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Overcoming Barriers Created by Cost Share Requirements:

Considerations for advancing natural infrastructure throughout the Mississippi River Basin

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Cover Photo of the Mississippi River-Lake Pepin watershed, courtesy of the Minnesota Pollution Control Agency (cropped from original).

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BACKGROUND AND CONTEXT

The need for resilience and natural infrastructure projects within the Mississippi River Basin

The Mississippi River Basin is a vast natural resource.[1] Made up of hundreds of tributaries, it is the world's third-largest drainage basin, covering 15% of North America and 41% of the contiguous United States.[2] Nearly 30% of Americans live within the basin, and over 20 million people and 70 cities depend on the Mississippi River for drinking water.[3] Due to the fertile land, approximately 65% of the nation's harvested cropland lies within the basin providing 92% of the United States' agricultural exports.[4]

The variety of human demands and stressors on the Mississippi River Basin has created numerous problems. In particular, communities along the Mississippi River and its tributaries face increasing challenges associated with water quality and flooding. Pollution from cities, agriculture, and industry threaten the health and welfare of downstream communities and ecosystems.[5] Over-engineering of rivers, population expansion into flood zones, certain farming practices (i.e., tile drainage), and climate change cause increased flood risks.[6]

Resilience measures that include natural and nature-based infrastructure projects are a critical piece of any solution to address the myriad of water quality and flooding challenges within the Mississippi River Basin. Development of natural infrastructure such as wetlands, floodplain restoration, and riparian buffers could significantly reduce pollution and flood risks, benefiting both people and wildlife.[7] While natural infrastructure has demonstrated economic and environmental benefits, financing and carrying out these projects can be challenging for states and local governments.[8]

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[1] "Mississippi" is derived from the French rendering of the Ojibwe name for the river, meaning "great river" or "gathering of waters." [1] *The Native Americans, Exploring the Historic Mississippi River*, UNIVERSITY OF MINNESOTA, https://gallery.lib.umn.edu/exhibits/show/exploring-mississippi/the-native-americans (last visited Nov. 9, 2023).
[2] *See The Mississippi/Atchafalaya River Basin (MARB)*, ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/ms-htf/mississippiatchafalaya-river-basin-marb (last visited Nov. 8, 2023). Map of Mississippi River Basin. *Id.*
[3] *See id.*; Vincent Gauthier & Tee Thomas, *Generating revenue to finance natural infrastructure projects in the Mississippi River Basin*, ENVIRONMENTAL DEFENSE FUND & QUANTIFIED VENTURES 3 (Nov. 2022), MRB Repayment report_web.pdf (edf.org) [hereinafter Gauthier & Thomas, *Finance Natural Infrastructure*].
[4] *Id.*
[5] Gauthier & Thomas, *Finance Natural Infrastructure*, *supra* note 3, at 3.
[6] *Id.* at 5.
[7] *Id.* at 4 ("The strategic restoration of . . . natural infrastructure at a relatively modest scale could reduce flood risk and downstream nitrogen loads by 30% to 40%. This restoration would only require 1% to 5% of the Upper MRB watershed area . . . ."). The term "natural infrastructure" refers to natural landscape features and/or manmade systems that mimic natural processes to minimize flooding, erosion, runoff, pollution, and other environmental hazards. *See*, e.g., *Natural Infrastructure*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, https://coast.noaa.gov/states/fast-facts/natural-infrastructure.html (last visited Nov. 9, 2023).
[8] Gauthier & Thomas, *Finance Natural Infrastructure*, *supra* note 3*, at 6.*

INTRODUCTION

The federal government administers many programs to help states, local communities, tribes, and territories as they undertake infrastructure projects of all types, including resilience measures and natural infrastructure aimed at mitigating risks from natural hazards and disasters. The increasing impacts of climate change make investment in these project types more important than ever to help prepare and protect communities across the country. While this work is paramount, it comes with a high price tag. Various federal agencies issue grants to help finance resilience and natural infrastructure projects, but these programs often do not cover the full cost of a project and require non-federal sponsors to shoulder some of the financial burden. This practice is known as "cost sharing," and while it ensures that federal funding recipients have a financial stake in a project's success, it can create an insurmountable obstacle deterring many communities—particularly small, rural, and/or low-capacity communities—from applying for federal grants and pursuing important infrastructure projects.

This report examines barriers to infrastructure investment created by cost share requirements and suggests some potential steps governments can take to make funding programs more accessible and equitable, as well as steps communities themselves can take to raise funds to meet the local cost share requirement. Appendices I and II of this report provide a survey of various federal and state programs that fund resilience and natural infrastructure projects and highlight best practices from those programs with respect to cost share implementation.

Purpose and Intended Audience

This report discusses barriers created by cost sharing practices and identifies ways to overcome those barriers, with a focus on facilitating access to funds for resilience and natural infrastructure projects. Where possible, we have sought to highlight examples and applications focused geographically on the Mississippi River Basin, where ELI and others are working to advance use of natural and nature-based infrastructure to address the region's myriad water management and water quality challenges; however, the principles can be applied more generally.

Source: Minnesota Department of Transportation (cropped from original).

This report is primarily intended for local project sponsors that need cost share funding to enable federally assisted projects but have encountered challenges. This report may also be useful to federal and state agencies interested in improving their cost share frameworks to help alleviate the burdens they create. The overarching goal is to help communities across the country invest in the resilience solutions they need.

It is important to note that the landscape of cost sharing is changing. As part of a widespread political and cultural effort to improve access to and equitable distribution of resources, government agencies and communities are already implementing many of the strategies and tools highlighted here. However, this report does not purport to include an exhaustive list of emerging solutions that may be available. As

these and other efforts are implemented across more jurisdictions, lessons will emerge that prompt additional research and help guide future activities.

What is cost sharing?

Cost sharing, also referred to as a "match" requirement, is the concept that a funding award recipient must provide some percentage of cash or "in-kind" contributions towards overall project costs.[9] In the case of a federally assisted project, the cost share or "non-federal share" is the amount of the total cost not covered by the federal government.

Cost sharing requirements are typically, though not always, measured as a percentage rather than a fixed amount. Federal grants often require applicants to contribute from 10% to 35% (or more) of the total project costs, which may be met through state or local non-federal funding sources. Generally, contributions of cash, in-kind contributions, and/or materials, or any combination thereof, that are reasonable, necessary, and eligible can be used to fulfill the cost share requirement.[10]

The majority of recent federal funding programs for resilience activities and natural infrastructure projects include a cost share requirement.[11] For example, "[m]ore than 60% of federal resilience funding in the Bipartisan Infrastructure Law requires a local match, with an additional 13% requiring a match under certain conditions."[12] The practice of cost sharing has become routine under federal funding programs to ensure that communities where projects are located have some "skin in the game" to help ensure successful implementation.[13] The reality, however, is that cost sharing requirements can impose high—and sometimes insurmountable—burdens on local governments, often exacerbating disadvantages experienced by resource-constrained communities that cannot afford the required match.[14]

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[9] Kris Smith, *Match requirements prevent rural and low-capacity communities from accessing climate resilience funding*, HEADWATER ECONOMICS (Jan. 2023), https://headwaterseconomics.org/equity/match-requirements/ [hereinafter Smith, *Match Requirements*].

[10] *Id.*

[11] *See, e.g.,* U.S. GOVERNMENT ACCOUNTABILITY OFFICE, FLOOD MITIGATION, ACTIONS NEEDED TO IMPROVE USE OF FEMA PROPERTY ACQUISITIONS 8, note 25 (Sept. 2022), https://www.gao.gov/assets/gao-22-106037.pdf [hereinafter GAO, FLOOD MITIGATION] ("Typically, recipients of federal mitigation grants must use non-federal funds to meet cost share requirements because federal law prohibits the use of more than one source of federal disaster recovery funding for the same purpose. 42 U.S.C. § 5155. The restriction was originally added by the Robert T. Stafford Disaster Relief and Emergency Assistance Act in 1988. Pub. L. No. 100-707, § 105(i), 102 Stat. 4689, 4693. The restriction was amended by the Disaster Recovery Reform Act of 2018. Pub. L. No. 115-254, § 1210(a)(1), 132 Stat. 3438, 3442. . . . [S]ome federal programs are exempt from these requirements stemming from their authorizing statutes and therefore may be used in concert with HMA funds, according to FEMA. These programs include the Department of Housing and Urban Development's Community Development Block Grant program, NFIP's Increased Cost of Compliance coverage, and Small Business Administration disaster loans.").

[12] Smith, *Match Requirements*, *supra* note 9.

[13] Jared T. Brown & Bruce R. Lindsay, *FEMA Disaster Cost-Shares: Evolution and Analysis*, CONGRESSIONAL RESEARCH SERVICE (Apr. 4, 2013), https://sgp.fas.org/crs/homesec/R41101.pdf.

[14] *See* Smith, *Match Requirements*, *supra* note 9; RESILIENT INVESTMENT PLANNING AND DEVELOPMENT WORKING GROUP, INFRASTRUCTURE RESILIENCE FOR LOW-CAPACITY COMMUNITIES: RECOMMENDATIONS TO REDUCE BARRIERS AND PROVIDE SUPPORT (Oct. 2021), https://www.cisa.gov/sites/default/files/2023-06/infrastructure_resilience_for_low-capacity_communities_oct2021_508c.pdf.

BARRIERS ASSOCIATED WITH COST SHARE REQUIREMENTS

Communities may lack resources to provide matching funds

Communities vary widely in population, wealth, and tax base, all of which impact the level of resources available for resilience projects. Many rural and low-capacity communities (as they are frequently referred to in the context of federal grants) are resource-constrained and therefore experience a heavier burden in meeting cost share requirements. Metropolitan areas with larger populations tend to have more resources for raising cost share funds; for example, cities might use cash reserves or distribute increased utility fees across the pool of rate payers.[15] Rural and low-capacity communities, on the other hand, have fewer options for raising revenue, and "frequently resort to debt-financing tools such as loans and municipal bonds that carry additional costs."[16] Moreover, resilience and natural infrastructure projects can be more expensive per capita in rural areas, where larger-scale projects may be needed to protect less-densely populated areas.[17] Cost sharing, particularly in the form of a percentage requirement, can place disproportionate burdens on rural and low-capacity communities where there are fewer people and/or less community wealth to help fund a project.

State laws create additional barriers to generating revenue

State laws establishing tax and expenditure limits (TELs) restrict how local governments can raise or spend money by either capping government revenues or spending at fixed-dollar amounts; limiting their growth rate to align with increases in population, inflation, or personal income; or based on some combination of those factors.[18] According to the Tax Policy Center, 33 states had at least one kind of TEL in place as of 2020.[19] While these laws serve a purpose, they have the effect of limiting the ability of local governments to appropriate funds and/or collect revenue—meaning that communities in these states experience restricted options for meeting cost share requirements.[20]

Cost share requirements create barriers to investment in critical resilience projects

Recent assessments of federal funding programs have highlighted how cost share requirements, as well as other project application requirements (e.g., scoring criteria, benefit-cost analysis, and reimbursement models), create inequities in funding distribution.

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[15] Smith, *Match Requirements*, *supra* note 9 ("For instance, many larger communities have stormwater fees that can be leveraged to pay local match requirements associated with stormwater improvement grants. In smaller communities that may not have a stormwater fee, finding a local match for a stormwater project presents a far more significant challenge.").

