



**Annual Drinking Water Quality Report
For the Year 2016
"THE WATER WE DRINK"
WAYNE COUNTY WATER & SEWER AUTHORITY
3377 Daansen Road, Walworth, N.Y. 14568**

For water customers in the Wayne County Water and Sewer Authority's **Palmyra-Macedon-Walworth Consolidated Service Area** (CSA) (PWS ID NY #5801257) supplied by Monroe County Water Authority, Town of Ontario and the Village of Palmyra, located in the towns of Palmyra, Macedon, Walworth and portions of the Town of Marion, Wayne County, NY.

INTRODUCTION

To comply with State regulations, the Wayne County Water & Sewer Authority 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. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. 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 Mr. Martin J. Aman, Executive Director, Phone: (315) 986-1929, Fax: (315) 986-1687 or email: maman@wcwsa.org. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled board meetings. The meetings are held on the fourth (4th) Tuesday of each month at 4:00 p.m. at the Wayne County Water & Sewer Authority Office, 3377 Daansen Road, Walworth. Or you may visit our website at www.wcwsa.org.

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, in some cases, radioactive material, 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 Environmental Protection Agency (EPA) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the Food and Drug Administration's (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

For this Service Area, the Wayne County Water and Sewer Authority receives its water from two major suppliers which take their water from Lake Ontario: Monroe County Water Authority and the Town of Ontario. The Lake Ontario water is supplied primarily to the towns of Walworth, Macedon and portions of the Towns of Palmyra and Marion. In addition, one smaller supplier to the Wayne County Water and Sewer Authority obtains its water from Canandaigua Lake. This supplier is the Village of Palmyra, which supplies a modest amount of water into the Supply Area. Canandaigua Lake water is supplied primarily to a portion of the Town of Palmyra. A very small portion of the water supplied via Monroe County Water Authority also comes from Hemlock Lake, which is mixed with the Lake Ontario supply and can be distributed throughout the Palmyra-Macedon-Walworth Consolidated service area.

The treatment plants owned by the Town of Ontario and the Monroe County Water Authority all obtain water through intake lines located within Lake Ontario. Lake Ontario, as a part of the Great Lakes system, provides a tremendous source of treatable fresh water. Overall, the raw

water quality is very high, but is subject to seasonal variations in temperature, turbidity (clarity), and levels of aquatic plant life such as algae, etc. Canandaigua Lake and Hemlock Lake are part of the Finger Lakes grouping with both lakes providing a very high raw water quality. These lakes are also subject to the seasonal variations.

To effectively produce potable water, an extensive treatment process consisting of coagulation, filtration, and chlorination of raw water is utilized. Coagulants are initially added to the incoming raw water to enhance particle removal during filtration. Multi-media filters containing sand, anthracite and granular activated carbon (GAC) are normally utilized for the removal of these particles as water passes through the media. This filtration process is the most important aspect of the treatment. During filtration, fine organic and inorganic particulate matter is removed and an optimum turbidity (clarity of the water) is the result. Turbidities of the water purchased by the Wayne County Water and Sewer Authority are well below the allowable .3 NTU (turbidity unit of measurement) standard. Chlorine is added in both the first and the last stage of treatment to disinfect the water and to maintain a residual disinfectant throughout the water distribution system that delivers water to your home. Each supplier also fluoridates their water to aid in tooth protection.

SOURCE WATER ASSESSMENT PROGRAM

The New York State Department of Health (NYSDOH) has evaluated the susceptibility of water supplies statewide for potential contamination under the Source Water Assessment Program (SWAP). The assessment for Lake Ontario source did not find any noteworthy potential threats of contamination. While an inventory of the land area near the Lake Ontario intakes found numerous potential sources of contamination, the intakes are far enough from shore to not be directly impacted by shoreline activities. Hemlock Lake also is not very susceptible because of size and the system's controlled watershed. For Canandaigua Lake, the assessment found a moderate susceptibility to contamination for this source of drinking water. The amount of agricultural lands in this assessment area results in elevated potential for protozoa, phosphorus, disinfection by-product (DBP) precursors and pesticides contamination. While there are some wastewater treatment facilities present, permitted discharges do not likely represent an important threat to source water quality based on their density in the assessment area. However, it appears that the total amount of wastewater discharged to surface water in this area is high enough to further raise the potential for contamination (particularly for protozoa). There are no noteworthy contamination threats associated with other discrete contaminant sources. Because storm and waste water contamination remain potential threats to any source water, the water provided to you undergoes rigorous treatment and testing prior to its delivery. For more information on the SWAP summary and how you can help protect the source of your drinking water contact NYSDOH.

