# 2021 Consumer Confidence Report
**For**
# SALISBURY WATER SUPPLY
Salisbury, Massachusetts
MASSDEP PWS ID # 3259000

This report is a snapshot of the drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with this information because informed customers are our best allies.

## PUBLIC WATER SYSTEM INFORMATION

Address: Pennichuck Water 25 Walnut Street, Nashua, NH 03060

Contact Person: Matt Day

Telephone #: 800-553-5191 Email: Matt.Day@pennichuck.com

Internet Address: pennichuck.com

**Water System Improvements**
Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system.

**Opportunities for Public Participation**
If you would like to participate in discussions regarding your water quality, you may attend Selectman meetings held during the second and fourth Mondays of the month. The exact date and time can be found on Salisbury's public TV broadcasts and on the Town's Web Site www.salisburyma.gov.

## YOUR DRINKING WATER SOURCE

**Where Does My Drinking Water Come From?**
Your water is provided by the following sources listed below:

| Source Name | MassDEP Source ID# | Source Type | Location of Source |
|---|---|---|---|
| Well # 5 | 3259000-04G | Groundwater | Lena Maes Way |
| Well # 6 | 3259000-05G | Groundwater | Lena Maes Way |
| Well # 7 | 3259000-06G | Groundwater | Black Snake Road |
| Well # 8 | 3250009-07G | Groundwater | Lena Maes Way |

**Is My Water Treated?**
Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants.

- We add Sodium Hypochlorite, a disinfectant to protect you against microbial contaminants.
- We chemically treat the water with Potassium Hydroxide to increase pH to make it less corrosive.
- We chemically treat the water with Bimetallic Zinc Metaphosphate, a sequestering agent used to sequester minor levels of iron and manganese. Also, it aids in corrosion protection.

The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

**How Are These Sources Protected?**
MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

**What is My System's Ranking?**
A susceptibility ranking of **high** was assigned to Well # 5 and Well # 6, and **moderate** was assigned to Well # 7. This system using the information collected during the assessment by MassDEP. The State of Massachusetts has not conducted an assessment of Well # 8.

**Where Can I See the SWAP Report?**
The complete SWAP report is available online at https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program. For more information, call Pennichuck Water Works, Matt Day at *800-553-5191.*

**What Are the Key Issues for Our Water Supply?**

The wells are located in an aquifer which is high vulnerability to contamination due to the absence of hydrogeologic barrier (i.e. clay) that can prevent contaminant migration.

The SWAP Report notes the key issues: Activities in Zone I; Hazardous Materials Storage and Use; Transportation Corridor; Residential Land Uses; Oil or Hazardous Material contamination sites; Comprehensive Wellhead Protections Planning.

**What Can Be Done to Improve Protection?**
The SWAP report recommends:

- Remove all non-water activities from Zone I requirements.
- Avoid place chemicals, petroleum product, or other hazardous or toxic substances into the septic system or floor drain.
- Identify stormwater drains and the drainage system along transportation corridors. Whenever possible, ensure that drains discharge stormwater outside Zone I and Zone II.
- Look for potential source of contamination from leaks and spills due to heating oil storage.
- Look for proper storage of hazardous materials in underground and aboveground storage tanks.

Our public water system plans to address the protection recommendations by:

- Certify that all the chemical feed systems have anti-siphon valve
- Continue to maintain the vegetation in the Zone I

**Residents can help protect sources by**:

- Practicing good septic system maintenance
- Taking hazardous household chemicals to hazardous materials collection days
- Limiting pesticide and fertilizer use, etc.

## SUBSTANCES FOUND IN TAP WATER

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.

Contaminants 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, and wildlife.

**Inorganic contaminants** -such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and 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 can also come from gas stations, urban stormwater runoff, and septic systems.

**Radioactive contaminants** -which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit 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 that must provide the same protection for public health.

All 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 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 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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

**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. Salisbury Water Supply is responsible for providing high quality drinking water but, 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 2 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 or at http://www.epa.gov/safewater/lead.

## IMPORTANT DEFINITIONS

**Maximum Contaminant Level (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.

**Maximum Contaminant Level Goal (MCLG)** –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.

**Action Level (AL)** – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**90$^{th}$ Percentile** – Out of every 10 homes sampled, 9 were at or below this level.

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

**Massachusetts Office of Research and Standards Guideline (ORSG)** – 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.

