

# KENT COUNTY WATER AUTHORITY

CONSUMER  
CONFIDENCE  
WATER QUALITY

ANNUAL REPORT  
2009

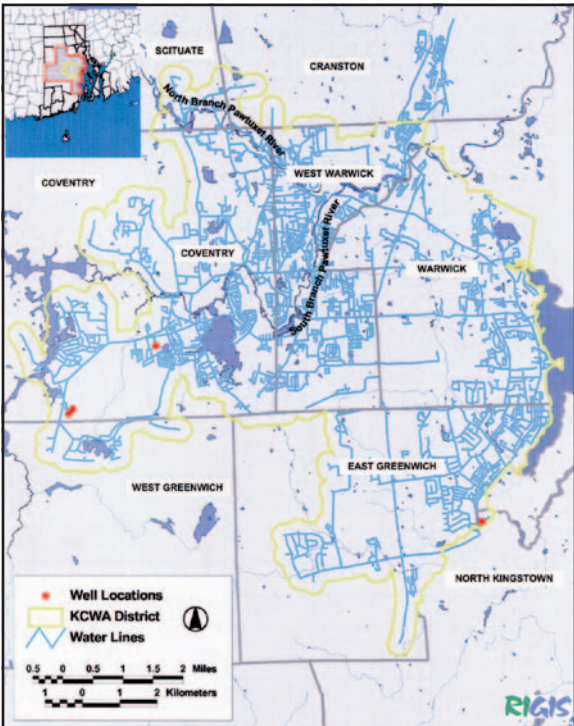


KCWA  
KENT COUNTY WATER AUTHORITY

# KCWA Consumer Confidence Water Quality 2009 Annual Report

We are once again proud to present you with this year's Water Quality Report. This year's report covers all testing completed from January 1, 2009 through December 31, 2009 and fulfills both the Environmental Protection Agency (EPA) and Rhode Island Department of Health (RIDOH) requirements to provide a "Consumer Confidence Report" to our customers. This publication reflects our ongoing efforts to keep you informed about the quality of the water and services we deliver to you every day.

Over the years we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. This report includes information related to the origin of your water, what it contains and how it compares to the quality standards set by the EPA. Be assured, the Kent County Water Authority and their professional staff are committed to providing our customers with the finest, most cost effective and reliable drinking water.



It's what's inside your water that counts and nothing counts more than your health. The Kent County Water Authority and its predecessor companies have been delivering safe, dependable water, seven days a week, 24 hours a day for 130 years. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting these demands while continuing to serve the needs of all of our customers. Because it's important to understand the facts about the quality of your drinking water, here's the bottom line. As reported this year and in previous years, our monitoring results show our system had no violations. Water delivered by the Kent County Water

**Water delivered by the Kent County Water Authority meets or surpasses all federal and state of Rhode Island requirements.**

Authority meets or surpasses all Federal and State of Rhode Island requirements. You put a lot of faith in us and we take that very seriously. Thank you for your continued confidence in the product we deliver to you.

We have learned through our monitoring and testing efforts that some regulated constituents have been detected. The EPA and RIDOH have determined that your water is SAFE at these levels. To learn more, please continue reading. We will tell you about the quality of your drinking water, its sources, an overview of the water system future goals, progress and more. Should you have any questions concerning this information or about your water utility, please contact our General Manager/Chief Engineer, Timothy J. Brown, P.E. at 401-821-9300 or [customerservice@kentcountywater.org](mailto:customerservice@kentcountywater.org). Customer concerns regarding Providence Water results may be directed to the customer service department of the Providence Water Supply Board at 401-521-6300.

We value your input and want our customers to stay informed about their water utility. Public participation adds value to the decision making process regarding the quality of your water and the service you're provided. If you would like to learn more about your water utility, or play a part in its future, please attend any of our regularly scheduled board meetings held on the third Thursday of each month. Meeting agenda information can also be found on the Secretary of State Website. <http://www.sec.state.ri.us/govtracker/>. Meetings begin at 3:30 p.m. at our office located at 1072 Main Street, West Warwick. We look forward to seeing you there!

## Additional Health Information

The sources of drinking water (both tap and bottled water) include rivers, lakes, ponds, reservoirs, springs, and wells. As water travels over the land or through the ground, it dissolves naturally occurring minerals, radioactive material and can pick up substances or contaminants resulting from the presence of human or animal activities.

All sources of drinking water are subject to potential contamination from substances that are naturally occurring or man made, such as: microbes, inorganic and organic chemicals, and naturally occurring radioactive substances. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. More information on contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791 or visit the EPA web site [www.epa.gov/safewater](http://www.epa.gov/safewater).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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 healthcare providers about drinking water. EPA and CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health-care provider.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day, at the MCL, for a lifetime to have a one-in-one-million chance of having the described health effects.

