The Rhode Island Water Resources Board and the Rhode Island Water Resources Board Corporate 2009 Annual Report

2009

Rhode Island Water Resources Board Rhode Island Water Resources Board Corporate

Board Member	Appointment Designation
William Penn, Chair	Financial Planning Professional
Pamela Marchand, Vice Chair	Large public water system
Samuel H. Kitchell	Large water user
Allan Klepper	Small water user
William Stamp, III	Agricultural Business
Harold Ward	Conservation Organization
Jesse Rodrigues	Public Member
John Schock	Public Member
Ronald J. Gibson	Public Member
W. Michael Sullivan, Ph. D	Director, Department of Environmental Management
J. Michael Saul	Director, RI Economic Development Corporation
Kevin Flynn	Associate Director, Department of Administration Division of Planning
David R. Gifford, MD, MPH	Director, Rhode Island Department of Health

Staff

Kenneth J. Burke, P.E., General Manager, Secretary/Treasurer

Kathleen M. Crawley, Staff Director

Romeo N. Mendes, P.E., Supervising Engineer

Peter A. Duhamel, Principal Planner

William D. Riverso, Program Services Officer

Emily J. Cousineau, Implementation Aide

WRB Legal Council:

Bond Council:	Normand Benoit, Esq., Partridge, Snow, & Hahn Karen Grande, Esq. Tillinghast, Licht, Perkins, Smith & Cohen
Financial Advisor:	First Southwest Company
Trustee:	Bank of New York
Auditor:	Casale, Caliri, & Jaroma, LLP

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Letter from the General Manager and the Chairman

Dear Governor Carcieri, Members of the General Assembly, and fellow Rhode Islanders:

The Rhode Island Water Resources Board (WRB), the Rhode Island Water Resources Board Corporate (WRBC) and WRB staff are pleased to submit our Fiscal Year 2009 Annual Report. This report highlights the accomplishments of our programs throughout the past year and previews our projects for the upcoming year.

The WRB ensures the fair and equitable use of the State's water resources by administering a series of programs ranging from the Water Supply Systems Management Plan, Emergency Interconnection Program, acquisition and management of properties needed for future water supplies, continuous monitoring of river and groundwater resources, and other activities. Our commitment to excellence to develop scientifically and legally defensible programs binds the diverse membership of our Board for the stewardship of the water resources of our great State.

The WRB remains a committed partner to the Governor and the General Assembly by reducing our already lean program to assist in the State's financial recovery. Our current budget reductions maintain the integrity of our core mission to manage the State's water resources, while also advancing new programs such as a Water Allocation Program and the development of a new groundwater source from the Big River Management Area. With your continued support and involvement, the WRB's unique composition of water resources stakeholders will continue to protect the water resources of the State for decades to come.

Sincerely,

Kenneth J. Burke, P.E.
General Manager

William J. Penn
Chairman

Legislation and Public Relations

The Water Resources Board (WRB) is comprised of representatives of diverse water stakeholders throughout our State. With decades of scientific research and studies to back us, the WRB continues our mission of ensuring the fair and equitable use of water through the administration of our policies and programs, and occasionally through either new or revised legislation.

In October 2009, the Rhode Island General Assembly and the Governor passed the Water Use and Efficiency Act, which supports the WRB's mission to ensure the fair and equitable use of water throughout the State. This legislation had been coordinated between the Rhode Island Water Works Association and the Coalition for Water Security for several years prior to its adoption this fall. Some of the major points of the Act include: setting conservation goals for major water suppliers, enabling agencies to keep consumer costs affordable, controlling costs for managing water supply and updating aging water infrastructure, and redefining the members of the Water Resources Board to include specific expertise in various aspects of water management.