[16] *Id.* A recent assessment of community capacity across the country, which created metrics for variables such as local government staffing and socioeconomic trends, demonstrated that most rural communities have relatively lower capacity than metropolitan communities and rural communities throughout the Mississippi River Basin are shown to have limited capacity. *See A Rural Capacity Map*, HEADWATERS ECONOMICS, https://headwaterseconomics.org/equity/rural-capacity-map/ (last visited Dec. 17, 2023) [hereinafter HEADWATERS ECONOMICS, *Rural Capacity Map*].

[17] Smith, *Match Requirements*, *supra* note 9.

[18] *What are tax and expenditure limits?*, TAX POLICY CENTER (May 2020), https://www.taxpolicycenter.org/briefing-book/what-are-tax-and-expenditure-limits.

[19] *Id.* (providing a map of tax and expenditure limits by state).

[20] Smith, *Match Requirements*, *supra* note 9.

In 2022, the U.S. Government Accountability Office (GAO) published two reports identifying actions needed to improve federal programmatic approaches to flood mitigation[21] and disaster recovery.[22] These reports emphasize the difficulty some communities face in funding the non-federal share, which discourages them from pursuing resilience and other infrastructure projects.[23] The GAO observed that communities need more flexibility with cost share requirements and suggested that solutions might include standardizing, reducing, and/or even eliminating the non-federal cost share.[24] Cost share reforms could also result in a simpler application process, decreasing the time and resources it takes non-federal sponsors to prepare and submit proposals for federally-funded activities.[25]

Despite an increased federal focus on environmental justice issues since 2020, evaluations of the recently established Building Resilient Infrastructure and Communities (BRIC) program, administered by the Federal Emergency Management Agency (FEMA), have identified similar inequities.[26] The BRIC program itself is focused on proactive, rather than reactive, investment in hazard reduction by mitigating in advance the risks states, local communities, tribes, and territories face from disasters and natural hazards.[27] Aspects of the competitive funding selection process, such as the application criteria and cost share requirements, have resulted in inequities in funding distributions. For example, in the program's first year (Fiscal Year 2020), "94% of BRIC grants were awarded to coastal states and wealthier counties. Communities that lacked capacity—staffing, resources [(including financial resources)], and expertise—failed to compete successfully for the grants."[28]

Recognizing these ongoing inequities, federal and state funding agencies and the Biden-Harris Administration are working to amend and improve programs, including their cost share requirements, to ensure more equitable access to grants for resilience and hazard mitigation infrastructure.

Examples of Recent Efforts to Improve Cost Share Implementation

- Through Executive Order 14008, the Biden-Harris Administration instituted the Justice40 Initiative, which made it a goal that 40% of the overall benefits of certain federal investments flow to disadvantages communities that are marginalized, underserved, and overburdened by pollution.[29] This includes implementing cost share flexibility for infrastructure programs.

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[21] GAO, FLOOD MITIGATION, *supra* note 11.
[22] U.S. GOVERNMENT ACCOUNTABILITY OFFICE, DISASTER RECOVERY, ACTIONS NEEDED TO IMPROVE THE FEDERAL APPROACH (Nov. 2022), https://www.gao.gov/assets/gao-23-104956.pdf [hereinafter GAO, DISASTER RECOVERY].
[23] *See*, *e.g.*, GAO, FLOOD MITIGATION, *supra* note 11, at 24; GAO, DISASTER RECOVERY, *supra* note 22, at 29.
[24] Smith, *Match Requirements*, *supra* note 9; GAO, FLOOD MITIGATION, *supra* note 11, at 42.
[25] GAO, FLOOD MITIGATION, *supra* note 11, at 42.
[26] *See, e.g.,* Kris Smith, *Capacity-limited states still struggle to access FEMA BRIC grants*, ECONOMIC HEADWATERS (Aug. 2022), https://headwaterseconomics.org/equity/capacity-limited-fema-bric-grants/ [hereinafter Smith, *Capacity-limited States*]; Noreen Clancy et al., *The Building Resilient Infrastructure and Communities Mitigation Grant Program, Incorporating Hazard Risk and Social Equity into Decisionmaking Processes*, HOMELAND SECURITY OPERATIONAL ANALYSIS CENTER OPERATED BY THE RAND CORPORATION (2022), https://www.rand.org/pubs/research_reports/RRA1258-1.html.
[27] *Building Resilient Infrastructure and Communities*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities (last visited Dec. 17, 2023).
[28] Smith, *Capacity-limited States*, *supra* note 26.
[29] *Justice40*, THE WHITE HOUSE, https://www.whitehouse.gov/environmentaljustice/justice40/ (last visited Jan. 1, 2024).

- The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) discretionary program provides 100% federal cost share for projects located in rural, historically disadvantaged communities, or areas of persistent poverty.[30]

- As discussed in Appendix I, FEMA's Flood Mitigation Assistance (FMA) Grant Program provides alternative cost share options (90% to 100%) for vulnerable applicants and communities, as well as severe and repetitive loss properties.[31]

- As discussed in Appendix II, Vermont's Flood Resilient Communities Fund is reserved to fund projects not eligible under certain federal programs. Grants can cover 100% of project costs and prioritizes communities and homeowners with the greatest economic need.[32]

STRATEGIES AND TOOLS FOR REDUCING THE COST SHARE BURDEN

Reducing or eliminating cost share

In an effort to improve equitable access to federal funding, steps have been taken by Congress and agencies to standardize, reduce, and even eliminate non-federal share requirements where possible. Such changes are the most direct solution to helping communities overcome the burdens created by cost sharing.

Some federal programs offering competitive grants have reduced non-federal share requirements or offered waivers to assist rural and/or low-capacity communities.[33] For example, FEMA's BRIC program reduced the non-federal match requirement to 10% for "Economically Disadvantaged Rural Communities," and the Flood Mitigation Assistance program has a reduced cost share—as low as 0% in some cases—for repetitive loss and severe repetitive loss properties.[34] The 2022 Water Resources Development Act (WRDA), which authorizes the U.S. Army Corps of Engineers to partner with non-federal sponsors on a range of project types, established a reduced cost share (10% non-federal, down from 35%) for design and construction of certain flood and/or storm risk reduction projects using non-structural, natural, or nature-based features that benefit an urban or rural economically disadvantaged community.[35]

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[30] Carolyn Berndt et al., *Ways Local Governments Can Make Their Federal Match*, NATIONAL LEAGUE OF CITIES (May 4, 2023), https://www.nlc.org/article/2023/05/04/ways-local-governments-can-make-their-federal-match/ [hereinafter Berndt et al., *Federal Match*].

[31] *When You Apply for Flood Mitigation Assistance Funds*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/flood-mitigation-assistance/when-you-apply#costshare (last visited Dec. 27, 2023) [hereinafter FEMA, *FMA Funds*].

[32] *Flood Resilient Communities Fund*, VERMONT EMERGENCY MANAGEMENT, https://vem.vermont.gov/flood-resilient-communities-fund (last visited Dec. 29, 2023) [hereinafter VERMONT, *Flood Resilient Communities Fund*]; Vt. Act No. 74 (H.439) (2021).

[33] Many discretionary grant programs provide cost share flexibility for rural communities. The definition of "rural" may be different between federal programs. The Bipartisan Infrastructure Law Rural Playbook provides information on rural-specific programs that have flexible cost share requirements. *See generally* THE WHITE HOUSE, BUILDING A BETTER AMERICA, BIPARTISAN INFRASTRUCTURE LAW RURAL PLAYBOOK (APR. 2022), https://www.whitehouse.gov/wp-content/uploads/2022/04/BIL-Rural-Playbook-.pdf.

[34] GAO, FLOOD MITIGATION, *supra* note 11, at 42.

[35] *See* 33 U.S.C. § 2232.



Source: U.S. Army Corps of Engineers

While a lower cost share percentage is an improvement, it can still be a barrier for many communities. Moreover, the criteria to qualify for cost share reductions or waivers are often so restrictive that most communities fail to quality.[36] Assessments of federal programs have suggested that reforms to standardize cost share could involve applying any new or existing cost share reductions to all programs within an agency.[37] Additionally, "eligibility for some existing cost-share reduction provisions could also be expanded, such as by changing the criteria for small and impoverished communities to enable more communities to be eligible."[38]

Moving away from the percentage model for cost share requirements may help alleviate disproportionate cost share burdens, and it could also help address the additional, unexpected burdens many communities might face when a project goes over the original budget. Setting fixed, capped, or timebound parameters for the non-federal share would help communities better plan for their financial responsibility to a project and shift the burden for overages to the federal agencies that are often responsible for delays and cost overruns.

Finally, cost share requirements can be waived or eliminated. While this may require Congressional action in the case of many federal programs, there are some programs where cost share requirements do not originate in the authorizing statute and thus may be waived by agency action.

Federal Actions to Eliminate Cost Share Requirements

- Notably, in 2022, the U.S. Forest Service "recognized that its cost share requirements have at times 'created insurmountable barriers for current and potential partners and Tribes to contribute their expertise and capacity.'"[39] The agency took action by waiving cost share requirements for programs where a non-federal match is not required by statute.[40]

- In response to chronically underfunded infrastructure in tribal communities, the Bipartisan Infrastructure Law provides for more than $13 billion in funding to directly support tribal communities and makes them eligible to apply for or request billions in discretionary, formula, and

[36] Smith, *Match Requirements*, *supra* note 9.
[37] GAO, FLOOD MITIGATION, *supra* note 11, at 42.
[38] *Id.*
[39] *See* Smith, *Match Requirements*, *supra* note 9 (quoting *Interim policy changes for partnership and cooperator agreements*, U.S. FOREST SERVICE (July 22, 2022), https://www.fs.usda.gov/inside-fs/leadership/interim-policy-changes-partnership-and-cooperator-agreements).
[40] *Id.*

other funding.[41] The federal government has published a "Tribal Playbook" as an introductory resource to help tribal communities navigate the over 150 programs with sources of funding that have been set aside for them, and provides guidance on where to seek technical assistance and further information.[42] In further effort to improve infrastructure resources for tribal communities, specific benefits and flexibilities have been enacted—including, in some cases, a waiver or elimination of cost share requirements.[43]

Expand parameters of what counts as cost share contribution

Allowing more types of costs to count toward the non-federal share would help ease the financial burden on communities by incorporating more, if not all, of the comprehensive expenses incurred during a project's full lifespan. This could include consideration of the time, resources, and money communities spend on planning, funding/financing, construction, and maintenance over the entire life of a project.[44]

Consideration of Pre-Award Costs

As discussed below and in Appendix I, in an effort to make access to the BRIC program more equitable, FEMA has expanded the *timeline* of acceptable costs that can count towards the non-federal share to include *pre-award* costs. Such costs include those incurred during the development of the benefit-cost analysis and gathering of environmental impact data, which are required as part of a grant application.[45] Considering the expenses associated with the application and project development and allowing them to count towards a community's non-federal share may encourage more communities to develop project proposals and invest in resilience and natural infrastructure solutions.

State funding and resources to help local communities

State funding pools can be created to help local governments meet cost share requirements. The money in these pools can either come from state sources or from federal sources. In general, the non-federal match requirement may not be met with funds from other federal sources; however, Congress and federal agencies may provide explicit authorization for their grant funds to be used as a cost share for other federal grants (known as federal fund braiding, discussed below).[46] States may also allocate part of their general budgets or find other sources of revenue—e.g., lottery revenues, taxes on products like

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[41] THE WHITE HOUSE, BUILDING A BETTER AMERICA, BIPARTISAN INFRASTRUCTURE LAW TRIBAL PLAYBOOK 1 (May 2022), https://www.whitehouse.gov/wp-content/uploads/2022/05/Bipartisan-Infrastructure-Law-Tribal-Playbook-053122-.pdf.

