

2011

Working Together for Safe Drinking Water. Drinking Water Construction Project Report. 2011

Maine Center for Disease Control and Prevention

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Working Together for **SAFE** Drinking Water

Drinking Water Construction Project Report **2011**

with funding from the Drinking
Water State Revolving Fund



Maine Center for Disease
Control and Prevention

An Office of the
Department of Health and Human Services

Paul R. LePage, Governor

Mary C. Mayhew, Commissioner



Introduction



Roger L. Crouse, P.E.

Dear Reader,

With more than \$9 million in loans for 14 projects, the Drinking Water State Revolving Fund (DWSRF) saw continued growth and success in 2011. While water districts and municipalities continue to be very cautious about borrowing money and making capital investments, DWSRF financing continues to be highly sought after. Our requests for 2012 funding were more than 3 times greater than the available funding. Our hope in providing this annual report is to allow you a view into the important public health accomplishments as well as the economic impact of this great program.

The success of the DWSRF stems from a wide array of individuals and organizations. The funding support of Congress and the Maine Legislature make this affordable financing program possible. The staff at the Department of Health and Human Services Drinking Water Program (DWP) and the Maine Municipal Bond Bank (MMBB) continue to perform exceptionally in their responsibilities. Public water systems, consultants and contractors all contribute to the overall success. We are grateful for the efforts of all who make this work possible.

Yours for safe drinking water,

A handwritten signature in black ink that reads "Roger L. Crouse".

Roger L. Crouse, PE
Director, Maine CDC Drinking Water Program

“I have been working for 3 years to get this project funded, and without the low interest SRF loan to fund the project, it would still not be completed. Our customers have benefited from increased water flow to help with fire protection to residences, school, and senior housing. The water service has improved by 100%, also allowing Lincoln Water to do main repairs without totally disconnecting flow.”

- Ron Gray, Lincoln Water District Superintendent

“The DWSRF method of project funding is the best, most affordable method of project funding available. The use of these funds ensures the small vulnerable utilities are meeting their obligations (and expectations) to their customers health - while taking full advantage of preventative maintenance and avoiding costly repairs in an emergency situation. That is good financial stewardship.”

- Don Robbins, Certified Geologist, A.E. Hodson

“This program is extremely valuable to our ratepayers. As the years go by... Maine will value the intelligent choices being made to continue funding this program. Plus, the money stays in Maine working for us over and over. An excellent program.”

- Frank Kearney Sr., Old Town Water District Superintendent

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About the Drinking Water State Revolving Fund (DWSRF)

The 1996 Amendments to the Safe Drinking Water Act (SDWA) included allocations for the DWSRF. The DWSRF program is a State operated program to provide loans and other financial assistance for public drinking water improvement projects. The SDWA requires that states provide 20 percent matching funds to federal dollars, in order to capitalize the DWSRF program. Therefore, every one dollar invested by the State of Maine secures five federal dollars. For 2011, Maine invested \$1,883,000, which provided \$9,418,000 in federal funding for Maine drinking water improvement projects.

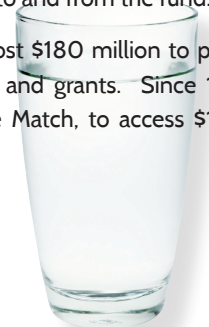
The DWSRF provides funding to public water systems throughout Maine to improve or replace water system pipes, treatment plants, storage tanks and sources of water to ensure safe drinking water and provide essential public health protection. Funding for drinking water infrastructure improvement projects are available as low interest loans. Disadvantaged Community Water Systems may receive further assistance through principal forgiveness.

A portion of the DWSRF is used to fund non-construction projects that help improve and protect drinking water quality in Maine. These funding sources include Wellhead Protection Grants, Source

Water Protection Grants, Capacity Development Grants, Very Small System Compliance Loans, System Consolidation Grants, and Land Acquisition Loans. These programs are designed to provide source water protection, technical assistance, system planning assistance, and land acquisition.

The Department of Health and Human Services (DHHS) and the Maine Municipal Bond Bank (MMBB) administer the DWSRF together. The Drinking Water Program is the Lead Administrator and is responsible for project management and technical support, as well as overseeing activities. The MMBB is the Financial Administrator and oversees the loan application process and tracks money to and from the fund.

Since 1997, the DWSRF has provided almost \$180 million to public water systems through low interest loans and grants. Since 1997, Maine has provided \$26.5 million in State Match, to access \$153.2 million in federal grants.

