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CWSRF Best Practices Guide for Financing Nonpoint Source Solutions

Building Successful Project Funding Partnerships

Clean Water
State Revolving Fund

Front cover photos:
Top left—Cover crop interseeder funded by CWSRF (Photo by Kansas Department of Health and Environment).
Top right—Cistern collects rainwater for reuse at the Heron's Head Park EcoCenter in San Francisco, CA (Photo by U.S. Environmental Protection Agency).
Bottom left—Permeable pavement and stormwater bioretention area in a Chicago, IL, parking lot (Photo by U.S. Environmental Protection Agency).
Bottom right—Naturalized stormwater channel flows through residential development in Lenexa, KS (Photo by U.S. Environmental Protection Agency).

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1. Introduction

The Clean Water State Revolving Fund (CWSRF) is, by far, the nation's largest fund dedicated to the purpose of addressing water quality problems. Congress established the fund in 1987 as a means for sustainably addressing problems caused by both point source and nonpoint source (NPS) pollution alike, without partiality for one source type over the other. Yet today, after 33 years and $145 billion provided, more than 9 of 10 CWSRF dollars have been directed toward addressing point source project needs.[1] Addressing point source needs will continue to be foundational to the CWSRF. However, as NPS pollution accounts for approximately three out of four identified water quality impairments nationwide[2] and less than 4% of the CWSRF has been used to address NPS needs, we need to ramp up efforts within the CWSRF programs to address NPS needs.[3] Among the 51 state-level CWSRF programs, some have achieved particularly notable success at using CWSRF funds to target NPS needs. These state programs have evolved to produce creative solutions to NPS problems and offer valuable lessons for others to consider.

The purpose of this guide is to share the collective wisdom from those states that have achieved success in this area. Best practices begin with focused intention and are typically well-designed, flowing from a program's articulated mission and goals into the array of projects that receive CWSRF assistance each year. This guide is designed to help state staff better align and integrate their state's CWSRF and NPS management programs. It outlines suggested strategies and key elements needed to expand the use of the CWSRF to address priority NPS needs as specified in state NPS management program plans, and it identifies potential obstacles and how to overcome them. Lastly, the guide provides case studies of successful and innovative partnerships underway across the country.

1.1 Addressing Pollution Using Clean Water Act Programs

Multiple programs are in place to help control water pollution in the United States. The 1972 Clean Water Act (CWA) ushered in a new era of regulatory protections for America's surface waters. The CWA made it unlawful to discharge any pollutant from point sources (i.e., discrete conveyances such as industrial or wastewater treatment discharges or certain stormwater discharges) into navigable waters unless a permit that set effluent limits was obtained. In 1987, the CWA Amendments established several more national water pollution control programs, including (1) the CWSRF (CWA Title VI), a financial assistance program to support a wide range of water infrastructure needs, and (2) the CWA Section 319 (§319) NPS Management Program, a program to help states control NPS pollution (i.e., pollution caused by diffuse sources across the landscape, such as agricultural and urban runoff that is not federally regulated).

Although many U.S. waters are cleaner now than they were 50 years ago, NPS pollution remains a significant problem. Today, about 85% of rivers and streams and 80% of lakes that states report as impaired (i.e., shown to be violating state water quality standards) are primarily affected by NPS pollution.[4] Since 1987, eligible states, territories and tribes have received §319

program funds to develop and implement NPS management programs, which help prioritize and address NPS problems by supporting implementation of watershed-based plans and total maximum daily loads (TMDLs), education efforts, demonstration projects, monitoring and other activities identified in a state's §319 NPS management plan.[5] State NPS program staff develop and submit annual §319 grant work plans to the U.S. Environmental Protection Agency (EPA). These work plans guide implementation of the state's NPS management plan, reflecting actions to advance water quality goals and leverage and integrate activities with other programs and funding sources to optimize available resources.

The CWSRF is a key potential financing resource to support states' NPS pollution control efforts. Although most of CWSRF cumulative funding to date has supported solutions to wastewater discharge from point sources, more states are recognizing that CWSRF financing can be integrated into many types of NPS management program activities and projects. Each state, and Puerto Rico, operates its own water infrastructure bank established for the sole purpose of combatting water pollution from both point and nonpoint sources within state and territory boundaries. These state water infrastructure banks are established under the federal CWSRF program and are capitalized with federal funds (from EPA) and state matching funds. They are called revolving funds because money loaned from these 51 institutions to address water quality needs is paid back to these banks over time, which provides a self-sustaining revenue stream that continues to be recycled into future water quality projects. Today, revolving dollars from loan principal and interest repayments account for the greatest relative share of resources that comprise the CWSRF program and continue to grow. At the federal level, the CWSRF program has broad flexibilities and coordinates closely with states to implement their CWSRF programs; however, many states have not yet taken full advantage of the wide range of flexibilities and eligible project types authorized by the federal statute. Each state CWSRF defines its own goals and operating policies, while also following federal requirements.

Since their inceptions in the late 1980s, the §319 and CWSRF programs have provided more than $9.7 billion in financial assistance for NPS activities combined (Figure 1-1). Of the 51 CWSRF programs, 45 have provided some NPS project assistance. The $5 billion in CWSRF NPS financing represents less than 4% of the overall assistance provided by the program, highlighting the tremendous growth potential for NPS assistance. Certain states have developed innovative mechanisms to overcome eligibility and affordability hurdles that have historically made financing NPS activities challenging.

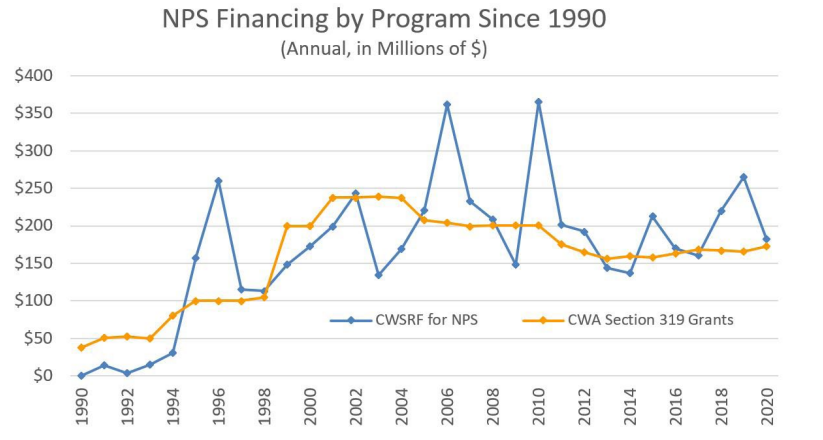


Figure 1-1. NPS financing provided through CWSRF and §319 since 1990.

1.2 Understanding NPS and CWSRF Program Eligibilities

Understanding what the CWSRF and NPS programs can and cannot fund will allow program staff to collaborate and maximize the assistance they provide to water quality projects. The CWSRF program is flexible in the types of projects it can finance. There are 12 statutory project eligibilities that allow the program to finance diverse projects that address water quality from wastewater treatment facilities, stormwater infrastructure, agricultural operations, septic systems and more (see Appendix A for a descriptive list of CWSRF eligibilities). Preliminary planning and design activities that are reasonably expected to result in a capital improvement project are also eligible. This could include activities like feasibility studies, watershed-based plans and design engineering. The CWSRF program is prohibited from financing any operations and maintenance (O&M) activities other than start-up and testing. However, although not financed by CWSRF, O&M is an important element taken into consideration during the underwriting process to ensure the functionality and longevity of the NPS assets to be financed.

Legislative changes to the CWSRF since its inception in 1987 establish the importance of including NPS projects as part of an overall strategy to help states better attain their water quality goals. For example, the American Recovery and Reinvestment Act of 2009 and the Water Resources Reform and Development Act of 2014 each include provisions that encourage more assistance for activities such as green stormwater infrastructure and decentralized wastewater management projects.

Financing Watershed-Based Plans with CWSRF

The CWSRF has a history of financing watershed-based plans (WBPs) using traditional lending methods as well as alternative financing mechanisms such as linked deposit loans. These funds can be used to develop WBPs or implement projects that support them.

In New Hampshire, the CWSRF program offers planning loans to municipalities with up to $75,000 in loan forgiveness that may be used to develop WBPs.

Since its inception in 1993, Ohio's linked deposit loan program has provided financial assistance to soil and conservation districts to implement agriculture, stormwater and forestry BMPs identified in their WBPs.

The §319 program can fund many types of surface water and groundwater projects so long as those activities have been identified in a state's NPS management plan. The program can also fund a variety of other activities that support the goals articulated in the plan, which could include state and local staffing, developing and implementing watershed-based plans and TMDLs, education, ambient water quality and NPS effectiveness monitoring, and other activities.

Although there is significant overlap between what these two programs can fund, distinct differences exist as well. Figure 1-2 illustrates the relationship between CWSRF and §319 program eligibilities, though the list is not exhaustive. More information on specific program eligibilities may be found in the *Nonpoint Source Program and Grants Guidelines for States and Territories* and the *Overview of Clean Water State Revolving Fund Eligibilities*.[6] [7]

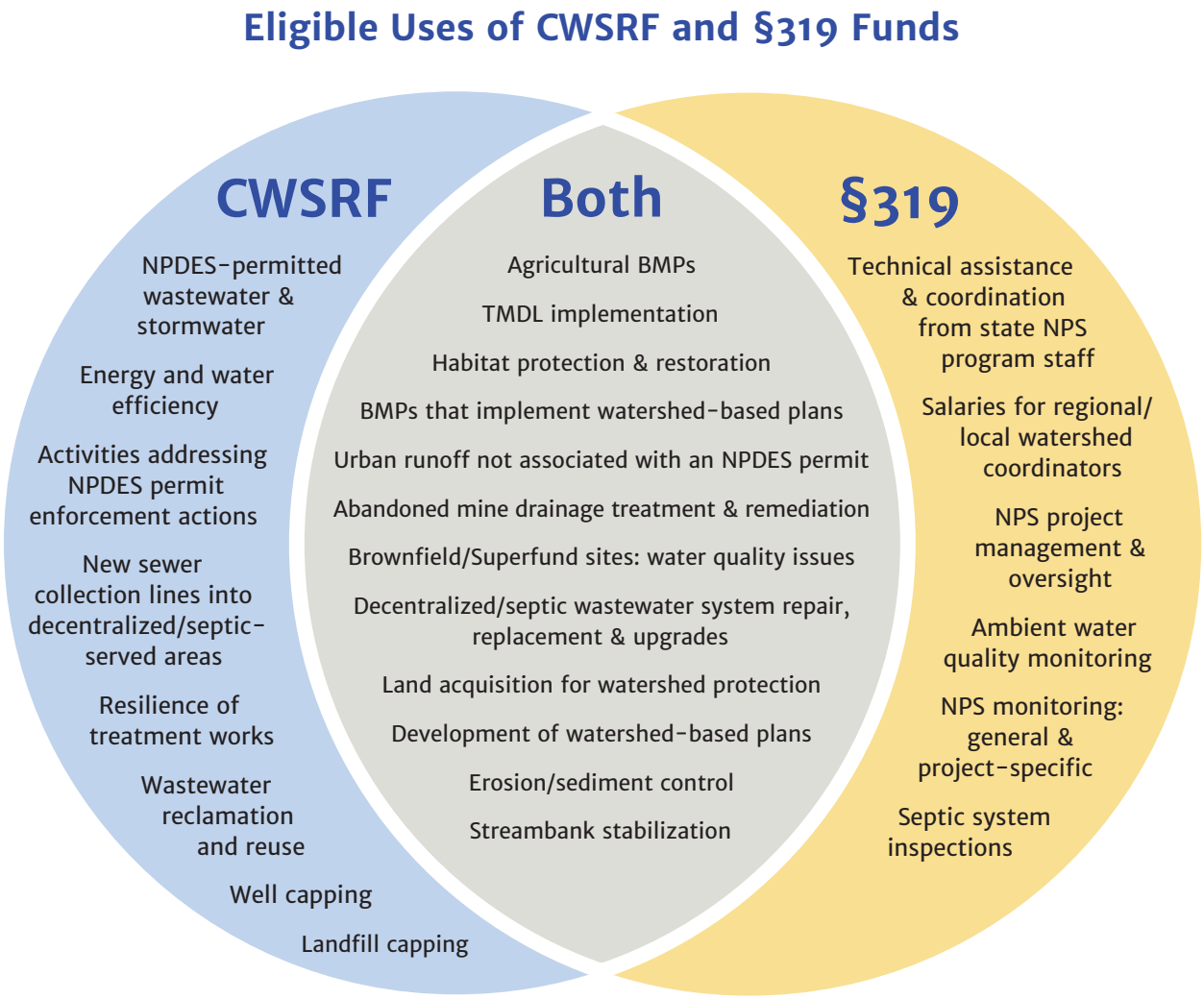


Figure 1-2. Examples of eligible uses of CWSRF and §319 funds.

1.3 Integrating State CWSRF and NPS Programs

To expand and integrate CWSRF financing for priority NPS needs, state staff can take advantage of existing partnerships, program connections and institutional knowledge. This document helps to guide staff as they synchronize water quality goals and priorities across state programs, experiment with ideas through pilot projects, and customize and implement a strategic plan. The effort needed for each of these elements could vary depending on a state's existing CWSRF and NPS program structures. Section 2 provides more information about the actions needed to successfully coordinate between programs to expand CWSRF financing for NPS projects.

Some states face obstacles that make CWSRF and NPS program integration more challenging. Because the CWSRF provides loans that must be repaid, it can be difficult to find an eligible assistance recipient that has a sufficient repayment source. Some CWSRF programs have led the way with creative delivery mechanisms for NPS projects that include sponsorship programs, conduit lending (e.g., pass-through and linked deposit loans), and watershed and interstate lending, among others. Many CWSRF programs have begun to offer loan forgiveness, grant funding for technical assistance and planning and design, and reduced interest rates (well below the current market rate) in deliberate efforts to expand into the NPS arena. Section 3 provides more information on creating a successful coordinated financing approach and how to communicate these opportunities to stakeholders.

States increase the likelihood of long-term success when they develop strategies that strengthen the shared goals and outcomes of both the CWSRF program and the NPS management program. Although each state will have its own strategic approach, experience has shown that three key elements are consistently part of a winning strategy: (1) establishing mutual understanding and common goals, (2) engaging key stakeholders, and (3) creating an operational plan for achieving the goals. Section 4 provides more information on customizing and implementing a successful strategy.

The appendices present supplemental information, including a list of CWSRF eligibilities (Appendix A); a list of potential alternative CWSRF loan repayment sources (Appendix B); case studies from multiple states (Appendix C); fact sheets describing EPA's Drinking Water State Revolving Fund (DWSRF) set-asides available to support source water protection, which is a vital component of many state NPS programs because of its value in preventing NPS impacts (Appendix D); and a list of information sources for national and state NPS and CWSRF programs (Appendix E).

2. Elements of Success: Best Practices that Expand CWSRF Funding for NPS Projects

To expand the use of CWSRF financing to support more NPS projects, states are encouraged to explore collaboration between their CWSRF and NPS programs. After developing mutual goals and a shared vision, these programs can work to identify and overcome obstacles that limit financing for NPS projects. The programs can seek broad support and participation from key outside stakeholders, which will lay the foundation for the use of creative NPS financing mechanisms through partnerships.

2.1 Develop Partnership Between CWSRF and NPS Programs

A successful working partnership between a state's CWSRF program and its NPS program is built on establishing shared goals, a strategic approach for achieving these goals, and mutually agreed-upon procedures embraced by state managers and staff. For optimal functionality, good communication and flexibility (particularly in the early stages of a new partnership) is key.

CWSRF Intended Use Plan

An Intended Use Plan, or IUP, is a document developed by states each year describing how their CWSRF program expects to use its funds over the course of the fiscal year. It is submitted to EPA annually when the state applies for its capitalization grant and is statutorily required for the life of the program, even when there is no capitalization grant. The IUP spells out program goals and operations, describes how CWSRF funds will be used, and demonstrates compliance with CWSRF regulations to EPA and the public. The IUP includes a ranked list of all projects that applied for CWSRF that year, otherwise known as the Project Priority List. The IUP also captures the projects that CWSRF programs anticipate funding; the Annual Report (also required) describes how CWSRF program funds were actually used.

Establish Good Communication

Good communication relies on transparency, frequency and reliability. Openly sharing perspectives on program priorities can be the start of a solid foundation for a program partnership. Early in the process, states may wish to identify and discuss:

- The programmatic and institutional drivers that influence funding decisions and criteria.
- Both programs' perceived limitations and challenges.
- The funding and staffing capacity available to undertake NPS-related activities, which differ from the type of projects traditionally funded under CWSRF (i.e., solutions to wastewater discharge from point sources).

In addition, by gathering feedback from public stakeholder groups who use either the §319 or the CWSRF program, states might find new, more effective ways for the programs to communicate and coordinate financing efforts for critical water quality projects.

