

Unlocking State Revolving Funds to Finance Resilience Across the Great Lakes Region

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EXECUTIVE SUMMARY

Water infrastructure—gray or green—is expensive. Although most investments in water infrastructure are financed through the municipal bond market, intergovernmental aid is an important source of capital. The largest federal program that invests in clean water infrastructure is the Clean Water State Revolving Fund (CWSRF). Established by the U.S. Congress in 1987, CWSRFs have played a key role in improving water quality in the United States by providing more than \$145 billion to finance more than 42,800 projects nationwide. In FY 2021, within the auspices of a historic \$1.2 Trillion Infrastructure Law, the United States Congress appropriated \$11.7 billion for the CWSRF program. This amount, although much short of the need, showcases the important role the program plays in catalyzing significant public and private investment in clean water infrastructure across the country. This report looks at the current status of how CWSRF dollars have been spent across the Great Lakes states and proposes greener priorities that would spur transformation in environmental, economic, public health, and social outcomes.

In the Great Lake states, like the rest of the planet, climate change is an existential threat. Increases in rainfall, flooding, and nutrient levels in the region spur the need to invest in solutions to build resilience, such as Green Stormwater Infrastructure (GSI). As an example, per 2019 National Oceanic Atmospheric Administration (NOAA) Atlas 14, between 1992 and 2019, the 100-year rainfall in the Detroit area has increased by nearly 0.8 inches (from 4.4 inches to 5.2 inches) which yields an additional 2 billion gallons of stormwater across the greater Detroit area. In the Greater Chicago region, over the same time period, the increase in 100-year rainfall is by an inch (from 7.5 inches to 8.5 inches) which amounts to an additional 15 billion gallons of stormwater across the greater Chicago area. Overall, there is a dire need to upgrade the infrastructure to prevent a looming public health disaster.

CWSRF needs to focus on the needs of today, not cater to priorities of the past

Since 1987, CWSRFs have provided more than \$145 billion to finance more than 42,800 projects nationwide. To-date, more than 90% of CWSRF dollars have been directed toward addressing point source project needs. Addressing point source needs will continue to be foundational to the CWSRF. However, while non-point source (NPS) pollution accounts for approximately three out of four identified water quality impairments nationwide, less than 4% of the CWSRF has been used to address NPS needs. There clearly is a need to ramp up efforts within the CWSRF programs to address NPS needs.

Additionally, nationally, stormwater has emerged as a serious public health threat with needed investment of tens of billions of dollars over the next two decades. Thankfully, proven green solutions exist, and CWSRF funds must be reprogrammed to address these dire threats.

States have significant flexibility in choosing which projects to finance with CWSRF funds. The flexibility allows states to address specific challenges. Analyses show that Great Lakes states have invested a small fraction of CWSRF funds in GSI. Based on an analysis of EPA data for the past decade, states have

allocated between 0 percent in Indiana to 6 percent in Pennsylvania of their CWSRF resources to GSI. However, even with limited GSI investment, there are many success stories of CWSRF-financed green infrastructure, ranging from a \$70 Million Fresh Coast Protection Partnership in Milwaukee, Wisconsin, to *Save the Rain* in Syracuse, New York, to a green roof at Temple University in Philadelphia, Pennsylvania.

Allocating more CWSRF dollars for GSI would spur transformation in environmental, economic, public health, and social outcomes. GSI creates permanent local jobs to operate and maintain the projects and could advance equity by hiring women and minority-owned businesses.

Overall, GSI is sorely needed to address pressing challenges, and we recommend states in the Great Lakes region increase investment in GSI by:

1. Changing legislation, agency goals, and project ranking criteria to promote GSI
2. Providing more assistance for GSI by offering additional subsidies and sponsorship opportunities
3. Developing local revenue streams and maintenance practices
4. Engaging in outreach to foster enthusiasm for GSI
5. Utilizing SRF-financed GSI investments to advance equity

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Acronyms

BIPOC	Black, Indigenous, People of Color
CBR	Comprehensive Benefits Reporting system
CWA	Clean Water Act
CWSRF	Clean Water State Revolving Fund
GPR	Green Project Reserve
GSI	Green stormwater infrastructure
IUP	Intended Use Plans
NIMS	National Information Management System
NPS	Non-point source
SRF	State Revolving Fund
TMDL	Total Maximum Daily Load
O&M	Operations and Maintenance

1.0 INTRODUCTION

Water quality is a concern across the states in the Great Lakes region. Untreated wastewater and stormwater threaten the health of people and ecosystems.¹ Limited investment in infrastructure and changes in the climate, land use, and population have exacerbated the challenge, particularly in low-resource communities.²

Green stormwater infrastructure (GSI) has emerged as an effective solution to address water quality problems.³ Stormwater picks up contaminants as it flows overground into rivers and lakes or sewer systems. GSI uses natural systems to store, infiltrate, or evapotranspire stormwater. Common examples of GSI include: permeable pavement, restoring wetlands, planting trees, and rain gardens. GSI is often very effective at addressing pollution and flooding, less expensive than traditional gray infrastructure, provides substantial additional co-benefits, and builds climate change resilience.⁴

Water infrastructure—gray or green—is expensive. Most investments in water infrastructure are financed through the municipal bond market. Intergovernmental aid is an important source of capital. The largest federal program that invests in clean water infrastructure is the Clean Water State Revolving Fund (CWSRF). Each state and Puerto Rico has its own program.⁵ ⁶ States use the funds to finance projects that improve water quality. Unfortunately, while several of the Great Lake States have started to invest more in GSI, relatively few GSI projects have been funded with CWSRF funds.

¹ Strouse, N., P. Herman, S. Sinha, and E. Roos. (2021). "Climate Risks and Opportunities in the Great Lakes Region." *Environmental Consulting & Technology, Inc.* <https://www.risc.solutions/wp-content/uploads/2021/01/Climate-Risks-and-Opportunities-in-the-Great-Lakes-Region-January-2021.pdf>

² Gersony, L. (2021). In Chicago, Flooding Overwhelmingly Strikes Communities of Color. *Circle of Blue.* <https://www.circleofblue.org/2021/world/in-chicago-flooding-overwhelmingly-strikes-communities-of-color/>

³ Congress defines GSI as the "range of measures that use plant or soil systems [...] to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters." US EPA. (2021). *What is Green Infrastructure?* <https://www.epa.gov/green-infrastructure/what-green-infrastructure>

The term GSI was first coined in a 1994 report to the governor of Florida on land conservation strategies and was intended to reflect the notion that natural systems are equally, if not more important, components of our "infrastructure". <http://www.gicinc.org/PDFs/GI%20History.pdf>.

