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Chair DeFazio, Ranking Member Graves, Subcommittee Chair Napolitano, Subcommittee Ranking Member Rouzer, and members of the Subcommittee:

Thank you for the opportunity to testify today about the need to ensure the resilience and sustainability of our nation's clean water infrastructure. My name is Rebecca Hammer, and I am the deputy director of federal water policy for the Natural Resources Defense Council (NRDC). NRDC is an international, non-profit environmental organization working to protect the world's natural resources, improve public health, and ensure a safe and sustainable environment for all.

Summary of Testimony

Our nation is facing a moment of tremendous opportunity. As leaders in Congress and the administration propose new investments in America's infrastructure, we have a once-in-a-generation chance to meet the enormous financial need our wastewater and stormwater systems have accrued over the decades. Now is the time to think big: to provide every person in this country with first-class clean water infrastructure, to ensure the long-term viability of that infrastructure in a changing environment, and to lift up families and communities who struggle to bear the burden of unaffordable water and sewer costs. In my testimony, I will focus on the importance of promoting resilient, sustainable solutions as part of this increased investment, with a particular emphasis on multi-beneficial green infrastructure practices.

To achieve this goal, NRDC recommends:

- Making the Green Project Reserve (GPR) a permanent feature of the Clean Water State Revolving Fund (CWSRF) by codifying it in statute.
- Significantly increasing overall CWSRF funding to $10 billion per year.

- Increasing the proportion of CWSRF assistance provided as additional subsidization.
- Providing more resources for outreach and technical assistance to potential GPR applicants.
- Requiring increased transparency around the effectiveness of the GPR.
- Taking additional actions beyond the GPR to promote sustainable and resilient clean water infrastructure, including:
    - Authorizing and funding new grant programs for clean water resiliency projects;
    - Adopting a low-income water and sewer assistance program and promoting equitable local rate structures;
    - Requiring climate change information to be considered in the planning of clean water infrastructure projects as a condition of receiving federal assistance; and
    - Requiring the Environmental Protection Agency (EPA) to adopt regulations fully implementing the green project provisions in the Water Resources Reform and Development Act (WRRDA 2014).

America's Wastewater and Stormwater Systems Face Vulnerabilities That Threaten Their Ability to Deliver Clean Water, Thriving Communities, and a Healthy Environment.

All people in America should have access to wastewater and stormwater infrastructure that works. No matter where they are located, these systems should provide communities with clean waterways, effective sanitation, and protection from urban flooding.

Yet in many areas, our nation's infrastructure is not up to the task of meeting those objectives. Pipes, septic tanks, and treatment facilities have exceeded their intended lifespans and are breaking down. Fifteen percent of wastewater treatment plants have already reached or exceeded their design capacity.[1] Stormwater systems are not capable of handling the increasingly vast quantities of runoff generated by sprawling development.

As a result, sewage spills foul our waterways, polluted stormwater degrades once-productive ecosystems, and rainwater floods our streets and homes. The American Society of Civil Engineers rated the nation's wastewater infrastructure a D+, and its stormwater infrastructure a D, in its 2021 infrastructure report card.[2]

Meanwhile, climate change is adding further stress to these systems. Heavy precipitation events and extreme storms are growing more frequent, increasing disruptive flood events in communities across the country. Our infrastructure is struggling to keep up. Most stormwater systems are designed to handle the "10-year" or "100-year" storm, concepts that climate change

[1] American Society of Civil Engineers, 2021 Report Card for America's Infrastructure: Wastewater, https://infrastructurereportcard.org/wp-content/uploads/2020/12/Wastewater-2021.pdf.
[2] American Society of Civil Engineers, 2021 Report Card for America's Infrastructure, https://infrastructurereportcard.org/.

has rendered obsolete. Urban flooding already results in $9 billion in damages each year, a figure that is certain to grow unless we take swift action to adapt and modernize our infrastructure.[3]

Increased flooding frequency also poses a threat to wastewater service. Wastewater treatment plants are typically located at low elevations and along coastlines, which makes them particularly susceptible to floods and sea level rise. When tanks and pipes are inundated, these facilities can discharge raw sewage into nearby communities and waterways. In 2017, flooding from Hurricane Harvey caused 40 wastewater treatment facilities to become inoperable and led to the release of 23 million gallons of untreated wastewater.[4] Even smaller flooding events, if they occur more often, can impose significant costs, such as frequent pumping to keep parts dry and a reduced lifespan of components exposed to water. Worryingly, a recent study estimated that four million people in the U.S. could lose access to municipal wastewater services with 30 centimeters (around 1 foot) of sea level rise; this estimate rises to 31 million people if sea level rise reaches 180 centimeters (around 6 feet).[5]

On-site decentralized wastewater treatment systems, such as septic systems, are also threatened by climate change.[6] Higher temperatures, increased heavy precipitation events, and sea level rise affect the performance of these systems by reducing the volume of unsaturated soil and oxygen available for treatment, which may result in system failure.[7]

Changing precipitation is driving changes in water quality as well. As more intense precipitation leads to increased runoff, more stormwater pollution is washed into our waterways: sediments, nitrogen from agriculture, disease pathogens, pesticides, herbicides, and more. Combined sewer systems in cities such as Philadelphia and Richmond are already experiencing more frequent overflows as their treatment capacity is overwhelmed during large storms.[8] This pollution imposes steep costs on communities, including increased treatment costs for the two-thirds of America's drinking water that comes from rivers, streams, and lakes.