FACTS AND FIGURES

This water system serves approximately 24,900 people through 7,125 service connections. The total water purchased by W.C.W. & S.A. in 2016 for the Palmyra-Macedon-Walworth Consolidated Service Area was approximately 665 million gallons. The total amount of water delivered to customers was approximately 539.4 million gallons. This leaves an unsold total of approximately 125.6 million gallons water used for fire fighting and flushing of mains, as well as lost water through leaks, slowed meters, unauthorized use of water, etc. In 2016, water customers were charged \$4.25 per 1,000 gallons of water, and a \$20.00 basic service charge per quarter. This rate would result in an annual water charge of \$352.00 for a customer using 64,000 gallons per year, an average use for a family of three. ***The basic service charge reflects a ¾" – 1 ½" meter; meters larger than 1 ½" have a basic service charge based on size and type of meter.

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 Wayne County Water & Sewer Authority and its suppliers send their samples to independent New York State certified water quality testing laboratories. The accompanying table 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 log on to EPA's Drinking Water Website: www.epa.gov/safewater/. If you have questions or concerns about the quality of your water, please feel free to contact the Water Authority or the local office of the NYSDOH.

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The Wayne County Water and Sewer Authority is required to collect and analyze at least twenty (20) total coliform samples from various points within the Authority's Palmyra-Macedon-Walworth Consolidated service area per month. The table below shows two (2) positive samples for total coliform and E. Coli taken during the 2016 year. All repeat samples proved to be negative so no violation occurred.

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Unit	Likely Source of Contamination
Total Coliform	No	1/12/16 5/9/16	1 positive sample 1 positive sample	N/A	0	MCL-2 or more positive samples in 1 month	Naturally present in the environment
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG	Regulatory Unit	Likely Source of Contamination
E. Coli	No	1/12/16 5/9/16	1 positive sample 1 positive sample	N/A	0	MCL-2 or more positive samples in 1 month	Human and animal fecal waste

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

The accompanying table shows the **detected results only** of monitoring for the period of January 1 to December 31, 2016, based upon information as provided by our suppliers.

DEFINITIONS OF TERMS IN TABLE

MCL - Maximum Contaminant Level, the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

MCLG – Maximum Contaminant Level Goal, 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.

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

ug/l = microgram (1/1,000,000 of a gram)

per liter = ppb = parts per billion.

pC/L = picoCuries per liter.

NTU - Nephelometric turbidity unit, a measure of the clarity of water.

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

Not Detected = ND – absent or present at less than testing method detection level. All testing methods are EPA approved with the detection limits much less than MCL.

NA=Not applicable

NS = Not Sampled

NR=Not Required

NRS=Not Required to Sample

mg/l = milligram (1/1,000 of a gram) per liter = ppm = parts per million.

MRDL Maximum Residual Level, 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.

MRDLG Maximum Residual Disinfectant Level Goal, 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.

NOTE-Total Hardness can be expressed in grains per gallon. The total Hardness of the water within the Palmyra-Macedon-Walworth Consolidated supply area is generally between 7 and 8 grains per gallon.

<u>Contaminant</u>	<u>Units</u>	<u>Violation Yes/No</u>	<u>MCLG</u>	<u>MCL</u>	<u>Date of Sample</u>	<u>MCWA Shoremont Plant</u>	<u>Town of Ontario Supply</u>	<u>Village of Palmyra</u>	<u>Likely Source</u>
Barium	mg/l	No	2	2	2016	0.018-0.027	0.021	0.020	Erosion of natural deposits
Chloride	mg/L	No	NA	250	2016	25-29	ND	60.7	
Total Trihalomethanes (TTHM) (*footnote #6)	ug/l	No	NA	80	2016	58 (15-70)	40.5 (18-45)	Average 62.23 (41.40-84.20)	By-product of drinking water chlorination
Haloacetic Acids (HAA5) (*footnote #6)	ug/l	No	NA	60	2016	13 (ND-26)	7.5 (ND-10.2)	Average 20.50 (4.39-26.60)	By-product of drinking water chlorination
Radium 226	pCi/L	No	NA	5	2012	N/A	N/A	0.205	Erosion of natural deposits