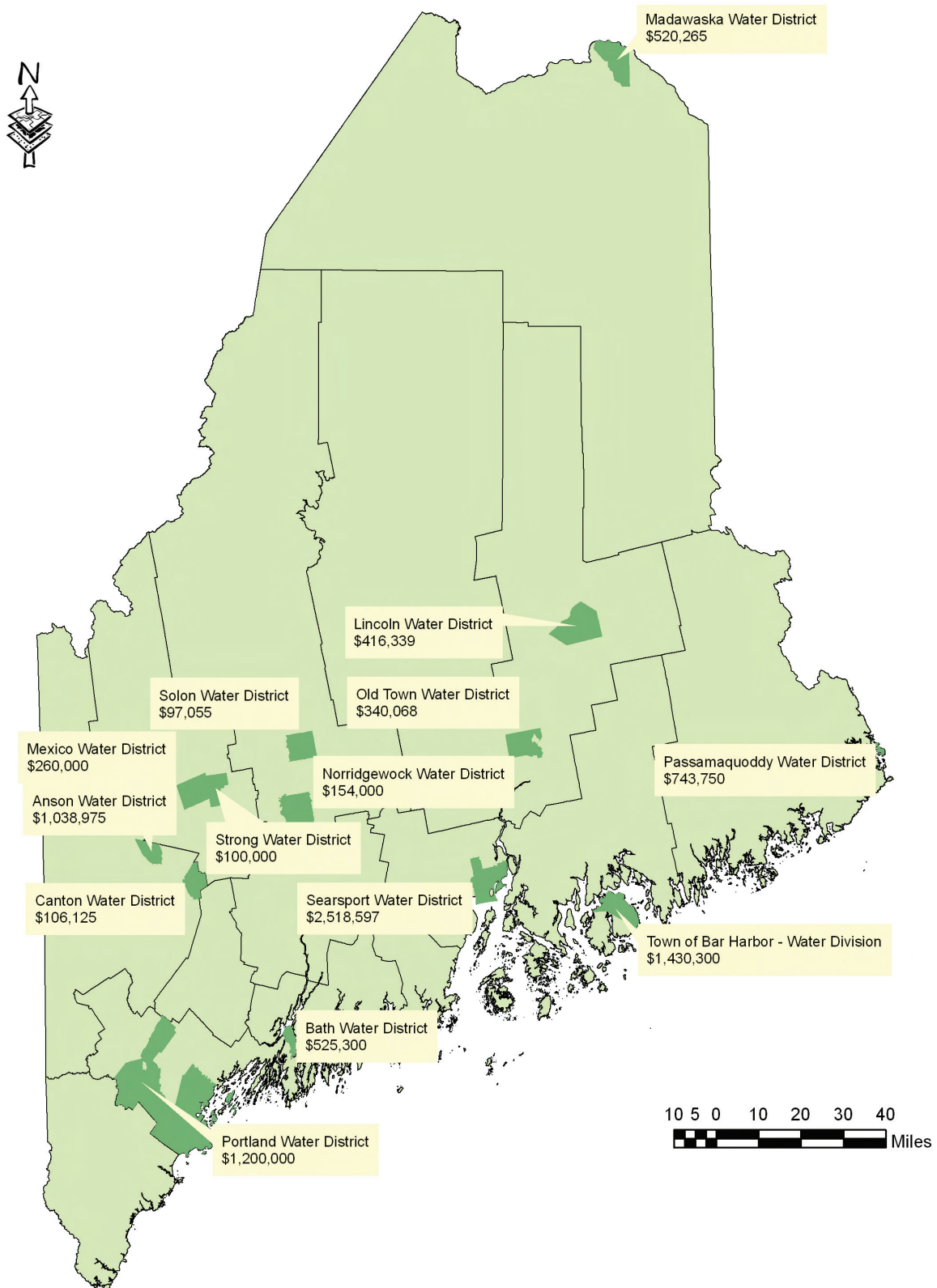


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2011 Construction Projects at a Glance

Water System	Towns Served	Description	Amount Requested from DWSRF
Anson Water District	Anson	Water Main Replacement	\$1,038,975
Bath Water District	Brunswick, Woolwich, West Bath, Wiscasset, Bath	Intake and Pumping Redundancy	\$525,300
Canton Water District	Canton	Slow Sand Filter Media Replacement	\$106,125
Lincoln Water District	Lincoln	Water Main Replacement	\$416,339
Madawaska Water District	Madawaska	Water Main Replacement	\$520,265
Mexico Water District	Mexico	Water Main Replacement	\$260,000
Norridgewock Water District	Norridgewock	New Backup Source	\$154,000
Old Town Water District	Old Town, Bradley	Water Main Replacement	\$340,068
Passamaquoddy Water District	Eastport, Perry	Water Main Replacement	\$743,750
Portland Water District	Falmouth, Raymond, Scarborough, South Portland, Standish, Cape Elizabeth, Cumberland, Gorham, Windham, Westbrook, Portland	New UV Water Treatment & Water Main Replacement	\$1,200,000
Searsport Water District	Searsport, Stockton Springs	Water Main Replacement	\$2,518,597
Solon Water District	Solon	New Redundant Source	\$97,055
Strong Water District	Strong	Water Main Replacement	\$100,000
Town of Bar Harbor- Water Division	Bar Harbor	New UV Water Treatment	\$1,430,300

Public Water Systems receiving 2011 DWSRF Construction Funding



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2011 Non-Construction Projects at a Glance

Capacity Development Grants		
Public Water System	Towns	Grant Amount
Biddeford & Saco Water Co.	Biddeford & Saco	\$10,000
Searsport Water District	Searsport	\$15,000
Lincoln Water Department	Lincoln	\$10,000
Madawaska Water District	Madwaska	\$15,000
Mechanic Falls Water Department	Mechanic Falls	\$12,250
Brownville Water Department	Brownville	\$10,000
York Water District	York	\$9,000
Dixfield Water & Sewer Department	Dixfield	\$7,850
Bath Water District	Bath	\$7,500
Calais Water Department	Calais	\$750
Southwest Harbor Water Department	Southwest Harbor	\$4,000
Belfast Water District	Belfast	\$8,500
Greater Augusta Utility District	Augusta	\$15,000
Gray Water District	Gray	\$3,500
Yarmouth Water District	Yarmouth	\$5,000
Portland Water District	Portland	\$10,000
Winthrop Utilities District	Winthrop	\$5,000
Old Town Water District	Old Town	\$15,000
Hampden Water District	Hampden	\$12,900

