



DRINKING WATER STATE REVOLVING FUND

increasing impact



2006 ANNUAL REPORT



in 2006, the DWSRF programs saw increases in . . .

2006 HIGHLIGHTS

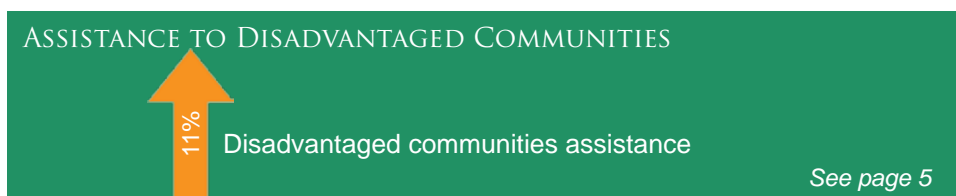
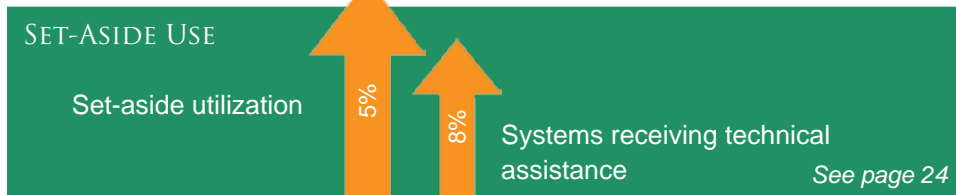
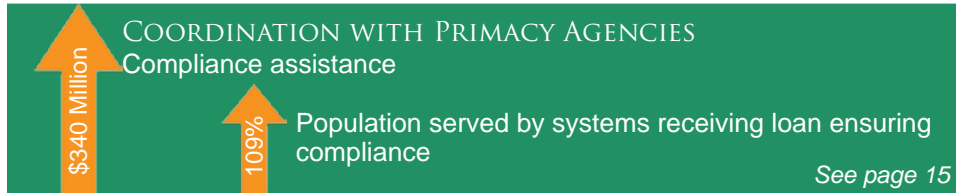


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From the Assistant Administrator

Benjamin H. Grumbles

Office of Water

I am pleased to present the Drinking Water State Revolving Fund's 2006 Annual Report. The DWSRF is now a \$12.8 billion Federal/State partnership focused on protecting human health and supporting the sustainability of our nation's drinking water infrastructure. This report highlights the accomplishments and financial position of this exceptional program.

Since its inception in 1997, the DWSRF has provided assistance to almost 5,000 projects improving health protection for over 100 million Americans. The program has provided over \$11 billion in assistance. Nearly 72 percent of projects and 39 percent of assistance has been provided to small communities (serving <10,000 people). The DWSRF Program is comprised of 51 state and territorial programs, each tailored to meet the unique needs and goals of its citizens. Innovation and flexibility are hallmarks of this program, as the numerous examples in this report illustrate.

Ensuring the long term sustainability of our nation's drinking water infrastructure is a key challenge before us. The DWSRF offers multi-faceted support for meeting this challenge. Drinking water utilities have access to low interest loans, and states can provide zero interest loans, principal forgiveness, and extended repayment periods to disadvantaged communities. Through optional set-asides, states can fund programs to protect source waters and to enhance management and operations of drinking water utilities.

I welcome this annual opportunity to share with you the accomplishments and growth that make the DWSRF such an important and effective program.

Sincerely,



Benjamin H. Grumbles
Assistant Administrator
Office of Water

2006 in review

The performance of the DWSRF programs in their 10th year was outstanding. Since their launch in 1997, the increasing impact that the DWSRF programs have had on public health and the drinking water industry has never been greater or more apparent. The 51 state and territorial DWSRF programs are each evolving to best meet the investment needs of their systems to advance the public health protection objectives of the Safe Drinking Water Act (SDWA). From a national perspective, the DWSRF meets or exceeds performance expectations established by comparable federal programs.

Impact of the DWSRF

Although great, the impact of the DWSRF is not in the number of systems that received a subsidized loan or technical assistance. Although almost \$13 billion in funds were made available for drinking water infrastructure, the impact of the DWSRF is not in the savings that systems have achieved by financing critical infrastructure projects through the DWSRF. Although impressive, the impact of the DWSRF is not the financial returns on sizeable federal and state investments. Ultimately, the true impact of the DWSRF is protecting public health – fewer people getting dangerously sick from waterborne disease, fewer children suffering from the developmental effects of lead contamination, and fewer adults facing the cancers caused by unsafe drinking water.

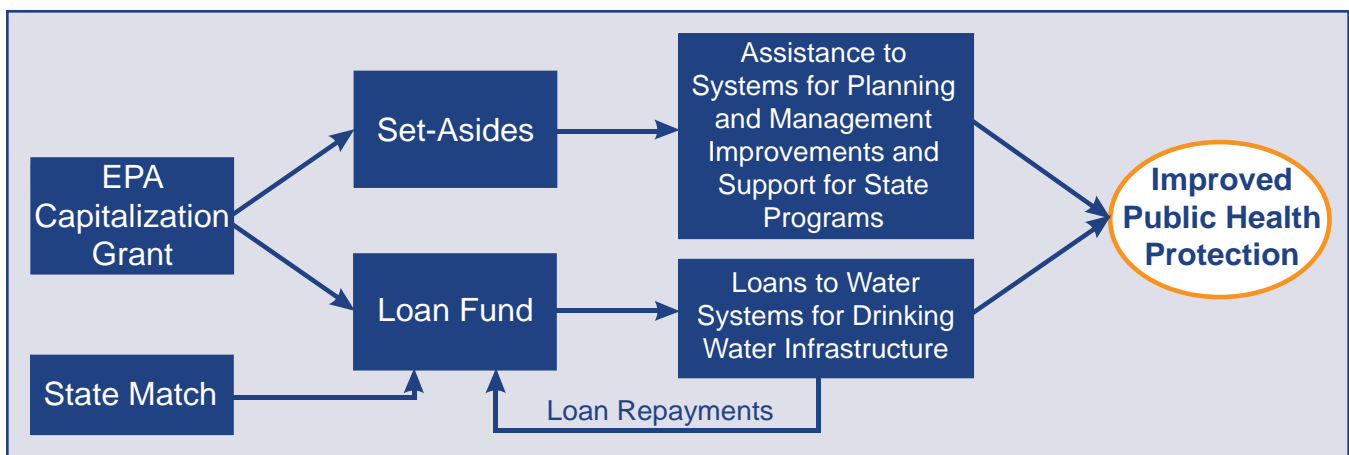
As illustrated in Exhibit 1 below, federal and state investments are used by state DWSRF programs to provide both subsidized financing and technical assistance to water systems. These resources provide water systems with the infrastructure and support they need to achieve and maintain compliance with the drinking water standards established under SDWA by EPA to ensure public health protection. The impact of the DWSRF, therefore, lies in ensuring that people have safe drinking water.

How is Impact Increasing?

The impact of the DWSRF increased significantly in 2006. This increase had two components. First, the public health benefits generated by the DWSRF each year are cumulative. Second, states increased the assistance they provided from 2005 to 2006.

If a DWSRF loan enables a water system to construct a new treatment plant to ensure that the system is in compliance, the new plant begins generating public health benefits as soon as it begins treating water. These health benefits do not disappear after the first year but are generated continuously for the life of that treatment plant. The impact of the DWSRF accrues each year by adding the public health benefits of any new projects with benefits still being created by past projects. As long as funds revolve through the DWSRFs and states continue to make loans, the impact of the program will continue to snowball.

EXHIBIT 1



This snowball is picking up speed as the DWSRF programs mature. In 2006, the DWSRF programs increased their set-aside spending (see page 24 for more details on the impact of set-asides), the financing assistance provided to systems, the number of projects financed, and assistance to ensure SDWA compliance over 2005 levels. The number

of people served by systems receiving DWSRF assistance to ensure SDWA compliance likewise increased. EPA and the 51 state programs all recognize that the funds do the most good funding projects and set-aside activities. States' programs have been increasing spending generally across the board (see Exhibit 2).

EXHIBIT 2

Drinking Water State Revolving Fund National Performance Summary Statement Fund Activity - Estimated (\$ Millions)					
	2006	2005	2004	2003	2002
Annual Fund Activity					
Federal Capitalization Grants	768.2	820.2	757.4	613.2	722.6
State Matching Funds	156.7	166.4	218.7	182.4	246.4
New DWSRF Funds Available for Assistance	1,642.6	1,463.0	1,617.8	1,284.8	1,565.4
Project Commitments (Executed Loan Agreements)	1,670.2	1,461.1	1,610.4	1,278.4	1,248.6
New Set-Aside Funds Available for Assistance	120.6	144.3	147.5	115.0	122.1
Project Disbursements from the Fund	1,472.6	1,267.5	1,268.9	1,097.0	1,070.3
Cash Draws from Federal Capitalization Grants (Fund)	749.9	636.6	708.9	591.2	692.2
Cash Draws from Set-Asides	118.3	114.8	112.4	120.1	118.1
Cumulative Fund Activity					
Federal Capitalization Grants	7,333.4	6,565.2	5,745.0	4,987.7	4,374.5
State Matching Funds	1,751.8	1,595.1	1,428.7	1,210.1	1,027.7
DWSRF Funds Available for Assistance	12,830.8	11,188.1	9,725.1	8,107.3	6,822.5
Project Commitments (Executed Loan Agreements)	11,029.4	9,359.2	7,898.1	6,287.7	5,009.3
Set-Aside Funds Available for Assistance	1,190.0	1,074.2	933.2	794.7	689.7
Project Disbursements from the Fund	8,480.4	7,007.8	5,740.4	4,471.5	3,374.5
Cash Draws for Fund	4,683.5	3,933.6	3,297.0	2,588.1	1,996.9
Cash Draws for Set-Asides	820.8	702.5	587.7	475.3	355.2

Orange text highlights 2006 increases.

Source: EPA's DWSRF National Information Management System

Assistance Agreements

As shown in Exhibit 3, states awarded more loans in 2006 compared to 2005. Since 1997, the DWSRF programs have provided nearly 5,000 subsidized loans to water systems. Each of these loans helps water systems by decreasing the cost of critical investments in their infrastructure. These savings enable water systems to maintain affordable rates and free up financial resources for other uses, such as improved operations or increased maintenance.

“Communities have a lot of work to do. We’re making loans because there’s a lot to be done,”

David Leland, Oregon’s DWSRF Program Manager

EXHIBIT 3

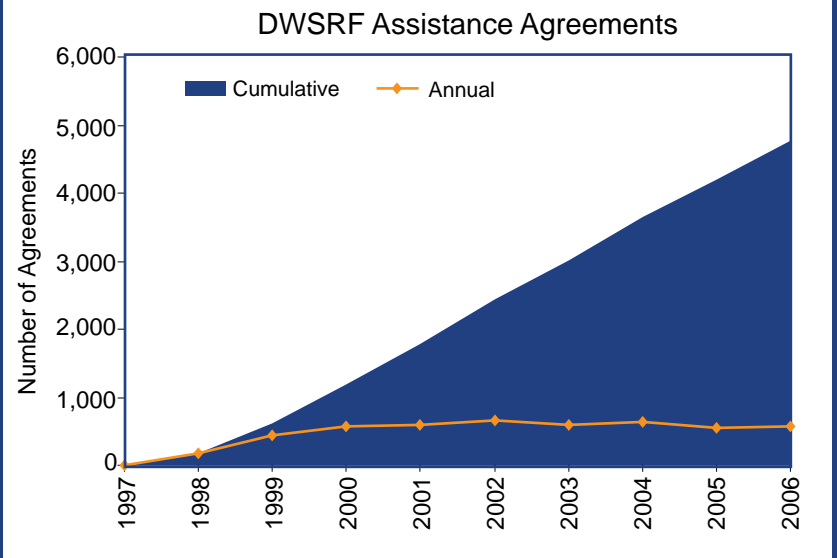


EXHIBIT 4

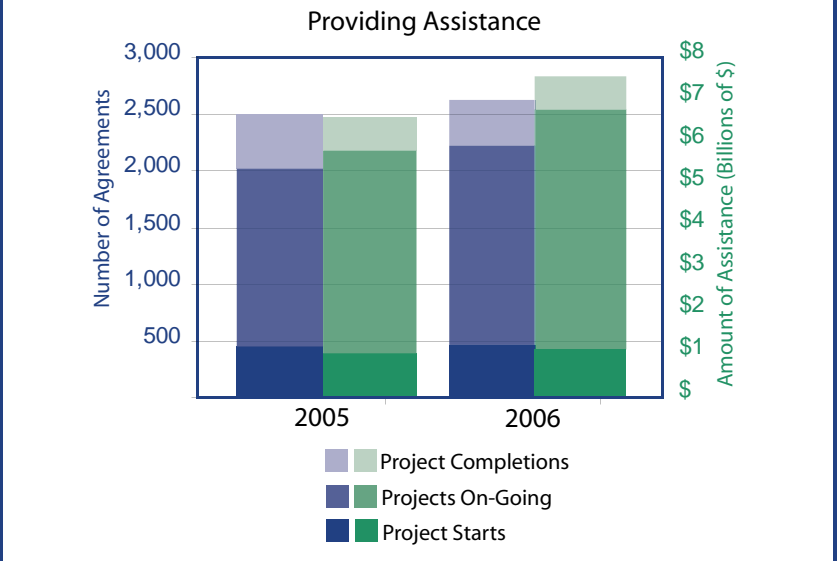
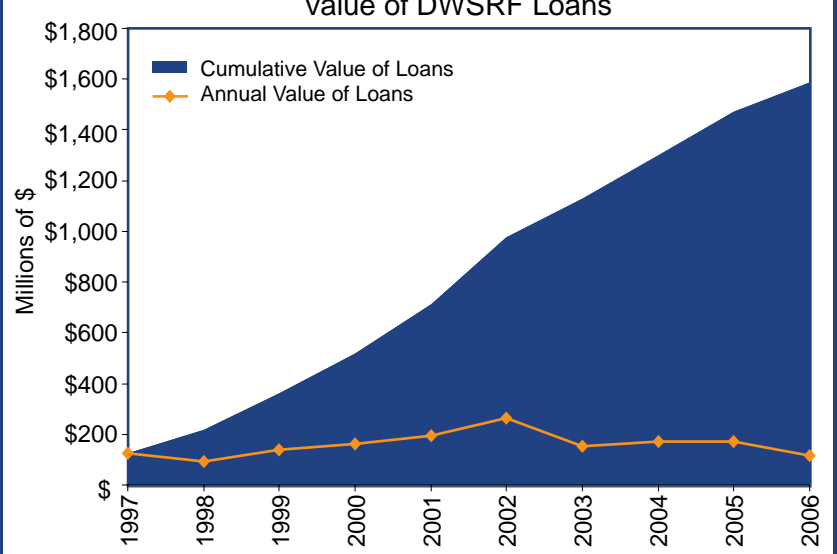


EXHIBIT 5



Small Systems

A key aspect of the design of every DWSRF program is an emphasis on providing assistance to water systems that serve 10,000 or fewer persons. These water systems often lack the technical, managerial, and financial capacity needed to overcome their challenges without assistance. Small systems struggle because of their small rate bases and the economies of scale inherent in the drinking water industry. Yet small water systems provide drinking water to millions of Americans and these people need the same public health protection afforded people served by larger systems.

In 2006, 69 percent of all loans went to small systems and the value of these loans increased by 11 percent (\$62 million) compared to 2005. The loan assistance provided to systems serving 3,300 people or fewer is in-line with the percentage of national infrastructure need that these systems account for based on EPA's most recent Drinking Water Infrastructure Needs Survey.

Disadvantaged Assistance

Most states have taken advantage of DWSRF program provisions that allow the state to provide special financing terms on loans to disadvantaged communities (see Exhibit 6). As shown in Exhibit 8, states have provided a significant amount of assistance to disadvantaged communities and a significant amount of assistance with principal forgiveness and/or extended repayment periods. Since 1997, states have provided over \$2 billion in loans to disadvantaged communities (see Exhibit 9); these systems served a combined total of nearly 8 million people.

