on the Waterfront
A Publication of the Hilton Head Public Service District
Annual Drinking Water Quality Report

Hilton Head PSD Annual Drinking Water Quality Report

This Annual Drinking Water Quality Report contains tap water test results that have been confirmed through extensive scientific monitoring and analysis. In fact, more than 500 samples of PSD drinking water were analyzed during the past year to verify the safety of the drinking water we provide to you.

This report reflects the results of analyses performed during the year to comply with drinking water quality regulations from the U.S. Environmental Protection Agency (EPA) and the State of South Carolina's Department of Health and Environmental Control (DHEC).

Hilton Head PSD's new Aquifer Storage & Recovery (ASR) well is located off Royal James Drive in Hilton Head Plantation. The well stores treated drinking water during the winter months of low demand and withdraws it for re-treatment and distribution during the summer months of high demand. This is Hilton Head Island's first-ever ASR well. It is needed in order to ensure a long-term and high-quality supply of drinking water in the face of ongoing saltwater intrusion into the island's traditional groundwater source.

Sampling data for nearly 100 regulated elements and substances that may be present in public drinking water supplies, from naturally occurring and manmade sources, were collected systematically throughout the year and scientifically analyzed. Independent laboratories and DHEC have confirmed the data.

Very few substances regulated by the Safe Drinking Water Act are present in the PSD's water supply, and the levels of substances or elements detected were well within the limits considered safe by state and federal regulations.

If you have questions about the drinking water supplied by your PSD, please contact Pete Nardi, Hilton Head PSD Community Relations Manager, at (843) 681-0525, or email info@hhpsd.com.

IN THIS REPORT...

Water Quality Test Results

for the period of January 1 to December 31, 2010

This report is intended to provide you with important information about your drinking water and the efforts made by the PSD to provide safe drinking water.
Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

HELPING YOU BETTER UNDERSTAND THE TECHNICAL TERMS

The following **definitions** will help you understand the data and information presented in the Water Quality Test Results tables.

- **90th %:** Of all the samples analyzed, 90 percent were at or below this detection level.
- **Action Level or AL:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Action Level Goal or ALG:** The level of a contaminant in drinking water below which there is no known or expected risk to human health. ALGs allow for a margin of safety.
- **Maximum Contaminant Level Goal or MCLG:** 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.
- **Maximum Contaminant Level or MCL:** 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.
- **Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples
- **Maximum residual disinfectant level goal or 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.
- **Maximum residual disinfectant level or 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.
- **MG/L:** milligrams per liter. One mg/l is equal to one part per million.
- **na:** not applicable.
- **NTU:** nephelometric turbidity units. NTU is a measure of the clarity of treated surface water used to determine the effectiveness of filtration systems.
- **pCi/L:** picocuries per liter. The measure of radioactivity in water. It is equivalent to the quantity of radioactive material producing 2.22 nuclear transformations per minute.
- **ppm:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
- **ppb:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
- **TT:** treatment technique

2010 Regulated Contaminants Detected
Hilton Head PSD (#0720006)

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample.	2	0	0	No	Naturally present in the environment.

Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over Action Level (AL)	Units	Violation	Likely Source of Contamination
Copper	June 1 - Sept. 30, 2009	1.3	1.3	0.642	0	ppm	No	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
Lead	June 1 - Sept. 30, 2009	0	15	5	0	ppb	No	Corrosion of household plumbing systems; erosion of natural deposits.

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)*	Quarterly	17	1.6 - 25.66	No goal for the total	60	ppb	No	By-product of drinking water chlorination.
Total Trihalomethanes (TThm)*	Quarterly	25	10.57 - 33.74	No goal for the total	80	ppb	No	By-product of drinking water chlorination.

** Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.*

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Fluoride	February 2, 2010	1.6	1.4 - 1.6	4	4.0	ppm	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	February 2, 2010	0.42	0 - 0.42	10	10	ppm	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Violation

Violation Type	Violation Begin	Violation End	Violation Explanation
Monitoring, Source (GWR), Tier 3	05/01/2010	05/31/2010	We did not collect follow-up samples within 24 hours of learning of the total coliform-positive sample. These needed to be tested for coliform indicators from all sources that were being used at the time the positive sample was collected.