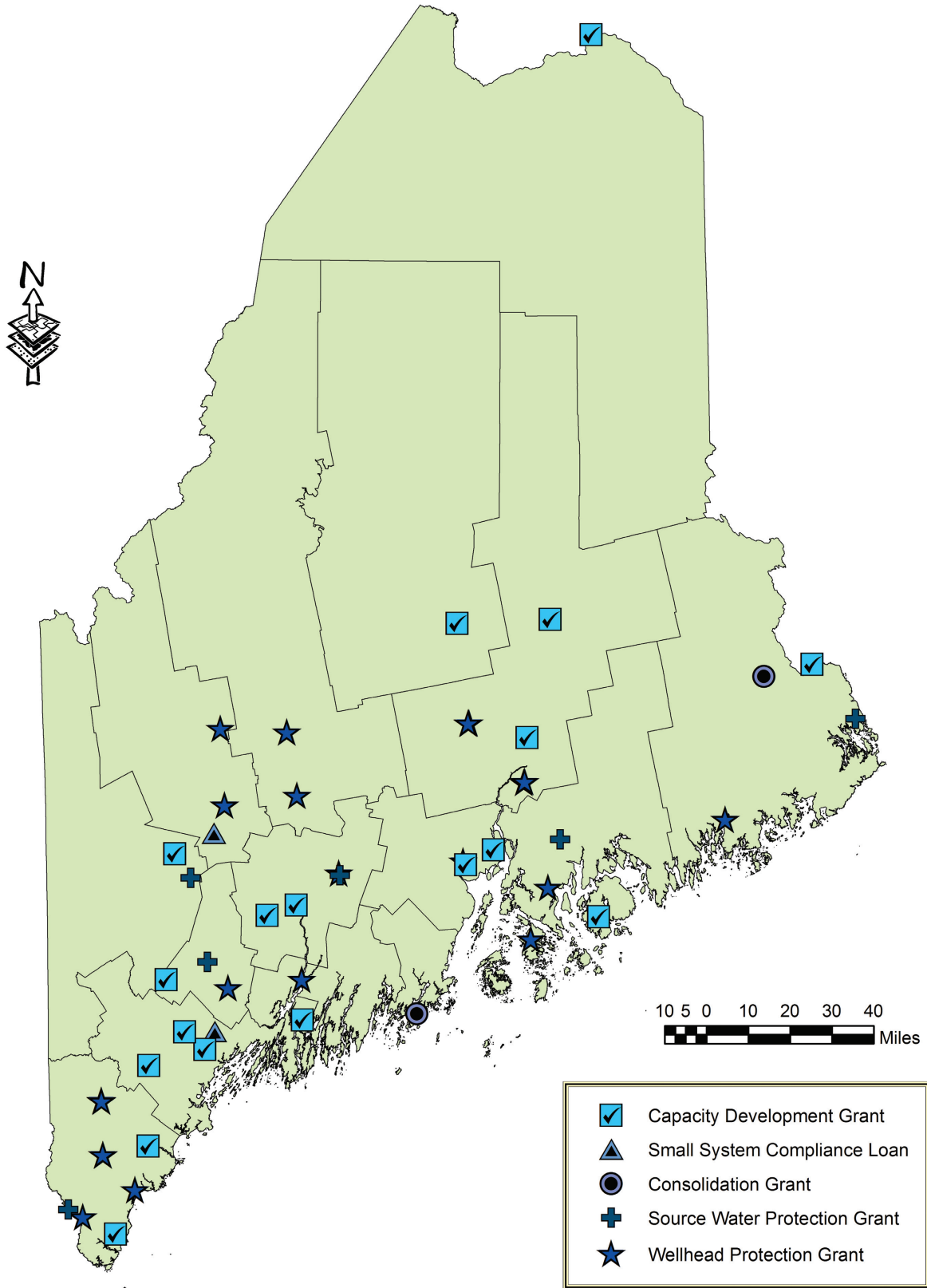
Very Small System Compliance Loans		
Public Water System	Towns	Grant Amount
Wilton Head Start & Child Care	Wilton	\$5,402
RSU 5, Pownal Elementary School	Pownal	\$15,730

System Consolidation Grants		
Public Water System	Towns	Receiving System
Cathy's Kids Daycare	Princeton	Princeton Water District
The Happy Clam	Tenants Harbor	Tenants Harbor Water District

Wellhead Protection Grants		
Public Water System	Towns	Grant Amount
Alfred Water District	Alfred	\$10,000
KK&W Water District	Kennebunk	\$5,000
Sunset Gardens Trailer Park	Lewiston	\$5,000
Richmond Utilities District	Richmond	\$10,000
Castine Water Department	Castine	\$2,500
Polyot's Mobile Home Park	Corinth	\$5,000
Pine Cone Mobile Home Court #1	Holden	\$4,155
Addison Point Water District	Columbia	\$5,000
Deer Isle Consumer Owned Utility	Deer Isle	\$5,000
Belfast Water District	Belfast	\$5,000
Norridgewock Water District	Norridgewock	\$5,000
Solon Water District	Solon	\$5,000
East Vassalboro Water Co.	Vassalboro	\$5,000
The Bay School	Blue Hill	\$5,000
Deer Isle Consumer Owned Utility	Deer Isle	\$5,000
Kingfield Water District	Kingfield	\$5,000
South Berwick Water District	South Berwick	\$10,000
Farmington Village Corporation-Water Dept	Farmington	\$5,000
Lake Arrowhead Community, Inc.	N. Waterboro	\$5,000

Source Water Protection Grants		
Public Water System	Towns	Grant Amount
Canton Water District	Canton	\$10,000
Kennebec Water District	Vassalboro	\$10,000
Ellsworth Water Dept	Ellsworth	\$10,000
York Water District	York	\$6,000
Kennebec Water District	Waterville	\$10,000
Southwest Harbor Water Department	Southwest Harbor	\$5,000
Auburn Water District/Lewiston WD	Auburn	\$10,000
Passamaquoddy Water District	Eastport	\$5,000
Berwick Water Department	Berwick	\$2,500

Map of Public Water Systems receiving 2011 DWSRF Non-Construction Funding



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How the DWSRF Helps Water Systems Perform 4 Key Functions

Providing safe and secure drinking water requires the successful implementation of four principals. EPA calls this the multiple barrier approach to drinking water. The DWP utilizes the DWSRF to help water systems succeed in their mission of providing safe drinking water in each of these four areas.

Source Protection



Whether it's a six inch drilled well or Sebago Lake, a public water system is dependent on a source of water to provide its customers with safe drinking water. High quality, well protected sources provide cost-effective

and safe drinking water. A secure well cap, maintaining setbacks to potential contamination sources, and having neighbors who understand the value of clean water are all key elements in protecting your source. DWSRF provides Wellhead and Sourcewater protection grants, as well as technical assistance to systems engaged in improving source protection. The DWSRF also provides Land Acquisition Loans so that systems can acquire land around their source to reduce the risk of contamination. On a more basic level, the DWP also provides reimbursement funding for installation of secure well caps.

Water Quality Monitoring (Sampling)

Drinking water sampling is not only a requirement of all public water systems, but it also provides assurance that your water is safe to drink.

Bacteria and viruses make people sick. Sampling on a regular schedule provides an assurance that the water system is performing the way it's designed and can also help to signal if there is a problem within the water system, whether it be in the source, treatment system or out in the piping



and tanks of the distribution system. The DWSRF provides Capacity Development Grants, technical assistance through MRWA, and training to assist systems in developing and implementing plans for sample collection, data management, and reporting.

Treatment System Maintenance

Chlorinators, softeners, filters and other treatment devices are only effective if they're kept in good shape and fed the right chemicals. Certified chemicals, the right dose, and regular



maintenance are key parts of water system operation. DWSRF loans may be used to design and install appropriate treatment, or to upgrade treatment when needed. DWSRF funded Capacity Grants, technical assistance and training assist operators in developing and maintaining the expertise necessary to properly and effectively manage treatment systems.

Distribution System (Pipes and Tanks) Maintenance and Upgrades

Leaks not only can lose water the system has invested in pumping and treating, they are also a path for contaminants to enter a water system. Keeping a water system's piping and tanks in good shape makes it easier to manage and reduces the risk of contamination. The infrastructure components that make up public water systems require continued maintenance, replacement, and upgrades to meet current drinking water standards. Regularly checking for cross connections and leaks, properly disinfecting the water system after any repairs, and making sure storage tanks are secure can help provide safe drinking water to customers. Many DWSRF loans are used to replace pipes and tanks, helping to maintain system integrity. DWSRF also funds asset management training and implementation, which assists systems in cataloging and managing their pipes and tanks, and planning for maintenance and replacement. Systematically inspecting and replacing aging piping reduces the long-term cost of operation of the water system as well as reducing main breaks and contamination incidents.



