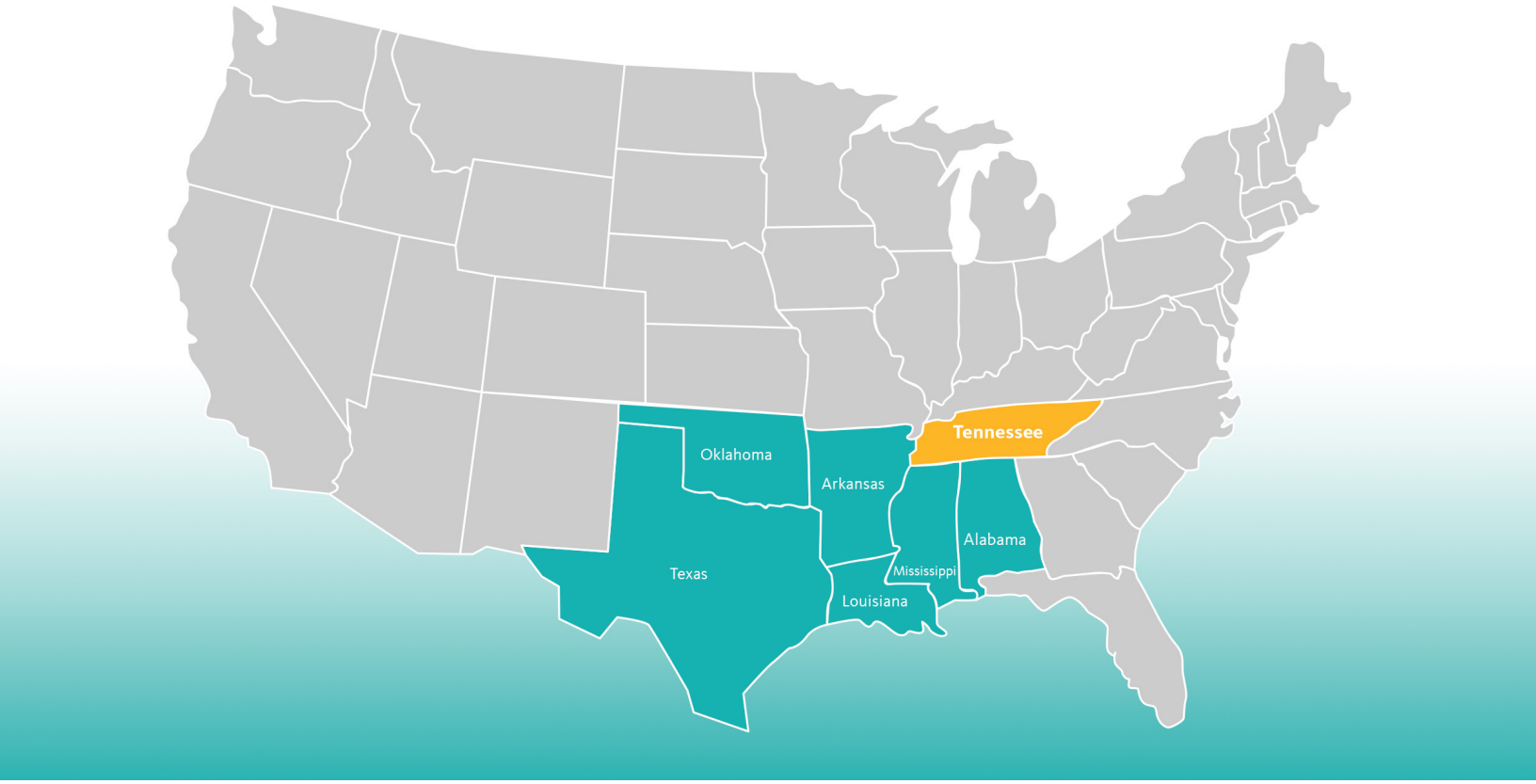

Analysis of Tennessee Drinking Water State Revolving Fund and the Clean Water State Revolving Fund

Preface

The State of Water Infrastructure

Water infrastructure in the United States is aging and in need of replacement, and many systems are already failing. Estimates suggest $1.25 trillion ($625 billion for Drinking Water infrastructure and $630 billion for Clean Water infrastructure) is needed over the next 20 years to invest in wastewater, stormwater, and drinking water systems. Inadequate investments in water infrastructure has a significant negative impact on the health and well-being of communities, and disproportionately impacts low-income communities and communities of color.

The Bipartisan Infrastructure Law (**BIL**), passed in November of 2021, was the single largest federal investment in water infrastructure to date. Of the $55 billion to be administered by the Environmental Protection Agency (**EPA**), $43 billion is being distributed through the Clean Water State Revolving Fund (**CWSRF**) and the Drinking Water State Revolving Fund (**DWSRF**) over Federal Fiscal Year (**FFY**) 2022-2026. Although 49% of these funds must be distributed to "disadvantaged communities" as grants or forgivable loans (rather than loans that need to be repaid), communities with the greatest need still face several barriers in accessing these funds. Interventions to address these barriers include reforms to State Revolving Fund **(SRF**) policies that determine how SRF funds are allocated to communities within each state.

Why and How This Project Came to Be

In early 2023, PolicyLink started its three-year "Southern State Revolving Fund (**SRF**) Analysis and Advocacy Project" to help ensure equitable implementation of BIL SRF funds and base SRF programs in the South. In focusing on the South, we recognized that the racial and economic disparity in clean and affordable water is particularly pronounced there and that there was a need for strong community-based advocacy.

This project consists of two main phases:

Phase I: Analyses of DWSRF and CWSRF Across Seven Southern States
In early 2023, PolicyLink partnered with the Environmental Policy Innovation Center (**EPIC**) to train and support policy analysts across seven southern states (Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas) to conduct equity analyses of each state's Clean Water and Drinking Water State Revolving Fund. These analyses are being used to inform advocacy in Years 2 (2024) and 3 (2025) of the project.

Phase II: Community-Based-Organization (CBO) Led Advocacy Across Four States
Of the seven states, PolicyLink selected four states—Alabama, Louisiana, Tennessee, and Texas—for Phase II (supporting CBO-led SRF Advocacy). These represent two states from EPA Region 4 (Tennessee and Alabama) and two states from EPA Region 6 (Louisiana and Texas). PolicyLink selected a cohort of 16 CBOs (4 CBOs per state) to undergo SRF Advocacy training (administered by River Network) and supports them in their state and regional SRF advocacy efforts.

This document is part of the larger series of SRF program analyses (Phase I deliverables) developed by individual consultants, with guidance from PolicyLink and the Environmental Policy Innovation Center (**EPIC**).

To learn more about the project and/or to access other material related to the state analyses, please see the project site.

Acknowledgments

For the first phase of this project, we want to thank our partner, Janet Pritchard, from the Environmental Policy Innovation Center (EPIC), for providing a template for conducting the equity analyses, training our consultants, and reviewing each of the state outputs. We also want to thank our individual consultants who conducted analyses of SRF programs within their states:

- Alabama: Victoria Miller and Cindy Lowry, Alabama Rivers Alliance
- Arkansas: EPIC
- Louisiana: Rebecca Malpass, The Water Collaborative of Greater New Orleans
- Mississippi: Dr. Christine Curtis, Grow Where You're Planted
- Oklahoma: EPIC
- Tennessee: Grace Stranch and Anne Passino, Harpeth Conservancy
- Texas: Danielle Goshen, National Wildlife Federation

PolicyLink is grateful to the Robert Wood Johnson Foundation for supporting this project.

Abbreviations Sheet

ARP - American Rescue Plan
ATPI - Ability to Pay Index
BIL - Bipartisan Infrastructure Law
CW - Clean Water
CWA - Clean Water Act
CWSRF - Clean Water State Revolving Fund
DAC - Disadvantaged Community
DW - Drinking Water
DWSRF - Drinking Water State Revolving Fund
EPA - Environmental Protection Agency
GPR - Green Project Reserve
IIJA - Infrastructure Investment and Jobs Act
IUP - Intended Use Plan
LSL - Lead Service Line
NIMS - National Information Management System
PFAS - Per- and Polyfluorinated Substances
PRL - Priority Ranking List
SDC - Small and Disadvantaged Community
SDWA - Safe Drinking Water Act
SRF - State Revolving Fund
SWIG - State Water Infrastructure Grants
TA - Technical Assistance
TAUD - Tennessee Association of Utility Districts
TDEC - Tennessee Department of Environment and Conservation
TLDA - Tennessee Local Development Authority
TPUC - Tennessee Public Utilities Commission
UDL - Utility Development Law
WRRDA - Water Resources Reform and Development Act
WWTP - Wastewater Treatment Plant

This memorandum analyzes key components of the policy framework for Tennessee's State Revolving Fund Program (SRF Program), which is comprised of the Clean Water State Revolving Fund (**CWSRF**) and the Drinking Water State Revolving Fund (**DWSRF**). These two funding programs are the primary way the federal government provides support for water infrastructure in Tennessee. The CWSRFs, which were established by amendments to the federal Clean Water Act in 1987, are focused on stormwater and sewer infrastructure issues; the DWSRFs, which were established by the federal Safe Drinking Water Act in 1996, are focused on improvements to drinking water systems. Tennessee's SRF Program is also supported by the State Water Infrastructure Grants (**SWIG**) Program.

While funding to capitalize the SRFs is provided by federal appropriations, the policies that determine the projects and communities that are prioritized to receive funding—including which communities receive additional subsidies in addition to low-interest loans—are determined at the state level.

This analysis was developed through the Southern States SRF Policy Analysis and Advocacy Project convened by PolicyLink with support from the Environmental Policy Innovation Center (EPIC).

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), included an infusion of supplemental funds to the SRFs, including general supplemental funds for the DWSRF and CWSRF as well as additional funds designated for lead service line replacement and to address emerging contaminants such as Per- and Polyfluorinated Substances (**PFAS**). The BIL funds for SRFs are appropriated for federal fiscal years 2022–26, and these funds will be utilized by the states during state fiscal years 2023–28. The infusion of SRF funds from the BIL has raised the profile of SRF programs and the need to distribute SRF assistance more equitably and to ensure that these funds are used to build climate resilience. More equitable distribution of SRF assistance is also a priority for the Biden Administration's Justice40 Initiative. The next few years provide a critical window to influence state SRF programs, both to ensure that the BIL funds are distributed equitably and to reform state SRF policies to better address equity and resilience goals beyond the BIL implementation years.

This memo explains key components of the state policy framework of interest to community-based organizations and other organizations working on environmental and equity issues in Tennessee. It is intended to provide guidance to state advocates in their efforts to make state administrators allocate Tennessee's DWSRF and CWSRF more equitably and to build the resilience of Tennessee communities, particularly low-wealth and historically underserved communities in the state. The key policy documents that outline how each state will use the BIL SRF funds, as well as revolving funds that have been built up in the state over past decades and base-SRF grants appropriated by Congress each year, are the state Intended Use Plans (**IUPs**) for its SRF programs. Therefore, this memorandum focuses in particular on Tennessee's most recent IUPs, with reference to relevant statutes and regulations as well.

