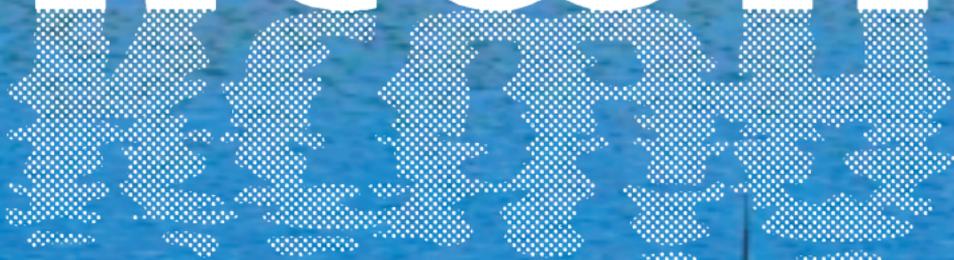


# KCWA



Kent County Water Authority

Consumer Confidence  
Water Quality

Annual Report 2011

# KCWA Consumer Confidence Water Quality 2011 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, 2011 through December 31, 2011 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.

We remain committed 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 the 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 132 years. We endeavor to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water quality and safety emerge, we will remain vigilant in meeting these demands while continuing to serve the needs of our customers. The bottom line is that it's important to understand the facts about the quality of your drinking water. As reported this year and in previous years, our monitoring results show that water delivered by the Kent County Water Authority meets or surpasses all Federal and State 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.

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**The Kent County  
Water Authority  
has been delivering  
water for 132 years.**

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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's 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. 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 are provided. If you would like to learn more about your water utility, or play a part in its future, please feel free to 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's 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, can 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. For 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 people 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 Drinking Water Hotline (800-426-4791).

Nitrate in drinking water at levels above 10 ppm pose 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 healthcare 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 pumps, wells and pressure control stations, which must be continuously 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 and rehabilitation of tanks and pumping stations. Each water system throughout the state is required by law to provide a funding mechanism

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**At the current rate,  
water costs less  
than a penny per  
gallon delivered to  
your home.**

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to replace and/or rehabilitate identified components at the end of their useful lives within the framework of the regulations. As you might expect, water rates have to go up in order to pay for the replacement of old infrastructure. Costs associated with these improvements are incorporated into the rate structure for your

billing. The rate structure for 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 a penny per gallon delivered to your home. Water is still the best bargain in town in comparison to bottled water or other utility and cable services.

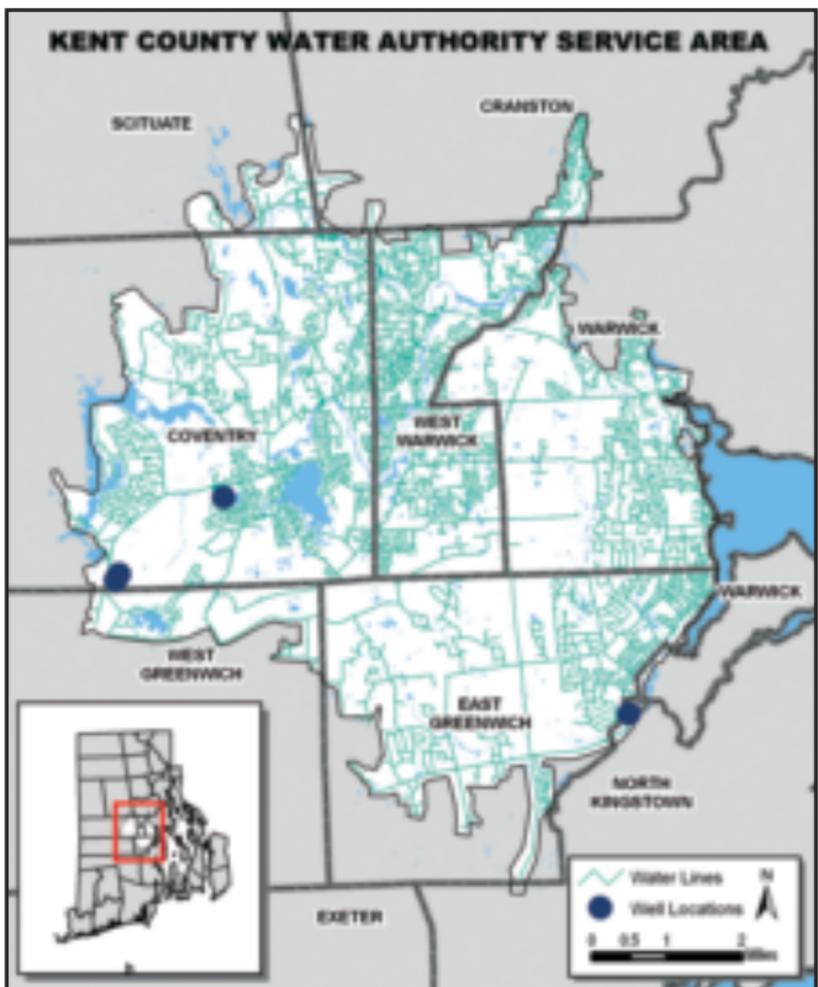
It is crucial to the continued viability of our water system and water quality to replace aging water mains, rehabilitate tanks and pumping stations and implement programs that streamline our service to our customers. Several planned projects were brought to final completion this year that replaced failing water mains, enhanced hydrant fire flow and provided better service to you. In 2011 KCWA was restricted in its ability to bid several projects due to the economic downturn's affect on revenue collection. Important projects have been designed and bidding placed on