Sustainable Drinking Water Systems

The source, treatment, and distribution systems of our public water systems represent a significant investment of our resources. Most of the assets are literally buried, out of view and out of mind for most consumers. Some of Maine's water system infrastructure is as old as 100 years or more, and much of it is overdue for upgrading or replacement.

To keep drinking water safe and secure over decades, we need to plan, and to invest in our systems at a consistent pace. Over the years, many systems have not been able to do this, and we need to catch up to prevent catastrophic problems with water quality and availability. The DWSRF helps fill the funding gap to enable us all to have safe drinking water.

Because system assets have long lives, affordable, long-term financing is important to water systems planning for maintenance and upgrades. Prior to the Safe Drinking Water Act, it was difficult for many systems to obtain resources to conduct regular maintenance, improvement, and replacement of aging facilities. The DWSRF provides both a source of funding and incentives to develop and implement long-term plans for water systems. In order to participate in SRF funding, a water system needs to show how their project will protect public health and replace aging infrastructure. The SRF also provides training in asset management to systems receiving loan forgiveness, as well as grants to develop long term system plans.

Future of the DWSRF

During the 2011 Legislative Session, the Legislature and Governor approved, as part of the biennial budget, a 10-year funding plan for the DWSRF State Match. With the renewal of the wholesale liquor contract in 2014, a portion of the revenue to the State will be dedicated to State Match for the DWSRF. Based upon the current legislation, this revenue will be available from 2014 through 2023.

With a reliable source of State Match for a 10-year period, the DWSRF will enter a time of greater stability and certainty. Public water systems face many challenges when planning infrastructure improvements. One of the recurring challenges for those seeking to use the DWSRF is the timing and the certainty of State Match to access the federal funds. A 10-year dedicated source of State match will enable public

water systems, consultants, contractors and State staff to plan with more certainty.

The picture on the federal front is less clear. Although there remains strong support for the DWSRF in Congress, the federal budget picture will likely result in annual capitalization grants closer to \$8 million rather than the \$9 million the DWP received in 2011.

The DWSRF's current loan portfolio has a principal balance of approximately \$85 million. Annual loan repayments are approximately \$5 million. This puts the DWSRF on solid footing and ready to provide an affordable funding option to many public water systems in the future.

“The DWSRF has opened doors for us in the last few years that our customer base would never be able to afford. The rates that we would have had to request to complete any of these projects would be impossible and unreasonable for our customers to bear.”

- Nancy Seeley, Passamaquoddy Water District Superintendent

“Benefits our customers have received from this project include lower rates, better service, safer water, and more confidence in public utilities.”

- Frank Kearney Sr., Old Town Water District Superintendent

“The Calais Water Department has done several projects through the DWP SRF funding program and would not have been able to afford to do this work without the grant portion and interest forgiveness programs.”

- Annaleis Hafford, Olver Associates

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2011 DWSRF Construction Projects

Anson Water District

Towns Served: Anson

DWSRF Funded Amount: \$1,038,975

Engineer: Dirigo Engineering

Contractor: Merle L. Lloyd & Sons, Inc. and
Nitram Excavation & General Contractor, Inc.

This project includes the replacement of approximately 6,800 feet of old, undersized, and deteriorated water mains on Main Street and adjacent side streets. The existing mains have been maintenance problems and costly for the District to repair. Replacing these mains and services will greatly improve the reliability and safety of the distribution system. The improvements will be completed in conjunction with a road improvement project by Maine Department of Transportation on approximately 3,200 feet of Main Street. An additional 3,600 feet of water main replacements are included on Wilson, Randall, Church, Fredrick and Pine Streets. The project includes 25% funding or \$347,000 from the USDA Rural Development program for a total project cost of \$1,385,975.



“In this lethargic economy we were able to not only maintain current jobs, we actually added one full time employee as a direct result of the Anson Water Main project. This contract represents a large portion of our annual volume, to have this project this close to home has been an extreme financial benefit for our company.”

- Jeff Lloyd, President of Merle L. Lloyd & Sons, Inc.

Town of Bar Harbor-Water Division

Towns Served: Bar Harbor

DWSRF Funded Amount: \$1,430,300

Engineer: Woodard & Curran

Contractor: TBD

The town of Bar Harbor Water Division is undertaking a project driven by future regulatory compliance with the Long Term 2 Enhanced Surface Water Treatment Rule to provide further protection against disease causing microorganisms and contaminants that can form during drinking water treatment. The improvements will convert a gravity flow unfiltered system from dual disinfectants of chlorine gas and chloramines to three disinfectant steps of Ultra Violet Light for Cryptosporidium and Giardia control, sodium hypochlorite for virus control and conversion to chloramines for system residual. The 2011 project is also being combined with their 2010 DWSRF to complete pump station upgrades, improve efficiency, and replace obsolete equipment.

Lincoln Water District

Towns Served: Lincoln

DWSRF Funded Amount: \$416,339

Engineer: A.E. Hodsdon

Contractor: Maine Earth

Lincoln Water District's project consists of replacing approximately 2,655 feet of distribution main, hydrants, and house services on School, Mechanic, Academy, and Lincoln Streets. The water improvements will replace aging pipes that are capacity bottlenecks and subject to frequent water main breaks.

“The utility was having more than average water main breaks due to the cast iron mains being soft and easily breakable from coal ash. The new piping was needed, helping to cut our costs for repairs of mains.”

- Ron Gray, Lincoln Water District Superintendent



Norridgewock Water District

Towns Served: Norridgewock

DWSRF Funded Amount: \$154,000

Engineer: Dirigo Engineering

Contractor: Layne Christensen Company

Norridgewock's 2011 DWSRF project is the development of a backup well to provide redundancy to their existing drinking water source. The District has only one well which is 50 years old with a vertical line shaft well pump. The project will develop a backup well and complete other minor pump station improvements at the source including wellhead protection and safety improvements.



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Searsport Water District

Towns Served: Searsport, Stockton Springs

DWSRF Funded Amount: \$2,518,597

Engineer: A.E. Hodsdon

Contractor: R.F. Jordan & Sons Construction, Inc.

