



Financing America's Clean Water Since 1987

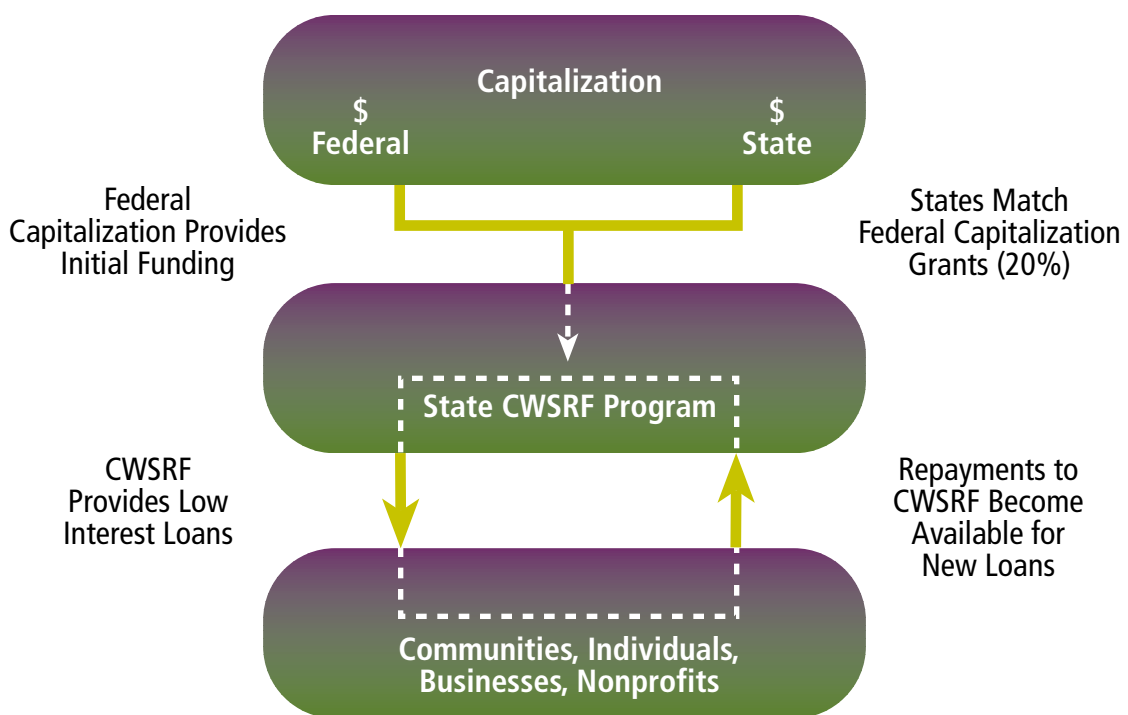
A Report of Progress and Innovation



The Clean Water State Revolving Fund -

A SOUND NATIONAL INVESTMENT PAYING ENVIRONMENTAL DIVIDENDS - NOW AND INTO THE FUTURE.

CWSRF—A Revolving Fund



Highlights

A Program That Works

- The Clean Water State Revolving Fund Program has provided 9,500 low-interest loans for water pollution control projects.
- Cumulative program assistance totals over \$30 billion nationally.
- Annual assistance over the past five years averaged about \$3.2 billion.
- Net loan repayments and interest earnings provide over \$1.0 billion annually to fund new projects.
- The SRF bond sector received a AAA median rating from a major bond rating agency - the only sector of the U.S. municipal market to achieve this distinction.
- Every federal dollar spent in the Clean Water State Revolving Fund Program has resulted in \$.73 in additional clean water expenditures from state contributions and fund earnings.
- Loans are made to communities of all sizes, individuals, nonprofit organizations, and commercial enterprises.
- The Program has evolved to address a wide variety of water quality problems.
- The Clean Water State Revolving Fund Program has served as a model for other revolving loan fund programs including the Drinking Water State Revolving Fund Program.



