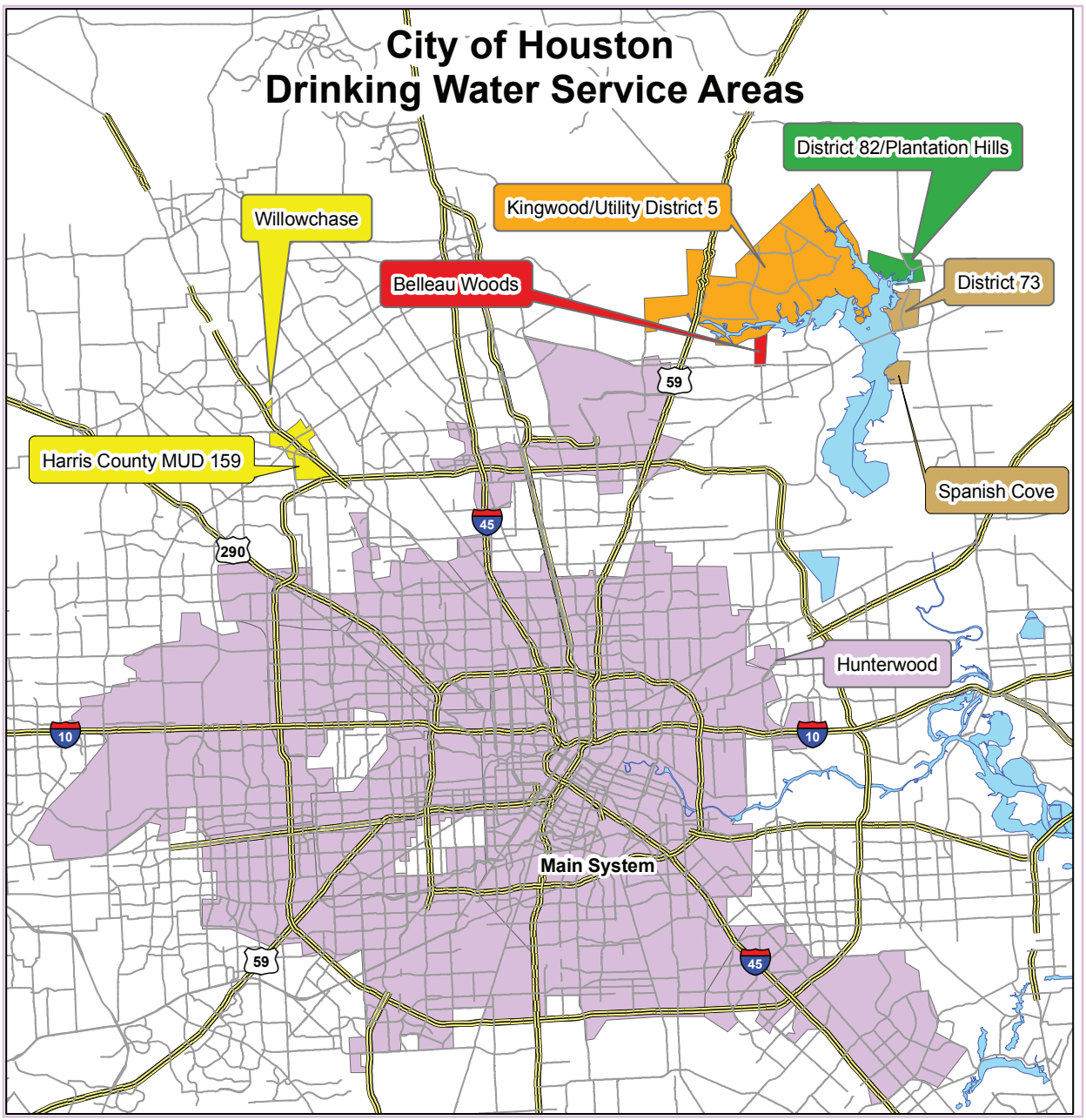
City of Houston
Department of Public Works & Engineering
Drinking Water Quality Report
2009

En Español
Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre éste informe en español, favor de llamar al tel.311 para hablar con una persona bilingüe en español.

Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements

This report is a summary of the quality of the drinking water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what's in your drinking water.



Your Drinking Water!

Drinking water is provided by the City of Houston to 9 community public water systems, which are shown on the map on this page. The Houston Main system, which relies mostly on treated surface water, serves approximately 95 percent of the people that live within the City of Houston service areas. The remaining systems rely on ground water as their source.

