

# 2010 PROVIDENCE WATER SUPPLY BOARD ANNUAL REPORT



## EXECUTIVE SUMMARY



Visit our website at [www.provwater.com](http://www.provwater.com)

# EWG's Top-Rated and Lowest-Rated Water Utilities

EWG rated **big city** (over 250,000 population) water utilities based on these three factors:

- Total number of chemicals detected since 2004
- Percentage of chemicals found of those tested
- Highest average level for each pollutant compared with legal limits or national averages

Read more on rating methodology:

[www.ewg.org/tap-water/methodology](http://www.ewg.org/tap-water/methodology)



## Top Rated Water Utilities

**1** **Arlington, TX**  
*Arlington Water Utilities*

**2** **Providence, RI**  
*Providence Water*

**3** **Fort Worth, TX**  
*Fort Worth Water Department*

**4** **Charleston, SC**  
*Charleston Water System*

**5** **Boston, MA**  
*Massachusetts Water Resources Authority*

**6** **Honolulu, HI**  
*Board of Water Supply  
(Honolulu/Windward/Pearl Harbor)*

**7** **Austin, TX**  
*Austin Water Utility*

**8** **Fairfax County, VA**  
*Fairfax Water*

**9** **St. Louis, MO**  
*City of St. Louis Water Division*

**10** **Minneapolis, MN**  
*City of Minneapolis Water Department*

## Lowest Rated Water Utilities

**100** **Pensacola, FL**  
*Emerald Coast Water Utility*

**99** **Riverside, CA**  
*City of Riverside Public Utilities*

**98** **Las Vegas, NV**  
*Las Vegas Valley Water District*

**97** **Riverside County, CA**  
*Eastern Municipal Water District*

**96** **Reno, NV**  
*Truckee Meadows Water Authority*

**95** **Houston, TX**  
*City of Houston Public Works*

**94** **Omaha, NE**  
*Metropolitan Utilities District*

**93** **North Las Vegas, NV**  
*City of North Las Vegas Utilities Department*

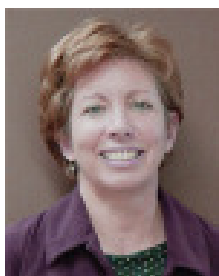
**92** **San Diego, CA**  
*San Diego Water Department*

**91** **Jacksonville, FL**  
*JEA*



[ewg.org/tap-water](http://ewg.org/tap-water)





**REPORT FROM  
CHIEF ENGINEER  
PAMELA M.  
MARCHAND**

**Overview – July 2009 through June, 2010**

The past fiscal year was one of great highs and difficult lows.... accomplishments and obstacles... a groggy economy and a soggy climate.

Through all the triumphs... all the many challenges, our staff persevered with competence and professionalism.

We remain committed to our mission – our reason for being – to continue to reliably provide the highest quality drinking water to our customers at the best value.

**National recognition for the Providence Water Supply Board**

On December 12, 2009, a news release from the respected Washington-based consumer watchdog organization “Environmental Working Group” published a ranking of the Top-rated and Worst-rated water systems nationwide. The release reinforced what we and our customers have been saying for decades – Providence Water is world-class water at a bargain price.

When all the numbers over a five year period from 2004 through 2009 were analyzed, Providence Water was declared the 2<sup>nd</sup> highest-rated Water Utility in the nation, behind only Arlington Water Utilities of Arlington, Texas.

The study compared all “big city” water systems in the nation serving greater than 250,000 customers. The comparison study was based upon the following three factors:

1. Total number of chemicals detected in the water system since 2004;
2. The percentage of chemicals found of those tested;
3. The highest average level for each pollutant compared with legal limits or national averages.

Being number two in the USA is great, but like the number 2 car rental company ads, we are committed to try harder to grab the top spot in the next comparison.

**Making Great Drinking Water Even Better**

For the first time since the 1960’s, the Philip J. Holton Treatment Plant in Scituate is undergoing a major

infrastructure renovation that will potentially increase the plant’s treatment capability to 180 million gallons per day (MGD), up from its current 144 MGD capacity and go a long way towards providing for even better water quality to capture that number one spot.

All of our 18 filter beds will be replaced with new modern-design filters as part of this improvements project. The \$40-million improvements project will also include the construction of new protective building enclosures covering the new filters, all new filter piping, valving and metering, and a complete upgrade of the plant’s process control and instrumentation systems.

