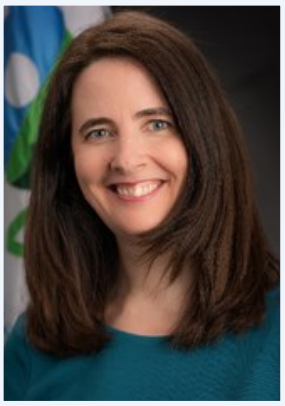
September 2020

Drinking Water State Revolving Fund

Helping Protect America's Public Health Since 1997

2019 Annual Report

A Message from the Office Director



I am pleased to present the Drinking Water State Revolving Fund's 2019 Annual Report. This report is an opportunity to highlight the past year's accomplishments and share the program's priority areas for the coming years.

In 2019, we funded over $2.8 billion in new drinking water infrastructure projects across communities of all sizes. These projects have led directly to public health and economic benefits for these communities. We also funded $178 million for critical activities including operator certification, water system capacity development, and source water protection.

This year, we worked with our state partners to design and prepare for the 2020 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA). The 2020 Survey will sample the broadest array of water systems since the 1999 Survey and will include small, medium, and large community water systems, non-profit non-community water systems, and tribal water systems. The Survey will feature the first-ever questions regarding a system's estimate of how many lead service lines it has (in addition to their planned 20 year replacement need), operator workforce status and projections, and needs for American iron and steel components for drinking water infrastructure projects.

To meet modern drinking water challenges, the Drinking Water State Revolving Fund (DWSRF) program is focused on four major national program priorities:

1. Achieve fullest utilization of funds through dynamic cash flow modeling.
2. Market DWSRF opportunities to water systems.
3. Employ both the DWSRF loan fund and set-asides as Safe Drinking Water Act (SDWA) compliance tools.
4. Safeguard the program's public trust through fiscal controls and accountability.

These focus areas will help us meet the Agency's Priority Goal to reduce the number of non-compliant drinking water systems and to increase non-federal financial leveraging. Importantly, these priorities will enable the DWSRF program maximize its potential for improving public health protection.

I welcome this opportunity to share our accomplishments with you.

Jennifer L. McLain Ph.D., Director
Office of Ground Water and Drinking Water
Office of Water
United States Environmental Protection Agency

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I. About the Drinking Water State Revolving Fund

The 1996 Amendments to the Safe Drinking Water Act (SDWA) created the Drinking Water State Revolving Fund (DWSRF) to help communities finance infrastructure improvements needed to protect public health and ensure compliance with drinking water standards. Each of the 50 states and Puerto Rico operate their own DWSRF programs and receive annual grants from EPA, which in turn provide low-interest loans and other types of assistance to public water systems. The DWSRF programs are managed or co-managed by the state agencies that oversee drinking water systems and can therefore effectively prioritize infrastructure funding needs to protect public health.

The SDWA directs states to give priority for the use of DWSRF project funds to:

- address the most serious risks to human health,
- ensure compliance with the requirements of the SDWA, and
- assist systems most in need on a per household basis according to state affordability criteria.

Not all drinking water problems, however, can be solved through capital financing of infrastructure improvements. With that in mind, Congress gave states the option to take a portion of their federal capitalization grant for "set-asides". Set-asides can be used to administer state programs, provide technical assistance and training for water systems, and fund other activities that support achieving the public health protection objectives of the SDWA. The programs and activities supported by set-asides include DWSRF administration, water system capacity development, operator certification, source water protection, small system technical assistance, and the state Public Water System Supervision (PWSS) program.

Each state determines the appropriate balance between water infrastructure projects and set-asides for their unique circumstances.

From 1997 through June 30, 2019, more than $41.1 billion has been signed into 15,425 DWSRF loans by the state programs to water systems to fund critical infrastructure needs. Furthermore, nearly $3.5 billion has been provided to states and water systems to support the non-infrastructure set-asides programs.

The DWSRF is an exceptionally versatile tool. In 2019, the DWSRF loan program improved the lives of over 58 million Americans, returning water systems to compliance and maintaining systems with aging infrastructure, while also focusing on small water systems that are most at risk. Systems serving fewer than 10,000 people accounted for 75 percent of the loans signed by state programs.

II. Highlights From 2019

A. Continued Demand, Making Loans of All Sizes

In 2019, states provided more than $2.8 billion in new infrastructure loans, matching the program's total in 2018. This follows an upward trajectory over recent years, as states maximize utilization of funds through dynamic cash flow modeling and conduct more effective outreach to water systems. Exhibit 1 demonstrates this trend.

The DWSRF supports water systems and projects of all sizes across the country. While the median loan size was about $1 million this year, the program's loans ranged from less than a thousand dollars to hundreds of millions of dollars (see Exhibit 2). The State of California made the nation's smallest loan for $825 to the Mettler Valley Mutual Water for compliance issues. California also made the nation's largest loan, a $158 million agreement, to the Los Angeles Department of Water and Power for the removal of uncovered reservoirs and construction of a buried storage unit. This project will serve nearly 4 million people. The nation's most commonly-occurring DWSRF loan amount (or *mode*) was $20,000 in 2019 (see Exhibit 2).

Visually demonstrating the DWSRF program's broad, nationwide reach, Exhibit 3 on the next page shows counties with DWSRF-funded projects in this past state fiscal year (SFY; the state FY runs June to June) (in blue) and between March 2010 and SFY 2019 (in gray).

Exhibit 1: DWSRF National Assistance Provided (Signed Loans Only)

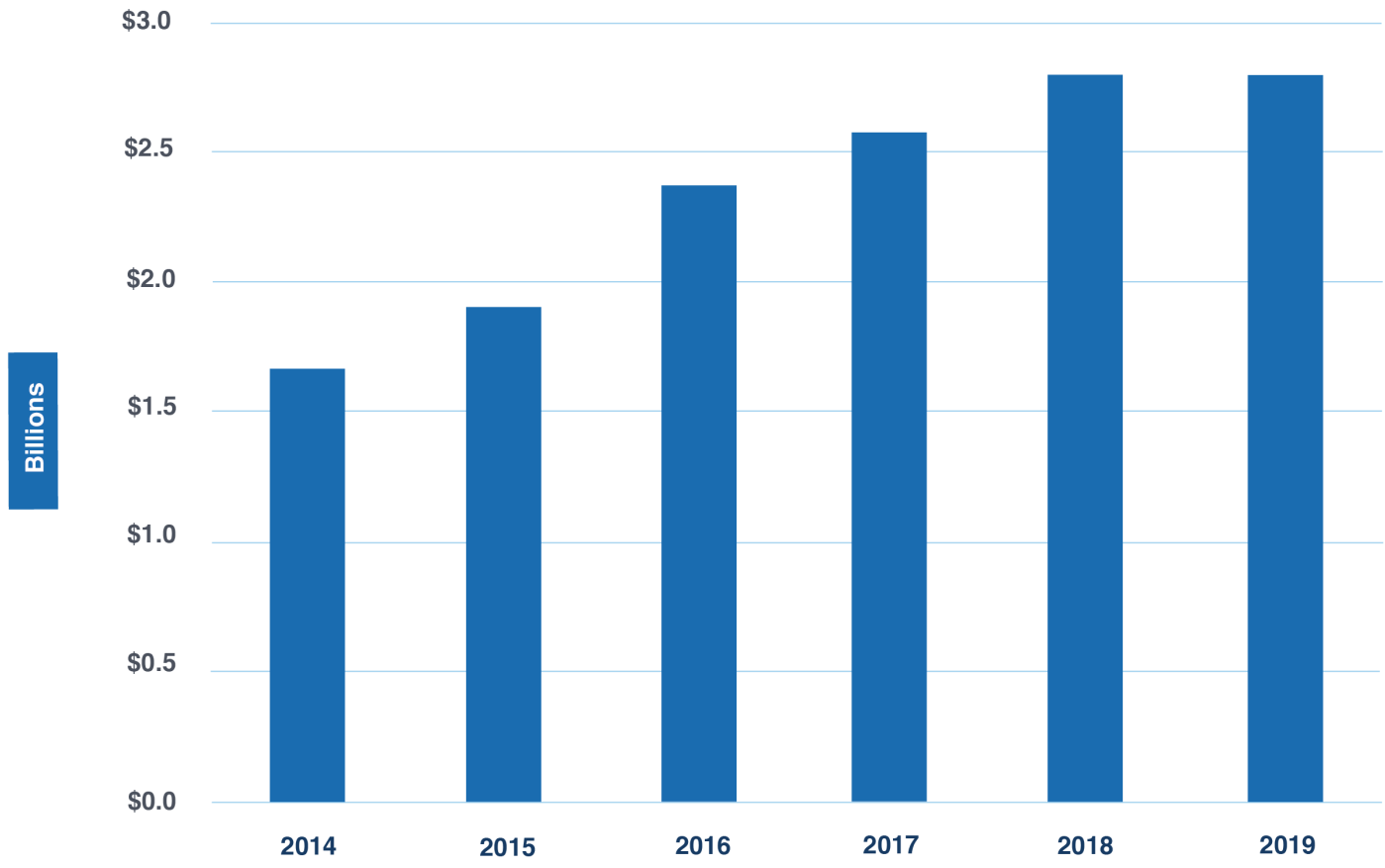
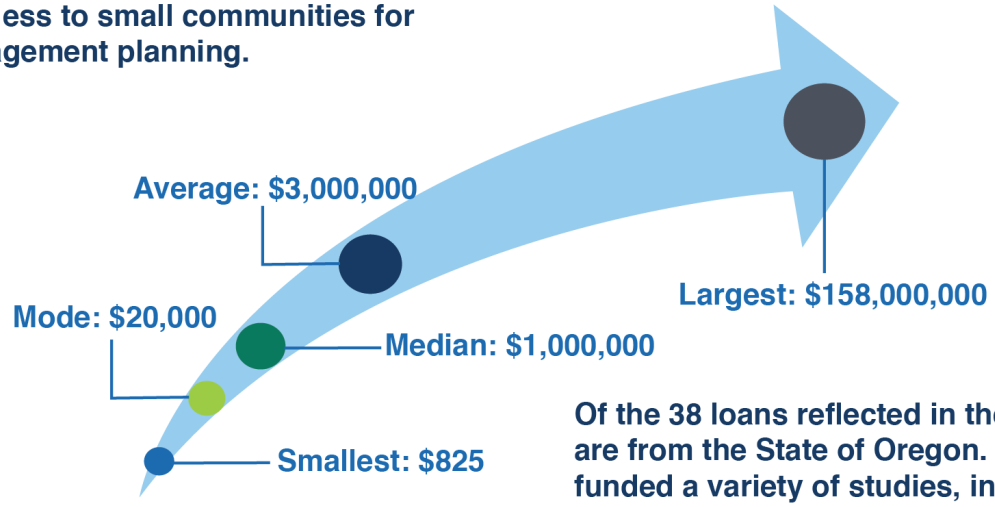


