

Spring 2008



HAMPDEN WATER DISTRICT

2007 Water Quality Report



The Hampden Water District is pleased to send you the annual report on your drinking water quality. This report describes the journey the water takes from its origin at Floods Pond to your tap. It also contains other important information regarding the water we deliver to your home. The Hampden Water District receives its supply of water from the Bangor Water District. In a collaborative effort, this data is compiled for you by the Bangor and Hampden Water Districts. We would like to thank the Bangor Water District for their contributions to this report.

This report summarizes the testing results for your water. We ensure that your water is safe through regular monitoring and testing of water quality. Meeting all water quality requirements is the responsibility of the District's water operators who are licensed by the State of Maine.

The Safe Drinking Water Act directs the U.S. Environmental Protection Agency and the Maine Department of Health and Human Services to establish and enforce minimum drinking water standards. These standards set maximum limits on biological, radioactive, organic, and inorganic contaminants that may be present in drinking water.

How is Your Water Treated?

Because of Floods Pond's high quality, the only treatment processes required to ensure safe water at your tap are disinfection, pH adjustment and fluoridation.

Disinfection is achieved using a state-of-the-art ozone treatment facility, followed by chloramines. Ozone is the most effective disinfectant currently used by any water utility. Ozone is short-lived and does not persist beyond the treatment plant. Chloramines, a combination of chlorine and ammonia, are added as a secondary disinfectant to maintain high quality drinking water throughout the water distribution system.

pH Adjustment is required because Floods Pond is naturally soft and acidic. Without treatment, the water will slowly dissolve metals, including copper pipes and other plumbing fixtures. Soda ash minimizes the water's corrosiveness by reducing its acidity and raising the pH. The effectiveness of controlling corrosion is shown by low levels of lead and copper in samples collected from household water faucets.

Fluoridation, boosting Floods Pond's natural fluoride levels, helps reduce the frequency of tooth decay and improves dental health. Fluoride is especially effective at reducing rates of tooth decay in children.

Where Does Your Water Come From?

Floods Pond has served as the sole source of water supply for Hampden Water District customers since 1972. Floods Pond, located in the town of Otis, east of Bangor, lies in a pristine, forested watershed. The lake provides some of the purest drinking water in the nation. To protect the quality of water in Floods Pond from being degraded, the Bangor Water District has acquired approximately 3,764 acres of land in the watershed. District land ownership guarantees that no changes in land use will occur that will pollute the drinking water supply. Public access and recreational activities in the Floods Pond area are prohibited to minimize the possibility of introducing disease-causing organisms to the drinking water supply.

This program to prevent contamination of Floods Pond is very important. Floods Pond is one of only eleven surface water supplies in Maine where filtration is not required. This waiver recognizes the excellent quality of the District's source of supply and the effectiveness of its watershed protection program. In addition to protecting public health, preventing pollution of Floods Pond saves District customers tens of millions of dollars in capital and operational costs for filtration facilities.

Notice

The technicians at the Hampden Water District can help with leak detection as well as educating homeowners how to minimize water leakage that leads to high quarterly bills. Property owners are responsible for the plumbing in their residences and are expected to pay for any and all water that passes through their water meter(s). If you are concerned that you may have a leak in your plumbing, or a leaky toilet, please call the office to make an appointment with one of our service technicians. We are open Monday through Friday 7:00 am to 3:30 pm and can be reached by calling 862-3490.

Water Test Results After Treatment

Although many regulated compounds were not found, here is a list of compounds that were detected in the water after treatment.