Contaminant	Units	Violation Yes/No	MCLG	MCL	Date of Sample	MCWA Shoremont Plant	Town of Ontario Supply	Village of Palmyra	Likely Source
Radium 228	pCi/L	No	NA	5	2012	N/A	0.9	0.346	Erosion of natural deposits
Turbidity (*footnote #1)	NTU	No	NA	TT=<5 NTU	2016	0.03-0.08 100%	0.031/0.049 (0.023-0.049)	0.35	Soil Runoff
Turbidity (*footnote #1)	NTU	No	NA	TT=95% of samples <1 NTU	2016	N/A	100%	100%	Soil Runoff
Gross Beta (*footnote 8)	pCi/l	No	N/A	50	2012	N/A	N/A	0.842	Decay of natural deposits and manmade emissions
Iron	mg/l	No	N/A	0.30	2016	N/A	N/A	<0.02	Decay of natural deposits
Fluoride	mg/l	No	2.2	2.2	2016	0.1-2.1	0.90	0.61	Natural and additive which promotes strong teeth
Chromium	ug/l	No	100	100	2015	ND-0.23 (2014)	0.87 (ND-3.2)	ND	Discharge from steel and pulp mills; Erosion of natural deposits
Sodium (*footnote #7)	mg/l	No	NS	NS	2016	14-17	ND	23.0	Naturally occurring
Sulfate	mg/l	No	N/A	250	2016	26-31	ND	21.6	Naturally occurring
Nickel	mg/l	No	NA	NA	2015	N/A	0.0029	0.0011	Erosion of natural deposits
Nitrate	mg/l	No	10	10	2016	0.2-0.36	0.449	0.17	Run off from fertilizer, leaching from septic tanks, erosion of natural deposits

Additional TTHM & HAA5 WCWSA Sampling Results for Pal-Mac-Walw CSA

	Units	Violation Yes/No	MCLG	MCL	Date	Level Detected	Likely Source of Contamination
TTHM (*footnote #6)	ug/l	No	N/A	80	2016	Average 75 (25-94)	By-product of drinking water chlorination
HAA5 (*footnote #6)	ug/l	No	N/A	60	2016	Average 36 (6-59)	By-product of drinking water

Lead & Copper results

Contaminant	Units	Violation Yes/No	MCLG	MCL	MCWA Shoremont Plant	Town of Ontario Supply	WCWSA Results	Source
Copper	ug/l	No	1300	AL=1300	94 (5-500) 2015 *footnote #2	290 (6-1500) 2014 *footnote #2	290 (6-1500) 2014 *footnote #4	Corrosion of household plumbing systems; erosion of natural deposit leaching from wood preservatives
Lead	ug/l	No	0	AL=15	12 (Four) 2015 *footnote 3	4 (ND-13) 2014 *footnote 3	4 (ND-5.3) 2014 *footnote 5	Corrosion of household plumbing systems, erosion of natural deposits

Lead & Copper results for Village of Palmyra						
Contaminant	Units	Violation Yes/No	MCLG	MCL	DATE	Village Of Palmyra
Copper	ug/l	Yes	1300	AL=1300	6/2016	980 (100-1300)
					12/2016	1180 (166-1550)
*footnote #2						
Lead	ug/l	No	0	AL=15	6/2016	3.80 (<0.1-85.0)
					12/2016	4.30 (<0.1-34.40)
*footnote 3						

*footnote 1 (Turbidity) – Turbidity is a measure of the cloudiness of the water. The suppliers test and record it every 8 seconds because it is a good indicator of the effectiveness of our filtration system. For Town of Ontario, the highest single turbidity measurement for the year occurred on 8/01/2016 (0.049 NTU). The number 0.031 NTU represents the average measured and 0.023-0.049 NTU represents the range measured. 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.

*footnote 2 (Copper) – This level represents the 90th percentile of the 30 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, thirty samples were collected from the Town of Ontario water system and the 90th percentile value was (290 ug/l). The numbers 6-1500 ug/l represent the range of copper detected. The action level for copper was exceeded one time in 2014 in the Town of Ontario. 40 samples were collected for the Village of Palmyra and the 90th percentile value was the third highest value 1180 ug/l. The action level for copper has been exceeded at three of the sites tested.

