

Dear Customer:

Manchester Water Works is pleased to present this summary of your water quality.

The information enclosed describes last year's (2000) water quality and shows contaminants that were detected in Manchester's water. This information is presented according to State and Federal criteria.

In addition, we have assembled the answers to the most frequently asked questions about Manchester's water, and some timely and pertinent information regarding fluoridation of Manchester's water supply.

This report should help you better understand and have confidence in your water supply. Manchester is fortunate to have an excellent source of supply in Lake Massabesic which is well protected from contaminants by an aggressive Watershed Management Program. Our Treatment Plant and Distribution Systems are maintained in top operating condition to further ensure the quality of your water. Your water system is continuously being improved and upgraded.

DID YOU KNOW?

- USEPA and NHDES rules regulate the concentration of well over 100 contaminants in your drinking water.
- Manchester's drinking water has never failed to meet these stringent standards.
- USEPA and NHDES have strict standards for the chemicals and processes we use.

We are pleased to present this summary of your drinking water quality. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Water Quality" report to customers in addition to other notices that may be required by law.

This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent.

Le rapport contient information concernant la qualité de l'eau de votre communauté. Faites-le traduire, ou parlez-en à un ami qui le comprend bien.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Manchester Water Works

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Manchester NH 03103
603-624-6494

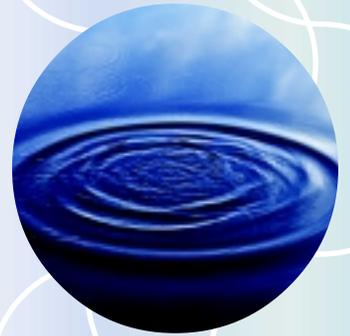
Manchester Water Works invites its customers to become involved with their water supplier. Your Board of Water Commissioners meets monthly at our offices. Please feel free to call us for information about dates and times. Additionally, you can find out more about Manchester Water Works on the Internet at www.ci.manchester.nh.us/water.htm

2001

MANCHESTER WATER WORKS

Water Quality Report

A guide to
understanding
your drinking
water and useful
information
about your
Water Works!



Is The
Water
Safe?
Absolutely!

Manchester's Water Supply

The Source

Manchester's entire water supply is drawn from Lake Massabesic. This is a natural lake located in East Manchester and Auburn. The lake has the capacity to hold about a year's supply of water and is supplemented by flow from small ponds and reservoirs located in Auburn, Hooksett and Candia. Manchester Water Works owns about 8000 acres of the property that borders these lakes and ponds to protect their purity.

The Water Treatment Plant, built in 1974, purifies Lake Massabesic by removing algae, color, and tastes and odors. An engineering review of this 27-year-old facility was recently completed and concluded that, in order to continue to maintain quality and reliability of service, MWW will need to rehabilitate the plant and improve the processes. The study focused on a long-term (20-year) view of supply needs and future water quality regulations.

The results of the study indicate that MWW will be exceeding the safe capacity of Lake Massabesic in about 10 - 15 years. When this occurs, water resources will need to be supplemented by the Merrimack River. It also indicates that the WTP facility has an immediate need to upgrade its filters. These conclusions have led into an evaluation of alternative design options to increase capacity and reliability. These improvements will have an impact on future water rates and MWW will keep its customers informed as plans and construction move forward.

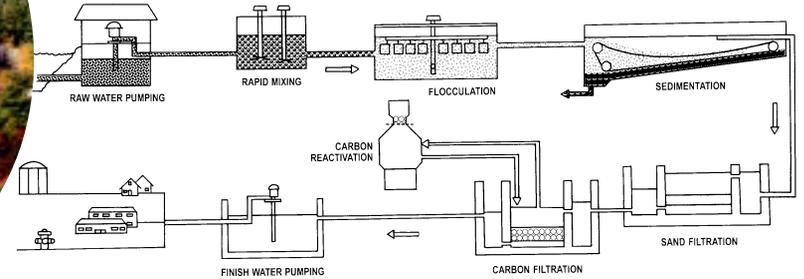
Fluoride

In December 2000, MWW customers joined over 150 million other people in the US with fluoridated water. This includes about 10 million people who live in communities with naturally occurring fluoride in their drinking water.



MANCHESTER WATER TREATMENT PLANT

The Manchester WTP provides a series of treatment steps, each designed to provide a specific purification task. For more information about the Manchester Water Treatment Plant, contact us at 624-6482.



Currently, most larger cities in the US fluoridate their drinking water. Several of them, including San Francisco, Baltimore, Pittsburgh, and Washington, DC, have had fluoridated water for nearly 45 years. In NH, 11 communities are supplementing their community water systems with fluoride to improve dental health.

Is It Safe?

Recently we have seen sensational headlines which raise concerns about the safety of fluoridation. Water fluoridation is supported by the US Department of Health and Human Services, the Center for Disease Control, the American Medical Association, the World Health Association, the American Dental Association, the American Public Health Association, the American Cancer Society, the American Heart Association and the American Academy of Pediatrics to name a few. In addition, the safety of community water fluoridation has been one of the most studied public health measure during the past 50 years.

In order to further protect our customers and to maintain our first priority - customer safety, MWW requires that the fluoride chemical used in your water

have 20 times less the impurities than that allowed by National standards. For those generally concerned about consuming water with fluoride, you may want to consider home treatment devices. Specifically, treatment units which utilize reverse osmosis will remove this chemical, and are generally available from local suppliers.