The new filters have been designed to be able to accept granular activated carbon (GAC) as a filter media as GAC has advantages as a filtration media over our current sand/gravel filtration system. GAC has a greater capacity for removing tastes, odors and contaminants – including disinfection by-products formed during the treatment process.

Engineers and chemists at Providence Water have been considering the use of GAC for a while now. For the past several years, they have been conducting bench scale pilot testing at the treatment plant, evaluating GAC media and monitoring the effects of GAC on the overall treatment process.

Due to the complexity of the project, and the need to carefully sequence the work while keeping the plant in operation, the project construction is expected to span a six-year time period. The project is funded from the existing Infrastructure Replacement Program and will not require bond financing or borrowing.

In November of 2009, Providence Water celebrated the ground-breaking for this important rehabilitation project with a commemorative event. We chose the backdrop of both the exterior portion of the treatment plant’s facade as well as filter gallery to showcase the changes when we photograph the same group once the project is complete.

Providence Water engineers have also incorporated the introduction of carbon dioxide (CO<sub>2</sub>) as part of our water treatment process. In consultation with the RI Department of Health, we plan to add carbon dioxide to the treatment system to buffer the water to help corrosion control for both lead and iron. CO<sub>2</sub> in the treatment process will stabilize the pH and convert more



of the soluble lead coating on the surface of the lead service connection lines and customers' home interior lead plumbing to insoluble. Upon completion of this additional treatment step in the overall process, the problem of lead leaching from lead plumbing in customer homes should dramatically improve.

When the Providence Water distribution system was constructed in the early 1900's, lead was an abundant, inexpensive and widely utilized material for plumbing and water service connections. Since then, scientists have discovered that exposure to lead can cause health issues for some segments of the general population, most notably young children and pregnant women.

Providence Water stopped using lead piping to connect customers in 1947 and has been systematically replacing older lead service connections since then.

There were still more than 25,000 lead service connections within the Providence Water distribution system in 2007. Since then, Providence Water's lead service replacement program has replaced nearly 9,000 of those connections at a minimum rate of 1,800 replacements per construction season. Since customers own the portion of their service from the curb stop (usually at the property line), they have been offered the opportunity to replace their portion at the same time that we replace our section.



## **Customer Friendly initiatives**

Beginning in July of 2009, Providence Water began offering customers an option to purchase a Service Line Protection Program that provides either a 5,000 or 10,000 dollar plan that would pay for service connections that fail or leak. For those customers who need the protection, the The Safety Service Line Protection Program provides them that piece of mind for a nominal annual costs. After one full year of operation, there are currently 5,687 customers enrolled in the program. Nearly 95 percent of those customers enrolled have opted for the \$10,000 coverage package at a cost of \$59.99. We will be revising another enrollment offer letter to customers in Fiscal Year 2011 to include the average cost savings that customers realized by replacing their service under the program.

A reconfiguration of our current customer water invoice has been completed. A new, easier-to-read customer bill is scheduled to be released early in FY 2011. It will also be accompanied by a new electronic billing statement system which is part of our continued

efforts to help everyone save money and to do our part to build a "green" community. More on Providence Water's "Go Green" efforts a little later in this report.

Providence Water received federal stimulus funding money under the American Recovery Reinvestment Act (ARRA) early in Fiscal Year 2010 as part of a bond program that reduces the principal by 20 percent. That money is being used for specific "green" projects to improve efficiencies and diminish water loss throughout the distribution system. We are installing a comprehensive water loss system known as MLOG throughout our distribution system. MLOG can identify leaks that occur before the water meters on customer



service connections and on the distribution mains in the streets, enabling us to assess and repair even tiny leaks before they become a major problem.

Another portion of the stimulus money is being used for water main replacement within our system to improve water quality by replacing deteriorating cast iron mains, especially those with existing lead services remaining.

We also purchased several hundred hydrant locks designed to prevent vandalism and unauthorized tampering, especially during the summer season. Stimulus funding made this purchase possible.

In March of 2010, Providence Water crews began installing the hydrant locks and MLOG devices and started monitoring our system for leaks. As of June 30, 2010, there were 1,966 MLOG's installed throughout North Providence and Cranston areas of our system. And yes, tiny leaks have already been discovered and repaired before they grew into larger, more disruptive leaks.