hold until adequate funding becomes available in 2012 for completion of these projects.

## Source of Water

The Kent County Water Authority purchases approximately 90 % 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 Westconnaug. The remainder of your water comes 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 Potowomet section.

## Water Authority Service Area



## Source Water Assessment

The Rhode Island Department of Health completed a source water assessment of the Kent County Water Authority supplies in 2003.

Susceptibility to contamination was determined “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

Although 70% of the Earth’s surface is water, only about 3% of all water on Earth is freshwater. Only about 1% of all fresh water is reasonably cost effective for treatment and use as drinking water. Knowing about watersheds in your area and controlling what gets into them are ways each of us can make a difference in the quality of the water we consume. Small amounts of pollutants can have a cumulative effect on water quality. Contaminants are mainly introduced to the watershed in what has been termed point and non-point source contaminates. Point source pollution 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 but cumulative contributions from each of us. Paint thinner, antifreeze, pesticides; it doesn’t take long for our shelves to become cluttered with half-empty containers of chemicals. Chemicals or pollutants inadvertently put down a sink or street drain, over application of fertilizer and pesticides sprayed around a foundation increase the occurrence of watershed contamination because they leach and travel with rain water to the aquifers that supply your drinking water.

**Remember that clean, safe potable water starts at the source.**

All of the land around us is part of a watershed. What we do in connection with our daily lives and work can have a great impact on the quantity and quality of our drinking water. Each of us must diligently safeguard our environment and the water resources of this state to assure reliable water supplies for our future existence.

Each city and town, through its comprehensive plan, has primary authority and responsibility for establishing future land use, zoning and growth projections for municipalities as established by Rhode Island General Law

45-22.2-3. We cannot overstate the fact that 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). Public participation is crucial to the protection of these sensitive drinking water sources. Your input on the city and town land use decision-making process is important to protecting these sensitive drinking water aquifers and critical recharge areas that are vital to the future of our communities.

Signs have been strategically positioned within existing wellhead protection areas as a more visible indicator of your drinking water sources in 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 in 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 at (401) 222-3070 if you suspect a potential contamination concern.

The Pawtuxet, Mishnock and Hunt River aquifers and adjacent lands 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 going down the drain. Water from the aquifer, which used to be returned via on site wastewater treatment systems in your yard, is now being transported out of the aquifer drainage basin via public sewers, treated to drinking water quality and 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 from their wastewater treatment plants to its origins in an effort to keep aquifers from becoming stressed. Information on states in which this concept has been successfully implemented is available online. Once you have read it take the opportunity to voice your opinion and promote this type of cost saving conservation initiative to your state representatives. 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.