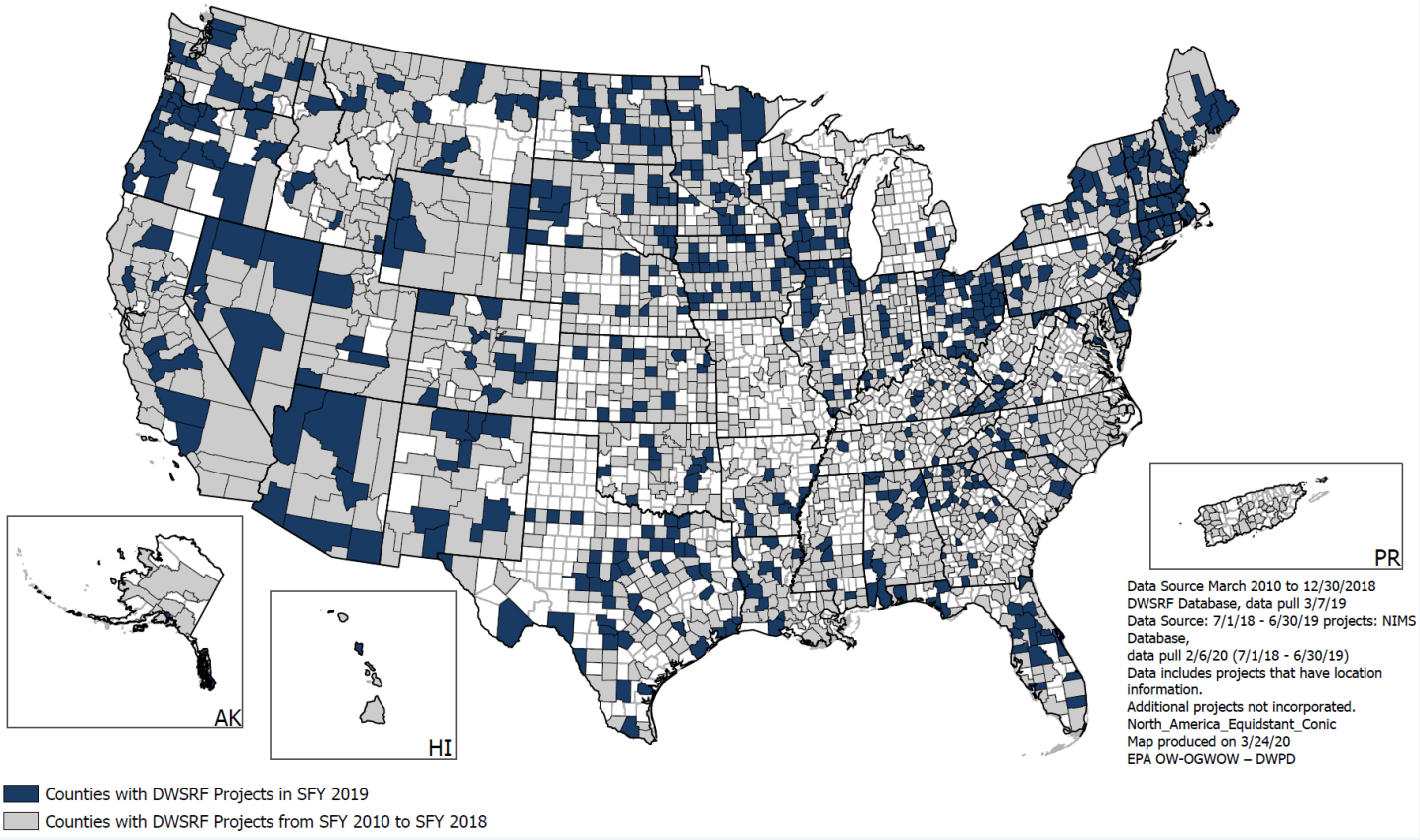
Exhibit 2: Distribution of DWSRF Loan Amounts in SFY 2019

In 2019, states provided 12 loans of $10,000 or less to small communities for asset management planning.



Of the 38 loans reflected in the mode, 24 are from the State of Oregon. These loans funded a variety of studies, including those for consolidation alternatives, leak detection, and water feasibility.

Exhibit 3: Map of Counties with DWSRF Projects in SFY 2019 and from March 2010 to SFY 2018



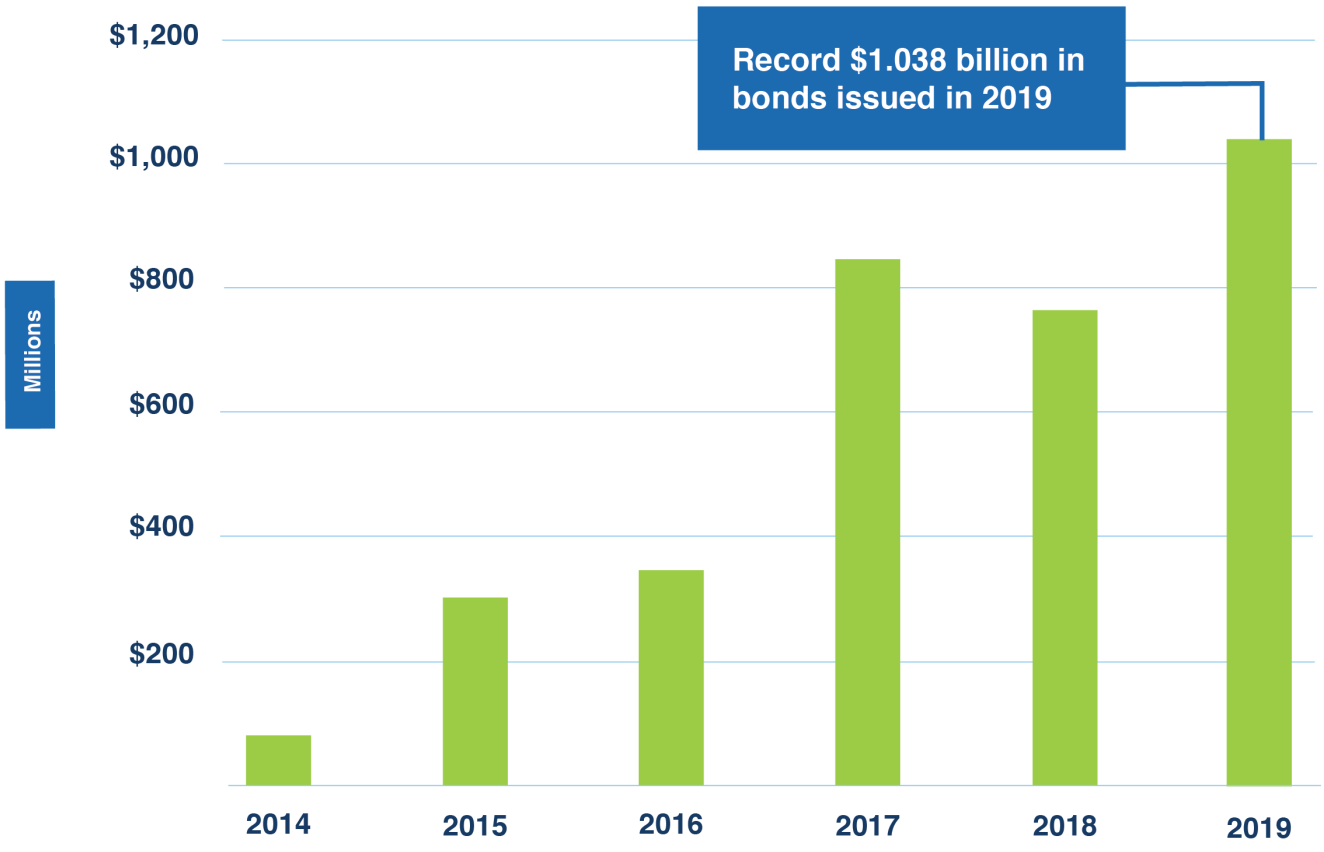
B. Leveraging and Co-Funding Expand Program's Reach