**Running Annual Average (RAA)** – The average of four consecutive quarter of data.

**Maximum Residual Disinfectant Level (MRDL) --** The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
pCi/l = picocuries per liter (a measure of radioactivity)
RAA = Running Annual Average
ND = Not Detected
N/A = Not Applicable

## WATER QUALITY TESTING RESULTS

**What Does This Data Represent?**
The water quality information presented in the table is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year (2020) unless otherwise noted in the table.

| | Date(s) Collected | 90TH percentile | Action Level | MCLG | # of sites sampled | # of sites above Action Level | Possible Source of Contamination |
|---|---|---|---|---|---|---|---|
| Lead (ppb) | 6/25/20-9/24/20 | 1.2 | 15 | 0 | 26 | 0 | Corrosion of household plumbing systems; Erosion of natural deposits |
| Copper (ppm) | 6/25/20-9/24/20 | 0.71 | 1.3 | 1.3 | 26 | 0 | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |

| Regulated Contaminant | Date(s) Collected | Highest Result or Highest Running Average Detected | Range Detected | MCL or MRDL | MCLG or MRDLG | Violation (Y/N) | Possible Source(s) of Contamination |
|---|---|---|---|---|---|---|---|
| **Inorganic Contaminant** | | | | | | | |
| Barium (ppm) | 7/21/20 | 0.0227 | 0.0154-0.0227 | 2 | 2 | **N** | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Nitrate (ppm) | 7/21/20 | 1.40 | 0.92 - 1.40 | 10 | 10 | **N** | Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits |
| Perchlorate (ppb) | 7/21/20 | 0.193 | 0.154- 0.193 | 2 | N/A | **N** | Rocket propellants, fireworks, munitions, flares, blasting agents |
| **Disinfectants and Disinfection By-Products** | | | | | | | |
| Total Trihalomethanes (TTHMs) (ppb) | Quarterly in 2020 | RAA-29 | 18 - 40 | 80 | N/A | **N** | Byproduct of drinking water chlorination |
| Haloacetic Acids (HAA5) (ppb) | Quarterly in 2020 | RAA-24 | 8 - 27 | 60 | N/A | **N** | Byproduct of drinking water disinfection |
| Chlorine (ppm) | Monthly In 2020 | RAA – 0.72 | 0.06 – 2.21 | 4 | 4 | **N** | Water additive used to control microbes |

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

| Unregulated Contaminants | Date(s) Collected | Result or Range Detected | Average Detected | SMCL | ORSG | Possible Source |
|---|---|---|---|---|---|---|
| Chlorate (ppb)** | 2015 | 35-190 | 115 | N/A | 210 | Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide |
| Chromium (ppb)** | 2015 | ND - 0.3 | 0.04 | 100 | 100 | Discharge from pulp mills; erosion of natural deposits |
| Chromium-6 (ppb)** | 2015 | 0.07 - 0.20 | 0.11 | N/A | N/A | Discharge from steel and pulp mills; Erosion of natural deposits |
| 1,4-Dioxane (ppb)** | 2015 | ND – 0.14 | 0.05 | N/A | 0.3 | Discharge from chemical manufacturing and landfills |
| HAA5 (ppt)** | 2019/2020 | 7.65 - 16.74 | 11.65 | N/A | N/A | UCMR – Assessment Monitoring - Haloacetic Acids-disinfection by-product |
| HAA Br (ppt)** | 2019/2020 | 2.76 - 13.31 | 8.13 | N/A | N/A | UCMR – Assessment Monitoring - Haloacetic Acids |
| HAA9 (ppt)** | 2019/2020 | 10.41 - 27.49 | 18.44 | N/A | N/A | UCMR – Assessment Monitoring - Haloacetic Acids |
| Manganese*(ppb)** | 7/10/19<br>1/7/20<br>4/21/20 | 28 - 193 | N/A | 50 | Health Advisory 300 | Natural sources as well as discharges from industrial uses |
| Nickel (ppb) | 7/21/20 | 3 – 11.5 | N/A | N/A | 100 | Discharge from domestic wastewater, landfills, and mining and smelting operations |
| Sodium (ppm) | 7/21/20 | 32.8 -85.1 | N/A | N/A | 20 | Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents |
| Strontium (ppb)** | 2015 | 120-180 | 147 | N/A | 1500 | Naturally occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions |
| Sulfate (ppm) | 4/21/20 | 18-20 | N/A | 250 | N/A | Natural sources |
| Vanadium (ppb)** | 2015 | ND – 0.3 | 0.07 | N/A | 21 | Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst |

* US EPA has established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1000 ppb for acute exposure.
**UCMR – Assessment Monitoring

| Secondary Contaminants | Date(s) Collected | Result or Range Detected | Average Detected | SMCL | ORSG | Possible Source |
|---|---|---|---|---|---|---|
| Aluminum (ppb) | 4/21/20 | 0.0045-0.0063 | N/A | N/A | 200 | Residue from water treatment process: erosion of natural deposits. May produce colored water |
| Chloride (ppm) | 4/21/20 | 63-151 | N/A | N/A | 250 | Runoff and leaching from natural deposits; seawater influence. May produce salty taste |
| Color (color units) | 4/21/20 | ND - 5 | N/A | 15 | N/A | Internal corrosion of household plumbing; erosion of natural deposits. May produce metallic taste; blue-green staining |
| Copper (ppm) | 4/21/20 | 0.09-0.12 | N/A | 1 | N/A | Naturally occurring organic material |
| Iron (ppb) | 4/21/20 | 14 - 15 | N/A | 300 | N/A | Natural and industrial sources as well as aging and corroding distribution systems and household pipes. May produce rusty color; sediment; metallic taste; reddish or orange staining |
| Manganese* (ppb) | 4/21/20 | 28 – 130 | N/A | 50 | Health Advisory of 300 | Natural sources as well as discharges from industrial uses. May produce black to brown color; black staining; bitter metallic taste |
| * EPA has established a lifetime Health Advisory (HA) for manganese of 300 ppb and an acute HA at 1000 ppb | | | | | | |
| pH (SU) | 4/21/20 | 6.97-7.23 | N/A | 6.5-8.5 | N/A | Runoff and leaching from natural deposits; seawater influence. Low pH may produce bitter metallic taste; corrosion High pH may |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | produce a slippery feel; soda taste; deposits |
| Sulfate (ppm) | 4/21/20 | 18-20 | N/A | 250 | N/A | Runoff and leaching from natural deposits; industrial wastes |
| Total Dissolved Solids (TDS) (ppm) | 4/21/20 | 255-369 | N/A | 500 | N/A | Runoff and leaching from natural deposits; seawater influence. May produce hardness; deposits; colored water; staining; salty taste. |
| Zinc (ppm) | 4/21/20 | 0.213-0.410 | N/A | 5 | N/A | Corrosion of household plumbing systems; erosion of natural deposits. May produce metallic taste |