[42] *See generally id.*

[43] *Id.* at 1.

[44] *See* Smith, *Match Requirements*, *supra* note 9.

[45] *See id.*

[46] *See*, e.g., RESTORE LOUISIANA, NON-FEDERAL MATCH PROGRAM POLICY AND PROCEDURES MANUAL 5, https://cdn2.assets-servd.host/utopian-bustard/production/Non-Fed-Policy-Manual.pdf?dm=1683049047 ("In the wake of the multiple disasters that hit Louisiana in 2020 and 2021, the U.S. Dept. of Housing and Urban Development (HUD) has allocated approximately $3.1 billion in Community Development Block Grant – Disaster Recovery (CDBG-DR) funds to the state Louisiana for four of the major disaster declarations . . . ."); Smith, *Match Requirements*, *supra* note 9 ("Vermont created the Flood Resilient Communities Fund using American Rescue Plan Act (ARPA) funds to fund community resilience and mitigation projects, including property buyouts and watershed restoration. The program was specifically designed so that local governments can request that the state pays for the full costs.").

plastic bags and legal marijuana—to assist with funding state and local cost share requirements. Such state-funded programs may benefit counties, municipalities, special districts, and tribal governments seeking to apply for a federal infrastructure grant program that requires a non-federal match.[47] While local sponsors have to complete the extra step of applying for the state funding in addition to the federal grant application, the process can be designed by the state to be less resource-intensive overall than identifying and implementing other means of meeting the non-federal share.

States have good reasons to help incentivize localities to apply for federal resilience and natural infrastructure grants by establishing funding pools to cover the non-federal share of a project. Such projects benefit the state and its citizens by reducing future losses, and utilization of available funds from the federal government limits the potential of state funds needing to be diverted from other community needs to fund a necessary project and/or pay for disaster recovery.[48]

Additional ways communities can fund their cost share

While substantive changes to cost share requirements would benefit communities and help improve resilience and advance the use of natural infrastructure across the country, the present reality is that communities need to raise their own funds for most federal grant programs. Most cities, towns, villages, etc. are limited by the types of funds that can be raised and used to cost share with the federal government on infrastructure projects, but sources can be built up over time, loaned, or come from multiple sources such as other federal sources, state funding (discussed above), and other partnerships.[49]

Federal fund braiding

For some grant programs, federal fund braiding is permitted. Sometimes referred to as federal-to-federal match, this approach allows grant recipients to use funds from one federal award to meet the match requirements of another.[50] As noted above, federal fund braiding is generally not allowed unless there has been a specific waiver or allowance made for the funding source. In recent years, Congress and federal agencies have been using this approach increasingly to help address financial capacity challenges.[51]

Enabling Successful Matching with Federal Funds

The Department of Housing and Urban Development's Community Development Block Grant Program, first established in 1974, is notable in that it "authorizes the use of CDBG funds to meet the non-federal

[47] *See, e.g., Local Match Program (Federal Infrastructure Investment and Jobs Act)*, COLORADO DEPARTMENT OF LOCAL AFFAIRS, https://dlg.colorado.gov/local-match-program-federal-infrastructure-investment-and-jobs-act (last visited Dec. 20, 2023).
[48] *See generally Non-Federal Match Program*, RESTORE LOUISIANA, https://www.restore.la.gov/non-federal-share-pa-match-program (last visited Dec. 20, 2023)
[49] *See* McKaia Dykema et al., *10 Ways to Make Your Local Match for Federal Projects*, NATIONAL LEAGUE OF CITIES (July 5, 2022), https://www.nlc.org/article/2022/07/05/10-ways-to-make-your-local-match-for-federal-projects/ [hereinafter Dykema et al., *Local Match*].
[50] *See*, e.g., *CCAM Federal Fund Braiding Guide*, FEDERAL TRANSIT AUTHORITY (April 12, 2021), https://www.transit.dot.gov/regulations-and-programs/ccam/about/coordinating-council-access-and-mobility-ccam-federal-fund.
[51] GAO, DISASTER RECOVERY, *supra* note 22, at 29.

match requirements of other federal programs."[52] In 2020, HUD and FEMA released joint guidance on how grantees can use CDBG Disaster Recovery grants to meet the local match requirement for FEMA Public Assistance grants. This "flexible match" implementation guidance is intended to make it easier to achieve federal fund braiding by helping grantees navigate compliance with the two separate programs "in a streamlined manner" that minimizes administrative costs.[53]

Local taxes

A primary source of infrastructure funding for local governments comes from local option taxes. Typical tax methods include sales tax, fuel tax, and motor vehicle registration fees.[54] These types of taxes help diversify city revenue streams and are an opportunity to raise funds to match federal dollars.[55] Often, local option taxes are specifically earmarked for infrastructure projects.

Other local funding sources

Local governments may also utilize other traditional funding options, such as general, discretionary, or revolving funds set aside in annual budgets; municipal bonds; asset recycling and/or leasing proceeds; special reserves; or sometimes funds from Congress, such as the State and Local Recovery funds given through the American Rescue Plan Act (ARPA) during the COVID pandemic.[56]

Partnerships and in-kind contributions

Local governments typically can accept funds from, or partner with, community organizations, foundations, other private third-parties, state governments, and/or other governmental or quasigovernmental bodies (e.g., transit authorities).[57] They can also accept in-kind donations of equipment, services, etc. that are allowed under the respective federal grant program rules.[58] Local third parties that may have interest in making an in-kind or cash donations "can be valuable partners in assisting a local government in making their local match requirement and can create projects that foster community building and investment."[59]

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[52] U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT & FEDERAL EMERGENCY MANAGEMENT AGENCY, IMPLEMENTATION GUIDANCE FOR USE OF COMMUNITY DEVELOPMENT BLOCK GRANT DISASTER RECOVERY FUNDS AS NON-FEDERAL COST SHARE FOR THE PUBLIC ASSISTANCE PROGRAM (Oct. 2020), https://www.fema.gov/sites/default/files/2020-10/fema_hud_flexible-match-implementation-guidance_sop_10-14-2020.pdf.

[53] *Id*.

[54] *See generally* Dykema et al., *Local Match*, *supra* note 49 (detailing how local gas tax, sales tax, and motor vehicle fees can work).

[55] *Id*.

[56] *See id*. For example, in Madison, Wisconsin, the city has dedicated $250,000 in ARPA funds to green infrastructure projects. *See* Julia Bauer & Kyle Funk, *How Communities Are Using ARPA Funds to Improve Infrastructure*, NATIONAL LEAGUE OF CITIES (May 17, 2022), https://www.nlc.org/article/2022/05/17/how-communities-are-using-arpa-funds-to-improve-infrastructure.

[57] Berndt et al., *Federal Match*, *supra* note 30; *see also* Dykema, *Local Match*, *supra* note 49.

[58] *See id.*

[59] Berndt et al., *Federal Match*, *supra* note 30.

Source: U.S. Army Corps of Engineers (cropped from original).[60]

Highlighting Ways Communities Fund and Finance Natural Infrastructure

To help raise awareness about the availability of different funding and financing mechanisms, the U.S. Army Corps of Engineers' SAGE and Engineering with Nature programs have published a set of case studies showcasing "innovative examples of funding and financing natural infrastructure."[61] Examples highlighted include:

- In Clear Lake City, Texas, a project "transformed a 200-acre golf course into a multi-purpose natural area with flood detention, habitat, and recreation benefits." Sources of funding for the project included voter-approved bonds, state programs, local civic organizations, local individual and business donations, local corporations and foundations, and volunteer mobilization.[62]

- In Chesapeake Bay, Virginia, the Elizabeth River Project's River Starts "cost sharing program for homeowners has enabled over 1,000 natural infrastructure projects within the watershed." In addition to the cost sharing mechanism, the project utilized a nutrient credit exchange program.[63]

- In the Bay Area of California, the South Bay Salt Pond Restoration Project is restoring over 15,000 acres of former salt production areas into tidal marshes and managed ponds. Key sources of funding include voter-approved state water bonds ($72 million from Proposition 50) and private foundation contributions.[64]

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[60] *Funding and Financing Natural Infrastructure*, USACE, SYSTEMS APPROACH TO GEOMORPHIC ENGINEERING, https://www.iwr.usace.army.mil/SAGE/Funding-Finance/ (last visited Dec. 28, 2023).
[61] *Id.* (showing natural infrastructure projects to prevent flooding in Clear Lake City, Texas, and Chesapeake Bay, Virginia); *see also Nature-based Solutions Funding Database*, NATIONAL WILDLIFE FEDERATION, https://fundingnaturebasedsolutions.nwf.org/ (last visited Jan. 1, 2024) (providing a resource database for communities interested in pursuing federal funding and/or technical assistance for nature-based solutions); *Green Infrastructure Federal Collaborative*, ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/green-infrastructure/green-infrastructure-federal-collaborative (last visited Jan. 1, 2024) (providing information on federal funding resources for green infrastructure).
[62] *Id.*
[63] *Id.*
[64] *Id.*

CONCLUSION

Communities throughout the Mississippi River Basin and across the country are facing increasing threats from flooding, pollution, climate change, and competing demands on valuable natural resources. The need for resilience and natural infrastructure solutions has become more necessary than ever, but funding requirements such as cost sharing can put undue burdens and even prevent states, local communities, tribes, and territories from carrying out infrastructure projects. This report discussed some of the problems and inequities created by cost share requirements as well as ways funding agencies can address and communities can overcome them.

The Appendices to this report highlight cost share requirements of certain federal and state programs facilitating resilience and nature-based solutions, including practices agencies are implementing to improve equitable distribution of funds.

APPENDIX I – FEDERAL PROGRAMS AND EFFORTS TO IMPROVE EQUITABLE ACCESS TO FUNDING

Cost share requirements and federal programs funding natural infrastructure

Under the Biden-Harris Administration, the federal government is increasing efforts to advance water infrastructure projects that incorporate nature-based solutions. In September 2022, the White House Council on Environmental Quality published a "roadmap" highlighting opportunities for federal agencies to help accelerate use of nature-based solutions.[65] Among other suggestions, the report recommended reducing or removing "discretionary cost-share requirements that unnecessarily constrain the use of nature-based solutions[,] . . . particularly for underserved communities," noting that the Inflation Reduction Act of 2022 "enables some federal departments to change cost-share requirements."[66]

Nonetheless, levels of and access to federal funding for nature-based solutions varies greatly between agencies and community types. In addition, water-related infrastructure projects often compete with other environmental project types for discretionary funding.[67] Thus, it is especially important to identify and leverage the grants available for underserved communities in an increasingly competitive landscape for federal assistance.

This section provides an overview of the Office of Management and Budget's (OMB) general cost share regulations and five federal agencies' cost-share requirements for water infrastructure grants: the Environmental Protection Agency (EPA), Federal Emergency Management Agency (FEMA), U.S Army Corps of Engineers (USACE), U.S Department of Agriculture (USDA), and U.S Department of Interior, Bureau of Reclamation. While numerous grant programs exist within all of these agencies, we have chosen to highlight representative examples of funding opportunities that address resilience and nature-based solutions for water-related projects. The opportunity to compare these programs' cost-sharing schemes and alternatives may be of interest to project applicants, other agencies, and stakeholders interested in cost-share reform.

