



2005 Annual Drinking Water Quality Report for the Provincetown Water Department

The Provincetown Water Department is proud to provide you with the Year 2005 Annual Drinking Water Quality Report. Our objective is to help keep you abreast of ongoing and upcoming water system projects; local, state and federal drinking water regulations; and Provincetown's annual water quality results. The Provincetown Water Department is committed to supplying our customers with high-quality drinking water 24 hours a day, 365 days a year. The Town of Provincetown Public Water System DEP identification number is 4242000.

Customer Views and Questions

Please call the Water Department at **508-487-7064** with any questions, concerns, or problems regarding your water service (billing, water quality, meters, leaks, policies); or the water system (water main breaks, fire hydrants, upcoming activities). Our staff of drinking water professionals is there to assist you:

**Water Superintendent
Director of Public Works**

**Carl Hillstrom, Woodard & Curran
David F. Guertin**

The Water Department Office is open Monday through Friday 7 a.m. until 4 p.m. Supplemental information about the Water Department including Rules and Regulations for water service can be found on our internet web site: www.provincetown-ma.gov. This report is also available on the Town's web site, at the Provincetown Public Library, and at the Water Department offices.

The Provincetown Water Department is governed by the Provincetown Water & Sewer Board, which meets at the Grace Gouveia Building, 26 Alden Street in Provincetown. The public is invited. You may contact the Water Department or check the Town's web site for a meeting schedule. In addition to these local resources, supplemental information about drinking water quality and potential health effects can be obtained by calling the Environmental Protection Agency's **Safe Drinking Water Hotline: 800-426-4791**.

Water System Information

The Provincetown Water Department supplies drinking water to the Town of Provincetown and several areas within the Town of Truro. Provincetown's water supply sources consist of three wellfields located in the Pamet Lens of the Cape Cod Aquifer. The Pamet Lens extends from the north side of the Pamet River to Pilgrim Lake. The primary source is the South Hollow Wellfield, which consists of eight individual wells. Provincetown's secondary supply is the Knowles Crossing Wellfield that consists of two active wells. During the summer peak season (June 1 through October 1) the Town of Provincetown also uses two additional wells located at the former North Truro Air Force Base, which now lies within the boundaries of the Cape Cod National Seashore, under a Special Use Permit issued annually by the National Park Service.

The groundwater pumped from these sources is treated at two chemical addition facilities for corrosion control and disinfection purposes, one at South Hollow and the other at the Knowles Crossing well field. Potassium hydroxide is used to increase the pH of the water to a target level of 7.5 for corrosion control, and chlorine (sodium hypochlorite) is added as a means of protecting the water distribution system from microbiological contaminants. In addition, a polyphosphate sequestrant is used for the control of trace levels of iron and manganese.

Treated water from the wellfields is pumped into the water distribution network and delivered through a 12-inch transmission main traveling from South Hollow Road and along Shore Road in North Truro to the Provincetown town line. The water distribution system is made up of approximately 38 miles of pipe of varying size between 16-inches and 6-inches in diameter. The water distribution system also includes three water storage tanks: the Mt. Gilboa tank in the east end of Provincetown which has a capacity of approximately 2.7 million gallons; and the two Winslow Street tanks located adjacent to Veteran's Memorial School, which have capacities of 1.1 million gallons and 3.8 million gallons. Together these three water storage tanks provide water during peak hourly water demands and for fire protection.

Cross-Connection Control

A cross-connection is defined as a connection or a potential connection through which a supply of potable water could be contaminated or polluted due to a backflow or backsiphonage. Regulations are specific as to the Water Supplier's and water user's responsibilities regarding cross-connection protection. The Water Supplier has the responsibility to prevent contamination of the



Water system from the source to the User's connection. It is the owner's responsibility to keep contaminants out of the water system from their connection and includes all water distribution piping on their premises. Common cross-connections are heating, cooling, fire protection, and irrigation systems. Garden hoses are probably the most common source of cross-connection at our homes as they are often contaminated with soaps, cleaning chemicals, fertilizers, pool water, etc.

The Provincetown Water Department maintains a DEP-approved cross-connection program whereby all industrial, commercial, and institutional premises are surveyed for cross-connections and, when identified, mandates their elimination or the installation of appropriate cross-connection control device(s). For more information regarding cross-connection control, contact Carl Hillstrom at the Provincetown Water Department.

Source Water Assessment and Protection

The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to potential contamination by microbiological pathogens and chemicals. A susceptibility ranking of high was assigned to this system using information collected during the assessment by the DEP. Pesticide storage and use, gas stations, junk yards and salvage yards, military facilities, and underground storage tanks were identified as sources of potentially significant contamination located within the source water areas. For more information, contact Carl Hillstrom. The complete SWAP report is available at the Water Department Office, 26 Alden Street.

Projects and Activities

Infrastructure repairs and improvements continue to be the focus of the Department. Winslow Street Tank II, the second largest of our three water storage tanks, was completely rehabilitated by means of a \$650,000 Massachusetts Block Grant that the Town of Provincetown received. Water customers in both of the towns served by our system will benefit from this work, which adds another 10 years to the service life of this tank.

Previously, most transmission mains in Truro were replaced by our receiving, over a three-year period, this much sought after grant. We will continue to emphasize this program's importance to our customers.

Beginning July 1, 2006, we will be starting contract operations for water superintendence from Woodard & Curran of Portland, Maine. As operators of other water systems and—as we have first-hand experience—as operators of our wastewater system, Woodard & Curran brings new direction to our everyday operations. Planned improvements include adding more radio-read meters and continued field testing of North Union Field and Site C-5, both located in Truro. The highest possible water quality system reliability remains our goal.