⁴ Higgins, P., Male, T., & Sinha, S. K. (2021). *Paying for Water Quality Improvements and Resilience in the Great Lakes Focus on Green Stormwater Infrastructure.* <https://www.risc.solutions/wp-content/uploads/2021/07/Paying-for-Water-Quality-Improvements-and-Resilience-in-the-Great-Lakes-A-Toolkit-for-Green-Stormwater-Infrastructure.pdf>

⁵ All states have two SRF programs. The other program is the Drinking Water State Revolving Fund. Indian Tribes and Alaska Native Villages, the District of Columbia, and other jurisdictions (i.e., Virgin Islands, the Commonwealth of the Northern Mariana Islands, American Samoa, and Guam) receive grants under section 1452 because they are not authorized to establish a Fund. Grants under section 1452 are administered by the EPA Regional Offices.

⁶ CWSRF Best Practices Guide for Financing Nonpoint Source Solutions, USEPA Report 841B21012, December 2021. <https://www.epa.gov/system/files/documents/2021-12/cwsrf-nps-best-practices-guide.pdf>

This report provides an overview of current water quality needs, inequities in water infrastructure finance, and how SRFs can address these challenges. We evaluate how states allocate CWSRFs to finance GSI by looking at relevant legislation, annual Intended Use Plans (IUPs), application ranking criteria, and available financial assistance. We assess the current barriers, and provide policy recommendations to promote CWSRF-financed GSI in the Great Lake states.

Water infrastructure funding and financing needs across the Great Lakes states

There is a large need to fund infrastructure projects to improve water quality. In the eight states in the Great Lakes region, the cost of needed repairs and upgrades to wastewater infrastructure according to the 2012 Clean Water Needs Survey⁷—the most recent estimate available—is \$77.5 billion over the next 20 years.⁸ This amount is generally regarded as an underestimate because it is dated and does not include necessary investments to address non-point source issues.

TEMPLE UNIVERSITY CHARLES LIBRARY GREEN ROOF

A CWSRF funded project in Pennsylvania



Green Roofs capture rainwater and are an important tool in stormwater management. The CWSRF administrator in Pennsylvania, the Pennsylvania Infrastructure Investment Authority (PENNVEST), provided a \$6.7 million loan to install a green roof on Charles Library at Temple University. The green roof covers 47,300 square feet (70 percent of the roof surface) with 15 different plant species, to create habitat for pollinators. The library also has pervious pavement and landscape beds to infiltrate stormwater as well as underground catchment basins to store and process water.⁷

Figure 1: Green Roof at Temple University (Credit: Michael Grimm Photography)

⁷ US EPA. (2016). *Clean Watersheds Needs Survey 2012 Report to Congress*. EPA-830-R-15005

https://www.epa.gov/sites/default/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf

⁸ The need is closer to \$110 billion if the estimate is inflated by the construction cost index of 4 percent per year.

Table 1: Estimated wastewater and stormwater infrastructure needs (2012 Clean Water Needs Survey)

State	Estimated wastewater infrastructure needs	Estimated stormwater infrastructure needs
Illinois	\$6.54 billion	\$88 million
Indiana	\$7.16 billion	\$161 million
Michigan	\$2.01 billion	\$328 million
Minnesota	\$2.39 billion	\$25 million
New York	\$31.44 billion	\$2,715 million
Ohio	\$14.59 billion	\$889 million
Pennsylvania	\$6.95 billion	\$-
Wisconsin	\$6.33 billion	\$560 million
Total	\$77.41 billion	\$4.766 billion

Deteriorating infrastructure and changes in the climate, demographic shifts, and regulations continue to dramatically increase the need for investment. Climate change is a large threat for the Great Lake states. Extreme rainfall and flooding in the region are linked to climate change.⁹ In addition, towns and cities in many Great Lake states have declining populations. Water utilities with smaller customer bases typically collect less revenue and invest less in water infrastructure.¹⁰ Regulations are also shifting. For example, the United States and Canada governments have unveiled Domestic Action Plans (DAPs) to reduce phosphorus in Lake Erie. Meeting updated nutrient targets is essential to curb algae blooms that threaten ecosystem and human health. The DAPs structure measures that states, provinces, and partners will implement to make progress towards meeting the targets.

Inequity in need and investment

Due to historical disinvestment rooted in racist policies, black, indigenous, people of color (BIPOC) communities tend to have the greatest need for better water infrastructure. Research shows BIPOC communities are more likely to bear environmental burdens, including water pollution, flooding, poor sanitation, health impacts, and disproportionate economic burden. The most severe harms from climate

⁹ Strouse et al., 2021

¹⁰ Doyle, M. W., Patterson, L., Smull, E., & Warren, S. (2020). Growing Options for Shrinking Cities. *Journal-American Water Works Association*, 112(12), 56-66.

change fall disproportionately upon underserved communities, particularly BIPOC communities.¹¹ These burdens undergird disparities in health. GSI could address these challenges and therefore is uniquely well suited to advance equity.

BIPOC communities typically have fewer resources to fund water infrastructure due to the legacy underbounding, redlining, discriminatory lending, and other similar policies. Investment often varies by the resources within a community because local residents fund most water infrastructure. Assistance from the state and federal government can help smooth these disparities.

The role of State Revolving Funds

The CWSRF program provides low-cost financing for a wide range of water quality infrastructure projects. The U.S. Congress authorized the program in the 1987 amendments to the Clean Water Act (CWA) to help communities meet more stringent water quality standards.¹² A revolving loan fund is designed to create a pool of capital to finance projects in perpetuity. The lender capitalizes the fund, issues initial loans, receives repayments, and then reuses the capital to issue new loans.¹³ Historically, Congress has typically appropriated between \$2 billion to \$3 billion annually to capitalize CWSRFs in each state and Puerto Rico (except in 2009 when the American Recovery and Reinvestment Act included \$4.8 billion for the program).¹⁴ CWSRFs have played a key role in improving water quality in the United States by providing more than \$145 billion to finance more than 42,800 low-interest loans nationwide.¹⁵ The 2021 Infrastructure Bill nearly triples the size of the program.

States have significant discretion in administering their CWSRF programs. The CWA requires states to finance projects that improve water quality and address threats to human health and Congress sets additional requirements in the authorizing legislation. Within these statutory requirements, states determine how to allocate the funds. They establish eligibility, application, and ranking criteria; solicit applications from eligible applicants; rank project applications; and determine the type of assistance to provide. Eleven types of projects are eligible to receive CWSRF funding, including the construction of publicly owned treatment works, nonpoint source projects, stormwater projects, or water reuse

¹¹ US EPA. (2021). *Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts*.

https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pdf

Cho, R. (2020). Why Climate Change is an Environmental Justice Issue. In *State of the Planet*.

<https://news.climate.columbia.edu/2020/09/22/climate-change-environmental-justice/>

¹² The program replaced the Construction Grants program and shifted the assistance from grants to loans.