Background: OMB rules for cost share implementation

Generally, federal funding schemes fall into two categories: individual project authorization and program authorization. Individual project authorization is dependent on the funding year and can be more irregular in the distributions of eligible award money. On the other hand, program authorization is typically set up on a consistent funding schedule for a range of eligible activities and recipients.[68]
The U.S Office of Management and Budget (OMB) has issued regulations outlining general requirements for implementing cost share for all federally assisted projects, which can be found in the Uniform

[65] *See* THE WHITE HOUSE, OPPORTUNITIES TO ACCELERATE NATURE-BASED SOLUTIONS: A ROADMAP FOR CLIMATE PROGRESS, THRIVING NATURE, EQUITY, & PROSPERITY, A REPORT TO THE NATIONAL CLIMATE TASK FORCE (Nov. 2022), https://www.whitehouse.gov/wp-content/uploads/2022/11/Nature-Based-Solutions-Roadmap.pdf.
[66] *Id.* at 7.
[67] Jonathan L. Ramseur et al., *Federally Supported Projects and Programs for Wastewater, Drinking Water, and Water Supply Infrastructure*, CONGRESSIONAL RESEARCH SERVICE 2 (Sept. 29, 2023), https://crsreports.congress.gov/product/pdf/R/R46471.
[68] *Id.* at 2.

Guidance for Federal Awards.[69] These regulations provide important context for understanding federal cost share practices and expectations and how cost share works for specific programs.
Generally, shared costs and all contributions must be accepted as part of the non-federal entity's cost sharing when contributions meet the following criteria:

> (1) Are verifiable from the non-Federal entity's records;
> (2) Are not included as contributions for any other Federal award;
> (3) Are necessary and reasonable for accomplishment of project or program objectives;
> (4) Are allowable under [OMB rules establishing "cost principles" for accounting];
> (5) Are not paid by the Federal Government under another Federal award, except where the Federal statute authorizing a program specifically provides that Federal funds made available for such program can be applied to matching or cost sharing requirements of other Federal programs;
> (6) Are provided for in the approved budget when required by the Federal awarding agency; and
> (7) Conform to other provisions of [OMB regulations] as applicable.[70]

OMB clarifies that volunteer services from third-party professionals may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Donated property from third parties such as equipment, office supplies, and laboratory supplies require a separate method for determining cost share.[71] This method varies depending on the purpose of the federal award.

While cost share requirements vary across federal programs, these regulations serve as the underlying basis for federal cost share practices. The following sections provide an overview by agency of cost share requirements for programs that support resilience and natural infrastructure projects.

Federal Emergency Management Agency

FEMA funds a variety of grant programs related to pre- and post-emergency and disaster activities. Under the umbrella of Hazard Mitigation Assistance (HMA) Grants, there are several funding mechanisms that promote the development of natural infrastructure. These include the Building Resilient Infrastructure and Communities Program, the Flood Mitigation Assistance Program, the Hazard Mitigation Grants Program, and the Safeguarding Tomorrow Revolving Loan Fund. Each program differs in purpose and involves different cost share options, which are described briefly below.

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[69] *See generally* 2 C.F.R. part 200; 2 C.F.R. § 200.306 (cost share regulations). The cost sharing or matching requirement cannot be paid by the Federal government under another Federal award, except where the Federal statute authorizing a program specifically provides that Federal funds made available for such a program can be applied to matching or cost sharing requirements. (See §200.306.)
[70] 2 C.F.R. § 200.306(b).
[71] 2 C.F.R. § 200.306(g).

Building Resilient Infrastructure and Communities (BRIC)

The Building Resilient Infrastructure and Communities (BRIC) program was created through Section 1234 of the 2018 Disaster Recovery Reform Act. BRIC helps states, local communities, tribes, and territories undertake hazard mitigation projects to reduce future disasters and natural hazards. BRIC is funded by a 6% set-aside from federal post-disaster funding, and in Fiscal Year 2023 BRIC will distribute $1 billion in grants.[72] There are several buckets of funding, including state/territory allocations, a tribal set-aside, and annual rounds of competitive grants (the National Competition). BRIC's primary focus is to prioritize proactive research into community resilience efforts. The two biggest categories for funding include flood control and utility/infrastructure protection.[73] In the Fiscal Year 2022 National Competition, 64 projects focused on nature-based solutions that span 19 states and 8 regions.[74]

BRIC has a baseline cost sharing breakdown of 75% federal and 25% non-federal match. The non-federal contribution can be provided through cash, third party-in-kind services, materials, or any combination thereof. In addition, FEMA will cover 100% of the recipient and subrecipient management costs, which deal with administrative expenses.[75]

The BRIC program allows for various alternatives to the standard cost share percentage, depending on the recipient's circumstances. This includes the designation of "Economically Disadvantaged Rural Communities" (EDRCs), which are communities of 3,000 or fewer people that are identified as having an average per capita annual income of no more than 80% of the national per capita income. EDRCs are eligible for a 90% federal cost share and a 10% non-federal share.[76] Projects located in any area designated as a "Community Disaster Resilience Zone" are eligible for the same alternative cost share arrangement.[77] Under the BRIC program, FEMA waives the non-federal cost share requirement entirely only for applications under $200,000 located in insular areas including the American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands.

Despite these alternatives being intended to support more communities' investment in resilience, there is still a disproportionate burden on smaller communities that lack the financial capacity to contribute the necessary match.[78] The scoring system of the BRIC program, which rewards higher local matches, has exacerbated disparities, making it difficult for smaller communities to apply and receive funding. Many low-capacity communities that lack technical and financial resources either do not apply for

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[72] *Summary of FEMA Hazard Mitigation Assistance (HMA) Programs*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/fact-sheet/summary-fema-hazard-mitigation-assistance-hma-programs (last visited Dec. 20, 2023).

[73] *Before You Apply for Building Resilient Infrastructure and Communities (BRIC) Funds*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/before-apply - funding (last visited Dec. 27, 2023) [hereinafter FEMA, *BRIC Funds*].

[74] *Building Resilient Infrastructure and Communities Grant Program FY 2022 Subapplication and Selection Status*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/after-apply/fy22-status - highlights (last visited Dec. 27, 2023).

[75] *Id.*

[76] FEMA, *BRIC Funds*, *supra* note 73.

[77] *Community Disaster Resilience Zones*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/partnerships/community-disaster-resilience-zones - designation (last visited Dec. 27, 2023).

[78] Smith, *Match Requirements*, *supra* note 9.

hazard mitigation grants or face challenges in performing risk analysis and designing competitive projects.

FEMA has taken or is considering actions to address some of these challenges. For example, to make applications easier for communities, FEMA provides several forms of technical assistance including webinar recordings explaining project criteria and guidance documents on project scoping activities. The BRIC Direct Technical Assistance (BRIC DTA) initiative aims to provide personalized technical aid to communities and tribal nations lacking the resources to initiate independent climate resilience planning and project solution development. This assistance includes climate risk assessments, community engagement initiatives, partnership establishment, and the formulation of mitigation and climate adaptation plans. The support provided spans pre-application activities through completion of the grant.[79]

Publicly available information providing descriptions of and updates on BRIC-funded projects remains relatively vague. However, examples of awarded projects highlighted by FEMA and environmental advocates show that communities are using BRIC funds to implement natural infrastructure projects that enhance resilience. For example, a project Brooklyn, New York will employ versatile nature-based strategies aimed at enhancing flood resilience and mitigating extreme heat impacts within a susceptible community housing complex. This initiative encompasses various green infrastructure elements, such as a stormwater management system, resilient landscaping, and communal areas. In Conway, South Carolina, around $2 million was allocated to safeguard a vulnerable population center from heightened flood and stormwater intensity. That project involves floodplain restoration and the establishment of a stormwater wetland and community park.[80]

Flood Mitigation Assistance (FMA)

The Flood Mitigation Assistance (FMA) Grant Program provides funding to eliminate flood risks to buildings insured by the National Flood Insurance Program. Established by the National Flood Insurance Reform Act of 1994, the FMA grant program receives annual appropriations from the National Flood Insurance Fund.[81] For Fiscal Year 2023, FMA announced the distribution of $711 million in FMA grant funding.[82]

The program has a baseline cost share of 75% federal share with a 25% non-federal match. The non-federal share can be provided in the form of cash, third party-in-kind services, materials, or any combination thereof. In addition, FEMA will cover 100% of the recipient and subrecipient management costs, which deal with administrative expenses.

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[79] *BRIC Direct Technical Assistance*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/direct-technical-assistance (last visited Dec. 27, 2023).

[80] Emily Donahoe, *Funding Nature-Based Solutions through FEMA's BRIC Program*, NWF BLOG (Oct. 25, 2022), https://blog.nwf.org/2022/09/funding-nature-based-solutions-through-femas-bric-program/.

[81] *Flood Mitigation Assistance Grant Program*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/flood-mitigation-assistance (last visited Dec. 27, 2023).

[82] *Flood Mitigation Assistance Grant Program FY 2022 Subapplication and Selection Status*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/flood-mitigation-assistance/after-you-apply/fy22-status (last visited Dec. 27, 2023).

The FMA grant program emphasizes capability and capacity building activities (known as C&CB) as a core part of their funding model.[83] The program offers reduced non-federal share for C&CB applicants that rank above average on the Center for Disease Control and Prevention's Social Vulnerability Index (CDC SVI) and are receiving funding through the Bipartisan Infrastructure Law. In areas where the SVI score—which is determined by Socioeconomic Status, Household Characteristics, and Housing Type and Transportation—is not less than 0.5001 for the benefiting area(s), substantiated by a benefiting area map, applicants are eligible to receive awards that federally cover 90% of project costs.[84]

In addition, there are cost share waivers and reductions available for individual flood mitigation projects, including a 100% federal share for projects defined as Severe Repetitive Loss (SRL) (B)(i) or (B)(ii) properties in Title 42 United States Code 4104c(h)(3); as well as up to 90% for projects defined as Repetitive Loss (RL) properties in Title 42 United States Code Section 4121(a)(7).[85] Similarly, Localized Flood Risk Reduction Projects offer the possibility of up to 90% or even 100% federal cost share funding based on factors such as the CDC SVI score, the type of flood-prone properties involved, and whether the project is funded by the Bipartisan Infrastructure Law.[86]

The FMA program offers several technical assistance documents on its website including guidance on creating Benefitting Area Maps, Benefit-Cost Analysis reports, and Capability and Capacity Building Activities for Localized Flood Risk Reduction Projects. There are also instructions for submitting phased projects for funding.[87]

Common examples of FMA-funded projects that feature nature-based solutions include flood prone property acquisitions and structure elevations to help prevent flooding. For example, the Texas Water Development Board has highlighted its successes accessing FMA funds for home elevations in Freestone County and Guadalupe County. The board noted that key aspects to their successful projects included starting the subapplication process early; hosting public meetings to gather relevant information from homeowners to add to subapplication; and attending FEMA's free webinar training resources for each FMA grant cycle.[88]

Hazard Mitigation Grant Program (HMGP)

The Hazard Mitigation Grant Program provides financial assistance to state, local, tribal, and territorial governments to implement mitigation measures that go beyond the restoration of damaged infrastructure.[89] These measures can include the construction of protective infrastructure, development of hazard-resistant building codes, community education programs, and other proactive strategies to