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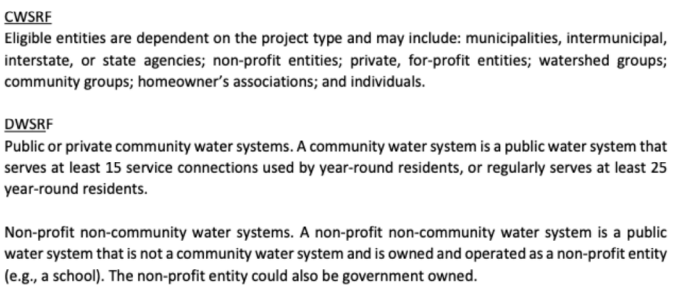
I. Key Facts and Links

A. Key Facts and Links Relevant to Both Tennessee's Drinking Water State Revolving Fund (DWSRF) and Tennessee's Clean Water State Revolving Fund (CWSRF)

- **Primary administering agency for DWSRF and CWSRF funds:** Tennessee Department of Environment and Conservation (TDEC), Division of Water Resources. See Tenn. Code Ann. § 8-221-1004(c) (instructing TDEC to deposit federal funds in a revolving loan fund). Plus:
  - The State Water Infrastructure Grants (SWIG) office, part of TDEC's Division of Water Resources, supports the disbursement of SRF Funds and federal government funding from the American Rescue Plan (**ARP**).[1]
  - In addition to TDEC's role overseeing and managing the two SRF programs, the Tennessee Local Development Authority (TLDA), an office within the Tennessee Comptroller of the Treasury, administers the revolving funds and provides policy and guidance materials for borrowers.
  - The Tennessee Public Utilities Commission (**TPUC**) oversees rates charged to consumers by private utilities that receive SRF funds. Currently (as of January 2024) there are 13 private wastewater utilities and nine private water utilities.
  - Tennessee Board of Utility Regulation, which was created by Tenn. Code Ann. § 7-82-701, is given the responsibility of ensuring the financial integrity of publicly owned gas, water, and wastewater systems and provides financial, managerial, and technical guidance to 247 municipal systems, 12 county systems, 14 authorities, and 172 utility districts. On July 1, 2023, Public Chapter 463 of the 2023 Public Acts went into effect terminating the Utility Management Review Board and Water and Wastewater Financing Board, which had overseen the technical, financial, and managerial capacities of water systems eligible for DWSRF loans.
- **Authorizing statute:** Tenn. Code Ann. § 68-221-301 ("The Department of Environment and Conservation is authorized to establish a grant program to further the purposes of parts 10 [Tenn. Code Ann. § 68-221-1001 ("Wastewater Facilities Act of 1987")] and 12 [Tenn. Code Ann. § 68-221-1201 ("Drinking Water Revolving Loan Fund Act of 1997")] of this chapter utilizing federal funds allocated and state funds appropriated for such purposes.").
- **Public notice:** Federal law requires that the SRF programs' annual Intended Use Plans (**IUPs**) be made public with a comment period. Tennessee typically provides 30 days to comment on the IUPs. The draft versions of Tennessee's IUPs are uploaded to TDEC's Water Notices and Hearings webpage. In addition to the website, TDEC provides notice to individuals on an e-mail listserv (made up of cities, counties, engineering firms, past stakeholders, and those who have indicated a desire to receive notice) and to attendees at conferences (e.g., Tennessee Stormwater, Women in Engineering, Tennessee Association of Utility Districts, Cumberland Plateau, Duck River, Tennessee Environmental Network Show of the South).
- **Additional resources common to both SRF funds:**
  - TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024 (Nov. 1, 2023).
  - TDEC Presentation: "Draft Intended Use Plans for Clean Water Emerging Contaminants (**EC**) State Revolving Fund and Drinking Water Emerging Contaminants (**EC**) State Revolving Fund and Information on State Water Infrastructure Grants" (Sept. 19, 2023). When the EC IUPs are finalized, information about eligible applicants is summarized as:
  - **TDEC SRF Draft Document Screenshot**[2]



CWSRF
Eligible entities are dependent on the project type and may include: municipalities, intermunicipal, interstate, or state agencies; non-profit entities; private, for-profit entities; watershed groups; community groups; homeowner's associations; and individuals.

DWSRF
Public or private community water systems. A community water system is a public water system that serves at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents.

Non-profit non-community water systems. A non-profit non-community water system is a public water system that is not a community water system and is owned and operated as a non-profit entity (e.g., a school). The non-profit entity could also be government owned.

  - TDEC Presentation: "Public Meetings Draft Intended Use Plans (June 27, 2023)," which refers to and relies on Tennessee Governor Bill Lee's Executive Order No. 1, directing agencies to improve conditions for rural Tennesseans.
  - TDEC Presentation: "Navigating the State Revolving Fund (SRF) Loan Program" (undated).

- Archived Copies: Intended Use Plans (FY2020-2022) and Priority Ranking Lists (2016-2021) [downloaded and available from Harpeth Conservancy if removed from website].
- EPA's BIL State Revolving Funds Implementation Memorandum (Mar. 8, 2022).
- EPA's Enhancing Public Awareness of SRF Assistance Agreements (June 3, 2015).
- EPA's Green Infrastructure Policy for the CWSRF Program (Jan. 6, 2016)
- EPA's DWSRF Disadvantaged Communities Definition: A Reference for States (June 2022).
- Federally Supported Projects and Programs for Wastewater, Drinking Water, and Water Supply Infrastructure (last updated Sept. 29, 2023).
- Search for Grants (State of Tennessee), identifying grants, loans, and technical assistance for rural communities & applicants including businesses, educational institutions, faith-based organizations, individuals, local governments, and nonprofits [NOTE: the SRF programs are not populated when the "applicant type" selected is nonprofits].
- TN H20: Tennessee's Roadmap to Securing the Future of Our Water Resources

- Typical Timeline **for SRF Programs:**
  - TDEC solicits projects: January/February [rolling list]
  - Applicants must submit a questionnaire: detailed project description, project need, total project cost, projected construction start and completion dates, requested loan amount, and term of the loan
  - TDEC scores projects: March/April
  - TDEC develops/finalizes Priority Ranking Lists: June
  - TDEC holds public meeting about the draft Intended Use Plans: July
  - TDEC applies for federal capitalization grants: August
  - Upon receipt of capitalization grants, TDEC notifies entities on the Priority Ranking List with a funding notification letter: August/September [NOTE: communities that do not respond or are not ready to proceed may be bypassed]
  - TDEC solicits second Drinking Water projects: August
  - TDEC provides notice of awards: September/October
- **Budget:** Recommended State Fiscal Year 2023-2024 Budget for DWSRF and CWSRF programs:
  - 23 full-time staff ($2 million payroll) & operational costs ($60 million)
  - State funds ($6 million); federal funds ($55 million); other funds ($1.5 million)[3]
  - Tennessee's fiscal year runs from July 1st through June 30th.
- **Funding summary:**
  - Clean Water: "The EPA Capitalization Grant plus State match provides an expected $46,383,300 in funds available for CWSRF program in [state fiscal year] 2024." Public Notice (May 25, 2023) [broken link, material on file with Harpeth Conservancy].
  - Drinking Water: "The EPA Capitalization Grant plus State match will provide an expected $48,961,700 in funds available for the DWSRF program in [state fiscal year] 2024." Public Notice (May 25, 2023) [broken link, material on file with Harpeth Conservancy].

B. Key Facts and Links for Tennessee's Drinking Water State Revolving Fund (DWSRF)

- **Name of the program:** Drinking Water State Revolving Fund
- **Key documents:**
  - The State Fiscal Year (SFY) 2024 Intended Use Plan (**IUP**) for the Tennessee Drinking Water State Revolving Fund. See Tenn. Code Ann. § 68-221-1205(f) (identifying elements of an intended use plan). In October 2023, the DWSRF IUP became the formal policy document that explains how Tennessee intends to distribute 2023 federal SRF appropriations; it finalized the draft IUP (see State Fiscal Year (SFY) 2024 (Draft) Intended Use Plan).
  - The DWSRF IUP is accompanied by the Drinking Water State Revolving Fund 2023 Priority Ranking List (PRL), which was initially available for public review as the 2023 (Draft) Priority Ranking List [broken link, material on file with Harpeth Conservancy].
  - The previous governing plan for the Tennessee Drinking

Water State Revolving Fund was the State Fiscal Year (SFY) 2023 Intended Use Plan, which explained how Tennessee intended to distribute 2022 federal SRF appropriations. It was accompanied by the 2022 Priority Ranking List.

- The State Fiscal Year (SFY) 2023 (Draft) Intended Use Plan for Emerging Contaminants: Drinking Water State Revolving Fund and State Infrastructure Grants was published for public comment in September 2023. As of December 2023, it has not been finalized.

- **State statute authorizing the Drinking Water State Revolving Fund:**
  - Tenn. Code Ann. § 68-221-1201 et seq. (Drinking Water Revolving Loan Fund Act of 1991).
  - Eligible projects **and** types of projects: compliance, treatment, storage, transmission & distribution, consolidation/regionalization, water loss/distribution system rehabilitation, creation of new systems, source water development, wellhead protection, green infrastructure, and water conservation & energy efficiency/optimization
  - Noneligible projects are those primarily intended for: future growth, economic development, fire protection, dams, reservoirs, water rights, laboratory fees, and operation and maintenance expenses. DWSRF IUP, p. 14.
- **Other relevant state statutes and regulations:**
  - **Authority.** Tenn. Code Ann. § 68-221-1202(a)(2) (identifying purpose to provide "Tennessee water systems with low-cost loans and other financial assistance for system improvements through the creation of a self-sustaining revolving loan program so as to improve drinking water systems" and to enable TDEC to receive and use federal funds "for the loan program and other purposes, including, but not limited to, technical assistance, authorized by the federal act"); Tenn. Code Ann. § 68-221-1205(l) (authorizing TDEC and TLDA to use federal funds "to make loans and to subsidize loans made through the program authorized by this part, through such mechanisms as forgiveness of principal, other loan forgiveness, and through refinancing or restructuring of debt" and to "administer the program using the funds in accordance with the criteria set by the federal government") (emphasis added); Tenn. Code Ann. § 68-221-1206(f)(5), (6), (9), (10) (authorizing funds for conservation easement from willing seller, voluntary source water protection measures, delineation of source water protection areas, establish wellhead protection programs); Tenn. Code Ann. § 68-221-1206(f)(8) (authorizing loans for technical assistance); Tenn. Code Ann. § 68-221-1204 (authorizing "drinking water revolving loan fund," allowing TLDA to adopt rules/regulations for program's administration and TDEC to deposit federal funds for allocation).
  - **Regulations.** Tennessee has statutory authority to promulgate regulations but does not currently have any regulation specific to its SRF drinking water program. Cf. Tenn. Code Ann. § 68-221-1205(a) (authorizing TDEC to adopt regulations "to govern the application procedure for loans" and "to effectuate the purposes of this part"); Tenn. Code Ann. § 68-221-1207 (authorizing TDEC to promulgate emergency rules if necessary "to make full use of available federal funding").
  - **Prioritization.** Tenn. Code Ann. § 68-221-1206(a) (providing that loans may only go to "water systems" that are on TDEC's priority ranking list); Tenn. Code Ann.§ 68-221-1205(c), (d) ("Priority System. The department shall, after notice and opportunity for public comment, establish a priority system for loans under this part that to the maximum extent practicable, gives priority for the use of funds to projects that: (1) Address the most serious risk to human health; (2) Are necessary to ensure compliance with the requirements of the federal and state acts (including requirements for filtration); and (3) Assist systems most in need on a per household basis according to state affordability criteria. (d) Priority List. The department shall, after notice and opportunity for public comment, publish and periodically update a list of projects in the state that are eligible for assistance under this part, including the priority assigned to each project.").
  - **Small water systems.** Tenn. Code Ann. § 68-221-1205(c) (providing that 15% of the amount credited to the fund each fiscal year "shall be available solely for providing loan assistance to water systems which regularly serve fewer than" 10,000 persons "to the extent such funds can be obligated for eligible projects of water systems").
  - **Disadvantaged communities**. Tenn. Code Ann. § 68-221-1206(i) (defining "disadvantaged community" as "the service area of a water system that meets affordability criteria" and authorizing principal forgiveness, other loan forgiveness, refinancing, and restructuring of debt for water systems "serving a disadvantaged community or a community that the state expects to become a disadvantaged community as a result of a proposed

project"). See also 42 U.S.C. § 300j-12(d)(3) (defining DAC); 40 C.F.R. § 35.3505 (defining DAC).