¹³ Council of Development Finance Agencies. (n.d.). Revolving loan funds & development finance. Retrieved July 5, 2021, from <https://www.cdfa.net/cdfa/cdfaweb.nsf/pages/revolving-loan-funds.html>

¹⁴ Humphreys, E. H. (2019). *America's Water Infrastructure Act of 2018 (P.L. 115-270): Drinking water provisions*. [https://crsreports.congress.gov/product/pdf/R/R45656#:~:text=America's%20Water%20Infrastructure%20Act%20of%202018%20\(AWIA%3B%20P.L.%20115%2D,other%20water%20infrastructure%20concerns.&text=Title%20IV%20extends%2C%20authorizes%2C%20and,programs%20administered%20by%20EPA](https://crsreports.congress.gov/product/pdf/R/R45656#:~:text=America's%20Water%20Infrastructure%20Act%20of%202018%20(AWIA%3B%20P.L.%20115%2D,other%20water%20infrastructure%20concerns.&text=Title%20IV%20extends%2C%20authorizes%2C%20and,programs%20administered%20by%20EPA)

¹⁵ There are also several other federal and state programs to assist wastewater treatment.

projects.¹⁶ The flexibility allows states to address diverse environmental and public health concerns. States typically provide subsidized, low-interest loans (i.e., 20- or 30-year loans with 1.5 to 2 percent interest rates)¹⁷ to finance infrastructure projects. States also offer some other types of assistance such as loans with even lower or negative interest rates, principal forgiveness, and grants. These types of assistance, referred to as additional subsidies, do not need to be repaid.

Assisting communities with limited financial capacity to invest in water quality solutions is a central goal of the CWSRF program. Communities use assistance to pay for expensive water infrastructure projects. Without subsidized assistance, communities would struggle to make investments and maintain affordable rates.

INCREASED FUNDING FOR THE CWSRF IN THE 2021 INFRASTRUCTURE BILL

The increased funding for CWSRFs in the 2021 infrastructure bill underscores their important role in financing clean water infrastructure. The bill included \$11.713 billion for the CWSRF program over 5 years for any eligible project and an addition \$1 billion for projects that address emerging contaminants. A departure from its history, states must allocate at least 49 percent of the funds for any eligible project and 100 percent of the funds for emerging contaminants as grants or principal forgiveness. The additional funding was on top of baseline appropriations. The increase creates an important opportunity to scale-up investment in GSI.

¹⁶ Operations and maintenance expenses are not eligible for CWSRF financing due to a statutory prohibition. US EPA. (n.d.). *Learn about the Clean Water State Revolving Fund (CWSRF)*. Retrieved October 23, 2021, from <https://www.epa.gov/cwsrf/learn-about-clean-water-state-revolving-fund-cwsrf#eligibilities>

¹⁷ Historically, the standard loan was for 20 years. Following changes in WRRDA 2014, states now offer loans for 30 years or the average expected useful life of the assets funded.

2.0 POLICIES ON CWSRF-FINANCED GSI

Federal policies on CWSRF allocation

Federal statutes set the guidelines for the allocation of CWSRF. States must finance projects that improve water quality and protect public health. Until recently, most of the federal legislation did not specifically mention GSI. Three pieces of legislation are key to understand the emergence of GSI eligibility for CWSRF funds:

- 1987 amendments to the Clean Water Act established and set the overall goals of the program. The amendments outlined project eligibility but did not explicitly include GSI.
- 2009 American Recovery Act (ARRA) established the Green Project Reserve (GPR), which requires all CWSRF programs to use 10 percent of their federal capitalization grant to finance GSI, water or energy efficiency improvements, or other environmentally innovative activities.
- 2014 Water Resources Reform and Development Act (WRRDA) required states to use a portion of their capitalization grant as additional subsidization to mitigate stormwater runoff; encourage sustainable project planning, design, and construction; address affordability issues; or achieve water efficiency goals.¹⁸

State-level policies on CWSRF allocation

In addition to federal statutes, state legislation and policies direct the allocation of CWSRF resources. Specifically, states can incentivize GSI projects through:

- Legislation: State legislatures pass legislation to set program requirements. Legislation can explicitly authorize the use of SRFs for GSI investments and detail eligibility and additional subsidy requirements.
- Goals: State administrators set long-term and short-term goals in their annual Intended Use Plans. Administrators can include goals to finance GSI.
- Ranking criteria: State administrators use criteria to rank applications and determine which projects are financed. The ranking criteria are typically published in the states' IUP. Administrators can set criteria that prioritizes GSI.
- Type of assistance provided: State administrators determine the type of assistance to provide. Administrators can offer better terms and additional subsidization to GSI projects.

Each state in the Great Lakes region has at least one of the policies mentioned above to finance GSI with CWSRF funds. For example, three states (Illinois, Minnesota, and New York) have passed legislation to authorize the use of CWSRF funds to finance GSI. Illinois also establishes GSI as a priority and Minnesota sets terms to award principal forgiveness for GSI. Five states (Illinois, Michigan, New York, Ohio, and

¹⁸ Only municipalities, intermunicipal or interstate entities, or state agencies are eligible to receive additional subsidization.

Wisconsin) have set goals to support GSI in their IUPs.¹⁹ Four states (Illinois, Indiana, Minnesota, and Pennsylvania) prioritize GSI through their ranking criteria. Illinois and Pennsylvania rank GSI more highly if the projects equally address water quality and public health concerns. Indiana provides 5 bonus points (out of 122 points) for sustainable infrastructure climate resilience. Appendix A shows the Indiana's ranking criteria. Similarly, Minnesota awards points for projects that reduce the volume of stormwater, such as green roofs, porous pavement, or rain gardens.^{20 21} Two states (Illinois and Ohio) provide lower interest loans for GSI. Illinois discounts the interest rate by 0.2 percent if GSI is at least 50 percent total project costs and Ohio discounts the interest rate by 0.25 percent if GSI is at least 25 percent of total project costs.

Table 2 summarizes the specific state policies related to SRF-financed GSI in each state in the Great Lakes region. The data are from state legislation, IUPs, and interviews with SRF administrators. More information can be found in Appendix B.

In addition to incentivizing GSI through policy, states can leverage federal dollars on the private bond market to increase their pool of capital and finance more projects. Nationally, twenty-nine states have leveraged their SRFs, including Illinois, Indiana, Ohio, and New York.

¹⁹ New York is the only state that includes GSI in its IUP separate from their GPR priorities. Most states include reducing nonpoint source pollution as a goal. Many consider NPS projects as GSI.