# 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.

REGULATED CONTAMINANT	PERIOD	UNIT	MCL
BARIUM (1)(2)	2011	ppm	2
CHROMIUM (2)	2011	ppb	100
FLUORIDE (1)	2011	ppm	4
NITRATE-N	2011	ppm	10
TOTAL COLIFORM BACTERIA (6)	2011	Monthly Max %	Presence of coliform bacteria in >5% of monthly samples
TURBIDITY (1)(4)	2011	NTU	TT
TOTAL ORGANIC CARBON (1)(3)	2011	N/A	TT
TOTAL TRIHALOMETHANES (TTHM)	2011	ppb	80
HALOACETIC ACIDS (HAA5)	2011	ppb	60
CHLORINE FREE RESIDUAL	2011	ppm	4
COMBINED RADIUM 226 AND 228 (2)	2008	pCi/L	5
DI(2-ETHYLHEXYL)PHTHALATE (1)(5)	2011	ppb	6
LEAD AND COPPER RULE	PERIOD	UNIT	AL
COPPER	2011	ppm	1.3
LEAD	2011	ppb	15

### Kent County Water Authority Table Footnotes:

- (1) Detection level influenced by Providence Water purchases.
- (2) Reflects sampling at groundwater source before blending with purchased water from Providence Water Supply Board.
- (3) 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.
- (4) 0.20 was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100%. The average turbidity value for 2011 was <0.10 NTU.

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, 2011 to December 31, 2011. 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.

	<b>MCLG</b>	<b>DETECTED</b>	<b>RANGE</b>	<b>MAJOR SOURCES</b>	<b>VIOLATION</b>
	2	0.017	0.008-0.017	Erosion of natural deposits.	NO
	100	5	2-5	Erosion of natural deposits.	NO
	4	0.97	0.73-0.97	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
	10	3.55	1.68-3.55	Erosion from natural deposits; Leaching from septic tanks; Sewage; Runoff from fertilizer use.	NO
	0%	1%	0-1%	Naturally present in the environment.	NO
	N/A	0.20	0.04-0.20	Soil runoff.	NO
	N/A	1.04	0.69-1.35	Naturally present in the environment.	NO
	N/A	70.6	70.4-70.8	By-product of drinking water chlorination.	NO
	N/A	7.05	6.2-7.9	By-product of drinking water chlorination.	NO
	4	0.32	0.12-0.39	Water additive used to control microbes.	NO
	0	2.2	ND-2.2	Erosion of natural deposits.	NO
	0	3.1	0-9.5	Discharge from rubber and chemical factories	NO
	<b>MCLG</b>	<b>90<sup>th</sup> PERCENTILE DETECTED</b>	<b>RANGE</b>	<b>MAJOR SOURCES</b>	<b>VIOLATION</b>
	1.3	0.035	0 of 30 samples were above the action level	Corrosion of household plumbing systems. Erosion of natural deposits.	NO
	0	3	0 of 30 samples were above the action level	Corrosion of household plumbing systems. Erosion of natural deposits.	NO

- (5) The result of 95 is for a single sample. All prior and subsequent tests results for this analyte to have been negative. The MCL for this analyte is based on a quarterly average. 3.1 represents the quarterly average, which is below the MCL.
- (6) This value refers to the highest monthly percentage of positive samples detected during the year. For 2011 KCWA collected 1438 samples for Total Coliform Rule compliance monitoring. Two samples were positive for coliform bacteria. None were positive for E. coli bacteria.

# 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 trihalomethanes are also applicable to our Cranston customers.

REGULATED CONTAMINANT	PERIOD	UNIT	MCL
FLUORIDE	2011	ppm	4
BARIUM	2011	ppm	2
Di(2-Ethylhexyl)phthalate (3)	2011	ppb	6
TURBIDITY (1)	2011	NTU	TT
TOTAL ORGANIC CARBON (2)	2011	N/A	TT

## Water Quality Table Footnotes:

- (1) 0.20 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 2011 was < 0.10 NTU.
  - (2) In order to comply with EPA standards, 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.
  - (3) DEHP was detected in a single sample of source water. All prior and subsequent test results for this compound have been negative.
- 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
HA	Health Advisory
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal

	MCLG	DETECTED	RANGE	MAJOR SOURCES	VIOLATION
	4	.97	0.73-0.97	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
	2	0.009	N/A	Erosion of natural deposits.	NO
	0	3.5	0-3.5	Discharge from rubber and chemical factories	NO
	N/A	0.20	0.04-0.20	Soil runoff.	NO
	N/A	1.04	0.69-1.35	Naturally present in the environment.	NO

### 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 possible 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.