- **Private water systems.** Tenn. Code Ann. § 68-221-1203(6) (amended in 2015 to allow privately owned for-profit community public water systems to borrow from the Drinking Water State Revolving Fund program); see also Tenn. Code Ann. § 68-221-1203 (cross-referencing definitions in § 68-221-1003); Tenn. Code Ann. § 68-221-1003(7) (defining "local government" to include public and private systems; amended in 2022 to allow privately owned for-profit community public wastewater treatment systems to borrow from the Clean Water State Revolving Fund program);[4] Tenn. Code Ann. § 68-221-1206(f)(11) (clarifying that loans to privately owned for-profit community public water systems cannot be considered for principal forgiveness).

- **Limitations.** E.g., Tenn. Code Ann. § 68-221-1206(b) ("Loan funds may not be used for the acquisition of real property or interests therein, unless the acquisition is integral to a project authorized by this section and the purchase is from a willing seller.").

- **Incentives for Growth Plans.** Tenn. Code Ann. § 6-58-109(b) ("Upon approval of the growth plan by the local government planning advisory committee...each municipality within the county and the county shall receive an additional five (5) points on a scale of one hundred (100) points or a comparable percentage increase as determined by the commissioner if permissible under federal requirements in any evaluation formula for the distribution of grants from the department of environment and conservation for state revolving fund loans for water and sewer systems; provided, that no such preferences shall be granted if prohibited by federal law or regulation.").

- **Safe Drinking Water.** Tenn. Code Ann. § 68-221-701 ("Tennessee Safe Drinking Water Act of 1983"); Tenn. Code Ann. § 68-221-705(5) ("When funds may become available to the state as such, apply for, accept, administer and utilize loans and grants from the federal government, state government, and from any other sources, public or private, for provision and control of public water systems in the state.").

- **Audit**. Tenn. Code Ann. §§ 6-56-105, 7-82-401, 9-3-212, and 4-3-304(4) (Auditing Requirements for Local Governments).

- **Other resources / links:**

  - EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (as of May 8, 2023).

  - Instructions on how to apply for funding for DWSRF projects, noting that (1) only projects on the Priority Ranking List are eligible for SRF loans and grants, and (2) the SRF Loan Program solicits requests for projects twice per year.

C. Key Facts and Links for Tennessee's Clean Water State Revolving Fund (CWSRF)

- **Name of Tennessee's Clean Water SRF program:** Clean Water State Revolving Fund

- **Key documents:**

  - The State Fiscal Year (SFY) 2024 Intended Use Plan (IUP) for the Tennessee Clean Water State Revolving Fund.

  - In October 2023, the CWSRF IUP became the formal document that explains how Tennessee intends to distribute 2023 federal SRF appropriations when the draft IUP (see SFY (Draft) 2024 Intended Use Plan) became final.

  - The CWSRF IUP is accompanied by the Clean Water State Revolving Fund 2023 Priority Ranking List, which was initially available for public review as the 2023 (Draft) Priority Ranking List .

  - CWSRF Annual Report Fiscal Year 2022 (December 2022).

  - The CWSRF State Fiscal Year (SFY) 2023 (Draft) Intended Use Plan for Emerging Contaminants was published for public comment in September 2023. The finalized IUP can be found here.

  - The previous governing plan for the Tennessee Clean Water State Revolving Fund was the SFY 2023 Intended Use Plan, which explained how Tennessee intended to distribute 2022 federal SRF appropriations. It was accompanied by the 2022 Priority Ranking List.

- **State statute authorizing the Clean Water SRF program:**

  - Tenn. Code Ann. § 68-221-1002(a)(2), (b) (identifying purpose of "Wastewater Facilities Act of 1987" as "[p]rovid[ing] local governments in the state with low-cost financial assistance relative to necessary wastewater facilities through the creation of a self-sustaining revolving loan program so as to improve and protect water quality

and public health" and that the loan program "be used in coordination with state and federal assistance programs").

- Tenn. Code Ann. § 68-221-1003(7) (defining "local government" to include public and private systems; amended in 2022 to allow privately owned for-profit community public wastewater treatment systems to borrow from the Clean Water State Revolving Fund program).

Eligible projects include water loss training, capacity development, treatment, consolidation, wastewater treatment plant (**WWTP**) upgrades and improvements, new collectors & interceptors, stormwater management, decentralized systems, green infrastructure, watershed protection, technical assistance, asset management, transmission and distribution, creation of new systems, infiltration and inflow correction/ collection system rehabilitation, combined sewer overflow correction, recycled water (gray water), water conservation and energy efficiency, nonpoint source pollution, nutrients.

- **Other relevant state statutes, regulations, and entities:**
  - Regulations of the TDEC Division of Water Resources State Revolving Fund Program, addressing:
    - the Priority Ranking System (last updated December 2013)
    - State Grants (last updated December 2013)
    - State Loans (last updated December 2013) (defining eligibility as for municipalities)
    - the State Revolving Fund (last updated July 2015) (defining eligibility as for "local governments") [NOTE: one of the short-term goals in the IUP is to "assess expanding the loan process to include nontraditional eligible entities," CWSRF IUP, p. 6.).

- **Authority.** See Tenn. Code Ann. § 68-221-1005l (providing that TDEC and TLDA "shall have such other authority as may be necessary and appropriate for the exercise of the powers and duties conferred by this part"); Tenn. Code Ann. § 68-221-1005(l) ("(1) The department and the authority may use any federal funds allocated to the state to make loans and to subsidize loans made through the program authorized by this part, through such mechanisms as forgiveness of principal, other loan forgiveness, and through refinancing or restructuring of debt; *(2) The department and the authority may administer the program using the funds in accordance with the criteria set by the federal government; and (3) The department may promulgate rules and develop forms that may be deemed necessary for the program.")* (emphasis added); Tenn. Code Ann. § 8-221-1004(a)(2) (providing that TLDA "shall administer the fund and shall adopt rules and regulations for such administration"); Tenn. Code Ann. § 68-221-1005(a) (providing that TDEC and TLDA shall adopt regulations to govern the application procedure for loans, and TDEC shall use an "an economic index based upon factors which include, but are not limited to, per capita incomes and property values of the local government applicant"); Tenn. Code Ann. § 68-221-1018) (authority to promulgate emergency rules).

- **Priority List.** Tenn. Code Ann. § 68-221-1006(a)(1)(A) (providing that loans may only go to operate a wastewater facility on the project priority ranking list, per § 68-221-804). E.g., Tenn. Code Ann. § 68-221-804(e) ("Grants shall be made only for those wastewater treatment works projects that qualify for funding based on their placement on the department priority ranking list."); Tenn. Comp. R. & Regs. 0400-46-02-.02(38) (defining "priority ranking list" as a "list generated through the State Priority Ranking System rules pursuant to T.C.A. § 68-221-804 by which the Department ranks in descending order of priority all applicants for state and federal grants for construction of wastewater treatment works"). "The State's CW SRF Priority Ranking System rules, Tenn. Comp. R. & Regs. ("Rule") Chapter 0400-46-01, provides a clear, objective order of ranking wastewater infrastructure projects. The PRL focuses on projects aiming to achieve optimum water quality management consistent with the goals and requirements of the CWA and the Tennessee Water Quality Control Act. The rationale for funding projects in an order other than that shown on the PRL shall be in accordance with the rules for the Priority Ranking System, Chapter 0400-46-01-.03. Exceptions to the order of funding may be allowed under special circumstances. Such projects would include those where unexpected failures requiring immediate attention to protect public health occur." CWSRF IUP (p. 13).

- **Construction Grants.** Tenn. Code Ann. § 68-221-801 et seq. (Wastewater Treatment Works Construction Grant Act); Tenn. Code Ann. § 68-221-802(a), (b) ("(a) Recognizing that the state has a very strong interest in both the growth of the economy and the protection of the waters of the state, it is the purpose of this part to financially assist local government to construct wastewater treatment works. (b) It is further intended that the grants provided for in this part shall be coordinated with other state and federal programs of loans or grants for construction of wastewater treatment

works."); Tenn. Code Ann. § 68-221-803(9) ("Priority ranking list" means a list generated through a system by which the department ranks in descending order of priority all applicants for state and federal grants for construction of wastewater treatment works by criteria which include at least the following: (A) The nature and quantity of the receiving waters; (B) The severity of the pollution to be abated by the proposed construction; and (C) The use of innovative technology to save energy or reuse or reclaim wastes."); Tenn. Code Ann. § 68-221-804(g) ("No portion of a grant made pursuant to this part may be used to acquire land or to pay any costs associated with acquisition of land; provided, that expenditures for land that will be an integral part of the treatment process or that will be used for the ultimate disposal of residues resulting from such treatment may be made out of a grant made pursuant to this part.").

- **Incentives for Growth Plans.** Tenn. Code Ann. § 6-58-109(b) ("Upon approval of the growth plan by the local government planning advisory committee...each municipality within the county and the county shall receive an additional five (5) points on a scale of one hundred (100) points or a comparable percentage increase as determined by the commissioner if permissible under federal requirements in any evaluation formula for the distribution of grants from the department of environment and conservation for state revolving fund loans for water and sewer systems; provided, that no such preferences shall be granted if prohibited by federal law or regulation.").

- **Private Systems.** Tenn. Code Ann. §§ 68-221-1206(f)(11), 68-221-1006(a) (stipulating that loans to private systems shall not be considered for loans with principal forgiveness; shall be categorized as 100% ability to pay on the index established pursuant to § 68-221-1205 and § 68-221-1005; shall have a debt service coverage ratio of > 1.25; among other requirements); Tenn. Code Ann. § 68-221-1006(b) ("Loans for public purpose projects relating to privately owned, nonpoint sources of pollution shall not be made to a local government which pledges its credit to secure such loan except upon the assent of three-fourths (¾) of the votes cast in an election of the qualified voters of the local government."). In 2002, the definition of "local government" was amended to include not only local governmental entities and utility districts, but also "any instrumentality of government created by any one or more of the foregoing or by an act of the General Assembly," thereby including wastewater treatment authorities. Tenn. Code Ann. § 68-221-1003(7)(A)(i). "The legislative history of the 2002 amendments to the UDL confirms that they were intended to enhance financing options for regional entities such as wastewater treatment authorities." Am. Heritage Apartments, Inc. v. Hamilton Cnty. Water & Wastewater Treatment Auth., 494 S.W.3d 31, 48–50 (Tenn. 2016).