## Infrastructure Improvements

Kent County Water Authority distribution and transmission mains comprise a network of more than 430 miles of underground infrastructure, 9 storage tank facilities and a multitude of pump, wells and pressure control stations that must be continually maintained. Many of the water mains are over 100 years old. Rhode Island General Law 46-15.6 requires that all large water suppliers implement an infrastructure replacement program to address such things as aged and failing mains, rehabilitation of tanks and pumping stations. Each water system throughout the state is required by law to provide a funding mechanism to replace and/or rehabilitate identified components at the end of their useful life within the framework of the regulations. As you might expect, water rates have to go up in

**At the current PUC approved rate water costs less than  $\frac{3}{4}$  of a cent per gallon delivered to your home. Water is still the best bargain in town in comparison to other utility and cable services.**

order to pay for the replacement of old infrastructure. Costs associated with these improvements are incorporated in the rate structure for your billing. The rate structure and each program is fully reviewed and approved by the Public Utilities Commission (PUC) prior to commencing work on the planned improvements. At the current PUC approved rate, water costs less than  $\frac{3}{4}$  of a cent delivered to your home. Water is still the best bargain in town in comparison to bottled water or other utility and cable services.

It is imperative for the continued viability of your water system and water quality to replace aging water mains, rehabilitate tanks and pumping stations and implement programs that streamline our service to our customers. Several



planned projects are currently underway to replace failing water mains, enhance hydrant fire flow and better service you. In 2009, KCWA accomplished several important projects, including:

- Installation of approximately 15,000 feet of 12, 16 and 20-inch diameter water mains to complete Capital Improvement projects 7C, 7D, and 8A. These projects were necessary to provide transmission capabilities to the new Read Schoolhouse 500 foot elevation gradient storage tank facilities. This improvement in conjunction with the new tank completes a long term plan to correct deficient conditions created years ago when development was expanded into the higher elevations of this area of Coventry. Commissioning of this project allows for the deactivation of the old 410 foot elevation gradient tank on Read Schoolhouse Road and associated gradient infrastructure. At the request of the town final paving was expedited and completed in late December 2009.
- Construction of the new Read Schoolhouse Road 1.5 million gallon concrete storage tank facilities. This tank and new higher pressure gradient were activated in November 2009. This Capital project was necessary to correct deficient conditions created years ago when development was expanded into the higher elevations of this area of Coventry and facilitate the future augmentation of supply capacity. Completion of future capital projects will connect this infrastructure to existing 500 foot gradient infrastructure in the southern part of Coventry.
- Installation of approximately 50,000 linear feet of 8, 12 and 16-inch diameter water main replacements in the city of Cranston and towns of East Greenwich, Coventry and West Warwick.
- Design of the Mishnock Well Treatment Facilities. This work will improve the aesthetic water quality of this supply and include pumping capacity to both the 334 foot elevation low service and 500 foot elevation high service gradients to help alleviate supply constraints currently experienced in this part of our system.

## Source Water Assessment

The Rhode Island Department of Health completed a source water assessment of the Kent County Water Authority supplies during 2003. Susceptibility to contamination was determined to be “MODERATE” according to the guidelines used by the Department of Health during the assessment. This ranking is considered to be an average ranking for the water supply. Individual groundwater recharge

areas may fall into the high or extreme risk of susceptibility to contamination from land use activities. Future risk is expected to increase with continued development. Copies of this Assessment can be obtained from the RI Department of Health at 401-222-6867.

## Your Commitment to Protecting Your Watershed

What goes into our watershed may also come from your own landscape or home. Caring for our watershed and what goes into it is a way each of us can make a difference. Even small amounts of pollutants can add up. Contaminants introduced to the watershed can be classified into two categories, point and non-point source contaminates. Point source pollution is that which can be traced to a specific source such as a factory, farm, leaking fuel tank or industrial site. Non-point source contaminants are more difficult to manage because they represent small contributions from each of us. Paint thinner, antifreeze, pesticides, it doesn't take long for shelves to become cluttered with half-empty containers of chemicals. Chemicals or pollutants inadvertently put down a sink or street drain, or over application of fertilizer or pesticides sprayed around a foundation are all potential sources of watershed contamination because they can make their way to the aquifers that supply your drinking water. **Remember, clean safe potable water starts at the source.**

Caring for our watershed and what goes into it by our own action or inaction is a way each of us can make a difference.