EXHIBIT 6: STATES WITH A DISADVANTAGED COMMUNITY PROGRAM

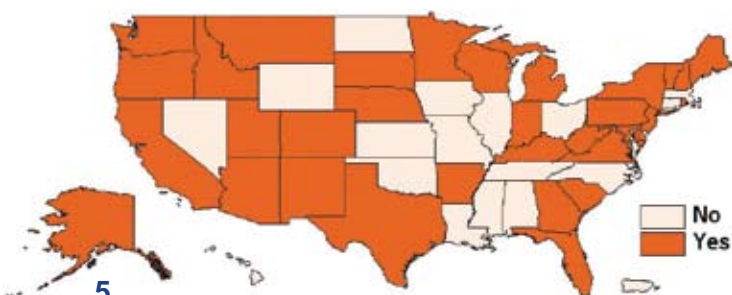


EXHIBIT 7

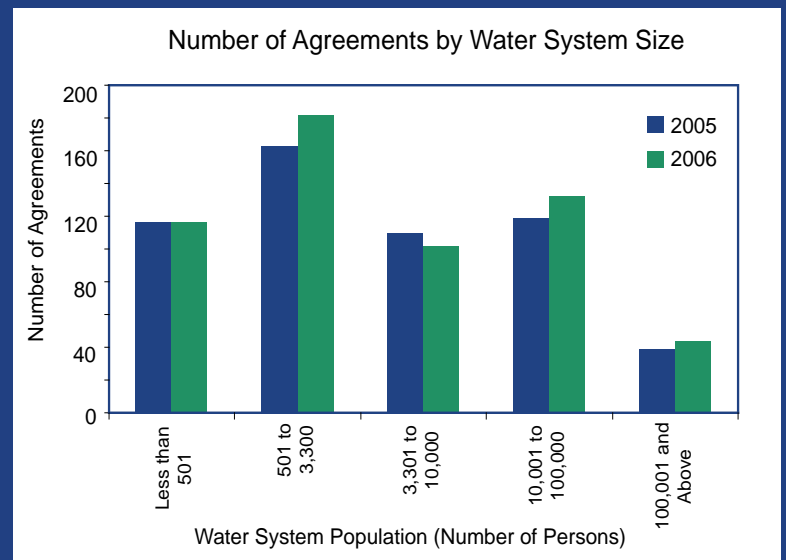


EXHIBIT 8

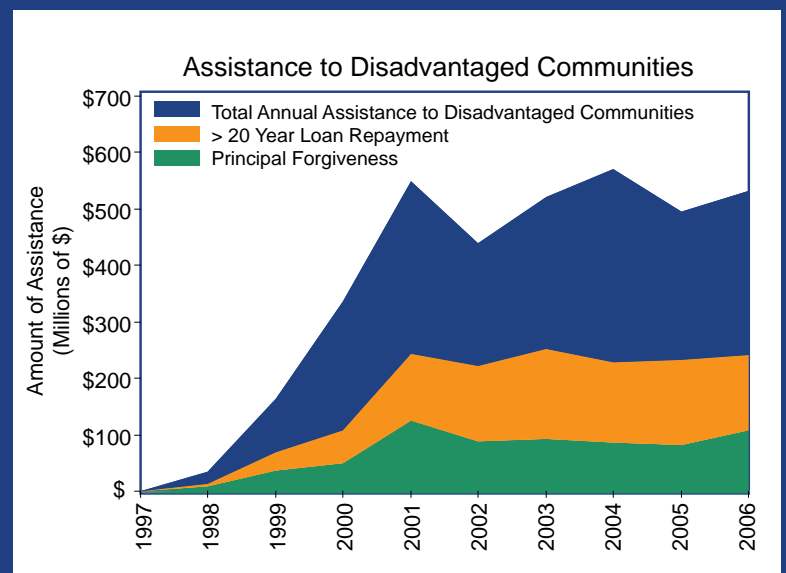
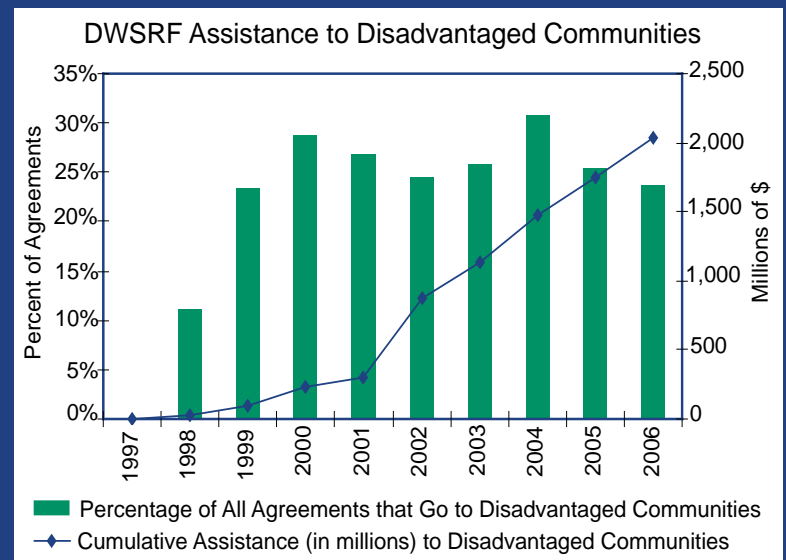


EXHIBIT 9

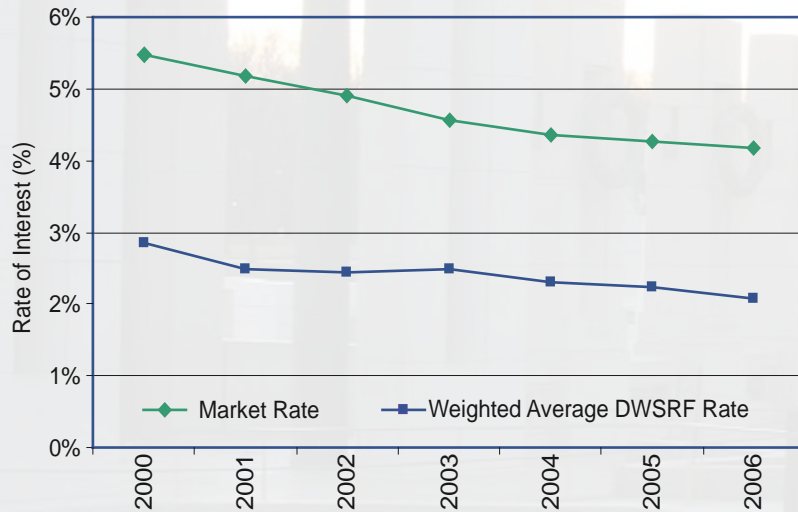


Water System Savings

The weighted DWSRF interest rate dropped in 2006 to an all-time low of 2.07 percent, more than 2 percent below the prevailing weighted market rate (see Exhibit 10). In 2006, water systems saved an estimated \$301 million over the lifetime of their loans by financing their public health infrastructure projects through the DWSRF (assuming that all loans had a 20 year repayment period). The savings per loan averaged more than \$500,000.

EXHIBIT 10

Comparing DWSRF Interest Rates with the Market Rate



System Components

As shown in Exhibits 11 and 12, the majority of projects financed by DWSRF programs in 2006 either included a treatment plant upgrade or improvements to the distribution system, which are the key water system components for removing (or inactivating) contaminants and delivering safe water to the public. The “Other” category in the exhibits encompasses planning and design, land acquisition, and the purchase of systems.

EXHIBIT 11

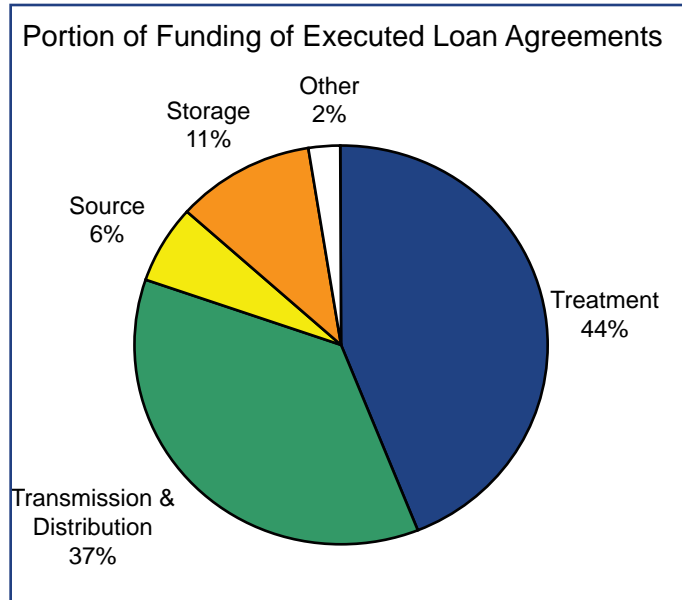
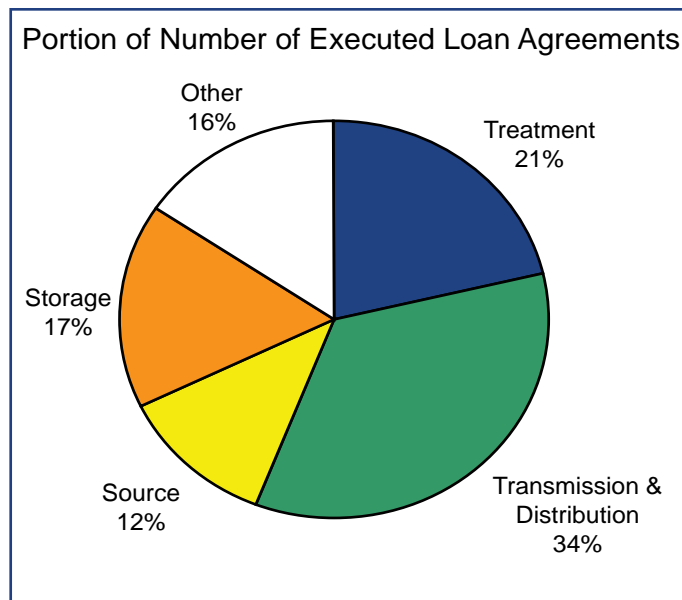


EXHIBIT 12



DWSRF overview

The DWSRF programs were established by the SDWA Amendments in 1996. The federal government annually provides money that states can loan at below-market interest rates to pay for qualifying improvements to drinking water system infrastructure. Each state’s grant allotment is proportional to the total state need identified in the most recent national assessment of drinking water infrastructure needs. States use the principal and interest payments received from loan recipients to provide more loans.

Before a state can receive a capitalization grant, a state must:

- Deposit match money equal to 20 percent of the grant
- Show EPA that it has the ability to manage the program and that it will comply with the applicable statutes and regulations
- Agree to deposit all program funds, except funds used for set-asides, into its DWSRF and agree to a timeline for providing assistance
- Agree to use generally accepted accounting principles and to conduct an audit
- Meet requirements related to state capacity development and operator certification programs

In addition to the requirements above, states must develop an annual Intended Use Plan (IUP), a comprehensive list of eligible infrastructure projects, and a list of the highest priority projects expected to receive funding in that year. States must give priority to projects that:

1. Address the most serious risks to public health
2. Are necessary to ensure system can meet SDWA’s drinking water health-based standards
3. Assist systems most in need on a per-household basis

States are allowed to make loans for eligible projects to publicly owned, privately owned, and nonprofit community water systems (CWSs) and noncommunity water systems. There are five basic categories of eligible projects:

1. Treatment
2. Transmission and Distribution
3. Source
4. Storage
5. Consolidation

Items specifically excluded from DWSRF eligibility include expenditures for monitoring, operations, and maintenance, projects whose primary purpose is to facilitate growth, projects to construct or rehabilitate dams and reservoirs, projects to obtain water rights, and projects needed primarily for fire protection.

As more fully discussed on page 24, states can set-aside up to 31 percent of their capitalization grant for specific activities advancing the public health protection objectives of the SDWA.

EPA and the states work together to ensure complete program accountability and the efficient and effective use of public funds (for a list of specific state agencies responsible for implementing the DWSRF, see page 40).

2006 focus

The 2006 Annual Report focuses on four areas critical to understanding the impact of the DWSRF programs.

PACE & EFFICIENCY

Since DWSRF public health benefits are only created when states provide assistance, the first step in analyzing the impact of the DWSRF is to examine the pace of spending. Only by making loans, implementing programs, and providing direct technical assistance can states accomplish the aims of the DWSRF. By lending money, states begin a cycle that multiplies its resources as the money revolves from borrower to lender and back again, growing the program over time. Pace is one key aspect of efficiency; other important aspects are operational efficiency, return on investments, and public health benefits created. EPA and the states are committed to continuously improving the DWSRF program. This commitment is paying off in enhanced national program performance in all aspects of efficiency.

PROJECT PRIORITY LISTS

The tangible result of the coordination of the DWSRF and Public Water System Supervision (PWSS) programs is each state's Project Priority List (PPL), which serves as the DWSRF funding agenda. In 2006, states across the country continued to refine their PPL processes and how the lists are presented. These efforts improved program planning, enhanced pace, and increased public transparency.

COORDINATION

In order to ensure that assistance is delivered to water systems that need it, state DWSRF programs continue to coordinate closely with their Public Water System Supervision (PWSS) program counterparts at the state level. In addition, states work to ensure coordination with other funding programs and with water systems themselves. State DWSRF coordination in 2006 ensured that funds were used efficiently to maximize the impact on public health.

AUDITS

Integrity and full public accountability are at the core of each state DWSRF program. Audits provide the critical link in the program management and oversight process to ensure program integrity. EPA continues to work with the states to continuously refine and improve the scope of, intensity of, and follow up to program audits.

PACE & EFFICIENCY

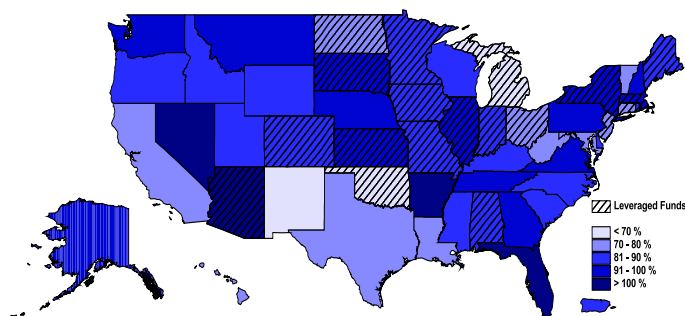
The public continuously receives safe drinking water because water utilities continuously invest in repairing and replacing their infrastructure. The DWSRF plays an important role in helping many water utilities finance these capital investments. The revolving fund model is a powerful tool for supporting the on-going infrastructure investment needed to ensure continued provision of safe drinking water. Since the inception of the DWSRF program, Congress has appropriated almost \$8 billion, EPA has awarded capitalization grants of \$7.3 billion, and states have invested matching funds of \$1.8 billion. With the addition of leveraging and loan repayments, a total of almost \$13 billion has been made available for loans through 2006.

The fundamental design of each program allows public monies to multiply as loans are made, repaid, and made again. The systems that receive subsidized loans benefit from the savings, and their payments help ensure that there are resources to assist other systems in the future. As the financial returns of the DWSRF grow, so do the public health returns.