In some regions, climate change is also exacerbating water scarcity. Yet many wastewater and stormwater systems fail to adopt measures that could combat scarcity through wastewater recycling and stormwater capture for reuse.

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[3] National Academies of Sciences, Engineering, and Medicine, Framing the Challenge of Urban Flooding in the United States (2019), https://www.nap.edu/catalog/25381/framing-the-challenge-of-urban-flooding-in-the-united-states.

[4] Texas Commission on Environmental Quality, Sanitary Sewer Overflows from Hurricane Harvey, https://www.tceq.texas.gov/response/hurricanes/sanitary-sewer-overflows; Hurricane Harvey: Status Summary of Impacted Public Drinking Water and Wastewater Systems, https://www.tceq.texas.gov/assets/public/response/hurricanes/hurricane-harvey-tracking-summary.pdf.

[5] Michelle Hummel et al., "Sea Level Rise Impacts on Wastewater Treatment Systems Along the U.S. Coasts," Earth's Future (2018), https://agupubs.onlinelibrary.wiley.com/doi/10.1002/2017EF000805.

[6] See Sarah Kaplan, "Battling America's 'Dirty Secret,'" *Washington Post*, December 17, 2020, https://www.washingtonpost.com/climate-solutions/2020/12/17/climate-solutions-sewage/.

[7] Jennifer A. Cooper at al., "Hell and High Water: Diminished Septic System Performance in Coastal Regions Due to Climate Change," PLoS ONE (2016), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0162104.

[8] Frank Kummer, "The Secret Scourge of Climate Change? More Raw Sewage in Philadelphia's Waterways," *Philadelphia Inquirer*, September 13, 2019; Daniel Berti, "More Rainfall, A Consequence of Climate Change, Expected to Make Sewage Overflows Worse," *Virginia Mercury*, April 15, 2019.

The impacts of failing infrastructure and our changing climate often fall the hardest on low-income communities and communities of color. In many cities, historically redlined neighborhoods are exposed to a higher risk of flooding than other areas.[9] Black communities in Lowndes County, Alabama and Tribal communities in the Southwest have faced disproportionate challenges in access to sanitation. Making matters worse, low-income families and people of color often bear the heaviest burden of rising water and sewer costs.

In light of these threats, wastewater and stormwater systems must take immediate steps to become more resilient and sustainable so that they can continue to serve their communities effectively and affordably, now and in the future.

Green Infrastructure Can Increase the Resilience of Wastewater and Stormwater Systems While Providing a Wide Array of Other Benefits.

In the context of municipal water management, green infrastructure means mimicking nature by capturing rainwater where it falls. Practices that incorporate vegetation, soil, and permeable surfaces help to maintain and restore natural hydrology by infiltrating water into the ground, soaking it up with plants, and harvesting it for reuse. Green infrastructure practices include bioretention, trees, green roofs, permeable pavements, and cisterns. Landscape-scale practices such as wetland restoration and floodplain protection can function in tandem with smaller neighborhood-scale projects.

Green infrastructure reduces stormwater volumes and pollutant loads, leading to cleaner waterways, reduced wastewater treatment needs for combined sewer systems, reduced flooding, and increased groundwater recharge. Although still considered novel by some practitioners, green infrastructure practices have been in use for decades. They are proven and predictable technologies and should no longer be viewed as "alternative treatments" to hard or gray infrastructure. Rather, utilities should consider green infrastructure a core strategy for achieving their water quality, flood control, and public health objectives.

Because they are so varied and adaptable, green infrastructure practices are an extremely flexible tool. They can be integrated into nearly any development project, including surface transportation projects.[10] They can also be implemented in concert with traditional gray infrastructure approaches to enhance the sustainability of wastewater treatment and collection systems.[11] When full life-cycle costs are considered – including long-term operations and maintenance – green infrastructure is frequently more cost-effective than gray infrastructure.[12] As a result, it can reduce the costs of water quality compliance and flood control for communities and ratepayers.