Understanding what a watershed really is and its connection to the quantity and quality of your drinking water can help each of us safeguard our environment and the water resources of this state. A watershed is the natural drainage basin of any area. The Pawtuxet, Mishnock and Hunt River aquifers comprise the watersheds from which your water supply is drawn. As public sewer systems expand, concerns grow over groundwater aquifer depletion. Ninety to ninety-eight percent of household water use ends up down the drain. In the past, water taken from the aquifer was returned to the aquifer via onsite wastewater treatment systems in your yard. Now water is being transported out of the aquifer drainage basin via public sewers, treated to drinking water quality and then dumped into rivers, estuaries and Narragansett Bay. This represents millions of gallons and thousands of dollars each day. Many states are now embracing the concept of returning treated wastewater to its origins in an effort



to keep aquifers from becoming stressed. Talk to your state representatives to promote this type of initiative in our state. We spend millions of dollars each year treating wastewater to drinking water quality. Why not put this effort to full circle resource recovery. There is no better way to recycle and conserve our most precious resource.

Each city and town through its comprehensive plan has primacy in establishing future land use, zoning and growth projections for municipalities as established by Rhode Island General Law 45-22.2-3. The ultimate responsibility and authority for implementation and enforcement of protection strategies for your drinking water sources is the municipality's governing body and the Rhode Island Department of Environmental Protection (RIDEM). We ask all our customers to help us protect these sensitive drinking water sources by participating in your city and town land use decision making process. Protecting these sensitive drinking water aquifers and critical recharge areas is vital to the future of our communities.

Wellhead protection signs have been strategically positioned within existing wellhead protection areas as a more visible indicator of your drinking water sources located in the Towns of Coventry, East Greenwich and West Greenwich. We hope these signs have helped to increase public awareness and appreciation of the vital groundwater resources in these areas. Contact your city or town council member and zoning official to see what else can be done to protect these resources. Public participation in the zoning decision making process can be of great value in protecting your drinking water resources. We think of our customers who live within these areas as the guardians of these essential resources. Your help to preserve the aquifers of these critical drinking water sources will be eternally appreciated by your future family and friends who must perpetually rely on these drinking water resources. Please contact us or the Rhode Island Department of Environmental Management (401) 222-3070 if you suspect a potential contamination concern exists.



# Supply Deficit

We continue to look for feasibly economical ways to meet the increasing demands on our public water system. The availability of supply sources remains indeterminate within this state. The Rhode Island Water Resources Board is legislatively empowered as the agency that manages the withdrawal and use of the waters of the state with the obligation to assure drinking water is available to all Rhode Islanders for use in their daily lives. Rhode Island Department of Environmental Management is legislatively empowered to supervise and control the protection, development, planning and utilization of the natural resources of the state. The Kent County Water Authority must rely on these state agencies in its endeavor to acquire additional supplies to service the expanding service area.

Do not view the periodic shortfall many water suppliers' experience in meeting current maximum day demands as a passing event. The news is full of reports from other states suffering similar or worsening conditions. Statewide water supply philosophy has become awash in a sea of innuendo that could have a crippling effect on the long term availability of public water supply well into the next century. Another much overlooked factor is the growing adverse effects of climatic change on water supply availability and aquifer depletion due to out of drainage basin transfer associated with the expansion of public sewer systems. The ability to store large quantities of reserve capacity is increasingly necessary to transcend extended dry periods. Additional surface water reservoirs or impoundments are perhaps the only suitable long term solution to this concern. The issue of future water supply has also become a nation wide concern as addressed in the United States Congress bill H.R. 135 also known as the 'Twenty-First Century Water Commission Act of 2009'. This bill was submitted to establish the Twenty-First Century Water Commission to study and develop recommendations for a comprehensive water strategy to increase water availability and ensure safe, adequate, reliable, and sustainable water supplies vital to the economic and environmental future of the Nation.

In the 1960's the State of Rhode Island obtained 8,600 acres of land in the Big River Watershed through eminent domain. At that time this undertaking was with the specific intent of constructing a second drinking water reservoir supply, similar to the Scituate Reservoir system that currently supplies the majority of the State. To date no action has been taken to construct this needed reservoir resource. Over the years expansion of public water and public sewer systems throughout the state has continued to nibble away at the available safe yield of our groundwater aquifers and the

Scituate Reservoir source to the point where the full capacity has been appreciably allocated. No other large drinking water sources exist within the state and demand continues to escalate in conjunction with residential and essential economic development.

In 2008 the Rhode Island Water Resources Board completed a study to assess the potential risk of losing critical water sources of the State's major water suppliers to identify potential supplemental emergency water sources to meet emergency demands.