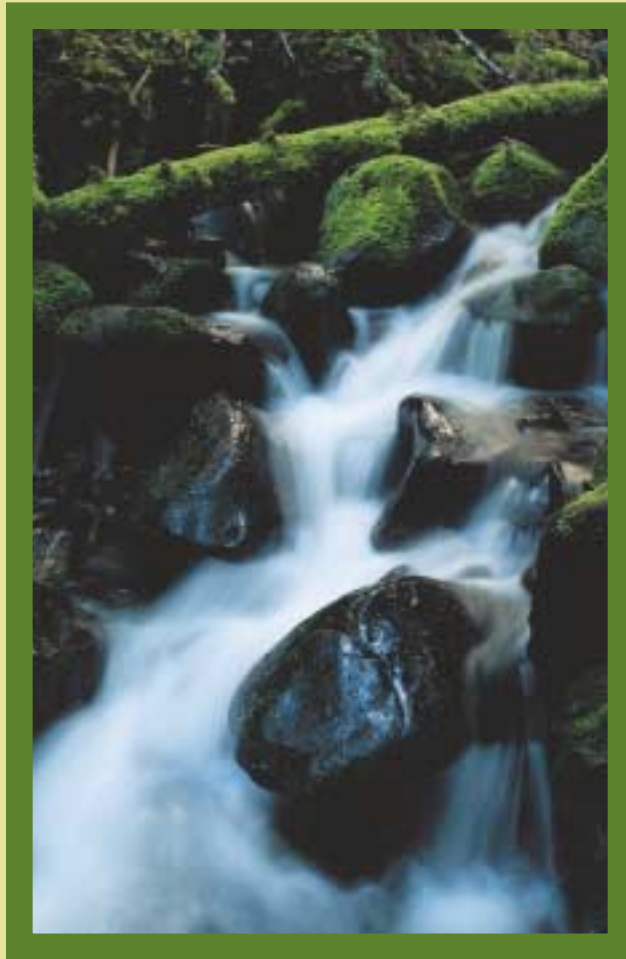


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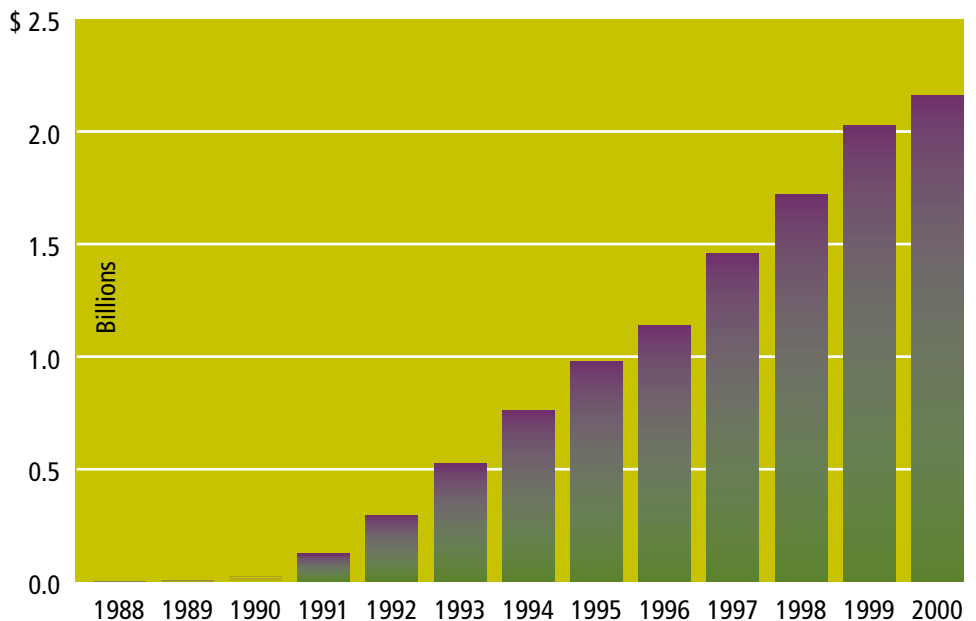
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Clean Water State Revolving Fund Program

With over 9,500 projects funded and over \$30 billion in cumulative assistance provided, the Clean Water State Revolving Fund (CWSRF) Program stands today as one of the nation's most successful environmental infrastructure financing programs. Established by the Clean Water Act amendments of 1987, the CWSRF Program signaled a new national approach to providing funding assistance to water pollution abatement projects. The CWSRF Program embarked on a mission to create a permanent, state-operated financial assistance program, and by all measures, the Program has been a success.

CWSRF Loan Repayments and Interest Earnings (\$ Billions)



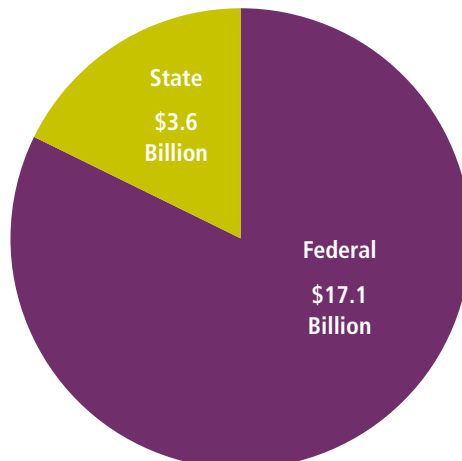
Nation-wide participation

Today, all fifty states and Puerto Rico have operated CWSRF programs for more than ten years.

Continuing federal and state investment

Federal contributions exceed \$17 billion and states contributed \$3.57 billion for a total capitalization investment of \$20.57 billion. Using fund assets as collateral, states have issued bonds to “leverage” their SRF programs and added an additional \$8.8 billion to

Federal and State Investment in the CWSRF Program



funds available for critical projects. Cumulative information shows that the federal investment is paying off.