The success of the DWSRF can be captured by looking at four separate aspects of the programs' efficiency:

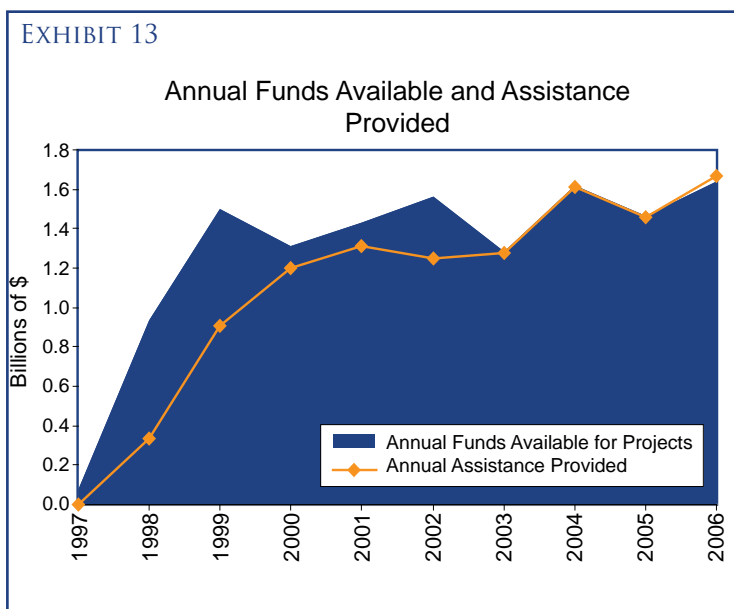
1. **Fund utilization efficiency** – or pace – is a measure of the loans a state program has made compared to the loans the program could have made given the resources available.
2. **Operational efficiency** is a measure of the resources used for program overhead compared to the assistance provided.
3. **Multipier efficiency** is the return on state and federal investment and measures the total financial resources made available by the federal and state investments.
4. **Public health efficiency** captures the public health protection (the ultimate outcome for the DWSRF measured in terms of water system compliance) achieved by assistance.

EXHIBIT 14: ASSISTANCE PROVIDED AS A PERCENT OF FUNDS AVAILABLE



Fund Utilization Efficiency

Pace is the keystone to the growth and continuation of each DWSRF and is the engine that drives public health protection. Cycling investments, loans, and repayments through the fund ensures its growth and ability to finance safe drinking water projects in perpetuity. In 2006, states continued to aggressively increase their fund utilization, as measured by the assistance as a percentage of funds available, and continued to keep up with the growth in available funds (see Exhibit 13). Over

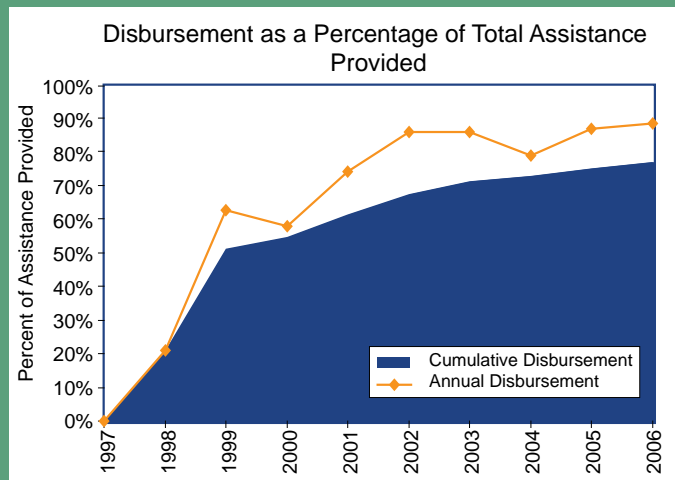


the life of the program, states have provided \$11 billion in loans (a utilization rate of 86 percent) to finance nearly 5,000 projects. As shown in the map in Exhibit 14, most states have a cumulative fund utilization rate that exceeds 80 percent in 2006.

In addition to increasing their pace of assistance, states also increased the pace of disbursement to nearly 70 percent (see Exhibit 15). Most states increased their rate of disbursement in 2006 (see Exhibit 15 for cumulative disbursement rates).



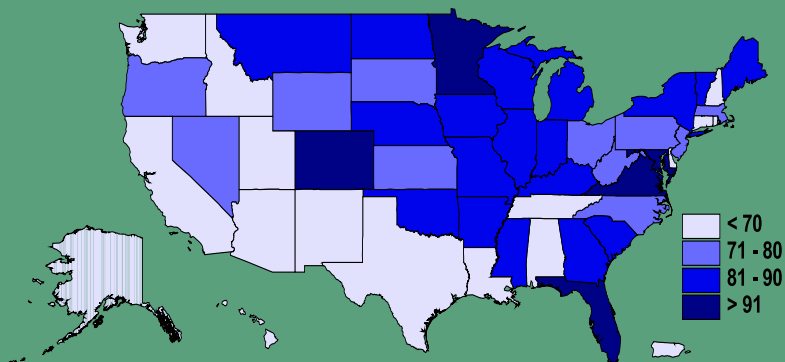
EXHIBIT 15



What are Disbursements?

A key metric for the DWSRF program is disbursements, or the funds disbursed to loan recipients to reimburse invoices for construction or other capital costs.

EXHIBIT 16: DWSRF FUNDS DISBURSED AS A PERCENT OF TOTAL ASSISTANCE PROVIDED



leveraging

In order to immediately increase resources available for assistance to better meet water system demand, 20 states have leveraged their programs by issuing bonds. Leveraged states have more resources to provide immediate assistance, which generates more immediate public health protection, although at the longer term cost of having to repay the bonds they issued. There can be a significant difference between leveraged and non-leveraged states in these efficiency measures.

Exhibit 17 shows that leveraged states have a higher cumulative fund utilization than states that have not leveraged, showing the effectiveness of leveraging where there is appropriate demand. Leveraged states were also more successful in disbursing funds, as shown in Exhibit 18.

EXHIBIT 17

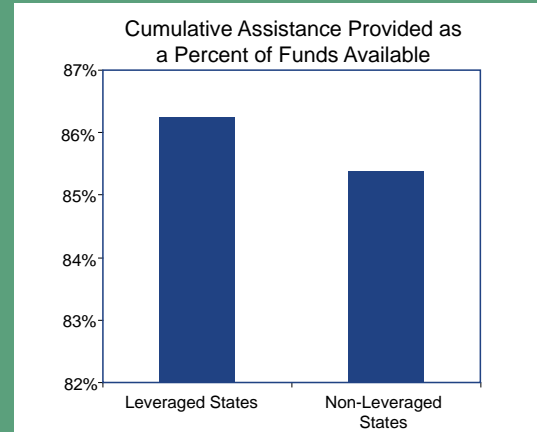
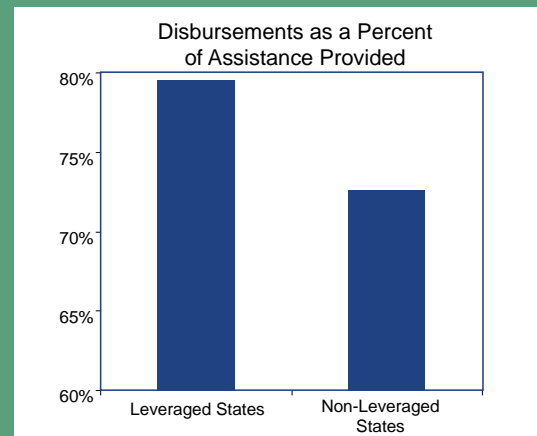


EXHIBIT 18



The pace of loan principal and interest repayments has also dramatically increased as fund utilization has increased. The increase in the pace of recycling principal and interest monies back into the program (as shown in Exhibit 19) yields even more

resources that states can use for public health protection. The portion of total dollars available for assistance that comes from principal and interest payments has steadily increased and continued to do so in 2006 (see Exhibit 20).

EXHIBIT 19

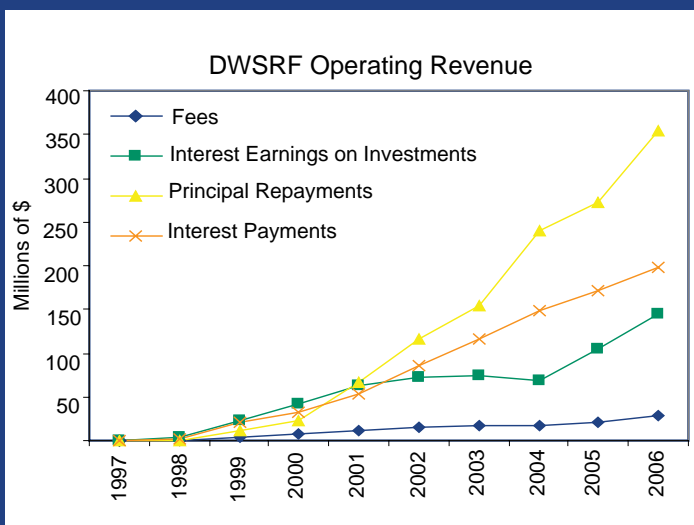
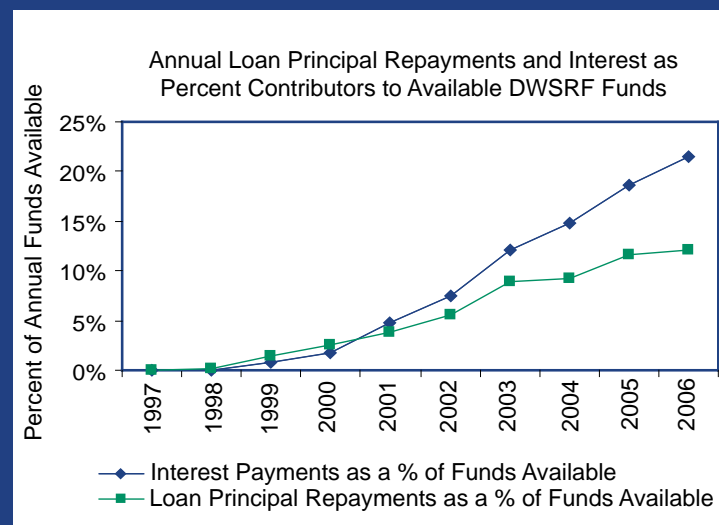


EXHIBIT 20



Operational Efficiency

States must devote significant staff and resources to run a successful DWSRF program that protects public health and meets its fiduciary responsibilities to the public. In order to increase fund utilization, states need staff with the time and ability to identify systems in need, assist systems with completing loan applications, and guide systems through the entire process. The resources that states spend to implement and grow their programs yield impressive returns on investment and public health protection. States are increasing their operational efficiency by lowering their overhead as a percentage of assistance provided. Exhibit 21 shows the dramatic difference in the growth rate of assistance compared to administrative costs. Exhibit 22 shows that the slow growth in DWSRF program administrative expenses has been funded through fees and set-asides.

EXHIBIT 21

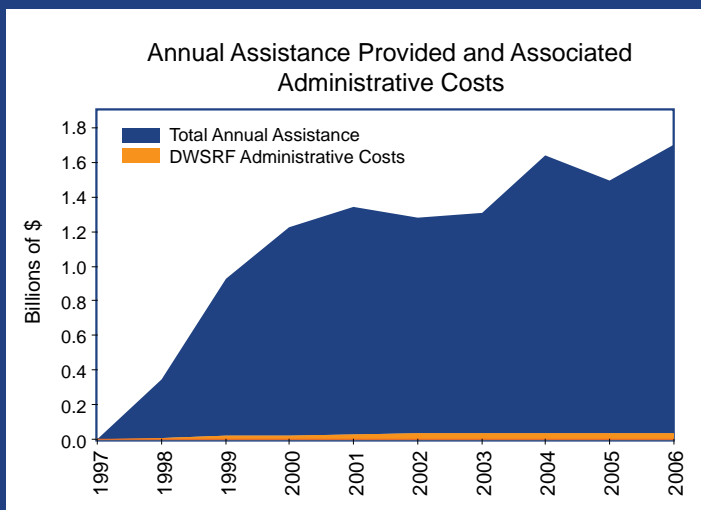
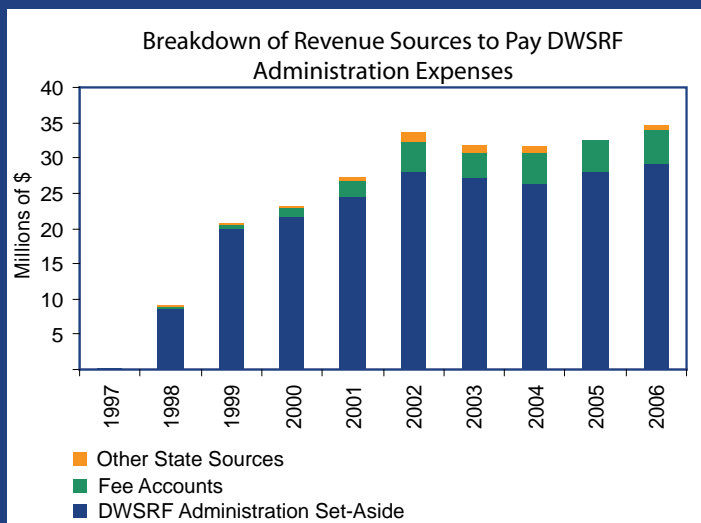


EXHIBIT 22



Multiplier Efficiency

One of the reasons for the remarkable success of each DWSRF program is the strong partnership between the federal and state government to protect public health; every DWSRF program is a true joint venture. At the outset, the financial investment by the federal government is increased by each state's 20 percent match. The multiplier effect is even greater for states because every \$1 invested by the state is matched by \$4 from EPA. This mutually beneficial financial partnership allows states to build drinking water programs that yield greater public health protection than states or the federal government could realize on their own.

The multiplier efficiency improves as fund utilization and subsequent principal and interest payments increase. This cycle creates a perpetually increasing investment as the original federal and state investments are recycled to provide more loans and safe drinking water time and again.

The cumulative return on federal investment continued to increase in 2006, as demonstrated in Exhibit 23. For every federal dollar invested in the DWSRF, \$1.73 in assistance has been provided to water systems to protect public health. The return on state investment has been even more impressive. For every state dollar invested, state DWSRF programs have provided \$4.84 in assistance to ensure safe drinking water (see Exhibit 24). The greatest return on investment for both federal and state governments was in leveraged states, where the average return on investment was more than double the return from non-leveraged states.

To Leverage or Not to Leverage?

States' decisions to leverage are based on a variety of factors, including demand for funds and the urgency of projects.

Public Health Efficiency

The DWSRF Programs directly benefit public health by enabling water systems to invest in critical drinking water infrastructure. Because the benefits of drinking water infrastructure cannot be directly measured, EPA uses the rates of water systems' compliance with drinking water standards as a proxy measure for public health protection. Systems that comply with all applicable drinking water rules are delivering water to consumers that is safe to drink. The vast majority of DWSRF loans fund projects that either return a system to compliance, keep a system from falling out of compliance, or enable the system to comply with a new standard. These projects directly produce public health benefits for the life of the infrastructure, which can be longer than 50 years for some distribution system components.

The total population served by systems that received a loan ensuring compliance more than doubled in 2006 – from 20 million people in 2005 to 42 million Americans in 2006. Last year, more than 90 percent of all assistance provided went to projects that ensured compliance, a significant increase over 2005 fueled by growth in the funding of projects that return systems to compliance (see Exhibit 25).

Building on Success

The flexibility of the DWSRF has allowed states to manage their programs in ways that have increased pace. For instance, some states are instituting efforts to accelerate loan repayment, increasing the speed at which money cycles back through the program. Common practices to quicken loan repayment include employing state construction managers to keep projects on schedule and implementing contractual changes to encourage the timely receipt, use, and repayment of funds. The case studies of Georgia, New York, and Arizona that follow on page 14 demonstrate these strategies.

Other state DWSRF programs have created more attractive terms and loan packages in order to increase fund utilization and return on investment. Alaska, for example, previously tied the DWSRF rate to the municipal bond index. After adjusting the floating rate to a flat 2.5 percent, the state has seen increased borrower enthusiasm.