Water Quality Summary

The Provincetown Water Department is committed to providing our customers with the highest quality drinking water that meets or exceeds drinking water standards for quality and safety. However, some contaminants that were tested last year did not meet all applicable health standards regulated by the state and federal government. Due to contaminant violations for total coliform during the month of August, additional samples were collected, none of which showed the presence of any coliform bacteria. The health effects statement for total coliform is listed below. Our water system and the DEP monitor and record the effectiveness of actions taken in response to contaminant violations. Proper actions to protect the public health were taken when the Water Department learned of the total coliform positive samples; however, the Department did fail to deliver the required public notification within the required timeframe. Each year the Water Department conducts over 1,000 water-quality tests, examining them for more than 120 potential water contaminants. Unless otherwise noted, the data presented in the table below are for testing conducted January 1, 2005 through December 31, 2005. Not listed are contaminants that were tested for but not detected nor data older than five years.

Substance (Contaminant)	Highest Level Detected	Range of Detected	Highest Level Allowed (EPA's MCL)	EPA's Goal (MCLG)	Sources of Contaminant	Violation (Y/N)
Regulated Contaminants						
Total Coliform	2 positive samples		1	0	Naturally present in the environment	Y
Nitrate (ppm)	1.1	0.51 - 1.1	10	10	Run-off from fertilizer; leaching from sep-tic tanks; sewage; erosion of natural deposits	N
Fluoride (ppm)	0.09 ¹	ND - 0.09	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	N
Total Trihalomethanes (THMs) (ppb)	4	1.0 - 5.0	80	N/A	By-product of water chlorination	N
Gross Alpha Activity (pCi/l)	0.9 ²	1.5	15	0	Erosion of natural deposits	N
Radium 226 & 228 (pCi/l)	1.0 ²		5	0	Erosion of natural deposits	N

Lead & Copper						
Lead (ppb) 22 Sites	8 (90 %tile)	ND -30	A.L. 15 in less than 10% of samples	0	Corrosion of household plumbing; erosion of natural deposits	N
Copper (ppm) 22 Sites	0.4 (90 %tile)	ND - 0.01 - 0.61	A.L. 1.3 in less than 10% of samples	1.3	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives.	N
Unregulated Contaminants						
Chloroform (ppb)	3	1-3			Trihalomethane; by-product of drinking water chlorination	
Methyl-Tertiary-Butyl Ether (MTBE) (ppb)	2	ND - 2	ORSG 70		Fuel additive; leaks and spills from gasoline storage tanks	
Sodium (ppm)	44	25 - 75	NR	NR	Natural sources; run-off from use as salt on roadways; by-product of treatment process	

¹ Dates sampled 9/17 & 23/03

² Date sampled 11/24/03

Health Effects Statements

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Sodium: Sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure who drink water containing sodium should be aware of levels where exposures are being carefully controlled.

Special Information Concerning 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 lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water to reduce lead content. Additional information is available from the **Safe Drinking Water Hotline, 800-426-4791.**

Definitions

90th %tile Out of every 10 homes, 9 were at or below this level

MCL Maximum Contaminant Level: The highest level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment 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.

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 the control of microbiological contamination.

MRDLG Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant for 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.

ppm One part per million.

ppb One part per billion.

A.L. Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.

NR Not regulated (currently there is no MCL for this compound).

N/A Not applicable.

ND Not detected. Refers to the detection limit of the chemical analysis instrument or procedure.

Sodium Although there is no MCL for sodium, the Office of Research & Standards Guideline is 20 ppm.

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

pCi/l Picocuries per liter (a measure of radioactivity)

ORSG Massachusetts Office of Research and Standards Guideline. This is the concentration of a chemical in drinking water at or below which adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Public Health and Drinking Water

The sources of drinking water (**both tap water and bottled water**) include rivers, lakes, reservoirs, streams, and wells. As water travels over the land's surface or through the ground, it dissolves naturally occurring minerals, and radioactive material, and can be polluted by animal or human activity. Contaminants that may be present in source water include: biological contaminants, such as viruses, protozoa, and bacteria; inorganic contaminants, such as metals and salts; pesticides and herbicides; organic

chemicals from industrial or petroleum use; and radioactive materials. In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. 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. 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, 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 EPA (Safe Drinking Water Hotline 800-426-4791; Web page <http://www.epa.gov/safewater>) or the Massachusetts DEP (Southeast Regional office 508-946-2700; Web Page <http://www.state.ma.us/dep>).

Water Conservation

Fix Leaks – a little leak loses a lot. Just a slow drip can add up to 15 or 20 gallons a day, while a 1/16-inch faucet leak can waste as much as 100 gallons in a day. Worn washers cause most faucet leaks. Household faucets should be checked monthly for drips or leaks. If the drip does not stop once the faucet is firmly closed, replace the washers in the faucet. Toilet leaks are also common. If a toilet tank flapper valve hangs up, hundreds of gallons a day of water could be wasted. Most toilet leaks are at the overflow pipe or at the flapper valve. The potential for unnoticed leaks can be determined by observing your water meter. When all water fixtures are off in the house, the small red triangular shaped low flow indicator dial on your water meter (between the 7 and 8, see photo to the right) should be stationary. If it is not, either check your water fixtures yourself, or have a plumber check them for you.

Be Honest – at several locations in Town the Water Department has found unmetered water usage. This unmetered usage causes the Town to be penalized in its annual reporting to DEP, and costs everyone money. Please call the Water Department if you are aware of any unmetered water usage that should be corrected.