Align Water Quality Goals and Priorities

NPS pollution is widespread and comes from diverse sources such as agriculture, urban runoff, hydromodification, timber harvesting, failing septic systems, legacy mines, boating and marina operations, and leaking storage tanks. Each state defines NPS priorities in its five-year NPS management program plan, which must be kept up to date per EPA's CWA §319 program grant guidelines. These 5-year plans set annual outcome-based milestones that address the state's highest-level NPS priorities. When a CWSRF program is preparing its Intended Use Plan (IUP; see inset), it is helpful to consider the state's NPS management program plan so it can better align its IUP with the state's most pressing NPS water quality needs.

As part of the planning process, it can be helpful for state CWSRF staff to either review the state's current CWA §303(d) list of impaired waters, existing TMDLs, and §305(b) report on water quality, or work with those of are familiar with those resources, to see how they can inform the project evaluation criteria used by each program. For most states, half or more of §319 grant funds go toward on-the-ground projects that help implement watershed-based plans that include the nine elements specified by the EPA in its §319 grant guidelines. Typically, these projects go toward installing strategically placed BMPs in the state's highest priority NPS-impaired watersheds.

In the CWSRF program, any project that receives funds must be identified on the Project Priority List as part of the IUP. Some CWSRF programs have what is known as an integrated project priority list, and they score and rank point source projects alongside NPS projects. It is becoming more common for CWSRFs to have integrated project priority lists. In such cases, NPS and CWSRF program staff can work together to ensure alignment of their respective procedures for evaluating and prioritizing projects. For states without an integrated list, NPS projects do not need to be scored and ranked; instead, they are often identified in a separate list or appendix in the IUP.

Part of effective collaboration includes discussing short- and long-term state water quality goals and how the two programs' efforts can complement each other. Staff from the state's NPS and CWSRF programs may wish to engage in a joint annual planning exercise to coordinate efforts. Conducting a joint planning exercise will allow the programs to meet the evolving needs associated with NPS pollution impacts and to make adjustments to address priorities. Questions that program staff might discuss include:

- Are the programs targeting the correct issues and connecting with the appropriate assistance recipients and stakeholders?
- Is there overlap in project types that present opportunities for collaborative or innovative funding?
- Are there potential priority projects that exceed the funding available through the CWA §319 program or other state funding sources?
- Could a state's CWSRF program make changes to its evaluation criteria or administrative rules to facilitate the financing of priority NPS efforts?

The answers to these types of questions will help programs best meet the state's highest-priority water quality goals by encouraging broader thinking about potential solutions that capitalize on the resources contributed by each program.

Expanding partnering efforts and pursuing project implementation will affect staff resources in both the NPS and CWSRF programs. States may wish to assess the need for staff support to grow the program partnership while covering the base operations of both programs. Several state CWSRF programs have stressed the importance of having staff dedicated solely to leading NPS work and controlling internal and external communication about the program. For example, the Ohio CWSRF has had up to four full-time employees dedicated to its NPS sponsorship program. When seeking opportunities to collaborate, state programs may want to start small, then build staffing and the NPS project portfolio over time as experience grows.

2.2 Identify and Overcome Barriers to Program Alignment

Because the CWSRF is federally authorized to finance water pollution control projects, including those that implement the state's §319 program, these two programs have many opportunities to work together. State programs are encouraged to identify and overcome both perceived and actual limitations and barriers to aligning programs and incorporating CWSRF financing into NPS projects. Common barriers to using CWSRF for NPS projects include uncertainty about loan repayment sources, concerns about higher administrative burdens associated with NPS projects, and state-level regulations or restrictions that limit financing for NPS projects.

Barriers to Using CWSRF Financing for NPS Projects: a State-Level Perspective

State attendees at CWSRF focus group meetings in Florida and Oklahoma in 2017–2018 reported facing challenges when exploring the use of CWSRF financing for NPS projects. Some of these included the paperwork and administrative burdens associated with federal funding, confusion about eligibility of different project types, and uncertainty about the type of assistance recipients who are eligible to apply for and receive CWSRF financing for NPS projects; these are topics this guide aims to clarify.

Barrier: Identifying Loan Repayment Source

The CWSRF is first and foremost a loan program that reimburses borrowers on a cost-incurred basis; it does not generally provide a lump sum of cash up front. CWSRF programs have traditionally lent to municipalities and other local government entities, which have a steady revenue stream generated by tax or utility rate revenues that they use to repay CWSRF loans. Therefore, finding a loan repayment source can sometimes be challenging for borrowers such as nonprofit groups that want to implement NPS projects but do not have a steady revenue stream available. Fortunately, CWSRF programs have identified a variety of creative financing mechanisms and repayment sources to help non-traditional borrowers successfully navigate these challenges for NPS projects (see Section 3.3 and Appendix B for more details).

Barrier: Administrative Challenges

Financing many small NPS projects versus fewer large gray infrastructure projects is often viewed as more challenging from an administrative standpoint. It may be the case that state CWSRF programs struggle to allocate the resources to hire staff dedicated to exploring financing options and establishing new partnerships. Fortunately, support is available from EPA and others such as state NPS program staff. (See Appendix E for a complete list of CWSRF resources.) Several CWSRF programs have found that dedicating staff solely to leading NPS work and program collaboration is important for success. Establishing accountability structures—clearly articulating staff roles and responsibilities—can ease staff's administrative burden. As of Fiscal Year 2020, Minnesota's AgBMP Loan Program, a subaccount of CWSRF funds, had made 17,130 loans ($290 million for NPS projects) with one to two full-time employee positions since the program's inception in 1995. Minnesota has simplified and streamlined the way it administers its CWSRF AgBMP program, and it has made template documents available for other states to adopt similar programs, if desired. Refer to the Resources list in Appendix E and Success Story #5 in Appendix C for more information.

CWSRF programs are sometimes concerned about obligating program funds in a timely manner. With careful planning, good cash flow management practices, and effective communication, CWSRF programs can achieve timely funds obligation while financing NPS projects that address the state's water quality priorities (see Iowa example in Appendix C). Both the CWSRF and NPS programs share the primary driver of restoring and protecting water quality, and both programs require timely and expeditious use of their program funds. For instance, CWSRF emphasizes the need to disburse CWSRF dollars efficiently and quickly to projects that are actively incurring costs. Some believe that this is best achieved by making larger point source loans to municipalities rather than many smaller loans to NPS projects. However, many states have demonstrated that this does not need to be the case.

Barrier: Overcoming Obstacles to Using CWSRF for NPS Projects

Another common obstacle is that many state CWSRF programs do not offer financing for the full range of NPS activities that are eligible under the federal statute. Part of successfully aligning water quality goals includes identifying opportunities to expand financing to different project types and developing strategies to address any potential state or local regulatory barriers. For example, states may have regulatory limitations on who is eligible to receive a loan, which can result in Community Development Financial Institutions (CDFIs) and other nonprofit organizations not being eligible borrowers. (See Success Story #9 in Appendix C to learn how Washington State worked with a CDFI to fix failing septic systems with CWSRF.) Making changes to statutes or regulations can be a lengthy process, but this investment is often essential for states that face such legal restrictions.

In such circumstances, NPS and CWSRF program staff can brainstorm options for overcoming barriers or consult with other states that have faced and addressed similar obstacles. It could also be useful to enlist the help of an independent third party (e.g., a consultant) to assist with a comprehensive assessment of state statutes, administrative rules, policies and ordinances. An

Overcoming Barriers

Q&A with Tom Harcarik, Ohio Division of Environmental and Financial Assistance, Water Resource Restoration Sponsor Program (WRRSP) Team

Ohio's SRF program funds about $15 million per year in NPS projects. What are the major challenges the program has faced and how did you overcome them?

"A major challenge was—and still is—trying to explain the mechanics of how the program works to implementers, sponsors and other interested parties. Developing a scoring system to accurately reflect the competitive merits of a wide variety of worthy projects has also been an ongoing challenge, as has determining which projects are actually ready to proceed when reviewing nominations. Streams and wetlands in urban areas usually do not score as well simply because it is harder to address all potential sources of impairment in these areas.

The cost of preparing a nomination can be high because we require appraisals and title searches to understand what types of encumbrances could affect the property. Although not yet required, we prioritize nominations that include biological assessments of aquatic resources over those with only semi-quantitative habitat assessments. The cost of preparing a nomination may be a barrier for some smaller organizations, especially when there is no guarantee of receiving funding.

[It's important to] keep in mind that the amount of funds available for such a program is a function of the size of your individual SRF program. A smaller SRF program will not be able to devote $15 million per year [as Ohio has (see Appendix C).] Work within your budgetary constraints to ensure the long-term viability of your SRF fund."

independent assessment could reveal unknown obstacles that are blocking the use of CWSRF for innovative water quality improvement projects.

Even minor changes can facilitate the use of CWSRF for NPS projects. For example, many CWSRF programs that score and rank NPS projects are moving their priority scoring criteria out of state-level regulations and incorporating them as part of the annual IUP. This allows for greater flexibility to adjust to changing conditions and address new NPS impacts without needing a rule change. (For more information about the annual IUP, see Section 2.1.)

Several states have successfully identified and overcome regulatory barriers. For example, in 2018 Vermont made state-level regulatory changes to its CWSRF programs to lift restrictions on eligibilities that had prevented substantial NPS financing assistance. To do this, the state worked closely with staff from Vermont's NPS program to ensure that proposed changes accurately captured ways to address the most critical impacts to water quality impairments. For more information see the Vermont success story in Appendix C for details.

2.3 Establish Partnerships with Outside Stakeholders

Numerous federal, state and local programs across the country work to control NPS pollution and can provide additional resources. For example, CWSRF funds can be leveraged with assistance from federal partners such as the U.S. Department of Agriculture's (USDA's) Natural Resources Conservation Service (NRCS), Rural Development, Farm Service Agency and Forest Service. Many other organizations and groups, including state and local agencies; tribal governments; and local watershed groups, community groups and nonprofit organizations share the same goals. Therefore, it's useful for state NPS and CWSRF managers to work together to build support for NPS projects by casting a broad net in their communities. For any given project, the composition of partners will vary depending on the type of NPS project funded.

Fortunately, state CWSRF and NPS programs each have their own network of partners and contacts to draw from, and the programs could share in the outreach effort to their respective partners. They could also seek out prospective applicants or sponsors that neither program regularly interfaces with, such as educational institutions, associations, and other nongovernmental organizations that could help to implement NPS projects.

For example, the Vermont CWSRF program did not have pre-existing relationships with nonprofit groups. However, the Vermont Department of Environmental Conservation's Ecosystem Restoration grant program had been administering §319 grants for NPS projects for a few years and had developed relationships with several nonprofit groups. The NPS program staff introduced key nonprofit contacts to CWSRF staff. The nonprofit groups were enthusiastic supporters of the state's efforts to develop a new sponsorship program, and several of them testified in the legislative hearings to help pass a new bill (Act 185) to allow the CWSRF to pursue NPS projects.

In other states, such as Oregon, state and local government agencies partnered to address key water quality priorities. After two serious floods damaged irrigation infrastructure, the Oregon NPS program partnered with the Oregon CWSRF program and the Farmers Irrigation District to secure $30.9 million in CWSRF loans. The partners used the funds to replace damaged, aging infrastructure with underground pipes, which reduced NPS pollution and increased agricultural yields (see the Oregon case study in Appendix C for more details).

The California and Maine CWSRF programs have supported projects that showcase effective large-scale partnerships, including the Association of Bay Area Governments ($3.5 million in CWSRF funds) in California and the Long Creek Watershed Restoration Partnership ($2.1 million in CWSRF funds) in Maine. Figures 2-1 and 2-2 show that each project has dozens of stakeholders from various sectors, including private property and homeowners, municipal and county governments, nonprofit watershed groups, and energy utilities working together to attain shared water quality improvement goals. This kind of project-level integration requires a strategic approach that is inclusive, engages partners early and often, and is incorporated in the annual planning and budgeting activities of partner programs.

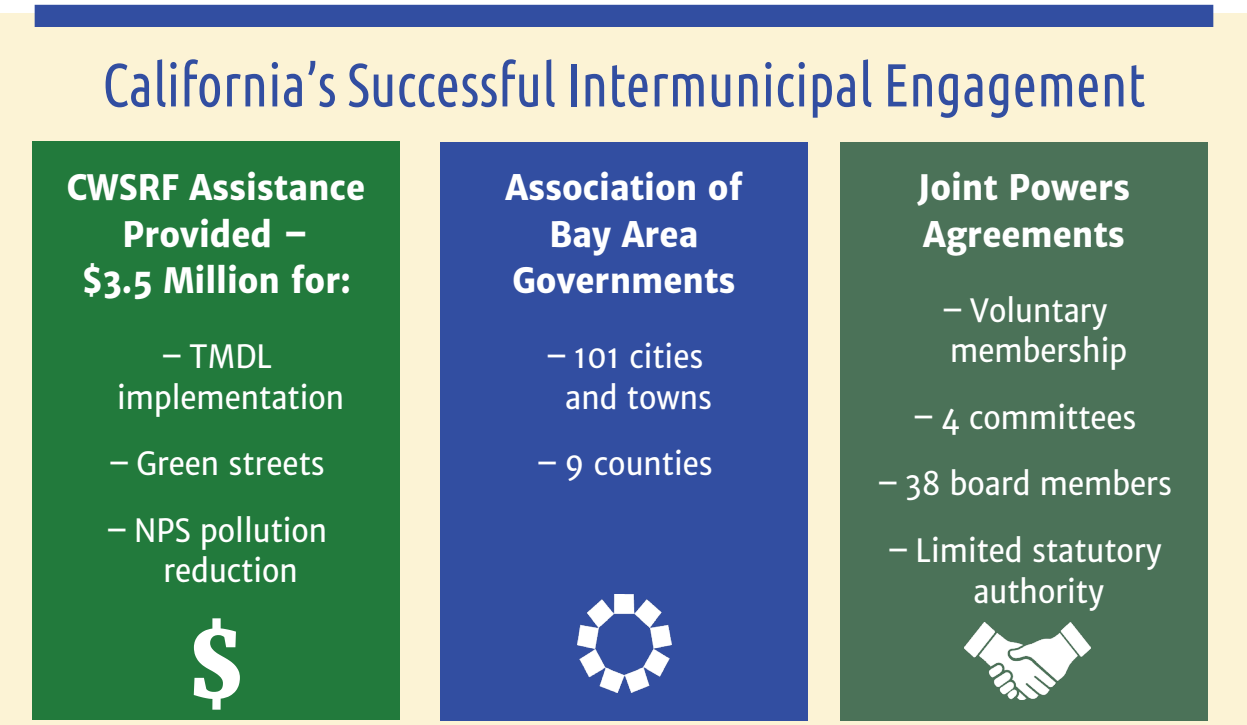


Figure 2-1. Effective Project Stakeholder Integration in Action: California[8]

In Kansas, a partnership between the CWSRF and NPS programs, a local government and a nonprofit organization received EPA's 2020 George F. Ames Performance and Innovation in the SRF Creating Environmental Success (PISCES) recognition for Excellence in System Partnerships for their Cover Crop Interseeding Project. This project brought together the Kansas NPS and CWSRF programs, the City of Wetmore, and Glacial Hills Resource Conservation and Development (RC&D) Region, Inc., a nonprofit organization in Nemaha County. This coalition worked together to establish a new cover crop equipment cost-share program to implement agricultural BMPs that promote water efficiency and conservation, reduce nutrient and sediment runoff, and improve water quality. The Glacial Hills RC&D is continuing to expand its reach to more local agricultural service providers in the region with the hopes that the program might one day expand statewide.