Disinfectant	MRDLG	MRDL	Result	Comments
Chloramines (mg/L)	4	4	0.91	Range: 0.35-1.11 mg/L; maintains the high quality of water after it leaves the ozone treatment plant. The MRDL is based on the running annual average of samples collected every 3 months.
Compound	MCLG	MCL	Result	Comments
Radon (pCi/l)	4000	4000	656	Decay of natural and manmade deposits. Erosion of natural deposits.
Alpha emitters (pCi/L) (Tested by Bangor Water)	0	15	0.52	Erosion of natural deposits. Last sampling was conducted in February 2002.
Trihalomethanes (ug/L)	N/A	80	22.43	Range: 1.7—45 ug/L; by-product of chlorination. The MCL is based on the running annual average of all quarterly samples for the last year at all sampling locations.
Haloacetic Acids (ug/L)	N/A	60	0	By-product of chlorination and ozonation. The MCL is based on the running annual average of quarterly samples for the last year at all sampling locations.
Barium (mg/L)	2	2	0.0016	Erosion of natural deposits
Copper (mg/L)	1.3	AL > 1.3	0.50	Copper may enter drinking water from corrosion of household plumbing. Samples are collected tri-annually; most recently collected in June 2007.
Fluoride (mg/L) (Tested by Bangor Water)	4	4	1.23	Range: 1.20 - 1.41 mg/L; one to two mg/L of fluoride is required to reduce tooth decay. Floods Pond has natural fluoride levels of 0.2 mg/L.
Lead (ug/L)	0	AL > 15	62	Typically, lead enters drinking water from the corrosion of household plumbing. Samples are collected tri-annually; most recently collected in June 2007. One out of 30 sites sampled exceeded the action level. Lead was not detected at the entrance to the distribution system.
Arsenic (ug/L)	0	10	0.51	Erosion of natural deposits
Nitrite (mg/L)	10	10	0.01	Erosion of natural deposits and the oxidation of natural ammonia sources

Definitions

AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. 90% of sample results must be less than the action level to meet compliance.

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 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.

mg/L: milligrams per liter = parts per million.

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 control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal: 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.

NTU: Nephelometric Turbidity Unit: A measure of the amount of light scattered by suspended particles in a water sample.

pCi/L: picocuries per liter = a measure of radioactivity.

Testing Results for 2007

These compounds were not found in the water after treatment.

Pesticides and Herbicides: 2,4-D; 2,4,5-TP (Silvex); Alachlor; Atrazine; Carbofuran; Chlordane; Dalapon; Dinoseb; Diquat; Endothal; Endrin; Glyphosate; Heptachlor; Heptachlor epoxide; Lindane; Methoxychlor; Oxamyl (Vydate); Pentachlorophenol; Pichloram; Simazine; Toxaphene; last tested in 2004.

Synthetic Organic Compounds: Benzo (a) pyrene [PAHs]; Di (2-ethylhexyl) adipate; Di (2-ethylhexyl) phthalates; Hexachlorobenzene; Hexachlorocyclopentadiene; and PCBs [polychlorinated biphenyls]; last tested in 2004.

Inorganic Chemicals: Antimony; Asbestos (last tested in December 2002); Beryllium; Bromate; Cadmium; Chromium; Cyanide; Lead; Mercury; Nickel; Nitrate; Nitrite; Selenium; and Thallium.

Volatile Organic Compounds: Benzene; Carbon tetrachloride; Chlorobenzene; Dibromochloropropane; o-Dichlorobenzene; p-Dichlorobenzene; 1,1-Dichloroethylene; 1,2-Dichloroethylene; trans-1,2-Dichloroethylene; Dichloromethane; 1,2-Dichloropropane; Ethylbenzene; Ethylene dibromide; Styrene; Tetrachloroethylene; 1,2,4-Trichlorobenzene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichlorethylene; Toluene; Vinyl Chloride; Xylenes; and Methyl tertiary-butyl ether (MTBE): Sources are fuel leaks and motor boat exhausts.

Microbial Parameters: Total Coliform Bacteria and E. coli: At least five distribution samples are tested monthly.

Radioactive Contaminants: Radium-228; last tested in February 2002.

Secondary Drinking Water Standards



Standards are established to protect aesthetic qualities. Samples collected at the entrance to the distribution system.

Compound	Secondary Standard	Result
Chloride (mg/L)	250	5
Color (units)	15	7
Copper (mg/L)	1	0.0065
Hardness (mg/)	500	5.91
Iron (ug/L)	300	not detected
Manganese	50	3.5
Silver (ug/L)	100	not detected
Sodium (mg/L)	100	15
Sulfate (mg/L)	250	6
Zinc (mg/L)	5	not detected

Waiver Summary

Water utilities in Maine have been granted a State-wide waiver from testing for dioxin because no intakes are known to be downstream of dioxin discharges. The State of Maine Drinking Water Program grants a waiver only upon a finding that "it will not result in an unreasonable risk to health."