[83] FEMA, *FMA Funds*, *supra* note 31**Error! Bookmark not defined.**.
[84] *Id.*
[85] *Id.*
[86] FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD MITIGATION ASSISTANCE – LOCALIZED FLOOD RISK REDUCTION PROJECTS (Aug. 2022), https://www.fema.gov/sites/default/files/documents/fema_fy22-fma-localized-flood-risk-reduction-projects-fact-sheet.pdf.
[87] *Resources for the Flood Mitigation Assistance Grant Program*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/flood-mitigation-assistance/fma-resources (last visited Dec. 23, 2023).
[88] Marla Waters & Niamh Gray, *The Flood Mitigation Assistance Program: Texas Success Stories*, TEXAS WATER DEVELOPMENT BOARD, https://cdn.ymaws.com/www.tfma.org/resource/resmgr/2021_summit/2021_summit_presentations/track_i/i1_the_flood_mitigation_assi.pdf (last visited Dec. 27, 2023).
[89] *Hazard Mitigation Grant Program (HMGP)*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/hazard-mitigation (last visited Dec. 23, 2023).

reduce the vulnerability of communities to disasters. This funding is authorized by section 404 of the Stafford Act and is only available after a presidential "major disaster" declaration.[90]

The baseline HMGP cost share requirements are similar to those of the BRIC and FMA programs, with a default 75% federal share and 25% non-federal share.[91] In 2022, the HMGP cost sharing scheme received an update when President Biden signed H.R. 2471 into law, requiring a minimum 90% federal cost share for disasters and emergencies occurring between January 1, 2020, and December 31, 2021.[92] The law increases the standard 75% federal cost share to at least 90% in an effort to provide extra assistance to communities who were impacted by environmental disasters during the COVID-19 pandemic.[93] The Hazard Mitigation Grant Program also provides extensive technical assistance materials including a complete user manual on how to navigate the application process.[94]

In the evaluation process for competitive HMGP grants, use of nature-based solutions is one of the technical criterion for scoring subapplications.[95] To earn points in this category, the subapplication must clearly outline how the project integrates one or more nature-based solutions. These solutions encompass sustainable environmental management practices designed to restore, mimic, or enhance natural systems and processes, contributing to the mitigation of natural hazards while fostering economic, environmental, and social resilience.[96]

Safeguarding Tomorrow Revolving Loan Fund (RLF)

The Safeguarding Tomorrow Revolving Loan Fund (RLF) program is authorized under section 205 of the Stafford Act and funded through the Infrastructure Investment and Jobs Act with $500 million authorized over five years.[97] This program, which had its inaugural year in 2023, stands out from the rest of the HMA grant portfolio for its empowerment of entities to make funding decisions and award loans directly, targeting local governments most in need of financial assistance.[98] Through this program, FEMA does not limit or restrict project types beyond the limitations in statute.[99] Importantly, it doesn't mandate that applicants submit a benefit-cost analysis, making it accessible for underserved communities.[100] Applicants can also leverage these loans for non-federal cost share with other FEMA

[90] *See* 42 U.S.C. § 5170c.
[91] *Before You Apply: Things to Know and Do Before for Hazard Mitigation Grant Program Funds*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/hazard-mitigation/before-you-apply#costshare (last visited Dec. 23, 2023).
[92] Consolidated Appropriations Act, Pub. L. 117-103, H.R. 2471 (2022).
[93] *FEMA Announces 90/10 Cost Share Adjustment*, FEDERAL EMERGENCY MANAGEMENT AGENCY (Mar. 18, 2022), https://www.fema.gov/press-release/20220318/fema-announces-9010-cost-share-adjustment.
[94] *See id.*
[95] *When You Apply: Things to Know and Do When Applying for Hazard Mitigation Grant Program Funds*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/hazard-mitigation/when-you-apply (last visited Dec. 27, 2023).
[96] *See id.*
[97] *Safeguarding Tomorrow Revolving Loan Fund Program*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/storm-rlf (last visited Jan. 1, 2024).
[98] *Id.*
[99] *Id.*
[100] *Id.*

Hazard Mitigation Assistance programs, increasing funding resources for such communities.[101] Furthermore, pursuant to Justice40, 40% of the benefits generated through the program must be directed to underserved communities, requiring the development of an "intended use plan." In summary, this program helps address funding gaps by offering low-interest loans without the need for a benefit-cost analysis, ultimately benefiting smaller communities with limited resources to spend on funding applications.

To receive a capitalization grant, participating entities must contribute at least 10% of the grant amount to their loan fund. (Since FEMA is committed to allocating no less than $5.1 million per grant application, that effectively means the non-federal share will cost a minimum of $510,000.) The source of the non-federal entity's contribution may vary, but it can't include contributions from eventual loan recipients. For Fiscal Year 2023, FEMA announced the selection of eight states that will receive a combined $50 million in capitalization grants to help communities reduce vulnerability to natural hazards and disasters including District of Columbia, Louisiana, Maryland, Michigan, New Jersey, New York, South Carolina, and Virginia.[102]

Environmental Protection Agency

The Environmental Protection Agency (EPA) plays a key role in providing financial assistance for water infrastructure projects across the United States. Through various programs and initiatives, all of which cannot be cataloged here, the EPA supports the development and enhancement of water infrastructure to ensure safe, reliable, and sustainable water systems.

The EPA also hosts an information hub for other federal agencies to list their green infrastructure funding opportunities, including a multiple agency collaborative called the Five Star Wetland and Urban Waters Restoration Grant Program, highlighted below.[103]

Five Star Wetland and Urban Waters Restoration Grants

The Five Star Wetland and Urban Waters Restoration Grants program is a collaboration between the National Fish and Wildlife Foundation (NFWF), EPA, and USDA that provides financial assistance to grassroots partnerships for wetland, forest, and riparian coastal habitat restoration. This initiative, started in 1999, aims to support collaborative projects that restore wetlands and enhance urban waters, thereby contributing to improved water quality and community resilience.[104] Eligible applicants include nonprofit 501(c) organizations, state agencies, local governments, tribal governments, and educational institutions. Funding priorities for the program include on-the-ground restoration activities, educational training, measurable ecological benefits, and community partnerships.

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[101] *Id.*; *Before You Apply for STORM Funds*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/storm-rlf/before-you-apply (last visited Dec. 27, 2023).
[102] *Safeguarding Tomorrow Revolving Loan Fund Program Fiscal Year 2023 Selections*, FEDERAL EMERGENCY MANAGEMENT AGENCY, https://www.fema.gov/grants/mitigation/safeguarding-tomorrow-revolving-loan-fund-program/after-you-apply/fiscal-year-2023-selections - 2023SS (last visited Dec. 27, 2023).
[103] *See Green Infrastructure Funding Opportunities*, ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/green-infrastructure/green-infrastructure-funding-opportunities (last visited Dec. 27, 2023).
[104] *Five Star and Urban Waters Restoration Grant Program*, ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/urbanwaterspartners/five-star-and-urban-waters-restoration-grant-program (last visited Dec. 27, 2023).

With respect to cost share requirements, "[t]he ratio of matching contributions offered is considered during the review process, and projects are required to meet or exceed a 1:1 match ratio to be competitive."[105] The 50% non-federal portion can include in-kind matching or cash contributions. The cost of recent land acquisitions or easements may qualify as match for a project that involves site work. According to NFWF, the program has supported over 1,000 projects with more than $13.4 million in federal funds.

U.S Army Corps of Engineers

The U.S Army Corps of Engineers (USACE) provides technical and financial support for the design and construction of infrastructure projects that regulate waterways, construct sustainable facilities, and manage natural resources.[106] USACE administers numerous cost-shared funding programs, several of which target watershed resilience and encourage nature-based solutions. These include but are not limited to the Environmental Infrastructure program, the Planning Assistance to States program, and the Small Flood Risk Management Program, which are described below as a range of representative examples.

Environmental Infrastructure (EI) Program

Section 219 of the Water Resources Development Act of 1992[107] authorizes a federal funding stream known as the Environmental Infrastructure (EI) Program.[108] The program supports the planning, design, and construction assistance for water infrastructure and resource protection projects. It also encompasses a wide range of initiatives, including flood risk management, water supply, ecosystem restoration, and environmental compliance. The appropriations for EI projects can range from small, localized assistance to billion-dollar, multi-state programs. This funding comes directly from annual Energy and Water Development appropriations laws. Between Fiscal Years 2019 and 2023, 31 states with EI assistance authorizations received funding from annual appropriations and supplemental appropriations.[109] In Fiscal Year 2023, Congress provided USACE with $168.5 million for EI assistance activities.

The typical cost share for EI assistance is 75% federal and not less than 25% non-federal; however, some projects require 65% federal and 35% non-federal.[110] Up to $25,000 of the federal amount appropriated may be used to prepare a letter report and negotiate a cost share agreement.[111] These pre-agreement costs will be 100% federal.[112] This report may include an analysis of the non-federal entity's capability to

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[105] *Five Star and Urban Waters Restoration Grant Program 2021 Request for Proposals*, NATIONAL FISH AND WILDLIFE FEDERATION, https://www.nfwf.org/programs/five-star-and-urban-waters-restoration-grant-program/five-star-and-urban-waters-restoration-grant-program-2021-request-proposals (last visited Dec. 29, 2023).
[106] *Environmental Program*, U.S. ARMY CORPS OF ENGINEERS, https://www.usace.army.mil/Missions/Environmental/ (last visited Dec. 27, 2023).
[107] Pub. L. 102-580 (1992).
[108] Anna E. Normand, *Army Corps of Engineers: Environmental Infrastructure (EI) Assistance*, CONGRESSIONAL RESEARCH SERVICE (Mar. 7, 2022), https://crsreports.congress.gov/product/pdf/IF/IF11184.
[109] *Id.* at 7.
[110] Anna E. Normand, *Overview of U.S. Army Corps of Engineers Environmental Infrastructure (EI) Assistance*, CONGRESSIONAL RESEARCH SERVICE 2 (Mar. 10, 2023), https://crsreports.congress.gov/product/pdf/R/R47162.
[111] *Environmental Infrastructure Under Section 219*, U.S. ARMY CORPS OF ENGINEERS, https://www.nap.usace.army.mil/Missions/Civil-Works/Environmental-Infrastructure/ (last visited Jan. 2, 2024).
[112] *Id.*

meet the cost share requirements and lay out the responsibilities of project coordinators. After the construction of the project, the non-federal sponsor is responsible for 100% of the operation and maintenance costs.[113] The non-federal share can be in the form of cash and credits for lands, easements, and/or relocations. However, in-kind contributions are not allowed for this program.

Planning Assistance to States Program

The Planning Assistance to States Program is authorized under Section 22 of the Water Resources Development Act of 1974. Through the program, USACE can provide states, local, and tribal governments with technical assistance and comprehensive water resources planning.[114] The program enables collaboration between USACE and various entities, including states, groups of states, federally recognized territories or tribes, local governments, and other non-federal entities.

There are two main types of planning assistance offered: comprehensive water resources planning and technical assistance.[115] Comprehensive water resources planning involves the development, utilization, and conservation of water resources within specific geographic boundaries, with a 50% federal and 50% non-federal cost-share breakdown. Technical assistance supports planning efforts related to state water resource management, also with a 50% federal and 50% non-federal cost-share requirement.[116]

Section 205 Small Flood Risk Management Program

The Small Flood Risk Management Project program, outlined in Section 205 of the Flood Control Act of 1948, authorizes the USACE to address local flood risk by constructing or enhancing flood control infrastructure or implementing non-structural measures.[117] These measures may include levees, floodwalls, impoundments, pumping stations, and channel modifications, as well as non-structural approaches like flood proofing and relocation of structures.