# Statewide Water Use and Efficiency Rules

In 2011 the Rhode Island Water Resources Board voted to approve new water use rules based on the new authorizing legislation. The regulations require a reduction in customer use, capping it at 65 gallons per person per day. This limit includes all inside and outside water uses such as lawn and garden watering, car washing, pool filling, clothes washing, cleaning, drinking, cooking and any other water use. Some of the intervention highlights include but are not limited to:

- The retrofit installation of conservation plumbing fixtures and “WaterSense” appliances.
- Limits on the size of landscapes that require irrigation, the amount of water that can be used and times for operation of irrigation systems.
- Seasonal and inclining block rate structures that increase the cost of use as consumption increases.
- Establishment of new plantings restricted to spring and fall only.
- Public education and water audits.

Many of these initiatives appear to fall under the purview and enforcement authority of city and town building and zoning officials, but the water suppliers will be held accountable if targets are not met. Rate structures will have to change to comply with the adopted regulations. Increased costs can be expected if customers exceed the proposed 65-gallons per person per day cap.

Committee members objected to our calls for a gradual implementation schedule, which would give our customers time to change their water use habits. The Water Resources Board approved the new rules as recommended by the committee. The adopted rules establish a residential target of 65 gallons per day per person. To put this in prospective, the average non high efficiency washer uses approximately 40 gallons per load. Add a shower and a few toilet flushes and there isn't much left for the rest of your indoor and outdoor water uses. Public water suppliers will be subjected to fines for failure to meet the residential targets. We predict that we will

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**Increased costs can be expected if customers exceed the proposed 65 gallons per person per day cap.**

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need to impose moratoriums on outdoor water use in order to meet these proposed targets. As water demands reduce, rates will need to be adjusted to assure adequate funds to maintain operations and meet both our financial obligations and state mandates.

## Supply Deficit

We continue to look for economically feasible ways to meet maximum day plus fire demands as our public water system expands. The availability of potable supply sources remains uncertain. The expressed preference of the Rhode Island Water Resources Board is to curtail current residential demands as the methodology to provide additional supply to support future economic and residential growth. The Water Resources Board is legislatively empowered to manage the withdrawal and use of the waters of the state, with the obligation to ensure drinking water is available to all Rhode Islanders for use in their daily lives. The Rhode Island Department of Environmental Management supervises 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 efforts to acquire additional supplies for this expanding service area.

The periodic shortfall that many water suppliers' experience in meeting current maximum day demands should not be viewed as a passing event. The news and Internet are filled with reports from other states suffering similar or worse conditions. Rhode Island water supply philosophy has become awash in a sea of innuendo that may well have a crippling effect on the long term availability of public water supply into the next century. Factors like the effect of climate change on water demand, and the depletion of aquifers by expanding sewer systems, are routinely discounted in resource evaluations. The ability to store large quantities of reserve capacity and recharge aquifers is increasingly necessary to transcend extended dry periods. Additional surface water reservoirs or impoundments and treated wastewater treatment plant effluent recharge are perhaps the only suitable long-term solution to this concern.

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 critical reservoir resource for our future needs. Over the years expansion of public water and public sewer systems throughout the state have 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 under current maximum day demands. No other large drinking water sources

exist in the state, and demand continues to escalate in conjunction with residential and essential economic development.

Some time ago, 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 in an attempt to identify potential supplemental emergency water sources to meet emergency demands. The assessment indicated it did not consider development of new surface water sources as part of the supplemental supply portion of the study. The loss of the Providence Water Supply Board Scituate Reservoir source was said to indicate to present the largest impact on the ability to supply our customers and overall public water supply throughout the state. The assessment's conclusions rely on existing local supplemental sources to provide minimum levels of service during a loss of a critical supply source. Many of these facilities will require considerable infrastructure improvements or development of alternate facilities to be effective. Based on this study, it could take months or even years to build the infrastructure that we would need to recover from a major failure.

The Kent County Water Authority will continue to bring forward concerns regarding water supply within our state and present ideas for improvement and/or modification as appropriate. We urge our customers to contact their senators or representatives and voice their concerns regarding the future of water supply in Rhode Island. Reliable and redundant supply is crucial to our future growth and well-being. What other resource is available if the Scituate supply source becomes 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 in the Scituate Reservoir system or its treatment plant.

