Congressional Research Service
Informing the legislative debate since 1914

Changes to the Drinking Water State Revolving Fund (DWSRF) Program

March 1, 2024

Congressional Research Service
https://crsreports.congress.gov
R47935

Congressional Research Service
Informing the legislative debate since 1914

Changes to the Drinking Water State Revolving Fund (DWSRF) Program

SUMMARY

R47935

March 1, 2024

Elena H. Humphreys
Analyst in Environmental Policy

Since 1996, the Drinking Water State Revolving Fund (DWSRF) has been the primary federal financial assistance program for municipal water infrastructure. Congress has amended the DWSRF several times, though the basic structure, authorized in the Safe Drinking Water Act (SDWA; codified at 42 U.S.C. §300j-12), remains intact. Congressional attention to the DWSRF continues particularly due to amendments to the program and increases to DWSRF appropriations, including as provided by the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58). An analysis of state DWSRFs may be informative for policymakers, particularly given recent changes to the program and the set of congressional priorities that the DWSRF was intended to address.

Congress designed the DWSRF to allow states flexibility to tailor their DWSRFs to meet their specific needs. The DWSRF structure is intended to serve as a source of assistance for drinking water infrastructure projects needed to protect public health. Generally, the primary objectives of the DWSRF include supporting public health protection and project affordability, as well as serving as a perpetual source of financial assistance for such projects.

The U.S. Environmental Protection Agency (EPA) receives appropriations for the DWSRF that the agency uses to make grants to states. States, in turn, use the federal grant to capitalize revolving loan funds. The primary type of assistance under the DWSRF is subsidized loans, though states have the authority to provide additional subsidization (e.g., principal forgiveness, grants, or negative-interest-rate loans). Since the American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5), appropriations acts and subsequent SDWA amendments have required states to provide a minimum percentage of additional subsidization. Under the DWSRF, states are also authorized to support related activities. SDWA authorizes states to set aside up to 31% of their capitalization grant for these related activities. Unlike the subsidized loans for drinking water projects, funding for these "set-aside" activities and additional subsidization generally is not repaid to the fund and, thus, is not available for future project assistance.

States' actual use of additional subsidization and set-aside authorities varies. Data from EPA's DWSRF National Information Management System (NIMS) provide some insight on how states are using these authorities. One key finding is that most states did not provide additional subsidization (as they were authorized to do since 1996) until they were required to do so by appropriations acts (beginning with the enactment of ARRA in 2009). Since then, states have generally not provided the maximum authorized amount possible toward additional subsidization.

States' authorities to set aside funds for different purposes allow states to tailor their programs to their needs, and may result in trade-offs among program objectives. These trade-offs may result in states prioritizing one or more objectives (e.g., affordability, public health protection, or fund perpetuity) over others. One example of a trade-off between competing objectives involves project affordability and perpetuity of DWSRF financial assistance. Providing additional subsidization supports the program's project affordability objective, yet the more funding that states dedicate for additional subsidization, the less the funding revolves back to be available as assistance for other, future infrastructure projects. The requirement that states manage their funds to make assistance available for perpetuity indicates that Congress intended state DWSRFs to be self-sustaining. Also, Congress has continued to provide annual appropriations for the DWSRF, which enables states to provide new DWSRF financial assistance each year.

Assessing how states have used the set-asides and additional subsidization authorities raises policy considerations. For example, the scope of the communities eligible for additional subsidization is a key difference between requirements in appropriations acts and those in SDWA. States can provide SDWA additional subsidization and IIJA additional subsidization to disadvantaged communities only. In contrast, additional subsidization required in ARRA and regular appropriations acts is available to all DWSRF-eligible recipients. Another consideration for policymakers may involve what factors, such as state-level financial decisions, affect DWSRF sustainability. In addition, an assessment of the changes to the DWSRF in the context of other legislative developments provides further considerations. Over the same time period that Congress made changes to the DWSRF, Congress has authorized new drinking water infrastructure financial assistance programs at EPA, which may reflect changes in approaches to municipal water infrastructure assistance.

Contents

Figures

Contacts

Introduction

Since 1996, the Drinking Water State Revolving Fund (DWSRF) has been the primary federal financial assistance program for municipal water infrastructure.[1] Over time, Congress has amended the program to address specific concerns, though the basic structure remains intact. The DWSRF's structure allows it to serve as a source of financial assistance for drinking water infrastructure projects needed to protect public health. In addition, Congress has directed funds for certain communities or projects through DWSRF appropriations.

Under the DWSRF, the U.S. Environmental Protection Agency (EPA) uses annual appropriations to make grants to states to capitalize their revolving loan funds. Using the federal grant, states provide primarily subsidized loans to eligible entities for drinking water infrastructure projects needed to comply with the Safe Drinking Water Act (SDWA) or to further the act's public health protection goals.[2] DWSRF loans are repaid to the state's revolving fund, and thus are available to other eligible entities for financial assistance.

States provide DWSRF assistance to communities to support needed drinking water infrastructure projects, yet even with the DWSRF, identified drinking water infrastructure needs have increased.[3] In September 2023, EPA estimated that over the next 20 years, needed drinking water infrastructure projects would cost almost $650 billion (in 2022 dollars), 7.62% more than EPA's 2018 estimate.[4] As such, communities generally apply for more assistance from state DWSRFs than funding available.

Congress designed the DWSRF to allow states flexibility in tailoring their DWSRF to meet their specific needs. As such, amendments to the DWSRF have had varying effects on state programs. Congressional attention to the DWSRF continues, particularly due to increases to DWSRF appropriations, and SDWA amendments directing state activities under the DWSRF.

As the DWSRF has evolved, an analysis of state programs may be informative for policymakers, particularly given the initial set of congressional priorities the DWSRF was intended to address. This assessment may lead to questions over the extent to which states have used the authorized flexibilities, and whether the use of these flexibilities influences state programs. Such an analysis may be illustrative for policymakers given the DWSRF's objectives, and raise questions over the role of additional subsidization and the role of state practices to manage their DWSRFs. In addition, the context of these changes to the DWSRF provides further considerations for Congress.

This report begins with background on the DWSRF's development and issues facing water systems, states, and EPA at the time of its establishment. It continues by discussing the program

---

[1] In addition to the Drinking Water State Revolving Fund (DWSRF), Congress has authorized the U.S. Army Corps of Engineers, within the Department of Defense, and the Bureau of Reclamation, within the Department of the Interior, to address certain municipal water infrastructure. Further, Congress has authorized rural development programs for the U.S. Department of Agriculture's (USDA's) Rural Utilities Service. These authorities are not discussed in this report. See CRS Report R46471, *Federally Supported Projects and Programs for Wastewater, Drinking Water, and Water Supply Infrastructure*, coordinated by Jonathan L. Ramseur, for details on these and other programs.

[2] Safe Drinking Water Act of 1974 (SDWA; P.L. 93-523), enacted December 16, 1974. SDWA is codified at 42 U.S.C. §§300f-300j.