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 pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

In 2009, Houston received 81 percent of its treated drinking water from its major surface water treatment plants. Surface water comes from the San Jacinto River through Lake Conroe and Lake Houston, and the Trinity River, through Lake Livingston. **The remaining 19 percent comes from groundwater wells.** These are deep wells with typical depths greater than 750 feet, producing water from the Evangeline and Chicot Aquifers, and are not vulnerable to surface contamination. There is enough water in our distribution system at any given time to fill the Astrodome two and one-half times. Visit our web site for more information: www.publicworks.houstontx.gov/utilities/drinkingwater.htm.

Special Notice for the ELDERLY, INFANTS, CANCER PATIENTS, people with HIV/AIDS or other immune problems:
You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

About this Report

This report lists all of the federally-regulated or monitored contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants.

ALL drinking water may contain contaminants. When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices. 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).

Main System (PWS ID#1010013 and Hunterwood (PWS ID#1011715)

Note: These systems are physically interconnected.

Regulated Contaminants					
Contaminant	**MCLG**	**MCL**	**Min**	**Avg**	**Max**
Arsenic (ppb)	0	10	ND	3.4	8.2
Barium (ppm)	2.0	2.0	0.1	0.2	0.3
Fluoride (ppm)	4.0	4.0	0.2	0.5	0.7
Nitrate as N (ppm)	10	10	ND	0.2	0.8
Nitrite as N (ppm)	1.0	1.0	ND	0.02	0.07
Selenium (ppm)	50	50	ND	0.4	5.0
Lead (ppm)	0	90% below 15 ppb	90% below 3.4 ppb One sample above 15ppb at 17ppb		
Copper (ppm)	1.3	90% below 1.3 ppm	90% below 0.09 ppm No samples above 1.3 ppm		
Gross Alpha (pCi/L)	0	15	ND	6	20*
Gross Beta (pCi/L)	0	50	ND	4	10
Combined Radium (pCi/L)	0	5.0	ND	1.0	4.6
Combined Uranium (ppb)	0	30	3.2		
Atrazine (ppb)	3.0	3.0	ND	0.1	0.7
Benzo(a)pyrene (ppb)	0	0.20	ND	0.001	0.030
Heptachlor (ppb)	0	0.40	ND	0.001	0.040
Hexachlorocyclopentadiene (ppb)	50	50	ND	0.01	0.16
Simazine (ppb)	4.0	4.0	ND	0.02	0.14
Carbon Tetrachloride (ppb)	0	5.0	ND	0.2	1.2
Xylenes (ppb)	10	10	ND	0.03	1.2
Total Haloacetic Acids (HAA5) (ppb)	60	60	ND	11	35
Total Trihalomethanes (TTHMs) (ppb)	80	80	ND	17	41
Residual Total Chlorine Disinfectant Levels	<4.0	4.0	0.03	2.2	4.8*
Total Coliform	N/A	**	Highest Monthly % of Positive Samples: 1%		
Turbidity	N/A	***	Lowest Monthly % Meeting Limits: 99.7% Highest Single Value: 0.43 NTU		
Unregulated Contaminants					
Chloroform (ppb)	N/A		ND	7.9	23
Bromodichloromethane (ppb)	N/A		ND	3.9	13
Dibromochloromethane (ppb)	N/A		ND	1.4	3.8
Bromoform (ppb)	N/A		ND	0.3	3.7

*Although the maximum levels are above the MCLs, compliance with the MCL is based on a systemwide annual average.
**Presence of coliform bacteria in 5% or more of the monthly samples.
***95% of samples tested each month less than or equal to 0.3 NTU

Kingwood/Utility District # 5 (PWS ID#1010348)

Regulated Contaminants					
Contaminant	**MCLG**	**MCL**	**Min**	**Avg**	**Max**
Arsenic (ppb) (2008)*	0	10	ND	< 2	3
Barium (ppm) (2008)*	2.0	2.0	0.3	0.3	0.3
Fluoride (ppm) (2008)*	4.0	4.0	0.1	0.8	1.2
Nitrate as N (ppm)	10	10	ND	0.01	0.03
Selenium (ppb) (2008)*	50	50	ND	< 1	3
Gross Alpha (pCi/L) (2005)*	0	15	ND	2.9	5.0
Gross Beta (pCi/L) (2005)*	0	50	ND	< 4	7.1
Combined Radium (pCi/L) (2005)*	0	5	ND	< 1	1.1
Di(2-ethylhexyl) phthalate (DEHP) (ppb)	0	6	ND	0.6	2.8
Copper (ppm)	1.3	90% below 1.3 ppm	90% below 0.26 ppm No samples above 1.3 ppm		
Lead (ppb)	0	90% below 15 ppb	90% below 1.9 ppb No samples above 15 ppb		
Residual Total Chlorine Disinfectant Levels (ppm)	< 4.0	4.0	1.0	1.3	2.1
Total Haloacetic Acids (HAA5) (ppb)	60	60	2.3		
Total Trihalomethanes (TTHMs) (ppb)	80	80	6.2		
Total Coliform	N/A	**	Highest Monthly % of Positive Samples: 1%		

*Detected contaminants within the past five years subject to reduced monitoring requirements in accordance with regulations.
**Presence of coliform bacteria in 5% or more of the monthly samples.