We also continued with the maintenance phase of our Automatic Meter Reading (AMR) program. We are moving forward with our 15-year meter replacement program. The 60-Watt ERT (Encoder Receiver Transmitter) is currently being installed throughout our distribution system. However, we are now contemplating installing the latest ERT technology known as the 100-

Watt ERT. The 100-Watt ERT has all the features that are currently in the 60-Watt ERT (leak detection capabilities, 20 year life lithium battery), but it also provides us with the ability to data log accounts, monitor reverse flow and obtain interval data. The 100-Watt device will also allow us to migrate to a hybrid fixed network in the future whereby meter signals will be collected directly from the office. Longer life for the meter devices means greater customer convenience and fewer scheduled exchanges over time saving ratepayer money.

The meter area is currently piloting a wireless work order systems in an effort to improve departmental efficiencies. In FY 2011, we will be developing an RFP for a wireless work order system and hope to have it in place in an effort to improve efficiency by eliminating duplicate data entry.

## **FY 2010 Challenges**

When the Fiscal Year began in July of 2009, storm clouds had already been dumping astronomical amounts of rainfall in the Providence area. In fact, the previous month of June 2009 had only two days of recorded sunshine in the Providence Water service area, helping to cause June 2009 demand for water to drop nearly 25 million gallons per day from the normal monthly average. Cooler temperatures and endless daily cloud cover with rain caused customers to keep home sprinklers quiet and garden hoses empty for watering flowers and lawns, washing cars, filling swimming pools and other seasonal water uses.

In addition to the bad weather, the sputtering economy also had a big impact on lower water use year round.

Because our PUC-approved rates for water are calculated on anticipated and historical consumption averages, significantly less water use than anticipated translates into serious shortfalls of operating cash.

A number of measures were immediately implemented when we recognized the start of the cash flow problem's potential. We had to put a serious squeeze on spending and come up with ways to increase our cash flow. Overtime was significantly curtailed and projects that could hold off until the next fiscal year were tabled.

In January, after 15 consecutive months of below average consumption, we petitioned the RI Public Utilities Commission for a re-opening of the previous October 5, 2009 rate docket, citing abnormally low consumption numbers and the critical impact that was having on operating revenue.

On April 7, 2010, The PUC approved the setting of rates 9.9 percent higher, based upon lower actual consumption data from calendar year 2009. Even though consumption continues to be low, the situation is

improving and the higher rate is helping to offset the lost revenue due to continued lower consumption patterns.

On another front, the collection staff re-doubled their efforts to reduce our aged receivable balance. Several shut-off blitzes were conducted throughout FY 2010. The most recent shut-off blitz in a three-week period in June 2010 resulted in nearly \$340,000 being collected and another \$175,000 was promised in financial agreements with delinquent customers. In addition to our shut-off blitzes, we closed out FY 2010 with a lien sale. The lien sale brought in \$900,000 from closed properties and fire supply accounts.

The billing section is once again analyzing billing frequency to determine if there are economic advantages to increasing our billing output from quarterly to bi-monthly. An on-going assessment of water utility billing software will also continue in order to be prepared if billing frequency changes need to be made in the future.

We've made concerted efforts to "Go Green" to save ratepayer dollars and help the environment. Working with local vendors, we were able to change the status of our "Waste Oil" to "Used Oil", saving money and the environment. In the past, old oil removed from vehicles and equipment was disposed of as hazardous waste, costing thousands of dollars. This new process allows our used oil to be recycled at no cost to Providence Water, saving thousands of ratepayer dollars.

As in years past, Providence Water continues to upgrade lighting fixtures to utilize low watt light sources. We've installed motion sensors throughout our facilities to control lighting usage. We installed a solar battery-charging system at our Long View Reservoir facility. We also installed Green Leaf Solar Gauges on our underground and above ground storage tanks.

As briefly mentioned earlier, re-cycling is a priority at Providence Water. We recycle paper, plastic, metals, computers and any and all electronic components (E-Waste). This prevents hazardous substances such as mercury from contaminating the environment and limits the amount of trash being transported to the landfill.

We're also getting more with what we already have. Providence Water awarded a contract to retro-fit large crew trucks. Instead of buying new trucks, we are removing old style truck bodies and installing newly designed utility bodies that better meet our workforce needs. The new bodies are put back onto the existing chassis, which have less than 70,000 miles, and for diesel powered engines, that's just the beginning of its powertrain/engine life cycle.

Providence Water stepped up the vehicle fleet maintenance, extending the vehicle replacement program from seven years to nine years. Generally speaking, we would replace each vehicle every seven years. Now through a much more intense vehicle inspection/



maintenance program, we will be replacing vehicles every nine years, creating a significant savings to Providence Water ratepayers.