In July of 2009, the General Assembly also passed Budget Article 5 regarding Water Resources Board Corporate (WRBC); the financial instrument of the WRB. Budget Article 5 prohibits the WRBC from borrowing any new debt for water supply projects for the State, and transfers the financial powers and duties of WRBC to the Clean Water Finance Agency (CWFA) after existing outstanding bonds are defeased (expected in 2015). Although the WRB supports the consolidation of financial duties within State government in an attempt to achieve cost savings, the relationship between the WRB, CWFA, and other agencies was not defined through this Budget Article. Therefore, the WRB will propose corrections to Budget Article 5 in the next legislative session to address this deficiency.

WRB staff continue to maintain close relationships with local, State and Federal legislators, and key water resources agencies in New England and abroad. The WRB General Manager and staff visit water suppliers and regularly present the WRB's programs and vision to public and private organizations each month. The WRB has also held several of its meetings at different locations throughout the State in an effort to reach out to each community. It is vital for the WRB to stay connected to all stakeholders to truly understand and appreciate the value of water for all users.

In 2010 the WRB staff will develop an Interim Allocation Program (IAP) for water allocation to comprehensively address water quality and water quantity issues. The WRB maintains the responsibility to define the water use and availability throughout the State; and staff are developing the framework for a decision making process for water allocation. The WRB will develop the IAP through staff and through a series of public meetings before we promulgate rules to administer this responsibility.

The Big River Management Area

The WRB manages the 8,400 acre Big River Management Area (BRMA) in West Greenwich, Coventry, Exeter and East Greenwich. The WRB has managed this property as a future water source since the 1960's. Although the State initially purchased this land for a reservoir site, the WRB is now pursuing the development of groundwater sources.

Although the overwhelming majority of the BRMA is pristine and undeveloped, there are thirty houses and three commercial properties that the WRB leases. The WRB manages all activities in the BRMA in accordance with published rules, and with the support of RIDEM Enforcement, the Rhode Island State Police, local municipal police and fire departments, and several local organizations. The WRB's primary objective for BRMA is to protect it as a potable water supply; however, residents frequently visit

Rhode Island state capital building, Providence, Rhode Island

Rhode Island Water Use and Efficiency Act, October 2009

- **setting conservation goals for major water suppliers, enabling agencies to keep consumer costs affordable,**
- **controlling costs for managing water supply and updating aging water infrastructure,**
- **and redefining the members of the Water Resources Board to include specific expertise in various aspects of water management.**

"The WRB's primary objective for BRMA is to protect it as a potable water supply..."

"...residents frequently visit BRMA for passive uses such as fishing, hiking, canoeing, and horseback riding."

BRMA for passive uses such as fishing, hiking, canoeing, and horseback riding. Other activities that the WRB coordinates in the BRMA include Earth Day cleanups sponsored by local conservation and use groups, scientific research, timber harvesting in selected areas, military and police training exercises, and carefully monitored events hosted by local motorcycle and mountain biking groups.

A noteworthy accomplishment in the BRMA this past year was the start of the permitting and preparation of the business plan for development of new groundwater wells. This project started in May of 2009, and is currently on schedule to complete permitting and initial design phases by the summer of 2010. The WRB staff are coordinating with stakeholders in the region to identify contract opportunities for the production, treatment and sale of water from the BRMA. This is a significant moment for the WRB, as the State will finally be in a position to develop water from this source originally purchased in the 1960's.

Financial and Technical Assistance

The WRB staff monitor the larger drinking water systems that provide water to nearly 90% of our population. Our insightful perspectives on Statewide and regional water supply are crucial to managing the State's water resources, in good times and in times of drought. The WRB monitors the larger public water supplies of the State through the approval of new well fields, expansion of water systems into new service areas, construction of interconnections between systems, and other significant activities.

Much of the public water supply work that the WRB reviews has been funded through our Water Facilities Assistance Grant Program. Since 1983, the WRB has administered this grant program to finance up to 50% of the design and construction costs for new public water supply facilities. To date, WRB has managed in excess of $35 million in general obligation bonds to fund over twenty major water supply system improvements.

