



2006 PUBLIC WATER SYSTEM AWARD FOR EXCELLENCE

Harwich Water Department was placed in the top 5% of public water systems in the Commonwealth.
Massachusetts Department of Environmental Protection

Harwich Water Department
196 Chatham Road
Harwich MA 02645



2006 Annual Water Quality Report

www.harwichwater.com

"One drip a second can waste 2,000 gallons a year."



Leak Detection Checklist:

STEP 1: Read the water meter in the evening after all water usage for that day is complete and then again first thing in the morning. If there is any change in the meter reading, this indicates a leak.

STEP 2: Check all toilets for leaks by putting food coloring into the back of each toilet tank last thing in the evening before going to sleep. If any coloring appears in the bowl the following morning, this may indicate a leak. Call your plumber for needed repairs. Smaller repairs may be made by the homeowner.

STEP 3: If your toilet doesn't indicate a leak, please check all faucets.

STEP 4: If you have underground water lines that run to out-buildings or distant hose bibs, shut them off and try to isolate those fixtures then follow **STEP 1**.

We will be glad to assist you, permitting that personnel are available. Contact our office for further information.

Consumer Confidence Report

The Harwich Water Department is pleased to present to its customers the 2006 Annual Consumer Confidence Report. In this brochure you will find what is in your water, the results of the tests performed in the last year, and how it is treated. This "Consumer Confidence Report" is required by law, but we are proud to share our results with you. Please read them carefully.

We are proud to report that the water provided by the Harwich Water Dept. meets or exceeds required water-quality standards.

If you would like to know more about the Water Department, Board of Water Commissioners meetings are held at 8:15 am on the first and third Tuesday of each month, unless otherwise posted and are open to the public. Meeting minutes are available on our website.

Consult our web site at www.harwichwater.com and, for further information, see U.S. Environmental Protection Agency (EPA) water information at www.epa.gov/safewater which is linked to our Web site. If you have any questions regarding this report, please contact

Supt. Craig Wiegand at 508-432-0304.

Overview

The Harwich Water Department produced a total of **759,802,792** gallons of water in 2006. This averages out to over **1,827,360** gallons per day. There were eighty six new services added to the system throughout the year, bringing the total to **9,706** accounts. During 2006, the department collected over 2,000 samples for general water chemistry and over 75 samples for regulated contaminants.

Harwich Water Department News

◆The 2nd year of the 30-year Capital Improvement Plan has been implemented. [Thank you for your vote and support of the Enterprise Fund.](#)

◆We have implemented our new GIS program through the town and Water Department vehicles as well as a new asset management program.

◆The "New Source" permitting process for a new water supply is now the

long-term pump test and site review slated to be done in the spring of 2007.

◆In 2006 we received a \$21,000 grant from Capelight Compact for the installation of Variable Speed Drives (VSD) for two pumping stations.

◆Installation of three new generators was completed during the late fall of 2006 at Wells 1, 2 and 11.

◆Construction of the New 1.5 Million Gallon Storage is complete.

◆Brooks Park storage tank was decommissioned. This location will now be the future site of our next new storage tank which is slated for construction in 2018.

◆In 2006 we replaced 24 hydrants and valves as part of our hydrant replacement program.

For more news updates, please visit our website.

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Office Hours & Contacts

Hours: **8am-4:30 pm**
Office: **508-432-0304**
Fax: **508-430-7520**

EMERGENCY
Evenings, Weekends
& Holidays
CONTACT HARWICH POLICE
508-430-7541

Email: customerservice@harwichwater.com

Craig Wiegand
Superintendent

Bruce Cahoon
Assistant Superintendent

Neil Salzillo
Primary Treatment Operator

Water Commissioners:

Donald Bates
Chairman

Danette Gonsalves
Vice Chairman

George Cavanaugh
Clerk

Water Conservation Tips:

- Keep grass at least 2" high to shade roots and hold moisture.
- Aerate lawns regularly and use mulch around plants to reduce evaporation.
- Turf only needs 1" of water per week.
- Visit www.epa.gov/safewater/publicoutreach/index.html for more water conservation tips.



“The Monomoy Lens is the 2nd largest lens on Cape Cod, the source of drinking water to over 40,000 homes and businesses and is located under the towns of Dennis, Harwich, Brewster, Chatham, Orleans and a section of Yarmouth.”



“All uses of water; drinking, swimming, boating, clamming, cranberry farming or wetland habitat, are dependent upon maintaining the quantity and quality of the lens.”