[3] CRS Report R47878, *Drinking Water Infrastructure Needs: Background and Issues for Congress*, by Elena H. Humphreys, contains more details about drinking water infrastructure needs.

[4] EPA, *Drinking Water Infrastructure Needs Survey and Assessment: Seventh Report to Congress*, September 2023, https://www.epa.gov/system/files/documents/2023-09/Seventh%20DWINSA_September2023_Final.pdf; EPA, *Drinking Water Infrastructure Needs Survey and Assessment: Sixth Report to Congress*, March 2018, https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100UA7Z.txt.

structure and how Congress has revised the DWSRF to address additional issues and concerns. Next, the report analyzes the extent to which states are using DWSRF flexibilities. It ends by providing considerations for Congress regarding the future of the DWSRF.

Background

In 1996, Congress established the DWSRF under the Safe Drinking Water Act (SDWA) to address multiple objectives. Generally, the DWSRF's primary objectives include supporting projects needed to protect public health and project affordability, as well as serving as a perpetual source of financial assistance for such projects. Other objectives include providing states with an additional source of funding to support their delegated drinking water oversight authorities and source water protection activities, and to support capacity development and water system operator training. Understanding the issues that led to the DWSRF's establishment provides context regarding these objectives.

In 1986, responding to criticisms about the EPA's regulatory pace, Congress amended SDWA to require EPA to establish regulations for 83 drinking water contaminants within three years, with regulations for an additional 25 contaminants every three years thereafter.[5] After the 1986 amendments, EPA promulgated new regulations and revised existing regulations for more than 80 contaminants, attempting to keep pace with the statutory requirements. EPA, states, and water systems found this regulatory pace to be challenging to both maintain and meet.

Congress created the DWSRF primarily to provide support to communities financially challenged by federal drinking water regulations.[6] The issue of increasing compliance costs was particularly pertinent for smaller systems, as these communities were cited as having limited access to private or bond financing for treatment or other drinking water infrastructure projects.[7] The number of newly adopted drinking water regulations strained financial resources and states' capacity to implement and oversee SDWA.[8] In 1993, EPA reported that the agency had begun to withdraw, or had notified that it intended to withdraw, SDWA primary enforcement authority (i.e., primacy) from some states due to insufficient program funding.[9] If primacy was returned to EPA, the agency noted that EPA would have its own resource concerns as well as a limited ability to replicate services and functions that states had implemented as a part of their drinking water programs.[10] In addition, the impact of industrial or agricultural activities on the quality of drinking water sources increased attention on SDWA.[11] After deliberating over these issues and

[5] The Safe Drinking Water Act Amendments of 1986 (P.L. 99-339).

[6] CRS Report R46652, *Regulating Contaminants Under the Safe Drinking Water Act (SDWA)*, contains additional details regarding SDWA's regulatory development provisions.

[7] Approximately 81% of the roughly 50,000 community water systems that are required to comply with all federal drinking water regulations serve fewer than 3,300 individuals. Of these community water systems, 54% are privately owned and generally operate as an ancillary part of another business, such as a mobile home park, or as a part of a homeowner association. Of all privately owned community water systems, 96% serve fewer than 3,300 individuals.

[8] SDWA §1413; 42 U.S.C. §300g-2. EPA retains implementation and enforcement authority for Wyoming, the District of Columbia, and Indian tribes other than the Navajo Nation.

[9] EPA, *Technical and Economic Capacity of States and Public Water Systems to Implement Drinking Water Regulations*, 810R93001, Washington, DC, September 1993.

[10] EPA, *Technical and Economic Capacity of States and Public Water Systems to Implement Drinking Water Regulations.*

[11] EPA, *Technical and Economic Capacity of States and Public Water Systems to Implement Drinking Water Regulations*.

others, the 104th Congress authorized the DWSRF in the Safe Drinking Water Act Amendments of 1996 (P.L. 104-182).

Over time, states have provided DWSRF assistance for a broad range of drinking water infrastructure projects needed for public health protection. These include rehabilitation and repair projects to address aging water infrastructure. Such rehabilitation projects comprise the majority of the costs of needed infrastructure projects. CRS Report R47878, *Drinking Water Infrastructure Needs: Background and Issues for Congress*, contains more information on how drinking water infrastructure needs have changed over time.

Drinking Water State Revolving Fund (DWSRF)

Congress established the DWSRF program to provide financial assistance for drinking water infrastructure projects and to allow states to support other related activities. These activities range from SDWA implementation to local and/or technical assistance initiatives. Unlike the core activities of the DWSRF—namely, subsidized loans for drinking water projects—funds allocated to these other, related activities are generally not repaid to the fund.

SDWA Section 1452 directs EPA to use annual DWSRF appropriations to make "capitalization grants" to states, including Puerto Rico.[12] States may use their grants to capitalize their loan funds and for other purposes, including complying with requirements of Section 1452. The act requires each state to provide a state contribution of at least 20% of its annual capitalization grant, and develop an intended use plan (IUP) each year indicating how the allotted funds will be used.[13] The federal grants and state match—combined with funds from loan repayments, leveraged bonds, and earned interest—are intended to generate an ongoing source of water infrastructure funding over time.[14] SDWA requires that states manage their revolving loan funds so that financial assistance is available in perpetuity.[15]

Appropriations for the DWSRF are provided in **Figure 1**. For information about the supplemental appropriations provided by the American Recovery and Reinvestment Act (ARRA; P.L. 111-5) and the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), see CRS Report R46464, *EPA Water Infrastructure Funding in the American Recovery and Reinvestment Act of 2009*; and CRS Report R46892, *Infrastructure Investment and Jobs Act (IIJA): Drinking Water and Wastewater Infrastructure*, respectively.

