

2020 Consumers' Annual Report on Water Quality

 Regional **Water** Authority

May 2021

Dear Consumer:

As I write this letter, we continue to respond to the COVID-19 pandemic. At no other time in our lives has reliable access to water for hygiene and to protect the health of our customers and communities been so critical. Rest assured your tap water is safe.

The Regional Water Authority (RWA) provides drinking water that meets or is better than all federal and state drinking water standards.

According to the World Health Organization, the United States Environmental Protection Agency and the American Water Works Association, current treatment methods used by the RWA in our water treatment plants are sufficient to disinfect water for contaminants, including COVID-19.

Groundwater sources cannot carry COVID-19, and existing mandatory testing throughout our distribution system further ensures that water is clean and safe for consumption.

Water is essential not only for public health, but for fire protection, economic growth and the overall quality of life, which is why we take our purpose and part in the community so seriously. For more than 170 years, we have played a vital role in meeting the ever-changing water demands of our region. We are committed to complete transparency about our water quality testing. This Consumers' Annual Report provides you with a summary of our region's drinking water quality in 2020.

Water quality, service, reliability, affordability and sustainability remain at the core of what we do at the RWA. We work hard each and every day to fulfill our purpose to make life better for people by delivering water for life.

We will always provide you with water that is of the highest quality and service that is second to none. That has been our practice for the past decades, and it is our promise for the future.

Be well and stay safe.

Sincerely,



Larry L. Bingaman
President & Chief Executive Officer

This report contains important information about your drinking water. If you require this report in Spanish, please visit rwater.com/water-quality/water-quality-reports.

Este reporte contiene información importante sobre su agua potable. Si necesita este reporte en Español, consulta rwater.com/water-quality/water-quality-reports.

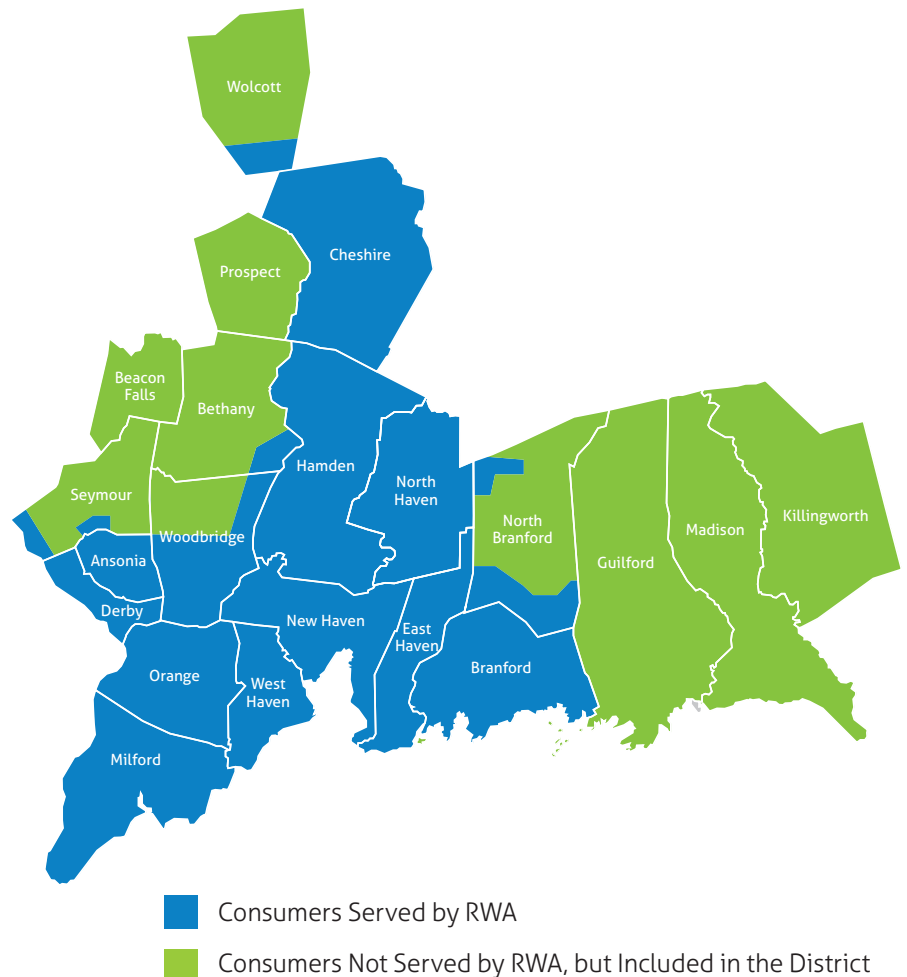
South Central Connecticut Regional Water Authority

