



# Ludlow, Vermont

*A Better Place To Live, Work & Play*

## LUDLOW VILLAGE WATER DEPT - VT0005323 Consumer Confidence Report – 2019

The Village of Ludlow Water Department is pleased to present you with the Annual Water Quality Report for the calendar year of 2019. Included are details regarding where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We continually strive to adopt new and better methods to deliver the best quality drinking water to you every day.

### Your water comes from:

Source Name	Source Water Type
DW-2 (TW99-1)	Groundwater
INFILTRATION GALLERY	Groundwater
PW-1	Groundwater
UNDERGROUND SPRINGS	Groundwater

The State of Vermont Water Supply Rule requires Public Community Water Systems to develop a Source Protection Plan. This plan delineates a source protection area for our system and identifies potential and actual sources of contamination. Please contact us if you are interested in reviewing the plan.

### Drinking Water Contaminants:

The sources of drinking water (both tap water and bottled water) include surface water (streams, lakes) and ground water (wells, springs). As water travels over the land's surface or through the ground, it dissolves naturally-occurring minerals. It also picks up substances resulting from the presence of animals and human activity. Some "contaminants" may be harmful. Others, such as iron and sulfur, are not harmful. Public water systems treat water to remove contaminants, if any are present.

In order to ensure that your water is safe to drink, we test it regularly according to regulations established by the U.S. Environmental Protection Agency and the State of Vermont. These regulations limit the amount of various contaminants:

**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**, may come from a variety of sources such as storm water run-off, agriculture, and residential users.

**Radioactive contaminants**, which can be naturally occurring or the result of mining activity

**Organic contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also come from gas stations, urban storm water run-off, and septic systems.

## Water Quality Data:

The table below lists all the drinking water contaminants that we detected during the past year. It also includes the date and results of any contaminants that we detected within the past five years if tested less than once a year. The presence of these contaminants in the water does not necessarily show that the water poses a health risk.

**Terms and abbreviations** - In this table you may find terms you might not be familiar with. To help you better understand these terms we have provided the following definitions:

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements 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 our water system.

**Level 2 Assessment:** A Level 2 Assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**Locational Running Annual Average (LRAA):** The average of sample analytical results for samples taken at a particular monitoring location during four consecutive calendar quarters.

**Maximum Contamination Level (MCL):** The “Maximum Allowed” MCL is 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.

**Maximum Contamination Level Goal (MCLG):** The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLG’s allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. Addition a disinfectant may help control microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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 disinfectants in controlling microbial contaminants.

**Nephelometric Turbidity Unit (NTU):** NTU is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Parts per million (ppm) or Milligrams per liter (mg/l):** (one penny in ten thousand dollars)

**Parts per billion (ppb) or Micrograms per liter (ug/l):** (one penny in ten million dollars)

**Parts per trillion (ppt) or Nanograms per liter (ng/l):** (one penny in ten billion dollars)

**Picocuries per liter (pCi/L):** a measure of radioactivity in water

**Running Annual Average (RAA):** The average of 4 consecutive quarters (when on quarterly monitoring); values in table represent the highest RAA for the year.

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

**90th Percentile:** Ninety percent of the samples are below the action level. (Nine of ten sites sampled were at or below this level).

**Per- and polyfluoroalkyl substances (PFAS):** a group of over 4,000 human-made chemicals (they do not occur naturally) that have been used in industry and consumer products worldwide and includes:

- **(PFNA): Perfluorononanoic Acid**
- **(PFOA): Perfluorooctanoic Acid**
- **(PFOS): Perfluorooctane Sulfonic Acid**
- **(PFHpA): Perfluoroheptanoic Acid**
- **(PFHxS): Perfluorohexane Sulfonic Acid**
- **(11Cl-PF3OUdS): 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic Acid**
- **(9Cl-PF3ONS): 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid**
- **(DONA): 4,8-Dioxa-3H-perfluorononanoic Acid**
- **(HFPO-DA): Hexafluoropropylene Oxide Dimer Acid**
- **(NEtFOSAA): N-ethyl perfluorooctanesulfonamidoacetic Acid**
- **(NMeFOSAA): N-methyl perfluorooctanesulfonamidoacetic Acid**