“We know EPA only awards this money if it is used, and used well,” Jason Bodwell, Georgia SRF Program Manager

EXHIBIT 23

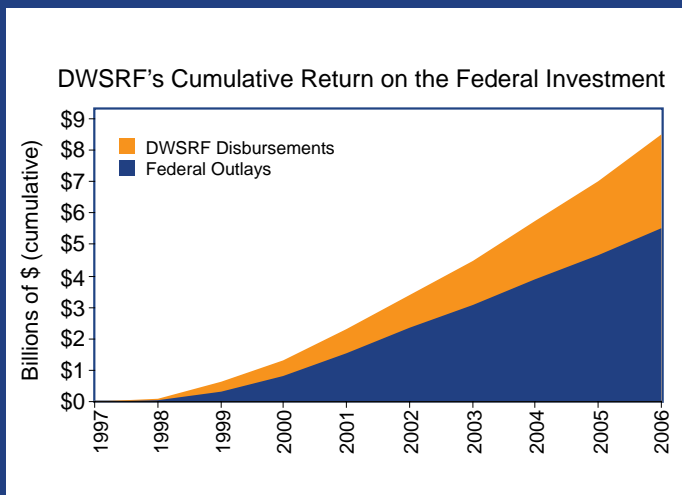
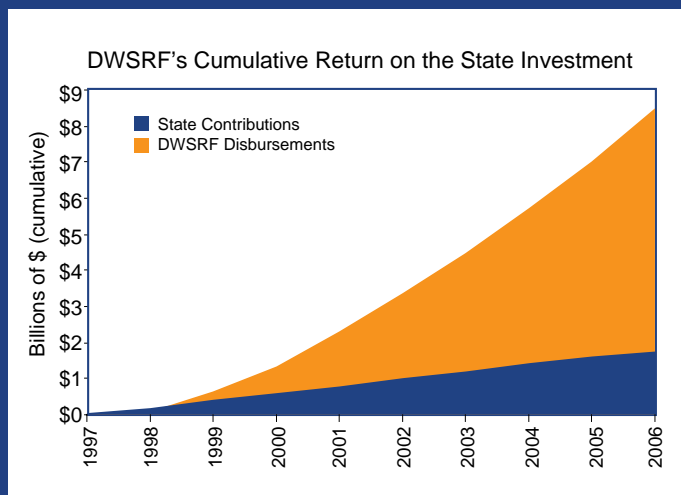


EXHIBIT 24



GEORGIA

From 2004 to 2006, nearly 100 percent of DWSRF funds available in Georgia have been utilized, a 30 percent increase from the three preceding years. Georgia's pace increased because the State:

1. Gives communities only 6 months after project approval to move forward and only 1 year to draw the first dollar;
2. Maintains an Inactive Project List of communities that have been inactive for at least 3 months;
3. Works closely with communities that have slow moving projects; and,
4. Funds large projects through a phased approach to loan disbursement and repayment. For example, if a community requires \$30 million, the State issues 3 promissory notes of \$10 million, each requiring repayment at a different time.

NEW YORK

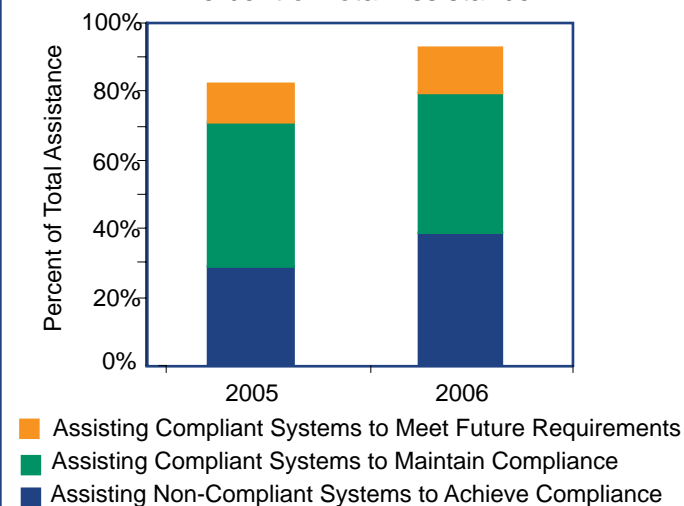
New York has increased pace by providing borrowers with short-term (3 year) financing, for which the application process is less onerous and quicker than that for long-term financing. Short-term financing is most often used for planning and design and land acquisition (water quality protection), and frequently rolls over into long-term financing. The State has identified two key benefits of short-term financing: it moves money to borrowers more quickly and results in more accurately-planned and budgeted long-term projects.

ARIZONA

Arizona requires its DWSRF program to make a decision on a finance application within 90 days of receiving it. Once a project has been approved, it is the ongoing objective of the Finance Authority to circulate and obtain comments on draft loan documents within 30 days and execute a financial assistance agreement within 75 days. For the past couple of years, the median time from application submission to loan execution has been 95 business days. In addition, a law passed in 2006 further increased pace by making it easier for small communities to borrow money. Municipalities and domestic water and wastewater districts serving fewer than 50,000 people may now enter into a loan with the Finance Authority without holding a bond election.

EXHIBIT 25

Assistance for Compliance as a Percent of Total Assistance



COORDINATION



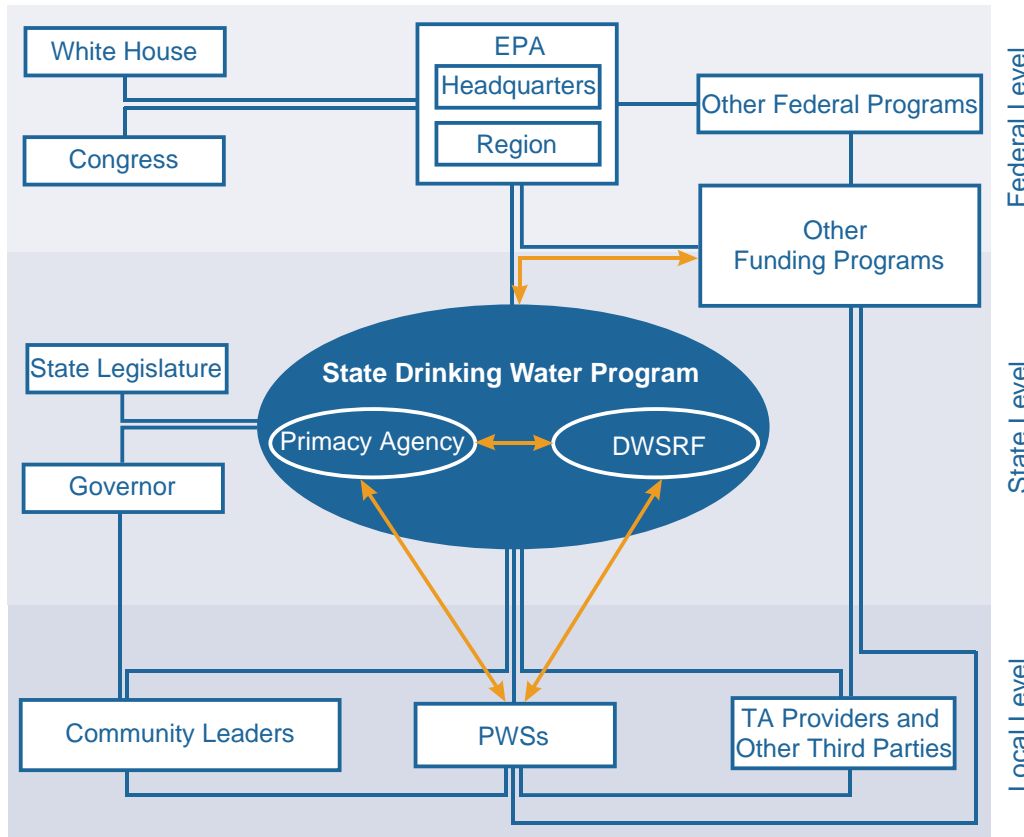
In each state, the DWSRF program is one important part, but only a part, of a powerful suite of programs dedicated to achieving the “water safe to drink” objective that drives the national drinking water program. States are working to coordinate the

financial resources and financing expertise of the DWSRF with the expertise, authority, and oversight of the state’s drinking water primacy agency. This horizontal integration of knowledge and efforts between the Public Water Supply Supervision (PWSS) program and DWSRF is key to capturing the greatest public health benefits from the nation’s investment in the DWSRF programs. In addition, states are also tackling the important tasks of vertically coordinating with water systems that need assistance as well as cooperating with other funding programs (see Exhibit 26).

Coordination between DWSRF and PWSS programs

PWSS programs have primary enforcement responsibility (also known as “primacy”) for ensuring that public water systems (PWSs) maintain SDWA compliance. PWSS programs develop state drinking water regulations, maintain inventories of PWSs, conduct sanitary surveys, provide technical assistance, and ensure that all systems comply with state requirements. PWSS program staff are best positioned to identify systems that need funding assistance for compliance and help these systems access the DWSRF. Primacy agencies and DWSRF programs have continued to strengthen their coordination to ensure that precious loan and set-aside resources are directed to the water systems that need them most and that set-asides are used most effectively. This coordination continued to pay off in 2006 as the loans that ensured compliance with public health standards increased by nearly \$350 million.

EXHIBIT 26: COORDINATING RELATIONSHIPS



The following examples illustrate the variety of ways in which states have coordinated efforts to identify struggling systems and supply them with necessary resources.

In California, the Drinking Water Program of the Department of Health Services (DHS) is responsible both for DWSRF financing and for regulatory and compliance oversight. Having both functions performed within the same division facilitates coordination between the efforts.

Other states find it advantageous to divide the primacy and financing programs among separate agencies with specialized expertise that maintain close communication. For example, in Oregon, the Oregon Economic and Community Development Department (OECD) is a central clearinghouse for many state funding programs and benefits from the additional resources and experience that come with these responsibilities. Frequent communication between the OECD and the Department of Health Services (DHS), Oregon's primacy agency, ensures that DWSRF loans are made to systems most in need in order to maximize public health protection. When OECD signs off on a project from DHS's Project Priority List, it invites DHS to communicate any shortcomings of the project plan, which may then be incorporated as conditions of the loan.

Coordination between DWSRF programs and PWSs

To efficiently target water systems most in need of DWSRF funding there must be effective communication between the agency providing assistance and the systems that need help. State DWSRF programs have used a variety of strategies to foster communication with PWSs in order to help systems assess their needs, understand the benefits of financing their project through the DWSRF, and tailor assistance to each system's situation. It is especially critical for DWSRF programs to focus attention on disadvantaged communities and small systems, as these communities typically lack the capacity to address the challenges they face on their own.

Education and outreach activities are important tools for DWSRF communication. Several states

use funding fairs to raise awareness of available assistance and their application and lending processes requirements. Systems frequently comment that they appreciate having multiple agencies in one place for face-to-face communication. Some states use Web sites to provide easily accessible information, such as project status updates.

The City of Pawtucket, Rhode Island, worked closely with the State to find creative, flexible DWSRF funding solutions that would soften the impact of much needed infrastructure improvements on costs to ratepayers. (See the back cover of this report for more details.)

In Arizona, the Rural Water Infrastructure Committee (RWIC) is a flexible organization that serves as a "one-stop shopping" entity for communities and small water systems in need of assistance. At bi-monthly project meetings, staff of numerous funding and technical assistance sources are on hand, allowing system and community representatives to explore the myriad of technical assistance and funding options for infrastructure projects available to them in one place. As RWIC provides both financial and technical assistance, meetings are commonly followed by on-site technical assistance visits and reviews of existing infrastructure design plans.



Coordinating funding with other funding agencies

Many states have found that their DWSRF funds go furthest when they are coordinated with funds of other state and federal programs with shared or complementary objectives. A common goal of such coordinated efforts is to streamline the application process to make it easier on water systems that need help but are unsure about how best to get it. As shown in Exhibit 27, DWSRF assistance coordinated with funding from other sources has been increasing, both absolutely and as a percentage of the total coordinated assistance that systems receive.

EXHIBIT 27

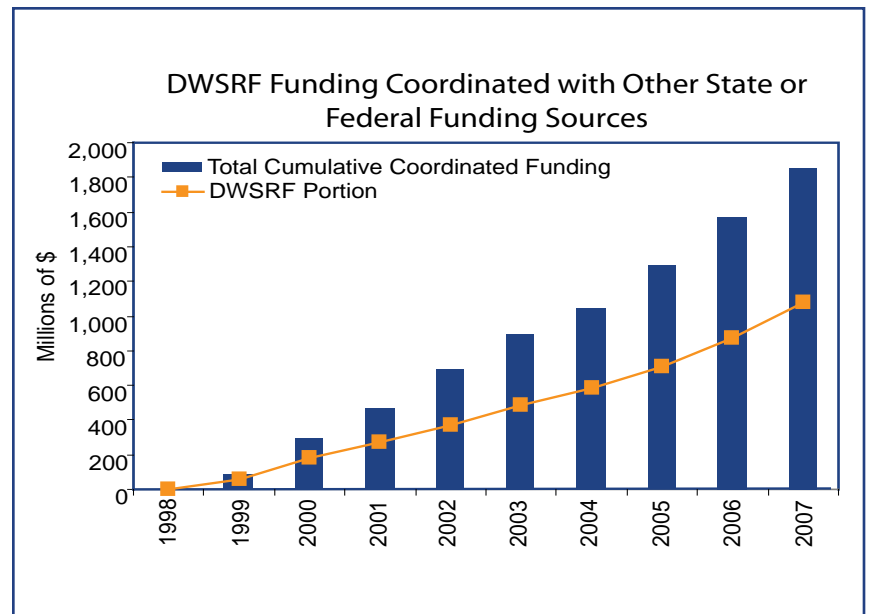
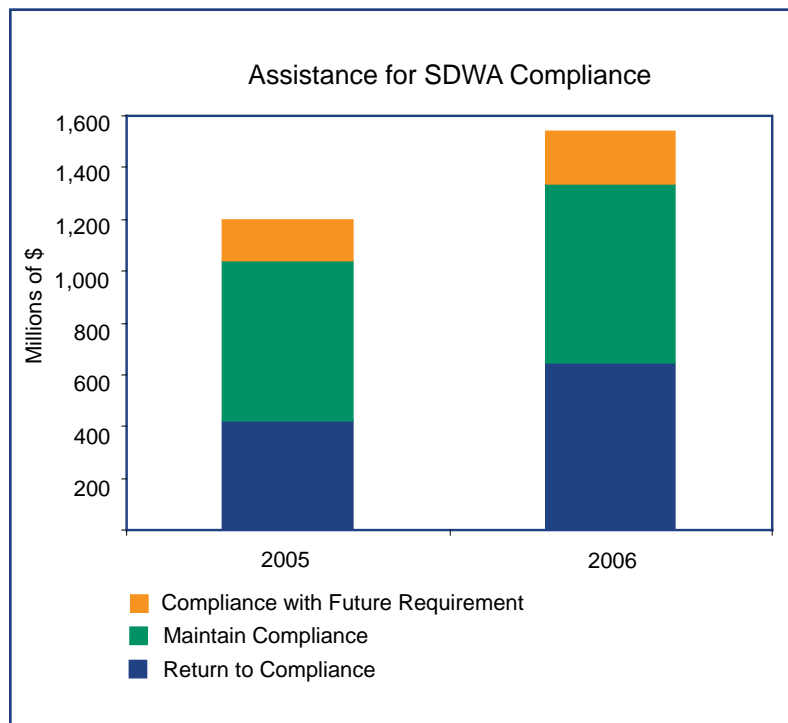


EXHIBIT 28



In Montana, the Waste, Wastewater and Solid Waste Action Coordinating Team (W₂ASACT) agencies use a uniform application with agency-specific supplements. In California, the California Financing Coordinating Committee (CFCC) coordinates the assistance of several state agencies, including the DWSRF. And in Kentucky, the DWSRF program coordinates with Rural Development and Community Development Block Grant (CDBG) programs and works closely with the Appalachian Resource Commission (ARC) to target disadvantage communities for assistance.

MONTANA

The Department of Environmental Quality (DEQ) administers the DWSRF and PWSS programs, and the Department of Natural Resources and Conservation (DNRC) issues the State's general obligation bonds and makes loans to project borrowers. The DWSRF and PWSS programs communicate closely about rule implementation and project development and funding. For example, PWSS program staff alert DWSRF program staff to projects with critical needs, and frequently refer permit applicants directly to the DWSRF when they identify deficiencies in their systems.

The location of Montana's DWSRF and PWSS programs within the same building also facilitates coordination. Mark Smith (DEQ): "I can always run downstairs and look at a file for a particular system. Hard copies on hand and face-to-face contact makes for timeliness."

CALIFORNIA

The Drinking Water Program within the Department of Health Services (DHS) is responsible both for DWSRF financing and for SDWA regulatory and compliance oversight. California has found that increasing PWSS attention to enforcement and compliance has increased systems' interest in DWSRF assistance. Systems that would otherwise prefer to wait for grant money are more inclined to take immediate advantage of DWSRF loans following documentation of a problem.