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[9] Kriston Capps and Christopher Cannon, "Redlined, Now Flooding," Bloomberg CityLab, March 15, 2021, https://www.bloomberg.com/graphics/2021-flood-risk-redlining/.
[10] See NRDC, After the Storm: How Green Infrastructure Can Effectively Manage Stormwater Runoff from Roads and Highways (2011), https://www.nrdc.org/sites/default/files/afterthestorm.pdf.
[11] See World Bank, Integrating Green and Gray: Creating Next Generation Infrastructure (2019), https://www.worldbank.org/en/news/feature/2019/03/21/green-and-gray.
[12] Environmental Protection Agency, Green Infrastructure Cost-Benefit Resources, https://www.epa.gov/green-infrastructure/green-infrastructure-cost-benefit-resources.

Critically, unlike single-purpose hard infrastructure designed solely to move stormwater away from the built environment, green infrastructure provides multiple benefits for communities. The Environmental Protection Agency (EPA) has identified a wide range of environmental, social, and economic benefits provided by green infrastructure beyond its core stormwater management functions, including improved air quality, reduced urban heat island effect, wildlife habitat, energy efficiency, access to green space, reduced traffic noise, enhanced social interaction and recreation, improved community aesthetics, and reduced crime.[13]

Green infrastructure is a powerful tool for addressing climate change. Not only does it help communities adapt to the impacts of climate change by reducing flooding, augmenting groundwater supplies, and cooling the air, it also provides climate mitigation benefits by storing carbon and reducing energy demand.[14] Implementation of small-scale, distributed green practices can easily be scaled up or down when conditions change. This provides a key advantage over hard infrastructure, which is "locked in" after construction and not readily adaptable to new rainfall patterns.

Because many of green infrastructure's benefits are hyperlocal, project implementation can be geographically targeted – through meaningful engagement with community members – to enhance equity and improve access to green space in underserved areas.[15] Finally, green infrastructure investment supports local, sustained jobs that boost regional economies.[16]

The federal government should use every tool at its disposal to promote and encourage the use of green infrastructure in wastewater and stormwater systems around the country.

The Clean Water State Revolving Fund's Green Project Reserve Is an Important Source of Funding for Green Infrastructure and Other Beneficial Projects, But It Has Been Underutilized.

The largest source of federal funding and financing for clean water infrastructure projects, including green infrastructure, is the Clean Water State Revolving Fund. Since its inception, the CWSRF has provided $145 billion in assistance, most which has been in the form of low-interest loans.[17]

For its first two decades, the CWSRF did not fund many green infrastructure projects. According to the EPA, many states had "little or no history" of funding green projects because their

[13] EPA Office of Research and Development, Healthy Benefits of Green Infrastructure in Communities (2017), https://www.epa.gov/sites/production/files/2017-11/documents/greeninfrastructure_healthy_communities_factsheet.pdf.
[14] See Center for Neighborhood Technology, The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits (2010), https://www.cnt.org/sites/default/files/publications/CNT_Value-of-Green-Infrastructure.pdf.
[15] See Megan Heckert (West Chester University) and Christina Rosan (Temple University), Creating GIS-Based Planning Tools to Promote Equity Through Green Infrastructure (2018), https://www.frontiersin.org/articles/10.3389/fbuil.2018.00027/full.
[16] See Jobs for the Future, Exploring the Green Infrastructure Workforce (2017), https://mikenowak.net/wp-content/uploads/2020/01/Exploring-the-Green-Infrastructure-Workforce.pdf.
[17] EPA, Clean Water SRF Program Information: National Summary (2021), https://www.epa.gov/sites/production/files/2021-02/documents/us20.pdf.

programs focused on traditional infrastructure, or because state law presented obstacles.[18] Then, in 2009, Congress passed the American Recovery and Reinvestment Act (ARRA). ARRA provided supplemental appropriations for the CWSRF and required that states allocate at least 20 percent of these new funds as a Green Project Reserve (GPR) for green infrastructure, water efficiency, energy efficiency, and other environmentally innovative projects. It also made GPR projects eligible for "additional subsidization" (grants, negative interest rate loans, or principal forgiveness).[19] Since 2009, Congress has extended the GPR in appropriations acts each year, though starting in FY2012 the requirement was reduced from 20 percent to 10 percent of the state's annual CWSRF capitalization grant.[20]

The establishment of the Green Project Reserve led many states to fund green infrastructure projects with CWSRF resources for the first time. Over the past twelve years, the GPR has funded hundreds of these projects across the country – everything from urban reforestation and wetlands preservation to green roofs and roadway retrofits. Additionally, the GPR has supported energy efficiency and water efficiency projects that advance clean water objectives by upgrading the efficiency of pumps and motors, powering clean water facilities with renewable energy from on-site resources, and reducing both customer and facility water use. Decentralized wastewater treatment solutions in areas lacking access to sanitation are also eligible for the GPR in the "environmentally innovative" category.[21]