Through the Water Facilities Assistance Grant Program the WRB managed $20 million in State funds dedicated to the Bristol County Water Authority (BCWA) since 1994 for connections to the Providence and East Providence water systems. These improvements relieved historically troublesome supply problems for the residents and businesses in Barrington, Bristol and Warren. The WRB is currently working with BCWA on the rehabilitation of their aging supply, transmission and treatment facilities with approximately $7 Million in remaining general obligation bond funds. This project is still in its design phases and is expected to be complete by the fall of 2012**.**

The WRB commissioned several studies that identified opportunities to connect adjacent water systems to increase the reliability of water supply throughout the State. The WRB simultaneously coordinated with large public water suppliers to develop the Emergency Interconnection Program (EIP), funded through the Water Facilities Assistance Grant Program to provide redundant and back up supply between water systems. The EIP is a typical example of how the WRB coordinates with its stakeholders to investigate technical projects that relate to water resources and provide funding programs to implement important water supply objectives. The EIP has drawn interest from several other states that have expressed interest in establishing similar programs. Thirteen interconnections have been constructed to date funded by grants approaching $7 million dollars. A partial listing of recent EIP projects includes the following:

- United Water—Emergency connection between South Kingstown and United Water, further strengthening both systems: **$527,997**
- North Kingstown Water Department—Rehabilitation of an existing interconnection with the KWCA: **$67,400**

- Lincoln Water Commission—Rehabilitation of an existing interconnection between Woonsocket and Lincoln: **$113,140**
- Kent County Water Authority—Emergency connection with KCWA and the Providence Water Supply Board to provide redundancy for a main connection: **$4.3 million**
- Portsmouth Water and Fire District—Support and abutment design for proposed Sakonnet River Bridge emergency waterline with the Stone Bridge Fire District: **$50,000** (design only)
- Cumberland Water System—Emergency connection between Cumberland and Lincoln, further strengthening both systems: **$62,261**
- Future projects currently under consideration: Interconnections in Lincoln, Pawtucket, Smithfield, Cumberland and Woonsocket: estimated at over **$2.1 million**

Statewide, most Rhode Islanders get thier drinking water from surface water reservoirs, predominately the Scituate Reservoir which supplies millions of gallons per day.

Water Supply System Management Plan (WSSMP) Program

There are currently twenty-eight (28) water suppliers in Rhode Island that participate in the WRB's WSSMP program. The WSSMP program was developed in the early 1990's to assure that water supply plans are prepared, maintained, and implemented by each of the state's major water suppliers. WSSMP updates are required every five years and are reviewed by the WRB. The main components of WSSMP's include supply management, demand management, and system management. WSSMP's also contain vital data used to determine where water supply surpluses and deficits exist throughout the State and allow the WRB to assess the overall health of Rhode Island's water supply. To date, the WRB staff have coordinated the reviews of all 28 WSSMP's and have issued initial approvals. The WRB staff are currently reviewing the WSSMP program and expect to hold focus groups with water suppliers to amend the rules and procedures governing the program.

In the southern part of the state, most Rhode Islanders get their water from groundwater sources.

Our Partnership with the United States Geological Survey

The WRB is required by statute to perform scientific studies for our own use and for the benefit of other agencies regarding water resources. WRB has consistently met this requirement through the careful selection and administration of studies throughout the State, with a combination of private consulting work, cooperative programs with local universities, and through continuous research programs that are jointly developed between WRB and the United States Geological Survey.

In support of the WRB's mission of managing the proper development, utilization and conservation of Rhode Island's water resources, the WRB has been systematically collecting geological and hydrological data in Rhode Island for more than 100 years. Much of this work has been done in partnership with the U.S. Geological Survey (USGS), Rhode Island Water Science Center.

This State/Federal partnership has provided Rhode Islanders with the answers to many questions regarding the occurrence, quantity, and availability of water in the State, and has provided the basis for nearly a century's worth of management decisions dealing with water resources.