90 Sargent Drive
New Haven, CT 06511-5966

Call Us: **203-562-4020**
Monday – Friday, 8 a.m. – 5 p.m.

Write Us: **ask.info@rwater.com**

A five-member Authority and a 21-member Representative Policy Board (RPB) oversee our operations. The Authority meets on the third Thursday of each month at 12:30 p.m., and the RPB meets on the third Thursday of the month at 6:30 p.m. Please call to confirm meeting day and time.



Where Did We Get So Much Water?

The water cycle begins when water falls to the ground as rain, sleet or snow. Water then flows through the watershed to reservoirs or soaks into the ground and is tapped by our wells.

We have 10 active reservoirs and three aquifers. The reservoirs are filled by rivers. Aquifers are natural sand, gravel and bedrock areas below the surface of the ground that are saturated with water, typically from rainfall.

We draw most – about 88 percent – of our water from the 10 reservoirs. We pump the remaining 12 percent of the water from wells in Cheshire, Hamden, Derby and Seymour.

Drinking water is distributed to the region through a 1,700-mile-long network of pipes, pumping stations and storage tanks. Because of this interconnected system, water from two or more sources may be delivered to some neighborhoods. For example, water supplied to parts of Orange and West Haven may come only from

water and all activity on the surrounding land, constantly watching for potential contamination of our supplies.

Here's how you can help us protect source water:

- ▶ Pick up after your pet.
- ▶ Never dump anything in streams, lakes or storm drains.
- ▶ Compost yard waste and use natural fertilizers.
- ▶ Check vehicle fluid levels and repair leaks.
- ▶ Properly dispose of household hazardous waste; visit rwater.com to learn if your community participates in HazWaste Central.

TREAT: Aquifer water is naturally filtered underground. Reservoir water is filtered at our treatment plants. Water from both reservoirs and aquifers is disinfected with chlorine to kill microbes that can cause illness. We add fluoride to prevent dental cavities, as required by Connecticut Department of Public Health (DPH) regulations, and phosphate to minimize corrosion of pipes.



Lake Gaillard or only from West River, while water in other neighborhoods of these towns may come from both sources.

What Do We Do to Make Your Water Safe to Drink?

PROTECT: Our source water protection program focuses on pollution prevention and watershed management. Source water is untreated water from lakes, rivers, streams, ponds, reservoirs, aquifers and springs that serve as a community's water source. Protecting these supplies is one of the best ways to prevent drinking water from becoming polluted. We own more than 27,000 acres of land in the Greater New Haven region and manage it carefully. We vigilantly monitor the quality of the

DISTRIBUTE: We carefully maintain our extensive distribution system to ensure that high-quality water is available on tap anytime you need it.