Increasing the amount of money available through the DWSRF is important to meeting our nation's drinking water needs. The state DWSRFs have two ways to quickly raise additional money to meet immediate needs where there are more projects than funds available. The first is to borrow money on the bond market. In 2019, eleven state DWSRF programs borrowed a record $1.04 billion to assist projects with immediate financing. The second is to borrow money from EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program. The Indiana Finance Authority, the WIFIA program's first SRF borrower, closed its $436 million WIFIA loan in 2019. The creation of the State Water Infrastructure Finance and Innovation Act (SWIFIA) under the America's Water Infrastructure Act (AWIA) of 2018, creates a more direct way for states' DWSRF programs to access WIFIA funding.

Exhibit 4 below shows leveraging in the past six years. Note the significant increase in the last three years. Leveraging is at a state's discretion and should be paired with an effective outreach strategy to increase customer demand. After evaluating cash needs, some states choose to leverage nearly every year, and others episodically. Regardless of approach, state managers must carefully design their leveraging structure to minimize idle funds. Optimally, states will leverage when the amount of cash needed to pay construction invoices is greater than actual available cash on hand. With the ability to access the bond market when cash is needed in the future, states can confidently make more loans to communities in the near-term, expanding the reach of public health protection from the program.

Another way to expand the DWSRF's reach and benefits is through co-funding. Approximately one-quarter of the 2019 projects were co-funded with another source, including funds from the United States Department of Agriculture's Rural Utilities Service Water and Environmental Programs and other state and private sources.

Exhibit 4: Annual Net Leveraged Bonds Issued



C. Helping Water Systems Achieve Compliance

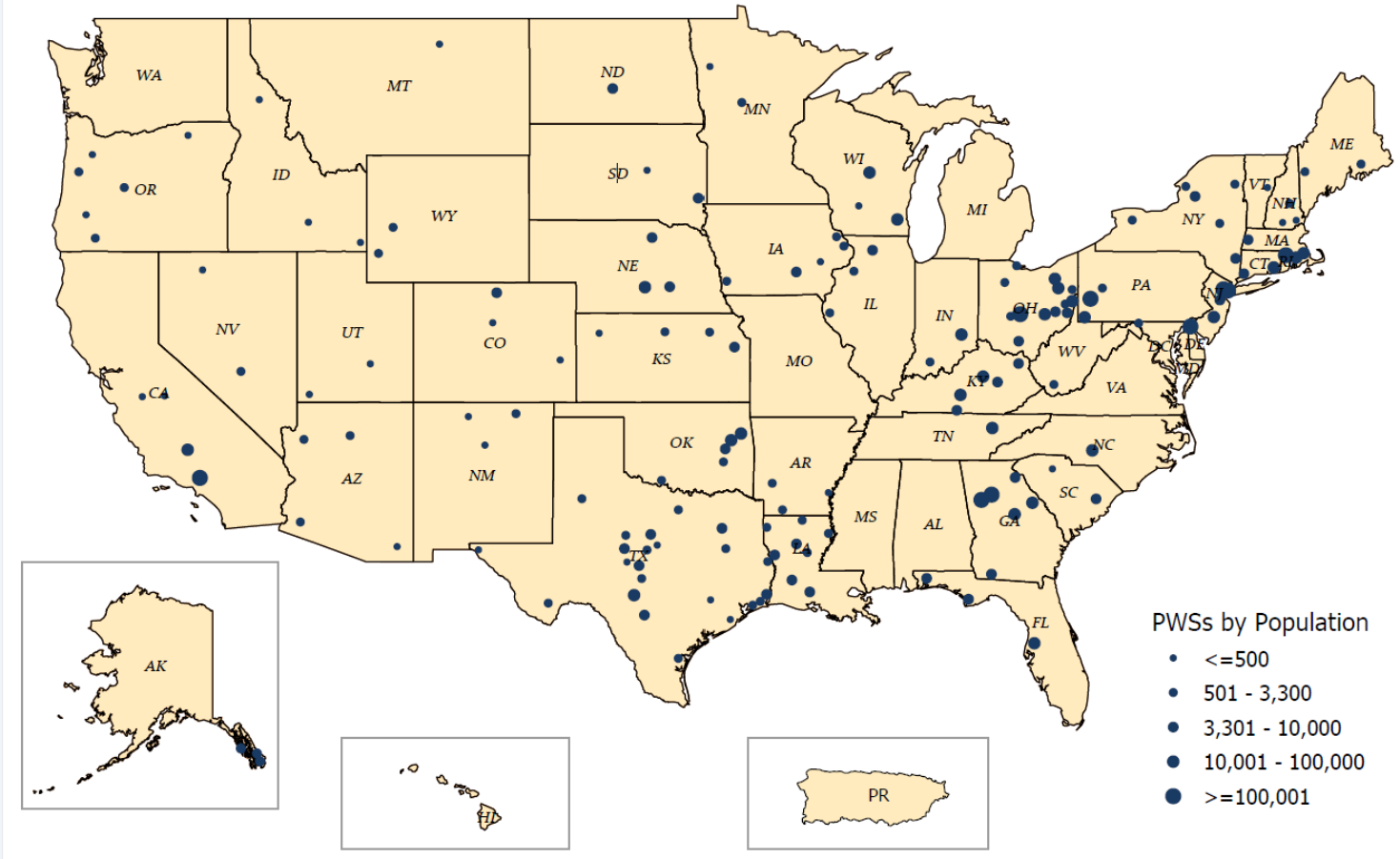
The DWSRF has been instrumental in helping the nation's community water systems achieve and maintain compliance with health-based standards under the SDWA. Of the water systems receiving DWSRF loans in 2019, nearly one-fifth (168) were out of compliance with a health-based SDWA standard in the previous five years. Exhibit 5 below maps the locations of these 168 water systems.

State DWSRF managers, partnering with their state PWSS program colleagues, can utilize the program's extraordinary flexibility to tailor assistance through the loan and set-aside portions of the Fund to address a broad array of local needs.

American Iron and Steel Requirement

DWSRF programs continue to successfully implement and oversee the American Iron and Steel (AIS) requirements. These statutory requirements have been extended through fiscal year 2023 and require assistance recipients to use iron and steel products that are produced in the United States. For details about the AIS requirements, products that are covered, how to document compliance and how to apply for a waiver, visit the EPA's AIS website.

Exhibit 5: Public Water Systems with SFY 2019 Loans that had a Health-Based Violation in the Past 5 Years



III. How States Used DWSRF Infrastructure Funds

In 2019, the DWSRF provided more than $2.8 billion in assistance and entered into 897 loans. Since 1997, the DWSRF has provided more than $41 billion in assistance, and 35 percent of this assistance has been directed to communities with populations of 10,000 or fewer.

For the second consecutive year, nearly half of the DWSRF's funding went to transmission and distribution projects (Exhibit 6). This closely aligns with water systems' needs demonstrated in the Sixth Drinking Water Infrastructure Needs Survey and Assessment (DWINSA). The Survey confirmed that nearly two-thirds of the nation's drinking water infrastructure needs over the next two decades are for these types of projects. EPA anticipates sustained, growing demand in distribution system projects over the coming years.

In 2019, the DWSRF facilitated loans with a broad diversity of communities, emphasizing a strong focus on communities serving 10,000 individuals or fewer. Approximately 75 percent of the 2019 loans provided were given to these smaller water systems. Principal forgiveness was a key tool utilized in these agreements; 69 percent of water systems serving populations of 500 or fewer received principal forgiveness, with 44 percent of those water systems receiving principal forgiveness for the full loan amount. As the charts in Exhibit 7 show, the proportion of assistance going to small systems in 2019 is similar to historic program values.

