

## Source Water Assessment and Protection (SWAP) Program

The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to contamination due to land uses and activities within the recharge area of the water supply. Randolph and Holbrook, as part of the Randolph-Holbrook Joint Water Board, together own five inactive water supply sources: South Street Wells #1, 2, 3 (Source ID #s 4244001-01G, -02G, -03G); the Donna Road Tubular Wells (Source ID # 4244001-04G); and the Donna Road Wellfield (Source ID # 4244001-0AG). The South Street Wells and the Donna Road Tubular Wells have been inactive since the early 1980s because of the proximity to the contaminated site. Consequently, Randolph uses the Great Pond Reservoir System as their water supply. This system is explained on the first page.

A susceptibility ranking of high was assigned to the five inactive wells using the information collected during the assessment by the DEP. A high ranking is given to any water supply that has at least one high threat land use within the water supply protection area. Since Randolph and Holbrook have ten high threat land uses within the protection area of these wells including gas stations, Superfund sites, and metal plating facilities, these wells must be assigned a high susceptibility ranking.

If you would like more information, the complete SWAP report is available at the DEP's website at <http://www.mass.gov/dep/water/drinking/3133000.pdf>. You can also call Thomas Cummings, Superintendent of the Randolph-Holbrook Joint Water Board, at 781-767-1800.

## Vulnerability

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/Centers for Disease Control and Prevention (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).

# 2006 DRINKING WATER REPORT

TOWN OF RANDOLPH, MASSACHUSETTS

## 2006 Drinking Water Quality Report

This report contains important information about your water system for calendar year 2006. It describes the quality of the Randolph-Holbrook Joint Water System's drinking water, the sources, and programs that protect the high quality of our water supply.

This publication complies with federal law that requires water utilities to provide water quality information to customers each year.

While most of the content of this report is required by regulation, we also include information that responds to typical questions our customers ask about our water system.

To learn more about the Randolph-Holbrook Joint Water System or water quality in the Town of Randolph please contact the Randolph DPW at 781-961-0940.

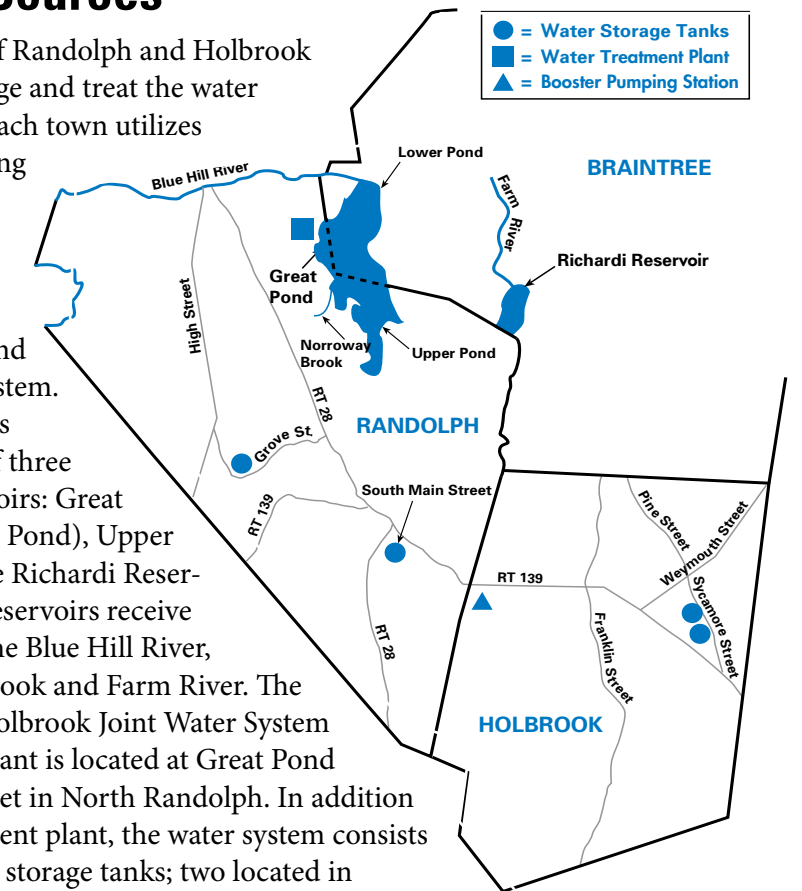
## Randolph-Holbrook Joint Water System's Water Meets Safety and Health Standards

The Randolph-Holbrook Joint Water System's water meets all federal and state standards. During the year 2006 we collected nearly 600 water samples in the system that were then tested for compliance with federal and state health standards. Federal and state regulators routinely monitor our compliance and testing protocols to assure that we deliver safe drinking water to our customers.