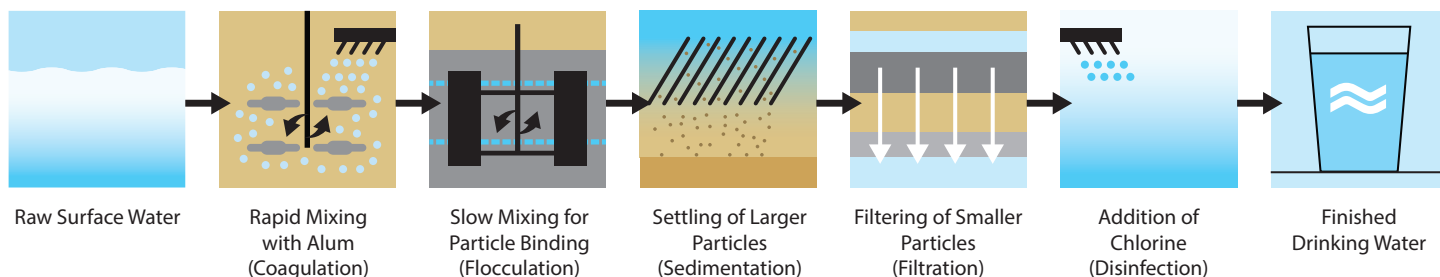
MONITOR: We continually monitor the water treatment process and verify the high quality of our water by testing samples in our state and federally certified laboratory. Based on these test results – which are regularly reported to state health officials – we know that the water we deliver to you meets or is better than all state and federal water quality standards.

Source Water Assessment Information

A source water assessment lists possible contaminants that might affect the quality of your water sources. You can find the DPH Drinking Water Section's assessment of the RWA's sources of water at bit.ly/2H2rJ18.

Transforming Source Water into Drinking Water

Turning raw water into drinking water requires several treatment and purification steps.



How Safe Is Your Water?

In 2020, the RWA collected more than 10,000 water samples and conducted over 110,000 tests to ensure that high-quality water reached your tap. The 2020 test results presented in this report demonstrate that your drinking water meets or is better than the water quality standards established by the U.S. Environmental Protection Agency (EPA) and the DPH.

What the EPA Says About MCLs and Health Effects

The EPA wants you to know that 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 can be obtained by calling the EPA's Drinking Water Hotline at 1-800-426-4791 or by visiting epa.gov/safewater.

The Maximum Contaminant Levels (MCLs) established by the EPA are very stringent. A person would have to drink two liters of water at the MCL every day for a lifetime to have a one-in-a-million chance of experiencing the described health effect.

The Maximum Contaminant Level Goals (MCLGs) established by the EPA are also very rigorous. MCLGs are the measure of a contaminant in drinking water below which there is no known or expected risk to health. Think of MCLGs as allowing for a margin of safety.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, those who have received organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk of infection. These people should seek advice from their healthcare providers about drinking water.

Water Quality Overview

In order to ensure that tap water is safe to drink, the EPA and the DPH set regulations that limit the amount of certain contaminants in water provided by public water systems. For more information, visit the DPH website at ct.gov/dph.

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. Generally, untreated source water can include the following kinds of contamination:

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic compounds, such as salts and metals, can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges or farming.

Pesticides and herbicides may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

Organic chemical compounds, including synthetic and volatile organic chemicals, which are by-products of industrial processes, can come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants can be naturally occurring or may be the result of oil and gas production and mining activities.

to take steps to reduce it. For additional information, call Connecticut's radon program or EPA's Radon Hotline at 1-800-SOS-RADON.

Although state and federal regulations do not require monitoring, we regularly test for radon in our Cheshire, Hamden, Derby and Seymour wells. Because radon dissipates quickly in the open air, it is not a concern with reservoir water.

Lead and Drinking Water

The EPA developed the Lead and Copper Rule (LCR) to protect public health by minimizing lead and copper levels in drinking water. The LCR established an action level of 15 parts per billion (ppb) for lead and 1.3 parts per million (ppm) for copper, based on the 90th percentile level of tap water samples. This means that no more than 10 percent of the samples can be above either action level. The MCLG for lead is zero; the MCLG for copper is 1.3 ppm.



Radon

Radon is a radioactive gas that you cannot see, taste or smell. It is found throughout the U.S. Radon can move up from the ground and into a home through cracks and holes in the foundation. It can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water during showering, washing dishes and other household activities. In most cases, radon entering the home through tap water is a small source of all the radon in indoor air.