We all need to support the Big River Reservoir initiative by conveying our concerns to our state and local representatives. Building the reservoir doesn't mean we must tap the resource right away. However, 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.

Development of drinking water production wells in the Big River Management Area has ceased. After years of testing and investigative work the Water Resources Board concluded that wells were not economically feasible in the Big River Aquifer. The Water Resources Board has been absorbed into the Department of Statewide Planning. Before the transition the General Manager told us that it was not feasible to develop ten wells, which would only yield 2.1 million gallons a day. This represents a major setback in the provision of future supply for the state. Potable water supply is perhaps the most important component to

statewide economic sustainability and reservoir storage is the overall long term cost effective solution to both drinking water and environmental viability in this state. If you are troubled by this growing concern, contact your area legislative representatives to voice your opinion on development of a second reservoir supply in this area for our state.

## 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

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**On hot summer days  
water use can more  
than double.**

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to the best use of the state's water. 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 8 million gallons of water each day. On hot summer days water use can more than double. Legislative mandates to reduce consumption may dictate implementation of outdoor water use restrictions on our customers to assure compliance. 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 compliance with state mandates proves ineffective, our only recourse will be to impose a mandatory seasonal moratorium on outdoor water use until the overall demand falls in line with mandates set by the Water Resources Board. 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 ground covers. Replace your lawn with drought-tolerant shrubs or perennials.
- **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 grass. Many varieties are available for your use that includes 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 and disease.
- **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 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 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 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; watering can actually stress the grass more by forcing it to grow under such adverse conditions.

- **Limit Fertilizer Use** - Fertilizer increases the plants' thirst for water. Avoid use of fertilizers in the summer.
- **Natural Runoff** - Install cisterns or rain barrels to collect water from downspouts. This 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 moisture/rain sensors to prevent 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 water waste. 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 spots in your lawn 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 encourages disease and shallow roots.
- Water early in the morning to reduce evaporation.
- Do not over-water. Use a rain gauge and try to use 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).

## Capital Improvements

Capital Improvement projects are essential components to the future of the water supply system. Completion of these projects will help improve water quality and facilitate regulatory compliance.

The Kent County Water Authority celebrated the commencement of construction on the \$11,570,000 Mishnock Treatment Plant during an October 18, 2011 ground breaking ceremony. General Manager Timothy Brown, P.E., Board Chairman Robert Boyer, Vice Chairman Peter Masterson, Board member Edward Inman and representatives from the RI Department of Planning were on hand for the ceremony.

For over five decades the Mishnock Well Field, spanning Coventry and West Greenwich, has been a reliable supplemental source of public drinking water for the eight cities and towns serviced by the Kent County Water Authority. In 1996 the Board of Directors envisioned a need to respond to the demands of increased economic growth in these



communities and voted in favor of a strategic plan to expanding the well field capacity through the use of RI Water resources Board water protection program funding to assist in the acquisition of approximately to 500 acres in the Mishnock aquifer.

A number of scientific studies were conducted over the years to satisfy environmental concerns and conclude the economic feasibility of this source. These studies revealed that more than four million gallons a day could be produced without significant impact on the surrounding environment. Aesthetic concerns and stricter EPA regulations caused the temporary shutoff of these wells.

The engineering firm Wright Pierce was hired in 2007 to evaluate current and future water quality concerns and perform tests to determine the most cost-effective solutions. A new treatment plant was designed with state-of-the-art technology to remove radon, iron and manganese, adjust Ph, and remove viruses and bacteria from groundwater sources. A contract for construction of the plant was awarded to the HART Engineering Corporation. The project will take approximately 18 to 20 months to complete.

During Chairman Boyer's public address, he expressed how proud the Board was of the General Manager and staff involved in this project, and how satisfying it was to see this capital project component of our strategic plan finally underway. "It's a big win-win for everybody," said Boyer. The project will greatly enhance the economic development appeal of the cities and towns we service and greatly enhance the quality of service to our existing and future customers.

The Kent County Water Authority Capital Improvement Project plan is under revision to reflect improvements identified in the latest hydraulic studies of the system and economic development indices. Upon the approval of the Kent County Water Authority Board, identified and

# Did You Know That in 2011 Kent County

... Responded to the homes and businesses of 3,000 of its 26,600 customers in response to requests for assistance.

... Repaired 91 underground infrastructure leaks.