Overall, however, the CWSRF has been underutilized as a funding source for green projects. Since the establishment of the Green Project Reserve in 2009, EPA data indicate that only 11 percent of total CWSRF assistance has gone to GPR projects ($8.6 billion out of $78 billion), and less than 3 percent of total CWSRF assistance over that time period has gone to green infrastructure specifically ($2 billion out of $78 billion).[22]

Note that these proportions are not necessarily inconsistent with the requirement for each state to allocate 20 percent or (after FY2012) 10 percent of its annual capitalization grant to GPR projects. The amount of total CWSRF assistance that a state provides to applicants each year comes from a pot of money that includes not only the annual capitalization grant from the federal government but also state matching funds, loan repayments, leverage bonds, and investment earnings. Thus a state's investment in GPR projects could surpass 10 or 20 percent of its capitalization grant while making up a smaller percentage of the overall assistance the state

[18] EPA, ARRA Clean Water State Revolving Fund Green Project Reserve Report (2012), p. 8, https://www.epa.gov/sites/production/files/2015-04/documents/arra_green_project_reserve_report.pdf.
[19] American Recovery and Reinvestment Act of 2009, P.L. 111-5 (123 Stat. 169).
[20] See Congressional Research Service, "Greening" EPA's Water Infrastructure Programs through the Green Project Reserve (2016), https://www.everycrsreport.com/reports/IN10540.html.
[21] EPA, "2012 Clean Water State Revolving Fund 10% Green Project Reserve: Guidance for Determining Project Eligibility," pp. 11-12, https://www.epa.gov/sites/production/files/2015-04/documents/green_project_reserve_eligibility_guidance.pdf.
[22] EPA, Clean Water SRF Program Information: National Summary (2021).

disburses to projects that year. The Congressional Research Service found that states allocated 26 percent of their capitalization grants to GPR projects between 2009 and 2016.[23]

Green infrastructure has received less CWSRF investment than other Green Project Reserve categories, despite the fact that green stormwater projects have been found to have "the most secondary benefits" of all GPR project types.[24] However, it is difficult to determine the exact allocation among the four GPR categories because of known data-quality issues in EPA's GPR database. An EPA-sponsored study in 2013 found that the database includes inconsistencies, such as project costs being double-counted for projects that meet more than one of the GPR eligibility categories.[25] With that caveat, EPA's database indicates that 37 percent of Green Project Reserve funds have gone to energy efficiency projects, 25 percent to water conservation projects, 22 percent to green infrastructure projects, and 16 percent to other environmentally innovative projects.[26]

Given their many benefits, why haven't Green Project Reserve projects received more CWSRF funding? Several factors may contribute to their relatively small piece of the CWSRF pie. Many potential project applicants are not aware that GPR funding is available to them and therefore do not apply.[27] Others may lack the expertise and resources to complete the application materials or decide that the hassle is not worth it for a small-scale green infrastructure project. The bigger utilities that look to the CWSRF for assistance still tend to focus on traditional hard infrastructure projects. And in some states, every project on the CWSRF project priority list receives funding each year, so integrating green elements into projects to qualify for GPR funds offers little benefit to applicants.

Under the existing Green Project Reserve requirement, states do not have adequate incentives to educate potential applicants about the benefits of green infrastructure projects and the availability of GPR funding, nor to assist them with their funding applications. The current 10 percent requirement only applies to the extent that a state receives "sufficient eligible project applications."[28] EPA has interpreted this rule to require a "good faith solicitation effort" by the state to identify eligible GPR projects, but the state's annual open solicitation for CWSRF projects is deemed to meet the requirement, even if the state does not conduct any outreach on the Green Project Reserve specifically.[29] This interpretation largely takes the burden off the state

[23] Congressional Research Service, "Greening" EPA's Water Infrastructure Programs through the Green Project Reserve (2016).
[24] EPA & Major Partners' Lessons Learned from Implementing EPA's Portion of the American Recovery and Reinvestment Act: Factors Affecting Implementation and Program Success (2013), p. 45, https://www.epa.gov/sites/production/files/2015-09/documents/lessons-learned-arra-green-project-reserve.pdf.
[25] *Id.*, p. 19.
[26] EPA, Clean Water SRF Program Information: National Summary (2021).
[27] See EPA, Financing Green Infrastructure: A Best Practices Guide for the Clean Water State Revolving Fund (2015), p. 3, https://www.epa.gov/sites/production/files/2016-01/documents/final_gi_best_practices_guide_12-9-15.pdf.
[28] See Consolidated Appropriations Act 2021, p. 329, https://www.congress.gov/116/bills/hr133/BILLS-116hr133enr.pdf.
[29] See EPA, Procedures for Implementing Certain Provisions of EPA's Fiscal Year 2012 Appropriations Affecting the Clean Water and Drinking Water State Revolving Fund Programs, p. 3, https://www.epa.gov/sites/production/files/documents/final_fy12_srf_guidelines_1.pdf.