Radon is a carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air. Testing is inexpensive and easy. If the level of radon in your air is four picocuries per liter of air (pCi/L) or higher, you need

What Can I Do in My Home to Reduce Exposure to 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. The RWA is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components in home construction. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for up to five minutes or until it becomes cold or reaches a steady temperature. Use only cold water for drinking, cooking and making baby formula.

If you are concerned about lead in your water, you should consider having your water tested. Information on lead in drinking water, testing methods and steps you can

take to minimize exposure is available from the EPA's Safe Drinking Water Hotline at 1-800-426-4791 and epa.gov/safewater/lead.

Copper Testing

The major sources of copper in drinking water are the corrosion of household plumbing systems and the erosion of natural deposits. Copper is an essential nutrient, but some people who drink water containing copper in excess

to your home around the clock for your convenient use on demand. As shown in the tables on the following pages, the water that the RWA delivers to your tap meets or is better than all federal and state requirements for safe drinking water. Of the more than 100 regulated and unregulated substances for which we test annually, only a few have been detected, and the detection levels were well below allowable limits.



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. To minimize exposure to copper, please follow the previous flushing instructions for lead.

Sodium

Sodium is an essential nutrient in your diet. It helps maintain the right balance of fluids in your body and transmit nerve impulses to your muscles. Sodium in drinking water normally presents no health risks, since 99 percent of your daily salt intake is from food, and only about one percent is from water. However, elevated sodium in water may be considered a health concern for those on a restricted salt diet. If you have been placed on such a diet, please inform your physician that our water can contain as much as 38 milligrams per liter of sodium. For comparison, whole milk has a sodium content of 530 milligrams per liter.

Water Quality Analysis and Results for 2020

All test results well below allowable levels

Municipal drinking water is a unique product – it is the only life-sustaining resource reliably delivered by others

Drinking water quality report highlights:

- ▶ The RWA's drinking water quality and its stringent monitoring program met or were better than all state and federal regulatory standards in 2020.
- ▶ Our professionals conduct many routine tests beyond those reported here to monitor and optimize water quality. Additional testing focused on building a better understanding of our water quality from source to tap.
- ▶ Our water treatment systems employ multiple barriers to protect our water from disease-causing microorganisms and other contaminants.
- ▶ All of our treatment plant operators maintain a Class IV Water Treatment Operator Certification, the highest standard in the state.
- ▶ We continuously take steps to deliver even higher-quality drinking water to your tap through technology and innovation.
- ▶ In 2020, we devoted approximately \$28 million to building and maintaining the region's water system.
- ▶ As part of our land management and source-protection programs, in 2019–2020 we invested about \$97,000 to acquire over 21 acres of land in our region.

Regulated Contaminants Found in Reservoirs and Aquifers

Substance	MCL	MCLG	Average Level and Range Detected	Potential Sources of Contaminant	Met Regulatory Standards
Barium	2 ppm	2 ppm	0.06 ppm Range ND – 0.272	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits	Yes
Chloride	250 ppm	N/A	35.31 ppm Range 11.2 – 82.3	Naturally present in the environment	Yes
Fluoride	4 ppm	4 ppm	0.68 ppm Range 0.15 – 1.1	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	Yes
Microbial Pathogens ^(a)	TT = 100% of 4-log removal based on chlorine residual	N/A	100%	Naturally present in the environment	Yes
Nitrate (as nitrogen)	10 ppm	10 ppm	0.876 ppm Range 0.005 – 3.472	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits	Yes
Total Haloacetic Acids (THAA)	60 ppb Average	N/A	23.4 ppb Range ND – 45.1 ^(b)	By-product of drinking water chlorination	Yes
Total Organic Carbon (TOC)	TT = Removal Ratio >1 ^(c)	N/A	1.70 Range 1.0 – 4.0	Naturally present in the environment	Yes
Total Trihalomethanes (TTHM)	80 ppb Average	N/A	37.3 ppb Range 7.1 – 70.5 ^(b)	By-product of drinking water chlorination	Yes
Turbidity (aquifers)	TT = 5 NTU	N/A	0.09 NTU Range ND – 0.46	Soil runoff	Yes