**We continue to believe that the Big River Reservoir project is vital to the future of our State's water resources to fulfill our future economic and domestic concerns.**

The assessment indicated it did not consider development of new surface water sources as part of the supplemental supply portion of the study. Loss of the Providence Water Supply Board Scituate Reservoir source was indicated to present the largest impact on our customers. The assessment conclusions rely on existing local supplemental sources

to provide minimum levels of service during a loss of a critical supply source. Many of which will require considerable infrastructure improvements or development of alternate facilities to be effective.

We will continue to bring forward our concerns regarding the water supply industry within our state and present ideas for improvement and/or modification as appropriate. We urge all customers to consider the same by contacting their senator or representative to voice your concerns regarding the future of water supply in Rhode Island. An abundant reliable supply is crucial to our growth and well-being. What other resource is available should the Scituate supply source become compromised or reaches its maximum output capacity or safe yield? A second major reservoir source of supply is critically necessary to provide for redundant supply should a malevolent act or major catastrophe occur to the Scituate Reservoir system or its treatment plant.

We all need to support the Big River Reservoir initiative by conveying your concerns to your state and local representatives. Building the reservoir doesn't mean we must tap the resource right away. But, prolonging construction of this essential resource will exponentially increase the overall future cost to construct the reservoir and also affect the future prosperity of our state.

The Water Resources Board is evaluating the potential of wells in the Big River Management Area. Groundwater



aquifers that support well withdrawals do not provide sufficient storage capacity necessary during the summer use period and during drought conditions. Essentially the water is not there when you need it most. Results from test well development pumping studies indicate that initial assumptions on future production well capacity were overstated by the study engineers. It has been subsequently determined that an increase in the number of production wells will be necessary to meet the minimum well field supply capacity output contemplated by the Water Resources Board for this type of drinking water resource. State regulatory requirements for permitting new groundwater sources have remained not well defined or specific enough to fully evaluate the overall cost associated with meeting the open-ended prerequisite requirements for the Rhode Island Department of Environmental Management groundwater withdrawal application and permitting process. Very limited progress has been made to date towards obtaining a viable cost effective withdrawal permit on this initiative because of regulatory ambiguities and funding issues. Water supply is perhaps the most important component to statewide economic sustainability and a reservoir is the only long term cost effective solution to both drinking water and environmental viability in this state. Contact your area legislative representatives to find out more about this statewide issue and communicate your concerns.

Some years ago, the Kent County Water Authority purchased over 500 acres of land to develop additional production wells in West Greenwich and Coventry. Development of additional drinking water resources in this land will continue to be a long term goal of the Kent County Water Authority strategic plan. A comprehensive scientific analysis of this aquifer provided substantive documentation to the Rhode Island Department of Environmental Management

that three to four million gallons per day of drinking water could be realized with insignificant impact to the surrounding environment. The well field expansion proposed as part of this study would be within the confines of the property purchased for this purpose. These additional wells are necessary to supplement the existing supply in support of the communities we serve. For several years, the Kent County Water Authority attempted to navigate its way through the ambiguities of the RIDEM permitting process hoping to economically tap the safe yield of these additional drinking water resources. A viable, cost effective permit to expand the well field could not be obtained. Consequently, efforts in this direction continue to remain on hold while other alternative sources of drinking water are being sought. A growing number of communities are now experiencing similar obstacles in their quest for both replacement and additional public water wells to support growth in their communities. Because of our past experience and the trend towards disapproval of new or expanded groundwater supplies, we have focused our resources on moving forward to tap the full potential of our existing well field and evaluating the feasibility of other potential sources of increased supply. A Department of Health approved treatment system regime is in the final design stage for our existing well field. We hope to bid the construction of the project in 2010 and have full production capabilities online by 2011.

## **Water Conservation**

Clean potable drinking water is a finite resource. It is imperative for all of us to embrace new strategies that will work to both protect and conserve it. The impact of water conservation on supply availability has been generally understated and not well understood. Outdoor water use conservation is perhaps the most important factor to consider in your conservation efforts. Balancing the available water supply to meet both the current drinking water needs of our existing customers and the future economic development in our service area is of paramount concern. We strongly believe that this is a statewide conservation issue that demands equitable state regulatory management so that all residents of Rhode Island can equally contribute to the best use of the states waters. Over the past several years we have introduced several programs to promote water conservation. We appreciate our customers' participation in these programs and will continue to strengthen our commitment to this important cause. As a KCWA customer, you play a vital role in protecting and conserving our precious water resources. Your unyielding cooperation is necessary to help us continue to provide dependable service to all our customers.