UCMR2 Sampling

Hilton Head PSD has been monitored for the Unregulated Contaminant Monitoring Regulation 2 (UCMR 2) in 2010. No detections were noted. If you would like to receive the list of contaminants monitored, please contact Pete Nardi, Hilton Head PSD Community Relations Manager, at (843) 681-0525 or info@hhpsd.com.

2010 Regulated Contaminants Detected
Beaufort-Jasper Water & Sewer Authority (#0720003)

Regulated Contaminants

Contaminant	Detected Level	Range of Detection	Highest Level Allowed (MCL)	Goal (MCLG)	Unit of Measure	Violation	Year	Possible Source
Arsenic	ND	ND	10	0	ppb	No	2010	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Fluoride	0.83	0 - 0.83	4	4	ppm	No	2010	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	0.39	ND - 0.39	10	10	ppm	No	2010	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Cadmium	0.12	0 - 0.12	5	5	ppb	No	2010	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paint.
Thallium	0.69	0.69 - 0.69	2	0.5	ppb	No	2010	Discharge from electronics, glass and leaching from ore-processing sites; drug factories.

Turbidity

	Date	Highest Level	MCLG	MCL	Violation	Likely Source of Contamination
Highest single measurement	2010	0.11	0	TT = 1 NTU TT = 95% < 0.30 NTU	No	Soil runoff.

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

Your sources of tap water

Hilton Head PSD uses three sources of drinking water. This diversity of supply is a necessary response to saltwater intrusion into our traditional groundwater source. But it also is an important recovery tool in the event of a hurricane or other disaster. The three sources are blended in the PSD's drinking water distribution system at varying rates depending upon time of year, time of day, or other factors.

The PSD supplies its customers with an average of 6 million gallons of drinking water a day using our three sources:

- Groundwater from the Middle Floridan Aquifer treated at the PSD's Reverse Osmosis (RO) Drinking Water Treatment Facility
- Groundwater from the Upper Floridan Aquifer treated with chloramine injection at well sites
- Treated Savannah River surface water purchased wholesale by the PSD from the Beaufort-Jasper Water & Sewer Authority (BJWSA)

Saltwater intrusion

Saltwater intrusion into the 150-foot-deep Upper Floridan Aquifer is being caused by the overpumping of the aquifer in the Savannah region and by naturally-occurring phenomena. The latest science tells us the saltwater intrusion is advancing from Port Royal Sound through our service area at a rate of 300 feet a year or more. As the salinity level in our Upper Floridan wells increases, they become unacceptable for public drinking water supply. The PSD already has lost six Upper Floridan wells to the saltwater intrusion since 2000. It anticipates losing five of its remaining six Upper Floridan wells by 2020, according to projections confirmed by both the South Carolina Department of Health and Environmental Control and the PSD's own research and monitoring. There is no action the island can take to halt the intrusion, studies have shown.

Multiple steps already have been taken to replace water supply lost to the intrusion. Additional measures will be needed in the coming years.

The RO Plant

The RO Plant, located across U.S. 278 from Windmill Harbour, began operations in April 2009. It's providing customers with 3 million gallons of fresh drinking water a day, about half of the average daily demand for water. Its construction was necessary to replace water supply lost to saltwater intrusion. The plant uses state-of-the-art filtration to produce a very high-quality drinking water. In fact, it's the same process used to produce many brand-name bottled waters and other beverages. The RO plant is expandable to provide 6 million gallons of drinking water a day.

Aquifer Storage & Recovery

In addition to the RO Plant, the PSD has constructed a well that both stores and withdraws water as our newest weapon in the fight to replace supply lost to saltwater intrusion. It's called an Aquifer Storage & Recovery (ASR) well.