As a first step, a planning study is conducted to assess economic justification, technical feasibility, and environmental acceptability. The initial study is fully funded by the federal government up to $100,000, with the remainder cost-shared at 65% federal and 35% non-federal.[118] The project sponsor, typically a local agency, must contribute 35% of the total project cost, either as cash or in-kind contributions. As with many Corps-funded programs, the non-federal sponsor assumes full responsibility for project operation and maintenance after construction.[119]

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[113] *Id.*

[114] *Planning Assistance to States (PAS)*, U.S. ARMY CORPS OF ENGINEERS, https://www.nae.usace.army.mil/missions/public-services/planning-assistance-to-states/ (last visited Dec. 28, 2023).

[115] U.S. ARMY CORPS OF ENGINEERS, PROGRAM FACT SHEET, PLANNING ASSISTANCE TO STATES (July 2023), https://www.lrb.usace.army.mil/Portals/45/docs/CivilWorks/PublicReview/Planning Assistance to States Program.pdf?ver=7vaRboeCUb18Dy_9X6TJ0w%3D%3D.

[116] *Id.*

[117] U.S. ARMY CORPS OF ENGINEERS, SECTION 205 - SMALL FLOOD RISK MANAGEMENT PROJECTS, https://www.lrl.usace.army.mil/Portals/64/docs/Outreach/Information/Section205.pdf (last visited Dec. 28, 2023).

[118] *Id.*

[119] *Id.*

U.S. Department of Agriculture

The U.S Department of Agriculture (USDA) emphasizes environmental stewardship and resilience and actively supports initiatives that integrate nature-based solutions like wetland restoration, reforestation, and sustainable land management practices. The agency's commitment to natural and nature-based solutions manifests in several of its financial assistance programs, including the Emergency Watershed Program and the Watershed Protection and Flood Operations Prevention Program.

Emergency Watershed Protection Program

USDA's Natural Resources Conservation Service (NRCS) administers the Emergency Watershed Protection (EWP) Program, which aims to help local communities address the adverse effects of natural disasters on watersheds. Projects that fall under the EWP's eligibility criteria include those that provide protection from flooding or soil erosion, reduce threats to life and property, restore the hydraulic capacity to the natural environment, and are economically/environmentally defensible.[120] Notably, the EWP does not require a federal or state disaster declaration for program assistance to begin.

The EWP is divided into two categories: EWP-Recovery, through which NRCS works with a sponsor to address watershed impairments; and EWP-Floodplain Easement (FPE), through which NRCS purchases directly from the landowner easements on floodplain properties to restore and protect floodplain functions and values.[121] Public and private landowners are eligible but must be represented by a project sponsor. Sponsors must submit a formal request for assistance within 60 days of disaster occurrence or 60 days from the date when access to the site(s) becomes available.[122]

Initially, NRCS completes a Damage Survey Report to assess the damage and work necessary to restore the local watershed(s). NRCS states that they will "only provide funding for work that is necessary to reduce applicable threats."[123] Technical assistance is provided in the form of services and/or funds to plan, design, and contract the emergency measures, subject to an agreement between NRCS and the Sponsor.[124]

For EWP-FPE, NRCS purchases an easement and pays up to 100% of the costs to restore the floodplain functions and values.[125] For EWP-Recovery, there is a cost share requirement of 75% federal and 25% non-federal for all installation and construction costs.[126] The non-federal share must come from local sources in the form of cash or in-kind services. However, if the NRCS determines that an area qualifies as a "limited-resource area," the federal contribution may be increased to cover up to 90% of the total construction cost.[127]

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[120] *Emergency Watershed Protection*, U.S. DEPARTMENT OF AGRICULTURE, https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection (last visited Dec. 28, 2023).
[121] *Emergency Watershed Protection Program*, BENEFITS.GOV, https://www.benefits.gov/benefit/5934 (last visited Dec. 28, 2023).
[122] *Id.*
[123] U.S. DEPARTMENT OF AGRICULTURE, EMERGENCY WATERSHED PROTECTION PROGRAM 1-2 (Nov. 2021), https://www.nrcs.usda.gov/sites/default/files/2022-08/NRCS_EWPP_Fact Sheet-2021.pdf.
[124] *Id.*
[125] *Id.*
[126] *Id.*
[127] *Id.*

Some success stories from the EWP program include infrastructure to prevent erosion along rivers in Alaska and stormwater recovery efforts in Texas.[128] When asked what made the EWP program effective, a community in Jasper County, Texas, emphasized the meaningful partnerships between NRCS and the applicants.[129]

Watershed Protection and Flood Prevention Operations Program

The Watershed and Flood Prevention Operations (WFPO) Program is aimed at assisting states, local governments, and tribes in their implementation of watershed plans. The program is authorized by the Flood Control Act of 1944 (P.L. 78-534) and provisions of the Watershed Protection and Flood Prevention Act of 1954 (P.L. 83-566).[130] All projects must have a local sponsor that can act as a fiscal agent and provide project management; the local sponsor works with their local NRCS office to coordinate a preliminary feasibility study that will identify "sustainable climate resilient solutions to address watershed resource concerns."[131] The preliminary feasibility study informs the local sponsor's watershed plan, which must be authorized and approved by NRCS.

The program establishes different cost share requirements across various cost categories, which include Engineering/Technical Assistance, Installation/Construction, and Real Property Rights. These include:

- For flood prevention grants, the federal cost share is 100% for Engineering/Technical Assistance and Installation/Construction; however, for Real Property Rights, the federal contribution is set at 0%.
- For watershed protection grants, the federal cost share for Engineering/Technical Assistance is 100%, but the share becomes variable for Installation/Construction, and there is no federal contribution for Real Property Rights.
- Public Recreation and Public Fish and Wildlife grants have federal shares of 100% for Engineering/Technical Assistance, but the federal share is capped at for 50% for the Installation/Construction and Real Property Rights categories.
- Agricultural water management grants have a 100% federal share in the Engineering/Technical Assistance category but are capped at 75% in Installation/Construction; meanwhile, 0% federal contribution is authorized for Real Property Rights.[132]

U.S Department of the Interior, Bureau of Reclamation

The U.S. Bureau of Reclamation (BOR) oversees the WaterSMART (Sustain and Manage America's Resources for Tomorrow) initiative. This initiative focuses on collaborative and innovative solutions to

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[128] *EWP Success Stories*, U.S. DEPARTMENT OF AGRICULTURE, https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection/ewp-success-stories (last visited Dec. 28, 2023).
[129] Adele Swearingen, *NRCS's EWP program provides a lifeline to Jasper County, TX*, ARCGIS STORYMAPS, https://storymaps.arcgis.com/stories/140e557024ac42769ba3a7066600d8d8 (last visited Dec. 28, 2023).
[130] U.S. DEPARTMENT OF AGRICULTURE, WATERSHED PROTECTION AND FLOOD PREVENTION OPERATIONS PROGRAM 1-2 (Nov. 2021), https://www.nrcs.usda.gov/sites/default/files/2022-08/NRCS_WatershedFloodPrev_Fact Sheet-2021.pdf [hereinafter USDA, WFPO FACTSHEET].
[131] *Watershed and Flood Prevention Operations (WFPO) Program*, U.S. DEPARTMENT OF AGRICULTURE, https://www.nrcs.usda.gov/programs-initiatives/watershed-and-flood-prevention-operations-wfpo-program (last visited Dec. 28, 2023).
[132] USDA, WFPO FACTSHEET, *supra* note 130, at 1-2.

optimize water management, balancing the needs of agriculture, urban development, and ecological health.

WaterSMART Environmental Water Resources Projects

The Environmental Water Resources program support projects that focus on watershed health and use collaborative strategies to increase water resources. The primary goal is to balance the competing needs of agriculture, urban development, and ecological health while ensuring the efficient and responsible use of water resources. Eligible projects under this initiative cover a broad spectrum, including water conservation and efficiency projects, water management or infrastructure improvements, and restoration projects that benefit ecological values or watershed health with a nexus to water resources or water resources management.[133]

Applicants—including states, tribes, irrigation districts, water districts, and non-profit conservation organizations—are encouraged to leverage their resources by cost-sharing with BOR on Environmental Water Resources Projects. Eligible entities must be located in the Western United States or U.S. Territories. The funding for these projects is allocated through a competitive process, and applicants can request federal funding up to $3 million for projects with total costs of $6 million or less, expected to be completed within three years. Projects that increase water supply reliability for ecological value may be eligible to receive up to a 75% federal contribution.[134]

The initiative has showcased successful projects, such as the restoration of Bear Creek in Medford, Oregon, where barriers were removed and habitat improved for endangered salmon species. Another notable project, located in northwest Colorado, involves the improvement of the Maybell diversion on the Yampa River to enhance fish habitat and ensure safe passage for endangered and threatened fish species. These projects demonstrate the strategic approach of the Environmental Water Resources Projects initiative in addressing ecological concerns and enhancing overall watershed health.[135]

WaterSMART Cooperative Watershed Management Program

The Cooperative Watershed Management Program is a funding initiative designed to empower watershed groups in addressing water management needs through a two-phased approach.[136] In the first phase, known as Watershed Group Development and Watershed Restoration Planning, eligible activities include hiring facilitators, conducting outreach, collecting baseline information, completing watershed restoration plans, mapping, obtaining project management services, and interviewing stakeholders. The second phase, Implementation of Watershed Management Projects, allows for diverse projects such as improving stream channels, enhancing floodplain connectivity, stabilizing riverbanks, reducing erosion, upgrading water delivery systems, providing fish passage, removing

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[133] U.S. BUREAU OF RECLAMATION, ENVIRONMENTAL WATER RESOURCES PROJECT 1-2 (Dec. 2022), https://www.usbr.gov/watersmart/ewrp/docs/EWRP_FactSheet_2022.pdf -:~:text=WaterSMART%20Environmental%20Water%20Resources%20Projects%20is%20a%20new,strategy%20to%20increase%20the%20reliability%20of%20water%20resources..

[134] *Id.*

[135] *Id.*

[136] *WaterSMART Cooperative Watershed Management Program*, NATIONAL WILDLIFE FEDERATION, https://fundingnaturebasedsolutions.nwf.org/programs/watersmart-cooperative-watershed-management-program/ (last visited Dec. 28, 2023).

invasive species, and influencing water temperature.[137] Eligible recipients include states, tribal governments, local and special districts, interstate organizations, and non-profit organizations in the Western United States or U.S. Territories. In Fiscal Year 2022, the program allocated $3.8 million to 21 groups to establish or expand watershed organizations. Ten groups received $1.7 million to create new watershed groups, while eleven groups will share $2.1 million to enhance existing ones, fostering sustainable water solutions through the development of bylaws, outreach, restoration plans, and management project designs.[138]

The program is allocated approximately $100 million over five years, with an additional $100 million available for WaterSMART projects improving natural features. While Phase I projects do not require non-federal partners to share in the cost, Phase II projects require a local cost share of 50% or more.[139]

[137] *Id.*

[138] *Watershed groups receive $3.8 million to collaboratively address water management issues*, U.S. BUREAU OF RECLAMATION (Sept. 14, 2022), https://www.usbr.gov/newsroom/news-release/4330.

[139] *Id.*

APPENDIX II – STATE PROGRAMS AND EFFORTS TO IMPROVE EQUITABLE ACCESS TO FUNDING

State funding programs—and their cost share requirements—for resilience and natural infrastructure projects vary widely across the country. This Appendix surveys some state programs from the Mississippi River Basin and beyond, highlighting best practices and lessons learned that may be useful to other states in designing future programs.