On average Kent County Water Authority customers consume approximately 10 million gallons of water each day during the winter months. On hot summer days water use can almost double. Seasonal conditions and rising consumption rates may dictate implementation of outdoor water use restrictions on our customers to assure domestic and fire supplies are not compromised. Legislative initiatives promoting priority water supply for economic development demonstrate the importance our state legislative representatives have placed on the impact that water supply has on the economic well-being of the state. If voluntary conservation proves ineffective, our only recourse will be to impose a mandatory seasonal moratorium on outdoor water use until the overall supply problem can be resolved. It is very difficult to assess when additional supply initiatives could be fully implemented. A number of complicated factors must be considered in this process. Legislative support, regulatory delineations/determinations and adequate funding are essential to cost effectively tap new sources of supply and the success of this type of endeavourer. Each and every customer must take action to conserve today, because inevitably every customer will be affected.

## Lawn Care and Landscaping Tips

*Water usage during the summer months increases significantly. This is primarily related to outdoor water use, the majority of which can be directly attributed to lawn watering. You can effectively reduce your summer water use in the following ways:*

- **Plant less lawn** - Reduce traditional grass lawns where possible. Grass requires more water than other types of ground covers. Replace lawn with drought tolerant shrubs, perennials and ground cover.
- **When to Plant Lawn** - The best time to plant grass is in the early spring or the early fall. The temperatures promote growth and the watering requirements are significantly less.
- **Grass Selection** - Select a native, drought-resistant, or low-water-use turf grass such as fescue grasses. Many varieties are available for your use that include blends of drought tolerant varieties.
- **Plant Trees** - Trees help maintain moisture for nearby plants.
- **Odd/Even Policy** - KCWA's year round odd/even watering policy is in place to help promote conservation and even out the peak demands placed on the available water supplies. This policy does not mean that you are

obligated to water your lawn every other day. Watering every other day when soil conditions do not require it can encourage shallow roots, disease and can weaken plants.

- **Water grass only when needed** - Your lawn needs only one inch of water a week to remain actively growing and healthy. Use a rain gauge to measure weekly rainfall and apply only the amount of extra water needed. Depending on the weather and type of grass, your lawn may go naturally dormant turning brown or hay like in color no matter how much you water. A good rule of thumb is to water approximately once every four to five days and use the rain gauge.
- **Best time to water** - Early morning is best. Less water is lost to evaporation and you will also reduce fungus problems with your lawn.
- **Maintain your lawn properly** - Maintain your lawn at three to four inches in length during the summer heat. During a serious, prolonged drought consider allowing lawns to go naturally dormant, because watering can actually stress the grass more by forcing it to grow under such adverse conditions.
- **Limit Fertilizer Use** - Fertilizer increases the plant's thirst for water. Avoid use of fertilizers in the summer.
- **Natural Runoff** - Install cisterns or rain barrels to collect water from downspouts which can later be used for watering plants and flowers or depress your lawn 1" or 2" to capture and hold runoff from your downspouts.
- **Soil Preparation** - Preparing your soil properly is perhaps the most important aspect of a water conservative landscape. Deep cultivation with lots of organic matter such as compost, leaf mold and peat moss will enrich the soil naturally and hold large quantities of water for proper growth of the root system and plants.
- **Using Mulch** - Use of mulch around plantings helps to reduce evaporation and maintain moisture, limit heat stress and discourage weed growth.

For more information visit the URI Healthy Landscapes Program website, [www.healthylandscapes.org](http://www.healthylandscapes.org) or call (401) 874-5398.

**In-ground Automatic Sprinklers** are perhaps the largest contributing factor to seasonal water waste. If used correctly, in-ground sprinklers can be somewhat water efficient. Unfortunately, many systems are not set up properly, or do not

contain necessary moisture/rain sensors to prohibit operation when it is not necessary. In some cases homeowners may not know how to reset the system for maximum efficiency. This results in considerable wasted water. The following general guidelines can help make your sprinkler system more efficient:

- A licensed irrigation professional should inspect and adjust your system each year.
- The point of connection is the supply line for the irrigation system. All connections, fittings and valves should be inspected for leaks and proper operation including the correct operating pressure. Excessive pressure can result in water waste and damaged parts.
- Sprinkler valves open and close to allow for operation of each zone. This is programmed into the controller and should be inspected regularly. Malfunction of these valves can also result in wasted water.
- Sprinkler heads should be checked for proper spacing and alignment, application rates and operating pressure. Move or cap sprinkler heads to avoid watering paved or non-vegetated areas.
- Look for suspicious spots in your landscape that are much greener or consistently wet and muddy. This may be due to an underground leak or other malfunction.
- Learn how to program the system and manage it in manual mode.
- Water once or twice per week. Frequent light watering events encourage disease and shallow roots.
- Water early in the morning to reduce evaporation.
- Do not over water. Use a rain gauge and strive for one inch of water per week (rainfall + irrigation = one inch/week).
- Sprinklers are best suited for grass. Drip irrigation is preferable for plants and shrubs.