²⁰ <https://www.pca.state.mn.us/sites/default/files/wq-wwtp2-61.pdf>

²¹ CWSRF Best Practices Guide for Financing Nonpoint Source Solutions, USEPA Report 841B21012, December 2021. <https://www.epa.gov/system/files/documents/2021-12/cwsrf-nps-best-practices-guide.pdf>

Table 2: Summary of GSI-related state legislation, agency goals, ranking criteria, and assistance

Does Not Mention GSI ← ----- → Explicitly Supports GSI				
Legislation	Agency goals	Ranking criteria	Type of assistance provided	
Illinois Environmental Protection Agency Water Pollution Control Loan Program (WPCLP)				
Authorizes SRF-financed GSI	Include support for GSI	Uses GSI as a tie breaker	0.2% discount on interest rate if GSI is at least 50% of project costs	
Indiana Finance Authority				
Does not explicitly mention GSI	Do not explicitly mention GSI	Awards points for GSI	No difference in terms of assistance offered for GSI	
Michigan Department of Environment, Great Lakes, & Energy				
Does not explicitly mention GSI	Include support for GSI	Does not explicitly mention GSI	No difference in terms of assistance offered for GSI	
Minnesota Public Facilities Authority				
Authorizes SRF-financed GSI	Do not explicitly mention GSI	Awards points for GSI	No difference in terms of assistance offered for GSI	
New York Environmental Facilities Corporation				
Authorizes SRF-financed GSI	Include support for GSI	Does not explicitly mention GSI	Green Innovation Grant Project (GIGP) through CFA, \$15 mil	
Ohio Environmental Protection Agency (Water Pollution Control Loan Fund (WPCLF))				
Does not explicitly mention GSI	Include support for GSI	Does not explicitly mention GSI	0.25% discount on interest rate if GSI is at least 25% of project costs	
Pennsylvania Infrastructure Investment Authority (PENNVEST)				
Does not explicitly mention GSI	Do not explicitly mention GSI	Uses GSI as a tie breaker	No difference in terms of assistance offered for GSI	
Wisconsin Department of Natural Resources				
Does not explicitly mention GSI	Include support for GSI	Does not explicitly mention GSI	No explicit assistance provided for GSI	

Note: Information on agency goals, ranking criteria, and assistance is from the most recent IUP.

3.0 THE AMOUNT AND ALLOCATION OF STATE REVOLVING FUNDS

The amount and allocation of SRF funds vary greatly across states in the Great Lakes regions. We analyzed the size of funds, the amount of CWSRF assistance that finances GSI, and the types of SRF-financed GSI projects in each state from 2011-2020. The data are from the National Information Management system (NIMs) and the Comprehensive Benefits Reporting (CBR) database.²²

The amount of capital in SRF funds

Figure 2 shows the cumulative amount of available capital in CWSRFs from 2011-2020. The main sources of capital are federal contributions, state contributions, leveraged bonds, and loan principal and interest repayments.²³ Most states in the Great Lakes region allocate nearly all available funds each year. The average percent of disbursed to available assistance is 94%.

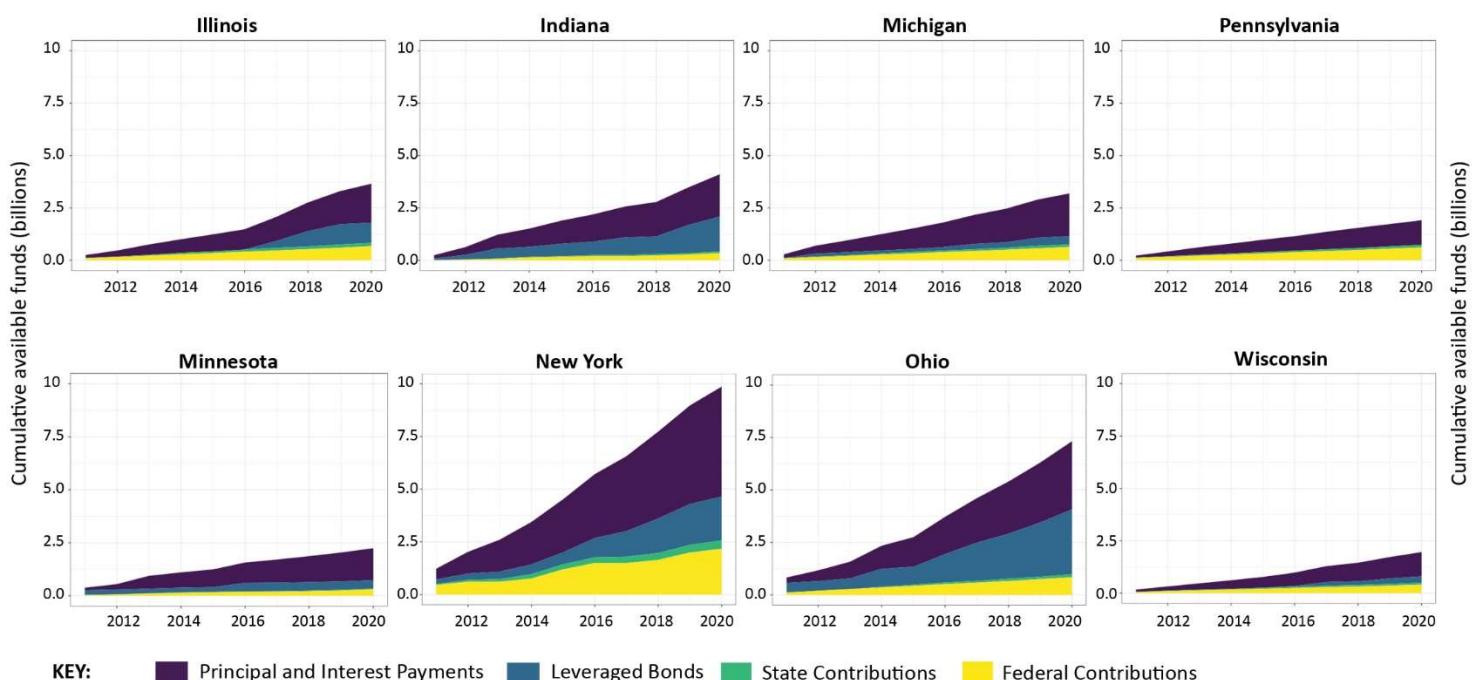


Figure 2: Source and amount of available funds in CWSRFs, 2011-2020 (NIMS)

²² US EPA. (2021). *Clean Water State Revolving Fund (CWSRF) National Information Management System Reports*. Retrieved October 24, 2021, from <https://www.epa.gov/cwsrf/clean-water-state-revolving-fund-cwsrf-national-information-management-system-reports>

²³ US EPA. (2017). *Clean Water SRF Program Formulas for Calculated Values in Individual State and National Summary Reports*. <https://www.epa.gov/sites/default/files/2018-03/documents/cwformulas.pdf>

The amount of SRF assistance allocated to finance GSI

Table 3 summarizes the amount of SRF assistance allocated to finance GSI from 2011--2020. The NIMS data tracks different types of CWSRF-financed projects in coarse categories. We include projects that are categorized as GSI, ground water, hydromodification/habitat restoration, land conservation, or silviculture as GSI projects. Pennsylvania spends the most by percentage of assistance allocated to GSI and Ohio spends the most by dollar amount of assistance allocated to GSI. Indiana did not finance GSI with SRFs in the past decade.