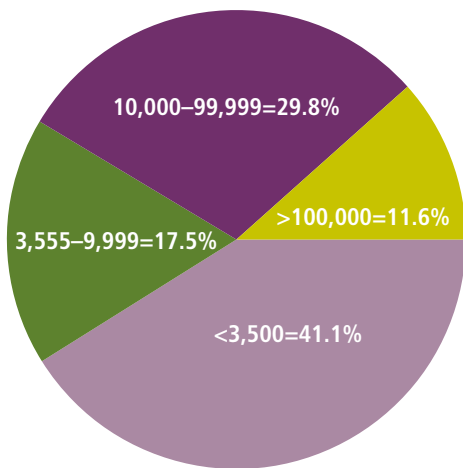
Establishing a permanent funding solution

Loan repayments and interest earnings provided CWSRF programs with over \$2.1 billion last year and have averaged over \$1.7 billion per year since 1996. Over time the annual “revolving” level of funding will continue to grow at an impressive rate.

Serving many communities

The CWSRF Program is assisting a broad array of communities. Fifty-nine percent of all loan agreements (24 percent of funding) have been made to communities with populations less than 10,000.

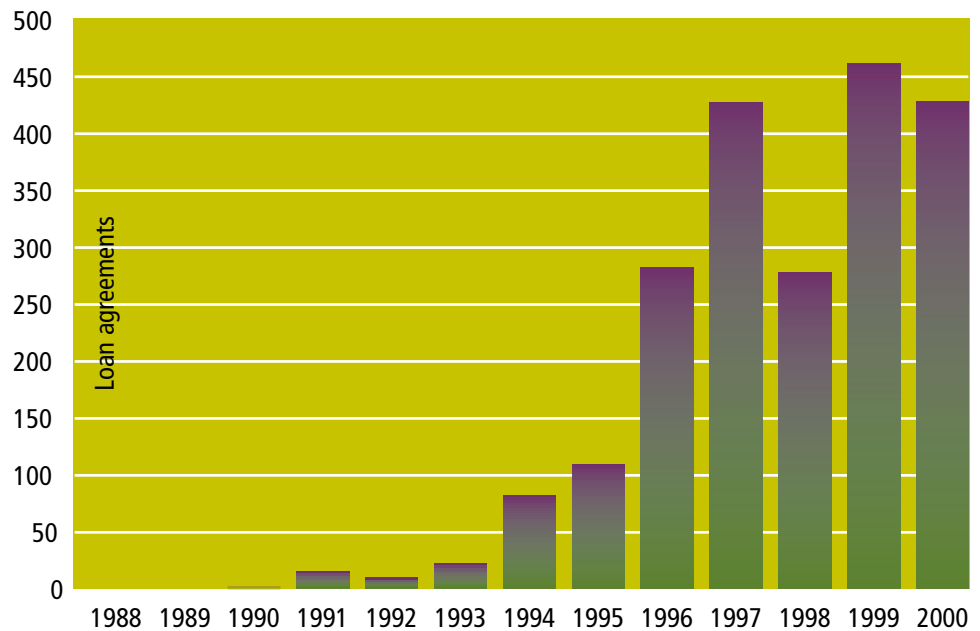
Loan Agreements with Communities of Different Sizes



Addressing critical problems

The CWSRF Program has been tapped to fund both the construction of centralized wastewater treatment facilities and nonpoint source and estuary projects. In 1990, only one percent of loan agreements made were for nonpoint source or estuary projects. But since then, the number of loans made for nonpoint source or estuary projects has risen rapidly. In 2000, 32 percent of loan agreements were made to fund nonpoint source or estuary projects. The expansion of the CWSRF Program into funding nonpoint source and estuary projects has been accomplished while maintaining high funding levels for centralized wastewater treatment facilities (approximately \$29 billion in funding has been provided through the CWSRF Program for centralized wastewater treatment facilities).

Loan Agreements for Nonpoint Source and Estuary Projects



Committing Available Funds to Projects

States work with communities, farmers, home owners, and others to efficiently use available CWSRF funding. Today, 99 percent of available CWSRF funding is committed during the first or second year of availability. As a result, the CWSRF Program has provided an average of \$3.2 billion per year over the past five years.

Customizing CWSRF Programs

Congress designed the CWSRF Program to allow states to structure their programs creatively to best serve their needs. States are given the flexibility to offer a variety of assistance options including low interest loans, refinancing, purchasing or guaranteeing local debt, and purchasing bond insurance.

CWSRF GOAL:

CLEAN AND SAFE WATER

THE CWSRF PROGRAM

SEEKS TO FUND PRIORITY

WATER QUALITY PROJECTS WHILE

MAINTAINING A REVOLVING

FUNDING LEVEL TO ADDRESS

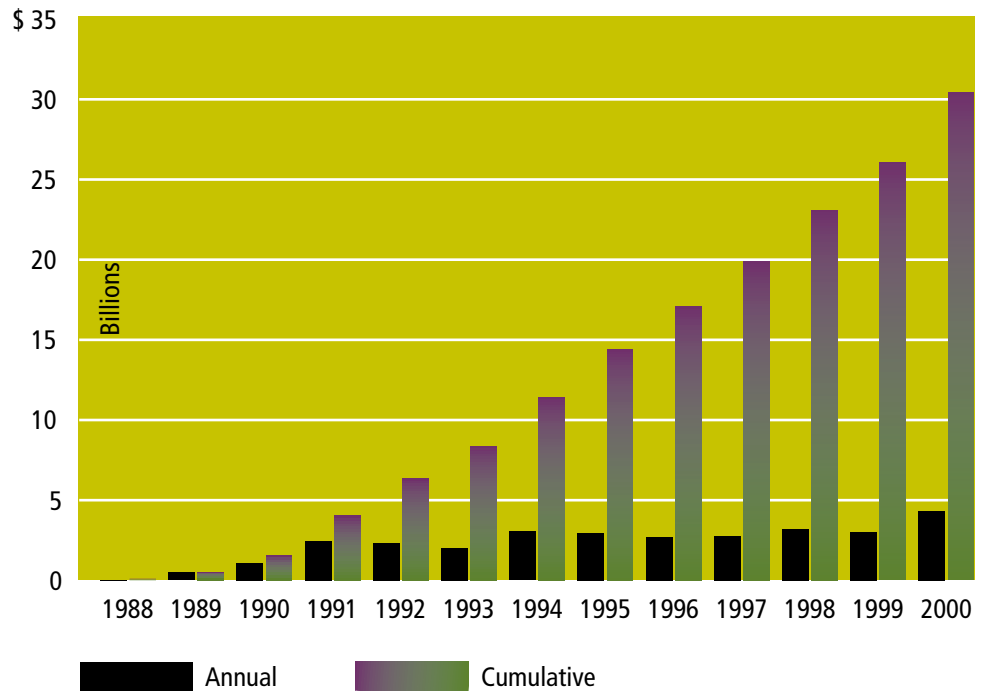
FUTURE NEEDS.

States also set loan terms, including interest rates (from zero percent to market rate), repayment periods (up to twenty years), and many other loan features.

Three states have adopted a bond purchasing approach under the CWSRF Program that allows financing assistance to be repaid over a period of up to 30 years (or for the useful life of the assets, if shorter than 30 years).

The CWSRF Program is available to fund a wide variety of water quality projects including all types of nonpoint source and estuary management projects, as well as more traditional municipal wastewater treatment projects. States may also customize loan terms to meet the needs of small and disadvantaged communities.

CWSRF Annual Funding (\$ Billions)



The CWSRF Is a Model for Funding Programs

The success of the CWSRF Program has not gone unnoticed. In 1996, Congress established the Drinking Water State Revolving Fund (DWSRF) Program as part of the reauthorization of the Safe Drinking Water Act. The DWSRF Program mirrors the CWSRF Program in assistance options provided, state and federal responsibilities, and other structural aspects of the program. The revolving fund concept is also being used in the EPA Brownfields Program, and the Department of Transportation has experimented with the concept for funding transportation infrastructure.



Environmental Progress

Nationally, the CWSRF Program has made very impressive progress in funding wastewater treatment, estuary protection and nonpoint source pollution control projects. The program has effectively reached a broad set of borrowers including local governments, nonprofit organizations, farmers, and homeowners.

Wastewater Pollution Control

The CWSRF Program has funded \$28.9 billion in wastewater treatment projects since 1988. Communities have used \$13.2 billion of these funds for secondary treatment projects. Secondary treatment improvements have greatly

benefitted the Nation. Secondary treatment removes harmful pollutants such as heavy metals, toxic substances, nitrogen, phosphorus and biodegradable organic materials. A new EPA report entitled "Progress in Water Quality: An Evaluation of the National Investment in Municipal Wastewater Treatment" (EPA 8320-OR-00-008; <http://www.epa.gov/owm/featinfo.htm>) documents significant water quality treatment improvements resulting from secondary treatment in major urban waterways across the country. Today, it has never been clearer that our national investment in secondary treatment has resulted in dramatically improved levels of native fish species and other aquatic life and greater recreational uses of our waterways.

In addition to secondary treatment funding, the CWSRF Program has provided \$15.7 billion for advanced treatment, infiltration/inflow correction, sewer system rehabilitation, collector and interceptor sewers, storm sewers, and combined sewer overflow correction.

Nonpoint Source Pollution Control and Estuary Protection

Twenty-eight CWSRF programs have funded nonpoint source pollution con-

trol and estuary protection projects. These projects have received more than \$1.2 billion in CWSRF funding since the program's inception, with most of the funding (78 percent) provided over the past 5 years. In 2000, more than 33 percent of the CWSRF Program's assistance agreements addressed nonpoint source or estuary pollution.