CWSRF program to actively solicit potential GPR projects. As a result, states often fail to meet the GPR requirement. For example, last year Florida fell short of the requirement because it did not receive sufficient project applications.[30] Oregon did not fund a single GPR project last year.[31] Missouri is three years behind on awarding its GPR dollars.[32]

Finally, the amount of funding that Congress requires states to allocate to the Green Project Reserve has fluctuated over time and has never been codified in statute, making potential applicants uncertain about whether GPR funds will be available for their projects in future years. This uncertainty depresses demand for CWSRF funds.

Congress Should Take Action to Make the Green Project Reserve Function More Effectively.

A few key legislative reforms could help the Green Project Reserve live up to its potential as a robust funding source for green infrastructure and other beneficial projects that build community resilience.

1. Congress should make the GPR permanent.

First, Congress should end the process of inserting the Green Project Reserve requirement into annual appropriations bills and codify it permanently in statute. As described above, fluctuating federal mandates create uncertainty and depress demand for funding.

A statutory Green Project Reserve is needed to ensure that the state CWSRF programs have a continued mandate to fund green projects. As pre-2009 history shows, without the GPR requirement it is likely that fewer green projects will receive CWSRF assistance. Decades of implementation have proven that these projects offer significant benefits to utilities, ratepayers, the environment, and public health. Congress should affirm its durable support for them by writing the GPR into law.

The permanent requirement should be established at 20 percent of the capitalization grant at a minimum. As explained above, because states provide CWSRF assistance from a fund that includes other sources of income beyond the capitalization grant, GPR projects' proportion of *total* assistance is lower than their proportion of the capitalization grant alone. In order to increase the percentage of overall CWSRF assistance for green projects beyond the small share they receive today, Congress should set the statutory requirement higher than the current level of 10 percent of the capitalization grant.

[30] Florida Department of Environmental Protection, CWSRF 2020 Annual Report, p. 13, https://floridadep.gov/sites/default/files/CWSRF%20Annual%20Report%202020.pdf.
[31] Oregon Department of Environmental Quality, Clean Water State Revolving Fund Annual Report, September 2020, p. 7, https://www.oregon.gov/deq/wq/Documents/cwsrfAnnualRep2020.pdf.
[32] Missouri Department of Natural Resources, Clean Water State Revolving Fund 2020 Annual Report, pp. 7, 9, https://dnr.mo.gov/env/wpp/srf/documents/2021-02-02-fy-2020-clean-water-srf-annual-report-final.pdf.

2. Congress should significantly increase overall CWSRF funding.

Second, Congress should authorize and appropriate significantly more money for the Clean Water State Revolving Fund as a whole. Increasing the total amount of federal investment would make more funding available for all CWSRF projects, including Green Project Reserve projects.

Our communities face a dire need for more resources. In 2012, the EPA estimated that we need to invest $271 billion in maintaining and repairing our clean water infrastructure over the next twenty years just to meet current environmental and health standards – a figure that is now outdated and is almost certainly an underestimate.[33]

Infrastructure costs have risen steeply in recent decades as communities have worked to implement important water pollution control and flood mitigation projects. Yet according to Congressional Budget Office data, federal funding for water and wastewater utilities has decreased fourfold since 1980.[34] Per capita federal spending on water infrastructure has fallen from $76 per person in 1977 to $11 per person in 2014.[35]

As a result of this decline, state and local governments have been left to pick up the tab. A recent survey of stormwater utilities found that an estimated total of $18-24 billion is spent annually by municipal governments on stormwater programs and infrastructure.[36] Only 30 percent of survey respondents indicated that they did not need funding beyond their existing budgets. The analysis estimated the annual stormwater funding gap to be $8.5 billion.[37] Assessing the need more broadly, the Value of Water Campaign has estimated the annual funding gap for all water infrastructure (drinking water, wastewater, and stormwater) to be $82 billion. If this need is left unaddressed, the gap will continue to grow; it could rise to as high as $153 billion by 2040 as needs from prior years accumulate.[38]

On top of existing budgetary shortfalls, the COVID-19 pandemic has further stressed the finances of wastewater and stormwater utilities. The National Association of Clean Water Agencies has estimated that clean water utilities will lose billions of dollars in revenue due to declines in industrial and commercial water use and increased bill delinquencies from COVID-19 related job losses.[39] Finally, none of these need estimates include the amount needed to adapt

