For surface water, DHEC found that four potential contaminant sources had a high susceptibility ranking, twenty-five had a moderate susceptibility ranking, and nine had a low susceptibility ranking. For groundwater, no potential contaminant sources were found with a high susceptibility ranking, seventeen had a moderate susceptibility ranking, and five had a low susceptibility ranking.

A copy of the Source Water Assessment Report is available for your review at the BJWSA Administration Office or at www.scdhec.gov/environment/water/srcewtrreports.htm.

Why Are Contaminants in Drinking Water?

Drinking water sources include streams, lakes, rivers, reservoirs, and wells, which are subject to potential "contamination" by a wide variety of substances that occur naturally or are man-made. As water travels over the surface of the land or through the ground, it dissolves natural minerals, and, in some cases radioactive material, and can pick up substances resulting from human activity or the presence of animals.



In order to ensure that tap water is safe to drink, EPA prescribes regulations that 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.

Contaminants that could be present in source water before it is treated:

- **Microbial contaminants**, such as viruses and bacteria that 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 storm 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 septic systems
- **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 the result of oil and gas production, defense activities, or power plants/energy production

you can help
protect
water
quality



PETS – Pick up after your dog wherever they go – whether in a park, down a street, or in your backyard.

FERTILIZERS – Avoid fertilizing in drought conditions and when heavy rain is predicted, and keep fertilizers off of paved surfaces.

TRASH/LITTER – Always dispose of trash properly. Never sweep litter or debris into a storm drain.

FATS, OILS, GREASE – Never put any type of grease down a drain. Scrape grease and food scraps into a can or the trash for disposal.

HAZARDOUS MATERIALS – Never dump hazardous materials, such as cleaning products, chemicals, or paints, down a drain.



Monitoring Unregulated Contaminants

The EPA conducts an Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Participating in this program, BJWSA found no unregulated contaminants in our drinking water in 2010. If you would like to receive the list of contaminants monitored, please contact Matthew Brady in our Communications Department at 843-987-9213 or MatthewB@bjwsa.org.

Important Information from the EPA

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man-made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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).



Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Guidelines from the Environmental Protection Agency and the Centers for Disease Control and Prevention 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).

BJWSA is responsible for making certain that the water you drink does not contain contaminants at levels higher than the amounts mandated as safe by federal and state regulations. The following charts show the findings of our water testing throughout 2010 and how it compares to national standards.

Levy-Limehouse-Bellinger Hill

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Highest Detected Level (what we found)
✓	Copper	Corrosion of household plumbing	1.3 ppm	AL=1.3 ppm	0.101 ppm (90th percentile) 0 over AL
✓	Fluoride	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	4.0 ppm	4.0 ppm EPA 2.0 ppm DHEC	0.36 ppm Actual Range 0.36–0.36 ppm
✓	Haloacetic acids (HAA)	By-product of drinking water disinfection	N/A	60.0 ppb (annual average)	23.89 ppb (annual average) Actual Range 0–23.89 ppb
✓	Lead	Corrosion of household plumbing; erosion of natural deposits	AL=15 ppb	0 ppb	4 ppb (90th percentile) 0 over AL
✓	Total Trihalomethanes (TTHMS)	By-product of drinking water disinfection	N/A	80.0 ppb (annual average)	37.2 ppb (annual average) Actual Range 11.97–37.2
✓	Xylenes	Discharge from chemical and petroleum factories	10 ppm	10 ppm	0.00172 ppb Actual Range 0–0.00172 ppm

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Highest Detected Level (what we found)
✓	Chlorine	Water additive used to control microbes	4.0 ppm	4.0 ppm	0.88 ppm Actual Range 0.70–1.25 ppm
				Highest quarterly running average	

Protecting Your Health

Tritium in Drinking Water

Tritium is present in our water source, the Savannah River, as a result of natural processes in the atmosphere, fallout from past atmospheric nuclear weapons tests, the operation of the Savannah River Site (SRS), and power plants/energy production. The SRS stopped making nuclear materials and is now only stabilizing nuclear waste. Consequently, tritium levels in the river have been declining.

The EPA regulates tritium, setting a maximum contamination level of 20,000 picocuries per liter (pCi/L) of water. Ten years ago, the tritium level was 848 pCi/L. In 2010, testing showed tritium 273 pCi/L – less than 2% of EPA’s maximum level.

We will continue monitoring extensively for tritium and reporting our findings in future issues of this Water Quality Report.

Chelsea Water Treatment Plant

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Highest Detected Level (what we found)
✓	Turbidity	Soil runoff	0	TT = 1 NTU	0.11 NTU
				TT = 95% of samples less than 0.3 NTU	100% less than 0.3 NTU

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Range of Removal	Annual Average Removal
✓	Total Organic Carbons	Naturally present in the environment	N/A	TT (35%-50% removal required)	42.1-61.4%	52.1%

Purrysburg Water Treatment Plant

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Highest Detected Level (what we found)
✓	Turbidity	Soil runoff	0	TT = 1 NTU	0.07 NTU
				TT = 95% of samples less than 0.3 NTU	100% less than 0.3 NTU

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Range of Removal	Annual Average Removal
✓	Total Organic Carbons	Naturally present in the environment	N/A	TT (35%-50% removal required)	43.4-61.7%	52.5%

1 Copper As shown in the Water Test Results above, the amount of copper in our drinking water is well below the EPA's allowed levels. In our last copper test in 2009, one home out of all the homes tested in the main distribution system exceeded the action level (AL). We went back and tested additional samples from this home. None of these samples showed an elevated level of copper and there was no violation of EPA standards.