Exhibit 6: Assistance by Project Type (Millions of Dollars)

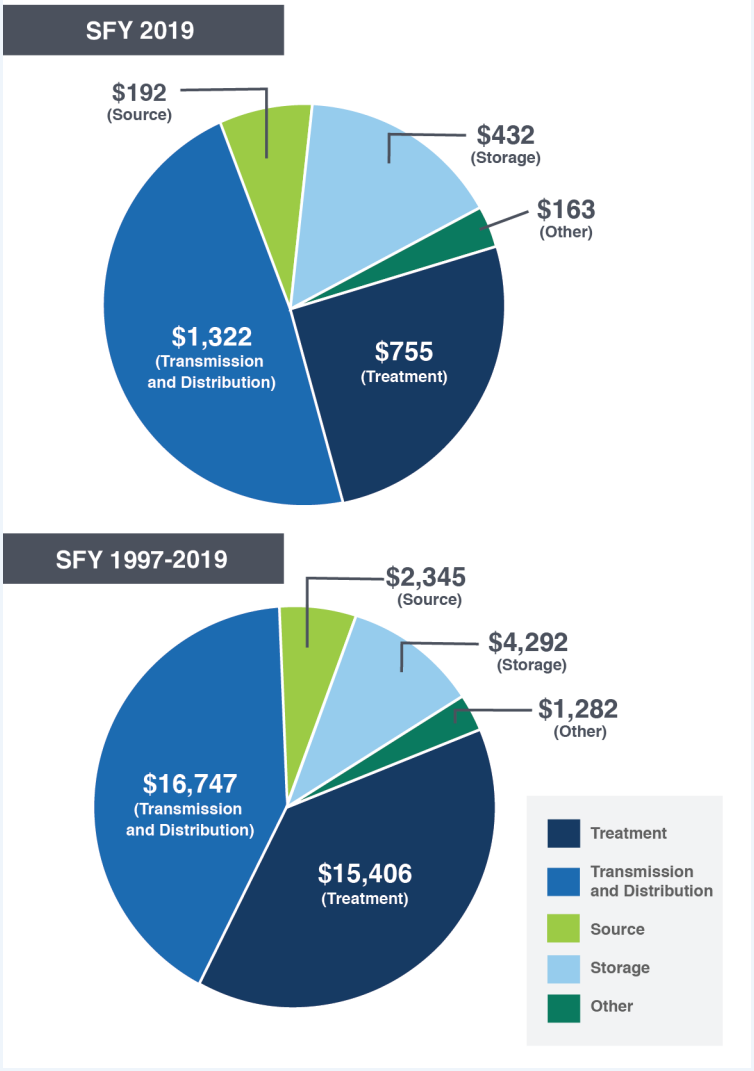
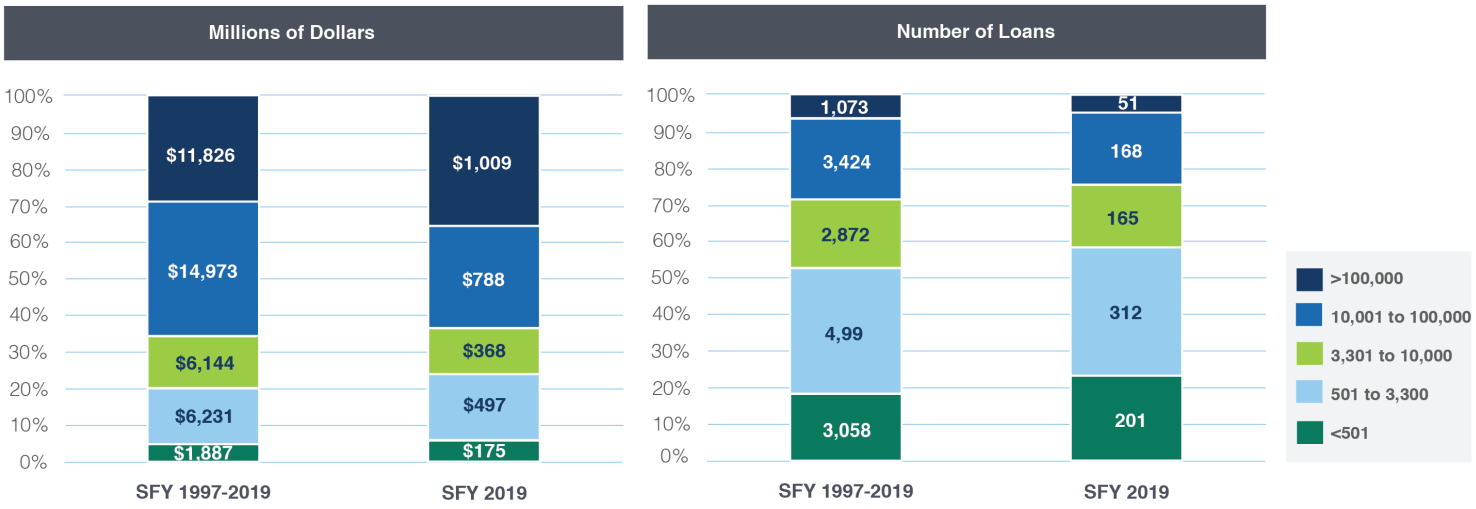


Exhibit 7: Assistance by Community Size



IV. Meeting 21st Century Challenges

Given the program's size and flexibilities, there is tremendous opportunity to maximize the use of DWSRF funds to meet the great drinking water-related public health needs across the United States. The most recent DWINSA shows that $472 billion is needed over the next two decades for DWSRF-eligible infrastructure. The DWSRF must be managed in a way to maximize the availability of funding to meet ready-to-proceed, documented water system needs. Financial forecasting, including cash flow management, is essential to the program's success.

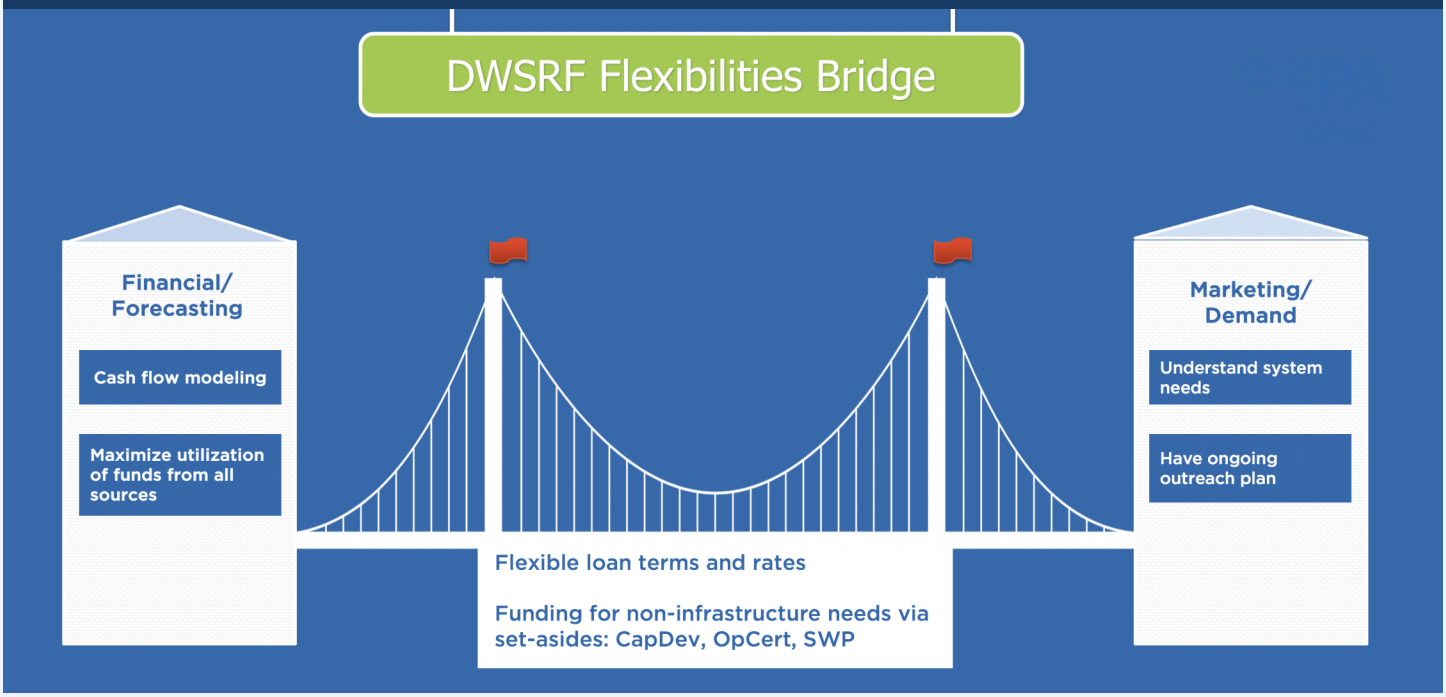
The DWSRF must also be operated in a way to help water systems achieve and maintain SDWA compliance. In 2019, approximately 3,500 community water systems had health-based SDWA violations. As part of EPA's Fiscal Year (FY) 2018-2022 Transformation Strategy, the Agency aims to reduce this total by 25 percent by 2022. Each non-compliant water system has different challenges; some water systems may need infrastructure investment, some may need capacity-building resources, and others may need to partner with a neighboring water system through consolidation or other partnerships means. The DWSRF can and should be a part of the solution for many of these water systems. The program can also help SDWA-compliant water systems maintain their ability to provide safe drinking water. Through a successful marketing and outreach strategy, DWSRF programs will help communities understand how the DWSRF can meet their water system-specific needs this decade.