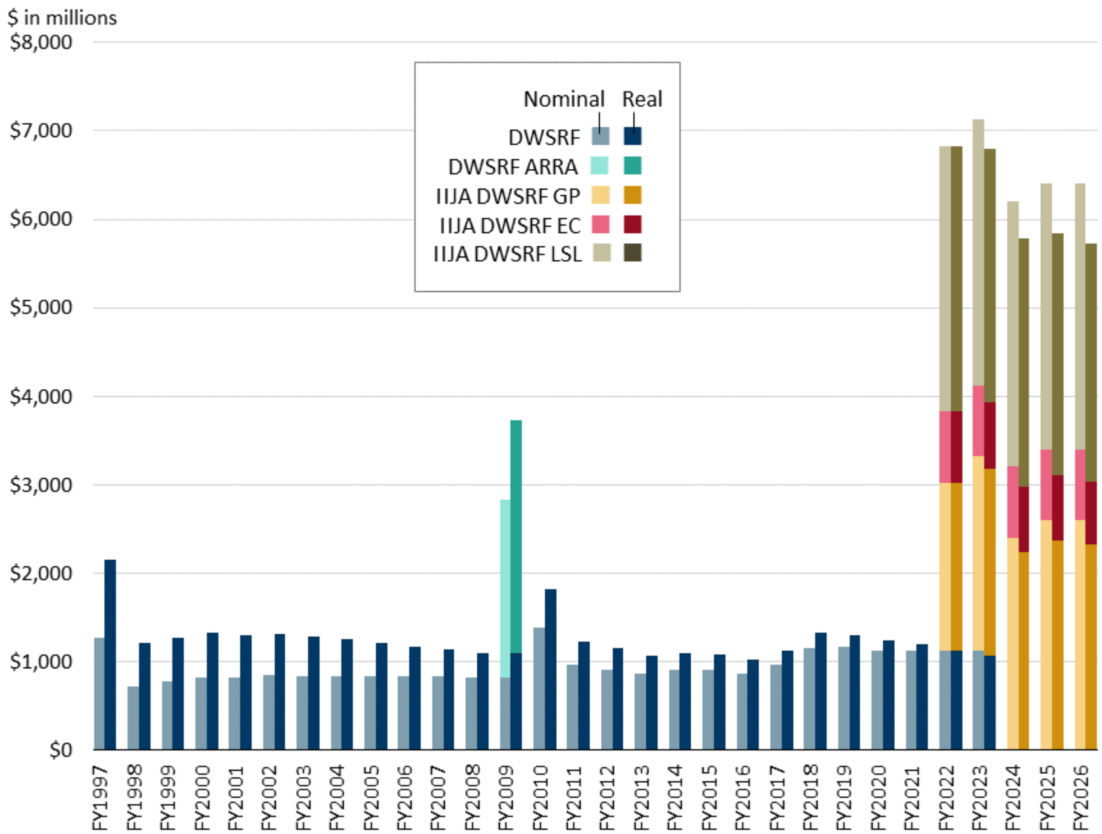
[12] SDWA §1452(a)(1); 42 U.S.C. §300j-12(a)(1). EPA allots the federal capitalization grants based on the results of the most recent quadrennial needs survey, except that each state must receive at least 1% of the available funds. For the purposes of Section 1452, SDWA defines Puerto Rico and the District of Columbia (DC) as states, though under this section, DC receives a grant and does not operate a revolving loan fund.

[13] SDWA §1452(e); 42 U.S.C. §300j-12(e); SDWA §1452(b); 42 U.S.C. §300j-12(b).

[14] SDWA §1452(a)(2)(C); 42 U.S.C. §300j-12(a)(2)(C) authorizes states to issue revenue or general obligation bonds using their grant and state match as payment security. This leveraging allows states to provide more assistance than the combined amount received as a federal grant, the state match, loan repayments, and earned interest.

[15] SDWA §1452(c); 42 U.S.C. §300j-12(c).

Figure 1. Appropriations for the Drinking Water State Revolving Fund



Source: Prepared by CRS using information from annual appropriations acts, committee reports, and explanatory statements presented in the *Congressional Record*. Amounts reflect applicable rescissions and supplemental appropriations, including $2.0 billion in P.L. 111-5, $100 million in P.L. 114-254, and $296.1 million in P.L. 116-20. FY2022 and FY2023 include amounts earmarked for community project funding/congressionally directed spending (CPF/CDS) items that are reserved from the DWSRF appropriation and distributed directly to entities. The reservation of CPF/CDS items reduced the amount available for the DWSRF by 35% in FY2022 and by 54% in FY2023. "Real" or 2022 dollars calculated from Office of Management of Budget, Table 10.1, "Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2026," https://www.whitehouse.gov/omb/historical-tables/. The deflator values used for FY2023 through FY2026 are estimates as provided by the Office of Management and Budget.

Notes: "ARRA" denotes supplemental appropriations provided by the American Recovery and Reinvestment Act (P.L. 111-5). "IIJA" denotes supplemental appropriations provided by the Infrastructure Investment and Jobs Act (P.L. 117-58). "EC" denotes DWSRF supplemental appropriations dedicated to projects to address emerging contaminants. General Program or "GP" denotes supplemental appropriations provided through the DWSRF for the range of statutory eligibilities. "LSL" denotes supplemental appropriations provided to the DWSRF for lead-service-line (LSL) replacement projects and related activities. The funding levels for FY2024 through FY2026 are likely to change, reflecting funding for the DWSRF through annual appropriations (FY2024-FY2026).

SDWA directs or authorizes EPA to set aside amounts of the DWSRF appropriation for various program purposes before allotting the remaining funds among the states. EPA calculates the amount available for allotment among the states after deducting amounts reserved for tribal grants, unregulated contaminant monitoring, health effects studies, and oversight of American iron and steel requirements.[16]

States are authorized to use their DWSRF capitalization grant to provide financial assistance to eligible public water systems for capital infrastructure projects that EPA has determined will facilitate SDWA compliance or significantly further the act's health protection objectives.[17] Until 2018, SDWA required that communities repay DWSRF loans within 20 years of project completion. America's Water Infrastructure Act of 2018 (AWIA; P.L. 115-270) amended SDWA to extend the loan repayment period to 30 years.[18] In addition to subsidized loans, SDWA authorizes states to provide additional subsidization (e.g., principal forgiveness, grants, or negative-interest-rate loans) to disadvantaged communities.[19]

States are required to use 15% of their annual capitalization grant for assistance to communities of fewer than 10,000 individuals.[20] States are authorized to transfer up to 33% of the amount of their DWSRF capitalization grant into their Clean Water State Revolving Fund (CWSRF) or that same amount from their CWSRF to their DWSRF.[21]

State Set-Asides

Some DWSRF funding can be, or is required to be, set aside from the loan process. These set-aside authorities and requirements arise from a variety of mechanisms, as described below.

SDWA Set-Asides

SDWA authorizes states to set aside portions—up to 31%—of their capitalization grants for specific purposes. Of the 31%, states can use 10% of their capitalization grant for the Public Water System Supervision (PWSS) program, source water protection program implementation and assistance, and/or capacity building and operator training.[22] States can reserve up to 4% for DWSRF administration costs and to provide technical assistance to systems of all sizes.[23] States can use up to 2% of the capitalization grant to provide small system technical assistance and training.[24] Further, states may use up to 15% of their capitalization grant (but not more than 10% of that amount) for any one of the following: voluntary source water protection activities, well-head protection programs, capacity development activities, and purchasing land or conservation easements.[25]

---

[16] SDWA §1452(i); 42 U.S.C. §300j-12(i); SDWA §1452(o); 42 U.S.C. §300j-12(o); SDWA §1452(n); 42 U.S.C. §300j-12(n); SDWA §1452(a)(4)(F); 42 U.S.C. §300j-12(a)(4)(F).

[17] SDWA §1452(a)(2)(B); 42 U.S.C. §300j-12(a)(2)(B).

[18] SDWA §1452(f); 42 U.S.C. §300j-12(f). SDWA authorizes loans to disadvantaged communities to be repaid within 35 years of project completion.

[19] SDWA §1452(d); 42 U.S.C. §300j-12(d).