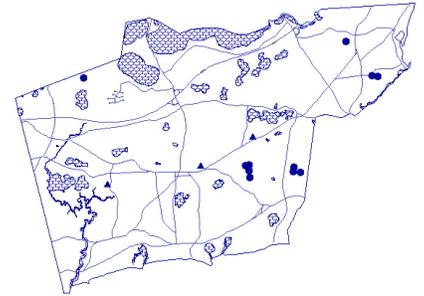
Harwich Water System and Source

The Town of Harwich is supplied by groundwater from fourteen (14) gravel packed wells. Our wellfields are located in South, East and North Harwich, which draw water from the Monomoy Lens Aquifer. The Main Station tubular wellfield and Stations One (1) through Four (4) are located off of Chatham Road, behind the Water Department's main office and garages. Station Five (5), Six (6) and Seven (7) are located off of Depot Road in South Harwich, next to the bike path. Stations Eight (8)

and Nine (9) are off of Bay Road in East Harwich, Station Ten (10) is in North Harwich off of North Westgate Road on the Brewster Town line and Station number Eleven (11) is located off of Pleasant Bay Road in East Harwich.

Well Four (4), which can produce up to 500,000 gallons a day, has been restored to service. This particular well has elevated levels of iron and manganese. Although iron and manganese are not considered a health risk they

can cause staining of laundry and household fixtures. Therefore, the Department will blend water from this well with that from several other wells, which do not have elevated iron or manganese to neutralize the iron and manganese levels in Well Four (4).



Monomoy Lens—Groundwater Source

Protecting the Monomoy Lens starts with understanding how it works - its hydrogeology. Lenses can be thought of as mounds of groundwater bordered by marine water at the edge, bedrock on the bottom, and separated from each other by tidal rivers, such as Bass River, that cut across the Cape peninsula. Groundwater refers to subsurface water located beneath the water table, in soils and geologic formations that are fully saturated. The entire layer of fresh groundwater beneath the Cape is referred to as the

Cape Cod Sole Source Aquifer. Recharge to this lens comes from precipitation and snow fall.

The Monomoy Lens is approximately 300 feet thick and serves 49 municipal public water supply wells and an estimated 1,000 private wells. In the 1999 off-season, Cape municipal water suppliers pumped an average of five million gallons per day. In-season this figure almost triples.

The Monomoy Lens supplies

generally excellent drinking water from its porous sand and gravel deposits. The water is considered "soft" due to the lack of calcium and magnesium. The pH of the water is naturally low, which can cause blue staining on plumbing fixtures from copper piping. Municipal water supplies are treated to neutralize the pH. Naturally occurring iron and manganese can cause staining, odor and taste problems. Sodium chloride can be elevated in coastal areas due to salt spray or saltwater intrusion.

Monomoy Lens' Interconnection with Surface Waters

The Monomoy Lens also boasts over 200 freshwater lakes and ponds, 20 streams, and 150 miles of coastal shoreline. The inland surface water bodies are windows on the aquifer that reflect the intersection of low areas in the ground surface with the water table. Groundwater typically discharges into a pond on one side and then

pond water recharges the lens on the other side. Streams and rivers act as drains that skim groundwater off the surface of the water table. The large Monomoy ponds (Long, Seymour and Hinkleys) receive groundwater discharge from the lens, which in turn, feeds the Herring River so that groundwater ultimately discharges as the

stream flows into Nantucket Sound. Where there is only coastal shoreline, groundwater discharges directly into marine water as fresh water seepage. Because of this interconnection, all uses of water - whether for drinking, swimming, boating, clamming, cranberry farming, or wetland habitat - are dependent upon maintaining the quantity and quality of the lens.

Drinking Water Contaminates and Contaminate Sources

The quality of drinking water is a subject that is frequently discussed, but more often misunderstood. Just a few years ago we seldom questioned the water we drank. In the past few years technology has given us the ability to measure small amounts of contaminants. Along with technology come public awareness and more Federal and State regulations. Even with today's technology some people still question the safety of their public water supply and turn to alternative sources which may have less stringent testing requirements for drinking water. 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 include: (A) Microbial contaminants—such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (B) 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, and farming. (C) Pesticides and herbicides—which may come from a variety of sources such as agriculture, urban runoff, and residential uses. (D) 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. (E) Radioactive contaminants—which can be naturally occurring or be the result of oil and gas production and mining activities.

DID YOU KNOW THAT.....
 "Groundwater can stay polluted for several thousand years."