The Searsport Water District project involves replacing over 12,000 feet of shallow lead-joint cast iron water mains on U.S. Route One in Searsport and Stockton Springs. This project will replace an old hydraulically inefficient and leaky transmission main that connects the source of supply with major system demand areas in downtown Searsport. The project is expected to improve system reliability and increase available flows. During construction, a 60 gpm leak was isolated and eliminated. This reduced the pumping demand by over 10% with savings in power and chemicals for the District. DWSRF funding for this project is also being used for a new booster pump station along Route 1, which will help move water between the two towns, and also includes SCADA system upgrades.



Solon Water District

Towns Served: Solon

DWSRF Funded Amount: \$97,055

Engineer: A.E. Hodsdon

Contractors: A.E. Hodsdon, Pine State Drilling,
Express Electrical

This project includes the development of a backup/ redundant drinking water supply. The District's current water supply is a 1968 gravel well with no backup facilities in the event of an emergency. The new backup well will be located in the vicinity of their existing well. The new well will provide emergency backup in case of eminent failure of the main well. Along with the backup well, this project also includes the installation of a high efficiency pump with Variable Frequency Drive (VFD).



Bath Water District

Towns Served: Brunswick, Woolwich,
West Bath, Wiscasset, Bath

DWSRF Funded Amount: \$525,300

Engineer: Wright Pierce

Contractor: Nitram Excavation and General
Contractor, Inc.

This project consists of making improvements to the raw water intake and pumping capability at the Treatment Facility located at Nequasset Lake, the drinking water supply for Bath. The project will improve the reliability and redundancy of the water system and includes making a physical connection between two existing intake pipes to allow two wet wells and associated pumps to be used.



Portland Water District

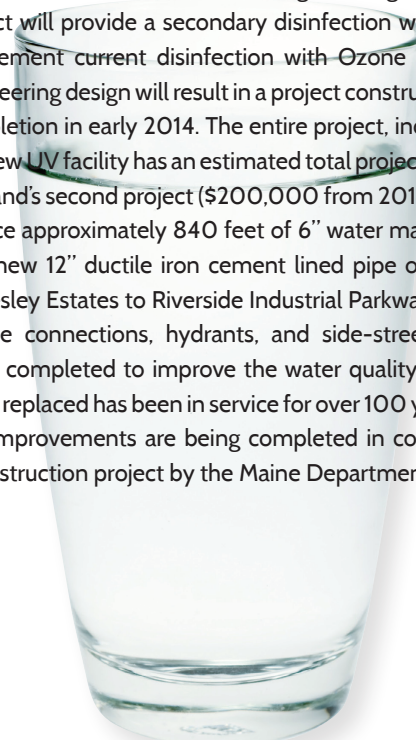
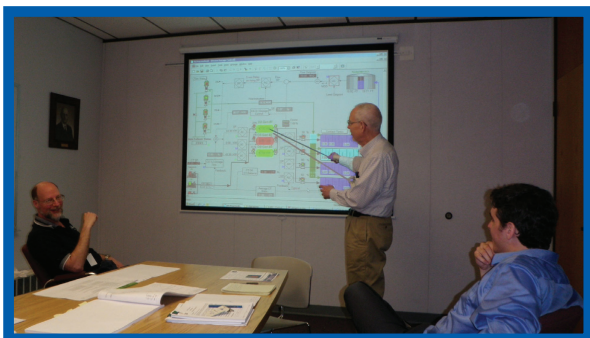
Towns Served: Falmouth, Raymond,
Scarborough, South Portland,
Standish, Cape Elizabeth,
Cumberland, Gorham, Windham,
Westbrook, Portland

DWSRF Funded Amount: \$1,200,000

Engineer: Camp Dresser & McKee Inc. (UV design),
In-House (water main replacement)

Contractor: R.J. Grondin & Sons, Inc.
(water main replacement)

Portland Water District is undertaking two projects utilizing 2011 DWSRF funding. The first project (\$1,000,000 from 2011 DWSRF funding) is for engineering design work for proposed water treatment improvements at the Sebago Lake Water Treatment Facility to meet the Long Term 2 Enhance Surface Water Treatment Rule and provide further protection against disease causing microorganisms and contaminants that can form during drinking water treatment. The project will provide a secondary disinfection with Ultra Violet light to supplement current disinfection with Ozone and Chloramines. The engineering design will result in a project construction start in 2012 with completion in early 2014. The entire project, including construction of the new UV facility has an estimated total project cost of \$12,200,000. Portland's second project (\$200,000 from 2011 DWSRF funding) is to replace approximately 840 feet of 6" water main installed from 1888 with new 12" ductile iron cement lined pipe on Forest Avenue from Wellesley Estates to Riverside Industrial Parkway. The project includes service connections, hydrants, and side-street connections and is being completed to improve the water quality in the area. The pipe being replaced has been in service for over 100 years and is undersized. The improvements are being completed in coordination with a road reconstruction project by the Maine Department of Transportation.



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Old Town Water District

Towns Served: Old Town, Bradley

DWSRF Funded Amount: \$340,068

Engineer: A.E. Hodsdon

Contractor: H.E. Sargent Corp.

Old Town Water District's project is for the replacement of aging infrastructure and includes the installation of approximately 1,580 feet of 12" water main on Bradley Road in Milford. This section of road has old cast iron pipe that has failed nine (9) times in the last five (5) years. A pipe failure on this section of water main leaves the Town of Bradley without water and/or results in a boil water order.



“We try to replace 1 percent of our water mains each year. Without SRF funding, I think our rates would be 30-50 percent higher.”

- Frank Kearney Sr., Old Town Water District Superintendent

Passamaquoddy Water District

Towns Served: Eastport, Perry

DWSRF Funded Amount: \$743,750

Engineer: A.E. Hodsdon

Contractor: Fundy Contractors Inc.

This project consists of replacing approximately 2,510 feet of distribution main, hydrants, and house services on Broadway, Third, and Boyton Streets and a section along Middle Street, improving service to a total of 41 customers. This project replaces antiquated water infrastructure resulting in improvements in controlling distribution system chlorine residuals in order to meet both the Disinfection By-Products Rule and Total Coliform regulations.



“The new water mains help deliver cleaner, safer water and have eliminated the problem of freezing. Our utility crew did not need to spend time after hours thawing water lines on these streets.”