[20] SDWA §1452(a)(2)(F); 42 U.S.C. §300j-12(a)(2)(F).

[21] §302 of P.L. 104-182.

[22] SDWA §1452(g)(2)(B); 42 U.S.C. §300j-12(g)(2)(B). The Water Infrastructure Improvements for the Nation Act (WIIN Act; P.L. 114-322) removed a requirement for states to provide equivalent matching funds for this set-aside.

[23] SDWA §1452(g)(2)(A)(ii); 42 U.S.C. §300j-12(g)(2)(A)(ii).

[24] SDWA §1452(g)(2)(C); 42 U.S.C. §300j-12(g)(2)(C).

[25] SDWA §1452(k)(2); 42 U.S.C. §300j-12(k)(2). Some of these activities include loans to water systems to acquire land or conservation easements or to assist in implementing source water protection measures. Such loans, authorized by SDWA Section 1452(k), are repaid to a separate fund or account. As such, these loans do not revolve back into the corpus of a state's DWSRF.

Set-Asides Through Appropriations Acts

In addition to SDWA set-aside provisions, enacted appropriations acts have included DWSRF set-asides.[26] For instance, the following DWSRF set-aside authorities are included in the Consolidated Appropriations Act, 2023 (P.L. 117-328):

- EPA shall reserve up to 2% of DWSRF appropriations or $20.0 million (whichever is greater) for tribal and Alaska Native village grants for water infrastructure projects.[27]
- EPA shall reserve up to 1.5% of DWSRF appropriations to support grants for territories for water infrastructure projects.[28]
- EPA shall reserve $12.0 million to pay the costs of monitoring for unregulated contaminants.[29]

Earmarks Reserved from DWSRF Appropriation

In the 117th Congress, regular appropriations acts directed EPA to reserve a portion of the DWSRF appropriation for community project funding/congressionally directed spending (CPF/CDS) items (also known as earmarks). For example, the Consolidated Appropriations Act, 2023 (P.L. 117-328) directs EPA to reserve roughly 54% of the DWSRF appropriation for these items. These CPF/CDS items effectively reduced the amount available for state DWSRF capitalization grants and are distributed directly to recipients rather than through the DWSRF program. CRS Report R47633, *The Role of Earmarks in CWSRF and DWSRF Appropriations in the 117th Congress*, contains more details on these items and state DWSRFs.

DWSRF Additional Subsidization

Congress has authorized and directed states' use of additional subsidization (e.g., principal forgiveness, grants, or negative-interest-rate loans) under SDWA as well as through DWSRF appropriations. This mechanism also reduces the amount of DWSRF funding available for loan purposes. Before the enactment of ARRA in 2009, states were not required to provide additional subsidization, but had the option to do so. Since then, Congress has, through directives in appropriations acts, required states to use some portion of their DWSRF capitalization grant for additional subsidization, and has amended SDWA to require states to use minimum percentages for this purpose.

SDWA Additional Subsidization

Under SDWA, the percentage of additional subsidization that states are authorized to provide has changed over time. From its establishment in 1996, DWSRF provisions allowed states to provide up to 30% of their capitalization grant amount for additional subsidization to disadvantaged communities,[30] though the statute did not require states to provide additional subsidization. AWIA

---

[26] These flexibilities include the authority for states to use funds from their DWSRF capitalization grant for projects that address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities for specified fiscal years. In P.L. 111-88 and P.L. 112-10, states were directed to use no less than 20% of each of their FY2010 and FY2011 capitalization grants for such projects.

[27] SDWA §1452(i); 42 U.S.C. §300j-12(i).

[28] SDWA §1452(j); 42 U.S.C. §300j-12(j).

[29] SDWA §1452(o); 42 U.S.C. §300j-12(o); SDWA §1445(a)(2)(C); 42 U.S.C. §300j-4(a)(2)(C).

[30] SDWA §1452(d)(3); 42 U.S.C. §300j-12(d)(3).

amended the SDWA DWSRF provisions to increase the amount that states can use for additional subsidization to 35%, while conditionally requiring states to use a minimum of 6% of their grant for this purpose. Division E of IIJA amended SDWA to increase the minimum percentage to 12%.

Additional Subsidization Through Appropriations

Prior to AWIA in 2018, Congress required states to provide additional subsidization through directives in appropriations acts. In 2009, ARRA applied a requirement to the act's supplemental DWSRF appropriation for states to provide 50% of their capitalization grants as additional subsidization.[31] Following ARRA, regular appropriations acts have applied similar requirements to DWSRF appropriations. For regular FY2010-FY2019 DWSRF appropriations, states were required to use varying minimum percentages of their capitalization grants for additional subsidization for eligible recipients.[32] For FY2010 and FY2011, states were required to use 30% of their grants as additional subsidization. For FY2012 through FY2019, states were required to use at least 20% but no more than 30% of their grants for this purpose. Beginning in FY2020, regular DWSRF appropriations required states to use 14% of their capitalization grant amounts for this additional subsidization.

In IIJA, Congress directed states to use a portion of their capitalization grants for additional subsidization. The act provides a total of $11.7 billion for FY2022-FY2026 for the DWSRF, as well as a total of $15.0 billion for FY2022-FY2026 in DWSRF appropriations specifically dedicated to lead service line (LSL) replacement projects. For these IIJA DWSRF appropriations, states are required to provide 49% of their capitalization grants as additional subsidization.[33] IIJA also provides a total of $4.0 billion for FY2022-FY2026 through the DWSRF for projects to address emerging contaminants, and the act requires states to use 100% of their capitalization grants for this purpose for additional subsidization.[34]

---

[31] The American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5) also required states to provide at least 20% of their capitalization grant for "green" infrastructure projects. CRS Report R46464, *EPA Water Infrastructure Funding in the American Recovery and Reinvestment Act of 2009*, by Jonathan L. Ramseur and Elena H. Humphreys, contains more details.

[32] For FY2010 through FY2015, appropriations acts specified that states were required to use not less than 20% and no more than 30% of their capitalization grants for additional subsidization. Beginning in FY2016, regular appropriations acts no longer specified a maximum amount of additional subsidization to provide, though the SDWA provision directing states to provide no more than 30% was in place.

[33] EPA guidance for the IIJA DWSRF appropriations provides that a single assistance agreement may include a combination of additional subsidization (i.e., principal forgiveness or grant) and repayable financing (e.g., subsidized loans). As such, some states have provided assistance agreements comprised of 51% loan and 49% additional subsidization for disadvantaged communities, whereas others have interpreted the guidance differently and provided individual assistance agreements with more than 49% additional subsidization to disadvantaged communities.

[34] EPA determined that states can reserve funds for the set-asides before providing this additional subsidization.