The California Financing Coordinating Committee (CFCC) facilitates coordination of the funds of several state agencies, including the DWSRF. Agencies review each other's priority lists and compare fundable components. The CFCC decreases the application burden wherever possible. A common inquiry form is accepted by all agencies, and an environmental review conducted by the DHS is accepted by other agencies.

Coordination through CFCC improves the pace and efficiency of California's DWSRF. Because the DWSRF has extremely competitive interest rates, it rarely loses eligible projects to other agencies. "We can help extend others' funds, and they help us by funding lower ranked projects," says Steve Woods of DHS.



PROJECT PRIORITY LISTS

Project Priority Lists (PPLs) are the operational cornerstone of a state's DWSRF program. The list includes all the projects that the state DWSRF program could potentially fund and orders them according to established criteria reflecting program priorities. One key project characteristic — a project applicant's readiness to proceed — is not reflected in the projects' ranking on the comprehensive list. "Ready to proceed" projects are those that can begin work when a loan is signed or even sooner, depending on the project and finance vehicle.

Under the 1996 Amendments to the SDWA, states are required to use their DWSRF funds to assist the highest priority projects. To determine this order, each state has developed a ranking system, which must give priority to projects that:

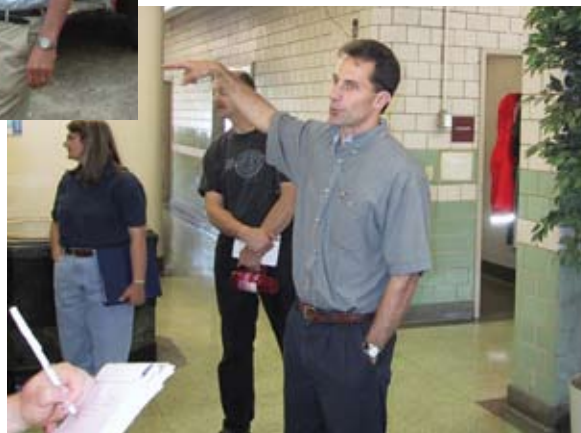
- Address the most serious risk to human health;
- Are necessary to ensure compliance with the requirements of the SDWA; and
- Assist systems most in need (on a per household basis).

States are allowed to give consideration to other factors such as whether the project includes other priority elements such as consolidation, water efficiency, and security. These additional considerations can create a more robust PPL and can further the goals of the Four Pillars of Sustainability.

There are several reasons why a state's PPL might not accurately represent the projects that receive loans in a given year. For instance, states may lack the funds to award loans to all the projects, or litigation issues may arise that delay top projects. Sometimes higher priority projects do not receive funding because they are not "ready to proceed" due to incomplete paperwork, engineering plans, or environmental impact reviews.

Several states are implementing innovative programs to improve the transparency and effectiveness of their PPLs. Arizona, Georgia, Ohio, and Indiana, among others, are creating supplemental lists or delineating within the PPL the projects that are within the "fundable range" for the coming year. States are also actively helping systems with the loan application process, further ensuring that all projects on the PPL are indeed ready to proceed. Updating the PPL multiple times a year has proven to be another effective tool to improving the state PPLs.

Maintaining a PPL sublist of only projects ready to proceed is essential to ensuring that DWSRF programs maintain pace while still funding the highest priority projects. EPA expects all states to continue to improve their priority lists in 2007 so that the projects that receive funding are those at the top of the priority list.



project priority list case studies

OHIO

In 2005, out of frustration that high-priority projects were not being funded, Ohio began grouping projects on its PPL into three categories. Those projects that are “ready to proceed” are labeled as either “fundable” or “contingency” projects, depending on whether they are high enough priority to receive funds available in the given program year. The fundable projects for a given year comprise Ohio’s Intended Project List, which supplements its PPL.

Projects that will not be ready to receive funding during the year are assigned “bypass” status. Ohio has made its bypass procedure aggressive in order to ensure that projects on the Intended Project List are truly ready to proceed. For example, projects that do not have detailed engineering plan approval within certain timeframes are bypassed.

Ohio also requires systems that did not receive a loan in the previous year to resubmit the pre-application materials, including a new project schedule. If a system does not re-submit the pre-application, the project is removed from the PPL. This helps Ohio ensure that the systems on its PPL are ready to move forward.



GEORGIA

To prevent its PPL from being encumbered by projects that are not ready to proceed, Georgia moves projects on the PPL that have been inactive for more than three months to an “Inactive Project List.”

ARIZONA

Arizona modified its PPL process so that the PPL can be amended up to six times a year. To ensure that the borrower is committed to receiving a loan, and to help better allocate state resources, Arizona has a set of “readiness to proceed requirements” for which projects receive prioritization points. Projects receive Readiness to Proceed points for having:

1. Debt Authorization (40 points)
2. Solicited Bidding (30 points)
3. Plans and Specifics Approval (20 points)
4. Project Design Completed (10 points)

Only projects that have at least 40 Readiness to Proceed points are placed in the Fundable Range of the PPL. When a project is put in the Fundable Range, the State sends the system a set of application materials. Once the system has had the materials for a week, State staff visit the system to assist them with completing the required paperwork. During this visit, State staff may take photos, ask questions, and make suggestions on what documentation should be included to complete the application.



INDIANA

To prevent projects from being prematurely added to the PPL and to gauge a system’s commitment to accepting a DWSRF loan, Indiana only adds projects for which a preliminary engineering report has been submitted. Indiana also demarcates the top portion of its PPL as being within the coming year’s fundable range. For the first 4 months of the fiscal year, only projects within the fundable range can receive loans. After 4 months, the funds are made available to all projects on the PPL. Indiana notes that creating these windows has benefited small and disadvantaged systems and encouraged more systems to apply for loans.

AUDITS

As DWSRF programs continue their rapid growth, the importance of reliable accounting and regular independent audits increases. The public has invested billions of dollars in the DWSRF programs, and the programs must preserve this protect public trust. In addition to providing accountability, audits can help states improve their program management.

Benefits of Audits

Audits benefit the managers of DWSRF programs, the water systems relying on the DWSRF programs for low-cost infrastructure financing, and the public that has funded the programs to ensure that they have access to safe drinking water. DWSRF program managers need to be able to have total trust in the accounting of their programs and know that the internal controls are functioning properly. From an external perspective, independent audits give both the public and elected leaders assurance that the finances of the program are being managed properly and will exist in perpetuity.

Separate financial statements are necessary to determine how state and federal capital invested in DWSRF programs are managed, and to be confident of this accounting, these statements must be audited. Without confidence from regular and thorough auditing, the historical record of program performance is suspect. As a result, program managers cannot judge whether the fiduciary aspects of the program are being managed adequately and cannot plan for the future.

Worse, without good accounting, decisions can be made based on faulty information, as was the case in one state, which relied only on its Single Audit. Unbeknownst

to program managers (and undetected by the Single Audit), a non-SRF loan had been booked to the DWSRF. The error was only uncovered after EPA's Office of Inspector General (OIG) audited the DWSRF program.

As the DWSRF programs have grown, the importance of separate accounting and auditing of DWSRF programs has only increased. Doug Garrett, Deputy Director of the Financial Assistance Center for the Missouri Department of Natural Resources puts it this way, "Missouri's Drinking Water and Clean Water SRFs combined have oversight of over \$1.6 billion in loans — that's more than some banks in Missouri handle. We've got to make sure those funds are being used as intended."

States Take the Lead

Many states have long recognized that Single Audits, unless significantly modified, lack the detail on program finances, internal controls, and compliance needed to run a responsible program. Before OIG began regular auditing of states that did not already conduct their own independent audits, 22 states were already conducting independent audits of their DWSRFs. This group of pioneers included all leveraged states (an audit was necessary to assure parties in the bond market that their interests were protected) and several non-leveraged states, which were voluntarily auditing as part of their commitment to responsibly manage the public investment and in order to capture the benefits of an audit.

When OIG initiated audit oversight, 21 more states decided to conduct their own independent audits rather than rely on EPA. In 2006, 42 of 50 states and Puerto Rico were conducting regular, independent audits of their DWSRF programs, and one additional state has agreed to perform a first-ever independent audit in 2007. The seven programs that did not conduct their own audits often cited a lack of resources or pointed to the Single Audit Act provision.



The Future of DWSRF Auditing

With the change in policy for 2007 that removes the OIG as an audit option for the few states not yet conducting their own independent audits, EPA expects these states to join the other 44 programs in meeting the DWSRF audit requirements. The DWSRF programs have sustained impressive growth while meeting high accounting standards and maintaining the program's strong standing in the eye of the public and financial community. Demonstrating accountability and stewardship of the Fund is essential as the importance of reliable accounting continues to increase as the DWSRF programs grow.

Audit Benefit Case Study

In 2000, a state discovered that the trial balance (the listing of all accounts to ensure that debts are equal to the sum of all liabilities plus equity and capital) for its DWSRF account was out of balance. A thorough audit by the OIG was able to determine what had gone wrong and how to fix the problem. Findings revealed problems with compliance and a lack of internal controls. The state's Single Audit had missed the problem because it highlighted only federal money and state match funds in reserve and ignored bond money and loan repayments, which account for the majority of the activity of the DWSRF.

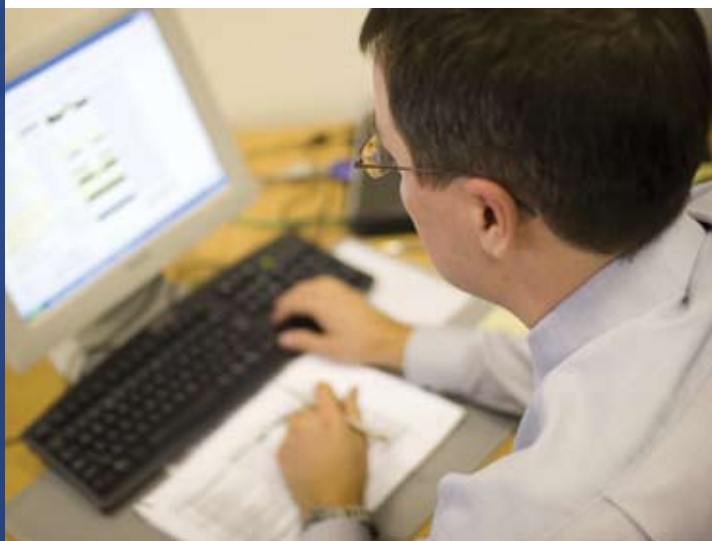
With the help of an auditor, the state was able to use the findings to make real improvements to its DWSRF program. A new accounting system was implemented, and a 2003 audit revealed significant improvement in funds management. Having concluded that its Single Audit does not review the DWSRF program in sufficient detail, the state is working hard, with support from its EPA Region, to secure funding for regular independent audits of its DWSRF program.

Single Audits:

Relying on a Single Audit for DWSRF oversight decreases the burden to a state, but when it comes to providing confidence in DWSRF financial information, Single Audits are inadequate without significant modification.

The Single Audit Act stipulates that States can conduct (at a minimum) a single state-wide audit for review by the OIG. The goal of such a broad audit is to ensure that federal money is used properly, and that a uniform set of accounting standards is adhered to at an entity-wide level. However, single audits are not intended to provide detailed audit coverage of all federal awards made to the auditee or to provide detailed information about individual awards.

A Single Audit depends on the professional judgment of an auditor who must decide which programs should be audited. As the auditor cannot audit and conduct risk evaluations for every program, this decision is not made in a vacuum but under pressure and within the context of a complicated set of rules. The end result is that the DWSRF financial statements and internal controls may entirely escape review under a Single Audit.



set-asides

IN 2006



The four DWSRF set-asides together constitute a rich, flexible package of tools that states use to run their critical drinking water programs and provide assistance to water

systems. Inherent in the design of the DWSRF set-asides is the ability of states to innovate within their programs so that the solutions and assistance they offer are tailored to the needs of their systems. In most states, the resources from the set-asides are the lifeblood of state programs that directly ensure public health is protected.

Big Changes in 2006

Since the early years of the DWSRF programs, states have been aggressively spending their set-aside resources to aid water systems and protect public health. Over the years, however, states set aside tens of millions of dollars more than they spent, swelling the balances of state set-aside accounts. In 2006, states reversed this trend and reduced the amount of dollars set aside (leaving more in the loan fund for financing critical infrastructure) while still increasing the amount of set-aside spending; the net result was that states began to spend from their accumulated set-aside balances as EPA had requested. The simultaneous increase in set-aside spending and increase in available funds for loans increases the impact of both aspects of the program as states show determination to use resources now rather than stash them away for the future.

Benefits Increasing

Like the compounding of benefits generated by the infrastructure built with DWSRF loans, the technical, managerial, and financial expertise built from set-aside-funded technical assistance accrues each year — in other words, the knowledge and tools provided to system staff in 2005 continue to benefit their consumers in 2006. The impact, therefore, comes from the continuance of the public health improvements created by set-aside utilization prior to 2006; these benefits are increased as states ramp up spending from their set-asides to protect public health (set-aside funds only produce benefits when spent), as shown in Exhibit 29.

EXHIBIT 29

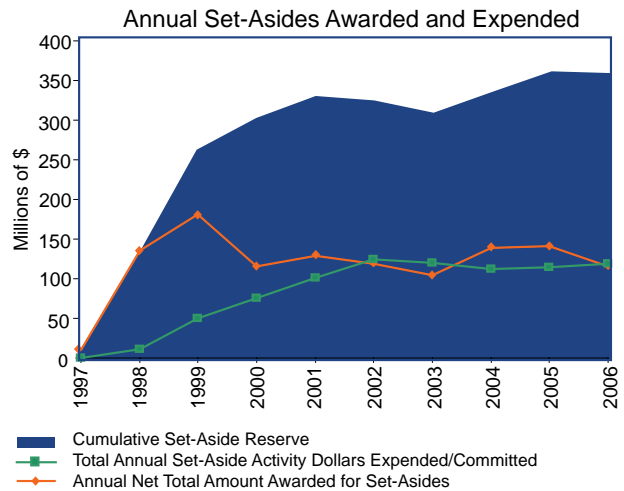
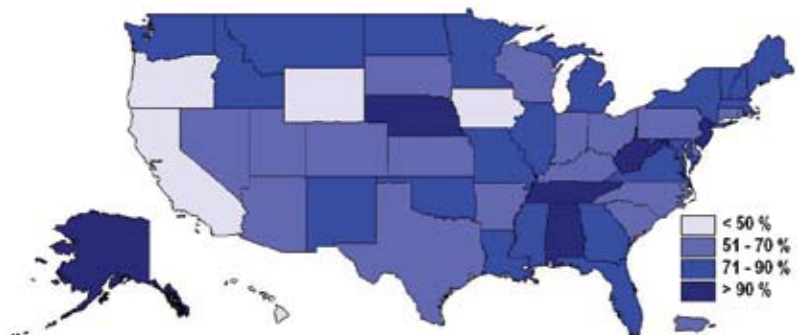


EXHIBIT 30: CUMULATIVE SET-ASIDE SPENDING RATES



Each state reserves a portion of its capitalization grant to support the core drinking water programs of their state drinking water programs. These programs, which can include the Public Water System Supervision (PWSS) program, Capacity Development, Operator Certification, Source Water Protection, and the DWSRF itself, improve the technical, managerial, and financial capacity of drinking water systems. These set-aside funds particularly benefit people served by small or struggling systems. Set-aside spending enables thousands of drinking water systems to sustainably provide adequate amounts of safe water to millions of people.

The DWSRF is unique because of the four set-asides which target key underlying conditions that affect drinking water systems' abilities to protect public health. States elect to reserve a portion of their federal capitalization grants (from zero percent to the maximum allowable percentage in each category) and apply these funds as direct assistance to improve systems' institutional capabilities. Each state uses a blend of set-aside spending that is designed to meet the needs of its drinking water programs and drinking water systems.