- **Ability to Pay Index.** TDEC contracts with the University of Tennessee Institute of Agriculture (UTIA) Department of Agriculture and Resource Economics Development to prepare an annual update of the "Ability to Pay Index," which Tennessee uses to determine priority ranking and project scoring, tiered interest rates, distribution of additional subsidy, and eligibility for planning and design loans or other benefits for disadvantaged communities.[5]

- **Technical Assistance.** TDEC contracts with the Tennessee Association of Utility Districts (TAUD) to develop a consolidated technical assistance program to provide targeted technical assistance to distressed or disadvantaged communities.[6]

- **Questionnaire.** Interested eligible communities can submit a questionnaire online to apply for CW SRF funding.

- **Other resources / links:**

  — EPA National Information Management System (**NIMS**) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (as of Jan. 30, 2023).

  — Instructions on how to apply for funding for Clean Water State Revolving Fund projects, noting that project solicitations for the SRF Clean Water Priority Ranking List (**PRL**) are typically sent out in January ahead of a February deadline, and only projects that are on the Priority Ranking List are eligible for SRF loans and grants.

  — Information about Tennessee's American Rescue Plan (ARP) funds, which requires activities to be eligible under the State Revolving Fund programs.[7] The status of obligated and expended ARP funds is tracked on a dashboard.

  — EPA's Clean Water State Revolving Fund Reports.

  — Frequently Asked Questions: BIL Clean Water SRF Emerging Contaminants Supplemental Appropriation.

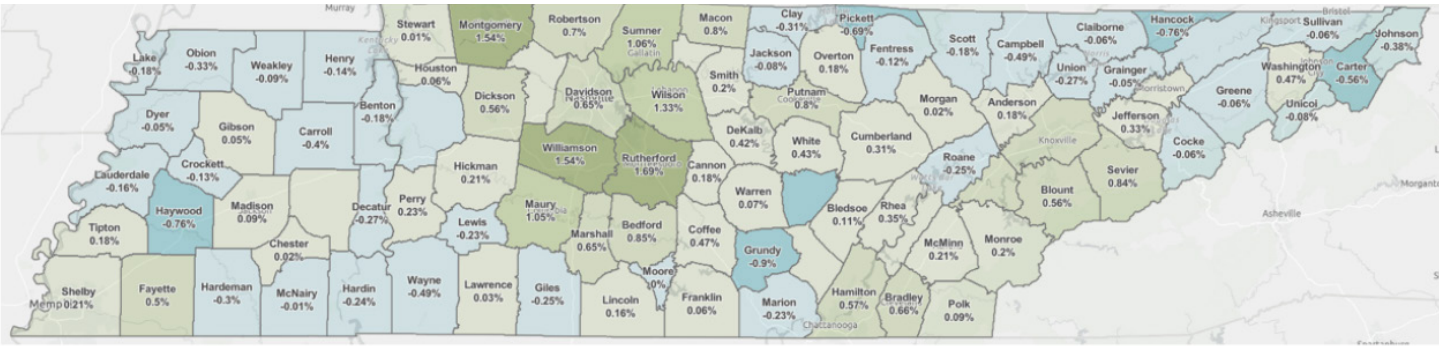
  — EPA Equity Action Plan, E.O. 13985 (Apr. 2022).

II. Issues of Concern for Historically Underserved Communities in Tennessee Relating to Water Infrastructure

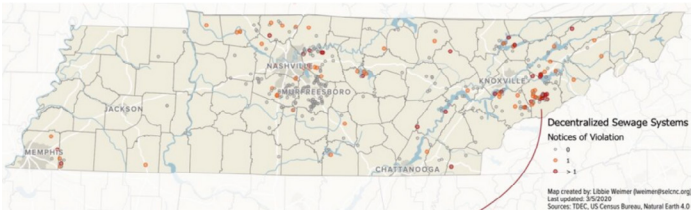
Key priorities for underserved communities in Tennessee relating to water infrastructure include:

- **Regionalization**
  - Decentralized sewage systems are widespread in Tennessee—an estimated 36% of new homes in the "East South Central" part of the United States (states including Tennessee) are built with a septic system.[8] This is of concern because "private septic systems are failing at increasing rates across the country, producing public health and environmental crises ranging from parasitic disease outbreaks to algal blooms....These issues disproportionately occur in areas with predominantly Black and brown populations, particularly ones experiencing rising water levels and flooding from climate change."[9]
  - Compounding concerns about insufficient oversight of decentralized systems' operational compliance, just over half of the water and wastewater systems in Tennessee are city/county operated;[10] there are "at least 300 privately-operated decentralized wastewater system companies operating in Tennessee."[11] "[P]rivate corporations or homeowner's associations may also both own and operate the [decentralized] treatment and disposal works."[12] HOAs and other small utilities (public and private) may not have the expertise or resources to operate these systems effectively—and those operated by associations have no financial regulation by the State of Tennessee.[13]
  - Tennessee's population is expected to grow by 1.5 million over the next 30 years (to 8.5 million), putting increased pressure on existing small utilities to maintain advanced treatment and confront emerging contaminants. Shifting land use patterns threaten to push growth into areas without integrated utilities or to stretch the agency's oversight too thin.
  - The following three maps show that in growth areas, there is already an issue with decentralized wastewater systems; in areas with projected continuing rural qualities, drinking water service needs to be met. Regionalization efforts should address both water and wastewater infrastructure.

Population Growth Estimates (2020-2040)
[green = growth; blue = loss] [14]



Summary of Notices of Permit Violations for Decentralized Sewage Systems' Violations Across Tennessee[15]



Households in Tennessee Without Piped Water Access[16]

- **Water affordability**

  — The Southeast has comparable water bills to other regions in the United States but lower incomes, resulting in higher levels of unaffordability.[17] This could become worse in the coming decades. Nationally, "[o]ver the next few decades, water prices are anticipated to increase to four times current levels."[18]

  — At the census tract level, Tennessee is within the top 10 states where water affordability is an issue, looking at "both income-based and contextual demographic and socioeconomic pressures on households" in conjunction with the EPA's standard that water and wastewater bills should not comprise more than 4.5% of median household income.[19] "The top five states with the highest percentage of tracts in the high-risk category [median income below $32,000, which is the income needed to afford an average water bill for a 4-person household consuming 12,000 gallons/month] include Mississippi, Louisiana, Alabama, Kentucky, and Arkansas."[20] Tennessee is sixth on that list. "The top five states with the highest percentage of tracts in the at-risk category [median income $32,000-$45,120] include West Virginia, Arkansas, Idaho, Montana, and Mississippi."[21] Tennessee is tenth on that list. The following two maps show patterns of water burdened households:

At-Risk and High-Risk Census Tracts[22]

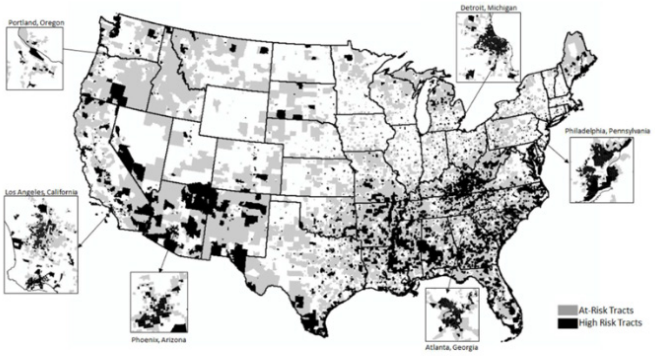
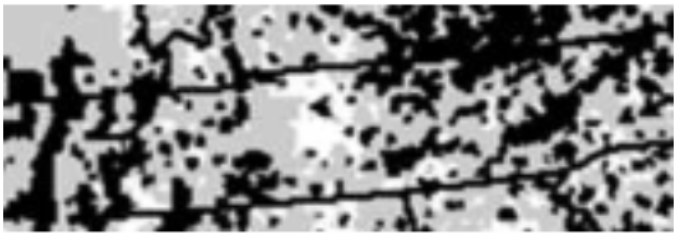


Fig 1. At-Risk and High-Risk Census Tracts.
doi:10.1371/journal.pone.0169488.g001

Tennessee's At-Risk and High-Risk Census Tracts[23]

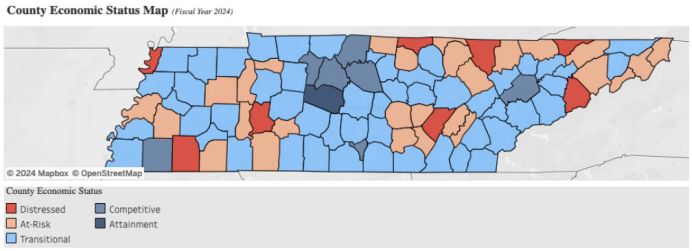


It is, sadly, not surprising that Tennessee households are at risk of not being able to afford their water bills because Tennessee ranks 41st nationally in median household income, 37th in poverty, 49th in rate of bankruptcies, and 42nd in food insecurity.[24] In addition, metropolitan areas of the state are growing the fastest,[25] and rural communities often do not have the ratepayer base to sustain infrastructure investments.

According to move.org, in 2021, Tennessee ranked 16th nationally for highest average monthly utility costs at $406.52 per household.[26] On average, water comprised $45.44 of that cost. Within Tennessee, rural areas are often hit with higher water utility costs. Often this is because water affordability depends on how many households a common pipe can service. The more households the pipe connects to, the lower the costs are for customers.[27] For example, the White House Utility District serves mostly rural communities north of Nashville, and for every mile of pipe there are only about 25 connections, resulting in high water bills. By contrast, customers of Memphis' water systems enjoy the lowest annual water bills because of the high number of connections per pipe in their urban areas.[28]

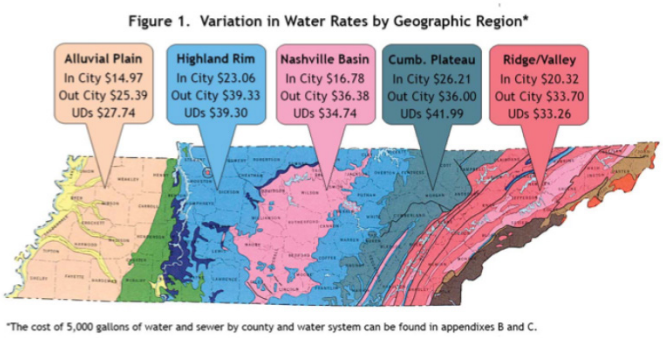
Much is left to learn. "While Tennessee has been the focus of some research into drinking water disparities, comprehensive research on drinking water or wastewater access in Tennessee has yet to be conducted. Seven of Tennessee's 10 distressed counties are within the Appalachian Region, an area known for problems with access to public drinking water and wastewater treatment systems."[29]