... Flushed 430 miles of main to help maintain the quality of your drinking water.

... Inspected and tested 2,338 hydrants, of which 92 were either repaired or replaced.

... Processed 3,304 DigSafe marking requests, requiring the Marking of 80 miles of underground infrastructure.

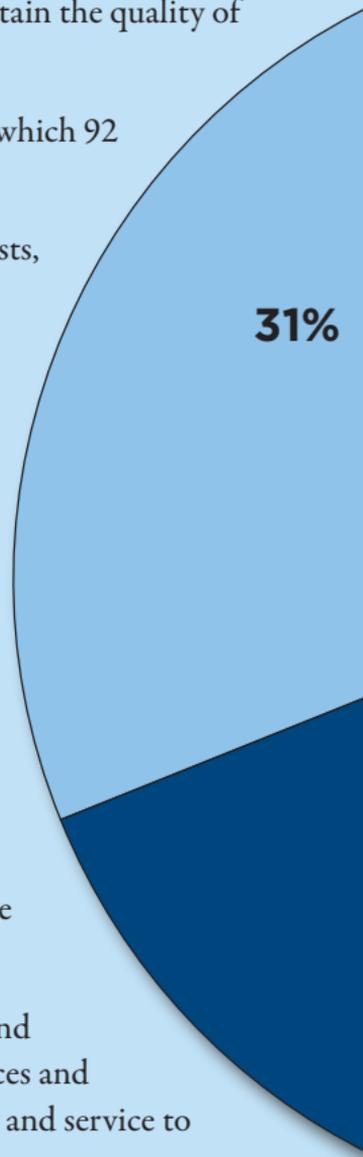
... Recorded 108,000 meter reads.

... Prepared, printed, mailed and processed 108,000 customer bills, 19,000 delinquent notices and 16,000 shutoff and collection forms.

... Pumped 3 billion gallons of water to supply both domestic and fire service at less than ¾ of a cent per gallon delivered to your home.

... Traveled 220,000 vehicle miles in service to our customers.

... Replaced 4.9 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% Electricity: Pumps, Wells, Tanks, Pressure Control Stations and Offices