Substance	MCL	MCLG	Highest Level Detected	Potential Sources of Contaminant	Met Regulatory Standards
Total Coliform Bacteria	Presence of coliform bacteria not to exceed 5.00% of monthly samples	0%	1.04% (July)	Naturally present in the environment	Yes

Substance	MCL	MCLG	Percent Compliance and Highest Level Detected	Potential Sources of Contaminant	Met Regulatory Standards
Turbidity (reservoirs)	TT = 95% of samples <0.3 NTU ^(d)	N/A	100% 0.45 NTU	Soil runoff	Yes

Substance	MRDL	MRDLG	Average Level and Range Detected	Potential Sources of Contaminant	Met Regulatory Standards
Chlorine	4 ppm	4 ppm	1.6 ppm Range 0.8 – 2.3	Water additive used to control microbes	Yes

(a) Treatment reliably achieves at least 99.99% (4-log) treatment of viruses using inactivation; (b) Individual sample and individual location; (c) Ratio is a value derived from monthly TOC percent removal calculation; (d) 95% of samples within a given month

Regulated Contaminants Found in Reservoirs and Aquifers (CONTINUED)

Substance	MCL	MCLG	90th Percentile ^(e)	Potential Sources of Contaminant	Met Regulatory Standards
Lead	AL = 15 ppb ^(f)	0	2 ppb <i>Analyzed 2020^(g)</i> <i>No. of sites above AL = 2</i>	Corrosion of household plumbing systems; erosion of natural deposits	Yes
Copper	AL = 1.3 ppm ^(f)	1.3	0.35 ppm <i>Analyzed 2020^(g)</i> <i>No. of sites above AL = 0</i>	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	Yes

Unregulated Contaminants Found in Reservoirs and Aquifers

Substance	MCL	Average Level and Range Detected	Potential Sources of Contaminant	Met Regulatory Standards
Bromodichloromethane	N/A	8 ppb <i>Range 3 – 18</i>	By-product of drinking water chlorination	N/A
Chloroform	N/A	31 ppb <i>Range 7 – 65</i>	By-product of drinking water chlorination	N/A
Dibromochloromethane	N/A	1 ppb <i>Range ND – 3</i>	By-product of drinking water chlorination	N/A
Dichloroacetic Acid	N/A	9 ppb <i>Range ND – 20</i>	By-product of drinking water chlorination	N/A
Monochloroacetic Acid	N/A	1 ppb <i>Range ND – 3</i>	By-product of drinking water chlorination	N/A
Trichloroacetic Acid	N/A	14 ppb <i>Range ND – 34</i>	By-product of drinking water chlorination	N/A
Dibromoacetic Acid	N/A	0.7 ppb <i>Range ND – 1.1</i>	By-product of drinking water chlorination	N/A
Bromochloroacetic Acid	N/A	1.6 ppb <i>Range ND – 2.4</i>	By-product of drinking water chlorination	N/A

Substance	Notification Level	Average Level and Range Detected	Potential Sources of Contaminant	Met Regulatory Standards
Radon (aquifers only)	N/A	265 pCi/L <i>Analyzed 2018</i> <i>Range 2-1970</i>	Naturally present in the environment	N/A
Sodium	28 ppm	20.66 ppm <i>Range 4.7 – 43.7^(h)</i>	Naturally present in the environment; sources such as road salt storage and application, industrial waste, sewage and fertilizers are usually the cause of elevated levels in drinking water supplies	N/A

^(e) Calculated value derived from the analysis performed on high-priority customers; ^(f) Test frequency as determined by state and federal regulatory agencies; ^(g) Action level is based on the calculated 90th percentile; ^(h) See sodium notice on page 4

Unregulated Contaminants for the Unregulated Contaminant Monitoring Rule List 4

During 2019, the RWA participated in the fourth phase of the Unregulated Contaminant Monitoring Rule (UCMR4). Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring assists the EPA in determining the occurrence of these compounds and whether or not regulation is warranted. Detections are summarized in the following table, along with typical sources. For general information on UCMR4, visit www.epa.gov/dwucmr or contact EPA's Safe Drinking Water Hotline at 1-800-426-4791.