Other DWSRF Supplemental Appropriations

In addition to the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), other supplemental appropriations acts have included "additional subsidization" requirements for states, similar to those required by appropriations acts.[35] Several acts have provided supplemental DWSRF appropriations to respond to events such as Hurricane Sandy;[36] lead in drinking water in Flint, MI;[37] hurricanes Florence and Michael; Typhoon Yutu; 2018 earthquakes and fires;[38] hurricanes Fiona and Ian; and contaminated drinking water in Jackson, MS.[39] All but two of these acts required states to dedicate some (i.e., no less than 20% and no more than 30%) of their allotments for additional subsidization for eligible recipients.

To address lead in drinking water in Flint, MI, Section 196 of P.L. 114-254 provided $100 million in DWSRF appropriations for a state subject to a Stafford Act presidential emergency declaration to provide assistance to a water system to address lead or other drinking water contaminants, as authorized by the Water Infrastructure Improvements for the Nation (WIIN) Act (P.L. 114-322) Section 2201. The WIIN Act, Section 2201, waived the statutory maximum amount of additional subsidization that the state could provide for this funding.

Under the Disaster Relief Supplemental Appropriations Act, 2023 (Division N of P.L. 117-328), states that received capitalization grants in response to hurricanes Fiona and Ian and to address water contamination in Jackson, MS, are required to provide 100% of their grants as additional subsidization.[40]

ARRA and the regular appropriations acts have not required states to provide these mandatory percentages of additional subsidization to specific entities, such as disadvantaged communities. Thus, pursuant to the scope of these directives, states can provide additional subsidies to communities regardless of their financial or other characteristics. In contrast, IIJA supplemental appropriations (and SDWA) require that states provide additional subsidization to disadvantaged communities.

Use of Set-Asides and Additional Subsidization

States' actual use of additional subsidization and set-aside authorities varies, and as such, so does the amount available for subsidized loans.[41] In addition, other factors such as state-level investment decisions affect the amount available for infrastructure project assistance. Evaluating states' actual use of these authorities is one way to assess how states have balanced the DWSRF's multiple objectives. This section discusses an available data source and associated findings about the use of these authorities.

DWSRF National Information Management System (NIMS)

Under SDWA, states submit biennial reports on their DWSRF activities to EPA, and EPA is required to periodically audit state DWSRFs.[42] To help implement these requirements, EPA developed the DWSRF National Information Management System (NIMS). EPA requires states to submit annually to NIMS the amount of DWSRF funds available and DWSRF assistance

[35] These acts have also sometimes altered the state match requirement under SDWA §1452(e); 42 U.S.C. §300j-12(e).

[36] P.L. 113-2.

[37] P.L. 114-254.

[38] P.L. 116-20.

[39] P.L. 117-328, Division N.

[40] P.L. 115-123 waived the matching requirements for previously appropriated funds for a state or territory included as part of a disaster declaration related to hurricanes Irma and Maria.

[41] EPA periodically reports on states' use of set-aside flexibilities. These reports (published in 2007, 2010, and 2017) provide some information on states' set-aside use, though the reports vary in their presentation of such information.

[42] SDWA §1452(g)(4); 42 U.S.C. §300j-12(g)(4).

provided.[43] Between July and September each year, states are to submit such information to NIMS, which is processed and validated by EPA.[44] Using these data, EPA publishes reports for compiled national-level DWSRF data as well as for individual states. EPA states that the NIMS reports provide an authoritative accounting of state programs and of amounts provided for set-asides and additional subsidization authorities.[45] Yet, these reports provide little detail on how the authorities are used.

States' Set-Aside Use

Data from the NIMS reports and state set-aside workplans indicate that states vary in the extent to which they use set-asides.[46] The states that, on average, set aside the largest percentage for these activities are Connecticut (30.5%), New Mexico (28.9%), and Washington (25.3%). The states that have set aside the smallest percentages are Wyoming, a state without SDWA primacy, (4.5%); Illinois (4.9%); and Indiana (5.4%).[47] Since the DWSRF's establishment, states have made use of roughly half (i.e., about 16%, on average) of the 31% authorized.[48]

Additional Subsidization

State NIMS reports identify the amount of additional subsidization that states provided in specific years, as well as changes to prior additional subsidization agreements with communities. These reports provide a single year's snapshot of information on states' use of additional subsidization.

Comparing state-by-state percentages over time is challenging, because the DWSRF capitalization grants are available for obligation for two years,[49] meaning that states can provide assistance in a current year using a prior year's grant. As such, calculating the exact amount of additional subsidization that a state provided from each year's capitalization grant would require more specific data than are included in the NIMS report.

Considering these limitations, the NIMS reports' additional subsidization data can be analyzed in different ways leading to different conclusions. One way is to analyze each state's use of additional subsidization as a function of time. Another assesses overall additional subsidization use and how it has changed over time. This section discusses general findings from state NIMS reports for both of these analytical frames.

One key finding is that most states did not provide additional subsidization (as they were authorized to do since 1996) until they were required to do so by appropriations acts (beginning with the enactment of ARRA in 2009). Since then, states have generally not provided the maximum authorized amount possible toward additional subsidization.

[43] 40 C.F.R. §35.3570(d). For more information, see EPA, "Drinking Water State Revolving Fund National Information Management System," https://cfpub.epa.gov/si/si_public_record_Report.cfm?Lab=OW&dirEntryID=23848.

[44] EPA, "Drinking Water State Revolving Fund National Information Management System."

[45] EPA, *Analysis on the Use of DWSRF Set-Asides: Promoting Capacity Development*, December 2007.

[46] Derived by averaging each year's Line 117 from each state's DWSRF 2022 National Information Management System Report. See EPA, Drinking Water State Revolving Fund National Information Management System Reports, https://www.epa.gov/dwsrf/drinking-water-state-revolving-fund-national-information-management-system-reports.

[47] States' DWSRF 2022 National Information Management System Reports, Line 117.

[48] States' DWSRF 2022 National Information Management System Reports, Line 117.

[49] SDWA §1452(a)(1)(C); 42 U.S.C. §300j-12(a)(1)(C).

Between 1996 and 2009, 26 states (and Puerto Rico) reported through NIMS that they did not provide additional subsidization.[50] The other 24 states provided about 8% of their capitalization grants, on average, as additional subsidization.[51] From 2010 to 2022, states provided additional subsidization to varying degrees. Among the 26 states (and Puerto Rico) that dedicated relatively less to additional subsidization, these states provided on average 22% over this time period.[52] For the states that provided more, these states provided an average of 38%.[53] Of these states, 13 were the same as those that provided additional subsidization prior to it being required.[54] From the available data, no clear relationship exists between the relative size of a state's capitalization grant and the amount of additional subsidization that a state provided.

Overall use of additional subsidization has also changed over time. Since the beginning of the DWSRF, the NIMS reports indicate that between 1997 and 2022, overall, states provided roughly 17% of the cumulative amount of their capitalization grants as additional subsidization.[55] As discussed above, most additional subsidization was provided between 2010 and 2022, after the enactment of ARRA in 2009. An evaluation of 2010 to 2022 NIMS data indicates that, on average, states provided roughly 30% of their capitalization grants as additional subsidization.[56] Prior to 2010, states provided, on average, roughly 4% of their capitalization grants as additional subsidization.[57]

Observations

As detailed above, states are authorized or directed to use their capitalization grants for certain purposes in addition to providing subsidized loans for infrastructure projects. The authorities that states have to set aside funds for these different purposes allow states to tailor their programs to their needs, and may result in trade-offs among program objectives. These trade-offs may result in states prioritizing one or more objectives (e.g., affordability, public health protection, or fund perpetuity) over others.