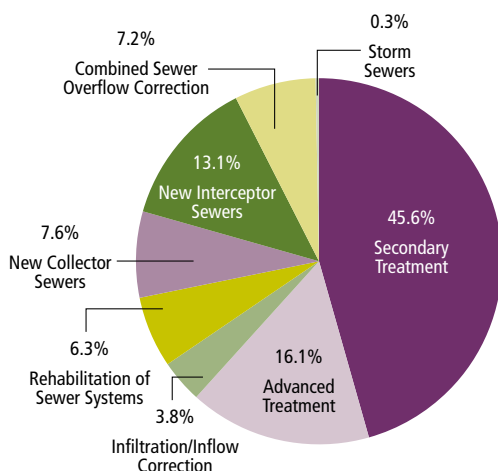
Decentralized wastewater treatment

Twenty-five million households use "decentralized" wastewater systems—typically on-site septic systems or cesspools. In 1995, 2.5 million of these systems malfunctioned. States have used CWSRF funds to rehabilitate or replace decentralized systems or to eliminate them altogether by connecting homes and businesses to existing community sewer systems.

Stormwater management

As stormwater runs off city streets, lawns, and construction sites, it often picks up pollutants and carries them to rivers, lakes, and estuaries. Stormwater runoff is a leading source of impairment to waters nationwide, and it is of particular concern in many estuarine waters. States have used CWSRF funds for many stormwater management projects, including sediment traps and basins, wetland flood guards, and vegetative plantings.

Distribution of CWSRF Dollars for Wastewater Treatment



CWSRF - The Nation's Water Quality

Stormwater and Wetlands Protection

The \$400,000 purchase of 6.5 acres of wetlands enabled the protection of a critical stormwater management basin and a valuable wildlife refuge.

Riparian Protection and Land Acquisition

A loan to fund the purchase of over 19 square miles of ranchland protects rare vernal pools from the threat of development.

Water Flow Restoration

A \$12 million loan is being used to purchase river water rights to increase water flows, thereby restoring water quality and protecting endangered species.

Wastewater System Loans

A city received two CWSRF loans. The first loan funded replacement of sanitary sewer mains within the city. The second loan funded the replacement of an outdated wastewater treatment facility.

Wetlands Construction

CWSRF loans for \$7.5 million to five communities financed wetland construction to reduce pollutant levels in wastewater prior to discharge.

Wastewater System Loans

Nine CWSRF loans totalling \$662 million to eliminate sewer system overflows in response to an EPA administrative order in one of the nation's largest cities.

Funding Source

Agricultural Nonpoint Source Controls

A farmer receives a CWSRF loan to develop a nutrient management plan and build an earthen manure basin to store and manage animal waste.

Agricultural Nonpoint Source Controls

A CWSRF loan helps cattle and poultry farmers build an efficient and cost-effective management system including a pond, feedlot, feed building and animal waste holding pond.

Septic System Upgrade

Two CWSRF loans for \$700,000 are supporting an ongoing septic system assistance program which has already upgraded 12 systems.

Wastewater System loans

A \$2.1 million CWSRF loan funded the doubling of a wastewater treatment plant's capacity through facility expansion and upgrades.

Brownfield Remediation

A CWSRF loan was used to fund contaminated soil and groundwater remediation on a 20-acre industrial site.

Landfill Capping

A CWSRF loan for over \$2 million funded the closure of a municipal landfill.

Agricultural Nonpoint Source Controls

Three CWSRF loans, totaling over \$25,000, were used by a poultry and grain farmer to construct a litter storage shed and a composter and to purchase a front-end loader and a spreader.

Agricultural Nonpoint Source Controls

Two 2-year CWSRF loans for \$2.9 million funded construction of animal waste storage and distribution facilities and purchases of animal waste collection equipment for 52 animal feeding operations.

Wastewater System loans

Two loans for over \$22 million support construction of a new wastewater treatment facility and interceptor sewer.

Stormwater Treatment

A 20-year loan funds a stormwater treatment project that diverts canal flow into a 5.2-acre wet detention pond and stormwater runoff into an overland flow treatment facility and then the same detention pond.

Wetlands/riparian zone protection

Over 50 percent of the wetlands and riparian zones in the contiguous United States have been lost since the time of European settlement. The wetlands and riparian zones that remain have often been degraded by use or contamination. These impacts hinder natural drought and flood protection and impair critical wildlife habitat. States have worked to address this situation by using the CWSRF Program to purchase or rehabilitate wetlands and riparian zones, or to purchase conservation easements.

Agricultural best management practices

According to the most recent National Inventory of Water Quality, agricultural nonpoint source pollution is the leading source of impairment to surveyed rivers and lakes. Some agricultural practices increase the sediments, nutrients, pathogens, pesticides, and salts in our waters; others damage wildlife habitat and stream channels. States have reduced these impacts by using the CWSRF Program to fund many agricultural best management practices (BMPs). CWSRF-funded agricultural BMPs include waste management systems, manure spreaders, dead bird composters, conservation tillage equipment, irrigation equipment, filter strips, streambank stabilization, and education programs.

Underground storage tank and soil remediation

Many underground storage tanks (USTs) leak due to corrosion or improper installation. More than 300,000 releases from USTs have been confirmed nationwide, and 60 percent of these releases may have impacted groundwater quality. States have used CWSRF funds to

remove or remediate USTs, remove contaminated soils, or install monitoring equipment. These activities have often been part of brownfield remediation projects.

