Dear Customer

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

The Health Information enclosed relates to the contaminants that are tested for in accordance with State and Federal regulations. A table showing the specific contaminants detected in Manchester's water is included.

In addition, we have assembled some timely and pertinent information regarding Water Conservation.

This report should help you to better understand and have confidence in your water supply. Manchester is fortunate to have an excellent water supply source in Lake Massabesic, which is well protected from contamination 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 to maintain the high quality of water you receive. Through increased conservation efforts, our goal is to secure the future quantity and quality of your water supply.

Did You Know?

You can save 5 gallons of water per day by turning off your faucet while brushing your teeth or shaving?

Older showerheads use about 12 gallons per minute while water-efficient ones use 3 gallons/minute?

A leaky faucet wastes about 100 gallons of water per day?

The average person uses 140-160 gallons of water every day?

Nearly half the world's population lacks access to clean water for drinking, sanitation and other human needs?

MANCHESTER WATER WORKS

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.

281 Lincoln Street
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**

MANCHESTER WATER WORKS

Water Quality Report 2002

A guide to understanding your drinking water...

...and helpful water conservation tips.

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 8,000 acres of the property that borders the lake and ponds to protect their purity.

The Water Treatment Plant, built in 1974, purifies Lake Massabesic water by removing algae, color, tastes and odors. An engineering review of this 27-year-old facility was recently completed and concluded that, in order to continue to maintain the highest 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 study indicates that the WTP facility has an immediate need to upgrade its filters. It also indicates that MWW will be exceeding the safe capacity of Lake Massabesic in about 10 years. When this occurs, water resources will need to be supplemented by the Merrimack River. These conclusions have led into an evaluation of alternative design options to improve the plant's processes.

Following the tragedy of September 11, 2001, MWW has spent considerable time and money to strengthen security at our facilities. We are evaluating options and will implement additional measures to help assure the safety of your water supply.

Water Conservation

Everyone who uses Manchester's water shares the responsibility to protect Lake Massabesic from pollution, and to ensure its health for future generations of water users. Water conservation is part of a balanced approach to managing our natural resources. It is surprisingly simple for you to help protect our environment, maintain our natural resources, and save money, too. Efficient use of our water resources benefits you as a MWW customer as well as our local natural environment. Reduced water withdrawals help to sustain watershed ecosystems and improve water quality by minimizing the amount of wastewater that must be treated. Your water conservation efforts will also reduce your household water consumption, resulting in reductions in your water bill. From the kitchen, to the bathroom, to the laundry room, to the lawn, changing your water use habits can help conserve a vital resource. This report includes tips on how you can join the local water conservation effort to save money at home, and help ensure Manchester's plentiful and clean water for years to come.

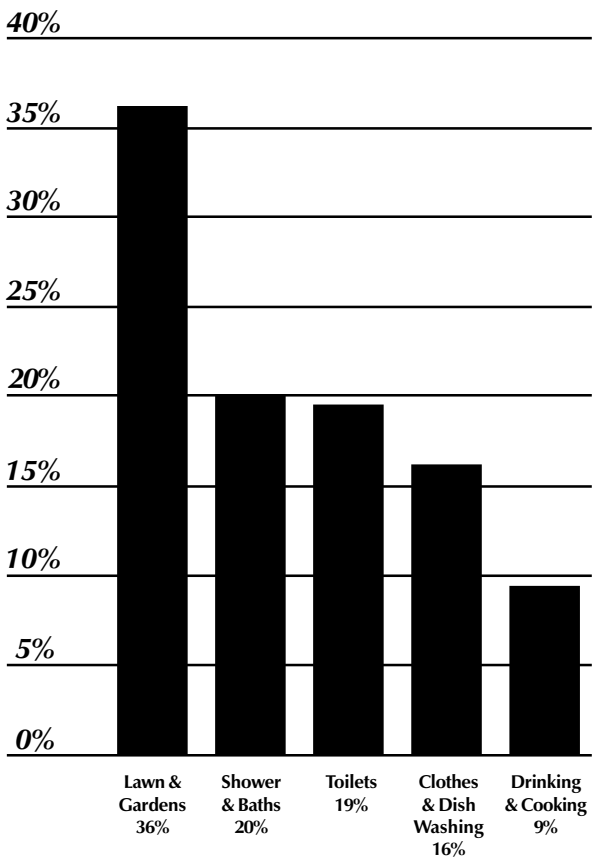
Water conservation is a smart investment for now and for the future—please make it a lifelong habit!

Create a Water Budget for your household!