## COMPLIANCE WITH DRINKING WATER REGS

**Does My Drinking Water Meet Current Health Standards?**
We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

## EDUCATIONAL INFORMATON

**Do I Need to Be Concerned about Certain Contaminants Detected in My Water?**

**Manganese** is a naturally occurring mineral found in rocks, soil and groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (micrograms per liter), or 50 parts per billion, and health advisory levels. In addition, EPA and MassDEP have also established public health advisory levels. **Drinking water may naturally have manganese and, when concentrations are greater than 50 µg/L, the water may be discolored and taste bad. Over a lifetime, EPA recommends that people drink water with manganese levels less than 300 µg/L and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ug/L, primarily due to concerns about possible neurological effects. Children up to 1 year of age should not be given water with manganese concentrations over 300 ug/L, nor should formula for infants be made with that water for longer than 10 days.** See:
http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_cc1_magnese_dwreport.pdf.

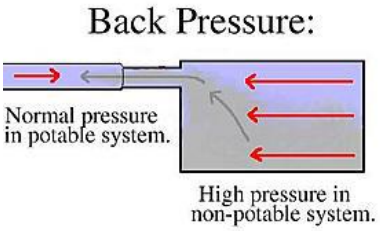
**Sodium** sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.

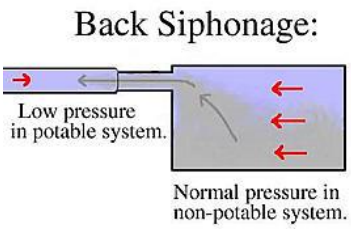
### Cross-Connection Control and Backflow Prevention

The Salisbury Water Supply makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

**What is a cross-connection?**
A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

**What is a backflow?**
Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



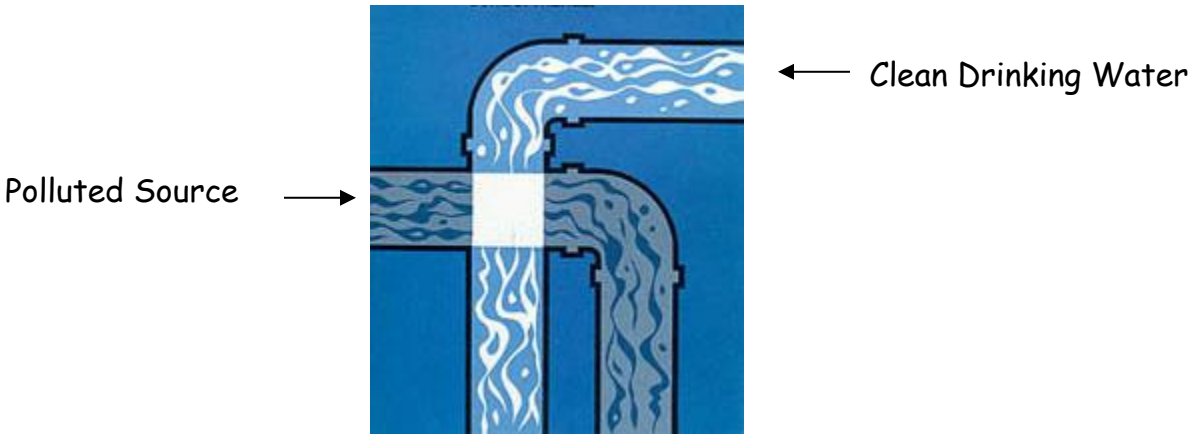




**What can I do to help prevent a cross-connection?**
Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

**What is a Cross Connection and what can I do about it?**




A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops at the same time you turn on the hose, the fertilizer may be sucked back into the drinking water pipes through the hose. This problem can be prevented by using an attachment on your hose called a backflow-prevention device.

The Salisbury Water Supply Company recommends the installation of backflow prevention devices, such as a low-cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town! For additional information on cross connections and on the status of your water systems cross connection program, please contact Matt Day at 800-553-5191.