Water Reuse

In February 2020, EPA and its partners announced collaborative implementation of the National Water Reuse Action Plan. The actions that are committed to in the Action Plan will help strengthen the sustainability, security, and resilience of our nation's water resources by creating new partnerships, providing accountability, and promoting communication and transparency with an online platform. The Action Plan's holistic and integrated approach can include a combination of water management strategies, many of which may be eligible DWSRF projects.

As shown below in Exhibit 8, financial forecasting and marketing/demand management form two major structural elements for the program's success.

Exhibit 8: DWSRF Flexibilities Bridge



A. Using Cash Flow Modeling

A revolving fund, with its dynamic inflows and outflows of funds, is different than a traditional grant program and therefore must be managed in a different way. By design, the program grows larger each year with infusion of federal capitalization grants and interest earnings from past loans. Cash flow management involves modeling inflows and outflows of monies in federal capitalization grants, state match, principal repayments, interest earnings, and leveraged funds. Such cash flow management informs sound financial decisions for the program and empowers DWSRF managers to maximize the availability of resources for communities.

Using the DWSRF administrative set-aside, many states have successfully built financial modeling tools that accurately predict the revolving fund's cash availability over time. These cash flow analysis tools help state managers evaluate the "supply side" of funding sources: the amount of money that is potentially available to lend for drinking water infrastructure construction.

States should also consider engaging in financial leveraging through the bond market and/or WIFIA to expand the reach of DWSRF program benefits.

With financial management based upon cash flow, DWSRF managers can confidently market the program to water systems; because they have a detailed understanding of how much funding is available to communities in the short, medium, and long-term.

B. Marketing DWSRF Opportunities to Water Systems

The most successful DWSRF programs pair financial projections with dynamic outreach to water systems throughout their state, supporting the "demand side" of the program. This is accomplished by working with the state PWSS program, the water industry, and associations. Talking to water systems of all sizes to understand their needs and to convey the opportunities available through the DWSRF will build demand.

As detailed at the beginning of this chapter, the DWINSA showed that $472 billion is needed in the next two decades for DWSRF-eligible infrastructure. The DWINSA contains a wealth of documented water system-level needs information useful for directly marketing the program. These data can be used as conversation starters with drinking water systems.

The PWSS sanitary surveys can provide a wealth of information about drinking water systems that can be used to seek potential DWSRF customers. A sanitary survey is a review of a public water system to assess its capability to supply safe drinking water. The DWSRF can be a resource to address deficiencies found during the sanitary surveys. If a water system currently lacks the technical capacity to develop these capital improvement projects, DWSRF set-asides could be used to provide technical assistance, such as planning and design development.

Regulatory Deviation for Water Rights

EPA approved a class deviation from the DWSRF regulatory prohibition on the purchase of water rights (40 CFR 35.3520(e)(2)).

This class deviation allows DWSRF funds to be used for the purchase of water rights under certain circumstances.

With this change, public water systems may switch water sources in the event of contamination or obtain rights to additional water sources in the event of drought to meet current water needs.

C. Employing the DWSRF as a SDWA Compliance Tool

In recent years, Congress has signaled continued strong support for the program, such as the recent reauthorization of the DWSRF via America's Water Infrastructure Act (AWIA) of 2018. Congress has also recently added new program flexibilities for state managers to consider, in addition to existing options.

States may offer loan repayment terms up to 30 years to any DWSRF-eligible recipient, or up to 40 years for disadvantaged communities. These flexibilities enable states to reduce annual repayment costs for communities. States may provide a portion of their annual federal capitalization grant as additional subsidy to those disadvantaged communities, further lowering the cost of critical public health infrastructure.

Congress also recently expanded the source water protection-related eligibilities under the Local Assistance Set-Aside, giving states and communities additional resources to promote preventative activities to protect the water supply.

The DWSRF program works hand-in-hand with state PWSS programs to prioritize loan and/or set-aside assistance to water systems out of compliance with the SDWA as well as to ensure that compliant water systems maintain their status.

D. Safeguarding Public Trust Through Fiscal Controls & Accountability

Congress entrusted the DWSRF program with critical financial resources and programmatic flexibility to target those resources. EPA and state partners are accountable for the effective use of these resources and flexibilities. Therefore, program managers must safeguard the program's trust through fiscal controls and accountability. To achieve this goal, we will continue to ensure that proper internal financial controls remain in place through regular reviews and audits and ensure that these controls address a broad array of financial risks while communicating the program's financial integrity and public health results to the public.

DWSRF Eligibility Highlights

- Lead service line replacement
- Drinking water treatment for harmful algal blooms (cyanotoxins) and per- and polyfluoroalkyl substances (PFAS)
- Cybersecurity measures
- Water reuse and recycling

For more information and resources, visit the DWSRF Eligibility Handbook.

Water Workforce

In 2019, EPA launched the American Water Sector Workforce Initiative as a collaborative effort between EPA, states, and other federal agencies. The three goals of the initiative are:

- Provide federal leadership to create national momentum and coordinate efforts,
- Partner to build the water workforce of the future, and
- Bolster water careers through outreach-making water a career of choice.

V. 2019 Financial Overview

A. Financial Success

The fundamental purpose of the DWSRF is to provide low-cost capital to finance sustainable, long-term public health protection. The Fund's ability to assist projects that protect public health is dependent on three pillars:

- continued federal capitalization;
- innovative, intelligent, and effective state management; and
- maintaining the Fund's growth and revolving nature.

Since the DWSRF's inception, Congress has appropriated more than $20 billion into the Fund. These funds have gone both to the revolving loan fund and the state set-asides. Together, the 51 state DWSRF programs have effectively leveraged these funds to provide $41.1billion in loans to the nation's water utilities and nearly $3.5 billion to both states and utilities for set-aside programs to support capacity development, source water protection, and operator training and certification. For the loan program, this translates into $2 in disbursements for every $1 drawn from the U.S. Department of Treasury.

From the 2010 appropriation onward, Congress mandated that a certain portion of the federal capitalization grant be provided to borrowers as additional subsidy. This change allowed states to aid communities most in need and incentivize particular types of projects. Because this subsidy comes from the federal dollars, continued federal support is needed to maintain this benefit and continue growing the Fund.

B. Financial Reports

The Single Audit Act designates the threshold for auditing federal programs. Most DWSRF programs receive a program-specific audit in addition to auditing required under the Single Audit Act. Because the 51 DWSRF programs are independent state-level entities, no nationally-audited DWSRF program financial reports are available. Developed using EPA's National Information Management System, national aggregate financial statements, best viewed as non-audited cash flow-based reports, are shown on the following pages.

1. Statement of Fund Activity

As shown in Exhibit 9 below, in SFY 2019, DWSRF programs executed approximately $2.8 billion worth of loans. Overall for SFY 2019, assistance provided as a percent of funds available ("pace of funds provided") was nearly 100 percent, indicating that states have successfully directed federal funding to drinking water infrastructure projects. This robust percentage of funds utilization also demonstrates a high demand for DWSRF funding. A portion of the disbursed funds are used to provide principal forgiveness to disadvantaged communities or to help finance specific water systems meeting the criteria for state priority funding; in SFY 2019, more than $321 million was provided in the form of principal forgiveness.

The amount of new funds includes new investments, net leveraged bonds, and loan principal and interest repayments.

Exhibit 9: Statement of Fund Activity (Millions of Dollars)

Annual Fund Activity	**SFY 2018**	**SFY 2019**
Federal Capitalization Grants	794.2	1,068.5
State Matching Funds	179.9	201.0
New DWSRF Funds Available for Assistance	2,705.6	3,242.3
Project Commitments (Executed Loan Agreements)	2,814.4	2,836.7
New Set-Aside Funds Available for Assistance	180.7	241.8
Project Disbursements from the Fund	2,534.7	2,707.2
Cash Draws from Federal Capitalization Grants (Fund)[1]	643.4	806.2
Cash Draws from Set-Asides[1]	193.8	178.6
Cumulative Fund Activity[2]		
Federal Capitalization Grants	19,976.6	21,061.2
State Matching Funds	3,906.2	4,107.5
DWSRF Funds Available for Assistance	39,832.2	43,138.6
Project Commitments (Executed Loan Agreements)	38,221.1	41,106.0
Set-Aside Funds Available for Assistance	3,223.1	3,461.9
Project Disbursements from the Fund	33,403.1	35,978.4
Cash Draws for Fund	16,518.3	17,324.5
Cash Draws for Set-Asides	2,968.4	3,147.0
Loan Principal Forgiven	(263.7)	(321.2)

[1] This includes funds drawn from previous grants.

