Annual Drinking Water Quality Report for 2008
Highland Water District
12 Church Street, Highland N.Y. 12528
(Public Water Supply ID#NY5503368)

INTRODUCTION

To comply with State regulations, the Highland Water District, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards and we are proud to report that our system did not violate a maximum contaminant level. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact Wesley L. Monica, Water & Sewer Administrator, at (845) 691-2400. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Town Board meetings. The meetings are held on the second Wednesday of every month, at the Town Hall, 12 Church Street, Highland, N.Y.

WHERE DOES OUR WATER COME FROM?

In general, 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 can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water sources are the Hudson River and four upland reservoirs. One horizontal and three vertical wells, drilled into Illinois Mountain, are used as supplemental sources for the reservoirs. The reservoirs and wells are located behind the John Jankiewicz Water Plant at 60 Reservoir Road, Highland, NY 12528. During 2008, our system did not experience any restriction of our water source. The water is chemically conditioned, clarified, filtered, and chlorinated prior to distribution.

FACTS AND FIGURES

Our water system serves approximately 5000 people through 1,620 service connections. The total amount of water produced in 2008 was 226,856,300 gallons. The daily average was 621,577 gallons, and our single highest day was 956,100 gallons. The amount of water delivered to customers was 132,485,530 gallons. This leaves 94,370,770 gallons unrecorded, which is a combination of flushing

water mains, fighting fires, leakage, and inaccurate meter recording. In 2008, water customers were charged $3.75 per 1,000 gallons of water.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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) or the Ulster County Health Department at (845) 340-3010.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants							
Turbidity *1	No	9/10/08	0.32	NTU	N/A	TT= <1.0 NTU	Soil runoff
Turbidity *1	No	9/08	99.6% <0.3	NTU	N/A	TT= 95% of samples <0.3 NTU	Soil runoff
Inorganic Contaminants							
Barium	No	6/12/08	0.007	mg/l	2	2	Erosion of natural deposits
Chloride	No	6/12/08	22	mg/l	N/A	250	Naturally occurring
Iron	No	6/12/08	5	ug/l	N/A	300	Naturally occurring
Lead *2	No	5/18/06 5/18/06	27 86	ug/l	0	AL=15	Corrosion of household plumbing
Copper *3	No	5/18/06	0.891	mg/l	1.3	AL=1.3	Corrosion of household plumbing
Sodium *4	No	6/12/08	11.2	mg/l	N/A	N/A	Naturally occurring
Sulfate	No	6/12/08	11	mg/l	N/A	250	Naturally occurring
Nitrate *5	Yes*	6/15/06	0.21	mg/l	10	10	Erosion of natural

							deposits, runoff from fertilizer use, sewage, leaching from septic tanks
Nitrite *6	Yes*	6/15/06	<0.01	mg/l	1	1	Erosion of natural deposits, runoff from fertilizer use, sewage, leaching from septic tanks
Disinfection By-products							
Total Trihalomethanes *7	No	8/08	66 * Range: 17-123	ug/l	N/A	80	By-product of drinking water chlorination
Haloacetic Acids *8	No	11/08	36 * Range: 10-60	ug/l	N/A	60	By-product of drinking water chlorination
Chlorine Residule *9	No	8/08	1.9	mg/l	N/A	4*	By-product of drinking water chlorination

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Notes:

*1- Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement (0.32 NTU) for the year occurred on 9/10/08. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Although September 2008 was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

*2- Twenty-three samples were collected in our water system and the range of detection was (<1-86). The 90^{th} percentile value of the 23 sites tested was the third highest value (12ug/l). A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90^{th} percentile is equal to or greater than 90% of the lead values detected at your water system. The action level for lead was exceeded at 2 of the sites tested.

*3- Twenty-three samples were collected in our water system and the range of detection was (0.025-0.891). The 90^{th} percentile of the 23 sites tested was the third highest value (0.280mg/l). The action level for copper was not exceeded at any of the sites tested.

*4- Water containing more than 20mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

*5- In 2006, our level detected for Nitrate was well below the MCL. However, due to an oversight on our part, Nitrate samples for 2007 and 2008 were not taken and thus we were in violation of Section 5-1.51 and its associated monitoring requirements found in Section 5-1.52 Table 8C of the New York State Sanitary Code. A Nitrate sample taken on 2/2/09 with a result of (<0.20mg/l) was well below the MCL.