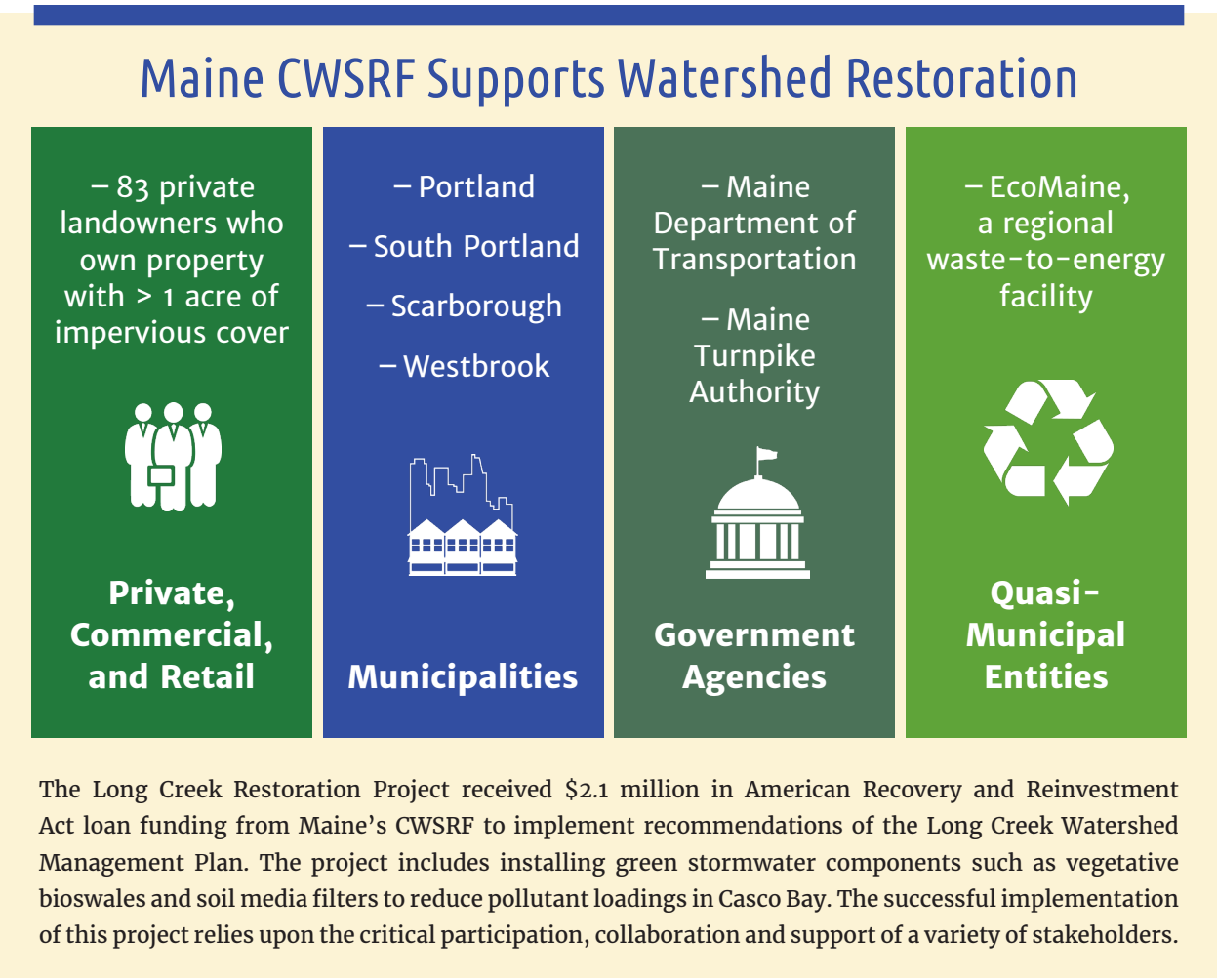


Figure 2-2. Effective Project Stakeholder Integration in Action: Maine[9]

The Iowa CWSRF program built strong partnerships with the Iowa Department of Agriculture and Land Stewardship Urban Conservation Program, state §319 basin coordinators, soil and water conservation districts, and other local partners to help applicants conduct watershed assessments and identify appropriate NPS projects for sponsored project applications. Iowa CWSRF staff regularly communicate with these partners and with prospective assistance recipients. Iowa's use of effective CWSRF financing of NPS projects with the CWSRF serves as a model for others (see the Iowa case study in Appendix C for more details).

To communicate effectively with stakeholders throughout the population, program staff can conduct workshops, face-to-face meetings and online outreach. Maintaining a detailed catalog of comments, questions and feedback gathered from different stakeholder groups during this time will help program staff identify which proposed funding features (see section 3) received the most interest and support.

3. Elements of a Successful Coordinated Financing Approach

Successfully crafting a CWSRF financial assistance package that includes both outside grants (§319 and other) and CWSRF loan funds can be challenging, largely because of (1) the financial capacity of the assistance recipient, including the ability to pass CWSRF credit review criteria, and (2) the ability of the assistance recipient to repay the loan portion of the package. This can be one of the most critical hurdles to overcome. Effective collaboration between the §319 and CWSRF programs is essential during the early stages of project development to properly guide potential assistance recipients toward a financing package that meets their needs and capacity.

Note that the loan terms offered by the CWSRF are unparalleled in the marketplace, with an average interest rate of 1.2 percent (as of 2020) and repayment terms of up to 30 years or longer in some states (Figure 3-1). The low rate can serve as an incentive to participate. For example, the Georgia CWSRF program offers borrowers an interest rate 1% below the standard rate for land, energy and water conservation projects. Similarly, the Maine CWSRF program offers a 2% interest rate subsidy to support adoption of BMPs by Maine-based logging companies. (See Appendix C for more details on the Georgia and Maine CWSRF programs.)

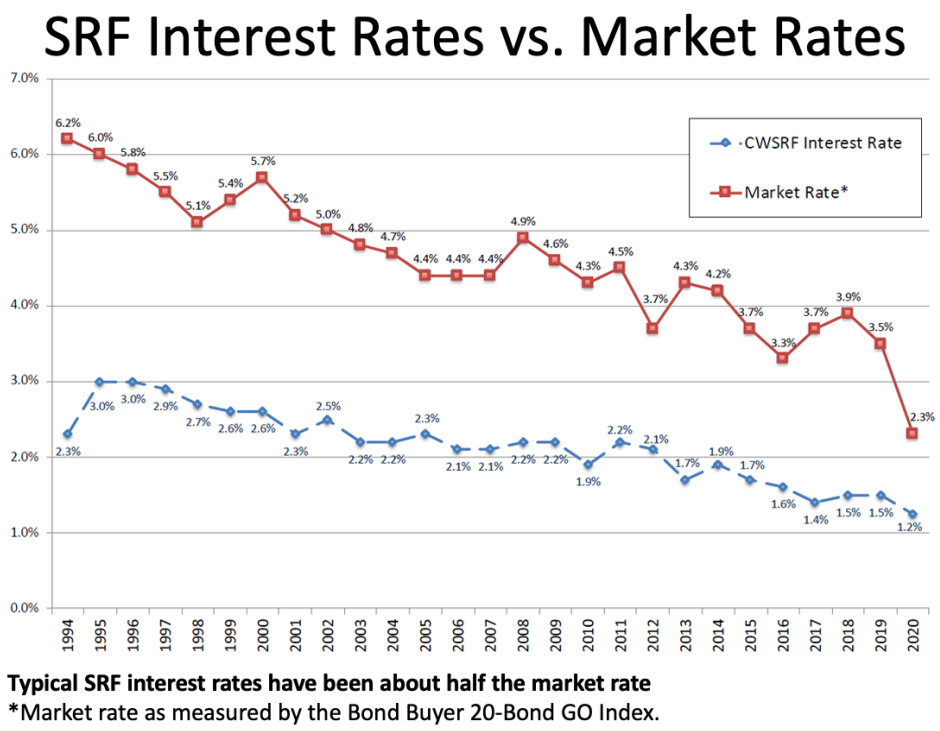


Figure 3-1. CWSRF interest rates compared to market rates (1994–2020).

3.1 Options for Co-Funding NPS Projects

Many partnerships offer co-funding opportunities to leverage CWSRF, such as using CWSRF loan funds to help satisfy match requirements for grants. Project applicants who are more familiar with pursuing grants should be aware that, in most cases, CWSRF funds may be used as match for §319 grants. CWSRF funds that have already been loaned out for a project and repaid to the state are colloquially known as *recycled funds*. Such recycled funds belong to the state, and as long as they are used to finance NPS-eligible activities, they may be used to meet the nonfederal match requirement for a state's §319 grant.

The §319 grant match requirement can be financed as part of the total CWSRF loan amount that is to be repaid over time. Furthermore, as noted above, the CWSRF program offers below-market financing terms as a baseline, and assistance recipients may qualify for interest-free terms or loan forgiveness. This represents a significant cost savings over the life of the loan and is equivalent to receiving a partial grant (Table 3-1). These options illustrate why successful collaboration between these two programs hinges on how well the staff understand the opportunities and limitations they respectively offer—and how well they communicate this information to each other.

Table 3-1. Market rates and grant equivalence in CWSRF*

		SRF Rate					
		0.0%	1.0%	2.0%	3.0%	4.0%	5.0%
Market Rate	2.0%	18%	9%	-			
	3.0%	26%	18%	9%	-		
	4.0%	32%	25%	17%	9%	-	
	5.0%	38%	31%	24%	16%	8%	-
	6.0%	43%	36%	30%	23%	16%	8%
	7.0%	47%	41%	35%	29%	22%	15%

*Example: If a borrower had a watershed restoration project for $1 million and chose to fund the project with a CWSRF loan at a 0% interest rate for a 20-year term, the project would cost 18% less than if the borrower financed the project using traditional commercial lending products at a market rate of 2%. In this hypothetical example, the interest rate savings realized from taking on a CWSRF loan is functionally equivalent to receiving a grant for $180,000 with an $820,000 loan at the market rate.

Other successful co-funding partnerships with the CWSRF include various USDA programs and EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program, which can accommodate diverse project financing needs. USDA Rural Development has a long history of

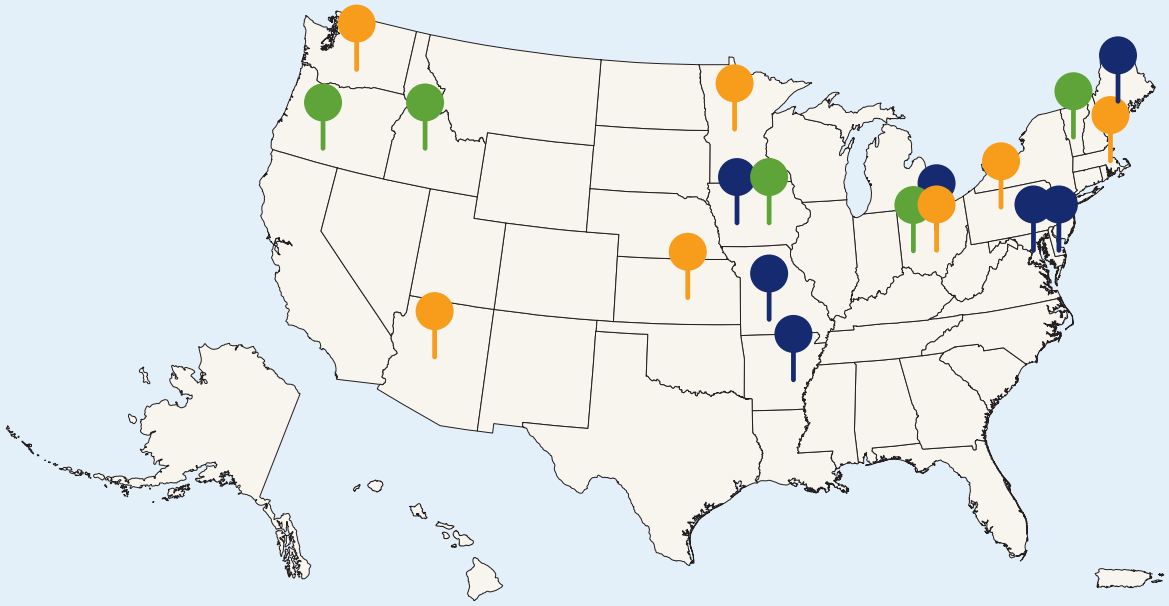
co-funding with the CWSRF program and offers financing solutions for rural community needs. The USDA Natural Resources Conservation Service offers multiple programs (e.g., Environmental Quality Incentives Program, Conservation Stewardship Program) that often support elements of collaborative §319-funded NPS projects. Though WIFIA typically targets wastewater and drinking water infrastructure projects, the program has indicated interest in supporting, and may be leveraged for, watershed-scale NPS projects (although no NPS project activities have been funded by WIFIA to date). WIFIA may provide federal credit assistance in the form of loans or loan guarantees to eligible entities (e.g., corporations; partnerships; federal, state, local governmental entities) to finance all types of projects eligible under the CWSRF, including NPS projects and decentralized wastewater treatment systems. WIFIA can finance up to 49 percent of the cost of a project, with a minimum project cost of $20 million in financing for large communities and $5 million for small communities with a population of 25,000 or less. Both WIFIA and the CWSRF programs are robustly capitalized and can provide millions of dollars in financial assistance to NPS efforts. Similarly, the DWSRF, which provides set-aside funding for source water protection efforts, can also serve as a NPS project co-funding source (see Appendix D for more information).

3.2 Successful Financing Mechanisms

Many CWSRF programs have devised innovative alternative financing mechanisms to support NPS projects. Some of the most effective alternative financing mechanisms include sponsorship programs and various forms of conduit lending (e.g., pass-through lending and linked deposit loans), which have been used successfully by numerous state CWSRF programs. In a sponsorship program, a municipality receives a CWSRF loan with a reduced interest rate as compensation for also taking on (i.e., sponsoring) the NPS project, thus allowing municipalities to address NPS priorities without placing a repayment responsibility on the entity implementing the NPS project. Conduit lending allows CWSRF programs that are limited to lending only to public entities (e.g., municipalities) to provide financing to nonprofit organizations, watershed groups or other private entities using arrangements that pass funds through an eligible CWSRF borrower.

Each of these mechanisms has been used for project types addressing NPS pollution. The key is understanding which financing mechanism will best fit the projects and prospective partners in your state. For example, agricultural BMPs have been funded through sponsorship in Ohio and Iowa, through a linked deposit in Ohio and Arkansas, and via pass-through loans in Minnesota and Washington. These mechanisms, and case studies for each, are featured in the EPA publication, *Financing Options for Nontraditional Eligibilities in the Clean Water State Revolving Fund Program*.[10] Summaries of these and other case studies are presented in Appendix C. Figure 3-2 explains each approach and shows some places where they have been applied. Figure 3-3 provides more specific information on how each approach works. Figure 3-4 describes examples of three CWSRF programs that are using alternative financing mechanisms to provide significant NPS project assistance.

A National Picture of Conduit Lending and Sponsorship in the CWSRF Program
(as of March 2021)



Sponsorship

Pairs a traditional publicly owned treatment works (POTW) project with an NPS project. A municipality receives a CWSRF loan with a reduced interest rate as compensation for also taking on (i.e., sponsoring) the NPS project, thus allowing municipalities to address pressing watershed restoration or protection priorities without placing a repayment responsibility on NPS projects.

Sponsorship reinforces the idea that wastewater treatment plant improvements and water resource restoration projects are complementary efforts.

Pass-Through

CWSRF program makes a loan to another government agency or to a municipality that then passes the money to private borrowers as loans for NPS control projects.

Actively used for septic system repair/replacement, agricultural BMP project, stormwater runoff controls, riparian restoration, and acid mine drainage overflow prevention.

Linked Deposit

CWSRF program purchases a reduced-rate certificate of deposit (CD) from a private financial institution. The financial institution then loans out the deposited funds (at a slightly lower interest rate) to individuals for small-scale water quality projects.

Many states have used linked deposits to successfully fund projects such as septic system replacements and agricultural or silvicultural BMPs.

Figure 3-2. CWSRF conduit lending (e.g., pass-through and linked deposit loans) and sponsorship financing mechanisms used across the country. (Note: This list is not inclusive. Not all states use these mechanisms every year.)

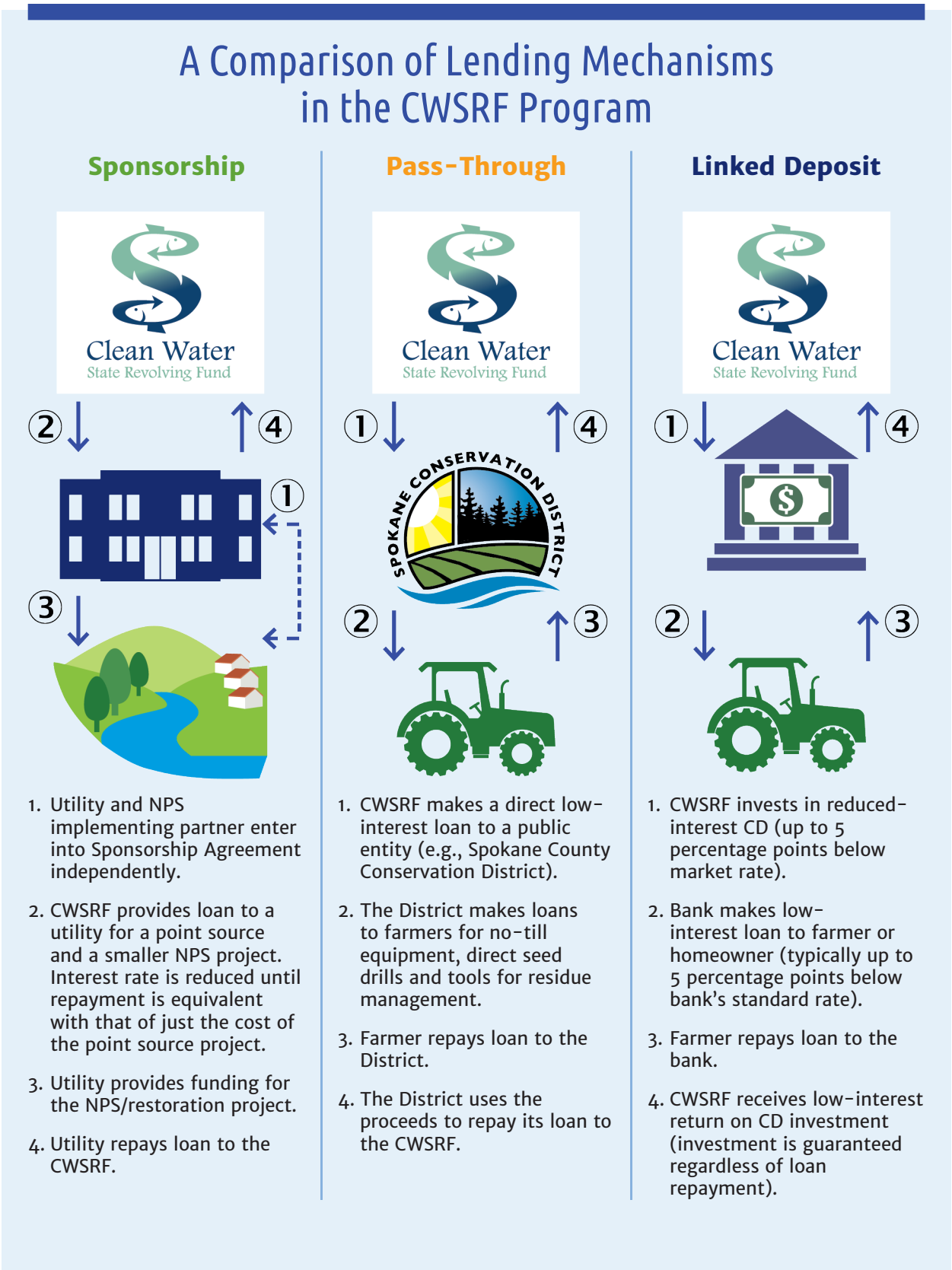


Figure 3-3. Comparisons of CWSRF conduit lending and sponsorship financing mechanisms.