UCMR List 4 Analyzed 2019

Parameter	MCL	Average Level and Range Detected	Potential Sources of Contaminant
Monobromoacetic Acid	N/A	0.33 ppb Range 0.3 – 0.4	Disinfection by-product
Dibromoacetic Acid	N/A	0.85 ppb Range 0.3 – 2.8	Disinfection by-product
Bromochloroacetic Acid	N/A	2.0 ppb Range 0.6 – 3.6	Disinfection by-product
Bromodichloroacetic Acid	N/A	3.1 ppb Range 1.1 – 4.3	Disinfection by-product
Chlorodibromoacetic Acid	N/A	0.48 ppb Range 0.3 – 0.8	Disinfection by-product
Manganese	N/A	0.025 ppm Range 0.001 – 0.117 ⁽ⁱ⁾	Naturally occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient

(i) As part of the required testing under UCMR4, in May 2019, an elevated manganese concentration was identified in a sample collected from the North Cheshire Wellfield. The sample collection was incorrectly taken and is not representative of the drinking water provided by this wellfield, which has no history of manganese in the water. However, we are required by EPA to include this information in this report.

PFAS Management

Perfluoroalkyl and polyfluoroalkyl substances, commonly called PFAS, are a group of man-made chemicals that have been widely used for decades in industrial and consumer goods. The RWA's rigorous environmental and source water protection efforts have successfully limited the impact these chemicals have on our water sources.

The DPH has established an advisory level for PFAS of 70 parts per trillion (ppt). While PFAS levels in drinking water are not currently regulated, and there is no requirement for utilities to test for PFAS or make results public, the RWA engaged in proactive testing of our source waters in 2019 and 2020 and found that any presence of PFAS is well below the current advisory level. While we detected low levels of PFAS, we are continuing to work with local health departments, state agencies and our own internal experts to investigate environmental and treatment strategies that will remove any PFAS from our high-quality water supply.

	RWA Source Water	Total PFAS*	Current DPH Guideline
15 Percent of RWA Drinking Water Supply	Housatonic Aquifer	2.2 ppt	70 ppt
	Mill River Aquifer	6.0 ppt	70 ppt
	Quinnipiac River Aquifer	2.3 ppt	70 ppt
85 Percent of RWA Drinking Water Supply	Lake Gaillard	0.0 ppt	70 ppt
	Lake Saltonstall	2.0 ppt	70 ppt
	West River	0.0 ppt	70 ppt
	Lake Whitney	13.0 ppt	70 ppt

* In accordance with current DPH recommendations, totals include PFAS compounds measured at levels greater than the EPA's reporting limit of two parts per trillion.

Helpful Drinking Water Quality Definitions

The following definitions will help you better understand the water quality results presented in this report.

AL Action Level

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

BDL Below Detection Level

Calculated value resulting in below detection level.

MCL Maximum Contaminant Level

The highest level of a contaminant allowed in drinking water. Maximum Contaminant Levels are set as close to the Maximum Contaminant Level Goal as feasible, using the best available treatment technology.

MCLG Maximum Contaminant Level Goal

The level of a contaminant in drinking water below which there is not a known or expected risk to health. Maximum Contaminant Level Goals allow for a margin of safety.

MRDL Maximum Residual Disinfectant Level

The level of disinfectant added for water treatment that may not be exceeded at a consumer's tap without adverse health effects.