Drinking Water Protection Tips:

- Eliminate the use of drain cleaners and septic tank cleaners.
- Use moderate amounts of low phosphate cleaners and detergents.
- Dispose of hazardous materials safely. Visit www.town.brewster.ma.us/content/view/197/34/ for collection dates for Harwich residents.
- Report water violations.

For further drinking water protection tips, please visit our website at www.harwichwater.com and/or www.mass.gov/dep/water/drinking.htm.



"The Department of Environmental Protection (DEP), U.S. Environmental Protection Agency (EPA), Food and Drug Administration (FDA) and MA Department of Public Health (DPH) ensure tap water is safe to drink by establishing and enforcing regulations and limits."

The complete SWAP report is available at the Water Department and online at 222.state.ma.us/dep/brp/dws/. For more information, call the Harwich Water Department at 508-432-0304.

Regulations and Limits—DEP, EPA, FDA, DPH

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water. 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 (800-426-4791)

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer un-

dergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk for infections. These people should seek advice about drinking water from their health agents. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by microbial contaminants are also available from the Safe Drinking Water Hotline.

Source Water Assessment Program (SWAP)

**Harwich Water Departments
 Rating is "HIGH"**

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving the Harwich water system. The SWAP Report assesses the susceptibility of public water supplies.

There exist a number of land uses and activities that are potential sources of contamination. The SWAP Report notes the following key issues for our sources; Inappropriate activities in Zone I areas, Residential land uses and activities within Zone IIs, Com-

prehensive wellhead protection planning for Zone IIs, Storm water pollution within Zone IIs, Transmission line right-of-way within Zone IIs, transportation corridor within Zone IIs. If you'd like to obtain a full copy of this report, please contact our office.



Water Sampling



In order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants, the Harwich Water Department takes hundreds of water samples each year. The tables below and on the following page shows

only those contaminants that were detected in Harwich water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent

sample data are included.

The Harwich Water Department did not receive any drinking water violations in 2006.

Test Result Tables

REGULATED CONTAMINATES							
SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	AVERAGE DETECTED	RANGE LOW - HIGH	MCL VIOLATION?	TYPICAL SOURCE
Nitrate (ppm)	02/2006	10	10	2.8	.1	No	Leaching from septic tanks, sewage; Erosion of natural deposits; Runoff from fertilizer use
Nitrite (ppm)	02/2005	1.0	1.0	<0.05	0.05	No	Leaching from septic tanks, sewage; Erosion of natural deposits
Coliform (ppb)	NA	<1	0	NA	0 (highest # positive in a month)	No	Naturally occurring and present in the environment.

Coliform are bacteria that are naturally present in the environment and indicate that other potentially harmful bacteria may be present.

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS							
SUBSTANCE (UNITS)	ACTION LEVEL	MCLG	AMOUNT DETECTED (90 TH %TILE)	SITES SAMPLED ON JULY 2006	SITES ABOVE ACTION LEVEL	MCL VIOLATION?	TYPICAL SOURCE
Lead* (ppb)	15 ppb	0.015	0.01	54	2	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leach from Wood preservatives
Copper	1.3 mg/l	1.3	1.1	54	5	No	Corrosion of household plumbing systems; Erosion of natural deposits

Because our Lead and Copper samples did not exceed action levels established by the state of Massachusetts in our tap water, we are not required to sample this coming year. We have not exceeded the state allowable action levels for two consecutive sample periods followed by three rounds of reduced sampling. Therefore our Department is now required to sample for Lead and Copper every three (3) years. The Department conducted its last round of sampling this year (2006) and will conduct its next round of sampling in 2009.

***Lead:** Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water that has sat unused for awhile. Additional information is available from the Safe Drinking Water Hotline at 800.426.4791.

UNREGULATED OR SECONDARY CONTAMINATES						
SUBSTANCE (UNITS)	YEAR SAMPLED	HIGHEST DETECT VALUE	RANGE LOW-HIGH	AVERAGE DETECT VALUE	SMCL (Secondary Minimum Contaminant Level)	ORSG (Massachusetts Office of Research and Standards Guidelines)
pH	10/2006	8	5.6-8.0	7.5	6.5-8.5	NA
Chloride	06/2006	33	11-28	22	250 ppm	NA
Chloroform	10/2006	3.4		1.98	NA	NA
Iron	10/2006	1.4	<0.01-1.20	0.1	0.30 ppm	NA
Manganese	10/2006	.26	<0.01-0.32	.086	0.05 ppm	NA
Radon*	03/1999	95(+/-36)	95	95	NA	10,000 pCi/l
Sodium	02/2006	.23	1.0	10.2	NA	20 ppm
Sulfate	10/2006	12	5.7-10.0	7.9	250 ppm	NA
Radium-226	04/2005	0.0(+/-0.1)	0.1	0.1	5 pCi/l	NA
Radium-228	04/2005	0.0(+/-0.4)		0.5	5 pCi/l	NA

* **Radon** is a radioactive gas that you cannot see, taste, or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon can lead to lung cancer. Drinking water containing radon may also cause increase risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that aren't too costly. For information, call the Massachusetts Department of Public Health, Radon Program at 413-586-7525 or call EPA's Radon Hotline(800.SOS.RADON).