## Randolph-Holbrook Joint Water System's Water Sources

The Towns of Randolph and Holbrook jointly manage and treat the water supply that each town utilizes for its drinking water. The source water supply is derived from the Great Pond Reservoir System.

This system is comprised of three major reservoirs: Great Pond (Lower Pond), Upper Pond and the Richardi Reservoir. These reservoirs receive flows from the Blue Hill River, Norroway Brook and Farm River. The Randolph-Holbrook Joint Water System Treatment Plant is located at Great Pond off Pond Street in North Randolph. In addition to the treatment plant, the water system consists of four water storage tanks; two located in Randolph and two in Holbrook. There are approximately 150 miles of water mains, 100 miles in Randolph and 50 miles in Holbrook, ranging in size from 4 inches to 24 inches in diameter.



这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

### Published by the:

Town of Randolph  
Department of Public Works  
41 South Main Street  
Randolph, MA 02368  
781-961-0940

David Zecchini, Superintendent

TOWN PWS ID# 4244000

JOINT SYSTEM PWS ID# 4244001

## 2006 DRINKING WATER REPORT

TOWN OF RANDOLPH, MASSACHUSETTS

Town of Randolph  
Department of Public Works  
41 South Main Street  
Randolph, MA 02368

## Important Health Information

All sources of drinking water (both tap water and bottled water) including rivers, lakes, streams, ponds, reservoirs, springs and wells, contain some naturally occurring contaminants or substances. Because water is the universal solvent, 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.

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. Removing all contaminants would be extremely expensive and in nearly all cases would not provide greater protection of health.

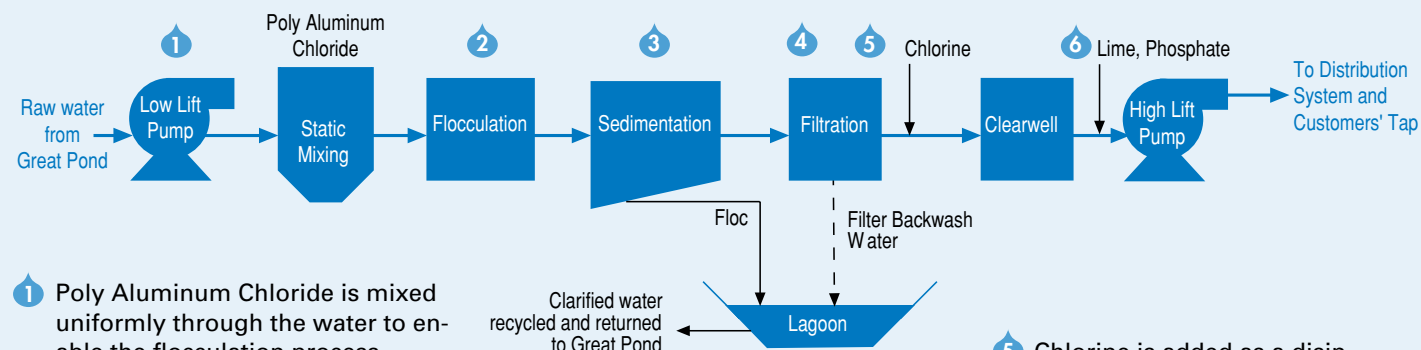
More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

To ensure that your water is safe to drink, the Department of Environmental Protection (DEP) and the EPA regulates the allowable amount of certain contaminants in the water provided by public water systems. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the

same protection for public health. This report provides you with information about the contaminants found naturally in your drinking water, at levels a which they are found, and the likely source of each contaminant

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban storm water runoff or industrial/domestic wastewater discharges, oil and gas production, mining, or farming.
- *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*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

## Randolph-Holbrook Joint Water System's Drinking Water Process



- 1 Poly Aluminum Chloride is mixed uniformly through the water to enable the flocculation process.
- 2 Flocculation is a treatment process that uses gentle stirring to bring suspended particles together so that they will form larger, more settleable clumps called floc.
- 3 Sedimentation is a treatment process that involves reducing the velocity of water in basins so that

- 4 Filtration, through the use of granular activated carbon/sand filters, removes remaining particles suspended in the water and clarifies the water.

- 5 Chlorine is added as a disinfectant to ensure that water is pathogen-free before it enters the distribution system.
- 6 Lime is mixed uniformly to the water to adjust pH. Phosphate is mixed uniformly to control corrosion of lead and copper from household plumbing fixtures.