Vermont: Flood Resilient Communities Fund

In 2021, Vermont established the Flood Resilient Communities Fund, a state program that funds community resilience projects.[140] The fund was created by state law (Act 74), which allocates federal pandemic aid money from the American Rescue Plan Act "to establish a statewide hazard mitigation program that includes funding hazard mitigation matching funds and a State-level buyout program for parcels ineligible for FEMA-related programs"[141] and for several other related purposes. This program has received continuous funding since 2021.[142]

The Flood Resilient Communities Fund is a voluntary state program that aims to improve community resilience and reduce climate-related flood hazards related to public safety and water quality, including through buyouts of flood-vulnerable properties.[143] In order to be eligible, a projects must *both* reduce future flood risk and improve water quality.[144] Examples of eligible projects include restoration of natural floodplains, dam removal, natural infrastructure and nature-based solutions, green infrastructure, home buyouts, and low-impact development to manage stormwater and reduce flooding.[145]

Importantly, the fund can cover up to 100% of project costs.[146] This program focuses on communities and homeowners "with [the] greatest economic need," and on projects "that mitigate repetitive loss among low-income and marginalized portions of the population."[147] No further details are provided about metrics for economic need and applicant selection.

The program also requires that applicants be strategic in leveraging available funding resources: where feasible, FEMA's Hazard Mitigation Assistance (HMA) grants are used first, while the Flood Resilient Communities Fund is predominately reserved for projects not eligible under HMA programs, as well as to "leverage other funding sources *or fill funding gaps to make projects viable*."[148] Specifically, the fund can be used to fulfill the non-federal match for HMA projects, based on need.[149] According to the state, the

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[140] VERMONT, *Flood Resilient Communities Fund*, *supra* note 32.
[141] Vt. Act No. 74 (H.439) (2021), Sec. G.700(a)(7)(A).
[142] VERMONT, *Flood Resilient Communities Fund*, *supra* note 32.
[143] *Id*.
[144] *Id*.
[145] *Id*.
[146] *Id.*
[147] *Id*.
[148] VERMONT EMERGENCY MANAGEMENT, FLOOD RESILIENT COMMUNITIES FUND. PROGRAM OVERVIEW (Aug. 2022) (emphasis added), https://vem.vermont.gov/sites/demhs/files/documents/Flood Resilient Communities Fund Overview_FY23.pdf.
[149] *Id*.

program rates larger restoration projects higher if they leverage other funding sources,[150] though no specifics are provided.

The Flood Resilient Communities Fund is a good example of how states can design and implement more flexible cost share mechanisms to help fill funding gaps and prioritize communities that may be disadvantaged under other programs.

Louisiana: Non-Federal Match Program

In Louisiana, efforts are underway at the state level to alleviate cost share burdens associated with FEMA Public Assistance (PA) grants through the Non-Federal Match Program.[151] The FEMA PA grant program provides federal funding for infrastructure projects categorized as Emergency Work (response-related) or Permanent Work (recovery-related), with an emphasis on promoting hazard mitigation measures.[152] This grant program establishes classifications for large and small projects based on the funding amount, with project size thresholds determined annually using the Consumer Price Index, varying year to year.[153] Typically, FEMA PA project costs are shared at a 75% federal-25% nonfederal percentage; however, in emergency situations, the federal share may be up to 90%.[154] Cost-sharing through this program is applied at the project level, with a requirement that other incoming federal agency funds be exclusively applied at the project level.[155]

The Restore Louisiana program, administered by the Louisiana Office of Community Development, manages the Non-Federal Match Program, providing eligible applicants with non-federal match funding for FEMA PA projects.[156] The Non-Federal Match program leverages funds from the Community Development Block Grant – Disaster Recovery (CDBG-DR) and distributes them to eligible projects.[157]

In 2020-2021, Louisiana was allocated $3.1 billion for all eligible disaster events, with $240.8 million going to the Non-Federal Match Program.[158] The program aligns with national objectives and criteria required under the CDBG framework, including applicants identifying as low-to-moderate Income (LMI) or expressing urgent need.[159] The Non-Federal Match Program requires projects to be categorized as Emergency Work in category A (debris removal) or category B (emergency protective measures).[160] Additional requirements include eligible project amounts reaching the large project threshold, a minimum match amount of $100,000, and qualification in a Most Impacted and Distressed Area

[150] *Id*.
[151] *Non-Federal Match Program*, RESTORE LOUISIANA, https://www.restore.la.gov/non-federal-share-pa-match-program (last visited Dec. 27, 2023).
[152] RESTORE LOUISIANA, NON-FEDERAL MATCH PROGRAM, POLICY AND PROCEDURES MANUAL 6 (2022), https://cdn2.assets-servd.host/utopian-bustard/production/Non-Fed-Policy-Manual.pdf?dm=1683049047.
[153] *Id.*
[154] *Id.* at 5.
[155] *Id.*
[156] *Id.* at 4.
[157] *Id.* at 11.
[158] *Id.* at 4, 21.
[159] *Id.* at 8.
[160] *Id.*

(MID).[161] These state MIDs are geographically eligible areas that received declarations for Hurricane Laura, Hurricane Delta, Hurricane Ida, and/or the May 2021 Severe Storms.[162]

The program match payment amount varies by disaster. The table below shows the current maximum match percentage by disaster and federal program. Matching funds from other sources (e.g., local funds or grants) are considered before final funding decisions are confirmed.

TABLE 1: FEDERAL PROGRAMS AND SHARE RATE ELIGIBLE UNDER THE STATE'S MATCH PROGRAM

DISASTERS	FEDERAL COST SHARE	STATE OR LOCAL COST SHARE
DR-4559 Laura	90%	10%
DR-4570 Delta	75%	25%
DR-4606 May 2021 Severe Storms	75%	25%
DR- 4611 Ida	90%	10%

[163]

Regarding the program requirements and compliance measures, Restore Louisiana has identified areas that have been challenging for previous grant recipients, including environmental review, procurement, acquisition, and records management.[164] Louisiana's Office of Community Development states that they will provide technical assistance upon request, although details of this assistance are unclear.[165]

Tennessee: State Water Infrastructure Grants Program

The Tennessee State Water Infrastructure Grants Program, run by the Department of Environment and Conservation (TDEC), is a competitive and non-competitive grant program supporting water infrastructure projects that is funded with a portion of the state's American Rescue Plan (ARP) allocation. This program aims to address critical water infrastructure needs across the state. In 2023, the state received $1.35 billion for the program, with approximately $1 billion going towards the non-competitive grant portion. Another $200 million of the state's ARP funds are set aside for the competitive grant program, which is broken up into three different grant types—regionalization ($100 million), water reuse ($50 million), and resource protection ($50 million).[166]

[161] *Id.* at 9.
[162] *Id.*
[163] *Id.* at 13.
[164] *Id.* at 15.
[165] *Id.*
[166] *TDEC Opens Competitive Grant Applications for Water Infrastructure*, TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, https://www.tn.gov/environment/news/2023/5/9/competitive-grant-applications-water-infrastructure.html (last visited Dec. 27, 2023).

Non-competitive Grants

The non-competitive grants program identifies several critical need priority areas including compliance and asset management for local water systems. Additionally, Tennessee prioritizes green infrastructure best management practices and managing stormwater systems.[167] In order to be eligible, all projects must be implemented by eligible project owners that must complete the Tennessee Infrastructure Scorecard and submit Scorecard summaries with proposals. The Scorecard is a summary of critical water infrastructure needs and covers technical, financial, operational, and environmental aspects of the grant proposal. There are four award types: investigation and planning; planning, design, and construction; and construction only. A proposal can mix and match award types if addressing multiple water infrastructure types or systems.[168]

The local cost share (referred to as "co-funding" in this program) requirements range from 15% to 35%.[169] The specific cost share amount for grant applicants is determined by a city or county's Ability to Pay Index (ATPI). Typically, cities or counties with lower ATPI scores will have a lower cost share requirement. Both cash and third-party in-kind contributions are eligible for an applicant's cost share requirement. The cost share requirement can be reduced if there is a collaborative proposal from multiple entities or if the project addresses priority areas of emphasis.

Additionally, the use of these funds can serve as a match for other federal and non-federal programs where the costs are eligible under both grants. The program encourages leveraging multiple funding programs for projects with attention to compliance with companion grant or loan program requirements.[170]

In 2022, the non-competitive grant program funded 1,166 projects with 100% participation from counties and 98% participation by cities.[171]

Competitive Grants

The competitive grants program has several buckets of funding, including restoration and protection. The program priorities state that applicants should focus on resource protection "through green infrastructure best management practices, improved stormwater management, and building resilience to extreme weather events."[172] Eligible grant applicants include all counties and cities, water utility districts, water utility authorities, and non-profits. Eligible activities are defined as projects that focus on stormwater management, stream or wetland rehabilitation, and infrastructure resilience. There is a particular emphasis on projects that incorporate green infrastructure while minimizing components of

[167] TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, NON-COMPETITIVE GRANT MANUAL, STATE WATER INFRASTRUCTURE GRANT PROGRAM 6 (Oct. 2023), https://www.tn.gov/content/dam/tn/environment/arp/documents/arp_non-competitive-grant-manual.pdf.
[168] *Id*. at 14.
[169] *Id*. at 10-11.
[170] *Id*. at 12.
[171] TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, ARP NON-COMPETITIVE GRANT PROGRAM STATISTICS (2022), https://www.tn.gov/content/dam/tn/environment/arp/documents/arp_non-competitive-statistics.pdf.
[172] TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION, COMPETITIVE GRANT MANUAL: RESOURCE PROTECTION 4 (updated Oct. 2023), https://www.tn.gov/content/dam/tn/environment/arp/documents/arp_competitive-grant-manual_resource-protection.pdf.

gray infrastructure.[173] TDEC uses scoring criteria such as infrastructure resilience and wetland restoration.[174] It is also noted that projects should demonstrate that outcomes will result in improved facility or asset performance.

The project types for the competitive grant program are the same as the non-competitive program. However, the cost share requirements differ, ranging from 5% to 20%.[175] For resource protection grants, the percentage is based on the ATPI of the grant applicant; the applicant also can submit a written request to TDEC to request an ATPI exemption. Both cash and third-party in-kind contributions are eligible to meet cost share requirements.[176] (TDEC ARP non-competitive grant funds cannot be used to meet cost share requirements for this program.[177])

In general, the competitive grants program, with a focus on restoration protection, encourages eligible applicants to prioritize resource protection through green infrastructure practices and demonstrates relative cost share flexibility.