[33] U.S. Environmental Protection Agency, Clean Watershed Needs Survey 2012 Report to Congress, https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-report-congress-2012.
[34] Congressional Budget Office, Public Spending on Transportation and Water Infrastructure, 1956 to 2014 (2015), https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/49910-infrastructure.pdf.
[35] *Id.*; see also Value of Water Campaign, The Economic Benefits of Investing in Water Infrastructure (2017), p. 5, http://thevalueofwater.org/sites/default/files/Economic%20Impact%20of%20Investing%20in%20Water%20Infrastructure_VOW_FINAL_pages.pdf.
[36] WEF Stormwater Institute, 2020 National Municipal Separate Storm Sewer System (MS4) Needs Assessment Survey Results, https://wefstormwaterinstitute.org/programs/ms4survey/.
[37] *Id.*
[38] Value of Water Campaign, The Economic Benefits of Investing in Water Infrastructure (2017), p. 2.
[39] National Association of Clean Water Agencies, Recovering from Coronavirus: Mitigating the Economic Cost of Maintaining Water and Wastewater Service in the Midst of a Global Pandemic and National Economic Shut-Down (2020), https://www.nacwa.org/docs/default-source/resources---public/water-sector-covid-19-financial-impacts.pdf.

to climate change, which utilities say could add hundreds of billions of dollars in additional water infrastructure funding needs through the middle of the century.[40]

Congress should fund the Clean Water State Revolving Fund at $10 billion per year to help close the clean water investment gap. Although this would represent a large increase over current levels, the money would not go to waste. The Council of Infrastructure Financing Authorities' SRF Project Pipeline identifies over $47 billion in specific clean water infrastructure projects across the country that could be commenced within the next two to three years if funding is provided.[41]

Significantly increasing federal funding for water infrastructure would not only support public health and the environment, it would also generate hundreds of billions of dollars in much-needed economic activity and create hundreds of thousands of jobs.[42] Research by BlueGreen Alliance has found that by investing $105 billion over ten years, we could improve our drinking and clean water systems to a "B" grade and create 654,000 job-years across the U.S. economy.[43]

Alongside this large influx of funds, Congress should provide additional resources to EPA and the state CWSRF administrators so they can build capacity to handle the increased number of projects. Congress should also consider waiving at least a portion of the 20 percent state match requirement so that states are able to access these new resources. States that produce their 20 percent match by issuing bonds or using interest from a state infrastructure fund may not be able to ramp up their contribution quickly enough to meet the matching requirement for a much larger capitalization grant. Congress recognized this difficulty in 2009 when it waived the state match requirement for the supplemental funds provided in ARRA. It should do so again if a waiver would help get money out the door quickly.

3. Congress should increase the amount of CWSRF funding provided as additional subsidization.

Additional subsidization – grants, principal forgiveness, and negative interest loans – are an important source of CWSRF funding for project applicants that cannot afford to take out a normal low-interest loan. However, under current law, a state may not use more than 30 percent of the amount of its annual capitalization grant for additional subsidization.[44] While there is no statutory obligation for states to use any CWSRF funds for additional subsidization at all, annual

[40] National Association of Clean Water Agencies & Association of Metropolitan Water Agencies, Confronting Climate Change: An Early Analysis of Water and Wastewater Adaptation Costs (2009), https://www2.nacwa.org/images/stories/public/2009-10-28ccreport.pdf.
[41] Council of Infrastructure Funding Authorities, S.A.F.E. Water Infrastructure Action Plan and SRF Project Pipeline (2020), available at https://www.cifanet.org/economic-stimulus.
[42] Value of Water Campaign, The Economic Benefits of Investing in Water Infrastructure.
[43] BlueGreen Alliance, Water Works: The Job Creation Potential of Repairing America's Water Infrastructure (2020), https://www.bluegreenalliance.org/resources/water-works-the-job-creation-potential-of-repairing-americas-water-infrastructure/.
[44] 33 U.S.C. § 1383(i)(3).

appropriations bills since 2010 have imposed a minimum requirement; the FY21 Appropriations Act directed states to use 10 percent of their capitalization grant for this purpose.[45]

As a result, the availability of additional subsidization is quite limited. EPA's 2019 CWSRF annual report states that additional subsidization made up only 4% of total assistance that year ($260 million out of $6.2 billion in total assistance).[46] This equates to 14% of the annual capitalization grant ($260 million out of $1.9 billion in federal capitalization).[47]

Green Project Reserve projects, including those proposed by underserved applicants, must compete for these scarce funds with all other projects that serve disadvantaged communities.[48] Communities struggling with affordability challenges must have access to additional subsidization in order to ensure that clean, safe water and protection from flooding are enjoyed by all people everywhere, not reserved as privileges for affluent jurisdictions. For example, unsewered communities in rural and low-income areas often cannot afford to fix their failing on-site systems without additional subsidization; this lack of accessible funding perpetuates an ongoing humanitarian crisis.[49]

Congress should increase the amount of CWSRF funding provided as additional subsidization so that both GPR projects and projects serving disadvantaged communities have access to the resources they need. At least 20 percent of the annual capitalization grant should be provided to disadvantaged communities as additional subsidization, and this minimum requirement should be written into statute rather than left to the vagaries of the annual appropriations process. In addition, Congress should raise the cap on additional subsidization beyond 30 percent to make more funds available for all eligible projects, including GPR projects. Raising the cap would allow states to decide for themselves how much subsidy to provide, commensurate with the need within their jurisdictions.