*footnote 3 (Lead) – This level represents the 90th percentile of the 30 sites tested. In this case, thirty samples were collected from the Ontario water system and the 90th percentile value was (4.0 ug/l) for 2014. The numbers ND-13 ug/l represent the range of Lead detected. The action level for Lead was not exceeded at any of the sites tested. 40 samples were collected for the Village of Palmyra. The level represents the 90th percentile of the 40 samples collected. The action level for lead was exceeded at one of the sites tested.

*footnote 4 (Copper) – This level represents the 90th percentile of the 19 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, nineteen samples were collected and the 90th percentile value was (290 ug/l). The numbers 6-1500 ug/l represent the range of copper detected. The action level for copper was exceeded at one of the 19 sites tested in 2014.

*footnote 5 (Lead) – This level represents the 90th percentile of the 19 sites tested. In this case, nineteen samples were collected and the 90th percentile value was (4.0 ug/l) for 2014. The numbers ND-5.3 ug/l represent the range of Lead detected. The action level for Lead was not exceeded at any of the sites tested.

*footnote 6 (LRAA) – This level represents the highest Locational Running Annual Average (LRAA) calculated quarterly from data collected

*footnote 7 (Sodium) – Water containing more than 270 mg/L of sodium should not be used for drinking by people who are on a moderately restricted sodium diet.

*footnote 8 The State considers 50 pc/l to be the level of concern for beta particles.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Please visit our website, www.wcwsa.org for more information on lead.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

WHAT DOES THIS INFORMATION MEAN?

The Village of Palmyra water system was previously in violation for high copper levels in 2014. Although this is not an emergency, as our customers you have a right to know what happened, what you should do, and what is being done to correct the situation. The tests taken in 2014

showed copper levels in the water above the limit or “action level”. The NYS Department of Health required an evaluation of the Village of Palmyra water system to determine what corrective actions would be needed. This evaluation included increased monitoring of customer’s household taps, testing of copper in the source water, and testing of certain water quality parameters in their distribution system. This evaluation was completed and a report was submitted to the N.Y.S. Department of Health in May of 2016. It was determined that the optimal corrosion control method would be the addition of an orthophosphate sequestering agent to the finished water at the Village of Palmyra water treatment facility. This addition of orthophosphate is scheduled to begin in July 2017. Copper is an essential nutrient, but some people who drink water containing copper in the excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilsons Disease should consult their personal doctor.

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).

INFORMATION ON FLUORIDE ADDITION

This system is one of the many New York water utilities providing drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the U.S. Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal level of 0.7 mg/L (parts per million). The State Department of Health requires that we monitor fluoride levels on a daily basis to ensure optimal dental protection. In 2016 the fluoride levels in your water were within 0.1 mg/L of the target level 52% of the time for the Village of Palmyra supply, 97% of the time for Monroe County Water Authority and 90% of the time for Town of Ontario Water Utility. The highest monitoring result was 2.1 mg/L, below the 2.2 mg/L MCL for fluoride.

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 transmission mains, 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.

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 water off while shaving and/or brushing your teeth. Take showers instead of baths.
- 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 can 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.
- Replace older fixtures with water-saving devices.
- When washing your car, use a bucket for washing and turn on the hose only for rinsing.
- Curb lawn watering – water your lawn only when necessary, and water between the hours of 8:00 p.m. - 10:00 a.m.
- Put a layer of mulch around trees and plants to hold water for your plants.
- If you have a swimming pool, fill it during the night when demands on power and water production systems are less.

SYSTEM IMPROVEMENTS:

The Authority continued to work on the distribution system maintenance program. This included flushing of dead end water mains, maintenance and painting of fire hydrants, exercising of main line and gate valves throughout the system and continuation of the residential water meter replacement program throughout the overall service area, also monitoring the cross connection back flow prevention program with three certified backflow testers. As the Authority crews go about the system they are always looking for possible leaks.

CLOSING:

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 and systems, which are the heart of our community. In addition to helping us with the conservation measures as outlined in this report, we also ask for your co-operation in reporting any unusual or suspicious activity around any of our water facilities, including tanks, hydrants, pump stations, etc. We encourage you to notify us immediately at (315) 986-1929 if you observe any suspicious activities, or if you notice any new or unusual wet spots or other signs that may indicate a leak in the water system. As always, please feel free to call at any time if you have any questions or concerns about your water supply or our operation in general.