Table 3: The amount of SRF assistance allocated to finance GSI, 2011--2020 (NIMS)

	Total CWSRF assistance (M)	Amount spent on GSI (M)	% spent on GSI
Pennsylvania	\$1,560	\$ 93.1	6.0%
Ohio	\$5,499	\$163.7	3.0%
Michigan	\$1,392	\$ 36.17	2.6%
New York	\$ 6,421	\$ 114.2	1.8%
Illinois	\$3,712	\$18.34	0.5%
Minnesota	\$1,165	\$ 3.61	0.3%
Wisconsin	\$1,354	\$ 0.16	0.01%
Indiana	\$2,527	\$ -	0.0%

4.0 BARRIERS TO SRF-FINANCED GSI IN THE GREAT LAKES

Why have states spent such a small fraction of CWSRF funds on GSI? Many point to barriers at both the state and borrower level. We interviewed administrators from six Great Lakes states about the barriers and opportunities for SRF-financed GSI. The state-level barriers include a limited number of policies, subsidies, and staff to finance GSI. The borrower-level barriers include uncertainty about the benefits, revenue streams, operations and maintenance.

State-level barriers

Lack of legislation, goals, and priority ranking to promote GSI

The lack of legislative and administrative goals to promote GSI is a barrier. Policies set the guidelines for the allocation of CWSRF resources. When the application process is competitive, projects that align with explicitly stated legislative priorities and goals are most likely to be funded. Only three Great Lakes states have legislation that explicitly authorizes SRF funds for GSI.

Limited amounts of capital and subsidies

Most Great Lakes states receive more project applications than they are able to assist. Without more capital, states can only fund a limited number of any type of project, including GSI.

The amount of assistance that states provide as additional subsidies is also a barrier. Communities with low-income residents struggle to pay back loans and need other types of assistance that does not need to be repaid. Many projects are not built due to limited additional subsidies.

Limited staff

Limited staff to administer the SRF restricts the ability of the agency to conduct needs assessments, help communities develop projects and complete applications, determine how to provide assistance with advantageous terms, and process paperwork. In our interviews, nearly every state mentioned how reporting requirements are too taxing.

Borrower-level barriers

Uncertainty about the benefits and cost-effectiveness of GSI

The lack of general awareness about the benefits of GSI is a barrier. Local leaders are often not familiar with GSI. Many communities question the effectiveness of GSI because it is less familiar or requires follow-up routine maintenance. For example, one state said communities were hesitant to install permeable pavement due to uncertainty about how frequently it would need to be replaced due to the harsh winters. “Is it even possible to plow permeable pavement after snowstorms?” the administrator asked. The answer is yes, a permeable pavement can indeed be plowed.

Unclear revenue streams

Securing a revenue stream to repay the SRF loan is another barrier to GSI²⁴. Wastewater utilities fund capital investments by add-ons to wastewater utility bills. Some states collect similar stormwater utility fees to pay for infrastructure to convey stormwater from properties. But in many states, it is either illegal or unpopular to collect stormwater fees. For example, the *Bolt v. City of Lansing* case ruled that stormwater service charges are unconstitutional in Michigan.²⁵ Without the ability to charge for stormwater conveyance, it is often difficult for communities to create revenue streams to repay loans, which ultimately prevents communities from applying for SRF funding.

Public opposition

Stormwater fees have generated opposition in multiple jurisdictions that have attempted to implement one.²⁶ Simple but misleading monikers like “rain tax” have turned a mundane municipal fee for public goods into a tax on nature making it harder to generate public support for such financing models.

Uncertainty about operations and maintenance (O&M)

Operations and Maintenance (O&M) expenses are not eligible for SRF loans. Communities must pay for O&M. Like most infrastructure, GSI requires routine maintenance. For example, permeable pavement should be vacuumed out annually. Limited resources to invest in operations and lack of staff trained in maintenance are barriers to all infrastructure projects. Newer models, such as Community-based Partnerships (CBPs), are emerging to bundle O&M costs into an agreement with a private partner to maintain a project for a set period of time.²⁷

Aesthetics

Some communities are concerned about the aesthetics of GSI. For example, some administrators have heard that rain gardens can “look messy.” Maintenance of GSI can address this concern.

²⁴ CWSRF Best Practices Guide for Financing Nonpoint Source Solutions, USEPA Report 841B21012, December 2021. <https://www.epa.gov/system/files/documents/2021-12/cwsrf-nps-best-practices-guide.pdf>

²⁵ Michigan (2001). *Bolt v. City of Lansing*, 464 Mich. 854, 626 N.W.2d 394.

<https://law.justia.com/cases/michigan/supreme-court/1998/108511-6.html>

²⁶ Press Release Log (2014). Maryland’s “rain tax” debunked: <https://www.prlog.org/12276283-marylands-rain-tax-debunked.html#>

²⁷ Prince George’s County’s Clean Water Partnership: <https://thecleanwaterpartnership.com/>

5.0 POLICY RECOMMENDATIONS TO EXPAND THE USE OF SRFs TO FINANCE GREEN STORMWATER INFRASTRUCTURE

States can take several steps to increase the use of CWSRFs to finance GSI in the Great Lakes region. Based on discussions with SRF administrators across the Great Lakes states, we have five recommendations:

1) Change legislation, agency goals, and ranking criteria to promote GSI

Pass legislation that supports GSI

Only three Great Lakes states have legislation that explicitly prioritizes GSI. We recommend the other five states pass legislation to do so. Authorization and requirements from state legislatures for administrators to finance GSI should increase investment.

Incorporate GSI in agency goals and project application ranking criteria

We recommend including explicit support for GSI as an agency goal and ranking criteria. The goals and ranking criteria determine which project applications are prioritized. Applicants may be more likely to include GSI in their project proposals if states prioritize it.

2) Provide more assistance for GSI

Offer additional subsidies for GSI projects

States should encourage GSI through loan discounts and principal forgiveness. If the project includes GSI, the financing should be cheaper. States could model their discounts off the Ohio program, where projects with more than 25 percent GSI are eligible for a 0.25% discount off loan rate.

Principal forgiveness is essential for SRF-financing in low-income communities. Principal forgiveness allows for communities that would struggle to raise the revenue necessary to fund SRF loans to participate in the program. GSI projects should be eligible for principal forgiveness.

Sponsorship

Sponsorship programs pair a public entity—which is eligible for SRF-financing—with a non-traditional partner organization to develop GSI projects that would otherwise not be eligible or prioritized. For example, Ohio operates the Water Resource Restoration Sponsor Program where a CWSRF applicant can apply for an SRF loan and then sponsor a watershed protection or restoration project.²⁸ The public entity receives a lower interest rate for their project so that the overall costs are the same. Sponsorship programs must be authorized in legislation, so most states must rewrite or amend theirs to allow them.

²⁸ Martinez, M. (2018). Using State Revolving Funds for Land Conservation. *Conservation Finance Network*. <https://www.conservationfinancenetwork.org/2018/05/21/using-state-revolving-funds-for-land-conservation>

For more information about sponsorship, see the EPA's recent publication titled CWSRF Best Practices Guide.²⁹

3) Develop local revenue streams and maintenance practices

Create explicit revenue streams

Stormwater fees are the most straightforward way to fund stormwater infrastructure. For example, the city of Lancaster, PA funded green stormwater management projects, including green roofs and permeable pavement, through a stormwater fee.