While deploying a higher percentage of funds through additional subsidization does decrease the proportion of the annual federal grant remaining to capitalize the states' revolving loan funds, a big boost in overall CWSRF appropriations would ensure that the amount of money replenishing those funds remains steady or even increases in absolute dollar terms. Proving the workability of this approach, ARRA both increased the amount of money flowing to the CWSRF *and* required that at least 50 percent of the new funds be used as additional subsidization.[50]

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[45] See Consolidated Appropriations Act 2021, p. 330.
[46] EPA, Clean Water State Revolving Fund 2019 Annual Report: Building the Project Pipeline, p. 7, https://www.epa.gov/sites/production/files/2020-10/documents/2019_cwsrf_annual_report_9-10.pdf.
[47] *Id.*
[48] 33 U.S.C. § 1383(i)(1).
[49] See Inga T. Winkler & Catherine Coleman Flowers, "'America's Dirty Secret': The Human Right to Sanitation in Alabama's Black Belt," Columbia Human Rights Law Review (2017), http://hrlr.law.columbia.edu/files/2018/01/IngaTWinklerCatherineCole.pdf.
[50] American Recovery and Reinvestment Act of 2009, P.L. 111-5 (123 Stat. 169).

4. Congress should provide more resources for outreach and technical assistance.

When states fall short of the Green Project Reserve minimum requirement, it isn't because there are no possible green projects for communities to implement. According to the EPA, many potential GPR applicants are simply unaware of the funding opportunities available.[51]

States can address this knowledge gap through marketing and outreach, but they need resources in order to do so. Moreover, small and disadvantaged communities need technical assistance to develop projects and complete applications. This assistance requires resources as well. Congress should set aside more funding for states to build awareness and expertise among potential GPR applicants, with the goal of ensuring that no state ever falls short of its minimum Green Project Reserve requirement due to a lack of eligible project applications.

5. Congress should increase transparency around the effectiveness of the GPR.

With no publicly accessible centralized database of GPR projects, and state-level data available only sporadically on hard-to-find webpages, it is difficult to gather information on the results of the Green Project Reserve. Indeed, even the EPA does not seem to know what the program is achieving; the agency's own inspector general has faulted it for failing to assess the economic or environmental benefits of GPR projects.[52] No nationwide estimate of GPR benefits has been developed since a post-ARRA report ten years ago.[53] This dearth of information contributes to the lack of awareness, discussed above, that results in underutilization of the program.

Congress should require EPA to develop a routine process for collecting GPR data and reporting that data to the public. Such a requirement would improve EPA's ability to oversee, manage, and monitor this substantial investment of public funds. It would also be consistent with existing federal policies requiring agencies to assess the results of government programs.[54]

Better data transparency would arm communities across the country with information that could help them make the case for increased investment in green infrastructure on a cost-benefit basis. Half of the respondents in a nationwide survey of stormwater utilities indicated that they need access to more resources and technical information on the valuation of green infrastructure's benefits.[55] A new reporting requirement could be implemented with little burden on GPR recipients if Congress provides adequate resources for data collection and directs EPA to gather and aggregate the information itself.

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[51] EPA, Financing Green Infrastructure: A Best Practices Guide for the Clean Water State Revolving Fund (2015), p. 3.
[52] EPA Office of Inspector General, EPA Needs to Assess Environmental and Economic Benefits of Completed Clean Water State Revolving Fund Green Projects (2016), https://www.epa.gov/sites/production/files/2016-05/documents/20160502-16-p-0162.pdf.
[53] Eastern Research Group (for EPA), Estimated Environmental Benefits Associated with ARRA-Funded Green Project Reserve Projects (2011), https://www.epa.gov/sites/production/files/2017-03/documents/estimated_environmental_benefits_report.pdf.
[54] See EPA Office of Inspector General, EPA Needs to Assess Environmental and Economic Benefits of Completed Clean Water State Revolving Fund Green Projects (2016), p. 3.
[55] WEF Stormwater Institute, 2020 National Municipal Separate Storm Sewer System (MS4) Needs Assessment Survey Results, https://wefstormwaterinstitute.org/programs/ms4survey/.

Congress Should Take Additional Actions Beyond the Green Project Reserve to Promote Sustainable and Resilient Clean Water Infrastructure.

The Green Project Reserve, while important, is not the only mechanism available to promote resilience measures in wastewater and stormwater systems.