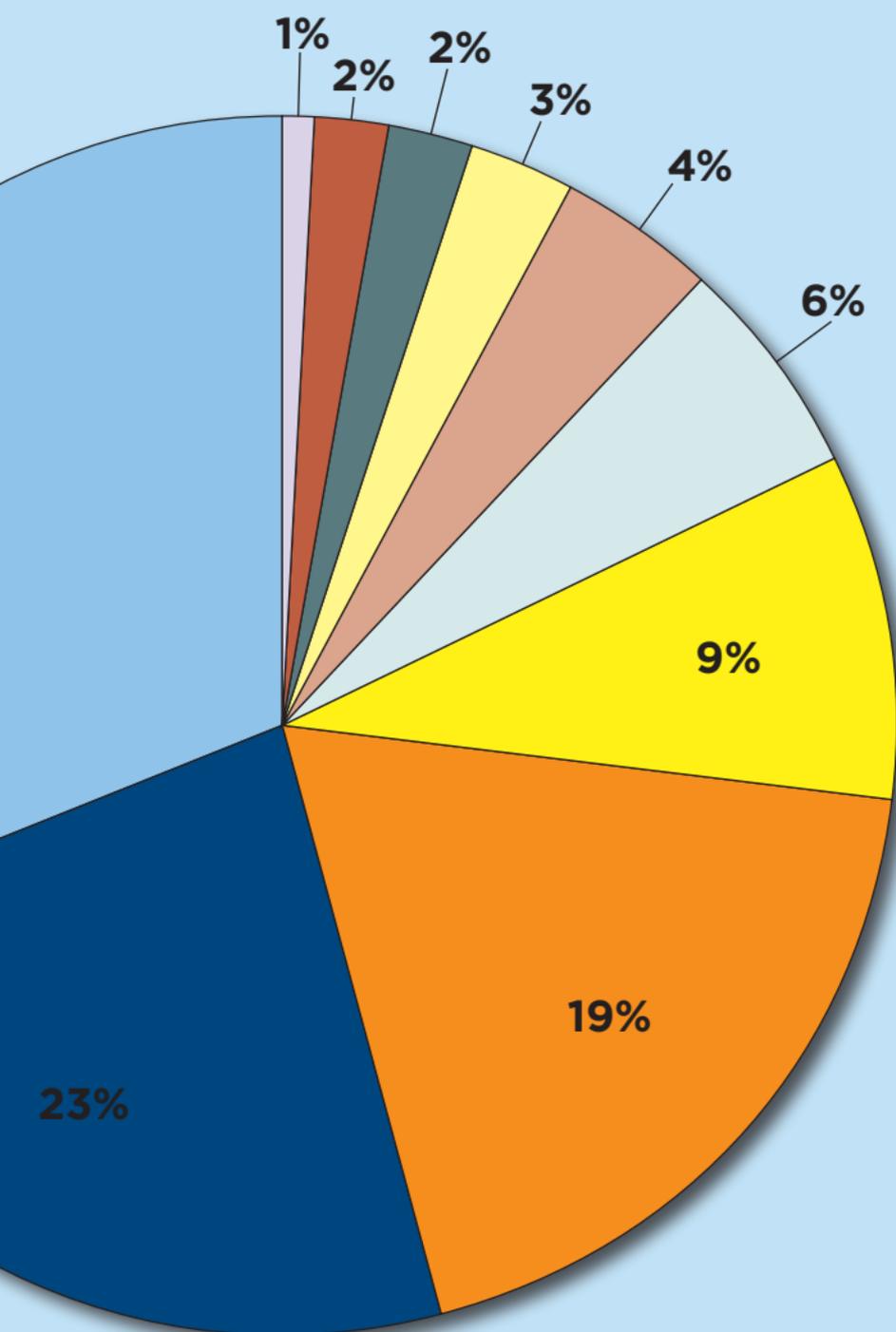
2% Restricted: Cash Capital

9% Payroll: Base Salary and Overtime

19% Restricted Bond: Debt Service for Capital Improvements

23% Purchased Water: Wholesale Water Purchases from Providence and Warwick

# Water Authority Employees...



3% Treatment/Service Materials: Chemicals, Replacement Parts, Gravel and Asphalt



4% Benefits: Life, Disability Health, Dental Insurance and Pensions



6% Operations: Vehicle Maintenance, Customer Records, Legal and Accounting Fees, Regulatory Commission Expenses, Fuel, PILOT, Samples and Dig Safe



31% Restricted IFR: Legislatively Mandated Infrastructure Replacement Program

prioritized projects will move forward in the planning and construction phases as funds become available for their completion. Our overall goal is to provide improved service and reliability for our customers.

## **Water Quality Improvements East Greenwich Well**

Manganese is not regulated under Federal or 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 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. Additional testing has been completed. The final report identified aeration and filtration as the best overall treatment solutions for this source water. In our effort 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 funding is approved. Until then we urge you to 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 products tend to cause staining despite the interim use of the sequestering treatment regime. Feel free to contact us at 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 service representatives.

## **Cross Connection Control**

The Rhode Island Department of Health's Rules and Regulations outline mandatory and enforceable requirements concerning the installation of backflow prevention appurtenances in both new 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 area where the water service enters the building. The Rhode Island plumbing code also requires the installation of thermal expansion controls in conjunction with the backflow device installation.

## Meter Technologies

Metering technology continues to advance and represents a key aspect of our 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 customers' 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. 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 EPA 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 EPA 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's Office of Drinking Water Quality at (401) 222-7740 should you have any questions concerning this matter.

# Shutoff For Nonpayment Continue to Rise

We have continued to see a dramatic increase in the number of delinquent accounts over this past year. Failure to make payment on your bill eventually leads to a shutoff notice and subsequent termination of service. The charge for shutoff of a delinquent account is \$55.00. After payment of the delinquent amount the turn-on charge is \$45.00. This amounts to an additional \$100.00 added to the delinquent amount before water service can be restored to your property. It is very important that you contact us as soon as you think you may not be able to make payment within the normal 30 day grace period. At that time we can discuss options for payment and perhaps offer a payment plan to get you through a tough period and avoid the shutoff and turn on charges. If you stay within your payment structure it will save you from the additional \$100.00 charges associated with shutoff and turn on policy.