One example of a trade-off between competing objectives involves project affordability and perpetuity of DWSRF financial assistance. Providing additional subsidization supports the program's project affordability objective, yet the more funding that states dedicate for additional

[50] Based on Line 191 and Line 430 of each state's DWSRF 2022 National Information Management System Report. See EPA, Drinking Water State Revolving Fund National Information Management System Reports, https://www.epa.gov/dwsrf/drinking-water-state-revolving-fund-national-information-management-system-reports.

[51] Values calculated by averaging the proportion of additional subsidization provided to each of the 24 states' capitalization grant for the years in the time frame. Additional subsidization and capitalization grant values from states' DWSRF 2022 National Information Management System Reports, Lines 14 and 191.

[52] Values calculated by averaging the proportion of additional subsidization provided to each state's capitalization grant for the years in the time frame. Additional subsidization and capitalization grant values from states' DWSRF 2022 National Information Management System Reports, Lines 14, 191, and 430.

[53] States' DWSRF 2022 National Information Management System Reports, Lines 14, 191, and 430.

[54] States' DWSRF 2022 National Information Management System Reports, Lines 14, 191, and 430.

[55] States' DWSRF 2022 National Information Management System Reports, Lines 14, 191, and 430.

[56] Values calculated by averaging the proportion of additional subsidization provided to capitalization grants for each year in the time frame. Additional subsidization and capitalization grant values from DWSRF 2022 National Information Management System Reports, Lines 14, 191, and 430.

[57] Values calculated by averaging the proportion of additional subsidization provided to capitalization grants for each year in the time frame. Additional subsidization and capitalization grant values from DWSRF 2022 National Information Management System Reports, Lines 14, 191, and 430.

subsidization, the less the funding revolves back to be available as assistance for other infrastructure projects.

The requirement that states manage their funds to make assistance available for perpetuity seems to indicate that Congress intended state DWSRFs to be self-sustaining. Yet, congressional action directing states to provide specific amounts of additional subsidization, which is not repaid to the fund, may have some effect on state DWSRFs' ability to make assistance available for perpetuity. Related to the perpetuity, Congress has continued to provide annual appropriations for the DWSRF, which also has an effect on state DWSRFs' ability to continue to provide assistance to communities.

Beginning in 2009 with the enactment of ARRA, appropriations acts and subsequent SDWA amendments have required states to provide a minimum percentage of additional subsidization. The minimum percentage has changed over time, and increased substantially with the supplemental appropriations from IIJA. Between 2009 to 2021, on average, Congress required states to provide a minimum of 22% of their capitalization grants as additional subsidization, though states could provide up to 55%.[58] These percentages represent the longer-term trend of authorized and additional subsidization, and account both for revisions to SDWA, and directives in DWSRF appropriations. After considering IIJA, between 2009 and 2023, Congress required states to provide an average of 27% of their grants as additional subsidization.[59]

The DWSRF has changed over time. One way to track its development is to identify hypothetical scenarios of the states' potential use of their set-aside and additional subsidization authorities, and compare the results of these scenarios to states' actual uses of these authorities.

Under a "maximum loan scenario," a state would not reserve funds for the authorized set-asides, and would provide only the additional subsidization as required by appropriations acts or the statutory amendments added to SDWA in 2018. In **Figure 2**, the required amount of additional subsidization is represented by a solid line. As discussed above, from the beginning of the program to 2009, states had the discretion to use all of their capitalization grants for subsidized loans to communities, should a state decide to not provide additional subsidization or use the set-asides. After 2009, a state could provide 73% (on average) as subsidized loans should that state neither use the set-asides, nor provide any additional subsidization beyond the required amount.[60]

By comparison, in a "minimum loan scenario," a state would reserve the maximum amount for set-aside activities and would provide the maximum amount of authorized additional subsidization. In **Figure 2**, these maximum percentages for set-aside activities and additional subsidization are represented as dashed lines. If a state had followed this scenario, a state would have been able to provide, on average, 39% of its grant as subsidized loans before ARRA in 2009. After 2009, a state that used the maximum amount authorized for additional subsidization and for the set-asides would be able to provide, on average, 14% of its grant amount as subsidized loans.[61]

The states' actual uses of these authorities vary from the scenarios described above. **Figure 2** identifies, as lines, the authorized and required uses of set-asides and additional subsidization

---

[58] Based on analysis of SDWA Section 1452, acts amending SDWA Section 1452, and regular appropriations acts.

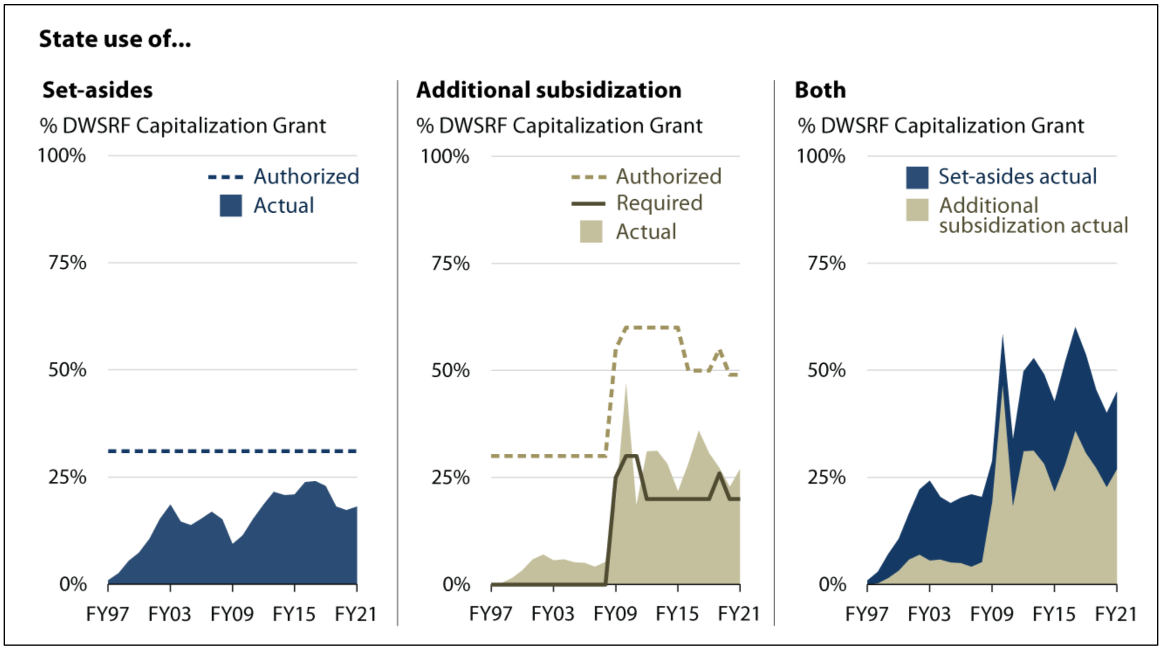
[59] Based on analysis of SDWA Section 1452, acts amending SDWA Section 1452, and regular and supplemental appropriations acts.