Reaching New Borrowers

State CWSRF programs have been increasingly effective at completing new types of projects, in part because they have reached out to new types of borrowers. The majority of CWSRF loan recipients are municipalities, but non-profit organizations, businesses, farmers, and homeowners have all received CWSRF funding in recent years.



Nonprofit organizations

There are thousands of environmental nonprofit organizations in the United States. CWSRF loans can provide these organizations with needed funding to address water pollution. With the help of an \$8 million loan from California's CWSRF Program, The Nature Conservancy, a land conservation organization, has protected one of the largest remaining examples of a rare wetland ecosystem. The CWSRF loan helped finance the purchase of 19.3 square miles of ranchland and will assure minimal disturbance to the property in perpetuity.



Businesses

Business practices can be both environmentally profitable and sound. Ohio has made loans to a variety of businesses. A real estate firm in Cleveland received a \$650,000 loan to remediate contaminated soil and groundwater from a 20-acre industrial site. A housing development company in West Jefferson received a \$1.1 million loan to implement an environmentally sensitive development plan in a vulnerable high-quality watershed.

Farmers

Farmers recognize that their land and water provide for their livelihood and are a legacy for future generations. Many states have worked with farmers to address agricultural runoff problems, including those caused by Animal Feeding Operations (AFOs). Minnesota's CWSRF Program has worked with its state Department of Agriculture, county governments, and soil and water conservation districts to offer more than 1,900 loans to farmers for agricultural best management practices. Funded projects include AFO waste management systems, conservation tillage equipment, and structural erosion control practices.

Homeowners

Environmental stewardship begins at home, but costs can be daunting. Many states have worked with homeowners to rehabilitate or replace failing septic systems. Massachusetts' CWSRF Program has worked with local governments to offer hundreds of loans to homeowners to address septic system concerns.

Financial Innovation

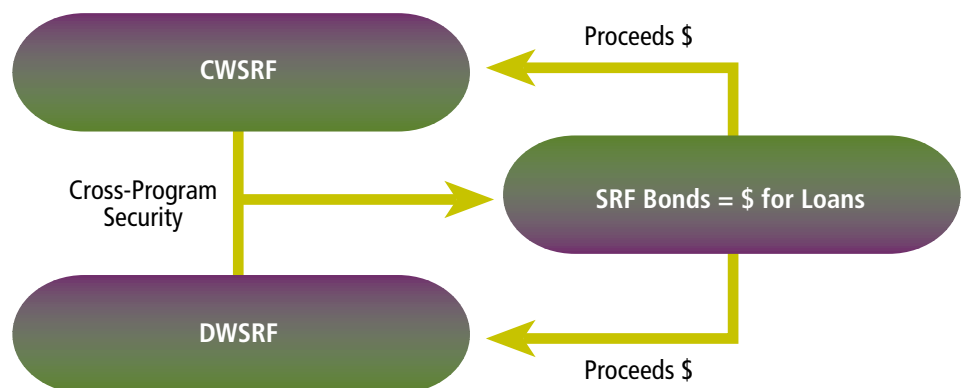
Using the flexibility provided within the Clean Water Act, each state has a uniquely customized CWSRF Program that reflects their water quality challenges and the role the CWSRF Program plays in addressing those challenges. Thinking creatively, states have devised financial management approaches that increase funding available for critical projects, lower the cost of borrowing to the CWSRF Program, enhance the financial security of the Program, and reduce the administrative burden of managing a loan program at the state level.

Leveraging

Nearly one half of the CWSRF programs have used a financing technique called “leveraging” to increase loan funding available to address critical projects. Under a leveraging approach, federal capitalization funds and program cash flows are used to secure sizable bonds that are issued by the CWSRF programs. The proceeds from the bonds are then lent out for SRF-eligible activities. On average, leveraging has provided funding that is roughly twice the size of the federal capitalization grant contribution. To date, leveraging has made a significant impact on CWSRF funding. Bond proceeds from state leveraged

CWSRF PROGRAMS HAVE DEVISED APPROACHES THAT INCREASE FUNDING AVAILABLE FOR CRITICAL PROJECTS, LOWER THE COST OF BORROWING TO THE CWSRF PROGRAM, ENHANCE THE FINANCIAL SECURITY OF THE PROGRAM, AND REDUCE THE ADMINISTRATIVE BURDEN OF MANAGING A LOAN PROGRAM AT THE STATE LEVEL