- Nancy Seeley, Passamaquoddy Water District Superintendent

Canton Water District

Towns Served: Canton

DWSRF Funded Amount: \$106,125

Engineer: Wright Pierce

Contractor: TBD

This project will replace slow sand filter media at the drinking water treatment plant with the goal of reducing disinfection byproducts, contaminants that can form during drinking water treatment. Additional funding in the amount of \$36,000 has been approved from the Community Development Block Grant (CDBG) in support of this project, making the total estimated project cost \$142,125.

Mexico Water District

Towns Served: Mexico

DWSRF Funded Amount: \$260,000

Engineer: A.E. Hodsdon

Contractor: C.H. Stevenson, Inc.

This project is part of a larger plan in Mexico to completely upgrade the infrastructure and roadway on South Main Street, Alder Lane and Osgood Avenue. In conjunction with the other utility work and street improvements, the Mexico Water District's project is to replace approximately 4,800 feet of galvanized and cast iron water mains that are 100+ years old. Some of these existing water mains are shallow, requiring many customers to run water in the winter to prevent freeze ups. This project includes funding from the Community Development Block Grant program for a total estimated water main project cost of \$452,500.



“Almost 2,000 feet of 2” or smaller pipe was replaced, giving our customers better pressure and it eliminated the need for one of them to run their water during the winter in order to keep our pipes from freezing. In addition, by combining this work with the town and their road work it saved our rate payers a lot of money. The SRF funding was a real plus to make this happen.”

- James M. White, Superintendent, Mexico Water District

Strong Water District

Towns Served: Strong

DWSRF Funded Amount: \$100,000

Engineer: A.E. Hodsdon

Contractor: E.L. Vining & Son, Inc.

Strong Water District will replace approximately 3,020 feet of distribution main, hydrants, and house services on Church Hill Road and Lambert Hill Road. This project includes funding from the Community Development Block Grant resulting in a total estimated project budget of \$500,000. The water improvements will replace aging pipes that are capacity bottlenecks and subject to frequent water main breaks and are expected to eliminate many small leaks.

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Madawaska Water District

Towns Served: Madawaska

DWSRF Funded Amount: \$520,265

Engineer: Woodard & Curran

Contractor: Trombley Construction

In conjunction with the Town of Madawaska's Combined Sewer Overflow (CSO) abatement project that includes replacement of sanitary sewers, the Madawaska Water District will replace approximately 3,900 feet of aging water main in the vicinity of 4th Avenue, Evangeline Street, and Park Street. The water project will replace water mains experiencing higher than average break rates and are known to contain lead joints. Total construction project cost estimate, including Community Development Block Grant (CDBG) funds is \$1,020,265.

2009 & 2010 Construction Projects Completed in 2011



Kennebunk, Kennebunkport & Wells Water District

Towns Served: Kennebunk, Kennebunkport, Wells

DWSRF Funded Amount: \$1,315,545

Engineer: In-House

Contractor: In-House

Kennebunk, Kennebunkport, and Wells Water District completed the first phase of a multi-phase project to connect their distribution system to a new 2 million gallon, high quality groundwater source. The project, which came in 30% under budget, installed a new 16 inch diameter transmission main along Route 35 (Alewife Road) in Kennebunk. Because the original project came in at 30% under budget, the District was able to install an additional 3,540 feet of water main without any further borrowing. This project was done in close coordination with a Maine DOT road reconstruction project.



Portland Water District

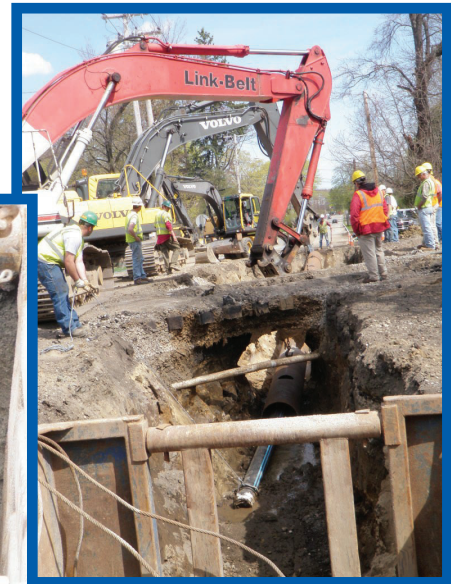
Towns Served: Falmouth, Raymond, Scarborough, South Portland, Cape Elizabeth, Cumberland, Gorham, Windham, Westbrook, Portland

DWSRF Funded Amount: \$863,000

Engineer: In-House

Contractor: Dearborn Brothers, Lionel Plante Associates

Portland Water District completed water main replacements in conjunction with a City of Portland CSO abatement project on portions of Read Street, Carlyle Street, Walton Street and Canco Street in Portland.



Bangor Water District

Towns Served: Orrington, Hermon, Hampden, Bangor, Eddington, Clifton, Veazie

DWSRF Funded Amount: \$158,500

Engineer: Wright-Pierce

Contractor: Gardner Construction Enterprises

Bangor Water District recently completed a project utilizing leftover funds from their 2009 Essex Street Tank project to make improvements to the existing valves for the Essex Street Tank, which were buried in a vault. The project involved removing the soil on top of the vault, constructing a controls building on top, making the back of the vault a "walk-out basement" and eliminating the confined space, adding the controls, and upgrading the valves so that the tank level and tank mixing could be controlled (Tideflex mixing system installed in 2009). Prior to this upgrade, the vault was a confined space, was dated, and had a leaking check valve that impaired the Tideflex system from keeping the tank mixed.



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Winterport Water District

Towns Served: Winterport

DWSRF Funded Amount: \$128,000

Engineer: Dirigo Engineering

Contractor: R.F. Jordan and Sons Construction Inc.

Winterport completed their 2009 project to drill a new well to be used as a backup source. The new well will allow for servicing of the existing well without disrupting continuous water service to customers.



“The Winterport Water District most likely would not have pursued this project without the funding it received from the DWSRF. The grant plus the low interest loan it received made the project financially palatable for the customers of the District.”

- Steve Lane, Superintendent, Winterport Water District

Calais Water Department

Towns Served: Calais

DWSRF Funded Amount: \$695,000

Engineer: Olver Associates

Contractor: T. Buck Construction

Calais Water Department completed their 2010 project to replace approximately 2,400 feet of water main and associated appurtenances (valves, hydrants, corporations, etc.). Mains were replaced on five streets: German Street, Spring Street, Beech Street, Brooks Street, and Midland Avenue.



“This project has assisted the Calais Water Department and City by improving pressure and water quality at the locations where the work was done and also through the system by improving water flow and quality of water leaving these areas where circulated.”