Copper in drinking water is primarily from corrosion and household plumbing; it is not in our source water or water leaving our plant. Every three years, as required by EPA, we test water samples from 30 homes throughout the distribution area that were built before 1983 and have copper plumbing. Homes very rarely test higher than EPA standards because we treat the water to protect the interior of pipes from corrosion. If there is a high result, BJWSA always investigates and resamples the water.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level (AL) over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the AL over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Main Distribution System

Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Highest Detected Level (what we found)
✓	Cadmium	Corrosion of galvanized pipes; Erosion of natural deposits; runoff from waste batteries and paint	5.0 ppb	5.0 ppb	0.12 ppb Actual Range 0–0.12 ppb
✓	Total Coliform	Naturally present in the environment	0	Present in no more than 5% of samples taken	Present in less than 1% of samples taken
	Fecal coliform or E.coli bacteria	Human or animal fecal waste	0		0
✓	Copper ①	Corrosion of household plumbing	1.3 ppm	AL=1.3 ppm	0.291 ppm (90th percentile) 1 sample over AL
✓	Fluoride	Erosion of natural deposits; water additive that promotes strong teeth	4.0 ppm	4.0 ppm EPA 2.0 ppm DHEC	0.8 ppm Actual Range 0–0.83 ppm
✓	Haloacetic acids (HAA)	By-product of drinking water disinfection	N/A	60.0 ppb (annual average)	24.0 ppb (annual average) Actual Range ND–54.2 ppb
✓	Lead ②	Corrosion of household plumbing; erosion of deposits	AL=15 ppb	0 ppb	5.0 ppb (90th percentile) 2 samples over AL
✓	Nitrate (measured as nitrogen)	Runoff from fertilizer use	10.0 ppm	10.0 ppm	0.39 ppm Actual Range 0–0.39
✓	Thallium	Discharge from electronics and glass	0.5 ppb	2.0 ppb	0.69 ppb Actual Range 0.69–0.69 ppb
✓	Total Trihalomethanes (TTHMS)	By-product of drinking water disinfection	N/A	80.0 ppb (annual average)	39.0 ppb (annual average) Actual Range 11.7–48.3 ppb
Better than EPA Standard	Substance	Typical Source	EPA Ideal Goal (MRDLG)	Highest EPA Allowed Level (MRDL)	Highest Detected Level (what we found)
✓	Chlorine	Water additive used to control microbes	4.0 ppm	4.0 ppm	0.88 ppm Actual Range 0.60–1.18 ppm
				Highest quarterly running average	

② Lead As shown in the Water Test Results in this report, the amount of lead in our drinking water is well below the EPA's allowed levels. However, in our last testing for lead in 2009, two homes out of all the homes tested in the main distribution system had high levels of lead in the sample. We went back and tested additional samples from these homes. None of the subsequent samples showed an elevated level of lead and there was no violation of EPA standards.

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. BJWSA 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.

Terms to Know in Reading the Water Test Results

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

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

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

MRDL (Maximum Residual Disinfectant Level) 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.

MRDLG (Maximum Residual Disinfectant Level Goal) 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 contamination.

ND (non-detected) No measurable level of a substance or contaminant detected.

ppm (parts per million) The equivalent of eight ounces (1 cup) in 62,500 gallons of water.

ppb (parts per billion) The equivalent of eight ounces (1 cup) in 62.5 million gallons of water.

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

Turbidity A measure of the cloudiness of water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. NTU is a measurement of the clarity of the water.

Want to Know More?

BJWSA is committed to increasing community awareness of water and environmental issues. We offer tours of our treatment and reclamation facilities to all citizens, providing a unique opportunity to find out more about their drinking water. Our quarterly customer newsletter, brochures, and fact sheets offer a wide variety of up-to-date information on our operations, services, and current water issues. Check out www.bjwsa.org – our totally new website tells the story of your drinking water from treatment to tap!

If you have any questions about the quality of your water, call the BJWSA Customer Service Department (**Beaufort** – 843-987-9200, **Hardeeville** – 843-288-0006, **Bluffton** – 843-707-0017) or send your request through our website, www.bjwsa.org.

Here are some other great sources of information:

www.scdhec.gov/environment/water

South Carolina Department of
Health and Environmental Control

sc.water.usgs.gov

USGS Water Resources of
South Carolina

www.srs.gov

Savannah River Site

water.epa.gov/drink

Environmental Protection Agency's
Safe Drinking Water

water.epa.gov/learn/kids/drinkingwater

A great site for kids and teachers

800-426-4791

EPA Safe Drinking Water Hotline

BJWSA encourages public comment on decisions affecting drinking water. BJWSA Board meetings are held on the fourth Thursday of each month at our Chelsea administration offices on Highway 170, beginning at 9:00 a.m. You can preview board agendas and review board meeting minutes at www.bjwsa.org.



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