**Upgrade your system with conservation technology to meet current KCWA rules and regulations:**

- Install a rain shut-off device to prevent watering when it rains.
- Install a soil moisture sensor that schedules irrigation based on soil moisture conditions.
- Consider installing a “smart” controller that schedules irrigation based on weather conditions. For more information visit the Irrigation Association website, [www.irrigation.org](http://www.irrigation.org).

# Kent County Water Authority Water Quality Data

The tables list all of the drinking water constituents detected during the calendar year of this report. The presence of those constituents found in the water at the time of testing does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables are from testing done in the calendar year of the report. In some cases the EPA and the State may require us to monitor for certain constituents less than once per year because the concentrations of these constituents do not change frequently.

Kent County Water Authority routinely monitors for constituents in your drinking water in compliance with Federal and State Laws. This table shows the detection results from the numerous monitoring tests conducted for the period January 1, 2009 to December 31, 2009. The tables of "Testing Results" identify those constituents that were "detected" in both the Kent County Water Authority and Providence Water Supply sources. As authorized by the EPA, the State has implemented reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data, though representative, is more than one year old.

REGULATED CONTAMINANT	PERIOD	UNIT	MCL	MCLG	DETECTED	RANGE	MAJOR SOURCES	VIOLATION
BARIUM (1)	2008	ppm	2	2	0.023	0.006-0.023	Erosion of natural deposits.	NO
CADIUM(3)	2008	ppb	5	5	1	0-1	Corrosion of galvanized pipes; Erosion of natural deposits.	NO
CHROMIUM(3)	2008	ppb	100	100	6	2-6	Erosion of natural deposits.	NO
FLUORIDE (1)	2009	ppm	4	4	1.2	0.9-1.2	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
NITRATE-N	2009	ppm	10	10	3.25	1.1-3.25	Erosion from natural deposits. Leaching from septic tanks; sewage; Runoff from fertilizer use.	NO
TURBIDITY (1)(5)	2009	NTU	TT	N/A	0.28	0.05-0.28	Soil runoff.	NO
TOTAL ORGANIC CARBON(1)(4)	2009	N/A	TT	N/A	1.21	1.17-1.41	Naturally present in the environment.	NO
TOTAL TRIHALOMETHANES (TTHM)	2009	ppb	80	N/A	50.1	43.7-56.5	By-product of drinking water chlorination.	NO
HALOACETIC ACIDS (HAA5)	2009	ppb	60	N/A	1.9	1.5-2.2	By-product of drinking water chlorination.	NO
CHLORINE FREE RESIDUAL	2009	ppm	4	4	0.32	0.02-0.39	Water additive used to control microbes.	NO
COMBINED RADIUM 226 AND 228(3)	2008	pCi/L	5	0	2.2	ND-2.2	Erosion of natural deposits.	NO
LEAD AND COPPER RULE	PERIOD	UNIT	AL	MCLG	90th PERCENTILE DETECTED	RANGE	MAJOR SOURCES	VIOLATION
COPPER	2009	ppm	1.3	1.3	0.038	0 of 60 samples was above the action level	Corrosion of household plumbing systems. Erosion of natural deposits.	NO
LEAD	2009	ppb	15	0	8	1 of 60 samples was above the action level	Corrosion of household plumbing systems. Erosion of natural deposits.	NO

## Kent County Water Authority Table Footnotes

- (1) Detection level influenced by Providence Water purchases.
- (2) This value refers to the highest monthly percentage of positive samples detected during the year. 1,246 samples were collected for compliance monitoring and none tested positive during the sampling period.
- (3) Reflects sampling at groundwater source before blending with purchased water

from Providence Water Supply Board.

- (4) In order to comply with the EPA standard, the removal ratio must be greater than 1. Detected level is the lowest removal ratio per quarter. Range is the lowest and highest removal ratios per month.
- (5) 0.28 was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100%. The average turbidity value for 2009 was <0.10 NTU.



# Providence Water Quality Data

Our Cranston customers receive water through a direct-metered connection to the Providence Water Supply Board. The table below represents the results of the testing performed by the Providence Water Supply Board that has been identified by Providence Water as applicable to the reporting requirements for

this area. Results shown on the Kent County Water Authority Quality Data table for lead, copper, haloacetic acids, total coliform bacteria and total trihalo-methanes are also applicable to our Cranston customers.