### **Protecting, monitoring and treating our Scituate Reservoir system water**

As part of our ongoing program to manage the water resources and environment a number of new initiatives were started in the past year. Many of these programs will aid in preserving the health of the forest environment. They include:

- Treating approximately 70 acres of land in order to prevent the spread of non-native invasive species of vegetation.
- Creating 1,000 acres “Deer Management Cooperative Area”, in cooperation with R.I. Department of Environmental Management, in order to measure the effects of the growing deer population.
- Conducting an experimental program to tap maple trees on approximately 20 acres of land for maple syrup production.
- Updating our stream sampling program and conduct limnological assessments on two reservoirs.
- Acquiring an additional 93 acres of land through the Water Quality Protection Fund in order to protect and preserve water quality and, in addition, began to implement the “land acquisition component” of the tax treaty agreement with the town of Scituate.

Keeping the treatment plant operations running productively without major interruptions or regulatory issues during the filter rehabilitation project has been a major effort and concern during this past year. Despite the interruptions caused by the ongoing construction work, water treatment plant crews installed or updated various systems and equipment including the following:

- Installed remote pH monitoring incorporating solar power and radio communication.
- Enhanced safety in order to provide improved access to various structures.
- Reconditioned pumps, piping and motors at the Raw Water Booster Pumping Station.
- Installed a remote weather information station at the Scituate facility for the acquisition of relevant data.

- Upgraded remote telemetry equipment to the SCADA system.

Work was completed on the restoration of the historic stone wall at the Gainer Dam. The wall had been in a state of disrepair to due age, vehicular accidents and vandalism. The wall is historically significant, along with the Gainer Dam, which was designated an “American Water Works Association Historical Waterworks Landmark” in 2002.

The laboratory completed another busy year of testing water in order to insure quality control and regulation compliance. In addition to routine sampling and testing other highlights of the year’s monitoring included:

- Completion of Lead and Copper Rule compliance monitoring. 100 residential sites were each monitored during two 6 month monitoring periods for lead and copper as required by regulation. In addition, the laboratory conducted water quality parameter monitoring at 25 distribution sites quarterly and on the plant effluent water bi-monthly.
- Monitoring under the Total Coliform Rule comprised the collecting and testing of 2,297 samples for the year.
- Completion of the Unregulated Contaminant Monitoring Regulation required quarterly sampling of 25 exotic compounds in order to assist the U.S. EPA in determining the propensity of these compounds in drinking water nationwide. This information will assist the agency in future rule making and regulatory decisions.



### **Working with Our Neighbors**

After successfully gaining an acceptable tax rate in Scituate last year, Providence Water staff worked with representatives from the Town of Scituate as members of the Watershed Protection Restricted Fund Advisory Board to address land acquisition by Providence Water within the Town of Scituate, as outlined in our new 10-year tax agreement. This year, the board drafted policies and procedures, retained necessary vendors such as appraisers, surveyors, etc., and identified valuable parcels for potential acquisition. Landowners were contacted and negotiations have progressed. Purchase and Sales Agreements have been prepared to acquire six properties for watershed protection purposes.

Providence Water continues to be successful in the Rhode Island General Assembly by addressing water-related issues and working with various stakeholders including legislators, municipal officials, utilities and state agencies. Providence Water provided testimony on pertinent legislation related to utility service termination processes, rate increases, road restoration, cross connection control, meter replacement and infrastructure relocation. Our efforts protect the quality of our water and ensure lowest possible cost to our ratepayers.

Providence Water successfully opposed legislation which would repeal a long-standing statute that exempts Providence Water from permanently restoring roadways in Cranston, Johnston and North Providence following emergency infrastructure repairs. We have presented a draft memorandum of agreement, which is fair to all stakeholders, to the municipalities for consideration.

Providence Water worked with the Rhode Island Water Works Association, the Rhode Island Department of Health, legislators and the Town of Johnston in drafting/ negotiating compromise legislation and regulations in order to address cross-connection control legislation which would repeal current requirements.

### **Making Providence Water a better place to work**

In early 2009, Providence Water employees participated in an organizational assessment and embarked upon a strategic planning process to identify and remedy problem areas.

Four primary areas to improve were identified initially. They include:

- Redefine the utility's relationship with the City of Providence
- Improve Internal Communication, Teamwork, Understanding and Cooperation
- Improve Accountability, Work Ethic and Morale
- Elevate Fairness and Reduce Favoritism

Working committees were established with employees serving as Group Leaders and Scribes. Implementation of employee-driven objectives and action steps began in earnest around the start of the fiscal year in June of 2009.