[2] Cumulative numbers may not sum due to rounding.

2. Statement of Revenues, Expenses, and Earnings

Exhibit 10, below, shows the sources of funds and the expenses of the DWSRF program nationally and how they impact net assets. For 2019, interest earnings exceeded expenses, adding to the growth of the program. From 2018 to 2019, operating expenses increased by $25.9 million, with an increase in DWSRF funds used for refunding. DWSRF net assets increased by approximately $1.5 billion, reflecting the steady increase in assets since the program's inception.

3. Statement of Cash Flow

Exhibit 11 shows the impact of DWSRF activities on cash on hand. DWSRF programs require a reserve to maintain their programs. State programs have successfully reached a first milestone under the Unliquidated Obligation (ULO) strategy of spending down built up federal funds. It is expected that states will need to draw heavily from state cash reserves in the near future to pay invoices from the high level of lending at which they are operating. States have positioned their programs well by increasing their state match bond proceeds by $2 million while gross leveraged bond proceeds added $985 million to program cash flows. In SFY 2019, states paid $601.8 million in principal and interest on leveraged bonds and state match bonds, demonstrating an increase of $65.9 million from the previous year. Bond issuance is one method by which states may balance their loan demand with the need to maintain the long-term sustainability of their revolving funds.

Exhibit 10: Statement of Revenues, Expenses, and Earnings (Millions of Dollars)

Operating Revenues	**SFY 2018**	**SFY 2019**
Interest on Fund Investments	102.3	140.2
Interest on DWSRF Loans	301.8	315.3
Total Operating Revenues	404.1	455.5
Operating Expenses		
Bond Interest Expense	157.3	163.1
DWSRF Funds Used for Refunding[1]	0	21.3
Amortized Bond Issuance Expense	5.7	4.5
Total Operating Expenses	163.0	188.9
Non-Operating Revenues and Expenses		
Cash Draws from Federal Capitalization Grants[2]	836.1	806.2
State Contributions[3]	103.5	122.5
Loan Principal Forgiven	(263.7)	306.1
Transfers from (to) CWSRF	66.4	(2.0)
Total Non-Operating Revenues (Expenses)	742.2	1,232.7
Increase (Decrease) in Net Assets	983.3	1,499.3
Net Assets		
Beginning of Year	20,677.1	21,660.5
End of Year	21,660.5	23,159.8

[1] Refunding occurs when outstanding bonds are retired with newly-issued bonds.
[2] This includes funds drawn from previous grants.
[3] This includes state match but excludes state match bonds.

Exhibit 11: Statement of Cash Flow (Millions of Dollars)

Operating Activities	**SFY 2018**	**SFY 2019**
Loan Disbursements to be Repaid	(2,534.7)	(2,401.1)
Loan Principal Forgiven	263.7	306.1
Loan Principal Repayments	1,200.1	1,280.9
Interest Received on Loans	301.8	315.3
State Contributions[1]	103.5	122.5
Cash Draws from Federal Capitalization Grants[2]	836.1	806.2
Total Cash Flows from Operating Activities	170.5	429.8
Non-Capital Financing Activities		
Bond Issuance Expense	(7.1)	(7.8)
Interest Paid on Leveraged and State Match Bonds	(157.3)	(163.1)
DWSRF Funds Used for Refunding[3]	0	(21.3)
Principal Repayment of Leveraged Bonds	(329.5)	(382.4)
Principal Repayment of State Match Bonds	(49.1)	(56.3)
State Match Bond Proceeds	76.5	78.5
Cash Received from Transfers with Clean Water State Revolving Fund (CWSRF)	66.4	(2.0)
Gross Leveraged Bond Proceeds	671.9	985.5
Total Cash Flows from Non-Capital Financing Activities	271.7	431.1
Investing Activities		
Cash Flows from Capital and Related Financing Activities	0	0
Interest Received on Fund Investments	102.3	140.2
Deposits to Debt Service Reserve for Leveraged Bonds	45.3	50.6
Total Cash Flows from Investing Activities	147.6	190.8
Net Increase (Decrease) in Cash and Cash Equivalents	589.8	1,051.8
Cash and Cash Equivalents		
Beginning of Year	7,488.3	8,078.1
End of Year	8,078.1	9,129.9

[1] This includes state match but excludes state match bonds.
[2] This includes funds drawn from previous grants.
[3] Refunding occurs when outstanding bonds are retired with newly-issued bonds.

4. Statement of Net Assets

In SFY 2019, total assets increased by $2.76 billion, while total liabilities increased by $1.1 billion; therefore, net assets increased by $1.5 billion, or 6.9 percent of total 2018 net assets. This increase reflects the overall health of the DWSRF program, which has shown a net asset growth of at least 5 percent per year over the past 10 years (Exhibit 12).

Exhibit 12: Statement of Net Assets (Millions of Dollars)

Assets	**SFY 2018**	**SFY 2019**
Cash and Cash Equivalents	7,440.7	9,129.9
Debt Service Reserve - Leveraged Bonds	595.8	545.2
Loans Outstanding	18,133.3	19,253.5
Unamortized Bond Issuance Expenses[1]	65.1	68.3
Total Assets	26,234.9	28,997.0
Liabilities		
Match Bonds Outstanding	278.7	302.2
Leveraged Bonds Outstanding	4,334.4	5,410.1
Total Liabilities	4,613.1	5,712.3
Net Assets		
Federal Contributions	19,474.9	20,281.1
State Contributions	2,876.5	2,999.0
Transfers - Other SRF Funds	595.6	(2.0)
Other Net Assets	(1,286.6)	(118.2)
Total Net Assets	21,660.5	23,159.8
Total Liabilities & Net Assets	26,273.6	28,872.1

[1] Unamortized bond issuance expenses are costs that have been incurred but have not been fully recognized (amortized). These costs will be recognized (amortized) over time over the remaining life of the bonds outstanding, similar to a pre-paid expense.

VI. DWSRF Set-Asides

States may reserve a portion of their annual capitalization grants to fund non-infrastructure programs supporting safe drinking water. Set-asides expand the impact of DWSRF by helping to ensure that water systems have the necessary technical, managerial and financial capacity to get the greatest public health protection from their drinking water infrastructure investments. Each of the four DWSRF set-aside categories has a different focus. Upon receiving capitalization grants, states may reserve funds under each of the four categories at their discretion and up to the maximum allowable limit. This section provides an overview of the four set-asides and a breakdown of set-aside usage in 2019 and cumulatively.

Administration and Technical Assistance (4% Set-Aside)

States may set aside the greatest of $400,000, 0.2 percent of the current Fund value, or 4 percent of the capitalization grant to administer their DWSRF programs and to provide technical assistance to water systems of any size. For example, states may use these funds to hire staff or to assist water systems with project plans or loan applications.

Small Systems Technical Assistance (2% Set-Aside)

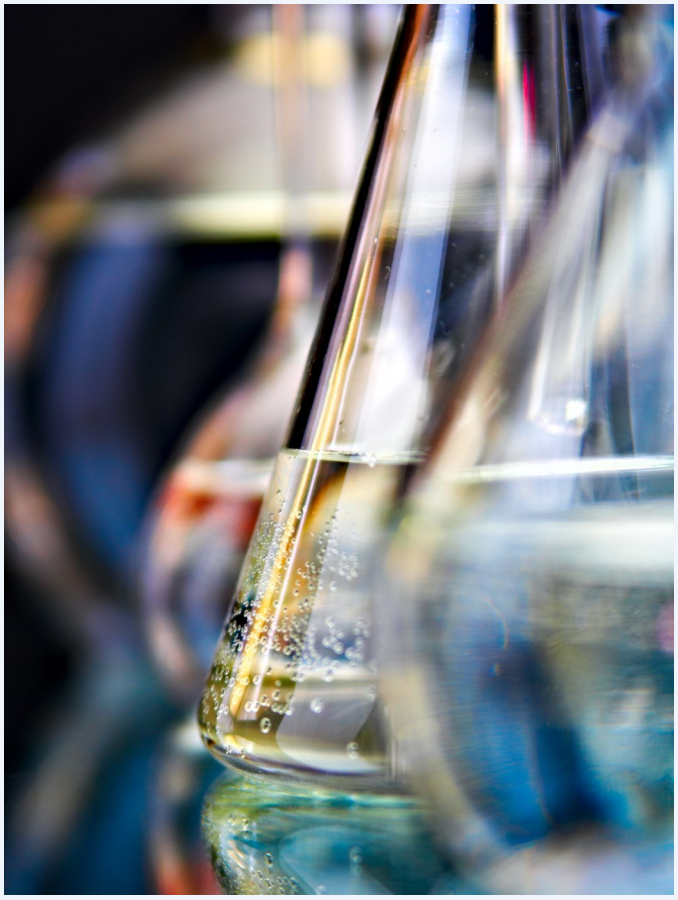
States may reserve up to 2 percent of their annual capitalization grant to fund programs providing assistance to drinking water systems serving 10,000 people or fewer. Small water systems often face greater challenges than larger systems, and they frequently have difficulty obtaining funding. This set-aside helps build the capacity of small systems and better align operations with drinking water system demand.