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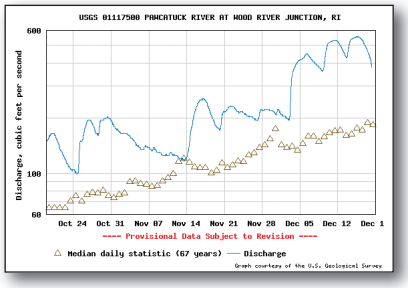
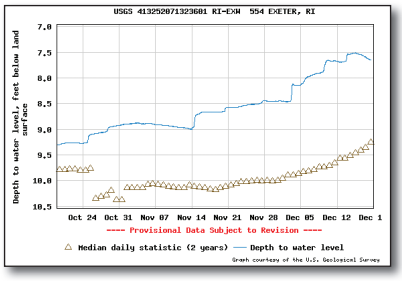
Monitoring the Hydrologic Condition

Perhaps, the most important activity supported by the WRB is the monitoring of the State's water resources. Water available for human and ecological needs is continually measured with a statewide streamflow and ground-water observation well network. Nationally consistent protocols are followed for the collection and quality assurance of these data.



The statewide stream-gaging network has been continuously collecting streamflow data for more than seventy years. For example, Streamflow has been measured for the Pawcatuck River at Wood River Junction (USGS station number 01117500) since 1940. The network is jointly funded by the USGS, WRB, DEM, and others. These streamflow data are available in near-real time on the World Wide Web, http://ri.water.usgs.gov.



Ground water levels have been measured in South County Rhode Island since 1950. The data are available in near real-time on the World Wide Web, http://ri.water.usgs.gov.

Streamflow is measured twenty-four-hours-a-day, seven-days-a-week and are available, in near real-time (every 1 to 4 hrs.), on the World Wide Web through satellite and computer technology. The need for near-real time reporting of streamflow and ground-water levels is never more evident than during natural disasters, like floods and droughts; however, it is only through the long-term monitoring of streamflow and ground-water levels that scientists and engineers can fully characterize the variability of climate and human impacts on water resources. Water managers must consider this variability when making water-management decisions.

Although primary to the mission of the WRB, these data are also used by engineers, scientists, emergency managers, recreational water users, and utilities for any number of reasons.

Recently, the utility of the statewide stream-gaging network has become even greater with the development of mathematical equations that can estimate streamflow in areas where gages do not exist. Interfacing these equations with an easy-to-use, point-and-click, web-based computer program gives Rhode Islanders, with a personal computer and a connection to the Internet, the ability to predict streamflow statistics at virtually any point along any stream in Rhode Island. This information is essential to developing a water allocation program and understanding the capacity of the state's water resources.

Water Supply Exploration

In the early 1950s and 60s, the WRB primary concern with locating the principle groundwater-bearing deposits of the State, in which, new water supply could be developed. So, many of the first-generation WRB studies involved geologic and hydrologic mapping for water supply development. The products of these studies have provided the basis for the development of groundwater supplies over the past 50 years and still have great relevance today. In fact, these maps are presently being used to assist WRB staff in the assessment of new groundwater sources throughout South County.

Management of Water Resources

With the advent of the personal computer, more detailed assessments of water availability and use, that included numerical simulations of complex geological and hydrological information using newly developed groundwater modeling techniques, were done. Numerical models were developed using geologic and hydrologic data collected during the early studies, and supplemented by updated geologic information and hydrologic data collected as part of the ongoing stream-gaging and observation well network. These models were mostly used to evaluate the effects of water-supply development alternatives on groundwater levels, pond levels, and streamflow.

Improvements in modeling techniques, advances in processing speeds of personal computers, and new geographic information system (GIS) tools have allowed for the testing of alternative water use, land use, and climate scenarios. These improvements have been incorporated into more recent groundwater and surface-water modeling studies done throughout the State, including, the Blackstone, Hunt-Annaquatucket-Pettaquamscutt, Pawcatuck River, and Big River Drainage Basins, to name a few.