[60] Value calculated by averaging each year's percentage of capitalization grant available for loans accounting for required additional subsidization from appropriations acts and SDWA.

[61] Value calculated by averaging each year's percentage of capitalization grant available for loans accounting for authorized additional subsidization from appropriations acts and SDWA and accounting for SDWA set-asides.

compared to shaded areas that represent the states' actual use of these authorities from the NIMS reports.[62] In the third image, **Figure 2** also identifies states' use of set-asides and additional subsidization as a percent of capitalization grant for each year in the time frame.[63] In this image, the remaining percentage represents the portion of capitalization grant available for subsidized loans.[64] This percentage decreased after 2009. Prior to 2010, states made an average of 83% available for subsidized loans; after 2009, states made an average of 51% available.[65]

Figure 2. Evolution of Authorized and Required DWSRF Uses



Source: Prepared by CRS using Safe Drinking Water Act (SDWA) Section 1452, acts amending SDWA Section 1452, appropriations acts, and EPA's DWSRF 2022 National Information Management System (NIMS) Report lines 14, 118, 191, and 430.

Notes: CRS converted NIMS report data to federal fiscal years. SDWA provides that DWSRF capitalization grants have two years of availability. Therefore, a state may provide assistance in one year with funding from a previous year. Accordingly, a state may be complying with a prior year's additional subsidization requirements in the year following the year of appropriation.

Policy Considerations

The assessment of the set-asides and additional subsidization authorities raises several policy considerations for Congress. These include questions regarding the role of additional subsidization, and the factors that affect individual state funds. Further, policymakers may

[62] For fiscal years with several appropriations, the required and authorized percentages are an average of that fiscal year's appropriation acts' directives.

[63] Additional subsidization, set-aside values, and capitalization grant values from DWSRF 2022 National Information Management System Reports, Lines 14, 118, 191, and 430.

[64] Due to leveraging and other financial decisions, states can make more available for subsidized loans than just the percentage of capitalization grant not dedicated to additional subsidization and set-aside activities.

[65] Additional subsidization, set-aside, and capitalization grant values from DWSRF 2022 National Information Management System Reports, Lines 14, 118, 191, and 430.

consider the implications for these changes to the DWSRF more broadly, as congressional interest continues in drinking water infrastructure issues.[66]

Additional Subsidization

One consideration for policymakers involves oversight of which types of communities receive additional subsidization. The NIMS data indicate that most states began providing additional subsidization in response to the directives in appropriations acts. The required additional subsidization (from appropriations acts between 2009 and 2018) was available to water systems eligible for the DWSRF without consideration of community financial characteristics. The NIMS reports identify the increase in additional subsidization after the enactment of ARRA in 2009, though determining which communities received such assistance based off these reports is not possible from the available data. Before 2021, these reports did not differentiate between additional subsidization provided to disadvantaged communities and that provided to the wider scope of recipients. As such, it is uncertain how these authorities and requirements have been implemented at the state level. For instance, states had the discretion to allocate the additional subsidization provided through ARRA and regular appropriations acts to a wider range of eligible recipients, which include disadvantaged communities, but specific details regarding the demographics of recipients are not readily available.

Another policy consideration may involve what factors affect states' decisions to offer additional subsidization. Before ARRA, states were authorized, but not required, to provide additional subsidization, but most states did not provide it. Several factors may have played a role, including possible challenges in identifying disadvantaged communities.[67] Another factor may involve states' priorities for management of their DWSRFs. A state may manage its DWSRF to maximize the funds available for future assistance by providing mostly subsidized loans that revolve back into the DWSRF. Decisions to provide more or less of their grant as additional subsidization may reflect different perspectives among state governments.

Policymakers may consider how much, if any, to require states to dedicate to additional subsidization through appropriations acts, particularly given the SDWA 12% statutory minimum, and to which communities. By percentage, appropriations acts have directed states to use more of their capitalization grant for additional subsidization as compared to the statutory minimum percentages. Given the size of the IIJA DWSRF appropriations, the act's additional subsidization directives require states to provide more in such assistance than they had provided cumulatively in the years before IIJA. IIJA DWSRF supplemental appropriations' additional subsidization is available only to disadvantaged communities.

Assessing what factors, beyond requirements, affect states' use of additional subsidization and which communities receive additional subsidization could be useful during deliberations over appropriations for the DWSRF or other legislative activities. Directing the use of additional subsidization may have some effect on the DWSRF program overall, but such direction may be more significant on specific state DWSRFs. Further, the IIJA appropriations and the corresponding increase in additional subsidization may have some effect on state DWSRFs that could inform further changes to additional subsidization within the program.

---

[66] For a discussion of drinking water infrastructure needs, see CRS Report R47878, *Drinking Water Infrastructure Needs: Background and Issues for Congress*.

[67] EPA's Office of Inspector General, The EPA Could Improve Its Review of Drinking Water State Revolving Fund Programs to Help States Assist Disadvantaged Communities, 23-P-0022, Washington, DC, July 11, 2023, https://www.epa.gov/system/files/documents/2023-07/_epaoig_20230711_23-P-0022_2.pdf.

DWSRF Sustainability

Another policy consideration may involve which factors affect the revolving nature of state DWSRFs, as SDWA requires that states manage funds to be available for perpetuity. Significant increases in required additional subsidization may reduce future repayments, as a smaller portion of a state's grant would be available for subsidized loans. The less that a state provides as subsidized loans, the fewer loan repayments return to the state DWSRF, which may have some effect on DWSRF sustainability, particularly if annual DWSRF appropriations were to decrease or cease. Given this, assessing the factors that may play a role in state DWSRF sustainability could be useful for policymakers.

One factor may involve state decisions pertaining to the financial management of their DWSRFs. As discussed above, states are authorized to leverage their annual grants to issue bonds, thereby enabling them to provide more financial assistance to communities. Further, the state match, repayments from prior DWSRF loans, and earned interest add to the corpus of state DWSRFs. Other decisions, such as which projects to support, may have an effect on the perpetuity of financial assistance, as defaulted loans would not revolve back into the fund. In addition, the duration of the 30-year repayment period means that DWSRF financial assistance may not be available to lend out again until a community repays the loan. Accordingly, a consideration may involve the efficacy of such investment decisions in meeting the DWSRF's perpetuity objectives, and whether to incentivize them.