States That Fund NPS Work with CWSRF: Leading by Example

Ohio ..... $480 Million

Water Resource Restoration Sponsorship Program

- Implement comprehensive local water plans, TMDL implementation plans, and other environmental plans
- CWSRF lends to local governments, conservation districts and financial institutions
  - Farmers
  - Rural landowners
  - Agricultural supply businesses

$205 million in total assistance provided

Linked Deposit Program for Private Borrowers

- Loans made to private organizations or individual homeowners for NPS projects
  - Agriculture BMPs
  - Stormwater runoff controls
  - Streambank restoration

$123 million in total assistance provided

Household Sewage Treatment System Program

- CWSRF offers principal forgiveness to participating county health departments to assist individual households with limited financial means to repair or replace failing septic systems. Funding includes:
  - Soil tests
  - Design
  - Permits
  - Installation

$70 million in total assistance provided

Iowa ..... $295 Million

Water Resources Restoration Sponsored Projects

- Allows CWSRF borrower to apply for a locally directed, watershed-based, NPS water quality improvement project.
  - $79 million since 2013
  - $10 million allocated for sponsorship each fiscal year

Linked Deposit Program

- For private borrowers for the Onsite Wastewater Assistance Program, the Local Water Protection Program (agricultural BMPs), the Livestock Water Quality Facilities Program, and stormwater BMPs

Loan Participation for Private Borrowers

- For other eligible categories that don't fit under linked deposits (i.e., habitat restoration, streambank restoration)

General NPS Program

- To public entities for green infrastructure, landfill closure, stream restoration, etc.

Minnesota ..... $313 Million

The Agriculture Best Management Practices Pass-Through Loan Program

- Comprehensive local water plans
- TMDL implementation
- Erosion control
- Animal waste management

Clean Water Partnership Direct and Pass-Through Loans

- Nonpoint source BMPs
- Sedimentation basins and detention ponds
- Replace failing septic systems
- Lakeshore and streambank erosion controls

Tourism Pass-Through Loan Program

- Loans to tourism-related businesses to improve and replace septic systems

Figure 3-4. Three states providing significant NPS project assistance through CWSRF.[11]

Alternative financing mechanisms are particularly useful for NPS projects because they benefit from the relationships that exist between conduit organizations (e.g., local banks, county health departments, communities) and potential NPS project implementers. For partners who wouldn't otherwise qualify for a loan and wouldn't be inclined to seek CWSRF program assistance, these financing mechanisms can provide access to robust and reliable sources of financing. Note that if your programs seek to overcome eligibility restrictions by introducing alternative financing mechanisms such as sponsorship or linked deposit loans, you might need to engage the state Attorney General's office, as well as the appropriate state government financing division, to identify any specific implementation requirements.

3.3 Tapping Potential Loan Repayment Sources

Identifying a source of loan repayment is typically one of the most challenging factors in using CWSRF financing for NPS projects. Traditional CWSRF assistance recipients such as municipalities and other political subdivisions use their general taxing authority and utility user rates as a stable source of revenue to repay CWSRF loans. Many applicants taking on NPS projects do not have these types of revenue resources readily available. Although nonprofit groups and other nongovernmental organizations rely on dues, membership fees and donations to help secure revenue, these might not be enough to allow them to pursue non-grant financing. Plus, NPS projects often do not generate direct income streams. Although this may seem like a formidable obstacle, CWSRF programs across the country have worked with stakeholders to find creative forms of loan repayment that could be combined with §319 grant funding and conduit lending mechanisms.

Table 3-2 provides examples of some of the creative loan repayment strategies that states may use to support both CWSRF and NPS projects (see Appendix B for a more complete list). EPA's report, *Funding Nonpoint Source Activities with the CWSRF*, offers more information on these repayment strategies.[12]

3.4 Watch for New Repayment Opportunities

To find creative solutions for loan repayment, CWSRF and NPS programs can look beyond previously tapped funding sources. For example, the Colorado State Lottery commits most of its yearly proceeds to various conservation, habitat protection and open space projects across Colorado. The Conservation Trust Fund, Colorado Parks and Wildlife, and Great Outdoors Colorado (GOCO) have used lottery proceeds to protect over 1,000 miles of river and over one million acres of land.[13] In 2019, GOCO received $68.5 million from lottery ticket sales to support grant funding for eligible projects, including agricultural land protection, riparian corridor land preservation and habitat conservation. Since its inception in 1992, GOCO has used more than $1.2 billion in lottery proceeds to provide grant funding to over 5,300 projects throughout Colorado.[14] This is an example of an alternative financing source that might offer an opportunity for co-funding NPS projects and may also be used to meet §319 grant match requirements.

Table 3-2. Examples of creative loan repayment strategies used by states to support both CWSRF and NPS projects. See Appendix B for a more comprehensive list.

Revenue source	State CWSRF example
Membership fees	The Ohio CWSRF awarded a $110,000 loan to The Nature Conservancy to purchase a conservation easement to protect and restore a threatened section of Brush Creek. The nonprofit repaid the loan from their general operating account, which includes membership dues and fundraising assets.
Carbon credits	The California CWSRF made an $18.75 million loan at 0% interest to the Yurok Tribe to acquire 22,237 acres of forestland to protect water quality and beneficial uses. Carbon credits generated from sustainable harvesting practices is providing a partial repayment source. The tribe was required to provide a contract for the sale of carbon reserves as a condition to receive funding.
Sales revenues	Revenue from the sale of timber on the parcel is also providing a partial repayment source in the above project financed by the California CWSRF with a loan to the Yurok Tribe for acquiring forestland to protect water quality and beneficial uses.
Equipment rentals	Washington's CWSRF provides pass-through funding via the Spokane County Conservation District (CD) for direct seed application fees, equipment purchase or equipment rental. A CD could also use a CWSRF loan to purchase specialized equipment to rent out to individual farmers, and then they could use the rental income as a repayment source for the loan.
Sale of water rights	The Oregon CWSRF provided financing to Farmers Irrigation District (FID) to convert unlined irrigation canals to a piped, pressurized system. The project saved so much water that FID was able to sell excess water rights to create permanent in-stream habitat for endangered fish species.
Watershed protection fees/taxes	Raleigh, North Carolina, water customers pay an on-bill watershed protection fee that is used to conserve critical land in the watershed to protect drinking water sources and reduce treatment costs. The watershed protection fee is 10 cents per thousand gallons of water used (approximately 45 cents per month per customer) and is expected to generate $1.8 million per year.
Recreational or license fees	Recreational fees such as boating permits, fishing licenses or park entrance fees could provide a repayment source for CWSRF-financed projects that protect water quality in recreational areas.
Property taxes	The Massachusetts CWSRF Community Septic Management Program uses a "betterment agreement" that channels loans through a municipality to individuals for septic system improvements and allows the municipality to ensure that the loan is repaid as part of a property tax bill. The municipality can place a municipal lien on property if the homeowner defaults on the loan. Summit County, Colorado, uses property tax to capitalize the county's fund for the acquisition and preservation of open space, natural areas, as well as to fund wildfire mitigation activities (although these have not been used as a CWSRF repayment source to date).

Example Alternative Financing Source: Colorado State Lottery Sales

Lottery proceeds were funneled through GOCO and the Colorado CWSRF program—providing $11 million for abandoned mine site remediation and runoff treatment. The project included watershed open space land purchase and remediation of a Superfund site to address elevated levels of cadmium, copper and zinc in the French Gulch section of the Blue River, which was listed on the §303(d) impaired waters list for aquatic life. Funds included:

- $4.5 million CWSRF loan to Summit County
- $550,000 GOCO grant
- $450,000 Summit County open space reserves
- $5.5 million paid by Summit County

Other funding sources that states have used for loan repayment include recreation licenses or fees, rental fees for specialized farm equipment (e.g., cover crop interseeders), and nonprofit organization membership dues or other revenue. Staying informed about state legislative changes is another way to find and secure NPS project financing. For example, California passed a law in 2017 that gives source watershed maintenance and restoration projects access to the same forms of financing that traditional water utility infrastructure has (e.g., use of revenue bonds, which do not require taxing authority). Knowing about this type of new law can guide partnership building and help identify financing sources for grant match or CWSRF loan repayment purposes.

3.5 Emphasize Incentives to Encourage Participation

Coordinating a financing approach that supports priority NPS projects can benefit a community's economic health as well as its environmental quality. Emphasizing the measurable benefits realized from these projects and communicating them to a wide audience can increase participation and support.

Highlight Cost Savings and Project Co-Benefits

While the CWSRF program's low interest rates and loan forgiveness are attractive incentives, perhaps the best incentive for investing in water quality projects is the potential for long-term cost savings that can be realized at the state, community and household levels. Encouraging assistance recipients to consider a loan to address water quality needs can be challenging. In Arizona, a Forest Thinning and Wildfire Restoration pilot project (see box in Section 4) was successful because project partners effectively communicated how investments in forest thinning and restoration can improve property values, create jobs, lower healthcare costs, and reduce the impact of NPS pollution on treatment costs for household drinking water. Illustrating the financial benefits of NPS projects in this way can resonate with a range of different stakeholder interests. Similarly, tying NPS projects to the co-benefits of mitigating the impact of natural hazards (e.g., from potential floods or wildfires) where applicable, can attract different partners and investment. Describing the project in terms that resonate with a range of stakeholders will make it more attractive and compelling.

Establishing Successful Funding Mechanisms

Q&A with John True, Maine Department of Environmental Protection, CWSRF Program Manager

How was Maine's Direct Link program initiated?*

"We based the program on Ohio's silvicultural loan program—folks there were very gracious and sent a lot of documents. Maine Municipal Bond Bank (MMBB) led the effort, and the Finance Authority of Maine (FAME) took the lead in coordinating with banks and private institutions. Although FAME did not become a party in the program, their assistance was crucial to its development. MMBB runs the program currently; it buys the CDs from the commercial banks at below market rates and the banks pass on that savings to the loggers. Six banks are currently participating.

No legislative changes were needed to get the program off the ground. Maine already had an agricultural loan program in place so that helped pave the way. Maine has a very flexible state statute governing the CWSRF, which basically says anything that's allowable under the CWA can be funded."

What do you think have been the keys to your success with the program?

"The concept was to tie in ongoing efforts. Our philosophy in Maine is that BMPs are best adhered to in a voluntary climate. Tying financial incentives to BMPs [with the 2% interest subsidy] reduces the financial pressure of production, so loggers can afford to be more careful and still afford to make environmental improvements. We've engaged loggers as partners in protection in that way."

*For more details on Maine's program, see the Appendix C case study (Maine: Direct Link Program for Forestry).

Identify Financial Benefits of Technical Assistance Opportunities

Offering technical assistance to stakeholders who will be implementing NPS projects can provide an indirect but powerful financial incentive. Often these partner organizations have few staff and small budgets, particularly in rural areas. They might struggle to successfully staff these projects on their own. Fortunately, the NPS, CWSRF, and the DWSRF programs can offer valuable technical assistance to nonprofit organizations, small drinking water systems and communities, which can improve project success. For example, Oregon CWSRF provides free technical assistance to public agencies—offering a team approach to help address water quality challenges. The DWSRF Set-Aside program can be used to deploy technical assistance providers (e.g., circuit riders, hydrogeologists) to help with funding coordination, project planning, assessments, administrative and field work associated with source water protection projects. (See Appendix D for more information on using the DWSRF for source water protection.) Also, federal agencies, such as USDA NRCS, offer technical assistance (e.g., for selecting and implementing conservation practices) that can support a co-funded NPS project (see Section 3.1 for more about co-funding partnerships).

Inform Stakeholders About Financial Incentives

A successful coordinated financing approach emphasizes communication, which can attract new and returning participants. Developing materials to showcase the creative solutions and financial incentives the NPS and CWSRF programs can offer is an essential element. Materials can present various project approaches, financing options, repayment sources and incentives. For example, the California and Oklahoma CWSRF programs have developed attractive brochures that concisely capture offerings, terms and incentives in an engaging way. The CWSRF program in Arizona distributed marketing materials to explain the financial incentives and benefits of its Forest Thinning and Restoration Program (Figure 3-5). The state developed templates outlining collateral damage from wildfires, which can be used to generate fact sheets tailored to the community, watershed or county that communicate environmental and financial benefits of a project. In addition, to help convey the financial benefits to a wide audience, Arizona developed an interactive tool that uses a triple-bottom-line approach to quantify the environmental, financial and socioeconomic benefits of projects for individuals, households and communities. Arizona found that the tool (Quantification, Implementation and Valuation of Environmental Restoration, or QUIVER) enabled agencies, nonprofit organizations and communities in the wildland/urban interface to embrace shared stewardship of critical forest landscape resources, which built public support for financing high-priority forest restoration projects.

Figure 3-5. WIFA, Arizona's CWSRF lender, developed educational materials that highlight cost savings and financing opportunities for its forest thinning NPS project.

4. Customizing Your Strategy

After a state's CWSRF and NPS programs have established a working relationship, aligned their water quality goals and priorities, overcome key obstacles, secured outside stakeholder participation and support, and considered the most appropriate funding mechanism(s), it's time to test the new collaborative approach and refine a strategy for the future. Before rolling out a new NPS program initiative, however, it's important to gauge stakeholders' interest and demand for the types of projects the partnership seeks to fund. For example, reviewing stakeholders' input can show if they found certain incentives more appealing, if program requirements created concern, or if they perceived any activities negatively. These data will indicate the best opportunities for program success, while also highlighting those areas that could be improved by adding financial incentives, providing technical assistance or streamlining internal program processes.

Feedback From Project Participants Informs Future Plans

Kansas used CWSRF financing to launch a demonstration pilot project to purchase specialized equipment that is increasing adoption of no-till cover crop agriculture. The equipment offers a low-risk way for farmers to try the no-till method, and the rental fees offer a source for repaying the CWSRF loan. Kansas continues to follow up with the producers involved in the demonstration, and the initial feedback has been overwhelmingly positive. Kansas expects to launch a parallel educational effort for producers. Due to the strong history of cover crop adoption, the availability of incentive programs, continued outreach efforts, and a successful demonstration project, Kansas has every reason to believe that continuing this CWSRF program over the long term will be successful.

Participants at a cover crop field demonstration day learn about the effectiveness of the CWSRF-funded interseeder equipment.

4.1 Test Your Approach

Implementing a pilot project is a great way to evaluate what elements of your approach work as expected and where improvements could be made. By starting with one project or a small group of projects targeting a specific water quality goal (e.g., funding agricultural BMPs to address bacteria pollution), the partnership can assess the time and workload demands that are placed on staff—and then modifications can be made as needed. Pilot projects are also useful in building relationships with local stakeholders—relationships that can be expanded as the partnership between the NPS and CWSRF programs continues to mature. Finally, pilot projects are a way to test the success and viability of various financing mechanisms before employing them more broadly.

4.2 Refine Operations and Program Management

As the NPS and CWSRF programs' partnership continues to evolve, the programs can adjust their mutual goals and priorities and refine operations. Practicing adaptive management will ensure the goals accurately reflect updated priorities and needs.

Arizona Forest Thinning and Wildfire Restoration Project

A Successful CWSRF NPS Pilot Project

Multiple wildfires have led to catastrophic flooding, loss of life, neighborhood destruction, water pollution and extensive damage to forests. These crises have prompted increased collaboration between the CWSRF and NPS programs, along with universities, private organizations and government agencies, to work together to reduce the threat of wildfire by thinning forests and promoting healthy watersheds.