These newer studies help define available water supplies, characterize the response of streamflows and groundwater levels to various land- and water-use scenarios, and demonstrate potential environmental effects of water-management decisions.

Tracking Rhode Island's Water Use

Understanding the State's water needs is primary to the WRB's mission, including water for public supply, fire protection, agriculture, aquaculture,

industry, economic development, recreation and the environment. To this end, the Water Supply System Management Plan (WSSMP) database was developed and populated with historical and current water-use information. This database is being used to uncover trends in water use to adequately plan for Rhode Island's future water needs. Annually, water data collected from Rhode Island's major water systems are entered into the database, thereby keeping the database up-to-date and relevant. Integrating "on-line" reporting of these data will improve reporting efficiency and reduce redundancy

Balancing Human and Ecological Water Needs

As Rhode Island's water needs increase so may the need to develop new water supplies. Suitable areas for water supply are increasingly scarce and may be in or near ecologically sensitive areas. The hydro-geologic nature of most wetland areas make them excellent candidates for water-supply development; however, wetlands are also some of the most ecologically sensitive areas. Developing water supply in an ecologically responsible manner is, of course, foremost in the minds of the WRB. To this end, field methods and groundwater modeling techniques are being tested to characterize the potential long-term effects of pumping on wetlands.

Decision makers need easy-to-use tools that integrate the detailed results of water use and streamflow information, in combination with instream flow requirements (or the amount of water needed to sustain a healthy and viable ecosystem) to make informed water-management decisions. The Sustainable-Yield-Estimator (SYE) application, currently under development for Rhode Island, is an interactive, point-and-click computer program that can be used to estimate the natural, or unimpacted, streamflow at any point on any stream. Based on user-defined constraints such as existing water use in the basin and instream flow requirements, the SYE computes the amount of water available for human and ecological needs.

Water Management in Times of Drought

The ability to quickly and decisively manage the State's water resources in times of drought is needed to ensure that human and ecological needs are met during the worst of conditions. The steps necessary to avoid disaster are clearly spelled out in Rhode Island's Drought Management Plan. Action, however, is often taken too late because of a lag time between water-management strategies (for example, implementation of conservation measures) and the environment's ability to recover. With this in mind, the Rhode Island Drought Decision Support System (DSS) has been developed. The DSS is a simple graphical user interface designed for use by planners and decision makers to do risk-based projections of hydrologic drought that can be linked to water management strategies such as water conservation and use of alternative water supplies.

Planning for Tomorrow's Water Needs

These are but a few examples of products and potential benefits of the 100 year WRB/USGS partnership meant to educate and increase awareness of State regulators, water suppliers, major users, universities, and the general public. The products discussed here will help water-resource managers (and others) make informed decisions to ensure that Rhode Islanders have ample water for tomorrow's water needs. Moreover, it is only through the vigilant collection of water-resources information year-in-and-year-out that many of the challenges facing water-resource managers can be quickly and effectively understood and addressed.

The Rhode Island Water Resources Board's mission is to insure the fair and equitable use of water for all users and uses.

Fiscal Overview

The following statements provide an overview of the Water Resources Board revenues expenditures and approved staffing levels for fiscal years 2005–2009 and the Board Corporate Balance Sheet for fiscal years 2006–2009.