Northeast Water Purification Plant & WaterWorks Education Center

DEFINITIONS

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

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.

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.

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

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

District 73 (PWS ID#1011585) and Spanish Cove (PWS ID#1011590)

Note: These systems are physically interconnected.

Regulated Contaminants					
Contaminant	**MCLG**	**MCL**	**Min**	**Avg**	**Max**
Barium (ppm) (2008)*	2.0	2.0	0.26		
Fluoride (ppm) (2008)*	4.0	4.0	0.12	0.13	0.13
Gross Alpha (pCi/L) (2008)*	0	15	4.5	5.3	6.0
Gross Beta (pCi/L) (2008)*	0	50	4.1	4.5	4.9
Lead (ppb) (2008)*	0	90% below 15 ppb	90% below 3.2 ppb No samples above 15 ppb		
Copper (ppm) (2008)*	1.3	90% below 1.3 ppm	90% below 0.19 ppm No samples above 1.3 ppm		
Residual Free Chlorine Disinfectant Levels (ppm)	<4.0	4.0	1.0	1.3	1.7
Total Coliform	0	**	Highest Monthly % of Positive Samples: 0%		

*Detected contaminants within the past five years subject to reduced monitoring requirements
**Presence of coliform bacteria in 5% or more of the monthly samples.

District 82/Plantation Hills (PWS ID#1011593)

Regulated Contaminants					
Contaminant	**MCLG**	**MCL**	**Min**	**Avg**	**Max**
Barium (ppm)	2.0	2.0	0.1		
Fluoride (ppm)	4.0	4.0	0.1		
Nitrate as N (ppm)	10	10	0.2		
Gross Alpha (pCi/L)	0	15	2.2		
Residual Free Chlorine Disinfectant Levels (ppm)	<4.0	4.0	0.8	1.3	1.7
Total Trihalomethanes (TTHMs) (ppb) (2005)*	80	80	ND	4.6	9.2
Total Coliform	0	**	Highest Monthly % of Positive Samples: 0%		
Unregulated Contaminants					
Chloroform (ppb)	N/A		1.03		

*Detected contaminants within the past five years subject to reduced monitoring requirements
**Presence of coliform bacteria in 5% or more of the monthly samples.

Belleau Woods (PWS ID#1011594)

Regulated Contaminants					
Contaminant	**MCLG**	**MCL**	**Min**	**Avg**	**Max**
Barium (ppm)	2.0	2.0	0.4		
Nitrate as N (ppm)	10.00	10.00	ND	0.04	0.12
Ethylbenzene (ppb)	700	700	0.6		
Xylenes (ppb)	10000	10,000	3.5		
Copper (ppm)	1.3	90% below 1.3 ppm	90% below 0.16 ppm No samples above 1.3 ppm		
Lead (ppb)	0	90% below 15 ppb	90% below 1.3 ppb No samples above 15 ppb		
Residual Free Chlorine Disinfectant Levels (ppm)	<4.0	4.0	0.1	1.5	2.0
Total Coliform	0	**	Highest Monthly % of Positive Samples: 0%		
Total Trihalomethanes (TTHMs) (ppb)	80	80	5.9		
Unregulated Contaminants					
Chloroform (ppb)	N/A		6.9		
Bromodichloromethane (ppb)	N/A		10		
Dibromochloromethane (ppb)	N/A		13		
Bromoform (ppb)	N/A		8.6		

*Numbers in this table reflect a portion of water purchased and information provided by the City of Humble.
**Presence of coliform bacteria in 5% or more of the monthly samples.

HCMUD - 159 (PWS ID#1011782) and Willowchase MUD (PWS ID#1011902)

Note: These systems are physically interconnected.