State Program Management (10% Set-Aside)

This set-aside may be used to fund PWSS programs overseeing all drinking water programs in individual states. Funding from this set-aside can be used for source water protection, capacity development, operator certification programs, and other activities.

Local Assistance and Other State Programs (15% Set-Aside)

States can use up to 15 percent of their capitalization grant (but no more than 10 percent for any single activity) to provide loans for the purchase of land, to support source water protection, to implement voluntary water quality protection activities, or to assist water systems with their capacity development.



Recent Set-Aside Usage

In 2019, states took a higher percentage of set-asides than their historical average in all four categories (Exhibit 13). Exhibit 14 shows how states used each set-aside account in 2019 and cumulatively since the DWSRF program inception in 1997.

Exhibit 13: Set-Asides Taken as a Percentage of Capitalization Grants

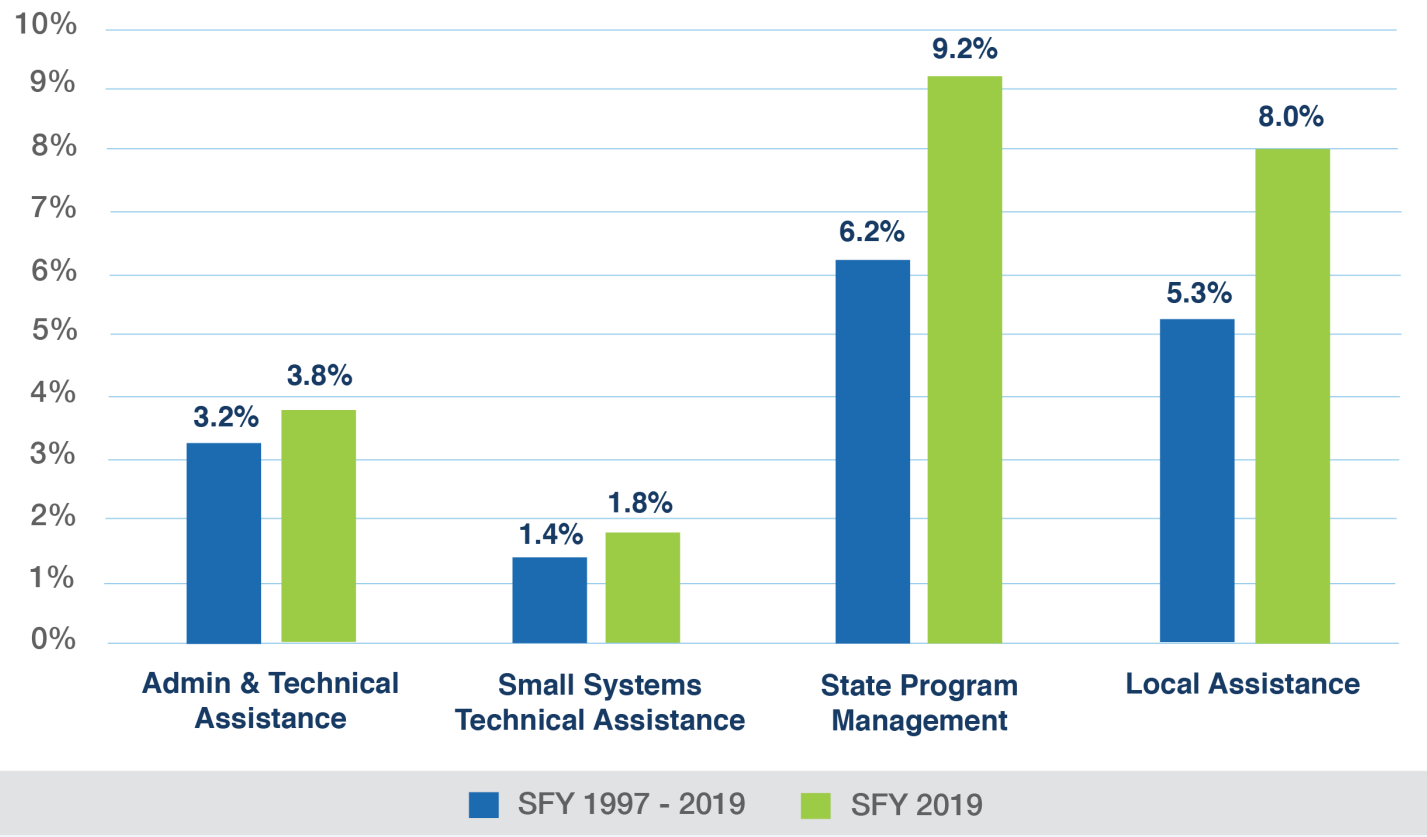


Exhibit 14: Set-Aside Expenditures (Millions of Dollars)

Set-Aside Category	Sub-Category	SFY2019	Cumulative (1997-2019)
Administrative	Administrative Assistance	$ 30.16	$ 668.48
	Technical Assistance	$ 0.53	$ 3.62
Small Systems	Technical Assistance	$ 12.89	$ 288.93
State Program Management	PWSS Administration	$ 59.19	$ 875.53
	SWP Technical Assistance	$ 2.55	$ 99.90
	Capacity Development	$ 10.47	$ 177.77
	Operator Certification Programs	$ 2.35	$ 45.04
Local Assistance & Other State Programs	Loans for SWP Land Acquisition	$ 0.00	$ 8.95
	Loans for Incentive-Based SWP Measures	$ 0.00	$ 7.75
	SWP Area Delineation/ Assessment	$ 3.65	$ 128.50
	Wellhead Protection	$ 20.45	$ 339.06
	Technical or Financial Assistance	$ 35.73	$ 501.66
All	**TOTAL**	**$ 177.97**	**$ 3,145.19**

VII. DWSRF AQUARIUS Project Highlights

The DWSRF AQUARIUS Recognition Program nationally recognizes DWSRF-funded projects for exceptional focus on sustainability and protection of public health. The projects listed below were recognized as "Exceptional" and are examples of the impact and innovation possible with the DWSRF. To learn more about the projects recognized in 2019, visit the 2019 AQUARIUS Recognition Program website.

Region 1

Woodland Summit Community Water Association (WSCWA), CT Loan Amount - $280,000:

WSCWA's water system was built prior to the SDWA and was in poor condition due to lack of maintenance and capital investment. Iron and manganese concentrations exceeded maximum contaminant levels (MCLs), and radon levels were high. The 50-year old storage tank was never inspected and exceeded the state's 10-year inspection requirement. WSCWA worked with the Rural Community Assistance Partnership (RCAP) to utilize Check Up Program for Small Systems (CUPSS) and implement an Asset Management Plan (AMP). The WSCWA's project resulted in several improvements, including the replacement of the iron/manganese filtration systems and installation of a new radon treatment system. The WSCWA, under volunteer leadership, worked together to adjust water rates, make this project possible, and plan for the future.

Region 2

Long Beach Township, NJ Loan Amount - $1,250,000:

The Brant Beach Water Treatment Plant (WTP) was built without any flood protection and was severely flooded during Superstorm Sandy in 2012. The project included demolition and reconstruction of the existing well building and generator room to comply with 500-year flood elevation requirements and installing new equipment. The pump station now complies with Federal Emergency Management Agency (FEMA) flood zone regulations and SDWA. As a result of DWSRF funds, the WTP is better protected against flooding and sustained power loss and more resilient to future storms.

Region 3

Allegany County, MD Loan Amount - $300,000:

61 Households in rural Allegany County had no access to the public water supply. They received drinking water from private wells or the local creek (when not frozen or affected by high turbidity). Mining activity led to a discolored water supply. Nitrates and fecal coliform bacteria were also found during well testing. Households without wells were taking water from local streams and disinfecting it with their own chlorine supplies. The Maryland SRF program, partnering with other funding agencies, installed 12,400 feet of PVC water line and 25 hydrants. These households now have drinking water service through connection to Frostburg's drinking water system.

Region 4

City of Danville, KY Loan Amount - $12,500,000:

The City's primary raw water source, Lake Herrington, is a deep lake with a modest surface area and is prone to seasonal total organic carbon spikes, manganese events, and lake turnover. Even though the City's WTP performance was steady, they undertook this capital improvements project to proactively address concerns about meeting the requirements of the Stage 2 Disinfection Byproducts (DBP) Rule. Challenges included: expanding and upgrading the WTP on the existing site while maintaining constant water production, repurposing the existing historic structures, and incorporating cutting edge treatment technologies. The project consisted of several components including: new filtration, chemical feed, operations laboratories at the existing WTP; a new chemical building; six new granular filters, eight new pumps, four granular activated carbon (GAC) contactors, Supervisory Control and Data Acquisition (SCADA) improvements, and upgrades to an 80-year old raw water intake facility. This project provided 60,000 residents throughout four counties with improved drinking water quality.