The map in Exhibit 30 shows the cumulative set-aside spending rates by states. As shown in Exhibits 29 and 31, states continued to increase the cumulative rate of DWSRF set-aside spending from 2005 to 2006. They increased the annual spending rate of set-asides from 81 percent of funds available in 2005 to 102 percent in 2006 by spending down their set-aside reserves. Overall, states have reserved approximately \$1.2 billion in set-asides and have already spent 70 percent of those funds, \$828 million, helping water systems. After several years of decline, the number of systems directly assisted by state set-aside spending increased by 8 percent from 2005 to 2006. This means that thousands more systems now provide more effective protection of health for their consumers.

Administration and Technical Assistance (4%):

- Administer the DWSRF program and provide technical assistance to public water systems

Small System Technical Assistance (2%):

- Provide technical assistance to small systems serving no more than 10,000 people

State Program Management

(10%, requires dollar-for-dollar match):

- Administer the state PWSS program
- Administer and provide technical assistance through source water protection programs
- Develop and implement a capacity development strategy and/or operator certification program

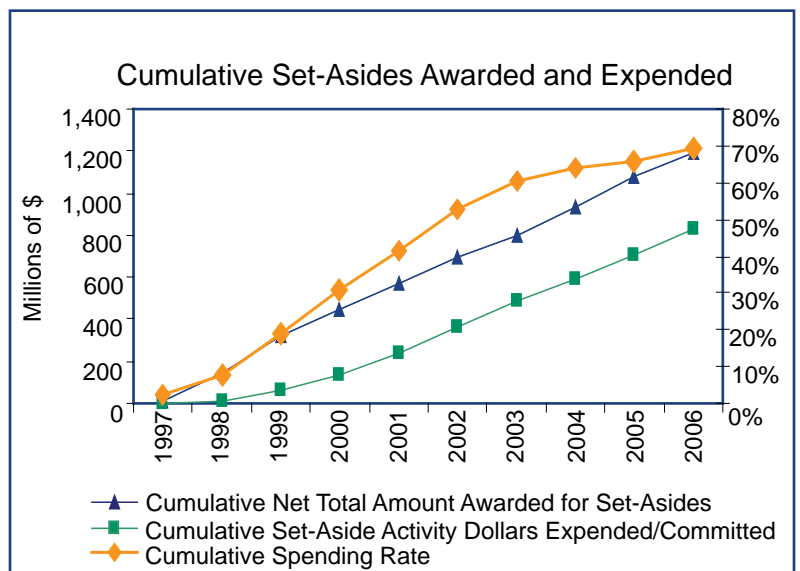
Local Assistance and Other State Programs

(15%, no more than 10% per any one activity):

- Implement broad range of programs including source water protection, wellhead protection, and capacity development.

* These set-aside percentages are the maximums of the federal grant that can be taken, but each state has the discretion as to how much to set aside (up to the allowed amount).

EXHIBIT 31



State DWSRF programs increased the impact of their set-aside spending in 2006 — and can use set-aside balances to do even more in 2007. The national set-aside balance is still \$362 million. As states continue to focus on immediately improving the capacity of struggling systems and work with systems to comply with the new drinking water rules — Ground Water Rule, Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR), and Long Term 2 Enhanced Surface Water Treatment Rule — EPA expects states to continue increasing the pace of set-aside spending in 2007.

State Program Implementation	4%	2%	10%	15%
Capacity assessments	•	•	•	•
Circuit riders		•	•	•
Community outreach	•			•
Compliance determination and evaluation			•	
Construction inspections	•		•	
Enforcement			•	
Lab certification			•	
Monitoring waiver program				•
Operating permits and monitoring compliance			•	•
Operator certification				•
Oversight of contamination clean-up				•
Regulation of water withdrawal				•
Rule implementation			•	
Sanitary surveys		•	•	•
Significant non-compliance assistance			•	
Software and data system upgrades	•		•	•
Staff	•	•	•	•
Standard operating procedure manuals			•	
Training		•	•	•
Unregulated Contaminant Monitoring			•	
Water quality alerts			•	
Waterborne disease surveillance			•	

Water System Assistance	4%	2%	10%	15%
Area-wide optimization (AWOPs)		•	•	•
Asset inventories		•		
Backflow and cross-connection prevention			•	
Board member training		•		•
Comprehensive performance evaluations (CPEs)		•	•	•
Consolidation and regionalization			•	•
Consumer Confidence Reports		•	•	
Contaminant inventory				•
DWSRF loan application	•	•		•
Emergency infrastructure upgrades		•		
Financial planning and business plans		•		•
Hydrologic studies				•
Land and easement acquisition			•	•
Leak detection programs		•	•	
Legal Assistance	•			•
Local/regional land use planning				•
Mentoring and peer assistance		•		
Monitoring plans and schedules		•	•	
Pilot studies for disinfection byproducts and arsenic		•	•	
Plugging abandoned wells			•	•
Pollution prevention program				•
Public outreach tools		•	•	
Rate setting and reviews		•		•
Receivership program				•
Regional water feasibility studies				•
Sanitary survey deficiencies				•
Security and emergency response			•	•
Smart growth guidelines				•
System partnerships and mutual aid networks			•	•
Tracer studies and engineering services				•
Treatment and distribution system evaluations		•		
Vulnerability assessments		•		
Water conservation and drought tracking			•	
Water quantity modeling				•
Wellhead protection plans and source water protection		•	•	•

4% Administration & Technical Assistance Set-Aside

2006

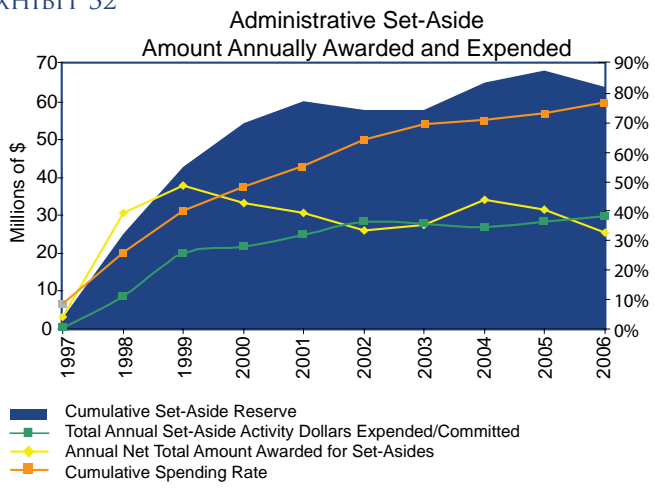
States: 47 spent and 40 set aside*
Set aside: \$26 million (\$6 million decrease)
Spent: \$30 million (\$1.5 million increase)
Note: 98% spent on running state DWSRF programs

CUMULATIVE

Set aside: \$281 million
Spent: \$216 million
Spending Rate: 75%
Remaining Balance: \$64 million

*i.e., 47 states spent funds under this set-aside, either from this year's set-aside or from reserves from previous years' set-asides. 40 states set aside a portion of their 2006 capitalization grants.

EXHIBIT 32



2% Small System Technical Assistance Set-Aside

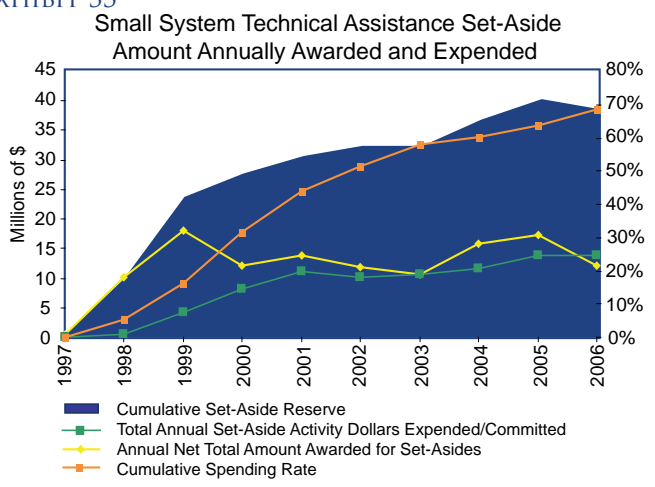
2006

States: 46 spent and 37 set aside
Set aside: \$12 million (\$5 million decrease)
Spent: \$13.9 million (no change)
Note: number of systems receiving technical assistance increased by 14%

CUMULATIVE

Set aside: \$123 million
Spent: \$84 million
Spending Rate: 69%
Remaining Balance: \$39 million

EXHIBIT 33



10% State Program Management Set-Aside

2006	<p>States: 44 spent and 33 set aside</p> <p>Set aside: \$43 million (\$7 million decrease)</p> <p>Spent: \$45 million (\$2 million increase)</p> <p>Note: states spent more for PWSSs and Capacity Development programs</p>
CUMULATIVE	<p>Set aside: \$372 million</p> <p>Spent: \$271 million</p> <p>Spending Rate: 70%</p> <p>Remaining Balance: \$100 million</p> <p>Note: 60% of spending on PWSSs</p>

EXHIBIT 34

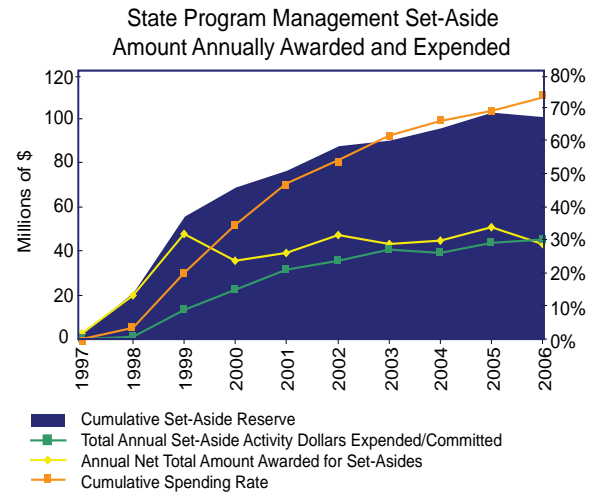
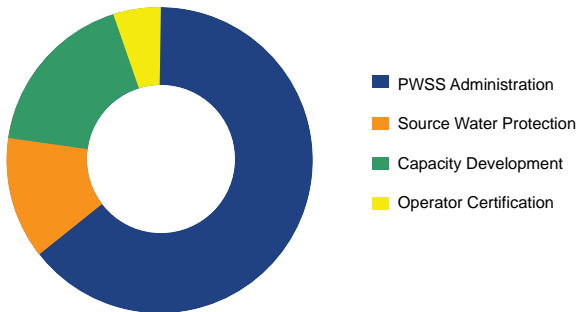


EXHIBIT 35 2006 Annual Program Management Set-Aside Expenses



15% Local Assistance and Other State Programs Set-Aside

2006	<p>States: 39 spent and 29 set aside</p> <p>Set aside: \$35 million (\$6.5 million decrease)</p> <p>Spent: \$30 million (no change from 2005)</p> <p>Note: technical and financial assistance provided to nearly 5,000 systems</p>
CUMULATIVE	<p>Set aside: \$415 million</p> <p>Spent: \$256 million</p> <p>Spending Rate: 62%</p> <p>Remaining Balance: \$159 million</p> <p>Note: spending rate has decreased as spending on source water protection has dropped</p>

EXHIBIT 36

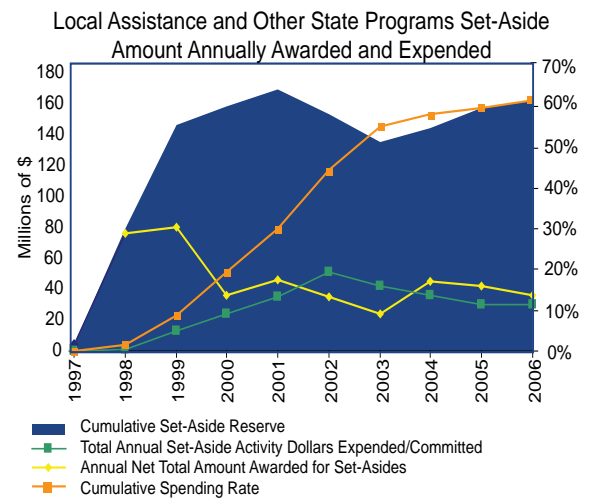
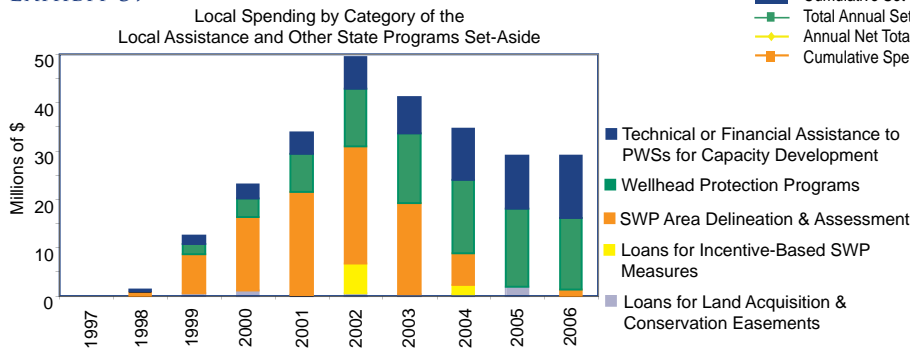


EXHIBIT 37



DWSRF

awards for sustainable

PUBLIC HEALTH PROTECTION

The 2006 Drinking Water State Revolving Fund Awards for Sustainable Public Health Protection recognize projects that exemplify exceptional creativity, effectiveness, and dedication to public health protection. Program flexibility and innovation are central to the DWSRF, and since the program's inception in 1997, borrowers and their supporters have continually impressed EPA with their creative and innovative approaches to protecting public health.

Projects were nominated by states and were required to meet several criteria to be eligible for an award. To further the public health goals of the DWSRF program and to encourage transparency, three criteria were mandatory for project eligibility:

- Compliance with the Safe Drinking Water Act
- Financial integrity, demonstrated by audits or financial reviews
- High ranking on the state's Project Priority List

In addition, leadership was required in at least one of the following four criteria: innovative financing, innovative approach to planning and/or project implementation, creative use of partnerships, and promotion of sustainable infrastructure.

The winners were acknowledged at the national Council for Infrastructure Finance Authorities (CIFA) meeting in Philadelphia, PA in November 2006. Information highlighting these programmatic successes is available on EPA's DWSRF Web site and has been distributed to DWSRF loan recipients around the country.



award recipients

region 8

MAGNA WATER COMPANY

UT

Problem: High levels of arsenic and perchlorate in the ground water.

DWSRF Assistance: \$6 million DWSRF loan in combination with \$12 million in grants.

Solution: A new treatment plant that employs electro dialysis reversal to reduce arsenic and perchlorate and a fixed-bed bioreactor to further minimize perchlorate.

FORT PECK/DRY PRAIRIE RURAL WATER AUTHORITY

MT

Problem: High TDS, sulfates, iron, and manganese in water supplies on the Fort Peck Indian Reservation.

DWSRF Assistance: \$10.7 million DWSRF loan.

Solution: A centralized water treatment plant and 3,200 miles of pipeline to deliver the treated water to customers.

CITY OF RIVERTON

WY

Problem: Inability to keep pace with new surface water treatment requirements.

DWSRF Assistance: \$1.49 million DWSRF loan.

Solution: A water treatment plant rehabilitation that included replacing and upgrading filters, replacing air actuated valves, improving the waste handling system, and equipping the plant with corrosion and pH control capabilities.

region 9

CITY OF SANTA BARBARA

CA

Problem: An uncovered reservoir susceptible to wind-blown contaminants and post-storage chlorination that resulted in high levels of disinfection byproducts.

DWSRF Assistance: \$20 million DWSRF loan.

Solution: Sheffield Water Quality Project replaced the open storage reservoir with two, 6.5 million gallon buried storage reservoirs.

TRUCKEE MEADOWS WATER AUTHORITY

NV

Problem: Untreated wells with high arsenic levels.

DWSRF Assistance: A nearly \$4.7 million DWSRF loan.

Solution: A conveyance system that transports well water to the Authority's existing surface water treatment facility.

FLOWING WELLS IRRIGATION DISTRICT

AZ

Problem: Arsenic levels in excess of the new 10ppb standard.

DWSRF Assistance: \$1 million DWSRF loan.

