

***Annual Drinking Water Quality Report for 2011
Lusk and Stony Lonesome Water Treatment Plants
Directorate of Public Works
West Point, New York
(Public Water Supply ID# 3511887 and 3511338)***

INTRODUCTION

The Directorate of Public Works (DPW) is issuing this annual report to inform you of your drinking water quality and raise your awareness of the need to conserve our drinking water sources. Your tap water continues to meet all New York State drinking water health standards. This report provides an overview of 2011'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 would like to learn more about your drinking water, please call DPW Environmental Management Division, at 938-8000 anytime between 7:45 a.m. and 4:00 p.m. (Monday through Friday).

WHERE DOES OUR WATER COME FROM?

In general, drinking water (both tap water and bottled water) comes from 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 materials or other contaminants. Contaminants that may be present in source water include: microbiological; inorganics; pesticides and herbicides; organic chemicals; and radioactive substances. In order to ensure that tap water is safe to drink, the State and the Environmental Protection Agency (EPA) has set limits for the amount of certain contaminants in water provided by public water systems.

West Point's water sources are from the lakes and ponds in the USMA training areas west of Route 9W. The water withdrawn from the lakes is filtered to remove particulate matter. Chlorine is added to kill microorganisms. Fluoride is also added for tooth protection and sodium carbonate is used for corrosion control prior to distribution.

FACTS AND FIGURES

Our water system serves 11,500 people through 1,560 service connections. The total water produced in 2011 was 1,186 million gallons. The average water volume treated is 3.25 million gallons per day. During our highest single production day at our Lusk Plant, we treated 2.82 million gallons of water. The highest single combined production day for Lusk and Stony was 4.98 million gallons of water. These values do not account for an estimated system loss of 10%, attributable to flushing mains, fighting fires or from system leaks.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As State regulations require, we routinely test your drinking water for numerous potential contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. In 2004 we initiated the State required testing for a group of chemicals called haloacetic acids, which like trihalomethanes, are formed by the reaction of chlorine with organic matter present in the water. Table 1 depicts which compounds were detected in your drinking water. The State sets the frequency for testing so some contaminants are tested monthly, annually or on a 3 or 5 year cycle.

It should be understood that drinking water is not “pure” or sterile. All drinking water, including bottled drinking water, may contain small amounts of some impurities. The presence of impurities 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 Orange County Department of Health at (845) 291-2331.

Due to the lead levels in the tested residence sampling, you should know that infants and young children are typically more vulnerable to lead in drinking water than the general population. 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. If you are concerned about elevated lead levels in your home’s water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Source Water Assessment Summary

U.S.M.A – Stony NY3511338

The NYS DOH has evaluated this PWS’s susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This assessment found an elevated susceptibility to contamination for this source of drinking water. Land cover and its associated activities within the assessment area do not increase the potential for contamination. There is a high density of sanitary wastewater discharge which results in elevated susceptibility for numerous contaminant categories. In addition, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to further raise the potential for contamination (particularly for protozoa). There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: RCRA. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting Orange County Department of Health at (845) 291-2331.

U.S.M.A – Lusk NY3511887

The NYS DOH has evaluated this PWS's susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This assessment found an elevated susceptibility to contamination for this source of drinking water. Land cover and its associated activities within the assessment area do not increase the potential for contamination. There is a high density of sanitary and non-sanitary wastewater discharge which results in elevated susceptibility for nearly all contaminate categories. In addition, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to considerably raise the potential for contamination (particularly for protozoa). There are no noteworthy contamination threats associated with other discrete contaminant sources. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting Orange County Department of Health at (845) 291-2331.

Table 1 Analytical Testing Summary

Parameters	Violation Yes/No	Date of Sample (frequency)	Level Detected (Max)	Regulatory Limit (MCL, TT or AL)	MCLG	Unit Measurement	Likely Source of Contamination
Turbidity ⁽¹⁾	No	Daily (24hr/ 7 days) Monthly	TT Lusk = 1.1 Stony = 0.94 TT Lusk = 99.91 % Stony = 99.91 %	TT = 1 TT = 95% of Samples ≤ 0.3	N/A	NTU % of samples ≤ 0.3	Soil Runoff
Barium	No	Aug 11 Annually	Lusk = 0.009 Stony = 0.006	MCL= 2	N/A	mg/l	Naturally occurring, Road salt, Landfills
Chloride	No	Aug 11 Annually	Lusk = 19 Stony = 27	MCL= 250	N/A	mg/l	Naturally occurring, Road salt, Landfills
Copper	No	Aug 11 Annually	Lusk = 0.006 Stony = 0.006	MCL= 1.3	N/A	mg/l	Naturally occurring, Road salt, Landfills
Fluoride	No	Monthly	Lusk = 1.1 Stony = 1.08	MCL = 2.2	N/A	mg/l	Water additive that prevents tooth decay
Manganese	No	Aug 11 Annually	Lusk = 0.004 Stony = 0.001	MCL= 0.3	N/A	mg/l	Naturally occurring, Road salt, Landfills
Nitrate	No	Aug 11 Annually	Lusk = ND Stony = 0.13	MCL= 10	N/A	mg/l	Naturally occurring, Road salt, Landfills
Sodium	No	Aug 11 Annually	Lusk = 18.2 ⁽²⁾ Stony = 19.8 ⁽²⁾	20 for people on severely restricted diets	N/A	mg/l	Naturally occurring, road salt or animal waste.
Sulfate	No	Aug 11 Annually	Lusk = 6.44 Stony = 7.81	MCL = 250	N/A	mg/l	Naturally occurring
Zinc		Aug 11 Annually	Lusk = 0.03 Stony = ND	MCL = 5.0	N/A	mg/l	