The Arizona Water Infrastructure Finance Authority (WIFA), which administers the state's CWSRF and DWSRF program, has been working to promote the use of CWSRF financing for projects that address watershed health, green infrastructure, and NPS water quality challenges. Recently WIFA began coordinating with the Arizona Department of Environmental Quality's §319 program to align their priorities, identify critical needs and opportunities for project funding, and establish partnerships with outside stakeholders. This coordination revealed that Arizona's NPS Management Plan specifically identifies wildfire as a source of NPS pollution, which meant that CWSRF funds could readily be used to support NPS projects to reduce the threat of wildfire.

WIFA launched the Arizona Forest Thinning and Wildfire Restoration Pilot project in 2019. It was financed in part by the CWSRF with a loan for $6 million (of which $1 million was forgiven) along with the help of a $10 million municipal general obligation bond measure issued by the City of Flagstaff, which was used to repay the CWSRF loan.

The pilot project built on the success of the Flagstaff Watershed Protection Project, a robust watershed partnership that was formed in 2010 in response to a catastrophic wildfire that occurred in the area. This partnership includes the City of Flagstaff, Coconino County, the U.S. Forest Service's Four Forests Restoration Initiative (4FRI), Northern Arizona University and other private partners. A key strategy of the City's plan was to undertake preventive forest management through forest thinning to mitigate the risk of another wildfire event. This laid the perfect foundation for WIFA and the City of Flagstaff to collaborate on the pilot project, and it opened up possibilities for funding that otherwise wouldn't have been available. The success of this project was predicated on a range of partnerships that are critical to a successful forest restoration program and involved state and federal government agencies, the City of Flagstaff and its drinking water utility, the local fire department, stakeholder groups, nonprofit organizations like the National Forest Foundation, and private commercial enterprise.[15] The success of this project has mobilized CWSRF program leaders from western states to form a workgroup with EPA dedicated to pursuing similar efforts.

The Museum Fire near Flagstaff, AZ, in July 2019. (Credit: Coconino National Forest)

Explore Opportunities to Streamline Efforts

Although both NPS and CWSRF programs have their own set of requirements for project application, compliance and reporting, these may be streamlined over time. In states where the CWSRF and NPS programs function separately, communicating about existing processes and available capacity could help integrate parallel efforts to save time and resources while making both programs available to stakeholders and potential assistance recipients. This may include:

- Developing a universal financial assistance application platform that supports both CWSRF and §319/NPS projects
- Providing one-stop technical assistance for applicants to both funding programs
- Conducting marketing, outreach, education and stakeholder engagement
- Reporting financial and environmental project benefits

Some states are finding ways to develop more efficient methods of managing and distributing funding across programs. The Washington Department of Ecology, for example, has developed an integrated funding program (the "Water Quality Combined Funding Program") that combines grants and loans from state and federal sources using a single assistance application (see box for more information). This approach works well because the funding guidelines are agency-wide, connecting multiple state programmatic efforts and project financing in one place.

When designing and implementing an integrated cross-program approach to address a state's NPS priorities, program staff are encouraged to clearly understand the financial assistance processes and timing in both programs so they can take advantage of the strengths of both programs. This especially applies to how CWSRF and NPS programs finance NPS projects both independently and jointly. Remember, the nonfederal portion of CWSRF assistance may be used as a resource for §319 grant match.

4.3 Operationalize Your Strategy

Combining CWSRF and NPS program efforts to provide financial assistance for NPS projects requires a strategy with a solid foundation. As detailed in sections 2 and 3, building these foundations requires establishing cross-program collaboration; potentially making changes to statutes, administrative rules, and internal policies or regulations; harnessing support and participation from key stakeholders; and exploring alternative financing mechanisms to direct funding where it's needed most. Your state will find its own approach to success, but keep in mind that the following three key elements are at the core of a successful strategy:

- Mutual understanding and water quality goals
- Stakeholder engagement
- An operational plan guided by shared goals

Washington's Water Quality Combined Funding Program

Successful Program Collaboration and Coordination

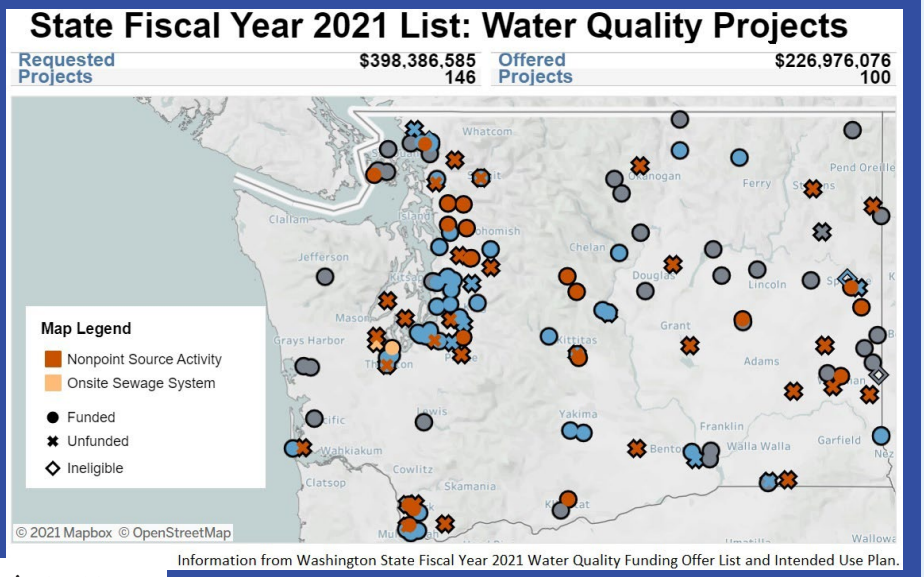
The Washington Department of Ecology's Water Quality Combined (WQC) Funding Program provides annual funding to a variety of project types that will improve and protect water quality. This includes anything from traditional wastewater and stormwater infrastructure to NPS pollution control projects and upgrading onsite septic systems. The program combines state and federal funding sources (both grants and loans) into a single funding process where applicants submit just one application that allows them to seek financing.

All these programs are housed within the same agency, and program staff have historically worked together. Every program is integrated, and all staff are in the same section and workgroup. Furthermore, the Department of Ecology Funding Guidelines apply agency-wide, which seamlessly connects programmatic efforts under different funding sources.

Successful collaboration occurs both within and outside of the Department of Ecology. All marketing and outreach efforts are coordinated with a wide variety of stakeholders that are invited to training events and workshops. In addition, the Department of Ecology launched a new NPS sponsorship program in 2019 with the goal of incentivizing collaboration among local communities and stakeholders on a watershed basis.

The WQC Funding Program includes:

- **Clean Water Act §319 grants**
- **CWSRF loans**
- **Centennial Clean Water Program grants (state)**
- **Stormwater Financing Assistance Program grants (state)**



Information from Washington State Fiscal Year 2021 Water Quality Funding Offer List and Intended Use Plan.

Washington's CWSRF program has funded more than $114.7 million in NPS projects

Customize a Plan to Meet Your Programs' Needs

Together, CWSRF and NPS programs can establish specific project work to address shared water quality priorities. This will be influenced by the goals of both the CWSRF IUP and the NPS management plan; the respective amounts of financing available; and potential limitations on the eligibility of the project, assistance recipient, or both. This information will guide your programs toward a series of decision points, including:

- Is there satisfactory demand and/or support for the proposed NPS initiatives? If not, could enhanced information and outreach generate more demand?
- Are alternative financing mechanisms required to overcome eligibility hurdles?
- Are there eligible assistance recipients willing to undertake the NPS project as a direct loan or through a conduit financing mechanism?
- Will legislative or administrative rule changes be necessary to achieve mutual goals?

Asking these questions will help determine which stakeholders can assist with planning and implementing projects. Ideally the programs will work together to develop a plan to engage with key stakeholders and find potential NPS project sponsors.

Establish Accountability Structures

Clearly articulating roles and responsibilities between partners and personnel is important. A successful CWSRF–NPS partnership will clarify the roles and responsibilities of key individuals within each program. This includes developing shared planning timelines informed by the respective annual cycles and requirements of both programs. When developing the roll-out of the new initiative, it may be helpful to assign roles by program (CWSRF and NPS) using the following subcategories to detail responsibilities:

- Managers
- Engineering/technical staff
- Financial staff
- Administrative staff
- Marketing and communications staff
- Assistance recipients

Establishing accountability structures can eliminate confusion about expected responsibilities and will enable individuals to better plan their workloads. The operational plan can also outline roles and responsibilities of project partners. Both Iowa and Ohio, for example, have effective accountability structures—they each require financial assistance recipients to attend a pre-application meeting, which has been key to the success of their respective sponsorship programs. By bringing the important stakeholders together, the states foster cooperation and help partners identify potential obstacles early in the project planning process.

Establishing Accountability and Communication

Q&A with Lee Wagner, Iowa Department of Natural Resources, CWSRF NPS Program Planner

How did you get the Sponsored Projects program off the ground?

"In 2005–2006 we had heard about Ohio's sponsored projects program, but in Iowa cities can only use sewer revenues for the system itself. That was a problem because sponsored projects are not part of the utility, so we had to change the state code. We had lots of support so it was not a big fight, but that process took some time. Our CWSRF coordinator developed partnerships with groups in Iowa that do stormwater work and conservation/water quality projects."

What have been the biggest challenges for the program? How did you address them?

"Workload on SRF staff to manage, review and coordinate projects is one. We created an SRF staff position that manages sponsored projects and NPS work. That's my role, and most program communication goes through me. We work with Iowa Department of Agriculture and Land Stewardship (IDALS) on approving and reviewing projects. When we first started out we didn't have a whole lot of guidance for this process. Urban conservationists with IDALS put together design checklists to make it easier. Creating a project milestone checklist has helped out tremendously."

What have been the keys to success for your sponsorship program?

"We partner with IDALS, state 319 staff, and even commodity groups on the program. Even before we launched, we had an interagency contract with IDALS for our linked-deposit program and urban stormwater work, which lays out what services each agency will provide. We now require a pre-application meeting before a community applies, in which we spell out the requirements and expectations. We include urban conservationists, state 319 basin coordinators, Iowa Natural Resources Conservation Service staff, and any local experts that could help us better understand the proposed project. From the beginning there are always going to be tweaks. We continually provide updated guidance to applicants through meetings and speaking at conferences to educate the consulting/engineering community, and we're always looking for ways to improve the program to get better applications. At our annual workshops we look at what the main problems were, and we highlight success stories as well. In the beginning we got many bad applications that were easy to deny, but now all of them are very good."

The Ohio CWSRF uses several documents that articulate the responsibilities of project partners, including the loan agreement between the project sponsor and the CWSRF; a sponsorship agreement between the NPS project implementer and the sponsor; and an environmental covenant between the property owner, project implementer and Ohio Environmental Protection Agency (Ohio EPA). (See the list of resources in Appendix E to access these documents.) All project partners work together, and each has clearly defined goals. Ohio has created standard operating procedures and internal guidance that provides a more formal structure for the program and makes succession planning easier.

Include a List and Schedule of Activities

Developing a planning timeline that identifies critical milestones and activities can increase transparency, improve communication, and improve collaborative practices between the two programs. The programs can identify any new processes and procedures to implement (e.g., regulatory changes, development of new financial assistance applications, marketing materials) and have an operational plan to implement these changes. To keep the implementation effort organized, achievable, and on track, programs can use a traditional project management approach that breaks out major activities into more detailed subtasks, details accountability assignments, and assigns target deadlines and milestones. Establishing mutually agreed-upon planning timelines that lay out important dates across the fiscal year will enable CWSRF and NPS programs to align their respective programmatic efforts and help work toward specific goals. Implementation schedules also increase transparency across the programs, which allows for more effective coordination and communication along the way.

Track Progress and Share Success

As the collaboration matures, state programs would benefit from tracking the progress and outcomes of NPS projects that have received financial assistance over time. Showcasing success stories is an excellent way to publicly recognize the innovative efforts of previous assistance recipients, as well as the NPS and CWSRF programs, and to provide examples to other communities that wish to replicate these successes.

Continuing to engage stakeholders across the funding cycles will allow states to gather important feedback that can shape future program efforts. The strategic plan may be viewed as a living document—as initiatives for greater NPS project assistance grow, priorities may shift as new challenges emerge; programs are encouraged to be ready to make the adjustments needed to keep the NPS project effort thriving.

Appendix A: Clean Water State Revolving Fund Program Eligibilities

To be eligible for Clean Water State Revolving Fund (CWSRF) assistance, a project must meet the criteria of one of 12 CWSRF eligibilities set forth in section 603(c) of the Clean Water Act:

1. to any municipality, intermunicipal, interstate, or state agency for construction of publicly owned treatment works (as defined in section 212);
2. for the implementation of a management program established under section 319;
3. for the development and implementation of a conservation and management plan under section 320;
4. for the construction, repair, or replacement of decentralized wastewater treatment systems that treat municipal wastewater or domestic sewage;
5. for measures to manage, reduce, treat, or recapture stormwater or subsurface drainage water;
6. to any municipality, intermunicipal, interstate, or state agency for measures to reduce the demand for publicly owned treatment works capacity through water conservation, efficiency, or reuse;
7. for the development and implementation of watershed projects meeting the criteria set forth in section 122;
8. to any municipality, intermunicipal, interstate, or state agency for measures to reduce the energy consumption needs for publicly owned treatment works;
9. for reusing or recycling wastewater, stormwater, or subsurface drainage water;
10. for measures to increase the security of publicly owned treatment works
11. to any qualified nonprofit entity, as determined by the USEPA Administrator, to provide assistance to owners and operators of small and medium sized publicly owned treatment works:
    a. to plan, develop, and obtain financing for eligible projects under this subsection, including planning, design, and associated preconstruction activities; and
    b. to assist such treatment works in achieving compliance with this Act.
12. to any qualified nonprofit entity, as determined by the Administrator, to provide assistance to an eligible individual (as defined in subsection (j)):
    a. for the repair or replacement of existing individual household decentralized wastewater treatment systems; or

b. in a case in which an eligible individual resides in a household that could be cost effectively connected to an available publicly owned treatment works, for the connection of the applicable household to such treatment works (EPA 2019).

The majority of the 12 eligibilities refer to measures that attain an objective; however, four eligibilities reference other sections of the Clean Water Act (CWA) (e.g., sections 212, 319, 320, and 122). Those four eligibilities have additional criteria that must be considered when determining if a project may receive CWSRF assistance. Criteria for those four eligibilities are summarized in EPA's Overview of Clean Water State Revolving Fund Eligibilities (EPA 2016).

References:

EPA (U.S. Environmental Protection Agency). 2016. *Overview of Clean Water State Revolving Fund Eligibilities*. U.S. Environmental Protection Agency. Accessed Dec 23, 2019. https://www.epa.gov/sites/production/files/2016-07/documents/overview_of_cwsrf_eligibilities_may_2016.pdf.

EPA (U.S. Environmental Protection Agency). 2019. America's Water Infrastructure Act (AWIA) Questions and Answers. U.S. Environmental Protection Agency. Accessed Dec 23, 2019. https://www.epa.gov/cwsrf/americas-water-infrastructure-act-awia-questions-and-answers.

Appendix B: Alternative Repayment Sources

The CWSRF is a loan program that reimburses borrowers on a cost-incurred basis and does not provide a lump sum of cash up front. Identifying a loan repayment source can sometimes be challenging for borrowers with limited revenue streams such as small communities or nonprofit groups that lack the taxing authority or utility fees typically used as the primary source for repayment of CWSRF loans. The following table describes a variety of creative financing mechanisms and repayment sources to help nontraditional borrowers successfully navigate repayment challenges for NPS projects financed with CWSRF.

Revenue Source	State CWSRF Example
Business revenues (resorts, schools, factories etc. with onsite wastewater treatment)	Many manufacturing facilities have their own localized treatment systems. For example, Ohio's CWSRF provided a 5-year, $60,000 loan to a business to conduct a site assessment and cleanup on a brownfield site adjacent to its dry-cleaning facility. The loan was repaid using a revenue stream from accounts receivable, with inventory and cash as extra collateral. This approach could also be used for other types of NPS projects.
Carbon credits	The California CWSRF made an $18.75 million loan at zero percent interest to the Yurok Tribe for the acquisition of 22,237 acres of forestland to protect water quality and beneficial uses. Carbon credits generated from sustainable harvesting practices provide a partial repayment source. The tribe was required to provide a contract for the sale of carbon reserves as a condition to receive funding.
Equipment rentals (e.g., specialized for direct seed and no-till agriculture)	Washington's CWSRF provides pass-through funding via the Spokane County Conservation District for direct seed application fees, equipment purchase or equipment rental. A conservation district could also use a CWSRF loan to purchase specialized equipment to rent out to individual farmers and use the rental income as a repayment source for the loan.
Fees paid by developers	The Ohio CWSRF has loaned a total of $3 million to a corporation to remediate a 27.5-acre brownfield on the site of a former industrial park. Repayment sources for the loan include rental fees from the completed project (to be redeveloped for light industry), sales revenue from clean soil on the site that will be used to cap a municipal landfill, and fees from a licensed construction and demolition debris landfill placed on the site of the excavated soil.
Homeowner association fees	The CWSRF program can make loans directly to homeowner associations, which are repaid by HOA fees. The Maryland CWSRF made a $529,000 loan to the Dennis Point Homeowners Association for an erosion control and shoreline stabilization project. CWSRF loans could also be made to homeowner associations for decentralized systems and other eligible projects.
Membership fees	Ohio CWSRF awarded a $110,000 loan to The Nature Conservancy to purchase a conservation easement to protect and restore a threatened section of Brush Creek. The nonprofit repaid the loan from their general operating account (includes membership dues and fundraising assets).

