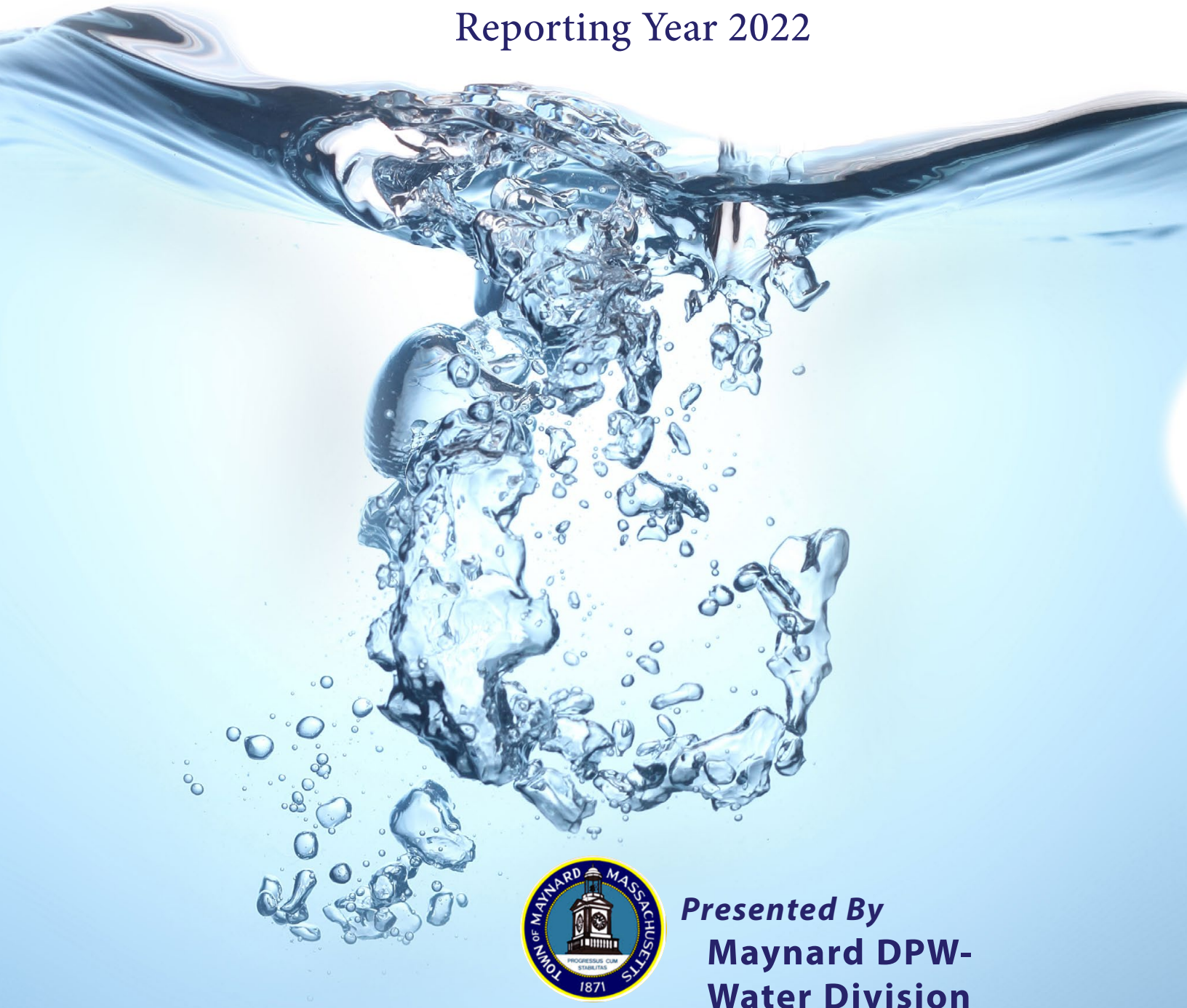
ANNUAL WATER QUALITY REPORT

Reporting Year 2022



Presented By

Maynard DPW-
Water Division

PWS ID#: 2174000

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Where Does My Water Come From?

Maynard's drinking water comes from seven groundwater sources. Wells 1 through 4 are constructed in sand-and-gravel deposits that overlie bedrock. These wells are 40 to 70 feet deep and located in the southern half of Maynard. The remaining three wells, 5 through 7, are approximately 400 feet deep into bedrock and located in the northern half of Maynard. White Pond, a surface water supply located at Hudson and Stow, is no longer in service; however, it remains available as a future source if treatment is implemented.

> "Thousands have lived without love, not one without water."
>
> —W.H. Auden

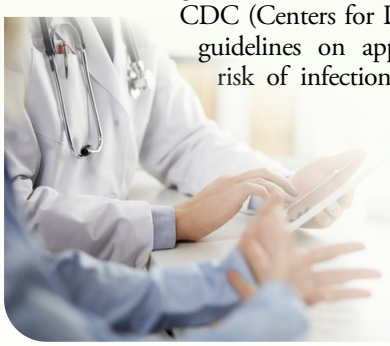
The town has the infrastructure to supply 1.3 million gallons per day (mgd) of high-quality treated drinking water from the following facilities:

- Old Marlboro Road Treatment Facility: Wells 1 - 3, 0.32 mgd
- Green Meadow Treatment Facility: Well 4, 0.29 mgd
- Rockland Avenue Treatment Facility: Wells 5 - 7, 0.72 mgd

Important Health Information

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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.