Lead and Action Level Exceedance

Some homes or apartment units in this community have elevated lead levels in their drinking water. In 2007 routine sampling detected Lead in excess of the maximum level allowed. Thirteen out of forty sites sampled, exceeded the action level for lead. Drinking water regulations require that samples are taken from homes with a high risk potential for Lead/Copper in the plumbing. Public education material was distributed to all residents, shortly thereafter. A corrosion control plan was submitted to the State Drinking Water Program. We have/propose to monitor individual's homes lead levels and continue to evaluate various options to reduce the corrosiveness of the water, in an effort to reduce the Lead levels. Lead/Copper sampling will resume in 2008. Results of subsequent future Lead/Copper testing will be made available to all residents.

Lead Health Effects: 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. Please read the enclosed notice for further information. For more information or to find out about the health effects of lead and how you can have your child's blood tested contact: Your family doctor or pediatrician, DHS Indoor Air and Lead Poisoning Program 207-287-5338, State of Maine Drinking Water Program 207-287-2070 or the State Childhood Lead Poisoning Prevention Program 207-287-5687. To have your water tested, contact a state approved laboratory in your area: State of Maine Health Engineering Lab, Augusta, 207-287-2727, Maine Environmental Lab, Yarmouth, 207-846-6569, or Northeast Laboratory Services, Waterville, 207-244-8378. To locate information about building permit records that should contain the names of plumbing contractors that plumbed your home contact, Town of Hampden, Code Enforcement 862-4500. If you find the plumber used solder containing lead after 1986, notify the following organization of the violation: Division of Health Engineering, Department of Human Services 207-287-2070. We estimate that flushing one or two gallons of water twice a day for 30 days will cost approximately 28 cents. If you have any questions about how we are carrying out the requirements of the lead regulation, please call the Hampden Water District 862-3490. A program to minimize lead in your drinking water has begun. We are currently working with the Drinking Water Program, Woodard and Curran Engineers, and the Bangor Water District to develop a corrosion control program. Our consumer's will be advised as to the course of action necessary to minimize lead in your drinking water.

Health Information from the US Environmental Protection Agency



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 materials, 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. More information about contaminants and potential health effects can be obtained from the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). You may also direct questions to the Maine Department of Health and Human Services Drinking Water Program at (207) 287-2070. 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).

Source Water Assessment Information

In 2003, the Maine Drinking Water Program completed an evaluation of all public water supplies statewide as part of the Source Water Assessment Program. Floods Pond was evaluated as low risk in all assessment categories indicating that overall susceptibility of the water quality in Floods Pond is low. The evaluation considered geology and hydrology, land uses, water testing information, and the extent of land ownership or protection by local ordinance to determine how likely our drinking water source is to being contaminated in the future. This conclusion is based on the protections that exist for 98 percent of the watershed, the forested land use and the absence of potential threats from land use activities. The Source Water Assessment for Floods Pond is available to the public at the District's business office.

Water System Data

The Hampden Water District serves approximately 1760 residential and commercial customers throughout Hampden and provides fire protection service through building sprinkler systems and over 178 hydrants. Our water supply and distribution system includes 35.24 miles of water mains. We produced over 104.8 million gallons of water in 2006 (an average of .287 million gallons each day!).

The system stores 1.1 million gallons in our two storage facilities. This storage volume allows us to meet peak system demand (.468 million gallons a day) while maintaining an adequate fire-fighting supply.

Other Important Information

This report is a brief summary of our activities during 2007. Hampden Water District staff conducted a wide variety of activities related to water quality, distribution and other matters important to providing our customers with safe, reliable and low-cost drinking water. We encourage public comment on our efforts. Please contact the District:

At it's office: 140 Main Rd North in Hampden, Business hours are Monday—Friday 7am—3:30 pm. By mail: PO Box 218 Hampden, ME 04444. On the Internet: www.hampdenwaterdistrict.org or by phone: 862-3490. The District's Board of Trustees meets regularly every 3rd Thursday of each month at 6:00 pm at it's office at 140 Main Rd North in Hampden.