States should also develop other revenue streams for GSI projects that lack a user base. For example, recently proposed legislation in Maryland, the Comprehensive Conservation Finance Act of 2021 (SB0737),³⁰ defines environmental outcomes as a commodity, which creates a potential revenue source for repaying SRF loans. Great Lake states should look to create similar legislation that allows them to sell environmental improvements as a commodity.

Promote community-based partnerships to operate and maintain GSI

Community-based Private Public Partnerships (CBP) can provide loan guarantees and capital that can help address the operations and maintenance barrier. The Milwaukee Metropolitan Sewerage District is a good example.

4) Engage in outreach to foster enthusiasm for GSI

Outreach can help overcome hesitation and uncertainty about GSI. Nearly every administrator we interviewed noted the importance of GSI success stories. States said it would be helpful to showcase examples where communities saved money and where the co-benefits were particularly impactful. Success stories from neighbors are particularly impactful.

Increase the number and reliance on GSI experts

SRF programs should prioritize hiring staff with GSI certificates and experience and support training in GSI certificates. It should be a priority of the SRF agency to work with landscape architects and engineering firms with experience in GSI. Training experts who assist communities about GSI should increase the number of SRF-financed projects. For example, the National Green Infrastructure Certification Program provides training for entry-level workers to learn how to construct, inspect, and maintain GSI.³¹

²⁹ CWSRF Best Practices Guide for Financing Nonpoint Source Solutions, USEPA Report 841B21012, December 2021. <https://www.epa.gov/system/files/documents/2021-12/cwsrf-nps-best-practices-guide.pdf>

³⁰ Hansen, K. (2021). Innovative use of SRFs encouraged in new Maryland legislation. *Environmental Policy Innovation Center*. <https://www.policyinnovation.org/blog/innovative-use-of-srfs-encouraged-in-new-maryland-legislation>

³¹ National Green Infrastructure Certification Program. (2021). *About*. Retrieved October 24, 2021, from <https://ngicp.org/>

Work with municipal decision makers

Water quality problems emerge and are addressed at the local level by local elected officials, such as mayors, city council members, county council members, and managers. We recommend that SRF agencies host programs to educate municipal decision makers on the benefits of GSI. Many local decision makers do not understand the co-benefits. For example, green parks prevent flooding and also serve as playground, paths for recreation. Trainings should emphasize the co-benefits and cost effectiveness of GSI. Green infrastructure is often more cost effective than grey infrastructure because it reduces water usage, treatment, and cooling costs.³²

Inter-municipal dialogues, webinars, publications are good ways to reach municipal decision makers. For example, Chicago area company Greenprint Partners is working with Youngstown, OH, to create a GSI

PARTNERSHIP BETWEEN MILWAUKEE METROPOLITAN SEWERAGE DISTRICT AND A PRIVATE PARTNER

The Milwaukee Metropolitan Sewerage District (MMSD) aims to capture the first half-inch of rainfall on all impervious surfaces—the equivalent of 740 million gallons of stormwater—by 2035. In January 2020, the MMSD signed a long-term Fresh Coast Protection Partnership with Corvias, a private partner, to invest in GSI in its service area. This is the first CBP model in the Great Lakes region. The goals of the partnership are to:

- *Help achieve compliance with the GSI requirements in the discharge permit*
- *Minimize the cost per gallon of GSI storage*
- *Achieve a minimum of 20 million gallons of capture capacity in GSI*
- *Attain a minimum of 25 percent participation goal for certified Small, Veteran, Women, and Minority Business Enterprises*
- *Partner with local workforce development programs*
- *Mentor emerging businesses*
- *Identify non-traditional funding sources that could be considered or leveraged*
- *Develop a stakeholder and community engagement program*
- *Accelerate achievement of District goals by implementing GSI at scale*

MMSD is involved in the planning and design of all projects. In the first phase, MMSD is using GIS to determine and prioritize the most effective and efficient areas for GSI. Corvias is providing its own at-risk private investment for the planning, design, procurement, construction, community engagement, subcontractor development, certification, and a two-year warranty/maintenance, all at a cost/gallon below the traditional approach. Their model provides an improvement in risk sharing with a private partner, delivery and cost surety for installation and maintenance of GSI; maximizes pricing efficiencies by combining economies of scale and increasing competition in the contractor marketplace; and ensures quality-certified projects by a contracted third-party. Finally, the model provides more attractive alternative financing structures and capital sources for investors looking for greater surety and predictability of their investment.

³² Strouse et al., 2021

masterplan that will “guide the city in using green infrastructure to reduce its combined sewer overflows while also proactively driving improved health, crime, and economic outcomes for communities.” It includes a community education campaign, #GreenisGood, that built a stakeholder advisory board, hosted community workshops, and facilitated public surveys.³³ Other examples include Chicago-based non-profit Delta Institute’s work with Gary, Indiana, to create a comprehensive GSI plan³⁴, and their work with Michigan City, Indiana, to create a holistic land acquisition strategy that prioritizes areas that have significant GSI potential³⁵.

Publicize within-state success stories

Success stories must be actively publicized to prove to municipalities that investing in GSI is a smart choice. The details of project finances and logistics are important to publish. Success stories demonstrate how GSI projects are financially feasible--and potentially more cost effective than grey infrastructure--and further environmental goals.

5) Utilize SRF-financed GSI investments to advance equity

Invest in GSI to improve public health, economic development, and quality of life in historically underserved communities

Underinvested communities typically have fewer environmental benefits (e.g. infrastructure and green space) and bear more environmental burdens (e.g. flooding, water pollution, and heat islands). The disproportionate distribution of benefits and burdens compromises public health, hamstrings economic development, and hampers quality of life. GSI is often a cost-effective solution to these challenges with many co-benefits. Therefore, investing in GSI in underserved communities holds substantial potential to address environmental injustice.

Commit to creating jobs for women and minorities

GSI has the potential to create permanent local jobs through the ongoing operations and maintenance requirements. Therefore, GSI investments can help support the local economy and create jobs. Contracts could advance equity by hiring women and minority-owned businesses to design, build, and maintain GSI, as the MMSD and Corvias partnership aims to do.

³³ Greenprint Partners. (n.d.). *Youngstown, OH*. Retrieved October 24, 2021, from <https://www.greenprintpartners.com/youngstown-oh>

Vedachalam, S. (2020). Stormwater Management through Green Infrastructure: Youngstown, Ohio. In *Environmental Policy Innovation Center*. <https://www.policyinnovation.org/water-policy-issues-case-studies/youngstown>

³⁴ Delta Institute (n.d.). *Gary, Indiana*. Retrieved October 24, 2021, from https://delta-institute.org/wp-content/uploads/2020/10/Gary-Green-Infrastructure-PlanAppendices_2.2019.pdf

³⁵ Delta Institute (n.d.). *Michigan City, Indiana*. Retrieved October 24, 2021, from https://delta-institute.org/wp-content/uploads/2020/12/Land_Acquisition_Strategy_05_27_2020.pdf

Vedachalam, S. (2020). Stormwater Management through Green Infrastructure: Youngstown, Ohio. In *Environmental Policy Innovation Center*. <https://www.policyinnovation.org/water-policy-issues-case-studies/youngstown>

6.0 CONCLUSION

Green stormwater infrastructure can enhance the health of people and ecosystems in the Great Lakes region. The CWSRF program has successfully financed GSI and has potential to do more. States can pursue reforms to their legislation, annual Intended Use Plans, application ranking criteria, and available financial assistance to promote CWSRF-financed GSI in the Great Lake states. Encouraging GSI investment requires overcoming barriers such as uncertainty about the benefits, cost-effectiveness, and O&M of GSI; unclear revenue streams; and public opposition. States can address these barriers by creating explicitly revenue streams, offering additional subsidies and sponsorship, and engaging in outreach. Making investments in BIPOC communities can help address disparities and environmental injustices.