- (PFBS): Perfluorobutane Sulfonic Acid
- (PFDA): Perfluorodecanoic Acid
- (PFD<sub>o</sub>A): Perfluorododecanoic Acid
- (PFH<sub>x</sub>A): Perfluorohexanoic Acid
- (PFTA): Perfluorotetradecanoic Acid
- (PFTrDA): Perfluorotridecanoic Acid
- (PFUnA): Perfluoroundecanoic Acid

**Detected Contaminants – Village of Ludlow Water Department:**

Disinfection Residual	RAA	RANGE	Unit	MRDL	MRDLG	Typical Source
Chlorine	0.179	0.030 - 0.510	mg/l	4	4	Water additive to control microbes

Chemical Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
Fluoride	09/09/2019	0.91	0.5 - 0.91	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	07/31/2019	0.3	0.3 - 0.3	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Disinfection By-Products	Collection Year	Highest LRAA	Range	Unit	MCL	MCLG	Typical Source
Total Trihalomethanes	2019	4	4 - 4	ppb	80	0	By-product of drinking water chlorination

Lead and Copper	Collection Year	90th Percentile	Range	Unit	AL*	Sites Over AL	Typical Source
Lead	2017	2.2	0 - 2.4	ppb	15	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	2017	0.27	0.029 - 0.53	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

\*The lead and copper AL (Action Level) exceedance is based on the 90th percentile concentration, not the highest detected result.

**Violation(s) that occurred during the year:**

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. The below table lists any drinking water violations we incurred during 2019. A failure to perform required monitoring means we cannot be sure of the quality of our water during that time.

Type	Category	Analyte	Compliance Period
MONITORING, ROUTINE MAJOR	Failure to Monitor	Nitrate	04/01/2019 - 06/30/2019

**Corrective Action:** *The Village of Ludlow Water Department violated a drinking water standard for the reporting that was due June 30<sup>th</sup>. The report was one-month late. Even though this was not an emergency, as a water customer, you have a right to know what happened and what we did to correct the violation. The Water Department staff has set up a schedule for water sample monitoring that can be tracked by calendar and on the computer to prevent the monitoring omissions in the future.*

### Health Information Regarding Drinking Water:

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 microbiological contaminants are available from EPA's Safe Drinking Water Hotline (1-800-426-4791).

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. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline.

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. The Village of Ludlow Water Department 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 drinking 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>.

### Uncorrected Significant Deficiencies:

The system is required to inform the public of any significant deficiencies identified during a sanitary survey conducted by the Drinking Water and Groundwater Protection Division that have not yet been corrected. For more information please refer to the schedule for compliance in the system's Operating Permit.

Date Identified	Significant Deficiencies	Facility
02/06/2018	Required Storage Facility Inadequate	ST001-Godfrey Water Storage Tank

**Corrective Action:** *The Godfrey Storage Tank Project was underway in 2019. The engineering/permitting was completed and new hydraulics and automatic valving were installed to properly manage the stratification and chlorination inside the tank. This action should correct the identified deficiency.*

➤ **Per- and Polyfluoroalkyl Substances (PFAS) are contaminants you may see reported in your 2019 Village of Ludlow Consumer Confidence Report (CCR) for the first time.**

### What are PFAS?

PFAS are a group of over 4,000 human-made chemicals (they do not occur naturally) that have been used in industry and consumer products worldwide since at least the 1950s. These chemicals are used to make

household and commercial products that resist heat and chemical reactions and repel oil, stains, grease, and water. Some common products that may contain PFAS include non-stick cookware, water-resistant clothing and materials, cleaning products, cosmetics, food packaging materials, and some personal care products. Due to their resilient chemical nature, they don't readily degrade once they are released into the environment. In addition, the common use of these chemicals in industry and consumer products has led to their widespread impact on the environment. The impact of these chemicals on your drinking water continues to be studied.