Economic Status (Distress Level) of Counties[30]



Research from a decade ago, though, suggests that some issues with water affordability in Tennessee are traceable to factors like population density, utility size, number of customers, and geography, as well as utilities' service areas.[31] "Of the 199 cities that provide water service outside their city limits, 23 charge the same rates inside and outside the city. The other 176 charge rate differentials ranging from 4% to 176% more for water service. Thirteen have outside water rates that are exactly double; 29 have water rates that are exactly one and one-half times their inside rates. Rates for sewer service follow a similar pattern."[32] The following map shows the disparity in water rates across the state, separated by geologic and geographic qualities of each region:

Tennessee Water Affordability and Quality Report Screenshot[33]



Source water protection

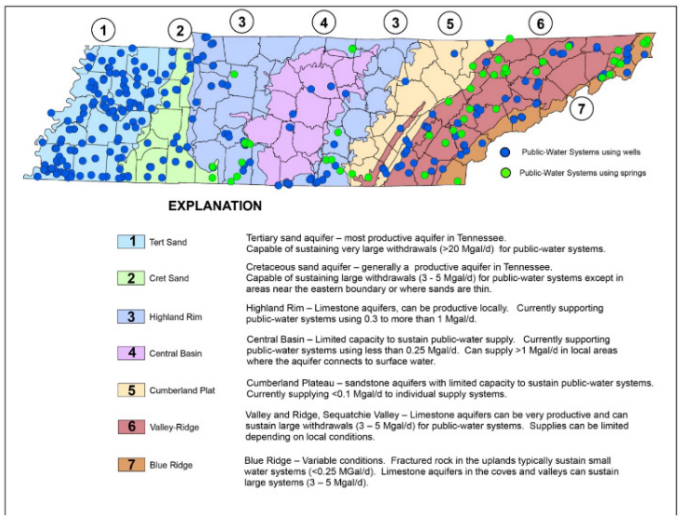
With respect to treated drinking water in Tennessee, over one-third of the state's public water systems had an uncorrected violation of the Safe Drinking Water Act during a recent EPA review period (causing some to estimate that Tennessee is 39th in the nation for drinking water quality).[34]

When it comes to the source of Tennessee's drinking water: almost half of the streams assessed by TDEC do not meet water quality standards (and roughly half of Tennessee's streams have not even been assessed).[35] Impaired waterways lead to higher treatment costs for utilities and community members.[36]

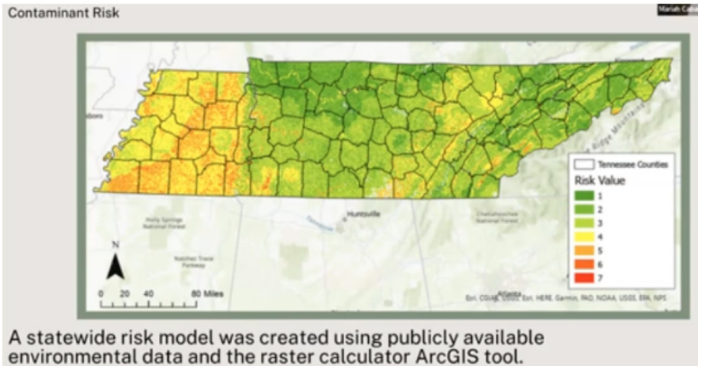
Impaired waterways (not accounting for unassessed streams)[37]

Source water protections are important because, in Tennessee, groundwater systems are particularly vulnerable to contamination, and a lot of communities continue to rely on springs and aquifers for drinking water sources.[38] In West Tennessee, aquifer recharge zones—the areas where water can refill an aquifer—can make water sources susceptible to contamination; Memphis is the largest city in the country that relies entirely on groundwater for drinking water, and recent issues with coal ash storage, natural gas pipelines, and diesel spills have highlighted the aquifer's vulnerability. Middle and East Tennessee have significant karst topography, a landscape characterized by the dissolving of bedrock leading to sinkholes—"Tennessee is one of the nation's most karst rich states. It is estimated that Tennessee has more than 9,000 caves"[39]; problems of water pollution, flooding, and sinkhole collapse are often caused by human development in karst areas.[40]

Distribution of public-water systems withdrawing groundwater from the regional aquifers[41]



Risk Model for Groundwater Contamination Risks [using land cover, soil drainage, precipitation, and geologic data][42]



A statewide risk model was created using publicly available environmental data and the raster calculator ArcGIS tool.

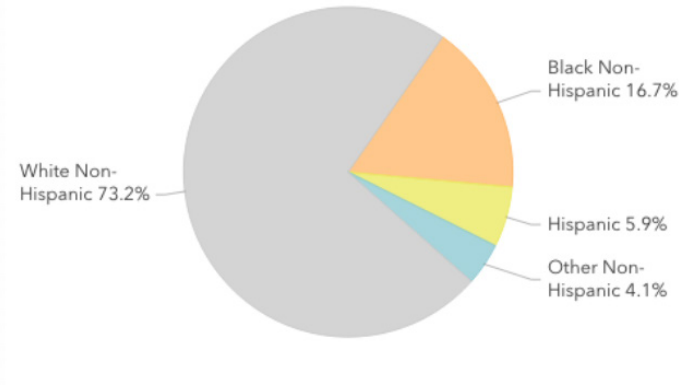
In addition to protecting source water from contamination, source water must be protected from over-use. Unfortunately, "The response of groundwater levels to drought, climate changes, and to groundwater withdrawals cannot be assessed in many parts of Tennessee due to the lack of observation wells."[43]

Investments in communities that have been excluded.

Tennessee needs an estimated $5-15 billion in water infrastructure improvements between now and 2040.[44] More research is needed to determine which communities have the greatest unmet needs.

Tennessee's demographics are not evenly distributed, requiring the state to investigate where the greatest needs and historical exclusions exist. For example, although Tennessee has 95 counties, according to the 2010 census, most (81%) African Americans primarily live in just seven counties;[45] African Americans make up a majority of the population in only 3 counties: Shelby County (pop. 930,000) and two other counties with 18,000 and 25,000 total residents, respectively.[46]

Race & Ethnicity in Tennessee (2020)[47]



According to one scholar's "Drinking Water Disparity Index," in Tennessee, "economic status is the greatest indication of drinking water disparity. Distressed and At-Risk counties were generally the lowest ranked counties in this Drinking Water Disparity Index. These counties experience high rates of poverty and unemployment, in addition to low median household incomes...Surprisingly, the racial makeup of a county generally had the opposite effect seen in studies on drinking water access and race. The lowest ranked counties in the Drinking Water Disparity Index generally had the highest white populations, with some counties having greater than 95% white populations" Quantifying Disparities, p. 40 (citations omitted). "The results of the Wastewater Disparity Index suggest a more complex problem compared to the Drinking Water Disparity Index. Rural and economically disadvantaged counties ranked lower compared to urban and wealthy counties. Like the Drinking Water Disparity Index, counties with high levels of poverty, unemployment, and low median household income ranked lower in the Wastewater Disparity Index. This similarity suggests that drinking water and wastewater disparity could be correlated. Unlike the Drinking Water Disparity Index, urban counties ranked higher in the Wastewater Disparity Index compared to rural counties. While a definitive correlation between wastewater disparity and rurality cannot be made due to the limited number of urban counties, this research suggests that a connection could exist." *Quantifying Disparities*, p. 50 (citations omitted).[48]

III. Summary of Key Findings and Recommendations

Tennessee has taken significant positive steps to meet the growing challenges facing its aging water infrastructure and underserved communities: it has identified pilot projects for "emerging issues" including lead testing, disaster resilience, sustainable and resilient projects, urban waters, and water loss;[49] it has actively worked to expand technical assistance opportunities;[50] it has begun partnering with other state agencies to review opportunities for small and disadvantaged communities;[51] and it offers small communities assistance with planning and design loans, which can help work towards later construction loans.[52] Most recently, the SRF program repurposed the State Water Infrastructure Grants (SWIG) program to offer funding streams for lead service line (LSL) inventory efforts [funding to investigate LSLs that can be used to develop a plan for replacement eligible for BIL LSL SRF grants] and asset management plan development [includes streamlined application project and assistance with writing and developing a plan].[53]

On top of these efforts, Tennessee can take additional steps to expand its equitable application of SRF funds and leverage the programs to maximize their reach. Opportunities to expand Tennessee's SRF programs include (1) revising the "disadvantaged communities" (DACs) definition to make it easier to review not only city/county level data but also census-tract information, (2) restructuring the state's prioritization process to include a sliding-scape or multi-variant point system with specific points awarded to projects that advance climate resilience, source water protections, and regionalization, and (3) expanding outreach to affected communities and nonindustrial stakeholders to identify more shovel-worthy projects.

As discussed below, many of these changes could be achieved by revising the Intended Use Plans (IUPs) when they are published for public comment each year. Revising IUPs is an administrative process undertaken by TDEC, and TDEC invites public participation as part of that process. By comparison, amending statutes is a challenging and politically charged process, and promulgating regulations is a timely process (averaging 24 months under the state's Uniform Administrative Procedures Act). Fortunately, Tennessee's SRF statutes provide significant flexibility to TDEC to ensure the state's program complies with federal standards, meaning that policy changes can be reflected in updated annual SRF planning documents. See Tenn. Code Ann. § 68-221-301 ("Eligible recipients of grants awarded pursuant to this part must be limited to the types of entities eligible for low-cost loans under parts 10 and 12 of this chapter or otherwise eligible as provided by federal law for the capitalization grants authorized for the loan programs established by parts 10 and 12 of this chapter. Eligible projects must be limited to those authorized by parts 10 and 12 of this chapter or otherwise eligible as provided by federal law for the capitalization grants authorized for the loan programs established by parts 10 and 12 of this chapter. The commissioner may administer the grant program in accordance with criteria set by the federal government.") (emphasis added).

Finally, as discussed below, there is a large pipeline of projects in Tennessee's SRF programs but significant carry-forward of funds, meaning that Tennessee has additional work to do to connect communities with available funds:

DWSRF Fund Utilization:[54]

	Available $M	Requested $M	$M Carried Over	% Carried Over
SFY2020	70.4	320.7	33.4	47%
SFY2021	69.4	257.3	37.8	54%
SFY2022	74.2	311.5	66.9	90%
SFY2023	138.3	358.7	85.9	62%
SFY2024	137.7	160.2	?	

CWSRF Fund Utilization:[55]

	Available $M	Requested $M	$M Carried Over	% Carried Over
SFY2020				
SFY2021	137.3	173.8	46.4	38%
SFY2022	138.3	483	65	47%
SFY2023	264.3	493	137	52%
SFY2024	264.2	176	?	

State policies to improve fund utilization include: (1) fully using set-aside funds for technical assistance (**TA**) to build capacity, sourced from the allowance for administration (4%), small systems technical assistance (2%) and local assistance (15%); and (2) encouraging planning loans (e.g., five-year loans at 0% or low interest) to help applicants become ready to proceed and able to receive construction loans, given that planning loans can then be rolled into construction loans.