*6- In 2006, our level detected for Nitrite was well below the MCL. However, due to an oversight on our part, Nitrite samples for 2007 and 2008 were not taken and thus we were in violation of Section 5-1.51 and its associated monitoring requirements found in Section 5-1.52 Table 8C of the

New York State Sanitary Code. A Nitrite sample taken on 2/2/09 with a result of (<0.01mg/l) was well below the MCL.

*7- This level represents the highest annual average calculated from the data collected.

*8- This level represents the highest annual average calculated from the data collected.

*9- Value presented represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. MRDLs are currently not regulated but in the future they will be enforceable in the same manner as MCLs.

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.

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.

Maximum Residual Disinfectant Level (MRDL): 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.

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 the use of disinfectants to control microbial contamination.

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

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

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

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

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

WHAT DOES THIS INFORMATION MEAN?

We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements. It should be noted that the action level for lead was exceeded at two of the sites tested. The water level for lead exceeded the Action Level of 15ug/l in more than 5% but fewer than 10% of the homes tested. We are required to present the following information on lead in drinking water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The Highland Water District 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 (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

LONG TERM 2 ENHANCED SURFACE WATER TREATMENT RULE & STAGE 2 DISINFECTANTS AND DISINFECTION BYPRODUCTS RULE

To control microbial contaminants, in 1989 the EPA promulgated the Surface Water Treatment Rule, which established maximum contaminant level goals for viruses, bacteria and Giardia. The Surface Water Treatment Rule also includes filtration and disinfection requirements which are treatment technique requirements to protect against the potential adverse health effects of exposure to these microbial pathogens. We add chlorine to disinfect the drinking water and protect it from microbes. However, chlorine can react with naturally-occurring materials in the water to form byproducts, such as trihalomethanes and haloacetic acids, which may pose health risks. Amendments to the Safe Drinking Water Act in 1996 require the EPA to develop rules to balance the risks between microbial contaminants and disinfection byproducts. It is important to strengthen protection against microbial pathogens, especially Cryptosporidium, and at the same time, reduce potential health risks of disinfection byproducts. The Stage 1 Disinfectants and Disinfection Byproducts Rule, announced in 1998, and the Long Term 1 Enhanced Surface Water Treatment Rule, finalized in January 2002, were the first phase of a set of rules under the 1996 Safe Drinking Water Act Amendments. These rules cover public water systems that use surface or ground water under direct influence of surface water and serve fewer than 10,000 people. In January 2006, the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) & Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) were promulgated. These regulations build upon the earlier rules. The LT2ESWTR requires our system to monitor source water for microbial contaminants to determine if the source is vulnerable to contamination and may require additional treatment. The Stage 2 DBPR requires our system to complete an Initial Distribution System Evaluation to characterize disinfection byproduct levels in our distribution system and identify locations to monitor disinfection byproducts for compliance.

Chlorination of drinking water is considered to be one of the major health advances of the past century, as it may well have saved millions of lives by preventing the spread of disease. We add chlorine to accomplish "disinfection" which is the final protection against water borne disease. However, we are now discovering that there may be long-term consequences to using chlorinated water, such as an increased risk of bladder cancer, reproductive concerns for women, and other adverse health effects. If these potential risks are of concern to you, you may want to consider an additional "treatment" tool at home, in the use of 'chlorine reducing' carbon filters. If you choose to use such filters, please be aware of the need to maintain them, as a dirty filter can be more of a hazard than no filter at all.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

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 your drinking water meets health standards. During 2007 and 2008, due to an oversight on our part, we did not test for Nitrates and Nitrites and therefore were in violation. Nitrate and Nitrite samples were taken on 2/2/09 and the results were well below the MCLs.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

SYSTEM IMPROVEMENTS

In 2008, construction was completed on a 259,000 gallon water storage tank, chlorine booster station and valve vault on northern 9W. New water mains were installed on Upper North Road, Lumen Lane and a section of 9W. All were part of the Northern Light Industrial Extension project.

CLOSING

Included in this years report is an attached “source water assessment” that the Ulster County Health Department has provided. This report provides additional information regarding the conditions of our watersheds. Also included is a baseline monitoring program summary from the New York State Department of Health which provides information on the testing of our raw (before treatment) and finished (after treatment) water. Samples were collected and analyzed for PCB concentrations prior to dredging of the Upper Hudson River.

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. This report will also be available on the web at www.townoflloyd.com. Please contact our office at (845)691-2400 if you have questions.