Region 5

City of Ashland, WI Loan Amount - $300,000:

The City of Ashland replaced 161 residential lead service lines (LSL) and covered 100 percent of the replacement costs. The City prioritized households with children under the age of 6, high risk groups based on socioeconomic factors, as well as schools and daycares. This project is an example of innovative financing, as the City provided 100 percent principal forgiveness, which was necessary to comply with state laws, since no public debt can be incurred for costs of work done on private property.

Region 6

Saint Bernard Parish (SBP) Waterworks, LA Loan Amount - $11,000,000:

The Saint Bernard Parish Waterworks was losing a large amount of water pumped (43%) due to leaks in the cast iron mains. Through support from the DWSRF, the project reduced and eliminated leakage and water main failures by replacing aged and deteriorated cast iron waterline segments; adding fire hydrants, valves, service lines, meters, fittings; replacing asphalt pavement; and addressed issues with inadequate chlorine residuals. The project met EPA's 100 percent Green Project Reserve. In total, 61,050 feet of waterline was replaced/added to the system.

Region 7

Public Wholesale Water Supply District No. 27, KS Loan Amount - $3,800,000:

Four water systems in the area, that had consistently exceeded the MCL for nitrate for four years, worked together to form the Public Wholesale Water Supply District (PWWSD) and find a new water source. The project included the creation of a new Public Water System (PWS) through construction of public water supply wells, a disinfection treatment facility, an elevated storage tank, and connecting transmission pipelines. The treatment facility was constructed to allow expansion of the treatment process if nitrate removal becomes necessary in the future. This new system now provides water that is below the MCL for nitrate for the City of Powhattan, the City of Robinson, Brown County Rural Water District No. 2, and Doniphan County Rural Water District No. 6. The PWWSD is actively planning to connect other area public water supply systems that are trying to resolve nitrate MCL violations.

Region 8

East Rapid City, SD Loan Amount - $5,000,000:

This project is the largest water regionalization project the City has completed and included a major expansion of the municipal water distribution system to serve those located east of the current city limits. These residents were previously served by individual wells and small private or public water systems that were inadequate, unreliable, and failed to meet EPA's safe drinking water standards. Over five miles of public water mains and a master pressure reducing valve (PRV) facility were constructed. There are currently 179 new active service connections (433 people) in the project area that are now being provided a consistent, safe drinking water supply.

Region 9

Valley Center Municipal Water District, CA Loan Amount - $4,200,000:

The project included designing and installing a geomembrane liner with a geotextile underlayment and replacing a Hypalon floating cover with a new chlorosulfonated polyethylene (CSPE) floating cover. The Reservoir's concrete liner was showing signs of movement and cracking at the expansion joints, as well as leakage through the underdrain system. The concrete liner also served as a medium for bacterial growth, increasing chlorine demand with corresponding chemical and operational costs. The Reservoir's cover had reached the end of its service life, and tears in the cover could no longer be repaired. The new liner will prevent leakage from the Reservoir and reduce bacteria by creating a barrier between the finished drinking water and the concrete liner. This will reduce chemical and energy use to maintain chlorine residuals.

Region 10

Liberty Lake Sewer and Water District (LLSWD), WA Loan Amount - $905,000:

In 2014, Eastside Liberty Lake Improvement Club (ESLLIC) received a DWSRF loan for water system improvements, including replacement of 50-plus year-old well pumps, booster pumps, and reservoir. In 2016, this project was converted to a consolidation project between LLSWD and ESLLIC and was then eligible for 50 percent principal forgiveness. The revised project included transferring ownership of ESLLIC to LLSWD, abandoning the existing wells serving ESLLIC that needed major upgrades, utilizing the existing intertie as the main water source to ESLLIC, and conducting needed improvements to ESLLIC's distribution system to address leaks. ESLLIC's volunteer board is now replaced by LLSWD as the owner responsible for operation and maintenance of the entire water system, providing long-term technical, managerial, and financial (TMF) capacity for the customers within ESLLIC. Water rates for ESLLIC customers dropped from $50.76, which included the surcharge for the DWSRF loan, to $18.52 upon consolidation.

State Agencies Managing the DWSRF

EPA Region 1

Connecticut Department of Public Health

Connecticut Office of the Treasurer

Maine Department of Human Services

Maine Municipal Bond Bank

Massachusetts Clean Water Trust

Massachusetts Department of Environmental Protection

Massachusetts Executive Office of Administration and Finance

New Hampshire Department of Environmental Services

Rhode Island Infrastructure Bank

Rhode Island Department of Health

Vermont Department of Environmental Conservation

EPA Region 2

New Jersey Environmental Infrastructure Bank

New Jersey Department of Environmental Protection

New York State Department of Health

New York State Environmental Facilities Corporation

Puerto Rico Department of Health

Puerto Rico Infrastructure Financing Authority

EPA Region 3

Delaware Department of Health and Social Services

Maryland Water Quality Financing Administration

Maryland Water and Science Administration

Maryland Department of the Environment

Pennsylvania Infrastructure Investment Authority

Pennsylvania Department of Environmental Protection

Virginia Department of Health

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 Finance Authority

Georgia Department of Natural Resources

Kentucky Infrastructure Authority

Kentucky Department of Environmental Protection

Mississippi State Department of Health

Mississippi State Tax Commission

North Carolina Department of Environmental Quality

South Carolina Department of Health and Environmental Control

South Carolina Budget and Control Board

Tennessee Department of Environment and Conservation

Tennessee Division of Fiscal Services

Tennessee Comptroller of the Treasury

EPA Region 5

Illinois Environmental Protection Agency

Indiana Finance Authority

Indiana State Revolving Fund Loan Program

Michigan Department of Environmental Quality

Michigan Municipal Finance 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

Arkansas Development Finance Authority

Louisiana Department of Health

New Mexico Finance Authority

New Mexico Environment Department

Oklahoma Department of Environmental Quality

Oklahoma Water Resources Board

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

Missouri Environmental Improvement and Energy Resources Authority

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

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

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 State Water Resources Control Board

Hawaii Department of Health

Nevada Division of Environmental Protection

Nevada Office of Financial Assistance

EPA Region 10

Alaska Department of Environmental Conservation

Idaho Department of Environmental Quality

Oregon Health Authority

Oregon Infrastructure Finance Authority, Business Oregon

Oregon Department of Environmental Quality

Washington State Department of Health

Washington Department of Commerce

DWSRF At-a-Glance

Assistance Provided for Projects (Millions of Dollars)

	2019	1997-2019
Total, by Project Type	2,836.7	41,083.6
Planning and Design Only	46.1	466.2
Construction		
Treatment	755.0	15,405.6
Transmission & Distribution	1,321.6	16,747.4
Source	192.0	2,345.0
Storage	431.6	4,292.8
Purchase of Systems	1.8	296.2
Restructuring	23.4	153.6
Land Acquisitions	2.6	94.9
Other	62.6	1,281.9
Total, by Population Served		
Less than 501	174.9	1,886.9
501 to 3,300	496.8	6,231.3
3,301 to 10,000	367.8	6,144.1
10,001 to 100,000	788.4	14,973.4
100,001 and Above	1,008.8	11,826.4
# of Loans, by Population Served		
Less than 501	201	3058
501 to 3,300	312	4998
3,301 to 10,000	165	2872
10,001 to 100,000	168	3424
100,001 and Above	51	1073

Funds Available for Projects (Millions of Dollars)

	2019	1997-2019
Total Funds	3,242.3	43,138.6
Federal Capitalization Grants	1,068.5	21,061.2
State Match	201.0	4,107.5
Net Leveraged Bonds	1,067.2	9,881.3
Net Loan Principal Repayments	898.6	8,643.0
Net Interest Earnings	236.1	2,459.0
Net Transfers with CWSRF	12.7	448.5
Less Set-Asides	(241.8)	(3,461.9)

Other Key Statistics

- In 2019, every $1 federal drawn to DWSRF programs resulted in **$2** disbursed.
- The DWSRF average interest rate in 2019 was **1.6%**, compared to 3.5% market-value interest rate. This lower interest rate results in over **$500 million** in savings to local community ratepayers over the life of these loans.
- States also awarded **$321 million** as principal forgiveness to communities in 2019. These grant-like funds help keep water rates affordable for communities.
- **24** states sell bonds to further leverage their DWSRF programs.

For more information about the Drinking Water State Revolving Fund, please contact us at:

Drinking Water State Revolving Fund Program
U.S. Environmental Protection Agency
1201 Constitution Avenue, NW (Mail code 4606M)
Washington, DC 20460

www.epa.gov/dwsrf
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