A. Disadvantaged Communities: Findings and Recommendations

Tennessee's SRF programs prioritize projects that benefit economically disadvantaged and small communities. To implement the state's policy preference for small and disadvantaged communities (**SDC**s)[56] and comply with the federal Water Resources Reform and Development Act of 2014 (**WRRDA**), several aspects of Tennessee's SRF programs rely on the so-called "Ability to Pay Index" (e.g., what interest rate to charge[57], whether a community is eligible for principal forgiveness,[58] how to prioritize projects,[59] and whether a community is considered "disadvantaged"[60]).[61] In addition, Tennessee has used the discretion afforded under the IIJA and SRF programs to make small communities (i.e., population of 20,000 or fewer) eligible for priority principal forgiveness, capped at $250,000.[62]

What is Tennessee's Ability to Pay Index? "The [ATPI] is derived from a database of socioeconomic and financial data.... The index is determined based on a normal distribution of affordability scores for cities and counties. The affordability score is a simple average of nine (9) factors unique to each community." CWSRF IUP (p. 23); CWSRF DRAFT IUP (p.14). These factors are:

- median household income
- unemployment
- food stamp dependence
- families in poverty
- community assets
- revenues
- debt
- expenditures
- change in population

Before the ATPI, which "captures more than 50% of TN communities,"[63] TDEC relied on older and national-level datasets. The ATPI now includes multi-year trends extrapolated from Tennessee-specific census-tract data, which are normalized so each factor is interpreted at the same scale.[64] The ATPI has been recognized as a best practice model by other states, according to TDEC.[65] "Tennessee intends to update the ATPI annually to capture the most current fiscal capacity, changes, and economic trends of communities across the state." CWSRF IUP (p. 23); CWSRF DRAFT IUP (p. 14). An annual update of the ATPI was recently allocated $45,000 in administrative funds.[66]

During its iterative development, the ATPI has grown from a few factors to five factors to nine factors.[67] TDEC's goal is to stabilize the current nine-factor ATPI for a few years to provide potential applicants with predictability and to evaluate the index's effectiveness at connecting small and disadvantaged communities with funding.[68] Meanwhile, TDEC has begun gathering additional data, including utility-based infrastructure score cards and water rate across Tennessee.[69]

The ATPI may be accessed on an interactive public web-based dashboard.

The ATPI dashboard visually depicts communities' ATPI evaluation and offers county-level or city-level ATPI scores. Notably, the interactive index does not offer census-tract level assessments of communities' ability to pay. Counties in Tennessee with combined city-county governments also have a single ATPI score. For example, Nashville has more than 500,000 residents,[70] but because of its combined city-county structure, it has a single ATPI score. This level of analysis likely obscures the poverty level and median household income—among other factors—for key parts of metropolitan Nashville.[71] However, TDEC has explained that it may be possible to do a "deeper dive" at the census tract level under the ATPI.[72] For example, if a nontraditional SRF applicant (like a nongovernmental organization) identified a project that would benefit a particular area, TDEC may be able to couple household data with a city's economic data to understand a project's impact on a specific community or ratepayer group.[73] Precedent for taking a more granular approach (to project evaluation and assessment of DACs) is traceable to TDEC's experience with American Rescue Plan fund distributions.[74]

A recent federal review of Tennessee's ATPI raised questions about its efficacy to capture disadvantaged or water-rate burdened communities. In 2022, the Environmental Protection Agency (**EPA**) released a report titled DWSRF Disadvantaged Community Definitions: A Reference for States, which provides guidance to states as they undertake to define disadvantaged communities. EPA pointed out that Tennessee's ATPI weighs all factors equally and, more generally, that although indices are well-suited to objectively comparing communities, they "can also create an appearance of objectivity that obscures

the many value judgments embedded in them." Id. at p. 9. EPA's guidance also identifies several factors not currently considered by Tennessee's ATPI, but which could help identify disadvantaged communities like whether a community is considered an Environmental Justice community.

In response to the Harpeth Conservancy's critique of the ATPI in 2023, TDEC responded that the ATPI is designed to be flexible and it includes all factors "required" by state and federal statutes:

Comment: One area we believe warrants additional consideration before the IUPs are finalized is their reliance on the "Ability to Pay Index," which incorporates nine factors to determine the "economic health of a community" and evaluate applicants and prioritize projects. Recent analyses suggest that state agencies must do more to ensure an equitable distribution of funds. Therefore, we recommend that TDEC address whether factors in addition to the ATPI's socio-economic factors be incorporated into SRF decision-making. Additional factors could include more flexible definitions of community size (e.g., looking at a census tract level or evaluating communities within municipal boundaries), water rate burdens (assessing combined drinking water and sewer rate burdens), environmental risks and burdens (e.g., proximity to impaired water bodies or flood plain projections), and social vulnerability indicators.

Response: We appreciate the commentor's interest in disadvantaged and underserved communities. The SRF program has worked with University of Tennessee since 2019 to develop a top-tier ATPI that has been viewed as a model for other programs across the country. The current ATPI used by the state of Tennessee is a robust and includes all factors required by state and federal statute. In addition, the state's ATPI has been used as a model nationally, for other states wanting to improve their affordability criteria and ability to pay index. The State's ATPI is designed to be consistent at flexible as needed. It is developed at the county and city scale but can be used at a neighborhood scale as well as incorporation of other relevant Environmental Justice data. Please refer to the SRF website for more details on the ATPI.

Tennessee DACs would benefit if TDEC agreed to re-evaluate the way factors are assigned value, more clearly aligning the state's definition of "disadvantaged community" with EPA's definition.[75] For example, the ATPI factors could be adjusted to ensure that rural communities are not deprived of resources, but adjacent communities or subsets of larger communities that do not have a qualifying ATPI score could also receive needed resources. That is, TDEC could refine its definition of "community" to consider subpopulations of cities and counties, because many disadvantaged communities are not visible at the city or county scale.

Next, TDEC could consider explicitly including factors like those identified in EPA's Climate & Economic Justice Screening Tool, which identifies census-tract communities as disadvantaged if they are at or above (1) the threshold for one or more environmental, climate, or other water burdens; (2) the threshold for an associated socioeconomic burden; or (3) the 50th percentile for low income, and completely surrounded by disadvantaged communities. EPA's screening tool includes census-tract datasets for factors like race, age, projected flood risk, energy cost, lack of indoor plumbing, and wastewater discharge (i.e., modeled toxic concentrations at parts of streams within 500 meters).

With respect to Tennessee's prioritization of loan forgiveness for "small" communities, the state opened loan forgiveness to approximately dozens more counties pursuant to the IUP, creating the potential to improve water infrastructure in overburdened parts of Tennessee by providing access to infrastructure subsidies while limiting those communities' financial burdens. Likewise, cities and counties that are small no longer need to be disadvantaged to qualify for loan forgiveness for projects only involving planning and design. With so many qualifying communities, though, the challenge will become how to concentrate funds to complete high-value projects.

Although smaller communities have been prioritized in the IUPs, Tennessee has struggled to fund projects for small systems: "The state is required...to use 20 percent of the FFY 2021 Project Funds to provide loan assistance to systems serving fewer than 10,000 persons to the extent that there are a sufficient number of eligible projects to fund. Tennessee struggles to meet these requirements. The State provided five projects with principal forgiveness totaling $503,750. This amount equals approximately 2.6% of the DWSRF Capitalization Grant for FFY 2021. The state is working to develop a marketing and outreach strategy to assist and provide funding to more small and disadvantaged communities in future years." DWSRF Annual Report (2022), p. 16. TDEC's struggle to fund small systems' improvements is particularly concerning and confusing given that "the SRF program experienced approximately a 50% increase in project requests for both CWSRF and DWSRF applications form 2021 – 2022."[76] Further, whereas the SRF programs typically receive more requests each year than available funds, not all projects move forward, and both programs "have a carry-forward balance from the previous fiscal year, indicating SRF has a surplus of funding available."[77]

At the same time that TDEC is expanding access to small communities, it might be beneficial to redefine what the term "community" means. Rather than assessing cities, counties, and metropolitan governments, TDEC could allow large water systems to target projects in service areas or at the census-tract level that meet the ATPI criteria. Because there is limited money, though, a redefinition of DACs should take a tiered approach. See EPA March 2022 Memo (p. 42).

Finally, because Tennessee's definition already captures a significant percentage of Tennessee's counties and communities, Tennessee needs a method to balance the factors and score communities against each other, creating a relative ranking system to determine the most deserving communities and the most imperative needs.

B. Project Prioritization and Principal Forgiveness: Findings and Recommendations

With so many needs for water and wastewater infrastructure improvements across Tennessee, a key benefit of the SRF programs is connecting low-cost or forgivable loans with the best projects. Whether the worthiest projects are identified and prioritized is based on Tennessee's policy decisions.
For wastewater projects eligible for funding through the Clean Water SRF program, Tennessee has identified the purpose of prioritizing projects as "to achieve optimum water quality management consistent with the goals of the Clean Water Act and the Tennessee Water Quality Control Act."[78] When CWSRF projects are assigned the same point value, to assist smaller and less affluent communities, Tennessee then ranks them in ascending order using the Ability to Pay Index (**ATPI**) and population.[79] Exceptions to the prioritization list are possible "under special circumstances": "Such projects would include those where unexpected failures requiring immediate attention to protect public health occur."[80]

For the Drinking Water SRF program, the point system is not defined by regulation. According to the draft IUP, "Projects are prioritized based on their ability to reduce health risks or improve compliance with the SDWA [**Safe Drinking Water Act**]. Tennessee has implemented a priority ranking system aligned with the SDWA, employing a 100-point scale. Priority points are assigned based on the project type and severity of the problem being addressed. Projects targeting acute health risks receive a maximum of 100 points, while others are assigned 20, 40, 60, or 80 points depending on problem severity and compliance status. Projects involving ineligible activities like fire protection or future growth do not receive priority points. The highest priority points are given to projects with the most significant health risks, followed by compliance-related projects, and then projects addressing other needs."[81]

With respect to principal forgiveness and set-asides, Tennessee's DWSRF IUP provides: "Principal forgiveness options are granted on a 'first-come-first-serve' basis to eligible entities that are ready to proceed with their projects, until the available funds are depleted....First, SRF will distribute BIL General Supplemental funds and required principal forgiveness until available funding is exhausted....After BIL General Supplemental funds are exhausted, SRF will distribute Base Capitalization Grant dollars on a first come, first serve basis." [82]

BIL Principal Forgiveness Eligibility Requirements:

1. Communities must have an ATPI of 50 or less
2. Projects must be on the current PRL
3. Projects shall be ready to proceed (based on the type of loan)
4. Entity must pass a financial sufficiency review by DWSRF
5. Projects must include construction (planning, design, and construction projects or construction solely).
6. Projects must include construction (planning, design, and construction projects or construction solely).
7. Cannot be combined with other forms of principal forgiveness

CWSRF IUP **(pp. 19-20).**

Base SRF Capitalization Grant Projects

1. Principal Forgiveness for Disadvantaged Communities: Communities with ATPIs of 50 or lower are eligible for 20% principal forgiveness, with a maximum of $2,500,000 in principal forgiveness per project.

2. Priority Principal Forgiveness for Small Communities: Small communities can receive 50% loan forgiveness specifically for planning and design purposes. The total principal forgiveness per project should not exceed $250,000.