Right: Pilot Filter System - Evaluating options for filtration renovations.



Health Information

To ensure that tap water is safe to drink, the EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.

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 the water poses a health risk.

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 can dissolve many natural minerals and, especially in the case of ground water, radioactive material. Water is also subject to contaminants resulting from the presence of animals or human activity. The wide variety of contaminants that may be present in source water include:

- A) Microbiological contaminants, such as viruses and bacteria, originating from sewage, septic systems, agricultural livestock and wildlife;
- B) Inorganic contaminants such as road salt, metals, industrial or domestic wastewater discharge, oil and gas production, mining or farming;
- C) Synthetic organic chemicals, such as petroleum products from gasoline and oils, or pesticides and herbicides and are present in runoff and as residues from household use;
- D) Radioactive contaminants either natural or manmade. Radon is one such natural, radioactive contaminant currently being regulated by the USEPA. Manchester's water does not contain radon.

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 for infections. These people should seek advice about drinking water from their health care provider. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the **Safe Drinking Water Hotline at 1-800-426-4791**.

DID YOU KNOW?

- Your water rates have not increased in over 10 years.
- MWW customers benefit from rates that are about the lowest in the State. The NH State average cost for water is about \$279 per year where our rates average only \$167.

DID YOU KNOW?

- MWW sponsors an annual science for the areas 4th graders.
- Environmental education is important for today's children to foster the understanding necessary to insure the future quality of their water resources.
- Your water supply is protected by over 8000 acres of dedicated watershed land which provides the first barrier against contamination.

Additional Information About Contaminants

Each year, Manchester Water Works collects thousands of water samples to check for purity. These samples come from the Water Treatment Plant, as well as from homes such as yours. The testing done on these samples looks for all regulated and many unregulated water contaminants.

Cryptosporidium: Over the past few years, Manchester has also begun looking for many new contaminants. Of particular concern to us is the newly discovered microbial contaminant, *Cryptosporidium*. This microbe can cause an extreme case of diarrhea and can be life threatening to certain compromised individuals. To date, no trace of this microbe has been found, but we continue to monitor for its presence.

MtBE: Additionally, Manchester Water Works has become acutely aware of a gasoline additive called MtBE. This additive has been detected in Lake Massabesic as a direct result of boating activities. This conclusion has made us take a second look at current recreational practices on the lake. The tables enclosed reflect the summer time levels when MtBE has been detected. Be assured that we will continue to do our best to see that your water is not contaminated by this additive.

Water Quality Tables

The tables below provide information about those contaminants which were detected in Manchester's water in 2000. During the year, Manchester had multiple analyses run by the NH Department of Environmental Services for well over 100 individual contaminants. At the same time, MWW laboratories perform approximately 40 daily tests on the water to assure that it is safe to drink. Please feel free to call us at 624-6482 for information about any chemicals or contaminants which you do not see listed below.

KEY TO TABLES

DEFINITIONS

- MCLG:** Maximum Contaminant Level Goal, or 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.
- MCL:** The highest level of a contaminant that is allowed in drinking water. They are set as close to the MCLGs as feasible using the best available treatment technology.
- AL:** Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment of other requirements which a water system must follow.
- TT:** Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.

ABBREVIATIONS

- ppt = parts per trillion
 ppb = parts per billion
 ppm = parts per million
 pCi/l = picocuries per liter, measurement of radiation
 NA = not applicable
 NTU = Nephelometric Turbidity Unit
 MFL = million fibers per liter
 ND = Not Detected
 NR = Not Regulated
 < = less than

REGULATED CONTAMINANTS

Contaminant	Unit	MCL	MCLG	Level	Range	Major Sources	Violation
Inorganic Contaminants							
Lead (2000)	ppb	AL=15.0	0	14.1 90 th Percentile	0 – 37.7	Corrosion of household plumbing systems; Erosion of natural deposits	NO
Copper (2000)	ppm	AL=1.3	1.3	0.036 90 th Percentile	0 – 0.110	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	NO
Barium	ppm	2.0	2.0	0.01	0 – 0.0124	Erosion of natural deposits; Discharge from drilling wastes and metal refineries	NO
Nitrate	ppm	10.0	10.0	0.08	0 – 0.08	Erosion of natural deposits; Runoff from fertilizer; Sewage leaching from septic tanks	NO
Fluoride	ppm	4.0	1.0	1.0	0 – 1.2	Water additive which promotes strong teeth Erosion of natural deposits	NO
Microbiological Contaminants							
Total Coliform	Samples	< 5% positive	0	<1%	0 – 1%	Naturally present in the environment	NO
Turbidity	NTU	0.5	0	0.06	0.03 – 0.12	Soil runoff	NO
Volatile Organic Contaminants							
TTHMs [Total Trihalomethanes]	ppb	100	NA	58.9	20 – 69	By-product of drinking water chlorination	NO
Methyl tertiary Butyl Ether (MtBE)	ppb	13.0	0	0.70	0 – 0.89	Leaking underground gasoline storage tanks; motorized (two-stroke engines) on reservoirs	NO

UNREGULATED AND SECONDARY CONTAMINANTS

Contaminant	Unit	MCL	MCLG	Level	Range	Major Sources	Violation
Total Haloacetic Acids (5)	ppb	NR		25	7.3 – 29.1	By-product of drinking water chlorination	NR