To improve internal communications, all employees were assigned e-mail accounts and were provided access to community computers, a new internal INTRANet was developed with announcement capability and document display for all to access, the internal employee newsletter was resurrected with a committee the driving force behind content and story development.

We are currently holding meetings of the Strategic Plan

Accountability Group and have included the Team Leaders and Scribes from the other groups as well to address the issue of career development.

### **Epilogue**

What's ahead for the nation's number 2 ranked water utility?

One challenge we are anticipating is the aging of our workforce. In FY 2010, six long-term employees retired with a combined 207 years of employment at Providence Water. Their leadership and experience with our system will truly be missed. As time goes on for more of our "baby-boomer" employees, it's clear that many more members of our veteran workforce will also be making the choice to retire in the coming months.

In FY 2010, we hired a training coordinator who brings a great level of real world know-how to our table. She will work hard to expand our utility training programs to fast-track our junior employees with as much technical education as they can handle, so they can be ready to step up and become tomorrow's leaders.

Among contemporary water utilities, Providence Water has traditionally been at the forefront of emerging technologies to remain competitive and efficient. The new fiscal year will see more wireless computers in the field to improve efficiencies in our maintenance programs, and to assist us during times of emergency repairs. We'll continue to explore new and effective water treatment options, and we'll be expanding our asset management programs to incorporate all existing utility assets.

We'll continue to explore newer and innovative methods to better serve our customers and make their experience with us the best it can be.

We'll continue to implement our ambitious Infrastructure Replacement program as re-build an aging water system with new treatment options and replacement of distribution mains, valves and service connections.

We'll remain vigilant to keep our source water system, the Scituate Reservoir, pristine and healthy so our raw water is protected from contaminants and other threats.

And we'll keep producing drinking water that's deserving of a number one national ranking.

We may be number two, but we'll keep trying harder.



## **Did you know that.....**

- At the height of the Spring 2010 floods, the water level in our reservoir was 3.9 ft above the spillway and that 3.7 billion gallons of water per day discharged over the spillway.



- Providence Water installed 1,966 MLOG devices during FY 2010
- Providence Water installed 1,875 meters throughout the fiscal year
- Providence Water rendered 292,426 water bills in FY 2010



- Providence Water plans on replacing approximately 22,635 feet of distribution system water mains and 340 lead services connected to them during the 2010 construction season

- Providence Water is close to rolling out a computerized GIS system with map links to all 74,000 customer connections, 870 miles of distribution mains, 5,200 hydants, and thousands more valves and other assets in the system

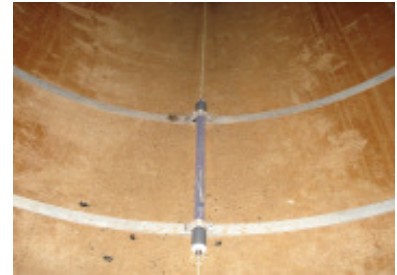
- Providence Water distributed more than 165,000 lead informational brochures to customers, doctors offices, hospitals, medical clinics and schools from February through June 2010

- Providence Water planted over 2,000 seedlings strategically within the watershed to encourage healthy regeneration of the forestland



- Providence Water has converted 99.3% of the entire water system to Automatic Meter Reading technology with only 50 non-AMR accounts system wide.

- Providence Water has, as of June 30, 2010, surveyed the entire 870 miles of distribution pipe in our system leaks (186 leaks have been verified and repaired)



Visit our website at [www.provwater.com](http://www.provwater.com). for more!

### **Providence Water Senior Management**

Chief Engineer /General Manager --  
**Pamela Marchand, P.E.**

Deputy General Manager / Operations --  
**Michael Russo**

Deputy General Manager / Administration --  
**Boyce Spinelli**

Director/Water Supply -- **Michael Covellone**

Director/Commercial Services -- **Ricky Caruolo**

Director/Engineering -- **Paul Gadoury**

Director/Support Services -- **Joseph Spremulli**

Director/Finance -- **Jeanne Bondarevskis**

Director/Special Projects -- **Paul Titzmann**

Acting Directors/Transmission & Distribution.--  
**Ronald DelGallo**

**Robert Palazzo**

**Mark Haroian**

### **Providence Water Board of Directors**

Chairman -- Andrew K. Moffit

Vice Chairman -- Joseph D. Cataldi

Ex-Officio -- Bruce Miller

Councilman Joseph DeLuca

Councilman Michael A. Solomon

John A. Farnoli

Everett Bianco

Legal Advisor -- Fernando S. Cunha, Esq.

Board Secretary -- Carissa Richard