- Annaleis Hafford, Olver Associates

2011 DWSRF Non-Construction Projects

Capacity Development Grants

Capacity Development Grants provide assistance to public waters systems for the preparation of documents that will assist them in the maintenance or enhancement of water quality, by identifying possible improvements in systems' technical, financial and managerial operations (capacity development). Water systems can receive grants for 50% of the document cost, up to a maximum grant amount of \$15,000. Documents that are created with these funds include: Comprehensive System Facility Plans, Capital Improvement Plans,

System Hydraulic Model Reports, Management Review Reports, System Vulnerability Assessments, Emergency Response Plans, Comprehensive System Operations and Maintenance Manuals, Energy Audits, Asset Management Plans, and other professionally created documents that the DWP determines can improve system viability. A total of \$180,000 was set-aside to fund the 2011 Capacity Development Grant Program.

2011 Capacity Development Grant Projects

Water System	Proposed Use of Grant Funds	Grant Amount
Biddeford & Saco Water Co.	Energy audit at Saco River Treatment Facility.	\$10,000
Searsport Water District	Preliminary site identification, test well drilling, pump testing and related hydrogeologic analysis for new well.	\$15,000
Lincoln Water Department	Review municipal codes, wellhead protection documents and conduct physical inventory of contaminants within wellhead zones and assess risks.	\$10,000
Madawaska Water District	Planning Study to evaluate adequate volume on eastern side of distribution system	\$15,000
Brownville Water Department	Comprehensive Water System Plan and GIS for Brownville Village Water System & Brownville Junction Water System.	\$10,000
York Water District	Review hydrogeologic model being prepared by Maine Turnpike Authority. Develop flooding mitigation measures for the filtration plant site. Prepare permitting application for selected mitigation measures.	\$9,000
Dixfield Water & Sewer Department	Total system evaluation	\$7,850
Bath Water District	Update & reorganization of Emergency Response Plan.	\$7,500
Calais Water Department	Update Terms & Conditions	\$750
Southwest Harbor Water Department	Digitize maps for GIS database and asset management plan. Digitize billing information, cross reference lot and map numbers to account numbers and integrate into GIS. Populate asset management plan with maintenance plan.	\$4,000
Belfast Water District	Training and technical assistance to build an asset management plan.	\$8,500
Greater Augusta Utility District	Well exploration	\$15,000
Gray Water District	Develop Asset Management Plan and Program	\$3,500
Yarmouth Water District	Prepare a Sustainability Implementation Plan	\$5,000
Portland Water District	Update and consolidate Integrated Contingency Plans and Emergency Response Plans- creating a One Plan.	\$10,000
Winthrop Utilities District	Develop Asset Management Plan and Program	\$5,000
Old Town Water District	Preliminary site identification, test well drilling, pump testing and related hydrogeologic analysis for new well.	\$15,000
Hampden Water District	Preliminary site identification, test well drilling, pump testing and related hydrogeologic analysis for new well.	\$12,900
Mechanic Falls Water Department	Preliminary site identification, test well drilling, pump testing and related hydrogeologic analysis for new well.	\$12,250

System Consolidation Grants

Water System Consolidation Grants provide partial funding to water systems for the purpose of consolidation with another water system. The public water system applying for consolidation must have a technical, managerial or financial capacity issue that will be addressed by the consolidation with the more viable public water system. The more viable, receiving public water system must not have technical, managerial or financial capacity issues, and the consolidation cannot result in system capacity issues. The Consolidation Grant funds up to 50 percent of the cost of the water system consolidation for for-profit facilities and up to 75 percent of the cost of the water system consolidation for not-for-profit facilities, up to a maximum of a \$100,000 reimbursement.



2011 DWSRF Consolidation Grants

Public Water System Name (receiving funds)	Town	Public Water System Connecting To:	Reason for Consolidation	Project Grant Amount
Cathy's Kids Daycare	Princeton	Princeton Water District	Elevated arsenic and antimony	\$63,425
The Happy Clam	Tenants Harbor	Tenants Harbor Water District	Bacterial contamination (E. Coli)- Boil Water Order	\$1,338

Wellhead Protection Grants

The Wellhead Protection Grant Program awards grants to community and non-profit, non-community public water systems for projects that will help to protect their groundwater source from contamination. Specifically, grants are awarded for projects that clearly reduce the likelihood of contamination occurring in the Source Water Protection area by existing or future activities. Grants are awarded up to \$5,000 per project, with a few \$10,000 grant awards available, depending on the scope of the project. Projects that demonstrate a significant commitment to ongoing source water protection are considered for a higher grant award amount of up to \$10,000. Examples of projects eligible for Wellhead Protection Grants include but are not limited to: assistance in the replacement of oil storage tanks in the source protection area, subsidizing the removal of septic systems from the source protection area, establishing or enabling a source monitoring program, removing hazardous chemicals from the source protection area, developing or implementing drinking water education programs, establishing local protective ordinances or legal agreements in the source protection area, and many other types of projects that aim to reduce contamination of the wellhead protection area.



In 2011, two rounds of Wellhead Protection Grants were made available; one in the Spring and a second round in the Fall, for a total of over \$91,000 awarded for Wellhead Protection efforts in 2011.