Please visit these websites for additional watersaving facts and tips:

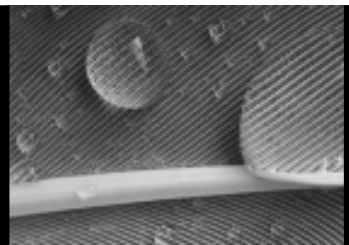
www.des.state.nh.us/factsheets/ws/ws-26-2.htm
www.des.state.nh.us/factsheets/ws/ws-26-3.htm
www.epa.gov/25water/nativeplants/
ceinfo.unh.edu/common/documents/hginfo.htm

Typical Residental Water Use



Conservation Tip:
Inspect and fix all leaky faucets, pipes, toilets and other fixtures.

Conservation Tip:
Water lawns during early morning hours to lessen evaporation.



Conservation Tip:
Install low-flow toilets (1.3-2 gals./flush) or insert a weighted plastic bottle into older tanks.

Conservation Tips:
Install water efficient hardware and appliances. Wash your car at a car wash where water is recycled. Take shorter showers.

Conservation Tips:
Install water-saving shower heads. Wash fruits and vegetables in a bucket and reuse to water house plants.

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 man-made. 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.**

Water Treatment Plant Improvements

The Manchester Water Works has relied upon the Water Treatment Plant facility at Lake Massabesic for its entire water supply resource since 1974. During this time, this facility has processed over 135 billion gallons of water, all without disruption or violation of standards. At 27 years old, this facility is now in need of major renovations to continue its reliable service, to improve its capacity, and to achieve higher levels of water purification. This work will take place over the next two years and will benefit our customers in a very real and measurable way by improving the quality and aesthetics of their tap water.

We will keep you informed of this major project and its impact on all of our customers. Later this year, you will receive another information pamphlet from us which will detail the type of improvements we are planning, how much they will cost, and how they will be implemented to assure that you will not see any deterioration or interruption in the quality of your service.

This is an exciting project and one which will provide the highest quality tap water for years to come.

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.**
- **Your water rates have not increased in over 11 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.**
- **MWW sponsors an annual science fair for the area's 4th graders.**
- **Environmental education is important for today's children to foster the understanding necessary to ensure the future quality of their water resources.**
- **Your water supply is protected by over 8,000 acres of dedicated watershed land which provides the first barrier against contamination.**

Water Quality Tables

The tables below provide information about *those contaminants which were detected* in Manchester's water in 2001. 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. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MRDLG:	Maximum residual disinfection level goal. The level of 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.
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.
AL:	Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or 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.

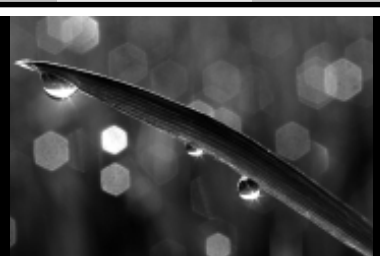
ABBREVIATIONS

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
mg/l	= milligrams per liter

REGULATED CONTAMINANTS

Contaminant	Unit	MCL	MCLG	Level	Range	Major Source	Violation
Inorganic Contaminants							
Lead (2001)	ppb	15.0-AL	0	10.6 90th Percentile	0 – 49.5	Corrosion of household plumbing systems; Erosion of natural deposits	NO
Copper (2001)	ppm	1.3-AL	1.3	0.035 90th Percentile	0 – 0.085	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	4.0	1.0	0 – 1.2	Water additive which promotes strong teeth Erosion of natural deposits	NO
Chlorine	ppm	4.0-MRDL	4.0-MRDLG	0.5	0.1 – 1.5	Drinking water disinfectant	NO
Microbiological Contaminants							
Total Coliform	Samples	< 5% positive	0	<1%	0 – 1%	Naturally present in the environment	NO
Turbidity	NTU	0.3	0	0.06	0.03 – 0.12	Soil runoff	NO
Total Organic Carbon	mg/l	TT	NA	2.0	1.8 – 2.2	Naturally present in the environment	NO
Volatile Organic Contaminants							
TTHMs [Total Trihalomethanes]	ppb	80	NA	58.9	20 – 69	By-product of drinking water chlorination	NO
Total Haloacetic Acids (5)	ppb	60	NA	25	7.3 – 29.1	By-product of drinking water disinfection	NO
Methyl tertiary Butyl Ether (MtBE)	ppb	13.0	0	0.70	0 – 0.89	Residual from gasoine spill or leakage	NO
Trichloroethylene	ppb	5.0	0	1.9	0.0 – 1.9	Discharge from metal degreasing sites & other factories	NO

Conservation Tips:
Choose landscaping that requires low water levels (Xeriscape!) Water your lawn thoroughly once a week vs. more frequently and for shorter periods of time.



Conservation Tips:
Use drip or trickle irrigation systems instead of sprinklers. Position downspouts so rainwater runs onto your lawn. Wash your car with a bucket instead of a hose.