Rhode Island Water Resources Board*
Summary of Expenditures and Revenues as of June 30, 2009

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Expenditures by Category	**Actual**	**Actual**	**Actual**	**Actual**	**Actual**
Personnel Services	1,506,349	1,454,836	981,319	1,385,309	916,739
Operating Supplies and Expenses	235,041	242,248	194,909	164,807	114,364
Assistance, Grants and Benefits and Aid to Local Government	654,992	247,690	536,295	42,059	101,212
Subtotal Operating Expenses	**2,396,382**	**1,944,774**	**-**	**1,592,175**	**1,132,315**
Capital Purchases and Equipment	238,822	29,176	80,461	43,491	-
Total Expenditures	**2,635,204**	**1,973,950**	**80,461**	**1,635,666**	**1,132,315**
Expenditures by Fund					
General Revenue	1,087,511	1,358,690	1,648,213	1,226,089	997,992
Federal Funds	606,874	203,685	64,170	-	(1,034)
Restricted Receipts	848,273	327,254	-	327,378	109,816
Other Funds (RICAP Big River Management Area Maintenance)	92,546	84,321	80,601	82,199	25,541
Total Expenditures	**2,635,204**	**1,973,950**	**1,792,984**	**1,635,666**	**1,132,315**
Full Time Personnel (FTE) Authorization	9	9	9	6	6
Revenues					
Surcharge Collections (.01664 portion)	4,981,975	5,217,312	4,783,781	5,091,185	4,782,732
Big River Management Area Receipts	245,130	253,310	247,981	238,895	239,116
Total Revenue	**5,227,105**	**5,470,621**	**5,031,761**	**5,330,080**	**5,021,848**

*Sources for Expenditures: Published Operating Budgets, Program Supplements

*Source for Revenues: WRB surcharge records and RIFANS receipts

Rhode Island Water Resources Board Corporate*
Balance Sheet—June 30, 2006, 2007, 2008, and 2009

Assets	FY 2009	FY 2008	FY2007	FY2006
Current Assets				
Cash and Cash Equivalents	836,701	857,003	1,583,146	1,457,941
Cash-Allocated to Phase III			105,222	2,486,825
Office Equipment (net)			1,388	2,777
Accounts Receivable	279,834	247,559	204,616	191,130
Lease Receivable	990,000	1,010,000	950,000	915,000
Accrued Interest Receivable	16,540	18,852	32,872	27,337
Bond issuance costs (net of amortization)	34,886	34,886	34,886	34,886
Total Current Assets	2,157,961	2,168,300	2,912,130	5,115,896
Non Current Assets				
Investments	1,432,979	1,433,501	1,727,261	1,723,032
Lease Receivable	0	990,000	2,000,000	2,950,000
Bond issuance costs (net of amortization)	93,874	126,292	180,105	214,991
Total Assets	**3,684,814**	**4,718,093**	**6,819,496**	**10,003,919**
Liabilities and Fund Equity				
Current Liabilities:				
Accounts Payable	15,968	16,805	8,439	9,144
Lease Payable			602	1,692
Deferred Revenue	295,366	293,931	595,923	582,642
Accrued Interest Payable	89,930	111,631	146,780	166,905
Bonds Payable	1,800,000	1,820,000	1,730,000	1,670,000
Excess Cost of Refunding	(76,580)	(76,580)	(76,580)	(76,580)
Refunding Premium	10,503	10,503	10,503	10,503
Total Current Liabilities	2,135,187	2,176,290	2,415,667	2,364,306
Non-Current Liabilities				
Bonds Payable	4,955,000	6,755,000	9,530,000	11,260,000
Lease Payable				600
Excess Cost of Refunding		(76,579)	(153,159)	(229,738)
Refunding Premium	24,505	34,363	49,807	60,307
Total Liabilities	**7,114,692**	**8,889,074**	**11,842,315**	**13,454,875**
Fund Equity:				
Retained Earnings:				
Reserved	(3,502,370)	(4,315,680)	(5,241,080)	(3,743,759)
Unreserved	72,492	144,699	218,261	292,203
Total Fund Equity	**(3,429,878)**	**(4,170,981)**	**(5,022,819)**	**(3,451,556)**
Total Liabilities and Fund Equity	**3,684,814**	**4,718,093**	**6,819,496**	**10,003,319**

* Source: Audited Financial statements. Full Audited Financial Statements are available upon request.

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WATER RESOURCES BOARD
HOPE
STATE OF RHODE ISLAND