2011 Wellhead Protection Grants

PWS Name	PWS Location	Project Description	\$ Awarded
Alfred Water Disrcit	Alfred	Place monitoring wells to locate the nitrate plume and determine its direction	\$5,000
KK&W Water District	Kennebunk	Install a chain link barrier security site fence and closed circuit surveillance cameras at the District's Kennebunk River Well site	\$5,000
Sunset Gardens Trailer Park	Lewiston	Replace or upgrade all fuel oil tanks that have potential leak issues within the wellhead prtioection area and install dual containment systems	\$5,000
Richmond Utilities District	Richmond	Hire a consultant to redelineate wellhead protection area	\$5,000
Castine Water Department	Castine	Purchase and install a precast concrete structure with a lockable aluminum hatch on the wellhead of the British Canal well on Wadsworth Cove Road	\$2,500
Polyot's Mobile Home Park	Corinth	Replace four home heating oil tanks located in the wellhead protection area with double walled tanks	\$5,000
Pine Cone Mobile Home Court #1	Holden	Replace two above ground home heating oil storage tanks within 35 feet of the water supply wells with double walled tanks	\$4,155
Addison Point Water District	Columbia	Development of a comprehensive wellhead protection plan	\$5,000
Deer Isle Consumer Owned Utility	Deer Isle	Replace two conventional steel above ground home heating oil tanks with double walled tanks	\$5,000
Belfast Water District	Belfast	Replace single walled home heating oil tanks with double walled tanks	\$5,000
Norridgewock Water District	Norridgewock	Construct a chain link fence around the water system well site on Winding Hill Road	\$5,000
Solon Water District	Solon	Replace three electrical transformers located within 75ft of the current well and and within 100ft of the proposed location of the new back-up well	\$5,000
East Vasssalboro Water Co.	Vassalboro	Develop local ordinance language to provide sourcewater protection for the wells	\$5,000
The Bay School	Blue Hill	Address stormwater runoff and provide better drainage away from wellhead area, replace impermeable surfaces with permeable surfaces in aquifer recharge areas, regrade pedestrian areas to reduce salt consumption in the winter, and reduce erosion near well	\$5,000
Deer Isle Consumer Owned Utility	Deer Isle	Replace existing home heating oil tanks and feed lines with double walled tanks	\$5,000
Kingfield Water District	Kingfield	Finish shoreline stabilization project	\$5,000
South Berwick Water District	South Berwick	Implement stormwater management improvements	\$5,000
Farmington Village Corporation-Water Dept	Farmington	Hire the New England Envrionmental Resource Federation to present "Water Jams" to the 5th grade class at Cascade Brook School in Farmington	\$5,000
Lake Arrowhead Community, Inc.	N. Waterboro	Install monitoring and recording cameras at wellhead locations which will be tied into the existing SCADA system	\$5,000

Source Water Protection Grants

Source Water Protection Grants provide funds to community and non-profit non-community public water systems for projects that will help to protect their surface water source from contamination. Specifically, grants are awarded for projects that clearly reduce the likelihood of contamination occurring in the Source Water Protection area by existing or future activities. Grants are awarded up to \$5,000 per project, with a few \$10,000 grant awards available, depending on the scope of the project. Projects that demonstrate a significant commitment to ongoing source water protection are considered for a higher grant award amount of up to \$10,000. Examples of projects eligible for Source Water Protection Grants include, but are not limited to: developing or updating watershed management plans, developing

or implementing drinking water education and public outreach programs, establishing local protective ordinances or legal agreements in the source protection area, road and stormwater management and reconstruction activities, buffer establishment and upkeep activities, and many other types of projects that aim to reduce contamination of the source water protection area.

In 2011, two rounds of Source Water Protection Grants were made available; one in the Spring and a second round in the Fall, for a total of \$65,000 awarded for Source Water Protection efforts in 2011.

2011 Source Water Protection Grants

PWS Name	City/Town	Project Description	\$ Awarded
Canton Water District	Canton	Partner with Lake Anasagunticook Association (LAA), Maine DEP, and the MRWA to conduct a survey of the source watershed to identify areas where eroding soils are present in order to identify candidate sites for mitigation under a future 319 BMP	\$5,000
Kennebec Water District	Waterville, Winslow, Fairfield, Benton, Vassalboro	Hire a consultant to convene a local stakeholder group and support the adoption of a Low Impact Development ordinance in the Town of China	\$10,000
Ellsworth Water Dept	Ellsworth	Design and installation of an open arch culvert or bridge structure to replace a failing stream passage of a critical tributary to Branch Lake	\$5,000
York Water District	York	Install four bridges over four water crossings in the Chase's Pond Watershed	\$5,000
Kennebec Water District	Waterville, Winslow, Fairfield, Benton, Vassalboro	Analyze factors affecting the internal loading of phosphorus in the lake and develop a scientifically based drawdown plan for optimal mitigation of that internal load.	\$10,000
Southwest Harbor Water Department	Southwest Harbor	Prepare a Watershed Vulnerability Assessment and a Watershed Management Plan	\$5,000
Auburn Water District/Lewiston Water Division	Auburn, Lewiston, Poland	Replace culverts and rebuild, regrade, and/or stabilize drainage courses	\$10,000
Passamaquoddy Water District	Eastport	Purchase equipment needed for conducting watershed surveys	\$5,000
Berwick Water Department	Berwick	Projects in support of the Salmon Falls River Source Water Collaborative. The first project is a visual stream bank survey of the river from Lebanon to the Somersworth Water Department intake. The second project is a regulatory gap analysis to identify areas in which Maine and New Hampshire regulations do not provide similar protections	\$10,000

Very Small System Compliance Loans

The Very Small System Compliance Loan Program was established in 2010. This program is directed at very small systems including all community systems (except those regulated by the Public Utilities Commission) with a population of 100 or less, and all not-for-profit, non-transient, non-community water systems. Examples include mobile home parks, apartment buildings, nursing homes, and schools.

This loan program provides 100 percent principal forgiveness (up to \$50,000) for water treatment improvements required to achieve compliance with a current or future Safe Drinking Water Act

requirement, excluding the Total Coliform Rule. Examples of eligible projects include, but are not limited to, treatment systems to resolve compliance issues with Lead, Copper, Radon, Arsenic, or Antimony levels.

As of December 31, 2011, 11 public water systems have received funding and resolved compliance issues since the inception of the program in 2010. Total project expenses of \$220,131 have improved water quality to 1,512 users for an average cost per user of \$146.

2011 DWSRF Very Small System Compliance Loans

System Name	# of People Served by Water System	Estimated Cost	Compliance Issue
Wilton Head Start & Child Care	80	\$5,402	Gross Alpha and Radon
RSU 5, Pownal Elementary School	185	\$15,730	Radon

Land Acquisition Loans

The Land Acquisition Loan Program provides low interest loans to community and non-profit non-community public water systems for the purchase or legal control of land in drinking water source protection areas. Land acquisition is a key component of safe and secure drinking water and the protection of public health. Shoreline and direct watershed land use and development have a major impact on the quality of water available to a water system, and control of those land uses is an extremely cost-effective way of managing future water treatment cost.

The 1996 Amendments to the federal Safe Drinking Water Act stress the importance of preventing drinking water contamination through

source water protection and water system management. In Source Water Protection: Best Management Practices and Other Measures for Protecting Drinking Water Supplies, EPA notes that “the best way to control activities within sensitive areas is to purchase land and/or development rights to that land.”

Although there were no Land Acquisition Loans made to water systems in 2011, the Drinking Water Program continues to make funding available through the loan program in the event that a water system is presented with the opportunity to purchase land integral to their source water protection.



Department of Health and Human Services

*Maine People Living
Safe, Healthy and Productive Lives*

Paul R. LePage, Governor

Mary C. Mayhew, Commissioner

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