APPENDIX A

Indiana Ranking Criteria

Exhibit C
INDIANA FINANCE AUTHORITY
Clean Water State Revolving Fund Loan Program
Project Scoring and Ranking Worksheet¹

Project Name:	
SRF Project Number: WW	NPDES #: IN00
Reviewer:	Date:

Check only one:

List A: Small Community applicant population ≤ 10,000.	
List B: Large Community applicant population >10,000.	

	Score	Maximum Allowed Score
Section 1: Project Need	0	50 points
Section 2: Water Quality Benefits	0	40 points
Section 3: Brownfield Re-Use	0	5 points
Section 4: Financial Capability	0	5 points
Total Project Score:	0	100 Possible Points

Bonus Points

Sustainable Infrastructure	0	4 points
Climate Resiliency	0	1 point
Clean Water Needs Survey Submittal	0	1 point
Regionalization	0	6 points
Early Submission	0	10 points
Total Bonus Points:	0	22 Possible Points

Deduction Points

Non-Regionalization		-10 Points
Total Deduction Points:	0	-10 Possible Points

Total Points Earned:	0
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Instructions:

Projects are scored using the following criteria to develop the Clean Water State Revolving Fund (CWSRF) Loan Program Project Priority List (PPL). To the extent practical, the CWSRF Loan Program expects to give priority to projects that:

1. Provide a Water Quality Benefit;
2. Improve the condition of the system; and
3. Assist systems most in financial need.
4. Employ other best practices, such as collaboration with other entities.

Points are assigned only when the proposed project intends to correct the problem identified under the appropriate section(s) with the associated points. For example, if the treatment system has persistent violations but the proposed project does not address the violations, the points associated with the violations will not be assigned. However, if the applicant has persistent violations and addresses them, the points associated with the violations will be assigned.

The total number of available points is 100. The total number of available bonus points is 22. The total score is determined by adding the total points associated with the project with the total amount of bonus points earned for projects that include sustainable infrastructure, climate resiliency, completing the CWNS and regionalization as well as deducting points associated with non-regionalization. If a tie occurs, then the project that was submitted first prevails.

A loan recipient must submit a complete Preliminary Engineering Report (PER) 2-weeks prior to July 1 to CWSRF in order to be Scored and Ranked on the PPL. A PER submitted after July 1, will be scored and unranked. Projects which submit applications only (and no PER) will appear as unscored and unranked. An applicant will receive 10 bonus points if a complete PER is submitted on or before May 1.

APPENDIX B

Summary of agency, state legislation, and ranking criteria related to GSI

Illinois Environmental Protection Agency Water Pollution Control Loan Program (WPCLP)

- *Legislation:* 415 ILCS 5/Tit. IV-A: "(h) that expanding eligibility to include publicly owned municipal stormwater projects eligible for financing as treatment works, as defined under Section 212 of the Federal Water Pollution Control Act, will provide the Agency with the statutory authority to use moneys in the Water Pollution Control Loan Program to provide financial assistance for eligible projects, including those that encourage green infrastructure, that manage and treat stormwater, and that maintain and restore natural hydrology by infiltrating, evapotranspiring, and capturing and using storm water." 415 ILCS 5/19.4) (from Ch. 111 1/2, par. 1019.4) Sec. 19.4. Regulations; priorities. "Priority in making loans from the Public Water Supply Loan Program must first be given to local government units and privately owned community water supplies that need to make capital improvements to protect human health and to achieve compliance with the State and federal primary drinking water standards adopted pursuant to this Act and the federal Safe Drinking Water Act, as now and hereafter amended. Rules for prioritizing loans from the Water Pollution Control Loan Program may include, but shall not be limited to, criteria designed to encourage green infrastructure, water efficiency, environmentally innovative projects, and nutrient pollution removal."
- *Agency goals:* GSI is included in the 2021 IUP's short and long term goals. In short term goals, "4) continue to provide support for projects, or project components, focused on 'green infrastructure, water or energy efficiency improvements or other environmentally innovative activities.'" In long term goals, "5) continue to assist in the development and implementation of innovative and non-traditional projects that benefit water quality resources."³⁶
- *Ranking criteria:* IL redid scoring system 2 years ago, implemented GSI component into scoring system to give people points to help prioritize GSI. Prioritization of projects is always compliance driven, violations will push a project towards the top. GSI and demographic data are used as tie breakers, between noncompliance projects.
- *Type of assistance:* Section 365.210 Fixed Loan Rate d) Environmental Impact Discounts: When at least 50% of the eligible projects costs fund any of the following components, the loan applicant shall receive a 0.25 discount from the rates established in subsection (a), (b), (c): 3) green infrastructure projects p.10; How they encourage: .2% discount on interest rate if there is GSI (if more than 50% project costs), energy/water efficiency, lead service line replacement phosphorus nitrogen removal treatment plant (interview)

Indiana Finance Authority

- *Legislation:* Not explicitly stated.
- *Agency goals:* No explicit mention of GSI in short or long term goals.
- *Ranking criteria:* GSI or GPR are not included as project categories in 2021 IUP, however "bonus points" towards the asrf loan program scoring and ranking system will be available for projects that include a GPR component. There are only 5 bonus points available, for a ranking system out of 100. The breakdown of the 5 points is 4 points for "sustainable infrastructure" and 1 point for "climate resiliency." The ranking system determines the priority of the project.³⁷

³⁶ Illinois Environmental Protection Agency. Bureau of Water. (2020). *Water Pollution Control Loan Program 2021 Intended Use Plan*. Illinois Environmental Protection Agency.

³⁷ State of Indiana. Indiana Finance Authority. (2020). Clean Water State Revolving Fund Loan Program Intended Use Plan State Fiscal Year 2021, July 1, 2020-June 30, 2021. State of Indiana.

- *Type of Assistance:* Green Project Reserve (GPR) Sustainability Incentive Program: means assistance in the form of interest rate discounts to address green infrastructure, water or energy efficiency improvements, other environmentally innovative activities, or climate resilience planning.