Water Treatment Process

All three water treatment facilities use greensand filters to remove iron and manganese and add chlorine for disinfection. In addition, the Old Marlboro Road and Green Meadow facilities add potassium hydroxide to control corrosion in household plumbing. The Rockland Avenue facility is equipped with an air stripper to remove radon, a naturally occurring contaminant in bedrock wells.

Community Participation

Any water supply topics and concerns can be addressed in public at the Select Board meetings, held on the first and third Tuesday of each month at 7:00 p.m. at Town Hall in the Michael J. Gianotis Room. Visit www.townofmaynard-ma.gov/213/Public-Works-DPW for current news and updates from the DPW.

Violation Information

The Maynard DPW-Water Division found elevated levels of lead in the drinking water of some homes and buildings during the third-quarter monitoring period, June through September 2022. Maynard's sampling results had a 90th percentile of 16 parts per billion (ppb), which is above the action level of 15 ppb. In accordance with DEP, we are collecting additional samples and conducting a corrosion control treatment study with the assistance of our engineering consultant to improve our corrosion control treatment process.

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Questions?

For more information about this report, or for any questions relating to your drinking water, please call Michael Hatch, Water/Sewer Division Superintendent, at (978) 897-1317.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting 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, which 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 contaminants. The presence of these 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 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. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

DEP has completed a Source Water Assessment and Protection (SWAP) Report for our system. The SWAP report assesses the susceptibility of public water supplies to potential contamination by microbiological pathogens and chemicals. A susceptibility ranking of high was assigned to our system using information collected during the assessment. A source's susceptibility to contamination does not imply poor water quality. The report states the high vulnerability to contamination is due to the absence of hydrogeological barriers (for example, clay) that can prevent contamination migration. The complete SWAP Report is available at www.mass.gov/lists/source-water-assessment-and-protection-swap-program-documents.

Protecting our water sources is just as important as conserving drinking water. You play an important role in protecting your water resources. To help us protect your water sources:

- Use fertilizers, insecticides, and herbicides sparingly and follow the manufacturer's instructions.
- Never pour harsh chemicals, oils, or cleaners down your toilet, sink or storm drains. Instead, dispose of them and other hazardous materials, such as paints and thinners, during household hazardous waste collection programs.
- If you have a septic system, have it pumped out every two years, and do not use septic system cleaners.
- Immediately notify the DPW if you notice anyone trespassing or riding motorized vehicles near the wells or vandalizing any water supply facilities.

Revised Total Coliform Rule Violation (II)

On September 21, 2022, we were informed that one of our routine bacteria samples collected on September 20, 2022, was total coliform-positive. As required by the Ground Water Rule, we collected five raw water samples from Well 4 for fecal contamination analysis. A Well 4 raw water sample was positive for fecal contamination (*E. coli*). In response, we notified our customers and the Board of Health within 24 hours of learning of this positive sample.

We collected 5 additional raw water samples on September 23, 2022, for a total of 10 samples. All repeat samples tested negative for bacteria. On September 22, 2022, the well head and Zone 1 were inspected by water department staff and our engineering consultant for potential sources of fecal contamination or significant deficiencies. Based on the inspection, no sources of contamination or any significant deficiencies were found. The well was put back into service after approval from DEP on September 26, 2022. Although *E. coli* was detected, the water system is not in violation of the *E. coli* maximum contaminant level.

Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring 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, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2021	15	0	2.1	NA	No	Erosion of natural deposits
Barium (ppm)	2022	2	2	0.059	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2022	[4]	[4]	0.40	0.02–1.20	No	Water additive used to control microbes
Combined Radium (pCi/L)	2021	5	0	0.4	0.2–0.4	No	Erosion of natural deposits
Fecal Indicators [*E. coli*, enterococci or coliphage] Ground Water Rule (# positive samples)	2022	TT	NA	1[1]	NA	No	Human and animal fecal waste
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2022	60	NA	25	4.6–30	No	By-product of drinking water disinfection
Nitrate (ppm)	2022	10	10	0.50	0.08–0.50	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2022	2	NA	0.175	0.086–0.175	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
PFAS6 (ppt)	2022	20	NA	19.9	2.81–19.9	No	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture- and oil-resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as firefighting foams.
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80[2]	NA	64	32–87	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2022	1.3	1.3	0.224	0/37	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2022	15	0	16	5/37	Yes	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppb)	2022	300	NA	45	ND–45	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2022	50[3]	NA	122	ND–122	No	Leaching from natural deposits

UNREGULATED SUBSTANCES[4]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2022	8	1.7–8	NA
Bromoform (ppb)	2022	0.6	ND–0.6	NA
Chlorodibromomethane (ppb)	2022	3.5	0.9–3.5	NA
Chloroform (ppb)	2022	11	4.9–11	NA
Sodium (ppm)	05/23/2022	29.1	NA	NA

[1] We routinely monitor for the presence of drinking water contaminants to ensure the safety of the water supply. During normal operations, water from Well 4 is disinfected with chlorine to kill viruses and bacteria, including *E. coli*. The chlorinated water is delivered to you. None of the chlorinated samples tested positive for *E. coli*. Only the untreated sample from Well 4 tested positive.

[2] Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

[3] Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and part of a healthy diet, but it can have undesirable effects on certain sensitive populations at elevated concentrations. U.S. EPA and DEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects.

[4] Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air-conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection. For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Definitions

90th %ile: Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.

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 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 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.