Cross-Program Security



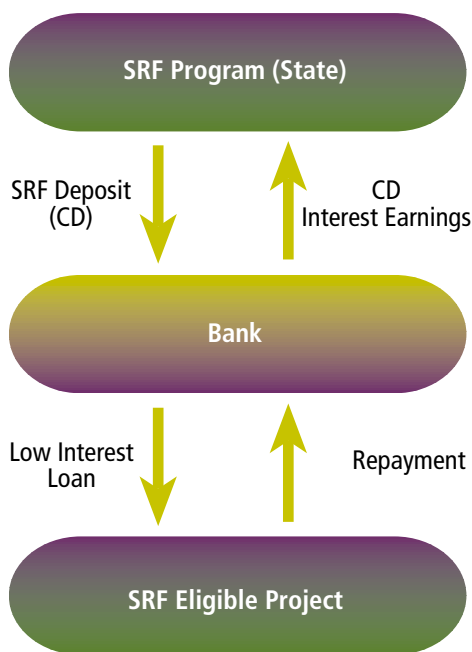
bonds have added \$8.8 billion to CWSRF funding. The CWSRF Program has developed a strong financing track record. The SRF bond sector received a AAA median rating from a major bond rating agency; it was the only sector of the U.S. municipal market to achieve this distinction.

Credit Structures Reducing Program Borrowing Costs

Some states have devised ways to enhance the credit quality of the bonds they issue within their CWSRF and DWSRF programs by pledging to use assets of each program to support the other. Even though the bonds issued by CWSRF and DWSRF programs are broadly viewed as highly secure investments, the additional security provided by these structures makes the bonds even more attractive to credit rating agencies and bond holders.

There are two forms of cross-program credit enhancements in use by states. In New York and Michigan, the CWSRF programs employ a “cross-investment” approach through which one SRF invests in the other to make up any shortfalls that could threaten the repayment of SRF-issued bonds. In states including New Jersey, Missouri, Maine, Arizona and Minnesota, the CWSRF programs use a “cross-collateralization” approach that allows the assets of one fund to be pledged to support the repayment of debt in the other fund.

Linked-Deposit Approach



Alternative Structuring to Provide Assistance to Loan Recipients

One of the challenges that CWSRF programs face is balancing the goal of providing low cost funding to those that need it most with the goal of protecting the Fund from potential loan defaults. Many CWSRF programs have implemented approaches that address these challenges.

Linked-deposit loans

Programs use a “linked-deposit” approach to provide loans to farmers to finance agricultural best management practices that help avoid non-point source pollution while insulating the CWSRF Program from risk of default. Under a linked-deposit approach, the CWSRF Program works with local banks, often the same banks where farmers do the rest of their banking, to provide assistance. The

CWSRF Program agrees to keep a deposit or purchase an investment at a participating bank and, in turn, the bank agrees to provide a loan to a farmer for a CWSRF-eligible project for the same amount. The CWSRF Program accepts a lower-than-market-rate return on their investment in the bank, and the bank passes along that subsidy to the farmer receiving the loan from the bank. The administration of the loan as well as any risk of default is assumed by the bank.

Local governments as loan conduits

Another example of innovation in CWSRF financing structures is the use of local governments as conduits to home owners and farmers. Several states have established programs to provide assistance for nonpoint source pollution control or replacement of faulty septic systems. The CWSRF loan is made to the community, and in turn, the community provides loan assistance to the local homeowners or farmers for eligible projects. For example, Minnesota has provided over 2,000 loans through counties to farmers for installation of structures and equipment that reduce agricultural runoff. Massachusetts has used this approach to provide loans through 164 communities to home owners for replacement of septic systems. The CWSRF loan to the community is accompanied by state planning funds to establish the local program. In each of these cases, the loan is made to a community that guarantees the repayment of the loan with a dedicated repayment source such as general obligation bonding authority or user fees.

Meeting Future Challenges

Our nation's wastewater facilities have given us substantial improvements in water quality but they are aging and in increasing need of repair or replacement. Much of our underground pipe was laid during the 1950s and 1960s and is now approaching 40-50 years old. Pre-World War II pipes date back to the early 1900s and late 1800s. In addition, our more sophisticated wastewater treatment plants require costly and more frequent investments in repair and renewal. In addition to our aging

infrastructure, population growth will add an additional stress on our wastewater infrastructure, raising the level of pollutant removal needed to keep pace with past gains in water quality. Meanwhile, nonpoint source pollution has emerged as a serious threat to water quality. All signs indicate that the costs and challenges for maintaining water quality are heading upward.

The combined pressures on wastewater treatment systems are expected to pose financial challenges for everyone.

Although the CWSRF Program has substantial resources at its disposal, they are not limitless. To utilize CWSRF resources for maximum benefit, states will need to show the sophistication and innovation that have characterized the program over the past thirteen years. Utilities and regulatory agencies can take advantage of ways to mitigate costs, including: conservation and efficiency measures, full cost pricing, asset management, smart growth strategies and vigorous maintenance.

Many state CWSRF programs have utilized the inherent flexibility in the Clean Water Act amendments of 1987 to customize the program to meet unique local needs, taking advantage of the broad eligibilities of the CWSRF program and offering innovative funding mechanisms to reach a broad set of borrowers.

The CWSRF program has been a successful blend of federal-state cooperation to finance water quality needs. We hope this report serves to highlight successes and to discuss areas that could be improved.