Revenue Source	State CWSRF Example
On-bill financing	On-bill financing is a method typically used to secure repayment for improvements for individual homeowners or businesses, such as water or energy efficiency improvements or septic repair and replacement. Funds for the improvements are passed through the local utility, and repayment occurs via a charge added to the customer's regular utility bill. The New York CWSRF program provided a guarantee for a bond issuance by the New York State Energy Research and Development Authority to provide funds for an on-bill financing program for residential energy efficiency improvements. This approach may also be applied to other types of NPS projects.
Permit fees	The Nebraska CWSRF provided a $10.7 million dollar loan to the Petroleum Release Remedial Action Fund to remediate leaking petroleum storage tanks. The loan was repaid from permit fees on tank owners and fees on purchase of petroleum products. These revenues may be directed to repayment of both point and NPS projects alike.
Property taxes	The Massachusetts CWSRF Community Septic Management Program uses a "betterment agreement" that channels loans through a municipality to individuals for septic system improvements and allows the municipality to ensure that the loan is repaid as part of a property tax bill. The municipality can place a municipal lien on the property if the homeowner defaults on the loan.
Recreational or license fees	Recreational fees such as boating permits, fishing licenses or park entrance fees could provide a repayment source for CWSRF-funded projects that protect water quality in recreational areas. Cape Henlopen—Delaware's most visited state park—used park fees as a repayment source for a 2015 CWSRF loan to fix more than 6,200 feet of cracked sewer pipes.
Resort taxes/fees	Many areas use resort taxes or fees to fund water quality efforts. Big Sky, Montana, uses resort tax dollars to fund water and sewer improvement projects. The Montana CWSRF program has loaned $19.4M to the Big Sky County Water and Sewer District for wastewater treatment plant improvements; resort tax dollars could equally be used as a repayment source for NPS projects.
Sale of excess energy/energy savings performance contracting	Oregon's loan to the Farmers Irrigation District (FID) to convert unlined irrigation canals to a piped, pressurized system also provided an opportunity for FID to install micro-hydroelectric equipment within the new pipes. This technology saved FID over 2 million kWh per year—equivalent to one month's electrical supply cost. The sale of the excess energy is helping FID pay off their CWSRF loan ahead of schedule.
Sale of treatment process residuals	Residuals from both wastewater treatment and drinking water treatment process have been shown to have value in several markets, including land application (agriculture, landscaping, nurseries and homeowner markets), cement manufacturing, brick-making, turf farming, composting, commercial topsoil, road subgrade, landfill cover and land reclamation.

Revenue Source	State CWSRF Example
Sale of water rights	The Oregon CWSRF provided funding to Farmers Irrigation District (FID) to convert unlined irrigation canals to a piped, pressurized system. The project saved so much water that FID was able to sell excess water rights to create permanent, in-stream habitat for endangered fish species.
Sales tax	Wyoming assesses a small gas ad valorem tax on every gallon of gas (as well as special fuels) sold or distributed in the state. In the past, this tax revenue provided a repayment source for a $57 million CWSRF loan to the Wyoming Department of Environmental Quality to contract for site investigations and cleanup work at leaking underground gasoline storage tank sites throughout the state.
Stormwater fees	The Maryland CWSRF provided a $14 million dollar loan to the city of Rockville to fund planning, design and restoration of the Watts Branch tributary of the Potomac River. Funds to repay the loan will be generated from Rockville's stormwater fee, which is assessed on all property owners and is based on the amount of impervious surface on each property.
Tax revenues from contaminated site redevelopment	An EPA analysis of 48 brownfield sites showed that an estimated $29 million to $97 million in additional tax revenue was generated for local governments in a single year after cleanup. Municipalities could use this revenue source to repay a CWSRF loan for contaminated site remediation.
Traditional municipal repayment sources (tax and utility revenues)	An increasing number of municipalities and utilities are incorporating elements such as green infrastructure and water reuse into their wastewater and stormwater capital improvement projects. When this occurs, the traditional revenue sources (e.g., tax revenues, user rates) function as a repayment source for all aspects of the project.
Watershed improvement districts (WIDs)	WIDs are local government entities formed pursuant to state statute, which provides them with taxing authority. These entities are controlled by landowners/farmers within the WID; the structure allows them to collaborate on NPS projects, generate revenues needed for projects and secure additional financing. Many WIDs around the country have used the CWSRF program for various NPS watershed projects. In Maine, the Cumberland County Soil and Water Conservation District repaid their $2.1 million CWSRF loan through revenues generated by Restoration Program Participation Fees assessed to participating landowners.
Watershed protection fees/taxes	A number of utilities across the country (including Central Arkansas Water in the city of Austin and Maryland's Howard County) use an on-bill watershed protection fee to pay for various watershed protection projects. For example, in Raleigh, North Carolina, water customers pay 10 cents per thousand gallons of water used (approximately 45 cents per month per customer). This fee typically generates about $1.8 million per year that is used to conserve critical land in the watershed to provide protection for drinking water sources and reduce treatment costs.

Appendix C: Demonstrating Success

The following examples demonstrate ways that CWSRF and NPS programs can collaborate for mutual benefit in as they address NPS pollution at the state level.

1. **Arkansas**: Managing Agriculture and Nutrients
2. **Georgia**: Land Conservation
3. **Iowa**: Traditional Utilities Sponsor Water Resource Restoration
4. **Maine**: Direct Link Program for Forestry
5. **Minnesota**: Building Partnerships Creates Change
6. **Ohio**: Incentives for NPS Sponsorship
7. **Oregon**: Innovations in Agricultural BMPs
8. **Vermont**: Legislative Changes Support NPS Financing
9. **Washington**: Solutions to Septic Systems

1. Arkansas: Managing Agriculture and Nutrients

Arkansas' Agriculture Water Quality Loan Program (AgWQLP) functions as a linked deposit loan mechanism to fund NPS agricultural conservation and nutrient management projects in the state. It is a partnership between the Arkansas Natural Resources Commission (ANRC), USDA Natural Resources Conservation Service (NRCS), state conservation districts and local financial institutions. ANRC has set these loans at 3% interest, 20-years-maximum repayment terms (or the useful life of the project) and a maximum loan of $250,000 per borrower. The AgWQLP is funded by the Arkansas Clean Water Revolving Loan Fund, which makes $25 million available for linked deposit loans through the program each year.

Practices eligible for AgWQLP funding include riparian buffers, streambank stabilization, terracing, animal waste management and storage, drainage systems and outlets, ponds and livestock watering facilities, among others.

In this arrangement, the NRCS and conservation districts are responsible for developing projects with potential applicants and bringing them to the program. Conservation districts and the ANRC evaluate and approve funding applications in addition to handling technical assistance and inspections. Conservation districts and financial institutions deal with details of loan initiation and financial review and payments, whereas overall program oversight and administration duties fall to the ANRC.

ANRC makes $25 million in CWSRF financing available every year for AgBMP linked deposit loans

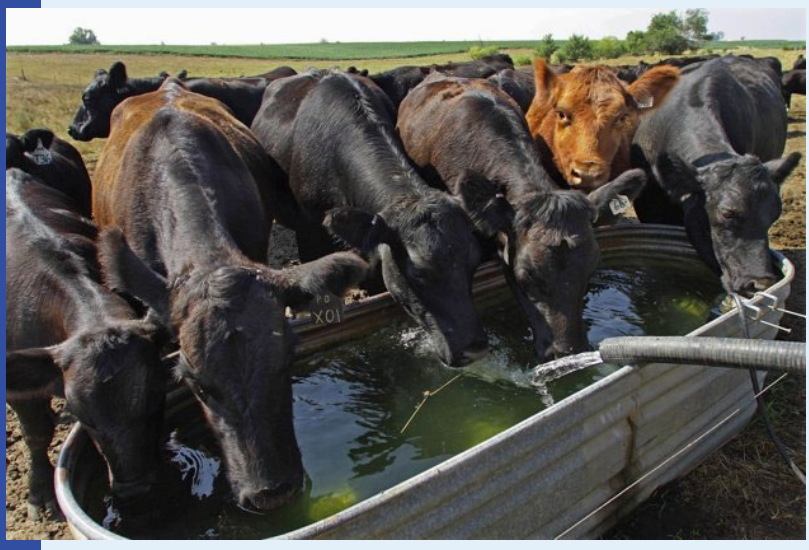


Photo: U.S. Geological Survey

Cattle gather at an animal watering facility in Arkansas.

2. Georgia: Land Conservation

The Georgia Environmental Finance Authority (GEFA) offers financing through the CWSRF for water conservation and energy production/conservation projects. Through the close of FY 2019, GEFA also financed land conservation projects through the Georgia Land Conservation Program (GLCP); these protected water quality, reduced flooding risks, and protected habitat for native animals or plants. Approved land conservation projects needed to be permanently protected through deed-restriction or conservation easements and must have provided a water quality benefit that was consistent with Georgia's Nonpoint Source Management Plan. Loan underwriting approval from GEFA's board of directors was also required. (*Note*: Beginning in FY 2020, GLCP was replaced by the Georgia Outdoors Stewardship Program, which is managed by the Georgia Department of Natural Resources.)

In January 2014 GEFA launched a new conservation initiative, offering borrowers an interest rate 1% below the standard program rate on land, energy and water conservation projects. Since then, more than $104 million in CWSRF loans have protected over 42,000 acres in Georgia. In FY 2018 alone, GEFA loaned over $52 million to communities and nonprofits for land conservation projects.

In 2018 GEFA signed a $35 million assistance agreement with The Nature Conservancy for the purchase of the 11,000+ acre Cabin Bluff property on the southern coast of Georgia. Cabin Bluff includes softwood forests and intracoastal marshes and is the largest remaining undeveloped coastal property in the state. The land is home to many important threatened plant and animal species, including the longleaf pine, gopher tortoise, eastern indigo snake, tri-color bat and manatee. This agreement will protect the land in perpetuity. The Nature Conservancy is developing plans to fully restore its longleaf pine ecosystem and intends to open parts of the land to the public.

Photo: Chuck Bargeron, University of Georgia (CC 3.0 Image #1150076)

The Cabin Bluff property supports longleaf pine forest.

3. Iowa: Traditional Utilities Sponsor Water Resource Restoration

Iowa instituted its Sponsored Projects program in 2009, which allows traditional utilities to sponsor "water resource restoration" projects that implement BMPs for NPS pollution control. The utility selects a project within the watershed of the POTW that will improve water quality and then borrows for both a traditional project as well as the NPS project. In return, the utility receives an interest rate reduction on the overall loan that is equal to the principal amount for the sponsored project. The Iowa CWSRF allows funding of sponsored projects at a level of approximately 10% of the traditional project loan amount. Sponsored projects are intended to help restore the natural hydrology of the watershed (e.g., installing permeable pavement and rain gardens, restoring native vegetation, stabilizing streambanks). The Sponsored Project program is administered by the Iowa CWSRF, which partners with state NPS program staff, watershed coordinators, the Department of Agriculture, and others to review applications twice annually and select projects for addition to the IUP (see box, below).

Iowa uses cash flow management to identify the amount of CWSRF funds globally available (including federal capitalization grants, state match, and loan repayments) to understand current and future cash flows. This practice allows them to make loan commitments to more projects than the program has available. Understanding future cash flows using long-term projections and a built-in capital buffer of 1.5 times the average monthly disbursement demand enables Iowa to plan for and make financing decisions confidently and comfortably. These practices maximize the strength and reach of their program to treatment works and NPS project needs alike.

Project Support

Iowa's CWSRF program sets aside ~ $10 million annually for NPS sponsored projects and had funded 110 projects ($79 million total) by the end of State Fiscal Year (SFY) 2020. Heavy demand for these funds indicates the program's success. In SFY 2019–2020, 30 sponsored projects were accepted for a total of over $24 million in recommended financing.

Photos: City of Dubuque, IA

A stormwater management sponsored project in Dubuque, IA, installed permeable pavers in 74 alleys.

4. Maine: Direct Link Program for Forestry

The Direct Link Program is a linked-deposit mechanism, initiated by a memorandum of understanding (MOU) in 2007 and launched in 2008 as a partnership between the Maine Department of Environmental Protection (DEP), the Maine Forest Service (MFS), the Maine Municipal Bond Bank and six local participating banks. This program promotes adoption of BMPs by Maine-based logging operations by giving them access to CWSRF loan funding for the purchase of environmentally friendly logging equipment.

Under the program, a borrower signs an agreement with MFS and receives a Certificate of Qualification for the eligible equipment. A local participating bank then must approve the loan agreement, at which point DEP and the Bond Bank issue a Certificate of Deposit to the bank for the discounted loan. District foresters from MFS conduct site visits and ensure that the borrower properly implements BMPs, maintains a clean enforcement record, and keeps the equipment in Maine for the duration of the loan. If any of these terms are violated, the agreement is canceled and the discounted interest rate reverts to the standard rate.

Maine's Direct Link Program by the Numbers:

- **$9 million in funding committed for Direct Link projects in FY 2020**
- **Over 127 loans issued for a total of more than $45 million since inception**
- **Loans at a 2% interest rate subsidy from prevailing rates, 5-year term**
- **Maximum loan amount $800,000**

5. Minnesota: Building Partnerships Creates Change

The Clean Water Partnership (CWP) loan program makes CWSRF loans to local government entities (counties, cities, watershed districts, etc.), and incentivizes participation with interest rates of 0-2% on projects to implement a variety of BMPs. The Bald Eagle Lake Restoration Project in the City of Hugo received a CWP loan of $400,000, in addition to funding from several other sources, to restore Bald Eagle Lake to state water quality standards and reduce harmful algal blooms. Thanks to the successful partnership between state agencies, the city, private landowners and a local golf course, the project has resulted in drastic reductions of nutrients and algae and improvements in water clarity in the lake, which serves as an important local recreational resource. The project involved a full-lake alum treatment to reduce the nutrients available for algae growth, stormwater capture and reuse on the golf course, residential rain garden installations and shoreline restoration.

The Minnesota Department of Agriculture (DOA) also administers an Agricultural Best Management Practices (AgBMP) loan program that helps farmers implement BMP projects aligning with the state's §319 and §320 management plans. These projects focus on animal waste, conservation, failing septic systems, abandoned wells, and erosion and sediment control. The AgBMP program uses a pass-through mechanism, in which CWSRF funds are allocated by DOA at 0% interest to counties, conservation districts, or joint powers organizations to capitalize revolving loan accounts with local lenders. The local government unit then approves projects from the agricultural community, which receives loans at up to a 3% interest rate. Since launching the CWP and AgBMP programs in 1995, Minnesota has allocated $90.6 million in CWRF funds to the programs, generating $312 million in loans. Repayments from the two programs total around $10 million annually.

Since launching the CWP and AgBMP programs in 1995, Minnesota has allocated $90.6 million in CWSRF funds to the programs and generated $291.8 million in CWP and AgBMP loans.

In FY 2020 alone, the two programs made 75 CWRF loans (at 0% interest) for a total of $21.8 million in assistance to private landowners and local governments.

Photo: MN Pollution Control Agency

A worker treats Bald Eagle Lake in Minnesota with alum to reduce nutrients.

6. Ohio: Incentives for NPS Sponsorship

The Ohio Water Pollution Control Loan Fund (WPCLF) allows traditional wastewater project applicants to sponsor permanent stream or wetland restoration or protection projects through its Water Resource Restoration Sponsor Program (WRRSP). This program, launched in 2000, seeks to safeguard Ohio's water quality by countering ecological damage and loss of biological diversity in aquatic habitats. As of March 2021, Ohio EPA had generated over $205 million to fund NPS projects through this program, including 500,000 linear feet of stream and 16,800 total acres of riparian lands and wetlands. The WPCLF incentivizes these sponsorship projects by advancing part of the interest on a traditional borrower's SRF loan.

Projects are nominated, scored and ranked on the CWSRF Fundable list based on the importance of the resource, potential for restoration, and the effectiveness of the project/action, and then paired with an appropriate sponsor. Sponsors work directly with project implementers, which may include political subdivisions (e.g., municipalities, park districts, land trusts) and other qualifying entities such as nonprofit organizations. Project implementers are responsible for finding their own project sponsor (or multiple sponsors for larger projects) and they undertake the planning, design, construction and monitoring of individual NPS projects. After the loan is awarded, the Ohio EPA Division of Environmental and Financial Assistance oversees project implementation and post-construction monitoring. The implementers are expected to operate and maintain the projects in perpetuity, using their own funds and resources where necessary, which is viewed as a type of informal match.