Michigan Department of Environment, Great Lakes, & Energy

- *Legislation:* Not explicitly stated.
- *Agency goals:* GSI mentioned in the short term goal as part of the GPR requirement. "In addition, Congress requires, to the extent that there are sufficient eligible projects, no less than 10 percent of the capitalization grant shall be used as Green Project Reserve for projects that address green infrastructure, water or energy efficiency improvements, or other innovative activities."³⁸
- *Ranking criteria:* Ranking criteria in administrative rules. Not updated since 1989.
- *Type of assistance:* GPR project list in the allocation of funds (total est. GPR cost \$59,877,000 with a principal forgiveness amount of \$2,993,850)

Minnesota Public Facilities Authority

- *Legislation:* 446A.07 Clean Water Revolving Fund, Subd. 8. Other uses of revolving fund. GSI is an authorized use of CWSRF funds. In addition, it defines the terms for GSI principal forgiveness: "principal forgiveness or grants provided under paragraph (a), clause (8), may not exceed 25 percent of the eligible project costs as determined by the Pollution Control Agency for project components directly related to green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities, up to a maximum of \$1,000,000."
- *Agency goals:* Not mentioned in short or long term goals, but GSI mentioned in short term goals as part of the GPR requirement.³⁹
- *Ranking criteria:*
- *Type of assistance:* In 2008, Minnesota voters passed the Clean Water, Land and Legacy Amendment. The Legacy Act funds stormwater projects, usually through grants, by requiring 3/8ths cent of sales tax dedicated to clean water and arts projects. Approximately \$100/million a year available through the Legacy Act.

New York Environmental Facilities Corporation

- *Legislation:* 21 CRR-NY 2602.1, s 2602.2- Definitions, (53)defines a Project as "any activity whose purpose and design is the preservation, protection and/or improvement of water quality, or which implements green infrastructure, green infrastructure" and declares it is an eligible project "as set forth in ECL section 17-1909."
- *Agency goals:* GSI is eligible, mentions the GPR requirement. GSI included in long term goals but not short term goals. Long term goal: "promote the innovative use of green infrastructure to effectively

³⁸ Water Infrastructure Financing Section, Finance Division. Michigan Department of Environment, Great Lakes, and Energy. (2020). *Clean Water State Revolving Fund Strategic Water Quality Initiatives Fund Intended Use Plan-Fiscal Year 2021*. State of Michigan.

³⁹ State of Minnesota. Minnesota Public Facilities Authority. (2020). *Clean Water Revolving Fund 2021 Intended Use Plan*. State of Minnesota.

manage stormwater and encourage the incorporation of green infrastructure into traditional gray infrastructure projects.”⁴⁰

- *Ranking criteria:* Ranking process does not explicitly mention GSI or GPR.
- *Type of assistance:* Allows federal principal forgiveness funds to be granted to GPR projects.

Ohio Environmental Protection Agency (Water Pollution Control Loan Fund (WPCLF))

- *Legislation:* Not explicitly stated.
- *Agency goals:* Included in short term goals, not long term goals. Short term goal: “continue implementation of the extended term financing option and the Green Project preserve discount, as these features will enhance and improve the WPCLF.”⁴¹
- *Ranking criteria:* Based strictly on existing water quality and public health quality criteria.
- *Type of assistance:* Special loan discounts offered in PY 2021: GPR- a 0.25% discount with no annual limits for “communities or districts that include a ‘green’ component for at least 25% of total project costs. S FFY 2020 capitalization grant contains a requirement that the State identify and fund ‘green projects’ in an amount at least 10% of the capitalization grant. This equates to \$8,946,000.

Approximately \$25 million may be counted toward the requirement of green project assistance in PY 2021 through the award of the PY 2021 - PY 2021 allocation of \$15 million for Water Resources Restoration Sponsor Program projects, and \$10.6 million in principal forgiveness funds for HSTS projects. Ohio EPA is encouraging additional ‘green projects’ through the implementation of the Green Project Reserve (GPR) discount.” Funds received for ‘green infrastructure’ to control stormwater run-off not included proportionate share (the defined maximum amount of WPCLF funds that may be obligated in a program year to any one recipient at a subsidized interest rate) p a-2 Local loan program interest rate (includes financing for green infrastructure improvements on the part of the local entities storm water pollution control) will receive an interest rate of zero percent for loans with terms of up to 10 years to be used to capitalize their programs.” p d-5 Discounts available to GPR p. D-6 Green project reserve discount: available to all GPR categories, including GI. “projects which include a green component that composes 25% or more of the project construction cost will receive a 0.25% discount on the entire loan amount.” p. E-4⁴²

Pennsylvania Infrastructure Investment Authority (PENNVEST)

- *Legislation:* Not explicitly stated.
- *Agency goals:* Not mentioned in short or long term goals⁴³.
- *Ranking criteria:* Intentionally kept private. In an interview, stated that compliance and public health projects receive priority. However, if two projects other otherwise equal, the project with a GSI component will receive priority under the adequacy and efficiency point section.

⁴⁰ State of New York. Department of Environmental Conservation & Environmental Facilities Corporation. (2020). *Final Intended Use Plan, Clean Water State Revolving Fund Federal Fiscal Year 2021*. State of New York.

⁴¹ Ohio Environmental Protection Agency. Division of Environmental and Financial Assistance. (2020). *Water Pollution Control Loan Fund PY 2021 Program Management Plan*. Ohio Environmental Protection Agency.

⁴² Ohio Environmental Protection Agency. Division of Environmental and Financial Assistance. (2020). *Water Pollution Control Loan Fund PY 2021 Program Management Plan*. Ohio Environmental Protection Agency.

⁴³ Commonwealth of Pennsylvania. PA Infrastructure Investment Authority & PA Department of Environmental Protection. (2021). *Clean Water State Revolving Fund Intended Use Plan SFY2021-2022 Capitalization Grant*. Commonwealth of Pennsylvania.

- *Type of assistance:* Project funding: “a minimum of \$6,293,900, has been reserved for allocation to ‘Green Infrastructure’ projects consistent with the EPA Guidance, “2012 Clean Water and Drinking Water State Revolving Fund 10% Green Project Reserve: Guidance for Determining Project Eligibility” dated April 2012.”

Wisconsin Department of Natural Resources

- *Legislation:* Not explicitly stated.
- *Agency goals:* GSI included in short term goals (through GPR requirement). Short term goals: “allocate a minimum of 10% of capitalization grant funds to projects that incorporate water or energy efficiency, green infrastructure, or are environmentally innovative.” GPR seems to be mostly focused on energy in WI though.⁴⁴
- *Ranking criteria:* Ranking criteria does not include GSI. WI is partnering with “focus on energy” to facilitate the funding of energy efficient processes and upgrades at Wisconsin’s WWTP and municipal drinking water systems.” - WI is focusing on the energy efficiency component of the GPR more than the GI component.
- *Type of assistance:* Consolidated Appropriations Act of 2020: a requirement that not less than 10% of the capitalization grant be used for projects or portions of projects that address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities.”

⁴⁴ State of Wisconsin. The Department of Natural Resources and the Department of Administration. (2020). Clean Water Fund Program, State Revolving Fund, Intended Use Plan for EPA FFY 2020 Capitalization Grant for funding during state fiscal year 2021. State of Wisconsin.



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