State Web Resources

States

Websites

Alabama	http://www.adem.state.al.us/EnviroProtect/Water/water.htm
Alaska	http://www.state.ak.us/local/akpages/ENV.CONSERV/waterhome.htm
Arizona	"Under Construction" (Contact: Suzanne Price, Price_Suzanne@pop.state.az.us)
Arkansas	http://www.state.ar.us/adfa/programs/wwrl.html
California	http://www.swrcb.ca.gov/~cwphome/mss/index.html
Colorado	http://www.dola.state.co.us/tech/WPCRF.HTM
Connecticut	http://dep.state.ct.us/wtr/cwa/cwfund.htm
Delaware	http://www.dnrec.state.de.us/DNREC2000/Divisions/Water/Water.htm
Florida	http://www.dep.state.fl.us/water/wff/cwsrf/default.htm
Georgia	http://www.ganet.org/gefa/srlf.html
Hawaii	http://www.state.hi.us/health/eh/eiemww00.htm
Idaho	http://www2.state.id.us/deq/water/bj_grantloan.htm
Illinois	http://www.epa.state.il.us/water/financial-assistance/waste-water/waste-water.html
Indiana	http://www.state.in.us/idem/owm/fasb/srfinfo.html
Iowa	http://www.state.ia.us/government/dnr/organiza/epd/wastewtr/srloan.htm
Kansas	http://www.kdhe.state.ks.us/water/
Kentucky	http://kymartian.state.ky.us/kia/overview.htm
Louisiana	http://www.deq.state.la.us/financial/munfac/mfd.htm
Maine	http://janus.state.me.us/dep/blwq/docgrant/srfparag.htm
Maryland	http://www.mde.state.md.us/wqfa/index.html
Massachusetts	http://www.state.ma.us/dep/brp/mf/srf.htm
Michigan	http://www.deq.state.mi.us/ead/mfsect/
Minnesota	http://www.pca.state.mn.us/water/wpcrf-psource.html
Mississippi	http://www.deq.state.ms.us/newweb/homepages.nsf

Missouri	http://www.dnr.state.mo.us/eiera/revolving_fund.htm
Montana	http://www.deq.state.mt.us/ppa/tfa/iup_ppl.htm
Nebraska	http://www.deq.state.ne.us/wastewat.nsf/pages/waste
Nevada	http://www.state.nv.us/ndep/bwpc/srlf01.htm
New Hampshire	http://www.des.state.nh.us/wwe/srf.htm
New Jersey	http://www.state.nj.us/dep/grantandloanprograms/ereifp.htm
New Mexico	http://www.nmenv.state.nm.us/cpb/cwsrf.html
New York	http://www.nysefc.org/srf/CWSRF/CWSRFhome.htm
North Carolina	http://www.nccgl.net/fap/cwsrf/index.html
North Dakota	http://www.health.state.nd.us/ndhd/enviro/mf/index.htm
Ohio	http://www.epa.state.oh.us/defa/wpclf2.html
Oklahoma	http://www.state.ok.us/~owrb/fa/fa1.html
Oregon	http://waterquality.deq.state.or.us/wq/wqgrant/wqgrant.htm
Pennsylvania	http://sites.state.pa.us/PA_Exec/Pennvest/general.pdf
Puerto Rico	http://www.epa.gov/region02/cepd/compnum.htm#JCA (Contact Phone Numbers)
Rhode Island	http://www.state.ri.us/ricwfa/whatwedo.htm
South Carolina	http://www.scdhec.net/water/html/grants.html
South Dakota	http://www.state.sd.us/denr/DFTA/WWFunding/clean_water_srf_program2.htm
Tennessee	http://www.state.tn.us/environment/dca/swagrnt.htm
Texas	http://www.twdb.state.tx.us/assistance/financial/fin_infrastructure/cwsrffund.htm
Utah	http://www.eq.state.ut.us/eqwq/con_asst.htm
Vermont	http://www.anr.state.vt.us/dec/fed/FMS.htm
Virginia	http://www.vra.state.va.us/project/wastewater.html
Washington	http://www.ecy.wa.gov/programs/wq/funding/index.html
West Virginia	http://www.dep.state.wv.us/wr/OWR_Website/ConstAsist/SRF.htm
Wisconsin	http://www.dnr.state.wi.us/org/caer/cfa/EL/Section/clean.html
Wyoming	http://deq.state.wy.us/wqd/w&www/srf.htm

EPA Web Resources

Location

Clean Water State Revolving Fund Web Site

www.epa.gov/owm/finan.htm

Resource Information Available

- State Revolving Fund Regional Contacts
- State Revolving Fund State Contacts
- Capitalization Levels and State Allotments
- CWSRF Fact Sheets
- State Activity Updates
- National Information Management System
- CWSRF Policy and Guidance Documents



Drinking Water State Revolving Fund

For more information about the related Drinking Water

State Revolving Fund program, visit the Office of Ground

Water and Drinking Water website at www.epa.gov/safewater/dwsrf.htm.



This publication can be viewed and downloaded online at: <http://www.epa.gov/owm/finan.htm>.

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