ABOUT DISCOLORED WATER:

- Occasionally you could see brown water or sand. Sometimes this occurs when there is an increase or change in water flow, largely caused by water main breaks, fire hydrant activations, and flow direction changes. These occurrences knock off small particles of rust and stir up sediments in the pipes. It is a temporary condition that usually clears up in a couple of hours. If you run your water for a short time, it should clear. If not, please contact our office at 508-432-0304 and we'll send someone to flush the line.
- Harwich Water Department crews flush the lines through fire hydrants during the year to minimize the build up of sediments in pipes, which helps reduce chances of discolored water. Even though the water is discolored and has sediments, disinfectants are still present and the water is safe once it clears up. Watch for flushing signs in your area.
- If you have any water quality concerns, please contact our Primary Treatment Operator, Neil Salzillo at 508-432-0304, x.210.

YOUR WATER SERVICE:

- We encourage homeowners to become familiar with where the water service enters your home, water meter location and the shut-off valve at your meter location.
- If you're leaving your property for the winter and shut your water off, be sure that your plumber has drained the lines and that the Water Department has been notified to shut the water off at the street.

Table Definitions

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level.

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

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 technology.

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.

NA: Not applicable

ND: Not detected

pCi/l (picocuries per liter (a measure of radioactivity): One pCi is equal to the decay of about two radioactive atoms per minute.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter; ug/l)

ppm (parts per million): One part substance per million parts water (or milligrams per liter; mg/l)

**Harwich Water Department
196 Chatham Road
Harwich MA 02645**



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Massachusetts Department of Environmental Protection

<CUSTOMER NAME>
<ADDRESS1>
<ADDRESS2>
<CITY>, <STATE> <ZIP>



2006 Annual Water Quality Report

Please provide this report to your tenants or occupants of the property being served by Town water.

Harwich Water Department

Hours: 8am-4:30pm (M-F)
Office: 508-432-0304
Fax: 508-430-7520

**EMERGENCY
Evenings, Weekends & Holidays
CONTACT HARWICH POLICE @
508-430-7541**

Learn More by Visiting:
www.harwichwater.com
And Other Useful Links:
www.town.harwich.ma.us
www.capecodcommission.org
www.barnstablecountyhealth.org/index.htm
www.epa.gov/OW
www.mass.gov/dep/water/drinking.htm
<http://water.usgs.gov/>
www.digsafe.com
www.bcwua.org
www.newwa.org
www.awwa.org
Check beach water sampling results (in season) at:
www.barnstablecountyhealth.org/bsharwich.htm

Customer Reminders and Tips

◆Reminder to all “seasonal” accounts: To ensure your water is turned on or off prior to your arrival or departure, we require a minimum of a 2 week notice.

◆Customers are billed 2 times per year (Spring and Fall). Payment due date is 30 days from bill date. Please contact our office if you have any questions regarding your bill.

◆Water bill payments should be made payable to the Town of Harwich and mailed to: Town of Harwich, Collector’s Office, 732 Main St., Harwich MA 02645. Town Hall hours are Mondays from 8:30 a.m.—8 p.m.,

Tuesdays—Thursdays from 8:30 a.m.—4:00 p.m. and Fridays 8:30 a.m.—Noon.

◆Online payments can be made on current balances by visiting our website at www.harwichwater.com and following “ebill” link or going directly to www.mcc.net/ebill/default.htm.

◆If you suspect you have a leak, the recommended thing to do is to contact a plumber, if you’re a tenant, contact your landlord.

◆Press releases for scheduled projects will continue to be released via local papers; Cape

Cod Chronicle & Harwich Oracle, radio stations; 99.9 WQRC and 106.1 WCOD, our community channel; Channel 18 and via our website.

◆Don’t forget to contact our office for a water service markout if you’re replacing bushes, putting in a new lawn, re-grading existing lawn, etc.

◆Voluntary water restriction will be in place again this summer. We urge residents to conserve water whenever possible.

◆We continue to chlorinate during the spring and fall hydrant flushing program.