## Account Contact Information

Keeping your account contact information up to date is an important factor in our ability to communicate with you should a problem arise. Our customer service representatives will be asking for updated phone contact information as part of any interaction with our customers. As this data becomes more accurate we will move to the next phase, which will incorporate an automatic notification should a system-wide problem arise that compromises the quality of your water. Feel free to notify us any time your contact information changes. Our customer service representatives endeavor to assist you. Thanks for your cooperation.

## Tips That Help You Save

Toilet leaks: Does your toilet cycle when no one is in the bathroom? Do you have to jiggle the handle to stop the toilet from running? These are all symptoms of worn or maladjusted components in your toilet. We recommend testing your toilets for leaks at least once a year. The process is very simple and can save you from receiving an unexpectedly high water bill. Add food coloring or other non-staining dye tablets to your toilet tank. Customers can obtain free

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**We recommend  
testing your  
toilets for leaks  
at least once  
a year.**

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dye tablets at our office. Let the toilet stand for twenty minutes. If the water in the bowl changes color, it indicates that toilet tank water is leaking into the bowl and down the drain.

**Frozen pipes:** Each year we respond to hundreds of calls regarding frozen pipes and meters. Most often drafts, improperly insulated pipes or failed heaters are found to be the cause. The best time to inspect and correct these situations is before the cold weather sets in. Inspect the area where your meter and plumbing are located. Look for open cracks in the foundation, poorly fitted windows and doors, missing gaskets, insulation or light entering where the wood meets the concrete. Replace gaskets and insulate all suspect areas. Preventive measures are very often less costly than repairs associated with flooding and burst pipes resulting from frozen pipes.

**Monitoring Your Meter:** Each meter register is equipped with a leak detection feature. On older registers it's a small triangular indicator. On the newer digital registers it's a blinking faucet that must be activated by waving a flashlight over the register. The process is simple. Make sure no one is using any plumbing fixture or appliance in the home. During this period observe the register indicator. If the triangle is rotating or the faucet is flashing, this indicates a leak. You can further investigate the source of the leak by isolating or shutting off the valve to each toilet and appliance one at a time. Check the leak detector after isolating each plumbing fixture. If the detector stops, you have found the source and a plumber should be able to assist you with the repair. If you have a question about this leak detection process, feel free to call and one of our customer service representative and they will be happy to assist you in this concern.

# IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

## ***Monitoring Requirements Not Met for Kent County Water Authority***

PWS# RI1559511  
Kent County Water Authority  
***PO Box 192  
West Warwick, RI 02893***

*Our water system violated a drinking water standard over the past year. Although this was not an emergency, as our customers, you have the right to know what happened and what we did to correct the situation.*

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Between the dates of July 1 and September 30, we did not monitor for the contaminants shown in the table below from our groundwater supplies that were offline due to mechanical and electrical casualties and therefore cannot be sure of the quality of our drinking water during that time.

### **What should I do?**

There is nothing you need to do at this time.

The table below lists the contaminant(s) we did not properly test for during the last year, how often we are supposed to sample and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

<b>Contaminant</b>	<b>Required Sampling Frequency</b>	<b>Number of Samples Taken</b>	<b>When All Samples Should Have Been Taken</b>	<b>When Samples Were Or Will Be Taken</b>
Nitrate	1 per Quarter Spring Lake Well	None	7/1/2011 - 9/30/2011	11/21/2011
Di(2-ethylhexyl) phthalate (DEHP)	1 per Quarter East Greenwich Well #1	<b>One</b> (Detection Limit not Met)	7/1/2011 - 9/30/2011	11/21/2011

## What happened?

The Spring Lake and East Greenwich wells were inoperable due to mechanical and electrical failures. Kent County Water Authority relies on the Rhode Island Department of Health to collect and analyze water quality samples. Samples could not be taken on schedule due to equipment failures.

## What is being done?

The mechanical and electrical failures have been repaired. Kent County Water Authority contacted the Rhode Island Department of Health on October 12, 2011 to schedule sample retrieval. We are awaiting sampling dates from the Rhode Island Department of Health. *For more information, please contact Timothy J. Brown, P.E. at 401-821-9300 or PO Box 192, West Warwick, RI 02893*

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This Notice Is Being Sent To You By Kent County Water Authority PWS ID#: RI1559511

Date distributed:

Website 10/27/2011

Public Bulletin Board 10/27/2011

CCR Prior to 6/30/2012



**Kent County Water Authority**

P.O. Box 192, West Warwick, RI 02893-0192

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