Solution: Treatment plant that uses granular iron media in pressure vessels and a backwash tank to remove the naturally-occurring arsenic.

CITY AND COUNTY OF HONOLULU

HI

Problem: High nitrate and agricultural pesticides levels, an alachlor-contaminated well, and a deteriorating distribution system.

DWSRF Assistance: \$21 million DWSRF loan.

Solution: Oahu constructed new water treatment facilities to remove nitrate and agricultural pesticides; the State's largest PWS, Weimanalo, replaced the alachlor-contaminated well; and Ewa Beach and Wahiawa made distribution system improvements.

region 1

CARIBOU UTILITIES

ME

Problem: Threat of surface water contamination and high levels of disinfection byproducts.

DWSRF Assistance: \$1.8 million DWSRF loan combined with \$1.2 million in USDA Rural Development Program funds and \$300,000 from the Maine Community Development Block Grant (CDBG) Program.

Solution: Two gravel packed water wells, a new pump station, and new water mains to replace the surface water source, and a new disinfection/treatment facility to reduce the use of treatment chemicals.

WATERVILLE FIRE DISTRICT

VT

Problem: Bacteriological contamination due to insufficient disinfection capacity and discharge of chlorinated water from storage tank overflow.

DWSRF Assistance: \$425,000 DWSRF loan.

Solution: A new control building to house disinfection and corrosion control equipment, meters, and alarm/control systems, and two new 4,500 gallon distribution storage reservoirs.

GREEN TOWNSHIP, BROWN COUNTY OH

Problem: Positive bacteria samples in Green Township's groundwater supply.

DWSRF Assistance: \$397,188 DWSRF loan combined with a \$210,000 Brown County CDBG.

Solution: Highland County Water Company extended 13.8 miles of water lines to serve the residents of Green Township.

region 4

GRAND BAY WATER WORKS

AL

Problem: Limited storage capacity and several failing private wells.

DWSRF Assistance: Approximately \$1 million in DWSRF loans.

Solution: 5 miles of water line to reach residents that had relied on the failing wells and a new, one million gallon elevated water tank.

JEFFERSON COMMUNITIES WATER SYSTEM,
JEFFERSON COUNTY, FL

Problem: Several contaminated private wells and non-community water systems in Jefferson County in close proximity to pollution point sources.

DWSRF Assistance: DWSRF loan.

Solution: A regional water system consisting of wells, elevated tanks, distribution facilities, controls, and services.

region 5

CITY OF THORP

WI

Problem: Low capacity wells with bacteriological and radionuclide contamination.

DWSRF Assistance: \$1.2 million DWSRF loan.

Solution: New wells, a water storage facility, a water pressure boosting station, and upgraded water treatment processes to reduce radon and uranium levels.

CITY OF HUTCHINSON

MN

Problem: High ammonia levels in drinking water that caused the water to be corrosive and leach copper from household plumbing into drinking water.

DWSRF Assistance: DWSRF loans totaling \$14 million.

Solution: A new membrane softening and biological filtration treatment plant to remove ammonia from the water, thereby reducing copper leaching.

CULKIN WATER DISTRICT

MS

Problem: Filter backwash facility that was discharging effluent that exceeded National Pollutant Discharge Elimination System (NPDES) limitations.

DWSRF Assistance: \$825,878 DWSRF loan.

Solution: Modifying the District's water treatment to minimize water wasted through the filter backwash process and new facilities that recycle clarified filter backwash.

more award recipients

region 10

MUD BAY WATER SYSTEM WA

Problem: Risk of microbial contamination in surface springs and an aging distribution system.

DWSRF Assistance: \$931,779 DWSRF loan combined with a \$440,000 CDBG.

Solution: A new well to replace the GWUDI-classified spring source and distribution system improvements.

region 7

CITY OF MCCOOK NE

Problem: Elevated uranium, nitrate, and arsenic levels in the ground water supply, and a reservoir contaminated by a diesel spill.

DWSRF Assistance: \$9.9 million DWSRF loans in combination with a \$3.3 million settlement from a diesel spill lawsuit.

Solution: Two new wells, a new water treatment facility that removes uranium, nitrates, and arsenic from the groundwater, a new 4 million gallon reservoir, and a booster pump station.

CITY OF CHEROKEE OK

Problem: High nitrate levels.

DWSRF Assistance: \$1.46 million DWSRF loan; \$250,000 CDBG; \$65,000 OWRB Emergency Grant; \$99,999 REAP Grant; and \$44,000 in local funds.

Solution: A reverse osmosis water treatment plant to treat the water supply and reduce nitrates in finished water.

CITY OF HOMER AK

Problem: Private wells providing poor quality water and at risk of contamination from nearby septic systems.

DWSRF Assistance: \$4,386,603 DWSRF loan.

Solution: The City of Homer extended its drinking water distribution system to the residents served by the private wells.

CITY OF BLOOMFIELD NM

Problem: Inability to meet federal standards for drinking water turbidity.

DWSRF Assistance: \$3,737,000 DWSRF loan.

Solution: The construction of a new filtration system to meet turbidity requirements.

region 2

WASHINGTON TOWNSHIP
MUNICIPAL UTILITIES AUTHORITY

NJ

Problem: Elevated radium contamination.

DWSRF Assistance: Two DWSRF loans totaling \$3.9 million.

Solution: A new water treatment plant consisting of iron sequestration, radium removal by DOWEX Radium Selective Complexer (RSC), pressure filtration, packed column aeration, pH adjustment, fluoridation, and disinfection.

region 3

EASTERN WYOMING PSD/
LOGAN COUNTY PSD

WV

Problem: Eleven flooded, failing, or abandoned water systems, unable to consistently provide safe drinking water to area residents.

DWSRF Assistance: \$3.5 million DWSRF loan.

Solution: Consolidate and upgrade the failing water systems and build a new regional water treatment plant, three 300,000 gallon storage tanks, approximately 106,000 feet of water lines, 84 fire hydrants, valves, and individual customer service meters.

AQUA PENNSYLVANIA,
BRISTOL BUREAU

PA

Problem: A 120 year-old, structurally unstable, and unreliable water treatment facility.

DWSRF Assistance: An approximately \$6 million DWSRF loan.

Solution: Aqua Pennsylvania purchased the old facility and made upgrades that include: solids removal equipment installation, chlorination and electrical system upgrades, automated filters and controls, a central computer system, and roof replacement.

region 6

TEXARKANA

AR

Problem: The lack of technical, managerial, and financial capacity to meet requirements of the SDWA at two wholesale systems.

DWSRF Assistance: \$6 million in DWSRF loans.

Solution: Texarkana bought the wholesalers and made \$3.8 million in upgrades to bring the systems into SDWA compliance.

TOWN OF BOONSBORO

MD

Problem: The threat of surface water contamination in Boonsboro and neighboring Keedysville.

DWSRF Assistance: \$1.4 million DWSRF loan in combination with \$1.5 million in state grants.

Solution: A new regional water treatment plant to serve both affected communities and new water filtration plants in Boonsboro and Keedysville interconnected with a new 12-inch water line.

POSSUM KINGDOM WATER
SUPPLY CORPORATION

TX

Problem: Multiple noncompliant, private small systems without disinfection using source water containing high levels of chlorides, sulfates, and total dissolved solids (TDS).

DWSRF Assistance: \$4.7 million DWSRF loan and \$6.5 million in USDA Rural Development funds.

Solution: Possum Kingdom purchased and consolidated the small systems. Possum Kingdom installed a new water intake plant and a water filtration plant to remove chlorides, sulfates, and TDS.

RER ENVIRONMENTAL ENGINEERING
SERVICES, CITY OF SAN JUAN

PR

Problem: Small communities that lack the managerial, technical, and financial capacity to comply with the SDWA.

DWSRF Assistance: \$160,000 DWSRF loan.

Solution: A Capacity Development pilot project that includes a Comprehensive Performance Evaluation (CPE) to measure community water systems' capacity to comply with the SDWA. Participating communities subsequently develop an action plan, and circuit riders facilitate follow-up actions.

FINANCIAL highlights

Each of the 51 DWSRF programs produces its own financial reports and statements. EPA has produced financial statements for the DWSRF program nationally based on data reported by the states to EPA's National Drinking Water Information Management System. For the national DWSRF program (representing all 51 separate DWSRFs), EPA provides:

- A Statement of Net Assets
- A Statement of Revenues, Expenses, and Earnings
- A Statement of Cash Flow

These statements are best thought of as non-audited financial reports. Page 35 showcases some highlights of the 2006 financial statements for the DWSRF programs.

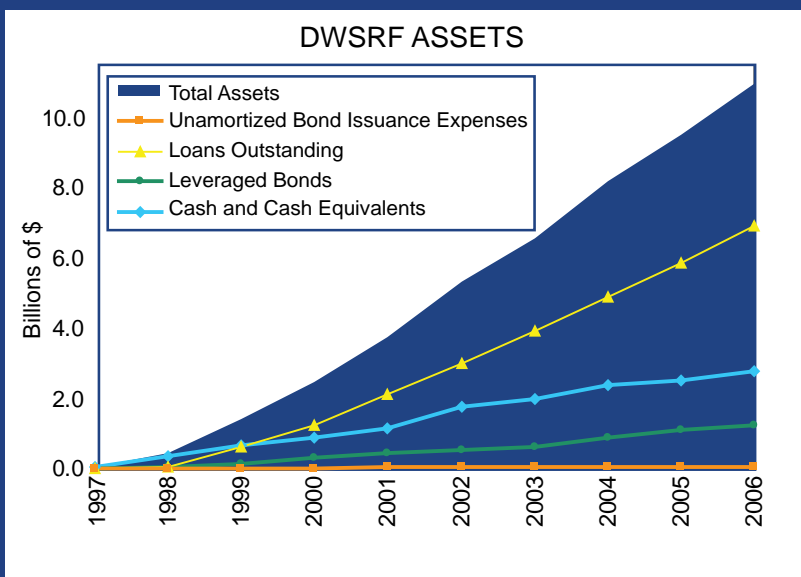
Statement of Net Assets

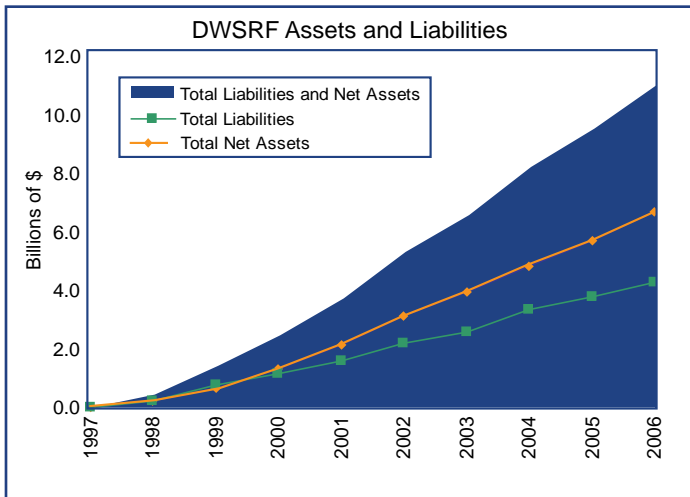
This statement (Exhibit 41) describes the fund's assets and liabilities as of the end of the fund's fiscal year. Assets include both financial and capital assets. Liabilities include both current and long-term liabilities. The DWSRF assets include grant funds that have been drawn from the federal treasury but do not include total grant awards.

Total assets of the loan funds were \$11 billion in 2006, an increase of 15 percent over 2005. Outstanding loans account for 68 percent of the funds' assets. Cash and cash equivalents account for the remaining 32 percent of the funds' assets. The funds' liabilities consist of leverage bonds and match bonds. Outstanding leverage bonds increased by 13 percent, to \$4 billion, in 2006. Match bonds were \$321 million in 2006, an increase of 11 percent over 2005. State and federal contributions comprise over 90 percent of the \$6.7 billion in net assets.

The set-aside funds had total assets of \$6.9 billion in 2006. This is an increase of 7 percent over 2005. They have no liabilities.

EXHIBIT 38





Statement of Revenue, Expenses, and Net Earnings

This statement (page 36) describes the performance of the funds over the reporting period. Annual operating revenues of the loan funds increased by \$67.3 million between 2005 and 2006, an increase of more than 31 percent; 60 percent of this increase came from interest on fund investments and the remainder from interest on DWSRF loans. Annual operating expenses rose \$21.9 million to \$176 million, a 14 percent increase over 2005. Net non-operating revenue rose by \$74.1 million, due largely to an 18 percent increase in federal contributions between 2005 and 2006. Total revenue of the loan fund exceeded total expenses in 2006 by \$997 million, a 14 percent increase over 2005.

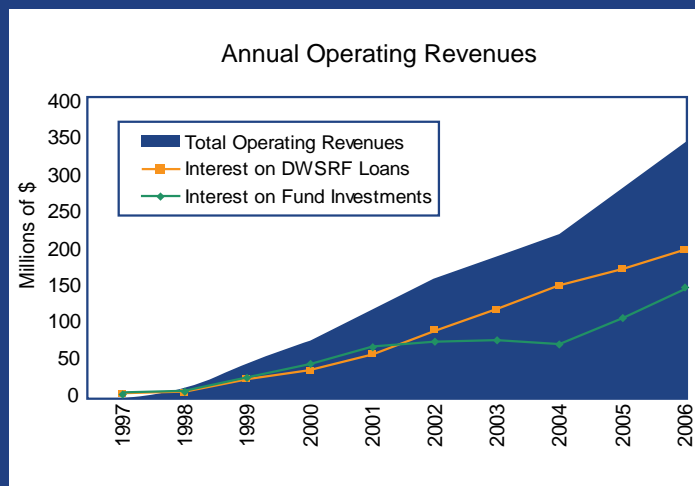
The operating revenues and expenditures of the set-aside funds had only minor changes between 2005 and 2006. Small system technical assistance remained steady at \$13.9 million. Administrative assistance increased by 5 percent to \$29.8 million. State program management assistance increased by 4.5 percent to \$45.3 million. Grants made under the set-aside programs increased slightly by \$140,000, or less than 1 percent. The federal contribution increased 3 percent to \$118 million. Revenues exceeded expenditures by only \$400,000.

Statement of Cash Flows

This statement (Exhibit 41) provides a detailed accounting of the flow of cash into and out of the DWSRF programs. For the loan fund, loan disbursements to be repaid totaled \$1.4 billion in 2006, a 16.3 percent increase over 2005. Cash draws from the federal capitalization grants rose by \$113 million over 2005; state contributions fell by \$8.6 million. Gross leveraged bond proceeds rose by \$54.7 million. Overall, cash and cash equivalents increased by \$257 million as compared to an increase of \$139 million in 2005.

Total cash flows for operating expenses were \$200,000 higher in 2006 than 2005. The federal contribution increased by \$3.6 million (or 3 percent), while the net grants from 1452(k) set-asides were higher.

EXHIBIT 40



2006 FINANCIAL STATEMENT HIGHLIGHTS

Statement of Net Assets

- Total assets increased by \$1.5 billion between 2005 and 2006; DWSRF program equity (also called net assets) totals \$6.7 billion.
- Program liabilities increased by \$477 million, reflecting the net growth in DWSRF bonds outstanding for state matching funds and leveraged program financing.

Statement of Revenues, Expenses, and Earnings

- Total program revenues exceed expenses by \$997 million, a 14 percent increase from 2005.
- Interest earnings from loans and investments totaled more than \$67.3 million.
- Administrative expenses were 8.6 percent of operating revenues.

Statement of Cash Flows

- Loan principal repayments to DWSRF programs were \$353.4 million.
- Leveraged bond proceeds added \$563.8 million to program cash flow.



