



Town of Bow Water System

2016

PWS ID: #0261010

REPORT ON WATER QUALITY

This report is a snapshot of the quality of the drinking water that we provided last year. The statistics in this report are based on testing done throughout 2016 and prior years. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home.

Where Does My Water Come From?

The Town of Bow Municipal Water System (BMWS) is a new Community water system located in Bow, NH. The BMWS consists of two gravel packed wells. Each well contains a submersible turbine pump that pumps through a Lowrey Aeration System DB64 into a 61,000-gallon clear well. The aeration system removes radon and raises the pH of the water by removing Carbon Dioxide. Prior to entering the clear well, the water is disinfected with calcium hypochlorite. The system also has the ability to add Potassium Hydroxide to

assist with the pH adjustment and further enhance the corrosion control process. Water is then transferred from the clear well to a 1.0 million gallon



Treatment Building

storage tank through submersible transfer pumps. Water is gravity fed from the tank to the water distribution system, which delivers drinking water to your home or business.

SHOULD SOME PEOPLE TAKE SPECIAL PRECAUTIONS?

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.

Maintaining Water Quality

The Town of Bow continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor both our sources and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

In order to ensure tap water is safe to drink, the DES and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.



Opportunities to Participate

Any matters that concern your drinking water supply or issues you would like to see addressed can be presented at the regularly scheduled meeting of the Bow DWPC, which meets the first Monday of every month at 6pm in the Bow Town Hall. Or feel free to contact our current Certified Operator, WhiteWater, Inc., at 1-888-377-7678.

Town of Bow

The water system at the Town of Bow is operated and maintained by WhiteWater, Inc. If you have any questions about this report, please contact Eric Burkett at 1-888-377-7678.

Additional copies of this report are available upon request and at www.whitewateronline.com

WhiteWater
WATER & WASTEWATER SOLUTIONS

DISTRIBUTION SYSTEM WATER QUALITY

This report summarizes only those items detected during sampling - not all contaminants that are monitored.

Microbial Results	Highest # Positive in a Month	Total # Positive	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform	3	3	1	0	Yes	Naturally present in the environment
E. Coli	N/A	0	*	0	No	Human and animal fecal waste

*Compliance with Fecal Coliform / E. Coli MCL is determined upon additional repeat testing.

Total Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that were found during these assessments.

Assessments	Number Required	Number completed	Number of corrective actions required	Number of corrective actions completed	Assessment Findings
Level 1 Assessment	1	1	1	1	The existing chlorine feed system became inoperable. There were three detections of coliform bacteria in 2016. A new liquid chlorine feed system has been installed.

Monitoring & Reporting Violation—We failed to complete required sampling in a timely manner, which is a monitoring and reporting violation. The contaminants for which monitoring was not done are listed in the table below, with the period during which samples should have been taken.

Contaminant	Date of Violation	Length of Violation	Action Taken to Resolve	Health Effects
Chlorine Residual	7/1/2016	10 days	Submitted Chlorine Residual Report to NHDES	N/A

TESTING FOR LEAD

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. **Town of Bow** 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>.

Lead & Copper	Date(s) Collected	90th Percentile of Sample	Action Level	MCLG	# of Sites sampled	# of Sites Above Action Level	Exceeds Action Level?	Possible Source of Contamination
Lead (ppb)	2016	6	15	0	5	0	No	Corrosion of household plumbing systems
Copper (ppm)		0.20	1.3	1.3			No	Corrosion of household plumbing systems

SOURCE WATER CHARACTERISTICS

The sources of drinking water in the United States (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 storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. These contaminants can also come from gasoline storage, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Additional testing for PFOA and PFOS—PFOA (Perfluorooctanoic Acid) and PFOS (Perfluorooctyl Sulfonate) are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes

Contaminant	Date of Violation	Results	Action Level	Reason for Monitoring
PFOA/PFOS (ppt)	8/1/2016	13	70	To provide Americans, including the most sensitive populations, with a margin of protection from a life-time of exposure to PFOA and PFOS from drinking water, EPA established the health advisory levels at 70 parts per trillion. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. This health advisory level offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