In addition to the amount of subsidized loans, another policy consideration regarding DWSRF sustainability may involve the effect of the timing of loan repayments. As amended by AWIA, SDWA requires that DWSRF loans are generally repaid 30 years after project completion; prior to AWIA, it was required within 20 years.[68] Congress began requiring additional subsidization more than 12 years after the first appropriation for the DWSRF; as such, state DWSRFs were likely already receiving loan repayments. Accordingly, the funds being repaid to state DWSRFs may have offset effects from required additional subsidization on fund sustainability. As amended by AWIA, SDWA authorizes states to provide loans with longer repayment terms; yet, the extent to which states are providing such loans is unknown—and accordingly, so is any effect on repayments to state funds.

State Flexibility Versus Federal Direction

After establishment of the DWSRF, Congress amended SDWA in 2016, 2018, and 2021 to authorize a number of new drinking water grant programs.[69] Typically, authorized grant programs focus on addressing a specific issue (e.g., lead in drinking water or per- or polyfluoroalkyl substances [PFAS]) or a specific community (e.g., those that are "underserved" or "disadvantaged"). Further, Congress has dedicated funds to projects specifically through CPF/CDS items, which are sometimes called *earmarks*.[70] These activities indicate congressional

[68] SDWA §1452(f)(1)(C); 42 U.S.C. §300j-12(f)(1)(C).

[69] To authorize new grant programs, the Water Infrastructure Improvements for the Nation (WIIN) Act (P.L. 114-322) amended SDWA in 2016, America's Water Infrastructure Act of 2018 (AWIA; P.L. 115-270) amended SDWA in 2018, and the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58) amended SDWA in 2021. The following CRS products discuss these acts: CRS In Focus IF10577, *Water Infrastructure Improvements for the Nation (WIIN) Act, P.L. 114-322: Drinking Water Provisions*; CRS Report R45656, *America's Water Infrastructure Act of 2018 (P.L. 115-270): Drinking Water Provisions*; and CRS Report R46892, *Infrastructure Investment and Jobs Act (IIJA): Drinking Water and Wastewater Infrastructure*.

[70] For a discussion of earmarks, see CRS Report R47633, *The Role of Earmarks in CWSRF and DWSRF Appropriations in the 117th Congress*.

interest in assisting certain communities, including those that are low income, with specific drinking water issues.

In addition, Congress authorized a federal credit assistance program, the Water Infrastructure Finance and Innovation Act (WIFIA), for municipal water infrastructure in 2014.[71] In contrast to DWSRF, EPA provides credit assistance directly to eligible recipients under this program. The eligibilities of WIFIA overlap with those of the DWSRF, though WIFIA assistance is available for a broader range of projects than is DWSRF assistance. WIFIA assistance is available for projects that generally cost $20 million or more. Some stakeholders have argued that DWSRF programs are structured in a way that makes them useful primarily for smaller communities and smaller projects. WIFIA provides credit assistance to large water infrastructure projects that may otherwise have difficulty obtaining financing under the DWSRF.

The authorization of WIFIA and SDWA grant programs, as well as earmarks, indicate congressional interest in providing more direction regarding which specific communities or projects to support as well as what types of assistance to provide. These programs do not vary significantly in their eligibility. DWSRF-eligible projects are also eligible for WIFIA, provided they cost at least $20 million. In addition, the projects and communities eligible for the SDWA grant programs are also eligible under the DWSRF. Unlike WIFIA, SDWA grant programs, or earmarks, within the DWSRF framework, states identify and prioritize which projects to fund, provided they meet statutory criteria.

Given these changes, a consideration for policymakers involves whether to provide direction for states through the DWSRF, given the availability of more specific grant programs and WIFIA. Some stakeholders argue that states are best able to determine the needs within a state,[72] whereas others have raised concerns about states' role in developing the IUP (intended use plan; i.e., list of projects) to receive DWSRF assistance, particularly additional subsidization.[73]

[71] 33 U.S.C. §§3901-3914. In 2014, the Water Resources Reform and Development Act (WRRDA; P.L. 113-121) established a five-year WIFIA pilot program. In 2018, AWIA (P.L. 115-270) amended the WIFIA provisions to remove the pilot designation from the program.

[72] Letter from J. Alan Roberson, Association of State Drinking Water Administrators Executive Director, to U.S. House Committee on Appropriations and U.S. Senate Committee on Appropriations, November 10, 2022, https://www.asdwa.org/wp-content/uploads/2022/11/ASDWA-Appropriations-Earmarks-Letter-11102022-Final.pdf. Letter from Council of Infrastructure Financing Authorities to U.S. House Committee on Appropriations and U.S. Senate Committee on Appropriations, May 26, 2022, https://www.cifanet.org/_files/ugd/ce9ad4_ac2901ac5cfc4b0c83912825530adb0e.pdf.

[73] Letter from Rep. Carolyn Maloney, Chairwoman of House Committee on Oversight, and Rep. Bennie Thompson, Chairman of House Committee on Homeland Security, to Honorable Tate Reeves, Governor of Mississippi, October 17, 2022, https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022-10-17.CBM%20BGT%20to%20Reeves-MS%20re%20Jackson%20Water%20Crisis.pdf.

Providing specific direction to states through the DWSRF may result in implementation challenges, as water infrastructure needs vary among states.[74] For example, Alaska, Hawaii, Maine, Nevada, Oregon, South Dakota, and Washington declined some portion of their federal grants from the FY2022 IIJA DWSRF appropriation for LSL replacement.[75] Similarly, Oklahoma declined a portion of its FY2022 IIJA grant to address emerging contaminants.[76] No state declined the IIJA funding available for the DWSRF general program. This raises questions over whether some states may be challenged to identify sufficient projects to fund from project-specific DWSRF appropriations. While certain states may not have used their entire grants in FY2022, these states may increase efforts to identify projects and/or provide technical assistance so that in future years they can use their entire allotment.

Through IIJA, Congress prioritized LSL replacement and emerging contaminant water infrastructure projects. Funding dedicated to such purposes is intended to result in an increase in state support for these projects through the DWSRFs. State actions to accept or decline project-specific IIJA DWSRF appropriations may be a consideration for policymakers as they consider how or whether to address other water infrastructure priorities. As deliberations continue, congressional interest in the DWSRF and drinking water infrastructure project affordability is likely to persist.

Author Information

Elena H. Humphreys
Analyst in Environmental Policy

Acknowledgments

Amber Hope Wilhelm, Visual Information Specialist, provided graphics support for this report. Michael M. McCarthy, Publications Editor, provided formatting and editorial support.

[74] See CRS Report R47878, *Drinking Water Infrastructure Needs: Background and Issues for Congress* for more details.

[75] EPA, *Reallotment of Fiscal Year 2022 Drinking Water State Revolving Fund Bipartisan Infrastructure Law Funds*, November 28, 2023, https://www.epa.gov/system/files/documents/2023-11/fy22-bil-reallotment-memo-nov-2023.pdf.

[76] EPA, *Reallotment of Fiscal Year 2022 Drinking Water State Revolving Fund Bipartisan Infrastructure Law Funds*.

Disclaimer