The utility's ASR well has recently been built inside Hilton Head Plantation. ASR is a technique that seasonally stores surplus drinking water in the underground aquifer during times of low demand, and pumps into the water distribution system during times of high, or peak, demand. The ASR well is set to begin operations in 2012. It will provide 2 million gallons a day of drinking water during times of peak demand, and will replace part of the drinking water supply necessary to meet the PSD's daily peak water demand projection of 12 million gallons a day.

The ASR well allows the PSD to store treated Savannah River drinking water in the winter months at a less-expensive, or off-peak, wholesale rate from BJWSA. The ASR well then withdraws that water in the summer months of higher demand, when the wholesale rate is approximately twice as expensive. Treated drinking water is injected into the well during the lower-demand months, and the water is treated again when it is withdrawn during the higher-demand months.

As part of the ASR project, the PSD also is installing a new 16-inch water transmission main into Hilton Head Plantation, and pressurizing a 24-inch water main jointly owned by the Broad Creek and Hilton Head PSDs. These main improvements are key transmission and storage components of the PSD's efforts to combat the impacts of saltwater intrusion.

The future of Hilton Head water supply

The PSD is constantly evaluating and preparing for the island's future water supply needs. We are preparing to implement a series of projects necessary to ensure a high-quality and long-term supply of drinking water for our customers.

Below is a list of anticipated water supply projects:

2012 – First ASR well begins use, replacing three Upper Floridan wells.
2017 – Second ASR well needed to replace one Upper Floridan well.
2020 – Third ASR well needed to replace two Upper Floridan wells.
2020 – Reverse Osmosis plant expansion may be needed to add another 1 million gallons a day of supply.

The construction of additional ASR wells and expansion of the Reverse Osmosis plant are options currently at the forefront of the PSD's future water supply planning.

"The protection of public health and the protection of our water resources are always at the forefront of our water supply planning," said PSD General Manager Richard Cyr.

The PSD is installing a water transmission main in the Wildhorse and Gumtree roads area as part of a water supply project to combat the effects of saltwater intrusion in our traditional groundwater source.

Testing the water

The PSD's tap water is subject to more than 100 primary and 15 secondary regulations by the U.S. Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (DHEC). To adhere to and surpass these regulations, the PSD annually tests more than 500 samples of the drinking water we provide to customers.

The utility performs both field and laboratory tests of our drinking water. We send the results of these tests to DHEC on a weekly basis. Our annual testing results are reported to you here, in our Water Quality Report. By law, this report must be mailed to all PSD customers.

The PSD employs two, full-time water chemists to administer our Water Quality program and our EPA-certified laboratory. Our field technicians are licensed by the State of South Carolina.

Water quality measures

Our field testing is done to monitor and ensure that proper levels of treatment are maintained throughout our drinking water distribution system.

The PSD routinely flushes water lines to circulate water in our system. This is particularly important in areas that are seasonally occupied or have low water consumption, such as streets with few homes or residents.

The utility uses computer-based monitoring of our water system, allowing us to check levels and flow rates 24/7.

As a safety measure for the general public and our employees, the PSD recently switched to liquid chlorine treatment of drinking water. This effective method is safer than the use of chlorine gas treatment.

If you have questions about your drinking water, please email us at info@hhpsd.com or call our Customer Service Center at (843) 681-5525.

Mandatory Statements

The following mandatory statements are required by the U.S. Environmental Protection Agency and the S.C. Department of Health and Environmental Control to appear in this Annual Water Quality Report, regardless of the results of water quality monitoring. These statements must appear in all Annual Water Quality Reports for all publicly regulated drinking water providers in the United States.

*The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pickup substances resulting from the presence of animals or from human activity.

**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 storm water 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 storm water 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 storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

***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 at (800) 426-4791.

****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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 (800-426-4791).

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. We 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 http://www.epa.gov/safewater/lead.

PSD's Reverse Osmosis Plant wins national award

Hilton Head Public Service District's Reverse Osmosis Drinking Water Treatment Facility has won a National Recognition Award in the American Council of Engineering Companies (ACEC) 2011 Engineering Excellence Awards competition. The award is presented to projects that "demonstrate exceptional achievement in engineering," according to a statement from the ACEC. The Reverse Osmosis Plant was designed and built by AECOM engineering company in Greenville, S.C. The plant also was awarded an Engineering Excellence Award from the state chapter of the ACEC.