## 2006 Treated Drinking Water Quality Data

Listed below are 11 substances detected in the Town of Randolph's drinking water during 2006. Not listed are more than 100 other substances for which we tested that were not detected during 2006.

Substance	Highest Detected Levels	Range of Detected Levels	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Source of Contamination
<b>Regulated for Source Water or After Treatment</b>					
Turbidity <sup>1</sup>	0.24 NTU (100% of monthly results < 0.349 NTU)	0.11 – 0.24	95% of monthly results < 0.349 NTU	—	Soil Runoff
Nitrate	0.26 ppm	No range. 1 sample required	10.0 ppm	10 ppm	Runoff from fertilizer use; Leaching from septic systems; Erosion of natural deposits
Total Organic Carbon <sup>2</sup> (TOC)	—	1.1 – 1.4	TT	NA	Naturally present in the environment
<b>Regulated in the Town's Distribution System</b>					
Total Coliform	0 positive samples per month	0 positive samples per month	1 positive sample per month	0	Naturally present in the environment
Chlorine (total)	1.07 ppm <sup>3</sup>	0.15 – 2.07 ppm <sup>4</sup>	4 ppm (MRDL)	4 ppm (MRDLG)	Erosion of natural deposits
Total Trihalomethanes <sup>5</sup>	39.9 ppb <sup>3</sup>	7.4 – 107 ppb <sup>4</sup>	80 ppb <sup>6</sup>	0	By-product of drinking water chlorination
Haloacetic Acid	36.7ppb <sup>3</sup>	10.6 – 90.3 ppb <sup>4</sup>	60 ppb <sup>6</sup>	0	By-product of drinking water chlorination
<b>Regulated at the Customer's Tap</b>					
Copper <sup>7</sup>	0.47 ppm <sup>8</sup>	0.07 – 0.48 ppm (0 results > AL)	1.3 ppm (Action Level)	1.3 ppb	Corrosion of household plumbing systems
Lead <sup>7</sup>	7 ppb <sup>8</sup>	ND – 22 ppb (1 result > AL)	15.0 ppb (Action Level)	0 ppm	Corrosion of household plumbing systems
<b>Unregulated Contaminants</b>					
Sodium <sup>9</sup>	45.6 ppm	44.3 – 45.6 ppm	not regulated	not regulated	Naturally present in the environment
Bromodichloromethane	3.2 ppb	no range, 1 sample required	not regulated	not regulated	Trihalomethane; by-product of drinking water chlorination
Chlorodibromomethane	1.7 ppb	no range, 1 sample required	not regulated	not regulated	Trihalomethane; by-product of drinking water chlorination
Chloroform	1.8 ppb	no range, 1 sample required	not regulated	not regulated	Trihalomethane; by-product of drinking water chlorination

### Definitions

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

**Maximum Contaminant Level (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.

**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 Residual Disinfectant Level (MRDL)** – The highest level of a disinfectant (chlorine) 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 (chlorine) below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

**90th Percentile** – out of every 10 homes, 9 were at or below this level.

### Abbreviations

**N/A** – Not applicable,  
**ND** – Not detected  
**NTU** – Nephelometric Turbidity Units  
**ppb** (Part Per Billion) – One part per billion is the equivalent of \$1 in \$1,000,000,000  
**ppm** (Part Per Million) – One part per million is the equivalent of \$1 in \$1,000,000  
 < – Less than, > – Greater than

### Footnotes

1. Turbidity is a measure of the cloudiness of water. It is measured because it is a good indicator of water quality and the effectiveness of filtration.
2. Compliance is determined as a ratio of percent removal of TOC to required percent removal of TOC. A removal ratio of 1.0 is under regulatory review.
3. Highest detected level is based on a running annual average of data from the last three quarters of 2005 and the four quarters of 2006.
4. This range or value is based on the individual samples detected in 2006.
5. Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their livers, kidneys, or central nervous systems. They may have a greater risk of getting cancer.
6. The highest level allowed (MCL) for total trihalomethanes and haloacetic acids is based on the average of four quarterly samples.
7. No sampling was required for 2006. The results presented here are from 2005.
8. The level shown is the 90<sup>th</sup> percentile value which is used to determine compliance with the Lead and Copper Rule and must be below the AL.
9. The Massachusetts DEP Office of Research and Standards has set a guideline concentration of 20 ppm for sodium. Sodium-sensitive individuals, such as experiencing hypertension, kidney failure, or congestive heart disease, should be aware of the sodium levels where exposures are being carefully controlled.