REGULATED CONTAMINANT	PERIOD	UNIT	MCL	MCLG	DETECTED	RANGE	MAJOR SOURCES	VIOLATION
FLUORIDE	2009	ppm	4	4	1.2	0.9-1.2	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
BARIUM	2009	ppm	2	2	0.01	N/A	Erosion of natural deposits	NO
TURBIDITY (1)	2009	NTU	TT	N/A	0.28	0.05-0.28	Soil runoff.	NO
TOTAL ORGANIC CARBON(2) (removal ratio)	2009	N/A	TT	N/A	1.21	1.17-1.41	Naturally present in the environment.	NO

## Water Quality Table Footnotes:

- (1) 0.28 NTU was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100%. The average turbidity value for 2009 was < 10 NTU.
- (2) In order to comply with EPA standard, the removal ratio must be greater than 1. Detected level is the lowest removal ratio per quarter. Range is the lowest and highest removal ratios per month.

N/A = Not Applicable

## Table Unit Descriptions:

- **AL** Action Level
- **MCL** Maximum Contaminant Level
- **MCLG** Maximum Contaminant Level Goal
- **pCi/L** Picocuries Per Liter  
(a measure of radioactivity)
- **ppb** Parts Per Billion, or micrograms per liter
- **TT** Treatment Technique
- **NTU** Nephelometric Turbidity Units
- **ppm** Part Per Million
- **N/A** Not Applicable
- **ND** None Detected

## Important Drinking Water Definitions:

**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.

**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 using the best available treatment technology.

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

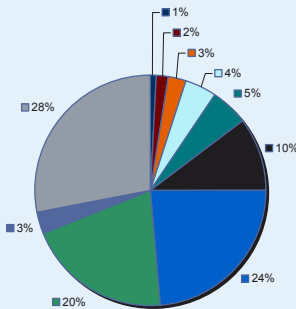
**AL:** Action Level; The concentration of a contaminant, which if exceeded, triggers a treatment of other requirements that a water system must follow.

**MRDL:** Maximum Residual Disinfectant Level; The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

**MRDLG:** Maximum Disinfectant Level Goal; The level of 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 contaminants.

# DID YOU KNOW IN 2009 KENT COUNTY WATER AUTHORITY EMPLOYEES

- Responded to the homes and businesses of 3,430 of its 26,500 customers in response to requests for assistance.
- Repaired 70 underground infrastructure leaks.
- Flushed 400 miles of main twice this year to help maintain the quality of your drinking water.
- Inspected and tested 2,200 hydrants of which 98 hydrants were either repaired or replaced.
- Processed 5,300 DigSafe marking requests requiring the marking of 37 miles of underground infrastructure.
- Recorded 109,000 meter reads.
- Prepared, printed, mailed and processed 109,000 customer bills, 18,000 delinquent notices and 15,000 shutoff/collections.
- Pumped 2.9 billion gallons of water to supply both domestic and fire service at less than 3/4 of a cent per gallon delivered to your home.
- Traveled 198,000 vehicle miles in service to our customers.
- Replaced 7 miles of failing underground water mains and associated valves, services and appurtenances to improve water quality and service to our customers.



- 1% INSURANCE: Property, Liability and Workers' Compensation
- 2% TREATMENT/SERVICE MATERIALS: Chemicals, Replacement Parts, Gravel and Asphalt
- 3% ELECTRICITY: Pumps, Wells, Tanks, Pressure Control Stations and Office Facility
- 4% BENEFITS: Life, Disability, Health, Dental Insurance and Pension
- 5% OPERATIONS: Vehicle Maintenance, Customer Records Support, Legal and Accounting Fees, Regulatory Commission Expense, Fuel, PILOT, Sample Testing and Dig Safe
- 10% PAYROLL: Base Salary and Overtime
- 24% PURCHASED WATER: Wholesale Water Purchases from Providence and Warwick
- 20% BOND RESTRICTED: Debt Service -Bonds for Capital Improvement Principal and Interest Payments
- 3% RESTRICTED: Renewal and Replacement Fund, Operations and Maintenance Fund and Operating Allowance
- 28% IFR RESTRICTED: Legislatively Mandated Infrastructure Replacement Program

## Source of Water

The Kent County Water Authority purchases approximately 90 percent of your water from the Providence Water Supply Board. This supply is treated surface water from the following reservoirs located in the central part of the state: Scituate, Regulating, Moswansicut, Ponaganset, Barden and Westconaug reservoirs. The remainder of your water is produced from our East Greenwich well located off Post Road at the Warwick and East Greenwich line. KCWA also wholesales water to the City of Warwick to supply the Potowomut section.