MRDLG Maximum Residual Disinfectant Level Goal

A non-enforceable health goal. It does not reflect the benefits of adding disinfectant for the control of waterborne microbial contaminants.

mg/L Micrograms per Liter

A unit of concentration for dissolved substances based on their weights.

N/A Not Applicable

Not applicable or required.

ND Not Detected

Not detected.

NTU Nephelometric Turbidity Units

A measure of clarity of water. Turbidity more than five NTU is just barely noticeable to the average person.

ppb Parts per Billion

A measure of the concentration of a substance roughly equivalent to half a teaspoon of water in one Olympic-size swimming pool.

ppm Parts per Million

A measure of the concentration of a substance roughly equivalent to one-half of a dissolved tablet of aspirin in a full 50-gallon bathtub of water.

ppt Parts per Trillion

Our PFAS testing measures in parts per trillion, which is an amount roughly equivalent to one droplet of water in a 43-foot-deep pool covering a football field.

pCi/L Picocuries per Liter

A measure of radioactivity in water.

TT Treatment Technique

A required process intended to reduce the level of contaminants in drinking water.



Learn More



Use Water Wise Ways

Water is a precious resource. To ensure we have sufficient water to meet the needs of all our consumers and put less stress on local water sources and the environment, we encourage consumers to take the following steps, which can also lower your water bill:

- ▶ Fix dripping faucets and leaky toilets.
- ▶ Run dishwashers and washing machines with full loads.
- ▶ Turn the water off when you brush your teeth or shave.
- ▶ Install water-efficient appliances; look for the WaterSense label.
- ▶ Water your lawn and plants in the early morning or later in the evening.
- ▶ Use a broom instead of a hose to clean outdoor areas.

For more tips, visit us at rwater.com or the EPA at epa.gov/WaterSense.



Discover Nature's Wonderland

The RWA has nine recreation areas in 13 communities throughout Greater New Haven that offer great water views and four seasons of fun. With an RWA recreation permit, you can enjoy miles of wide, well-kept trails through a wilderness that is just minutes from your home. We provide easy-to-read trail maps and offer special family events such as nature walks and fishing derbies. And we offer discounts for senior citizens, veterans, students and people with disabilities. Buying a recreation permit is easy; visit us at rwater.com or call us at 203-401-2654.



Explore the Water World

We offer virtual and in-person educational programs for pre-K to eighth grade students across our district, using water as a teaching tool inside and outside the classroom. Our educator loves teaching young people about the importance of water and a healthy environment to the community. To schedule a free program, please call us at 203-777-1142.



Safeguard Water Quality

HazWaste Central helps area residents protect water quality by safely disposing of household hazardous waste. Located at our headquarters at 90 Sargent Drive in New Haven, HazWaste Central is open 9 a.m. until noon on Saturdays, May through October. To see if your community participates and to find out what household wastes can be dropped off, visit us at rwater.com or call 203-401-2712.



Protect Your Pipes

Our PipeSafe protection programs can help you avoid unexpected, costly repairs to your underground water, sewer and septic lines, and in-home plumbing. These programs, available for a nominal fee, offer the peace of mind that comes with knowing that you are covered for repair costs and the hassle of finding qualified contractors. For more information, visit us at rwater.com or call 203-562-4020.

DID YOU KNOW?

In 2020, our consumers
used nearly

**15 billion gallons
of water.**

That means we are producing
an average of 42.5 million
gallons per day of safe,
clean water for our 430,000
consumers.

When Was the Last Time You Got a Bottled Water Quality Report?



VS.



We test our water every
day to ensure it is of the
highest quality.



Bottled water is tested less frequently.

We proudly publish our testing
results online and in reports like
the one you're reading now!



Many bottled water companies keep
the results of their tests a secret.

We protect thousands of acres of
land in your community to bring
you clean, safe drinking water.



Bottled water uses 17 million barrels
of oil annually and creates more than
2.7 million tons of plastic waste.