SUMMARY OF FINISHED WATER CHARACTERISTICS

<u>Regulated Contaminants</u>	<u>Date(s) Collected</u>	<u>Highest Detect Value</u>	<u>Range Detected</u>	<u>MCL</u>	<u>MCLG</u>	<u>Violation</u>	<u>Possible Source of Contamination</u>
Inorganic Contaminants							
Barium (ppm)	1/21/15, 7/21/15	0.043	0.038-0.043	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	7/19/16	0.5	n/a	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb) (RAA)**	2016	25.8	2.1-43.9	80	0	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (ppb) (RAA)**	2016	0.9	ND-3.9	60	0	No	By-product of drinking water chlorination

** TTHMs and HAA5s are normally measured by a Running Quarterly Annual Average.

<u>Unregulated</u>	<u>Date(s) Collected</u>	<u>Result or Range</u>	<u>Average</u>	<u>SMCL</u>	<u>ORSG or Health Advisory</u>	<u>Possible Source of Contamination</u>
Inorganic Contaminants						
Sulfate (ppm)	1/21/15, 7/21/15	14	14	250	-	Natural sources
Sodium (ppm)	2015	230-250	237	-	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process.

Sodium is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the New Hampshire Department of Environmental Services at (603) 271-3503.

SOME TERMS DEFINED

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

Level 1 Assessment: A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

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, non-cancer health effects are likely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Total Coliform: A bacteria that indicates other potentially harmful bacteria may be present.

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

90th Percentile: Out of every 10 homes, 9 were at or below this level.



Aeration Treatment System

Key to Tables

- ppm – Parts per million, corresponds to one penny in \$10,000
- ppb – Parts per billion, corresponds to one penny in \$10,000,000
- ppt—Parts per trillion, corresponds to one penny in \$10 billion
- pCi/L – Picocuries per liter (a measure of radioactivity)
- ND – Not detected
- n/a - not applicable
- RAA –Running annual average
- TT—Treatment technique

Source Water Assessment Summary

The NH DES prepared drinking water source assessment reports for all public water systems between 2000 and 2003 in an effort to assess the vulnerability of each of the state's public water supply sources. Included in the report is a map of each source water protection area, a list of potential and known contamination sources, and a summary of available protection options. Since the Town of Bow water system is a new system, it was not assessed at that time. When a source assessment on your system is made it will be published on the NH DES website: <http://des.nh.gov/organization/divisions/water/dwgb/dwspp/dwsap.htm>.

Be assured that the Town of Bow in concert with its certified operator, WhiteWater, Inc., is addressing the concerns as stated in this report and welcomes your input to our planning. If you have any questions, please contact WhiteWater, Inc. at 888 377-7678.



FOR YOUR INFORMATION

In order to ensure that tap water is safe to drink, the New Hampshire Department of Environmental Services (NH DES) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided to public water systems. The Food and Drug Administration (FDA) and New Hampshire 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).

Where to go for more information

New Hampshire Department of Environmental Services (NH DES) (603) 271-3503
<http://des.nh.gov/>

New Hampshire DES Water Division: <http://des.nh.gov/organization/divisions/water/index.htm>



Cross Connection Control and Backflow Protection in your water system

A Cross Connection means any actual or potential physical connection or arrangement between a pipe conveying potable water from a public water system and any non-potable water supply, piping arrangement or equipment including, but not limited to, waste pipe, soil pipe, sewer, drain, other unapproved sources. The Town of Bow recommends the installation of Hose Bibb type vacuum breakers on all outside faucets. This will protect all residents from the potential of backflow into their homes and the potable water system from a hose connection. Studies have shown that hoses are the most commonly unprotected cross connection. The NH DES and the Town of Bow require the physical separation between the public water supply to your home and a private well used for irrigation or other purposes, these instances will be monitored for compliance. For more information please contact Eric Burkett, Cross Connection Coordinator, WWI at 888-377-7678.



Typical Hose
Bibb Vacuum
Breaker