## Capital Improvements

Capital Improvement projects are intrinsic components to the future of the water supply system. Completion of these projects will help improve water quality, facilitate regulatory compliance initiatives and better provide supply for the customer. In 2008 the Capital Improvement Project plan was revised to reflect improvements identified in the latest hydraulic studies of the system.

Our goal is to provide better service. As an additional benefit of these projects, the Kent County Water Authority will be resurfacing the roadway impacted by construction work. The resurfacing effort will not impact your city, town or state tax base because it is funded solely from the project budget, which receives neither municipal nor state participation.

In 2009 KCWA commenced work on some important projects, including:

- The final Rhode Island Department of Health design review for a new water treatment plant at the Mishnock Well Field in Coventry. The new treatment plant will incorporate state-of-the-art technology to deliver high-quality water to our customers. It is anticipated that bidding and construction will be initiated in 2010 and the plant will come online in 2011.
- Transmission main design for the Mishnock Treatment Plant.

## Working Toward Manganese Mitigation

Manganese is not regulated under federal and state primary drinking water health standards. This mineral is a harmless aesthetic aspect of New England groundwater supplies that may be more noticeable to some consumers due to the use of chlorinated cleaning products. Some time ago we implemented a Manganese Sequestering Pilot

Treatment Program for our Warwick/East Greenwich distribution area. The goal of this program was to attempt to eliminate the staining effects related to the precipitation of soluble manganese in the source water supply. Our engineers have reviewed the results of this pilot study along with various other treatment options and recommend

some options to deal with the aesthetic quality of this water supply. Some additional testing is currently underway to select the best overall treatment solution. In our endeavor to provide the highest quality, most cost effective product to our customers, we intend to move forward with the design and construction of the proposed treatment system once the final selection is made. We continue to advocate that you remain vigilant in following our suggestion to not use chlorinated dishwashing detergents, chlorine bleach laundry products or monthly drop-in toilet tank cleaning products that contain chlorine. These types of products tend to promote the occurrence of staining despite the use of the sequestering treatment regime. Certainly, feel free to contact us at 401-821-9300 or [customerservice@kentcountywater.org](mailto:customerservice@kentcountywater.org) if you have any questions about our proposed programs or would like to discuss aspects of the water supply with one of our customer representatives.

The goal of this program was to attempt to eliminate the staining effects related to the precipitation of soluble manganese in the source water supply.

## Cross Connection Control

Legislative initiative in 2007 resulted in new laws concerning cross connection control and backflow prevention. The Rhode Island Department of Health promulgated rules that outline mandatory and enforceable regulatory requirements concerning the installation of backflow prevention appurtenances in both residential and commercial buildings. The new requirements focus on “containment.” Containment will require the installation of an appropriate backflow prevention device directly after the meter in the vicinity where the water service enters the building. Rhode Island plumbing code also requires the installation of thermal expansion controls in conjunction with the backflow device installation. To be in compliance with the new regulations, the Kent County Water Authority has revised its Rules and Regulations to include implementing a full scale cross connection control initiative. We will keep our customers informed of these changes in future updates on the “E-News” section of our website. A copy of the current Kent County Water Authority Rules and Regulations can also be obtained at our office or online at [www.kentcountywater.org](http://www.kentcountywater.org).

## Meter Technologies

Metering technology continues to advance and represents a key aspect to economically providing you service. Radio frequency metering technology is now being introduced in the Kent County Water Authority service area. This technology represents the latest in digital meter registering equipment for documenting our customer's consumption. This type of meter also provides built-in leak detection and consumption trending that can help provide the information necessary to answer customer questions on unusual or abnormal consumption related billing concerns. The existing metering technology has become obsolete and no longer supported by the manufacturer. Our goal is to eventually replace all existing meters with this type of technology, as our programs advance and the new equipment becomes more readily available for installation.

## Lead Informational Statement

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. Kent County Water Authority 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 or at <http://www.epa.gov/safewater/lead>.

A few years ago Providence Water changed its water treatment process which altered the water chemistry to decrease the pH. After this change it was discovered that Providence Water was unable to maintain its lead and copper testing results within USEPA and RIDOH drinking water guidelines. The RIDOH has recently notified us that several other water suppliers in the state, who receive water from the Providence Water Supply, have also failed to maintain their lead and copper testing results within the USEPA primary drinking water requirement levels. The RIDOH has asked the Kent County Water Authority to conduct annual lead and copper testing as a result of the increasing failure of other Providence Water wholesale recipients to meet the minimum standards in other communities. Please contact the Rhode Island Department of Health, Office of Drinking Water Quality at (401) 222-7740 should you have any questions concerning this matter.



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