Parameters	Violation Yes/No	Date of Sample (frequency)	Level Detected (Max)	Regulatory Limit (MCL, TT or AL)	MCLG	Unit Measurement	Likely Source of Contamination
Total Trihalomethanes (TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	No	Quarterly 2011	Lusk = 57.3 ⁽³⁾ Range = 25.2-89.3 Stony = 48.7 ⁽³⁾ Range = 25.1-77.1	MCL= 80	N/A	ug/l	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs & HAC5 are formed when source water organic matter reacts with Chlorine to produce the TTHM & HAC5.
Haloacetic acids (HAC5 -- Monochloroacetic acid, Trichloroacetic acid, Dibromoacetic acid, Dichloroacetic acid, Monobromoacetic acid)	No	Quarterly 2011	Lusk =33.5 ⁽³⁾ Range = 26-43 Stony = 33.3 ⁽³⁾ Range = 24-45	MCL = 60	N/A	ug/l	
Gross Alpha	No	2006	Lusk – 0.1 Stony – 0.7	MCL - 15	0	pCi/l	Erosion of natural deposits
Copper	No	Aug-Sep 2011	Lusk Range=0.038-0.360 90% = 0.316 ⁽⁴⁾ Stony Range=0.012-0.287 90% =0.263 ⁽⁴⁾	AL = 1.3	1.3	mg/l	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Lead	No	Aug-Sep 2011	Lusk Range=1-17 90% = 7 ⁽⁵⁾ Stony Range=1 - 24 90% =14 ⁽⁵⁾	AL = 15	0	ug/l	Corrosion of household plumbing systems; Erosion of natural deposits.

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 (1.1 NTU) for the year occurred in May 2011. 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. A treatment technique violation occurs if more than 5% of the composite filter effluent measurements taken each month exceed the performance standard values.

(2) - Water containing more than 20 mg/l (sodium) should not be used for drinking by people on severely restricted sodium diets.

(3) – This level represents the annual quarterly average calculated from data collected.

(4) – The copper action level is exceeded if the concentration of copper in more than ten percent of one liter first-draw tap water samples during any monitoring period and computed in accordance with the Public Water System Subpart exceeds 1.3 milligrams per liter (1.3 mg/l). The level presented represents the 90th percentile of the 20 sites tested. 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 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 20 samples were collected at your water system and the 90th percentile value was the 18th value. The action level for copper was not exceeded for the sites tested.

(5) – The lead action level is exceeded if the concentration of lead in more than ten percent of one liter first-draw tap water samples during any monitoring period and computed in accordance with the Public Water System Subpart exceeds 15 micrograms per liter (15 ug/l). The level presented represents the 90th percentile of the 20 sites tested. 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 90th percentile is equal to or greater than 90% of the lead values detected at your water system. In this case, 20 samples were collected at your water system and the 90th percentile value was the 18th value. The action level for lead was not exceeded for the sites tested.

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.

Definitions:

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

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 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.

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

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

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

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

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

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

WHAT DOES THIS INFORMATION MEAN?

As Table 1 indicates, our system had no violations. Although several parameters were detected, all results were below New York State Water Quality standards (see Table 1).

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2011, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

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 caused by microorganisms or pathogens in drinking water than the general population. Immuno-compromised people such as people with cancer undergoing chemotherapy, people 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/Centers for Disease Control (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).

INFORMATION ON FLUORIDE ADDITION

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2011 monitoring showed fluoride levels in your water were in the **optimal range 100 % of the time**. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Here are a number of reasons why it is important to conserve water:

- ♦ 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.

Saving water used in the home reduces the amount of sewage that must be treated at the West Point Target Hill Wastewater Treatment Plant. The sewage inflows to the plant are currently near its design capacity of two million gallons per day. Reducing sewage flows is the only way that WP can avoid the expense of having to enlarge or replace the treatment plant.

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.
- ♦ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up 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.
- ♦ Do not leave the faucet running while shaving.
- ♦ If your shower heads are older models that have a high flow rate, consider replacing them with current water saving technology that use 2.0 or less gallons per minute.

We performed a water conservation study looking for opportunities to conserve water. The major opportunity for cost effective water conservation was public awareness and individual efforts to conserve water. Identifying leaks, using and maintaining water conserving devices and replacing old devices with water conservation devices are the best ways to cost effectively conserve water. Notifying us of problems in a timely manner helps us conserve water and serve you.

SYSTEM IMPROVEMENTS

The Lusk Water Treatment Plant continued to install new filter valves and electronic controls.

A water leak survey of the entire distribution system was completed September 2011. All water leaks detected have been repaired.

An additional 250,000 gallon water storage tank was put in service serving the Stony Lonesome System.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call DPW Environmental Management Division (ext 8000) if you have questions.

The DPW strives to continually provide you with safe and dependable drinking water. Occasionally, systems need to be serviced, which could cause temporary disruption to service. We request your patience and understanding during these events, but do not hesitate to contact your service desk at 938-2316/4031 if you experience a water problem. The DPW appreciates your concern and interest in your drinking water supply.