The plant incorporates sustainable principles into its design. Water recovery is maximized using technologically-advanced membrane design and lower-pressure membranes to reduce power consumption. The Reverse Osmosis Plant, which began operating in April 2009, is producing 3 million gallons of drinking water a day, about half of the utility's average daily demand. The plant, which treats brackish groundwater from the 600-foot-deep Middle Floridan Aquifer, was needed in order to replace water supply lost as a result of saltwater intrusion into the island's traditional source of water, the 150-foot-deep Upper Floridan Aquifer. The plant, which is located on Jenkins Island across from Windmill Harbour, gives Hilton Head PSD three sources of drinking water, which is crucial for disaster recovery and drought response.

Base rate adjusted for first time in 12 years

The Hilton Head Public Service District (PSD) Commission voted unanimously in March to adjust the PSD's water and sewer service base charges for the first time in 12 years. The water service base charge increased $1.00 a month and the sewer service base charge increased $2.00 a month for all customers effective May 1.

The adjustments were the result of a cost-of-service analysis performed annually by the PSD to determine the public utility's cost of providing its drinking water and sanitary sewer services. The PSD is faced with increased fixed costs such as fuel and power, and the service base charges are in place to cover these and other fixed costs.

The new water service base charge is $11.00 a month for residential customers and $16.00 a month for commercial customers, as a result of the adjustment. The new sewer service base charge is $14.00 a month for all customers. The adjustments made effective May 1 also include a new residential irrigation meter volume charge of $1.71 per 1,000 gallons up to 20,000 gallons per month. The commercial sewer volume charge also was adjusted to $2.00 per 1,000 gallons of water consumption.

Edisto Beach officials toured the PSD's Reverse Osmosis (RO) Plant recently to learn about the process as they consider constructing a smaller plant for their community. Edisto Beach, like Hilton Head Island, is faced with lost drinking water supply as a result of saltwater intrusion into their groundwater source. The PSD's RO Plant is a key tool in the fight to replace supply lost to saltwater intrusion.

What not to flush

The PSD needs your help to keep inappropriate materials out of our sewer system. One culprit – believe it or not – are rags and cloths such as those used on a Swiffer wet or dry sweeper. These are not equivalent to toilet paper and should never be put down a toilet bowl or drain. Repairs and maintenance required to remove these types of materials can be costly and can hinder the effective operation of the public sewer system. Below is a chart to help you determine what not to flush.

KITCHEN	TYPE OF WASTE DISPOSAL			
Aluminum cleaners		▼		
Ammonia-based cleaners	≈			
Bug sprays			⊗	
Drain cleaners			⊗	
Egg shells		▼		
Floor care products			⊗	
Furniture polish			⊗	
Metal polish with solvent			⊗	
Window cleaner		▼		
Oven cleaner (lye base)			⊗	
Fats, oils and grease (including oil from turkey fryers)		▼		
BATHROOM	**TYPE OF WASTE DISPOSAL**			
Bathroom cleaners		▼		
Diapers (baby wipes)		▼		
Disinfectants		▼		
Toilet bowl cleaner		▼		
Tub and tile cleaners			⊗	
Pharmaceutical products or drugs (expired or used)		▼		
Personal care products (aftershaves, perfumes, depilatories, permanent or other lotions, hair relaxers, nail polish, dyes, waxes)		▼		
Sharps (needles for diabetics)			⊗	
GARDEN	**TYPE OF WASTE DISPOSAL**			
Fertilizer			⊗	
Fungicide			⊗	
Herbicide			⊗	
Insecticide			⊗	
Rat poison			⊗	
Weed killer			⊗	