3. Green Project Reserve Principal Forgiveness: Communities of any size or ATPI may be eligible for this additional subsidy. Projects may receive up to 20% principal forgiveness of the loan amount, with a maximum limit of $2,500,000 in principal forgiveness per project.

CWSRF IUP **(pp. 19-20).**

BIL Lead Principal Forgiveness Eligibility Requirements[83]

BIL Lead Principal Forgiveness Eligibility Requirements:

1. Communities must have an ATPI of 50 or less
2. Projects must be on the current PRL
3. Projects shall be ready to proceed (based on the type of loan)
4. Entity must pass a financial sufficiency review by DWSRF
5. Projects must include construction (planning, design, and construction projects or construction solely).
6. Projects must include construction (planning, design, and construction projects or construction solely).
7. Cannot be combined with other forms of principal forgiveness

With respect to principal forgiveness and set-asides, Tennessee's CWSRF IUP provides:

BIL Principal Forgiveness Eligibility Requirements:

1. Communities must have an ATPI of 50 or less
2. Projects must be on the current PRL
3. Projects shall be ready to proceed (based on the type of loan)
4. Entity must pass a financial sufficiency review by CWSRF
5. Projects must include construction (planning, design, and construction projects or construction solely).
6. Projects must include construction (planning, design, and construction projects or construction solely).
7. Cannot be combined with other forms of principal forgiveness

CWSRF IUP **(pp. 19-20).**

Base SRF Capitalization Grant Projects

After BIL General Supplemental funds are exhausted, CWSRF will distribute Base Capitalization Grant dollars on a first come, first serve basis. Eligible entities on the PRL and above the Ranking Line will be eligible to receive Base Capitalization Grant principal forgiveness in one of three ways.

1. Principal Forgiveness for Disadvantaged Communities: Communities with ATPIs of 50 or lower are eligible for 20% principal forgiveness, with a maximum of $2,500,000 in principal forgiveness per project.

2. Priority Principal Forgiveness for Small Communities: Small communities can receive 50% loan forgiveness specifically for planning and design purposes. The total principal forgiveness per project should not exceed $250,000.

3. Green Project Reserve Principal Forgiveness: Communities of any size or ATPI may be eligible for this additional subsidy. Projects may receive up to 20% principal forgiveness of the loan amount, with a maximum limit of $2,500,000 in principal forgiveness per project.

CWSRF IUP **(p. 20).**

Base SRF Capitalization Grant Additional Subsidy Available FFY 2023/SFY 2024		
Available Subsidy Funding	Required Minimum 20%	$2,179,400
	Required Maximum 30%	$3,269,100
Eligible Categories	**Base Supplemental Subsidy (%)**	**Dollar Amount**
Principal Forgiveness for Disadvantaged Communities	20%	$1 – $2,500,000 per project
Priority Principal Forgiveness for Small communities	50%	$1 - $250,000 per project
Green Project Reserve (GPR) Principal Forgiveness	20%	$1 – $2,500,000 per project

CWSRF IUP (p. 21) See also CWSRF IUP (pp. 21-23) (describing eligibility requirements for "Standard Principal Forgiveness," "Priority Principal Forgiveness," and "Green Project Reserve (GPR) Principal Forgiveness"). "The FFY 2023 CWSRF Capitalization Grant requires states to use at least 20% of $11,007,000, but no more than 30% of the capitalization grant amount to provide additional subsidy. The FFY 2023 BIL General Supplemental Capitalization Grant requires states to use 49% of the $30,585,000 grant amount to provide additional subsidy. The state of Tennessee intends to meet this obligation by providing standard principal forgiveness subsidy to projects that meet small and disadvantaged communities or green project reserve criteria and are on the 2023 PRL." CWSRF IUP (p. 18); DRAFT IUP (p. 13). The 50% BIL principal forgiveness (max. $5 million) cannot be combined with other forms of principal forgiveness.[84]

Based on the publicly available information about which projects are prioritized and awarded principal forgiveness, it is challenging to determine the amount of funding ultimately received. TDEC should insert a "funding line" on its Project Prioritization Lists (PPLs) to indicate projects that will receive awards, because PPLs merely indicate funding requests and funding eligibility. Alternatively, TDEC should publish a "funding list" in addition to the PPL.

C. Drinking Water: Findings and Recommendations

The Drinking Water SRF program in Tennessee has an unobligated balance of approximately $97 million, and a net position of over $209 million; it has been estimated that, in recent years, less than 10% of the funds requested were granted.[85] In FY2021 only 0.12% of the capitalization grant ($20,000 compared to $21 million requested) went to green infrastructure projects.[86]

Because SRF funds are underused, TDEC has expressed a desire to connect more DACs and small communities with funds. Although not explicitly part of the state's program or policy goals, a third-party community group could offer to help connect SRF funds with beneficial projects by initiating a parallel listening and educational campaign consistent with IUP Short-Term Goal #8, described below. Community groups interested in identifying worthy recipients or projects would not need to first change a statute, or even a regulation. Instead, they could theoretically work with the state agency and local utilities to advance projects in the public interest. As part of a longer-term effort, community groups could advocate for the state to formally expand the definition of eligible entities to include community groups.

The draft IUP for Tennessee's Drinking Water SRF program identifies long-term and short-term goals:

Long-Term DWSRF Loan Program Goals

The DWSRF Loan Program will:

1. Ensure a safe and adequate water supply for small communities by actively involving them in program participation.
2. Assist with projects that promote compliance with national primary drinking water regulations outlined in section 1412 of the SDWA or contribute significantly to the Act's health protection objectives (section 1452(a)(2)).
3. Safeguard and improve water quality in Tennessee by ensuring the technical integrity of funded projects.
4. Preserve its long-term financial integrity by prudently managing its assets, realizing an appropriate rate of return, and safeguarding against fraud, waste, and abuse.
5. Ensure adherence to Generally Accepted Accounting Principles (GAAP) issued by the Government Accounting Standards Board (GASB) through implementing accounting, audit, and fiscal procedures.
6. Expedite fund obligations and offer technical and administrative assistance to promote efficient project management.
7. Strategically use set-aside funds in coordination with program loans to maximize the impact of the DWSRF loan account in achieving affordable compliance and protecting public health.
8. Actively collaborate with systems and drinking water regulatory staff to effectively allocate program resources toward addressing the most significant public health and compliance challenges.
9. Promote advancing technical, managerial, and financial capabilities for all PWS to achieve and sustain compliance with state drinking water and federal SDWA requirements.
10. Actively promote the consolidation or regionalization of PWS that face challenges in operating and maintaining systems cost-effectively, enabling them to benefit from the economies of scale associated with larger water systems.
11. Ensure the provision of drinking water assistance in a methodical and environmentally responsible manner.
12. Ensure that all newly funded water systems demonstrate the necessary technical, managerial, and financial capabilities to comply with every applicable national primary drinking water regulation.

Short-Term DWSRF Loan Program Goals

The DWSRF Loan Program will:

1. Coordinate the completion of set-aside work plans for each set-aside activity annually.
2. Provide support for the continuation of source water protection programs.
3. Coordinate the implementation of the capacity development strategy with PWSS staff.
4. Update administrative policies and guidance, including standard operating procedures, for the DWSRF Loan Program.
5. Provide supervision and direct technical assistance to Public Water Systems (PWS).

6. Assist in the development and implementation of local drinking water protection initiatives.

7. Expand green project funding to include more projects and encourage innovative use of SRF funds, following the EPA's guidance. The TDEC SRF has set a goal of allocating up to 18% of grant funds for innovative, green, or resilient projects. [NOTE: eligible projects include water efficiency, energy efficiency, green infrastructure and stormwater BMPs, resilient, sustainable and environmentally innovative; examples include increasing water and/or energy efficiency, reducing stormwater runoff, recycle/reuse water, production/use of clean energy, establishing or restoring wetlands, reducing/preventing/removing nonpoint source pollution, and building system resiliency, see CWSRF IUP, p. 22]

8. Expand and broaden outreach activities to ensure that public and private water systems are well-informed about DWSRF assistance options and the loan application process. This includes presenting at regional roundtables and an annual statewide workshop in collaboration with the Tennessee Department of Economic & Community Development and USDA-Rural Development to promote the DWSRF Loan Program.

9. Develop a comprehensive database for managing drinking water project data and program management data.

10. Ensure that all grant award funds are expended promptly and in a timely manner.

11. Review the current DWSRF statute for potential updates, including improved clarity or language regarding source water protection eligibility, extended loan terms, use of SRF funds for asset management plans, land conservation, and inclusive language for green infrastructure elements that enhance hydrology, drinking water quantity, and drinking water quality.

12. Review and develop recommendations for updates to the DWSRF priority ranking system.

13. Conduct research on SRF Loan Programs in other states and perform a cost-benefit analysis to recommend the implementation of a sustainable funding source, reducing the SRF Loan Program's reliance on state appropriations for match funding.

DWSRF IUP (pp. 7-9) (emphasis added). See also DWSRF DRAFT IUP (pp. 7-9) (emphasis added). Many of these goals, if implemented, could address and improve historically underserved communities' water infrastructure needs in Tennessee.

TDEC correctly acknowledges that there must be a renewed emphasis on directing principal forgiveness to disadvantaged communities. With respect to principal forgiveness, TDEC cites Governor Lee's request for rural community assistance and explains that, as a result, "Principal forgiveness options are granted on a 'first-come-first-serve' basis to eligible entities that are ready to proceed with their projects, until the available funds are depleted. SRF strives to maximize the amount of principal forgiveness for each entity whenever possible." DWSRF IUP (pp. 17-18). See also DWSRF DRAFT IUP (p. 16) ("Congress has set a requirement stating that 49% of the funds allocated through the DWSRF General Supplemental Capitalization Grant must be distributed as grants or principal forgiveness. To comply with this mandate, TDEC offers eligible entities a 50% principal forgiveness option. This principal forgiveness is provided on a first-come, first-served basis until the allocated funds are fully utilized.").

D. Clean Water: Findings and Recommendations

The Clean Water SRF has an unobligated balance of $269 million,[87] and the state is not fully leveraging its principal loan forgiveness or subsidization options: "[I]n SFY 2022, the Federal Capitalization Grant provided $23.082 million to the fund with a 20% state match of $4.6164 million. However, of that $27.7 million influx, the program granted only $1.235 million in principal forgiveness, or a rate of just 4.45% forgiven. In addition, none of the projects received subsidization under the Green Project Reserve. This is despite there being $12.15 million of green loans requested that year."[88]
According to TDEC, the state currently has $253 million in capacity to fund clean water projects:

Financial Status of Funds for the CWSRF Loan Program	
Prior-Year (SFY2022) Carry-forward Funds*	**$ 136,950,682**
Principal repayments **	59,474,000
Loan Interest Income**	9,964,000
Treasury Interest Income**	796,000
FFY 2023 Base Capitalization Grant	10,897,000
20% of FFY 2023 Base Capitalization Grant matched by State	2,179,400
FFY 2023 BIL General Supplemental Capitalization Grant	30,279,000
10% of FFY 2023 BIL General Supplemental Capitalization Grant matched by the State	3,027,900
4% Administration from FFY 2023 BIL General Supplemental Capitalization Grant	(0)
CWSRF Loan Program Project Funds***	$253,567,982
*Estimated balance at June 30, 2022, pre-year-end adjustments	
** Estimated principal, interest, and treasury interest for SFY 2023	

Table 2: Financial Status of Funds for the CWSRF Loan Program

Financial Status of Funds for the CWSRF Loan Program[89]

TDEC's draft Clean Water SRF IUP identifies long-term and short-term goals, which have many good and aspirational elements. A disconnect exists, though, with respect to how the state can actually distribute funds to meet these goals. Much of the work to allocate Tennessee's stockpiled SRF funds would not necessarily require amendments to the enabling legislation. Specifically, the IUP already expressly indicates the agency's desire to provide some education and outreach to small and disadvantaged utilities. In conjunction with the IUP's goal to evaluate and assess expanding the loan process to include nontraditional eligible entities, community groups could help identify projects and entities that would assist the state achieving that goal.