Ohio has modified the WRRSP for more effective implementation by:

- Requiring pre-nomination site visits with potential implementers to properly evaluate and prioritize projects
- Focusing more on readiness to proceed during project selection
- Conducting regional outreach
- Publishing a WRRSP Guide for project implementers

The Ohio WPCLF makes $15 million available to the WRRSP every year!

Photo: Nyttend (Wikimedia Commons)

Protection of the Glen Helen Nature Preserve in Yellow Springs, OH, was sponsored by a project to upgrade Warren County's wastewater treatment plant.

7. Oregon: Innovations in Agricultural BMPs

Oregon provides a great example of CWSRF and NPS interests working together to achieve common goals. Farmers Irrigation District (FID) in the Hood River Valley used an inefficient, open-canal irrigation system that lost water to leakage through the volcanic soil and evaporation. In addition, these canals were vulnerable to erosion, required constant maintenance to prevent failure, and contributed to local NPS pollution from agricultural and residential runoff. Severe rain-on-snow flooding events in 1996 and 2006 caused critical damage to FID's infrastructure, leaving this roughly $260 million agricultural region without irrigation for its crops. In the wake of this disaster, the Oregon Department of Environmental Quality (DEQ) worked with FID and the Oregon CWSRF to secure $30.9 million in CWSRF loans. Paired with additional funding from the Energy Trust of Oregon, Oregon Water Resources Department, Oregon Watershed Enhancement Board, and District funds, FID embarked on a multiyear project to convert FID to a pressurized, piped system.

Revenue from improved hydrogeneration and efficiency gains (see below) is allowing FID to repay its CWSRF loans without heavily impacting the rates charged to irrigation district members. The new pressurized delivery system has also allowed farmers in the district to install more efficient sprinkler systems, often using 25%–50% less water per acre. The benefits FID and the community have reaped in environmental quality, water security, efficiency, conservation, and the bottom line demonstrate that NPS water infrastructure projects can be sound investments as well as a solution to short- and long-term problems. The FID initiative is ongoing, as is DEQ's interest in providing assistance to similar projects in the future.

This project has yielded multiple benefits for FID and the region, including:

- Conserving 6 billion gallons of water annually
- Leaving an additional 2,000 acre feet of water in the Hood River to protect endangered fish
- Increasing total electricity generation of the FID system to ~26 million kilowatt hours through improved efficiency (removal of extraneous pumps), addition of in-line microhydroelectric turbines to pipes, and rehabilitation of two pre-existing hydroelectric plants
- Returning $200,000 additional annual revenue from efficiency and electrical sales back to the grid

Oregon DEQ has funded 14 separate irrigation district projects from 2012 to 2018, totaling more than $57 million in CWSRF assistance

8. Vermont: Legislative Changes Support NPS Financing

Restrictions on NPS funding by state statute had hampered Vermont's ability to address growing impairments from nutrient loading to Lake Champlain, a top water quality priority in the state. The Vermont Department of Environmental Conservation (DEC) worked with state lawmakers and other stakeholders to make more NPS work possible in Vermont, which included an examination of the triple bottom line economic benefits associated with funding such projects; the direct link between degraded watersheds, vegetation loss and urbanization on treatment costs; the cost-effectiveness of pollution prevention; and overall water quality.

Act 185 was passed in May 2018, and expanded CWSRF eligibility to include projects designed "to protect, conserve, or restore natural resources…for the purpose of providing water quality benefits," including wetland/floodplain/stream restoration, conservation easements and land acquisition for water quality improvement, tree plantings, lakeshore retrofits, erosion repair and dam removal. These projects can be funded on their own or sponsored under the same agreement as a loan to a municipality or nonprofit for a "traditional" project, in which case the interest rate is adjusted to forgive some or all the NPS portion. Eligibility for CWSRF loans to private borrowers for projects to improve water quality was also temporarily authorized (through June 2023) by the legislation.

WISPr at a Glance

- Solicits applications from natural resource projects in the planning stages
- Serves as a match-making service between sponsors and potential NPS projects
- Publishes online lists of traditional point source and natural resource projects to find potential partners
- Partnered projects are ranked together on the CWSRF Intended Use Plan
- Planning and construction are coordinated so that the sponsored NPS project is completed within 1 year of the sponsoring municipal project
- Municipalities and nonprofit organizations are eligible to apply
- Sponsoring projects include:
  - Wastewater treatment facilities
  - Decentralized systems
  - Combine sewer overflow downspout disconnection
  - Stormwater infrastructure
- Sponsored projects include
  - Wetland restoration
  - Floodplain/stream restoration
  - Woody buffer plantings
  - Dam removal
  - Lake shore retrofit

The culmination of this legislative and engagement work is the DEC's Water Infrastructure Sponsorship Program (WISPr).

9. Washington: Solutions to Septic Systems

In 2016, Washington State's CWSRF program continued its long history of facilitating septic system repairs with the launch of a new Regional On-Site Sewage System Loan Program (RLP). The RLP consolidated multiple county-level septic loan programs into a single public-private partnership between the Washington Department of Ecology, Washington Department of Health, multiple counties and local health jurisdictions, and a competitively selected local nonprofit Community Development Financial Institution called Craft3. The public-private partnership (P3) allows homeowners in participating counties to access financing through Craft3 for the repair, upgrade or replacement of failing septic systems to protect public health and water quality. The RLP is capitalized by CWSRF loans, state of Washington grants, and private funds. With oversight from the member counties and state, Craft3 manages loan approvals and portfolio administration, assumes the financial risk from the loans made to private homeowners, and is obligated to repay the CWSRF funds.

Because the RLP benefits from Craft3's lending expertise and infrastructure, more money is available for loans, outreach and education, and less is needed for program administration. Local governments reap the benefits of a CWSRF-funded program without the headaches of a local loan program, resulting in more assistance to households with the greatest amount of need. Low-income borrowers account for nearly 40 percent of the projects. Many of these borrowers do not qualify for traditional bank financing. Loans cover the full cost of system design, permitting and installation, and are offered at more-affordable interest rates for borrowers with lower household incomes. There is no upfront cost to the borrower, and interest-only and deferred-payment options are made available to the lowest-income groups.

The consolidated program also streamlines and standardizes the process for contractors, making it easier for them to work across jurisdictions, and paying them immediately when each septic system passes inspection. RLP funds are also available for nonprofits and small businesses that need financing.

Between mid-2016 and December 2020, the RLP has deployed over $26 million in loans through Craft3 to repair or replace more than 1,100 septic systems that treat around 149 million gallons of domestic wastewater annually.

This effort was recognized with a USEPA Performance and Innovation in the SRF Creating Environmental Success (PISCES) Award in 2017 for its innovative nature and water quality/ public health benefits.

Photo: Craft3

Septic replacement in Washington state.

Appendix D: EPA Fact Sheets on DWSRF Set-Asides for Source Water Protection

Protecting Source Water with the Drinking Water State Revolving Fund Set-Asides

States and communities may use the Drinking Water State Revolving Fund (DWSRF) set-asides to safeguard sources of drinking water.

BACKGROUND

Protecting sources of drinking water can proactively safeguard the water we drink and improve our public health. Taking steps to manage potential sources of contamination and to prevent pollutants from reaching sources of drinking water can often be more efficient and cost-effective than treating drinking water downstream.

The Safe Drinking Water Act (SDWA) Amendments of 1996 required each state to develop a comprehensive Source Water Assessment Program and to complete source water assessments for each public water system. These assessments, which states made available to the public, include a delineation of the areas needed to protect the drinking water source, an inventory of potential contaminant sources, and a determination of the water system's susceptibility to contamination. While there is no requirement in the SDWA to update these assessments, the America's Water Infrastructure Act (AWIA) explicitly re-authorized the use of Drinking Water State Revolving Fund (DWSRF) set-aside funds for this purpose. The AWIA also expanded the eligibilities for set-aside expenditures on source water protection (SWP) activities and re-authorized states to establish source water petition programs that can investigate the origins of pollution to reduce levels of contamination, establish partnerships for SWP, and develop recommendations for long-term SWP strategies.

DWSRF ASSISTANCE

The DWSRF can provide financial assistance to publicly-owned and privately-owned community water systems, as well as non-profit non-community water systems, for drinking water infrastructure projects. Projects must either facilitate the system's compliance with national primary drinking water regulations or significantly further the health protection objectives of the SDWA.

Each of the 50 states and Puerto Rico operates its own DWSRF program. They receive annual capitalization grants from the EPA, which in turn provide low-interest loans and other types of assistance to water systems.

Additional Source Water Protection Resources:

EPA's Source Water Protection page: epa.gov/sourcewaterprotection

The Clean Water SRF Program: epa.gov/cwsrf

The Source Water Collaborative: sourcewatercollaborative.org

OFFICE OF GROUND WATER AND DRINKING WATER

EPA 816-F-19-003 October 2019

Repayments of DWSRF loans begin up to 18 months after project completion, with loan terms up to 30 years for most communities, or up to 40 years for disadvantaged communities.

Additionally, states may use a portion of their capitalization grant from the EPA as "set-asides" to help communities build the technical, managerial, and financial capacities of their systems. States may use the set-asides to fund several types of SWP activities. They may administer the SWP program, provide technical assistance, and fund implementation activities.

SET-ASIDES USE FOR SWP

The State Program Management (i.e., 10 percent) and Local Assistance and Other State Programs (i.e., 15 percent) set-asides are commonly used to support SWP programs and initiatives. States submit set-aside workplans to the EPA each year describing activities for which they intend to use their set-asides and how funds will be spent.

The State Program Management set-aside is most commonly used to support staff in the state's SWP program (e.g., a SWP coordinator) or other technical assistance providers (e.g., circuit riders or hydrogeologists). The Local Assistance and Other State Programs set-aside has broader eligibilities and allows states to provide assistance through loans or grants, depending on the activity and recipient of the funds.

In brief, for SWP, the Local Assistance Set-Aside may be used to:

- Make loans to public water systems for purchasing land or conservation easements for the purpose of SWP;
- Make loans to community water systems for implementing source water protection petition programs or voluntary, incentive-based SWP measures;
- Make expenditures to delineate, assess, and/or update SWP areas; and
- Make expenditures to establish and implement wellhead protection programs, and to implement efforts to protect source water.

Examples of activities that can be supported by the Local Assistance set-aside include:

- Updating source water assessments,
- Developing and implementing SWP plans,
- Land acquisition and conservation easements,
- Well abandonment,
- Cover crops and other best management practices,
- Building fences to protect water sources,
- Septic system surveys and replacement,
- Outreach and education, and
- Development of local ordinances to protect source waters.

States may provide support through various mechanisms such as loans to public water systems, grants to local communities, funding of technical service providers, or grants to nonprofit organizations. More information on eligibilities can be found in the DWSRF Eligibility Handbook: https://www.epa.gov/dwsrf/dwsrf-eligibilities.

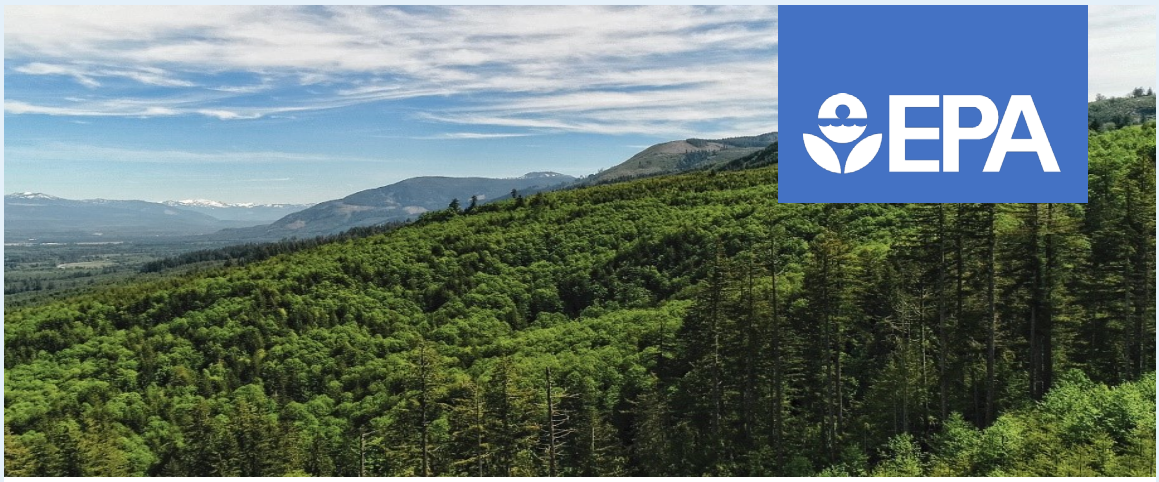
LEVERAGING SET-ASIDES TO ADVANCE SWP

Even small investments can play an important role in advancing SWP. Set-aside funds can help not only through direct action, but also coordination with other programs charged with protecting and improving freshwater resources and public health. For example, several states have used DWSRF set-aside funds to develop assessments, appraisals, and plans to meet application requirements for Clean Water State Revolving Funds and Clean Water Act section 319 Nonpoint Source Management grants. Some states have used set-aside funds to support staff who research and prepare applications for funding opportunities or who coordinate with other organizations to identify priority areas for conservation investment (e.g., United States Department of Agriculture conservation programs).

LEARN MORE ABOUT FUNDING

DWSRF assistance is distributed directly from state agencies. Each state has its own funding procedure. Contact information for each state is posted at https://www.epa.gov/drinkingwatersrf/state-dwsrf-website-and-contacts.

For more information, visit: **epa.gov/dwsrf**



DWSRF Set-Asides Case Studies: Source Water Protection

How states and communities are using the Drinking Water State Revolving Fund (DWSRF) set-asides to safeguard sources of drinking water.

NEBRASKA: DRINKING WATER PROTECTION MANAGEMENT PLANS

The Nebraska Department of Environment and Energy (NDEE) uses their DWSRF set-asides to support the development of groundwater-focused planning documents which help Community Water Systems access funding to address nonpoint sources of pollution. Plans are developed by communities using source water protection grants funded by the DWSRF 15 percent Local Assistance set-aside. These plans are written to meet the requirements of an Alternative to an EPA 9-Element Watershed Management Plan. Once accepted, the plans will be eligible for EPA Clean Water Act section 319 grant funds. If awarded, these grant funds may be used to implement the actions outlined in the plans, including on-the-ground best management practices and public outreach to address nitrate contamination in the aquifer. Currently, two of these groundwater-focused plans are also being used to access targeted funding for financial and technical assistance from the National Water Quality Initiative (NWQI) of the USDA Natural Resources Conservation Service (NRCS) and have resulted in over $500,000 for implementation of voluntary conservation practices to landowners.

In addition, NDEE is collaborating with USDA NRCS to prioritize wellhead protection areas for source water protection funding included in the 2018 Farm Bill.

The 2018 Farm Bill makes $2-3 million available annually for source water protection in Nebraska to be invested in delineated source water protection or wellhead protection areas. The DWSRF 15 percent set-aside funds will be used by NDEE to update the delineations of wellhead protection areas from 20-year time-of-travel to 50-year time-of-travel, expanding the areas eligible for USDA NRCS investment in source water protection activities. Funding for source water planning has been limited in the past and this collaboration between planning and implementation funding sources opens new opportunities for source water protection.

Additional Source Water Protection Resources:

EPA's Source Water Protection page: epa.gov/sourcewaterprotection

The Clean Water SRF Program: epa.gov/cwsrf

The Source Water Collaborative: sourcewatercollaborative.org

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DELAWARE: COVER CROPS FOR PROTECTION

The Delaware DWSRF program partnered with the Sussex County Conservation District (SCCD) and the Delaware Rural Water Association (DRWA) to conduct a source water protection pilot. The objective was to work with both the agriculture and water utility communities to ensure all agricultural land surrounding high-risk public wells participated in a cover crop program. The state's DWSRF program worked with the SCCD to complete GIS mapping of high-risk public wells and financially supplement the cover crop program. The state also worked with the DRWA to identify high-risk public wells throughout Sussex County. This pilot, funded with $250,000 from the DWSRF 15 percent Local Assistance set-aside, implemented 5,555 acres of cover crops. Based on the success of the pilot, the goal is to expand this program to the two other Delaware counties in the future and further promote drinking water protection through cover crops.

WASHINGTON: LEVERAGING FOR LAND

The Skagit Public Utility District (PUD) provides drinking water to more than 65,000 people in Skagit County, serving three cities as well as suburban and rural areas. The Gilligan Creek area of the Cultus Mountain Watershed provides 45 percent of the PUD's source water for its Judy Reservoir Water System. Until recently, timber companies owned all property around Gilligan Creek. Using a grant and a loan from two state agencies, Skagit PUD purchased and protected 250 acres of critical watershed area in perpetuity for its customers. The grant, funded with the DWSRF 15 percent Local Assistance Source Water Protection set-aside through the Washington Department of Health, was used by the PUD for appraisal and survey of the property early in the process. Knowing the approximate value and exact portion of the property helped the utility negotiate with the property owner and clearly identify a cost to rate payers for the PUD board of commissioners to consider. The PUD subsequently purchased the land in 2019 with a $1.53 million Clean Water State Revolving Fund loan through the Washington Department of Ecology. The loan included 25 percent principal forgiveness, which reduced the amount owed on the loan. The PUD will pay back the loan through customer revenues and proceeds from selective timber harvests. This collaboration between multiple state agencies and funding sources resulted in a successful priority drinking water protection project.