GARAGE	TYPE OF WASTE DISPOSAL			
Antifreeze			⊗	♻
Automatic transmission fluid			⊗	♻
Auto body repair products			⊗	
Battery acid (or battery)			⊗	♻
Brake fluid			⊗	
Car wax with solvent			⊗	
Diesel fuel			⊗	♻
Fuel additives			⊗	
Fuel oil			⊗	♻
Gasoline			⊗	♻
Kerosene			⊗	♻
Metal polish with solvent			⊗	
Motor oil			⊗	♻
Other oils			⊗	
WORKSHOP	**TYPE OF WASTE DISPOSAL**			
Cutting oil			⊗	
Deck cleaners/stains			⊗	
Glue (solvent based)			⊗	
Glue (water based)	≈			
Paint (latex)		▼		♻
Paint (oil based)			⊗	
Paint (auto)			⊗	
Paint (model)			⊗	
Paint brush cleaner with solvent			⊗	♻
Paint brush cleaner with TSP	≈			
Paint stripper			⊗	
Paint stripper (lye base)			⊗	
Paint thinner			⊗	♻
Primer			⊗	
Rust remover (with phosphoric acid)			⊗	

WORKSHOP, Cont.	TYPE OF WASTE DISPOSAL			
Turpentine			⊗	♻
Varnish			⊗	
Wood preservative			⊗	
MISCELLANEOUS	**TYPE OF WASTE DISPOSAL**			
Aerosol cans (empty)		▼		♻
Aerosol cans (not empty)			⊗	
Ammunition			⊗	
Artists' paints (acrylic)		▼		♻
Artists' paints (oil based)			⊗	
Cat litter		▼		
Cellular phones			⊗	♻
Dry cleaning solvents			⊗	♻
Fiberglass epoxy			⊗	
Gun cleaning solvents			⊗	♻
Lighter fluid			⊗	
Mercury batteries			⊗	♻
Moth balls			⊗	
Old fire alarms			⊗	
Fluorescent light bulbs			⊗	
Pet care products (flea and tick repellent)		▼		
Photographic chemicals			⊗	
Shoe polish			⊗	
Swimming pool chemicals			⊗	
White-out (used for corrections)		▼		

≈ – Can be poured down the drain with plenty of water.
▼ – Cannot be poured down the drain, but can be safely disposed of in a sanitary landfill or incinerator.
⊗ – Hazardous wastes.
♻ – Recycle, reuse, or share.

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Water Quality Report Inside

Stoney sewer project underway; Project SAFE in need of donors

The PSD and the Town of Hilton Head Island have teamed up to bring the public sewer system to the Stoney neighborhood in the north end of the island. The work is underway and involves the construction of a large sewer pump station to serve the area, as well as the installation of sewer mains and lines to serve individual properties. The project provides immediate sewer access to more than 130 properties in the Stoney area, and creates the opportunity to serve more properties in the near future.

Approximately 8% of PSD customers currently are unconnected to the public sewer system, primarily due to a lack of access to sewer lines. That means there are about 1,000 septic systems in use in the PSD's service area. Septic systems are ill-suited for use on Hilton Head Island due to our high groundwater table, resulting in failures that threaten public health and the environment. The PSD and its community partners estimate that several hundred septic systems are owned by low-income property owners who would struggle to meet the cost of connecting to the sewer system. That's where Project SAFE (Sewer Access for Everyone) comes into play.

PROJECT SAFE
Sewer Access for Everyone

Project SAFE is a fund of the Community Foundation of the Lowcountry. Property owners simply contact Hilton Head PSD to apply to the program. Grants are awarded at the discretion of the Community Foundation. PSD customers are contributing approximately $35,000 annually to the Bucks for a Better Island utility bill round-up program. Funds from that program go two places: to Project SAFE to help qualified owners connect to sewer; and to The Deep Well Project to help qualified applicants cover their utility bill or other water and wastewater-related costs.

In 2010, Project SAFE awarded more than $150,000 in sewer connection grants. The need remains strong for Project SAFE assistance, as does the need for donations to SAFE. Please contact Pete Nardi at Hilton Head PSD at (843) 681-0525 or the Community Foundation of the Lowcountry at (843) 681-9100, and say you'd like to donate to Project SAFE today.