Congress should authorize and fund new grant programs to diversify funding options for clean water infrastructure resilience projects. For example, legislation pending in the Senate would establish a Clean Water Infrastructure Resiliency and Sustainability Program providing grants to increase the resilience of publicly owned treatment works to natural hazards and cybersecurity threats.[56] The same bill would also establish a grant program for the construction, refurbishing, and servicing of individual household decentralized wastewater systems for low- and moderate-income households, helping to resolve ongoing human rights concerns and address climate vulnerabilities.[57] Last Congress, the Clean Water Through Green Infrastructure Act would have established grant programs for green stormwater control infrastructure,[58] and the Natural Infrastructure and Resilience Act would have made certain green infrastructure projects eligible for surface transportation block grant funding.[59]

Congress should also establish a permanent low-income water and sewer assistance program and promote local rate structures that equitably increase local revenues. Improving the affordability of water, wastewater, and stormwater service would allow utilities to implement resilience projects and other upgrades without imposing burdens on their low-income customers. Water and wastewater utility bills have increased at more than three times the rate of inflation over the past decade.[60] Yet as of 2016, the majority of water and wastewater utilities offered no customer assistance program.[61] Two recent COVID-19 relief bills provided some funding for a temporary low-income water and sewer assistance program at the Department of Health and Human Services, but a long-term program at higher funding levels is necessary in order to meet the nationwide need. Additionally, Congress should incentivize the adoption of equitable rate structures and other local affordability programs by making them eligible uses of CWSRF funds, providing increased technical support for such programs, directing additional funding incentives to states that take steps to promote such programs, and requiring states and utilities to report annually on key affordability metrics such as rate schedules and water shutoffs.

Next, Congress should require climate change information to be considered in the planning of all clean water infrastructure projects as a condition of providing federal assistance. The

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[56] Drinking Water and Wastewater Infrastructure Act of 2021, S. 914, 117th Cong. § 205 (2021), https://www.congress.gov/117/bills/s914/BILLS-117s914is.pdf.
[57] *Id.*
[58] Clean Water Through Green Infrastructure Act, H.R. 4266, 116th Cong. (2019).
[59] Natural Infrastructure and Resilience Act, H.R. 5871, 116th Cong. (2020).
[60] David Harrison, "Why Your Water Bill Is Rising Much Faster Than Inflation," *The Wall Street Journal*, March 15, 2018, https://www.wsj.com/articles/who-is-paying-to-fix-outdated-water-and-sewer-systems-you-are-1521106201.
[61] EPA Office of Wastewater Management, Drinking Water and Wastewater Utility Customer Assistance Programs (2016), https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508-front2.pdf.

Government Accountability Office recommended this policy in a report last year after it was endorsed by a majority of experts.[62] By limiting future risk exposure, this requirement could save the federal government billions of dollars in post-disaster recovery financial assistance. It is critical that such a requirement be accompanied by technical support and the best available data. Most planning and design standards are currently based on outdated assumptions about the occurrence of extreme precipitation events, with many states relying on precipitation statistics that have not been updated in decades.[63] Some states, like Illinois, have taken it upon themselves to update their precipitation statistics and require their use for infrastructure design, but those states are the exception to the rule.[64] The federal government must not only provide state and local governments with updated statistics but also integrate future projections of rainfall so we can begin to design our stormwater and wastewater systems appropriately. Tools like EPA's CREAT will be critical in providing continuing support for assessing the impacts of climate change on water infrastructure.[65] Communities will rely on these systems into future decades; we must stop designing them for the conditions of the past.

Finally, Congress should require EPA to adopt regulations implementing the provision of the Water Resources Reform and Development Act (WRRDA) of 2014 directing CWSRF recipients to maximize water and energy conservation in all projects.[66] The interpretive guidance EPA has thus far provided for complying with this requirement largely repeats the language of the statute and does not provide specific criteria or guidelines for evaluating and incorporating cost-effective conservation practices. Enhancing the effectiveness of this cross-cutting requirement through meaningful regulations could have an impact comparable to an increase in the GPR itself.

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Thank you for the opportunity to testify today. NRDC looks forward to working with the Subcommittee on solutions to strengthen the resilience and sustainability or our nation's clean water infrastructure.

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[62] U.S. Government Accountability Office, Water Infrastructure: Technical Assistance and Climate Resilience Planning Could Help Utilities Prepare for Potential Climate Change Impacts (2020), https://www.gao.gov/assets/gao-20-24.pdf.

[63] Jim Morrison, "As Rainstorms Grow More Severe and Frequent, Communities Fail to Prepare for Risks," *Washington Post*, April 9, 2021, https://www.washingtonpost.com/climate-environment/2021/04/09/climate-change-rainfall/.

[64] See Tiffany Jolley, The Impact of Bulletin 75, Prairie Research Institute, University of Illinois, July 8, 2020, https://blogs.illinois.edu/view/7447/2024148035.

[65] EPA, Climate Resilience Evaluation and Awareness Tool (CREAT) Risk Assessment Application for Water Utilities, https://www.epa.gov/crwu/climate-resilience-evaluation-and-awareness-tool-creat-risk-assessment-application-water.

[66] 33 U.S.C. § 1382(b)(13)(B).