### **Why are PFAS being tested in my drinking water?**

In May of 2019, Act 21 (S.49), an act relating to the regulation of per- and polyfluoroalkyl substances (PFAS) in drinking and surface waters, was signed by Governor Scott. This Act provides a comprehensive framework to identify PFAS contamination and to issue new rules to regulate PFAS levels in drinking water.

### **What if PFAS have been detected in my drinking water?**

Act 21 set an interim standard for the detected concentration of five PFAS in drinking water, or the combined concentration of any of the 5 PFAS, which should not exceed **20 parts per trillion (ppt)**. The interim standard is based on the Health Advisory established by the Vermont Department of Health. The five PFAS are:

- **(PFNA):** Perfluorononanoic Acid
- **(PFOA):** Perfluorooctanoic Acid
- **(PFOS):** Perfluorooctane Sulfonic Acid
- **(PFHpA):** Perfluoroheptanoic Acid
- **(PFHxS):** Perfluorohexane Sulfonic Acid

If your water has been tested and the **sum any of the five PFAS listed above is confirmed to exceed 20 ppt**, a "Do Not Drink Notice" will be issued informing you not to use your water for drinking or cooking, brushing teeth, making ice cubes, making baby formula, washing fruits and vegetables or any other consumptive use. You will be advised to use another source of water for consumption which may include bottled water.

An additional 13 PFAS were required to be tested for, per Act 21. These additional 13 PFAS, listed below, currently do not have an established health-based standard and are not counted toward the combined standard of 20 ppt:

- **(11Cl-PF3OUdS):** 11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic Acid
- **(9Cl-PF3ONS):** 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid
- **(DONA):** 4,8-Dioxa-3H-perfluorononanoic Acid
- **(HFPO-DA):** Hexafluoropropylene Oxide Dimer Acid
- **(NEtFOSAA):** N-ethyl perfluorooctanesulfonamidoacetic Acid
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- **(PFDA):** Perfluorodecanoic Acid
- **(PFDoA):** Perfluorododecanoic Acid
- **(PFHxA):** Perfluorohexanoic Acid
- **(PFTA):** Perfluorotetradecanoic Acid
- **(PFTrDA):** Perfluorotridecanoic Acid
- **(PFUnA):** Perfluoroundecanoic Acid

### **Where can I learn more about PFAS in drinking water?**

For information about the health effects of PFAS, please visit [www.healthvermont.gov/water/pfas](http://www.healthvermont.gov/water/pfas) or call the Vermont Department of Health at 1-800-439-8550. If you have specific health concerns, contact your health care provider.

**Questions:**

If you have any questions regarding the Village of Ludlow's water service, please feel free to contact the Water Department. We want our water customers to be informed about their water quality. You are welcome to attend any of the Water Commission's regularly scheduled meetings that are held on the 1<sup>st</sup> Tuesday of the month at 5:30 pm in the Howard Barton, Jr. Conference Room, or feel free to stop by the Water/Wastewater Office located at 212 Pleasant Street Extension.

**Owner/Official:**

Village of Ludlow Water Department  
PO Box 359 (37 Depot Street)  
Ludlow, VT 05149

- Municipal Office/Business Office: (802) 228-2841
- Water & Wastewater Plant Office: (802) 228-8431
- Wastewater Plant Physical Location: 212 Pleasant Street Extension
- Water Plant Physical Location: 34 Snell Hill Road
- [wwtf@tds.net](mailto:wwtf@tds.net)

**Water Superintendent**

Scott Murphy, Ludlow Municipal Manager

**Chief Operator**

Charles M. Craig

**Assistant Operator #1**

Joseph Gaudiana

**Assistant Operator #2**

Christopher Strong