FINANCIAL statements

EXHIBIT 41

Balance Sheet (Loan Funds) in \$ Millions

	2006	2005	2004	2003	2002
Assets					
Cash and Cash Equivalents	2,790.8	2,533.4	2,394.7	1,976.9	1,757.4
Debt Service Reserve - Leveraged Bonds	1,227.1	1,087.7	865.2	628.6	520.9
Loans Outstanding	6,921.9	5,850.1	4,897.3	3,913.9	3,012.8
Unamortized Bond Issuance Expenses	53.0	48.0	44.2	34.6	31.5
Total Assets	10,992.8	9,519.2	8,201.5	6,553.9	5,322.6
Liabilities					
Match Bonds Outstanding	321.1	290.1	256.6	194.7	174.4
Leveraged Bonds Outstanding	3,960.7	3,514.7	3,107.7	2,387.9	2,012.5
Total Liabilities	4,281.8	3,804.8	3,364.2	2,582.6	2,186.9
Net Assets					
Federal Contributions	4,683.5	3,933.6	3,297.0	2,588.1	1,996.9
State Contributions	1,367.8	1,260.4	1,144.4	1,001.1	847.8
Transfers - Other SRF Funds	374.1	354.8	310.1	318.4	231.6
Other Net Assets	285.6	165.5	85.7	63.7	59.4
Total Net Assets	6,710.9	5,714.4	4,837.3	3,971.3	3,135.7
Total Liabilities and Net Assets	10,992.8	9,519.2	8,201.5	6,553.9	5,322.6

Balance Sheet (Set-Aside Funds) in \$ Millions

	2006	2005	2004	2003	2002
Assets					
Cash and Cash Equivalents	2.2	1.5	1.1	0.9	0.5
Loans Outstanding	4.7	4.9	4.9	2.4	2.5
Total Assets	6.9	6.4	6.1	3.3	2.9
Liabilities					
Total Liabilities	0	0	0	0	0
Net Assets					
Federal Contributions	820.8	702.5	587.7	475.3	355.2
Other Net Assets	(813.9)	(696.0)	(581.6)	(472.0)	(352.2)
Total Net Assets	6.9	6.4	6.1	3.3	2.9
Total Liabilities & Net Assets	6.9	6.4	6.1	3.3	2.9

EXHIBIT 41 CONTINUED

Income Statement (Loan Funds) in \$ Millions					
	2006	2005	2004	2003	2002
Operating Revenues					
Interest on Fund Investments	145.5	105.0	67.9	74.3	72.4
Interest on DWSRF Loans	198.0	171.2	148.5	115.5	86.5
<i>Total Operating Revenues</i>	343.5	276.2	216.4	189.8	158.9
Operating Expenses					
Bond Interest Expense	169.7	149.8	116.1	96.1	75.2
DWSRF Funds Used for Refunding	3.9	2.1	31.1	47.1	0.8
Amortized Bond Issuance Expense	2.4	2.2	1.7	1.6	1.3
<i>Total Operating Expenses</i>	176.1	154.2	148.9	144.8	77.3
Nonoperating Revenues and Expenses					
Federal Contribution	749.9	636.6	708.9	591.2	692.2
State Contributions	107.4	116.0	143.3	153.4	180.4
Loan Forgiveness Expenses	(47.4)	(42.2)	(45.5)	(40.7)	(47.8)
Transfers from (to) CWSRF	19.3	44.7	(8.3)	86.8	75.9
<i>Total Nonoperating Revenues and Expenses</i>	829.1	755.0	798.4	790.7	900.8
Increase (decrease) in Net Assets	996.6	877.1	866.0	835.7	982.3
Net Assets					
Beginning of Year	5,714.4	4,837.3	3,971.3	3,135.7	2,153.3
End of Year	6,710.9	5,714.4	4,837.3	3,971.3	3,135.7
Income Statement (Set-Aside Funds) in \$ Millions					
	2006	2005	2004	2003	2002
Operating Revenues					
Interest on 1452(k) Loan Account Investments	0.06	0.02	0.01	0.01	0.01
Interest on 1452(k) Loans	0.08	0.03	0.04	0.04	0.03
<i>Total Operating Revenues</i>	0.14	0.06	0.05	0.04	0.04
Operating Expenses					
Administrative Expenses Under the 4% Set-Aside	29.8	28.3	26.8	27.8	28.5
Expenses Under the 2% Set-Aside, Small Systems Technical Assistance	13.9	13.9	11.5	10.7	10.2
Expenses Under the 10% Set-Aside, State Program Management	45.3	43.3	38.9	40.5	35.6
Grants made under the 1452(k) Set-Aside	29.1	28.9	32.4	40.9	42.7
<i>Total Expenses</i>	118.0	114.4	109.7	119.8	117.0
Nonoperating Revenues and Expenses					
Federal Contribution	118.3	114.8	112.4	120.1	118.1
<i>Total Nonoperating Revenues (Expenses)</i>	118.3	114.8	112.4	120.1	118.1
Increase (decrease) in Net Assets	0.4	0.4	2.8	0.4	1.1
Net Assets					
Beginning of Year	6.4	6.1	3.3	2.9	1.8
End of Year	6.9	6.4	6.1	3.3	2.9

Cash Flows (Loan Funds) in \$ Millions

	2006	2005	2004	2003	2002
Operating Activities					
Cash Draws from Federal Capitalization Grants	749.9	636.6	708.9	591.2	692.2
Contributions from States	107.4	116.0	143.3	153.4	180.4
Loan Disbursements to be Repaid	(1,425.2)	(1,225.2)	(1,223.4)	(1,056.3)	(1,022.5)
Loan Principal Forgiven	(47.4)	(42.2)	(45.5)	(40.7)	(47.8)
Loan Principal Repayments	353.4	272.5	240.0	155.2	116.4
Interest Received on Loans	198.0	171.2	148.5	115.5	86.5
<i>Total Cash Flows from Operations</i>	(64.0)	(71.2)	(28.2)	(81.7)	5.3
Noncapital Financing Activities					
Gross Leveraged Bond Proceeds	563.8	509.0	800.7	433.4	587.9
Bond Issuance Expense	(7.4)	(6.0)	(11.4)	(4.6)	(6.6)
State Match Bond Proceeds	49.3	50.4	75.4	29.0	65.9
Cash Received from Transfers with CWSRF	19.3	44.7	(8.3)	86.8	75.9
Interest Paid on Leveraged and State Match Bonds	(169.7)	(149.8)	(116.1)	(96.1)	(75.2)
DWSRF Funds Used for Refunding	(3.9)	(2.1)	(31.1)	(47.1)	(0.8)
Principal Repayment of Leveraged Bonds	(117.7)	(102.0)	(80.9)	(58.0)	(46.1)
Principal Repayment of State Match Bonds	(18.4)	(16.9)	(13.5)	(8.6)	(4.1)
<i>Total Cash Flows from Noncapital Financing Activities</i>	315.2	327.3	614.8	334.6	596.9
Cash Flows from Capital and Related Financing Activities	0	0	0	0	0
Investing Activities					
Interest Received on Fund Investments	145.5	105.0	67.9	74.3	72.4
Deposits to Debt Service Reserve for Leveraged Bonds	(139.3)	(222.5)	(236.6)	(107.7)	(83.2)
<i>Total Cash Flows from Investing Activities</i>	6.2	(117.5)	(168.7)	(33.4)	(10.9)
Net Increase (Decrease) in Cash and Cash Equivalents	257.5	138.6	417.8	219.5	591.4
Beginning Balance (Cash and Cash Equivalents)	2,533.4	2,394.7	1,976.9	1,757.4	1,166.0
Ending Balance (Cash and Cash Equivalents)	2,790.8	2,533.4	2,394.7	1,976.9	1,757.4

Cash Flows (Set-Aside Funds) in \$ Millions

	2006	2005	2004	2003	2002
Operating Activities					
Federal Contribution	118.3	114.8	112.4	120.1	118.1
1452(k) Loan Disbursements Made to Borrowers	(0.3)	(0.3)	(2.7)	(0.3)	(1.1)
1452(k) Loan Principal Repayments	0.5	0.4	0.2	0.4	0.1
Interest Received on 1452(k) Loans	0.1	0.0	0.0	0.0	0.0
Administrative Expenses Under the 4% Set-Aside	(29.8)	(28.3)	(26.8)	(27.8)	(28.5)
Expenses Under the 2% Set-Aside, Small Systems Technical Assistance	(13.9)	(13.9)	(11.5)	(10.7)	(10.2)
Expenses Under the 10% Set-Aside, State Program Management	(45.3)	(43.3)	(38.9)	(40.5)	(35.6)
Grants made under the 1452(k) Set-Aside	(29.1)	(28.9)	(32.4)	(40.9)	(42.7)
<i>Total Cash Flows from Operating Activities</i>	0.6	0.4	0.2	0.4	0.2
Noncapital Financing Activities					
<i>Net Cash Provided by Noncapital Financing Activities</i>	0	0	0	0	0
Cash Flows from Capital and Related Financing Activities	0	0	0	0	0
Investing Activities					
Interest Earnings on 1452(k) Loan Account Investments	0.06	0.02	0.01	0.01	0.01
<i>Net Cash Provided by Investing Activities</i>	0.1	0.0	0.0	0.0	0.0
Net Increase (Decrease) in Cash and Cash Equivalents	0.7	0.4	0.2	0.4	0.2
Beginning Balance (Cash and Cash Equivalents)	1.5	1.1	0.9	0.5	0.3
Ending Balance (Cash and Cash Equivalents)	2.2	1.5	1.1	0.9	0.5

DWSRF state agencies



EPA REGION 1

Connecticut Department of Public Health
Connecticut Department of Environmental Protection
Connecticut Office of the Treasurer
Connecticut Department of Public Utility Control
Maine Department of Human Services
Maine Municipal Bond Bank
Massachusetts Water Pollution Abatement Trust
Massachusetts Division of Municipal Services
Massachusetts Division of Watershed Management – Drinking Water Program
New Hampshire Department of Environmental Services
Rhode Island Clean Water Finance Agency
Rhode Island Department of Health
Vermont Water Supply Division
Vermont Facilities Engineering Division

EPA REGION 2

New Jersey Department of Environmental Protection
New Jersey Environmental Infrastructure Trust
New York State Department of Health
New York State Environmental Facilities Corporation
Puerto Rico Department of Health
Government Development Bank for Puerto Rico
Puerto Rico Infrastructure Financing Authority

EPA REGION 3

Delaware Department of Health and Social Services
Delaware Department of Natural Resources and Environmental Control
Maryland Water Quality Financing Administration
Maryland Water Management Administration
Pennsylvania Infrastructure Investment Authority (PENNVEST)
Pennsylvania Department of Environmental Protection
Virginia Department of Health – Office of Drinking Water
Virginia Resources Authority
West Virginia Department of Health and Human Resources
West Virginia Water Development Authority



EPA REGION 4

Alabama Department of Environmental Management
Florida Department of Environmental Protection
Georgia Environmental Facilities Authority
Georgia Environmental Protection Division
Kentucky Infrastructure Authority
Kentucky Division of Water, Drinking Water Branch, Environmental and Public Protection Cabinet
Mississippi State Department of Health
Mississippi Department of Environmental Quality
Mississippi State Tax Commission
North Carolina Department of Environment and Natural Resources
South Carolina Department of Health and Environmental Control
South Carolina Budget and Control Board
Tennessee Department of Environment and Conservation
Tennessee Comptroller of the Treasury



EPA REGION 5

Illinois Environmental Protection Agency
 Indiana Department of Environmental Management
 Indiana Finance Authority
 Indiana State Revolving Fund Loan Program
 Michigan Department of Environmental Quality
 Michigan Municipal Bond Authority
 Minnesota Public Facilities Authority
 Minnesota Department of Health
 Ohio Environmental Protection Agency
 Ohio Water Development Authority
 Wisconsin Department of Natural Resources
 Wisconsin Department of Administration

EPA REGION 6

Arkansas Natural Resources Commission
 Arkansas Department of Health
 Louisiana Department of Health and Hospitals
 Louisiana Department of Environmental Quality
 Oklahoma Department of Environmental Quality
 Oklahoma Water Resources Board
 New Mexico Finance Authority
 New Mexico Environment Department
 Texas Water Development Board
 Texas Commission on Environmental Quality

EPA REGION 7

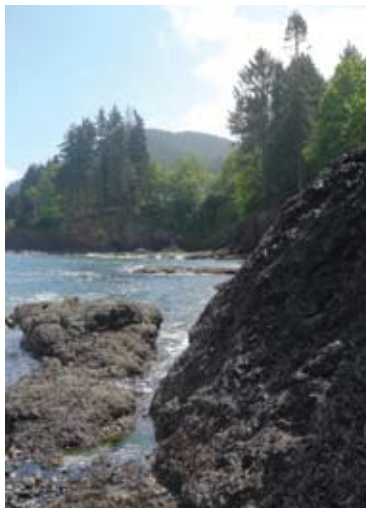
Iowa Department of Natural Resources
 Iowa Finance Authority
 Kansas Department of Health and Environment
 Kansas Department of Administration
 Kansas Development Finance Authority
 Missouri Department of Natural Resources
 Nebraska Department of Environmental Quality

EPA REGION 8

Colorado Water Resources and Power Development Authority
 Colorado Water Quality Control Division
 Colorado Department of Local Affairs – Division of Local Government
 Montana Department of Environmental Quality
 Montana Department of Natural Resources and Conservation
 North Dakota Department of Health
 North Dakota Public Finance Authority
 South Dakota Department of Environment and Natural Resources
 Utah Department of Environmental Quality – Division of Drinking Water
 Wyoming Office of State Lands and Investments
 Wyoming Department of Environmental Quality
 Wyoming Water Development Office

EPA REGION 9

Arizona Water Infrastructure Finance Authority
 California Department of Health Services
 Hawaii Department of Health
 Hawaii Safe Drinking Water Branch
 Hawaii Wastewater Branch
 Nevada Division of Environmental Protection
 Nevada Office of Financial Assistance



EPA REGION 10

Alaska Department of Environmental Conservation
 Alaska Department of Environmental Conservation – Division of Environmental Health
 Idaho Department of Environmental Quality
 Oregon Department of Human Services
 Oregon Economic and Community Development Department
 Oregon Department of Environmental Quality
 Washington State Department of Health

pawtucket

TALE

“The key to development is infrastructure. Pawtucket has had the foresight to undergo aggressive redevelopment of the infrastructure to revitalize the city.”



Despite over \$27 million in existing debt and substantial districting obstacles, the City of Pawtucket is using a nearly \$75 million DWSRF loan to complete an exhaustive, source-to-tap overhaul of the City's water system. Cooperation at the community and State level was essential in securing the loan and

helping the project achieve its potential to positively impact public health.

Pawtucket's water treatment plant dated back to 1938, and some of the system's distribution system pipes back to the 1800s. The old pipes, made of unlined cast iron, caused discoloration and rusty water resulting in taste and odor problems. Excessive pipe biofilm required the system to use high levels of chlorine to disinfect, and subsequently resulted in the formation of disinfection by-products (DBPs). The old pipes were also subject to breaks that disrupted service and made water susceptible to contamination. DBP levels were exacerbated by Pawtucket's source water, which has high levels of total organic carbon (TOC), a precursor to DBPs. Therefore, the impending Stage 2 DBPR presented significant compliance challenges.

Pawtucket's first step to improving its water quality was to work with the state DWSRF to find a way to restructure its existing debt outside the DWSRF. This restructuring enabled Pawtucket to take on the DWSRF loans needed to make the complete source-to-tap overhaul. The first DWSRF loan, made in 2004, was for \$41,875,000 at 2.4 percent interest, and the second, borrowed in 2005, was \$31,909,000 at 2.8 percent interest.

Pawtucket is building a new 25 million gallon a day (MGD) treatment plant with the first loan. The plant employs granulated activated carbon (GAC) media to lower turbidity levels and extract particles to resolve the problematic taste and odor issues, DBPs, and synthetic organics. UV technology will be used to protect the system against pathogens. The loan is also financing a pump station, residual lagoons, and a 5-million-gallon storage tank that will bring the system to full operating capacity. The State demonstrated its dedication to this project by donating the land on which Pawtucket is building its treatment plant.

The second loan is enabling Pawtucket to update its out-dated distribution system, financing the replacement of more than 160 miles of 6- and 8-inch mains. Since the beginning of the rehabilitation, DBPs have dropped by 60 percent and there have been no total coliform-positive results.

“The good thing about the DWSRF was the flexibility the state was able to demonstrate to help stabilize the rates and minimize rate shock.”

- Pawtucket Water Supply Board

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