Iowa: Resource Enhancement and Protection (REAP) Program

Iowa's Resource Enhancement and Protection (REAP) program is a cost share program that invests in the enhancement and protection of the state's natural and cultural resources.[178] Iowa funds the program through the state's Environment First Fund (through Iowa gaming revenue), as well as through the sale of a natural resource specialty license plate.[179]

The state legislature authorizes funding for the REAP program annually, allocating up to $20 million per year until 2026.[180] Every year, the state spends $350,000 of the REAP funds on conservation education, 1% of the balance on the administration of the Department of Natural Resources, and the remaining funds as follows: 3% on roadside vegetation, 5% on historical resources, 9% on state land management, 15% on city parks and open space, 20% on soil and water enhancement, 20% on county conservation, and 28% on open space protection.[181]

The 28% for open space protection is allocated for state acquisition and development of lands and waters.[182] One-tenth of this allocation is set aside to cost share land acquisitions with private organizations, with 75% of the cost coming from the REAP funds and 25% of the cost coming from private contributions.[183] This program allows private conservation organizations to help protect critical

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[173] *Id.* at 6.
[174] *Id.* at 7-8.
[175] *Id.* at 11.
[176] *Id.*
[177] *Id.*
[178] *Resource Enhancement and Protection [REAP]*, IOWA DEPARTMENT OF NATURAL RESOURCES, https://www.iowadnr.gov/Conservation/REAP (last visited Dec. 27, 2023).
[179] *Id*.
[180] *Id*.
[181] *Id*.
[182] *Open Spaces Protection*, IOWA DEPARTMENT OF NATURAL RESOURCES, https://www.iowadnr.gov/Conservation/REAP/REAP-Funding-at-Work/Open-Spaces-Protection (last visited Dec. 27, 2023).
[183] *Id.*

habitats within the state. These arrangements result in Iowa owning and managing the property purchased jointly on the behalf of the public.[184]

A committee composed of three DNR administrators and three representatives of private conservation organizations select the open space projects.[185] According to the selection criteria, the committee evaluates each application with regard to: significance of natural resources found on the project site; resource representation, including the size of the area and the vegetation; factors and threats that constitute urgency for acquisition, including development activities; the proximity to other publicly owned lands; and relationship to relevant regional and state programs.[186] The committee also assesses public benefit from the proposal, including a positive impact on the ecosystem, such as those related to wetlands and bank stabilization.[187]

Iowa makes the county conservation portion of the REAP funds available to assist counties with land conservation, including land acquisitions and protection of resources.[188] Iowa provides 30% of county conservation funds automatically and equally to all of its 99 counties on a quarterly basis.[189] Another 30% is provided based on population—counties with larger populations receive more money.[190] There is also an eligibility requirement where only counties that commit a certain tax levy from county tax for conservation (at least 22¢ per $1,000 of the assessed value of taxable property) qualify to receive these funds.[191]

Iowa makes the remaining 40% of the county conservation funds available to counties through competitive grants.[192] The same eligibility requirement based on the county tax applies to these grants. Iowa provides 100% of funding, requiring no local match.[193] According to the scoring criteria, the selection committee evaluates each application with regard to a number of factors, including:

- significance of natural resources found on the project site;
- resource representation, including the size of the area and the vegetation;
- the proximity to other publicly owned lands;
- quality of the project, including improvements that contribute to the restoration or expansion of natural resources, or benefit the natural ecology of the proposed area; and
- factors and threats that constitute urgency for acquisition, including development activities.[194]

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[184] *Id*.
[185] *Id*.
[186] IOWA NATURAL RESOURCE COMMISSION, NEW DEFINITIONS FOR SCORING CRITERIA, PRIVATE COST-SHARE GRANTS (2008) https://www.iowadnr.gov/portals/idnr/uploads/REAP/openspaces_criteria.pdf?amp;tabid=764.
[187] *Id*.
[188] *County Conservation*, IOWA DEPARTMENT OF NATURAL RESOURCES, https://www.iowadnr.gov/Conservation/REAP/REAP-Funding-at-Work/County-Conservation (last visited Dec. 27, 2023).
[189] *Id*.
[190] *Id*.
[191] *Id*.
[192] *Id*.
[193] *Id*.
[194] IOWA NATURAL RESOURCE COMMISSION, NEW DEFINITIONS FOR SCORING CRITERIA, COUNTY CONSERVATION GRANTS (2008), https://www.iowadnr.gov/Portals/idnr/uploads/REAP/files/ccb_criteria.pdf.

Wisconsin: Cost-Shared Programs for Water and Natural Resource Management

Wisconsin administers several programs aimed at improving water management and natural resources including the Surface Water Grant Program and the Forest Landowner Grant Program. While cost share requirements vary for these programs, wetlands restoration projects are prioritized, and certain costs are eligible for 100% state funding. A particularly important aspect of these programs is the informational and technical assistance resources that the state provides, which supports the participation of applicants that may have limited resources or capacity and encourages more equitable distribution of funds.

Wisconsin Surface Water Grant Program

Wisconsin established the Surface Water Grant Program to support surface water management from start to finish, including outreach, assessments and surveys, planning, project design, or management.[195] Program funds can be used for a wide variety of projects, which are bucketed into two categories: (1) education and planning projects, which help communities understand surface water conditions, determine management goals, and develop strategic management plans; and (2) management projects, which protect and improve water quality and aquatic habitat and prevent and control aquatic invasive species.[196] Certain applicants are automatically eligible, such as counties, municipalities, local governments, tribal governing bodies, natural resource agencies, etc.; but grants are also available to certain organizations, such as lake associations, nonprofit conservation organizations, river management organizations, etc. if they meet certain eligibility requirements.[197]

The program provides over $6 million annually for eligible projects, with funding from the Water Resources Account of the Conservation Fund, drawing from boat gas tax revenues.[198] Most of the grants are required by state statute to be cost-shared and have varied funding caps. In general, all education and planning grants provide a 67% cost share from the state, and all management grants provide 75% cost share.[199] Some of the projects limit the applicability of cost share. For example, the Healthy Lakes & Rivers program requires that "[a]t least 90% of the DNR cost share of a project must be spent on implementation. Tangential costs like project management or technical assistance may make up no more than 10% of the state cost share, calculated on a per project basis."[200] However, wetland restoration incentives and lake monitoring and protection network projects are 100% funded by the state[201] The maximum award for the wetland restoration incentives is comparatively low at $10,000, and applicants must already have completed a comprehensive land use plan to qualify.

Given the numerous project types that are eligible for funding under the Surface Water Grant Program, the Wisconsin Department of Natural Resources (DNR) provides robust program guidance for applicants, explaining how to choose the right grant for the different project types, the requirements for each grant (eligibility and conditions), funding and reimbursements, and examples of eligible projects.[202] This

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[195] WISCONSIN DEPARTMENT OF NATURAL RESOURCES, DNR SURFACE WATER GRANT APPLICANT GUIDE 3 (2023), https://dnr.wisconsin.gov/sites/default/files/topic/Aid/grants/surfacewater/CF0002.pdf.
[196] *Id.*
[197] *Id.*
[198] *Id.*
[199] *Id.* at 4.
[200] *Id.* at 14.
[201] *Id.* at 4, 15-16.
[202] *See generally id.*

information is invaluable, in general and for cost share purposes. For example, the guidance states upfront that the donated or in-kind labor rate is $15.00/hour and that a financial plan is required for multi-phased implementation projects that will require funding beyond the scope of the current grant proposal and that if an applicant is requesting state cost share for multiple grant rounds, that they have the means to fund the entire project in the absence of future grants.[203] While the cost share requirements might be adjusted to further decrease the local burden, the DNR guidance does help applicants understand their financial responsibility under the various grants.

Wisconsin Forest Landowner Grant Program

Wisconsin established its Forest Landowner Grant Program (WFLGP) to encourage private forest landowners to protect forest resources.[204] This program promotes conservation practices, including reforestation, afforestation, soil and water protection practices, and wetland and riparian protection and improvement practices.[205] The wetland and riparian protection practices include those that "protect and improve wetlands and riparian areas, reduce sedimentation, and enhance or improve habitat for fish or wildlife species."[206] This program applies to nonindustrial private forest lands, with applicants owning between 10 and 500 contiguous acres.[207]

Grants received under the program must either be used to implement an approved forest stewardship plan or to develop such a plan.[208] The program provides reimbursements to qualified landowners of up to 50% of the cost of eligible practices and not to exceed an annual grant of $10,000 for any individual, person, or project.[209] Importantly, Department of Natural Resources (DNR) foresters can help private forest landowners fill out application forms for reimbursements.[210] DNR foresters are state employees and are located throughout Wisconsin.[211] State assistance with filling out applications for cost-shared programs is a great example of a strategy to help ensure more equitable disbursement of funds, as it supports participation of applicants with limited resources and capacity.

Minnesota: State Cost Share Program

The Minnesota Erosion Control and Water Management Program, known as the State Cost Share Program, was established by Minnesota's state legislature to fund Soil and Water Conservation Districts (governmental subdivisions organized at the request of resident owners)[212] in sharing the cost of conservation projects with land occupiers.[213] Funded projects include "conservation practices for high

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[203] *Id.* at Summary of Changes to Policy in FY24.
[204] *Wisconsin Forest Landowner Grant Program*, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, https://dnr.wisconsin.gov/aid/ForestLandowner.html (last visited Dec. 27, 2023) [hereinafter WI DNR, *Forest Landowner Grant Program*].
[205] Wis. Admin. Code, NR 47.84(2)(b).
[206] *Id*.
[207] *Id*. at 47.84
[208] *Id*. at 47.85.
[209] WI DNR, *Forest Landowner Grant Program*, *supra* note 204; Wis. Admin. Code, NR 47.86.
[210] *Id*.
[211] *Professional Forestry Assistance*, WISCONSIN DEPARTMENT OF NATURAL RESOURCES, https://dnr.wisconsin.gov/topic/forestlandowners/assist (last visited Dec. 27, 2023).
[212] Minn. Stat. §§ 103C.101, 103C.201, & 103C.501 (2020).
[213] *Grant Profile: State Cost Share Program*, MINNESOTA BOARD OF WATER AND SOIL RESOURCES, https://bwsr.state.mn.us/grant-profile-state-cost-share-program (Dec. 19, 2023).

priority erosion, sedimentation, [] water quality problems, [and] water quantity problems due to altered hydrology."[214] The program funds activities that aim "to assist with structural, vegetative, or nonstructural land management practices to correct existing problems."[215] Vegetative practices funded through this program include establishment of permanent vegetation, for example through planting in critical areas and creation of filter strips.[216]

Funds administered through the Erosion Control and Water Management Program are provided to Soil and Water Conservation Districts annually, as part of the executed grant agreements, to address erosion, sedimentation, and water quality.[217] The Board of Soil and Water Resources allocates funds to the districts based on the following criteria: extent of high priority erosion or water quality issues; priorities for the control of erosion and water quality problems, as identified by the Board; the District's prior success in applying conservation practices; the District's ability to timely spend the funds; and legislative appropriations.[218]

Districts may use some funds for technical and administrative expenses, which include staff training.[219] Districts can also provide funds to land occupiers.[220] A land occupier is defined under the statute as "a person, corporation, or legal entity that holds title to or is in possession of land within a district as an owner, lessee, tenant, or otherwise."[221] Land occupiers can receive funds for projects based on actual receipts, up to 75%, with the land occupier "provid[ing] the remainder of the local share of the implementation cost through in-kind services, or non-state funds."[222] Alternatively, land occupiers can receive flat rates.[223] However, in that case, land occupiers cannot receive any other state or federal funds for the project.[224] It is unclear from the language of the law how the Districts decide which land occupiers to reimburse.

[214] *Id.*
[215] MINNESOTA BOARD OF WATER AND SOIL RESOURCES, EROSION CONTROL AND WATER MANAGEMENT PROGRAM POLICY (JULY 7, 2021), https://bwsr.state.mn.us/sites/default/files/2021-03/FY22 Erosion_Control_and_Water_Management_Program_Policy.pdf.
[216] *Id*.
[217] *Id*.
[218] *Id*.
[219] *Id*.
[220] *Id*.
[221] Minn. Stat. § 103C.101.
[222] *Id*. at 3.1.1.
[223] *Id*. at 3.2.
[224] *Id*.