Regulated Contaminants					
Contaminant	**MCLG**	**MCL**	**Min**	**Avg**	**Max**
Arsenic (ppb)	0	10	2.2	2.3	2.4
Barium (ppm)	2.0	2.0	0.23	0.24	0.24
Chromium (ppm)	0.10	0.10	ND	0.001	0.002
Fluoride (ppm)	4.0	4.0	0.1	0.1	0.2
Nitrate as N (ppm)	10	10	0.19	0.21	0.22
Selenium (ppb)	50	50	ND	1.7	3.4
Gross Alpha (pCi/L)	0	15	3.7	4.8	5.8
Copper (ppm)	1.3	90% below 1.3 ppm	90% below 0.22 ppm No samples above 1.3 ppm		
Lead (ppb)	0	90% below 15 ppb	90% below 2.1 ppb No samples above 15 ppb		
Residual Free Chlorine Disinfectant Levels (ppm)	<4.0	4.0	0.3	1.2	1.8
Total Coliform	0	**	Highest Monthly % of Positive Samples: 0%		
Total Trihalomethanes (TTHMs) (ppb) (2005)*	80	80	ND	0.6	2.4

*Detected contaminants within the past five years subject to reduced monitoring requirements.
**Presence of coliform bacteria in 5% or more of the monthly samples.

ABBREVIATIONS

NTU-nephelometric turbidity units (a measure of turbidity);
ppb - parts per billion, or micrograms per liter (µ/L);
N/A-Not Applicable
pCi/L-picocuries per liter (a measure of radioactivity);
ppm - parts per million, or milligrams per liter (mg/L);
ND-Not Detected

An annual clean-up event, the River, Lakes, Bays 'n Bayous Trash Bash, is held in March on Lake Houston to develop citizen awareness of the importance in keeping our waterways clean and free of debris. This is very important at Lake Houston, which is both a drinking water source and an area of recreation for local citizens. (Photos by Michael Smyer and Jerrel Geisler)

Contaminant Sources

Contaminant	Sources	Contaminant	Sources
Arsenic	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.	Combined Radium	Erosion of natural deposits.
Barium	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	Combined Uranium	Erosion of natural deposits.
Chlorine and Chloramines	Water additives used to control microbes.	Atrazine	Herbicide runoff.
Chromium	Discharge from steel and pulp mills; Erosion of natural deposits.	Benzo(a)pyrene (PAH)	Leaching from linings of water storage tanks and distribution lines.
Copper	Corrosion of household plumbing systems; Erosion of natural deposits.	Di(2-ethylhexyl) phthalate (DEHP)	Discharge from rubber and chemical factories.
Flouride	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.	Heptachlor	Residue of banned termiticide.
Nitrate	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Hexachlorocyclopentadiene	Discharge from chemical factories.
Nitrite	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Simazine	Herbicide runoff.
Lead	Corrosion of household plumbing systems; Erosion of natural deposits.	Carbon Tetrachloride	Discharge from chemical plants and other industrial activities.
Selenium	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.	Ethylbenzene	Discharge from petroleum refineries.
Total Coliform	Naturally present in the environment.	Haloacetic Acids	By-product of drinking water disinfection.
Turbidity	Soil runoff.	Trihalomethanes	By-product of drinking water disinfection.
Gross Alpha	Erosion of natural deposits.	Xylenes	Discharge from petroleum factories; Discharge from chemical factories.
Gross Beta	Decay of natural and man-made deposits.		

Secondary Constituents

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water can cause taste, color, and odor problems. These constituents are not causes for health concern. Therefore, they are not required to be reported in this document.

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the following tables. For additional information and data visit http://www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at (800) 426-4791.

Special Information on Lead in Drinking Water:

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. 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 Houston 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 http://www.epa.gov/safewater/lead.

City participates in Partnership for Safe Water

In 2009, The City of Houston received national awards for maintaining the Directors Award of recognition from the Partnership for Safe Water, a national volunteer initiative developed by EPA and other water organizations representing water suppliers striving to provide their communities with drinking water quality that surpasses the required federal standards.

The Directors Award is presented to water systems who have completed a successful review in the Partnership's Self-Assessment and Peer Review phase, a phase in which utilities examine the capabilities of their treatment plant operation and administration and then create a plan for implementing improvements. The City of Houston has maintained the Directors Award for ten years, an honor achieved by only 32 water utilities across the country. The City of Houston will be presented with the Ten-Year Directors Award at the American Water Works Association's Annual Conference & Exposition in Chicago, Illinois, in June.

"Maintaining Directors Award status for 10 years demonstrates our philosophy of constant vigilance to improve water quality. We are honored to receive national recognition for this ongoing commitment."

- Michael S. Marcotte, Director, Department of Public Works & Engineering

Contact Us

The City of Houston operates a non-emergency help line - 311. Customers can dial this number to notify us of any problems they may be experiencing and a water quality investigator will be dispatched within twenty-four hours to respond to and resolve the problem. Please dial 311 if you have any questions or concerns regarding your drinking water.

Public Participation Opportunities

Information on City Council meetings is available on the website for the Office of the City Secretary at http://www.houstontx.gov/citysec/index.html.

To find out more about Drinking Water Operations Education & Outreach group go to www.waterworksforhouston.net.

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