MAINE: LAND CONSERVATION

The Portland Water District (the District) is Maine's largest water utility. Its source, Sebago Lake, is a multi-use lake with excellent water quality. The greatest challenge to the long-term protection of lake water quality is potential development pressure in the mostly privately-owned watershed. In response, the District developed a Watershed Land Conservation Program, which provides funding toward forest conservation. In 2019, the District approved the purchase of a $345,000 conservation easement on a 1,417 acre property known as the Tiger Hill Community Forest. The property is located within two miles of the drinking water source and its conservation will ensure that it remains forested in perpetuity. The District is using the Maine DWSRF's land acquisition loan program under the 15 percent set-aside, which offers a low interest rate and up to $50,000 principal forgiveness, reducing the amount owed on the loan. This source water protection project, scheduled for completion in fall 2019, benefits the District and its rate payers by protecting their drinking water source.

LEARN MORE ABOUT FUNDING

DWSRF assistance is distributed directly from state agencies. Each state has its own procedure. Contact information for each state is posted at https://www.epa.gov/drinkingwatersrf/state-dwsrf-website-and-contacts.

For more information, visit: **epa.gov/dwsrf**

Using the Drinking Water State Revolving Fund Set-Asides for Source Water Protection Loans

States may offer loans to community water systems to finance source water protection activities through the Local Assistance and Other State Programs set-aside.

WHAT IS SOURCE WATER PROTECTION?

Source water is the water from rivers, streams, lakes, springs and ground water aquifers that provides water to public drinking water supplies and private wells. Source water protection aims to safeguard, maintain, or improve the quality of those drinking water sources and their contributing land-areas. There is growing recognition that protecting a source from contamination is often more efficient and cost-effective than treating the drinking water to remove the contamination. Types of source water protection measures that a community can implement include local land use controls through land acquisition and conservation easements, best management practices for agricultural and forestry activities, and public education initiatives.

Source water protection is integral to providing safe and reliable drinking water to the nearly 300 million people served by community water systems in the United States. The Safe Drinking Water Act (SDWA) Amendments of 1996 established the Drinking Water State Revolving Fund (DWSRF) program, which awards capitalization grants from the U.S. Environmental Protection Agency (EPA) to each of the 50 states and Puerto Rico. A portion of the capitalization grants can be used as "set-asides" to support non-infrastructure activities, including source water protection. DWSRF programs can use set-asides to develop and implement Source Water Protection Programs, delineate and assess source water protection areas, and finance a variety of local land use controls and other management tools for source water protection. The full range of source water protection activities eligible for DWSRF set-aside funding is described in a separate EPA fact sheet identified in the additional resources box below.

DWSRF ASSISTANCE

The Drinking Water State Revolving Fund (DWSRF) can provide financial assistance to publicly-owned and privately-owned community water systems, as well as non-profit non-community water systems, for drinking

Additional Source Water Protection Resources:

EPA's Source Water Protection page: epa.gov/sourcewaterprotection

EPA's Fact Sheet on Source Water Protection Using Set-Asides: epa.gov/dwsrf/protecting-source-water-dwsrf-set-asides

The Clean Water SRF Program: epa.gov/cwsrf

The Source Water Collaborative: sourcewatercollaborative.org

USDA Natural Resources Conservation Services: https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/

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water infrastructure projects including cybersecurity measures. Projects must either facilitate the system's compliance with national primary drinking water regulations or significantly further the health protection objectives of the Safe Drinking Water Act.

Each of the 50 states and Puerto Rico operates its own DWSRF program. They receive annual capitalization grants from the EPA, which in turn provide low-interest loans and other types of assistance to water systems. Repayments of DWSRF loans begin 18 months after project completion, with loan terms up to 30 years for most communities, or up to 40 years for disadvantaged communities.

Additionally, states may use a portion of their capitalization grant from the EPA as "set-asides" to help communities build the technical, managerial, and financial capacities of their systems. With an emphasis on small systems, these funds help ensure sustainable infrastructure and public health investments.

LOCAL ASSISTANCE SET-ASIDE LOANS FOR SOURCE WATER PROTECTION

The Local Assistance and Other State Programs set-aside (i.e., 15%) can be used to provide loans to water systems for source water protection. Specifically, these loans can be used to acquire land or conservation easements needed to protect drinking water sources and for local planning and implementation of voluntary, incentive-based source water protection measures. Repaid loans may be recycled back into the set-aside account to fund other source water protection loans or to the state's infrastructure loan fund. States can provide principal forgiveness or negative interest rates for these loans using the Congressional additional subsidy authority. Any principal forgiveness or negative interest provided through source water protection loans counts toward the state's maximum allowable additional subsidy under the DWSRF.

ACQUISITION OF LAND OR CONSERVATION EASEMENTS

For some communities, an effective way to protect the quality of drinking water sources is through land ownership or restricted land uses. These efforts focus on watersheds or ground water recharge areas where development or other activities could impair the quality of the source water. States can use DWSRF set-aside funds to provide loans to water systems for the following land use controls:

- **Land Acquisition**: Purchase of land at or below the fair market value to control the types of activities that can take place.
- **Conservation Easement**: A Legal agreement with a landowner that permanently protects the land by limiting the amount and type of development that can take place but continues to leave the land in private ownership. Landowners typically sell conservation easements to a land conservation organization or government entity. Landowners who instead donate an easement may benefit from reduced income/estate taxes.

Land acquisition and conservation easements can prevent activities that may degrade water quality from occurring in critical areas. They can also provide additional community benefits such as preserving open space, enhancing recreational opportunities, and reducing flood damage.

SOURCE WATER PROTECTION MEASURES

Some communities are focusing their protection efforts on local, voluntary, and incentive-based source water protection measures. States can use the Local Assistance and Other State Programs set-aside to provide loans to water systems to implement these measures. This approach emphasizes a local stakeholder process to produce a plan for implementing a wide range of local land use controls and management tools, including:

- **Fencing:** Building fences that keep cattle away from the water's edge can reduce contamination in sources of drinking water and prevent bank erosion.
- **Capping Wells:** Sealing abandoned ground water wells and underground injection wells can keep contaminants out of ground water aquifers

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- **Riparian Buffers**: Strips of vegetation along streams and around reservoirs can significantly reduce the amount of sediment and contamination entering the source water. The vegetation serves as natural filters, and the tree and shrub roots hold stream banks in place to prevent soil erosion.

PARTNERSHIPS OPPORTUNITIES

DWSRF set-aside loans for land acquisition, conservation easements, and other source water protection measures can only be made to public water systems. An organization such as a watershed association or land conservancy can become a co-signatory to the loan agreement with the water system. In this arrangement, the organization could help implement the land use control measures around the water sources and take over the responsibility for loan repayment. The loan agreement would describe the specific responsibilities of the organization and the water system with respect to the financial assistance provided by the state. Such partnerships may complement ongoing work of the organization to preserve parts of a watershed or aquifer recharge area for other purposes.

Additionally, these source water protection loans can leverage other sources of funding. These include the 2018 Farm Bill, EPA's 319 program, and private lending. There are often partnership opportunities available with land trusts, nonprofit organizations, and others with expertise in land protection issues that could work closely with the water systems.

The following are some examples of the types of activities that land trusts and other organizations can do to facilitate source water protection (eligible activities under other parts of the 15% set-aside):

- provide technical assistance to water systems in identifying properties that qualify for funding;
- offer expertise in negotiating land acquisitions or conservation easements with willing sellers;
- manage land trusts or conservation easements once they are acquired from a willing seller; and
- assist with public outreach efforts to demonstrate the benefits of protecting water supplies within a community.

SOURCES OF LOAN REPAYMENT

Each state must include approval of a source of loan repayment as part of the application review and approval process. Although finding a source of repayment can prove challenging, it is possible. The source of repayment need not come from the project itself. Loan recipients can be creative in developing sources of repayment.

Some potential repayment sources include:

- Drinking water user fees.
- Dedicated portions of local, county, or state taxes or fees.
- State or local government grants.
- Fees paid by developers.
- Recreational use fees.
- Revenue from sustainable timber harvest or other forest products.
- Nutrient credits.
- Donations made to nonprofit groups (in cases when a nonprofit is a co-signatory on a loan).

ESTABLISHING A PRIORITY SYSTEM FOR LOANS FOR SOURCE WATER PROTECTION

Each state that establishes a loan program for land acquisition or conservation easements and source water protection measures must develop a priority-setting process to determine which projects to fund. An important consideration for the priority-setting process would be an evaluation of how the land, easement, or measure to be funded will protect the water supply from contamination and help ensure compliance with national drinking water regulations.

Each state that has established a loan program has developed a unique priority system for ranking projects. Many of these priority systems include the requirement that the land be within a delineated source water or wellhead protection area.

For more information, visit: **epa.gov/dwsrf**

DWSRF Case Studies: Source Water Protection Loans Under the DWSRF Set-Asides

How states and communities are using the DWSRF Local Assistance and Other State Programs set-aside loans to safeguard sources of drinking water.

MAINE: PROTECTING LAKE AUBURN AND THE CHASE POND WATERSHED

The Auburn Water Department received a loan for $570,000 to acquire 434 acres of land in the watershed of the "Basin," a small pond which drains directly into Lake Auburn. Lake Auburn serves as a source for two water systems. The systems collaborated with the Lewiston-Auburn Watershed Commission and the Androscoggin Land Trust (ALT) and negotiated a joint easement. Under this easement, the Commission reviews the landowner's forest management plan to ensure that best management practices for water quality are used and ALT shares overall easement monitoring responsibilities. By protecting land around Lake Auburn, the water systems have been able to maintain their source water quality.

The York Water District in Maine has used the loan program four times since 2007 to achieve its long-term goal of protecting the Chase's Pond watershed. Chase's Pond is a long, narrow, and shallow pond that has served as the sole drinking water source for the Town of York since 1896. The District determined that ownership of this 2,090-acre watershed is critical to protecting its water quality. In 2014, the District was awarded a loan through the state's land acquisition loan program for $249,000 to acquire 2.23 acres of land. The loan term is 10 years and has a 0% interest rate. The acquired land is adjacent to parcels previously acquired in 2007 and 2010, increasing the extent of protected land in the watershed. Additionally, the property acquired in 2014 included a single-family residence, which has been repurposed for the Town of York Natural Resource Protection Patrolling Program office. This program partners the York Water District and its police department with two bordering areas, the Kittery Water District and the Mount Agamenticus Conservation Region. The land acquisition resulted in lasting improvements to both water quality and local land management partnerships.

VERMONT: PROTECTING LAND USE IN SOURCE WATER PROTECTION AREAS

The Town of Bradford received a $140,000 loan to purchase a tract of farmland within Zone I of the system's source protection area. The purchase was a high priority because the Town's source protection plan identified high-risk land use activity on the property.

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CALIFORNIA: PROTECTING CONTRA LOMA RESERVOIR

The Contra Costa Water District relies on the Contra Loma Reservoir to supply drinking water to its community. The community has historically enjoyed the reservoir for swimming and recreation, but the human contact was associated with increased coliform levels in the reservoir. To improve water quality for the drinking water supply and to preserve the enjoyment of the reservoir for swimming, the Contra Costa Water District received a loan through the Local Assistance and Other State Programs set-aside for $2 million to build the Contra Loma Reservoir Swim Lagoon. A concrete-covered earthen berm was built to separate the water supply from all human contact. The project was completed as one of many projects to address the challenges facing the Bay-Delta in California. The loan term was 20 years and had an interest rate of 2.39%. The project will protect both the water quality and the community's enjoyment of the Contra Loma Reservoir for years to come.

NEBRASKA: SUPPORTING ACQUISITION OF WATERSHED LAND

The Nebraska DWSRF made a $1 million loan to the City of Syracuse for a land purchase of 637 acres from a group of private owners. This land will protect the City's wells (built in the 1950s) from nitrate contamination. The loan was paired with the development of a Drinking Water Management Protection Plan for the City. The plan will develop a groundwater model to delineate the 50-year well head protection area and establish a robust Nebraska Department of Environmental Quality and EPA approved Drinking Water Protection Management Plan that includes all elements of a Well Head Protection Plan. This project identifies water quality issues and opportunities for improving water quality, and it and engages the community in planning and implementation.

The Nebraska DWSRF makes protection plans a requirement of any land loan agreements, under the 15% set-aside, and it will serve as the guide for the City to protect its well field source, and will make them eligible for CWA Section 319 assistance in the future.

LEARN MORE ABOUT FUNDING

DWSRF assistance is distributed directly from state agencies. Each state has its own funding procedure. Contact information for each state is posted at https://www.epa.gov/drinkingwatersrf/state-dwsrf-website-and-contacts.

For more information, visit: **epa.gov/dwsrf**

Appendix E: Resources

National Program Resources

EPA §319 Grant Program

Homepage: www.epa.gov/nps/319

2016 National Nonpoint Source Program – A Catalyst for Water Quality Improvements: www.epa.gov/sites/production/files/2016-10/documents/nps_program_highlights_report-508.pdf

EPA Clean Water State Revolving Fund Program

Homepage: www.epa.gov/cwsrf

2018 CWSRF Annual Report: www.epa.gov/sites/production/files/2019-04/documents/2018_cwsrf_annual_report.pdf

Overview of Clean Water State Revolving Fund Eligibilities: www.epa.gov/sites/production/files/2016-07/documents/overview_of_cwsrf_eligibilities_may_2016.pdf

Financing Options for Nontraditional Eligibilities in the CWSRF: www.epa.gov/sites/production/files/2017-05/documents/financing_options_for_nontraditional_eligibilities_final.pdf

Sponsorship Lending and the CWSRF: www.epa.gov/sites/production/files/2017-10/documents/sponsorship_style_newest_final.pdf

CWSRF Webinars – Decentralized Wastewater Treatment Systems, Urban Trees and Land Conservation, NPS Sponsorship: www.epa.gov/cwsrf/cwsrf-webinars

State CWSRF/NPS Programs

Arkansas

Agriculture Water Quality Loan Program (AgWQLP): www.anrc.arkansas.gov/divisions/conservation/agricultural-water-quality-loan-program/

California

NPS Grants and Funding: www.waterboards.ca.gov/water_issues/programs/nps/319grants.html

Association of Bay Area Governments: https://abag.ca.gov/planning/projects.html

Iowa

NPS Water Quality Programs: www.iowasrf.com/program/other_water_quality_programs

Onsite Waste Water Assistance Program: www.iowasrf.com/program/other_water_quality_programs/onsite_waste_water_assistance_program.cfm

Local Water Protection Program: www.iowasrf.com/program/other_water_quality_programs/local_water_protection.cfm

Livestock Water Quality Program:
www.iowasrf.com/program/other_water_quality_programs/livestock_water_quality.cfm

Iowa's Nonpoint Source Program:
www.iowasrf.com/program/other_water_quality_programs/general_nonpoint_source.cfm

Maine

Department of Environmental Protection – Watershed Management:
www.maine.gov/dep/land/watershed/index.html

Minnesota

Onsite/Decentralized Program:
www.pca.state.mn.us/featured/cwp-ssts-and-bmp-spell-less-pollution

Agricultural BMP Program: www.mda.state.mn.us/agbmploan

Clean Water Partnership Program:
www.pca.state.mn.us/water/clean-water-partnership-program

Section 319 Funding: www.pca.state.mn.us/water/financial-assistance-nonpoint-source-water-pollution-projects-clean-water-partnership-and

Tourism Loan Program:
https://mn.gov/deed/business/financing-business/deed-programs/septic-tourism/

Ohio

NPS Sponsorship (WRRSP):
https://epa.ohio.gov/static/Portals/29/documents/ofa/WRRSPfactsheetNov2017.pdf

Linked Deposit for Private Borrowers:
https://epa.ohio.gov/static/Portals/29/documents/WPCLFLinkedDepositPrograms.pdf

Household Sewage Program:
https://epa.ohio.gov/static/Portals/29/documents/HSTSLinkedDeposit.pdf

Oregon

Farmers Irrigation District project: www.epa.gov/cwsrf/innovations-agriculture-oregon-farmers-irrigation-district-improves-water-quality-maximizes

Vermont

NPS Sponsorship (WISPr): dec.vermont.gov/facilities-engineering/water-financing/cwsrf/WISPr

Act 185: legislature.vermont.gov/bill/status/2018/H.777

Washington

Water Quality Combined Funding Program:
https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-Combined-Funding-Program/WQC-funding-cycle

On-site Sewage System Projects: https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-grants-and-loans/On-site-sewage-projects

Endnotes

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6 *Nonpoint Source Program and Grants Guidelines for States and Territories*. U.S. Environmental Protection Agency, 2013. https://www.epa.gov/sites/production/files/2015-09/documents/319-guidelines-fy14.pdf.

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United States
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