Long-Term CWSRF Goals

1. Protect and enhance the water quality in Tennessee by ensuring the technical integrity and long-term sustainability of funded projects.
    A. Objective: Ensure adequate and effective project planning, design, and construction management.
    B. Objective: Maintain a priority ranking system and offer available funds to projects with the highest priority points that are ready to proceed.
2. Maintain the long-term financial integrity of the CWSRF Loan Program through the judicious use and management of its assets and by realizing an adequate rate of return, preventing fraud, waste, and abuse.
3. Maintain a self-sustaining revolving fund through the CWSRF Loan Program to provide local governments in Tennessee with low-cost financial assistance for wastewater infrastructure projects.
    A. Objective: Ensure the use of accounting, audit, and fiscal procedures that conform to generally accepted governmental accounting principles.
    B. Objective: Ensure the financial stability of loan recipients by reviewing the financial history, loan security, and proposed user rates of loan applicants.
    C. Objective: Obligate funds in a timely manner and provide technical and administrative assistance for efficient project management.
4. Facilitate allocation of program resources to address the most significant public health and water quality compliance problems by actively working with these systems and the TDEC regulatory staff.
5. Promote the development of the technical, managerial, and financial capability of all publicly owned wastewater treatment works and stormwater systems to maintain compliance or meet state and federal compliance requirements.
6. Provide clean water assistance in an orderly and environmentally sound manner.
7. Assure that all new wastewater and stormwater systems funded by the program demonstrate a technical, managerial, and financial capability that meets state and federal regulations.

Short-Term CWSRF Loan Program Goals

1. Manage an effective and efficient CWSRF Loan Program
    A. Objective: Update administrative policies and guidance, including standard operating procedures for the CWSRF Loan Program.
    B. Objective: Coordinate and work with the Comptroller of the Treasury to ensure the best financing alternative(s) for local governments.
    C. Ensure internal coordination with the Department of Water Resources for state and federal regulatory compliance.
2. Provide funding assistance for developing and implementing local water quality protection initiatives.
3. Update the SRF website with new Asset Management Plan (**AMP**) guidance. The new AMP guidance meets the Fiscal Sustainability Plan (**FSP**) requirements mandated by the EPA and includes FSP elements.
4. Provide education and outreach to small and disadvantaged utilities and all SRF customers on the new AMP guidance document through our technical assistance providers.
5. Evaluate and assess expanding the loan process to include nontraditional eligible entities.

6. Partner with the Tennessee Department of Agriculture, Nonpoint Source 319 program to promote water quality protection using 319 funds, CWSRF funds, and project leveraging.

7. Provide support and assistance to ensure compliance with state and federal water quality standards by all public, private, or nonprofit wastewater treatment works.

8. Expand the use of Green Project Reserve (**GPR**) funding to include more projects and encourage innovative use of SRF funds following EPA's guidance. The SRF Loan Program has elected to strive for a goal of up to 18% of grant funds to be used for innovative, green, or resilient projects.

9. Provide direct technical assistance to public, private, or nonprofit wastewater treatment works.

10. Expand and broaden our community outreach activities to ensure that publicly owned stormwater systems and wastewater treatment works are aware of and understand CWSRF assistance options and the loan application process by facilitating an annual statewide workshop to publicize the CWSRF Loan Program in coordination with Tennessee Department of Economic & Community Development and USDA-Rural Development.

11. Streamline the SRF business process to improve program efficiency, reduce loan processing time, and eliminate unnecessary, outdated requirements.

12. Ensure that all funds in the SRF and grant award are appropriately expended expeditiously and timely.

13. Update the CWSRF Priority Ranking system.

    A. Host a listening session with SRF staff for recommended CWSRF priority ranking system updates.

    B. Prioritize and develop recommendations for CW SRF priority ranking system updates. These updates may include but are not limited to, improved accounting for green infrastructure and stormwater management.

    C. Beta-test recommendations using a subset of the most recent CWSRF Solicitation submissions and re-prioritize the list of updates.

    D. Red-line CWSRF Loan Program Priority Ranking System rules based on the prioritized list and submit to the Water Infrastructure Funding program manager for potential rule updates.

14. Research other states CWSRF Loan Programs and conduct a cost-benefit analysis to recommend an alternate state match to support a sustainable funding source and reduce the CWSRF Loan Program's reliance on state appropriations for match funding.

15. Develop an approach to identify and assess emerging contaminants, including community outreach and education.

See CWSRF IUP (pp. 5-7); CWSRF Draft IUP (pp. 6-8).
Tennessee has attempted to align its program goals with EPA's program goals, as follows:

Long-Term EPA Alignment

EPA Strategic Goal/Activity Alignment			TN SRF Results	
EPA Strategic Plan	Goals & Core Elements	Activity	Outputs	Outcomes
Safeguard and Revitalize Communities	Goal 6	Technical and Financial Support	Protect and enhance the water quality in Tennessee by ensuring the technical integrity and long-term sustainability of funded projects.	Safeguard drinking water quality standards for all communities
Safeguard and Revitalize Communities	Goal 6	Technical and Financial Support	Maintain the long-term financial integrity of the CWSRF Loan Program through the judicious use and management of its assets and by realizing an adequate rate of return, preventing fraud, waste, and abuse	Safeguard drinking water quality and standards for all communities
Safeguard and Revitalize Communities	Goal 6	Project Integrity, Technical and Financial Support	Maintain a self-sustaining revolving fund through the CWSRF Loan Program to provide local governments in Tennessee with low-cost financial assistance for wastewater infrastructure projects	Quality project components that safeguard drinking water quality and standards for all communities
Advance Environmental Justice and Civil Rights	Goal 2	EPS's programs, Policies and Activities	Facilitate allocation of program resources to address the most significant public health and water quality compliance problems by actively working with these systems and the TDEC regulatory staff	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for all Communities	Goal 5	Program Integrity, Technical and Financial Assistance	Promote the development of the technical, managerial, and financial capability of all publicly owned wastewater treatment works and stormwater systems to maintain compliance or meet state and federal compliance requirements	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for all Communities	Goal 5	Program Integrity, Technical and Financial Assistance	Provide clean water assistance in an orderly and environmentally sound manner	Ensure safe drinking water and reliable water infrastructure
Enforce Environmental Laws and Ensure Compliance	Goal 3	Detect Violation and Promote Compliance	Assure that all new wastewater and stormwater systems funded by the program demonstrate a technical, managerial, and financial capability that meets state and federal regulations	Program coordination to uphold compliance through funding, training and collaboration

Short-Term Goals EPA Alignment				
EPA Strategic Goal/Activity Alignment			TN SRF Results	
EPA Strategic Plan	Goals & Core Elements	Activity	Outputs	Outcomes
Enforce Environmental Laws and Ensure Compliance	Goal 3	Internal Coordination and Collaboration	Manage an effective and efficient CWSRF Loan Program	Work plan completion assurance
Enforce Environmental Laws and Ensure Compliance	Goal 3	Financial and Technical Support	Provide funding assistance for developing and implementing local water quality protection initiatives	Program continuation
Enforce Environmental Laws and Ensure Compliance	Goal 3	Internal Coordination and Collaboration	Update the SRF website with new Asset Management Plan (AMP) guidance. The new AMP guidance meets the Fiscal Sustainability Plan (FSP) requirements mandated by the EPA and includes FSP elements	Program continuation
Enforce Environmental Laws and Ensure Compliance	Goal 3	Internal Coordination and Public Outreach	Provide education and outreach to small and disadvantaged utilities and all SRF customers on the new AMP guidance document through our technical assistance providers	Program continuation
Enforce Environmental Laws and Ensure Compliance	Goal 3	Internal Coordination and Public Outreach	Evaluate and assess expanding the loan process to include non-traditional eligible entities	Program Continuation
Enforce Environmental Laws and Ensure Compliance	Goal 3	Education, Training and Technical Assistance	Partner with the Tennessee Department of Agriculture, Non-Point Source 319 program to promote water quality protection using 319 funds, CWSRF funds, and project leveraging	Program coordination to uphold compliance through funding, training and collaboration
Enforce Environmental Laws and Ensure Compliance	Goal 3	Education, Training and Technical Assistance	Provide support and assistance to ensure compliance with state and federal water quality standards by all public, private, or nonprofit wastewater treatment works	Program coordination to uphold compliance through funding, training and collaboration
Ensure Clean and Safe Water for All Communities	Goal 5	Program and Compliance Funding	Expand the use of Green Project Reserve (GPR) funding to include more projects and encourage innovative use of SRF funds following EPA's guidance. The SRF Loan Program has elected to strive for a goal of up to 18% of grant funds to be used for innovative, green, or resilient projects.	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for All Communities	Goal 5	Ensure Scientific Integrity and Science-Based Decision Making	Provide direct technical assistance to public, private, or nonprofit wastewater treatment works	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for All Communities	Goal 5	Financial Efficiency and Organizational Excellence	Expand and broaden our community outreach activities to ensure that publicly owned stormwater systems and wastewater treatment works are aware of and understand CWSRF assistance options and the loan application process by facilitating an annual statewide workshop to publicize the CWSRF Loan Program in coordination with Tennessee Department of Economic & Community Development and USDA-Rural Development	Ensure safe drinking water and reliable water infrastructure
Enforce Environmental Laws and Ensure Compliance	Goal 3	Detect Violation and Promote Compliance	Streamline the SRF business process to improve program efficiency, reduce loan processing time, and eliminate unnecessary, outdated requirements	Program coordination to uphold compliance through funding, training and collaboration
Ensure Clean and Safe Water for All Communities	Goal 5	Program Efficiency and Internal Coordination	Ensure that all funds in the SRF and grant award are appropriately expended expeditiously and timely	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for All Communities	Goal 5	Ensure Scientific Integrity and Science-Based Decision Making	Update the CWSRF Priority Ranking system	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for All Communities	Goal 5	Ensure Scientific Integrity and Science-Based Decision Making	Research other states CWSRF Loan Programs and conduct a cost-benefit analysis to recommend an alternate state match to support a sustainable funding source and reduce the CWSRF Loan Program's reliance on state appropriations for match funding	Ensure safe drinking water and reliable water infrastructure
Ensure Clean and Safe Water for All Communities	Goal 5	Ensure Scientific Integrity and Science-Based Decision Making	Develop an approach to identify and assess emerging contaminants, including community outreach and education	Ensure safe drinking water and reliable water infrastructure

CWSRF IUP **(pp. 8-12).**

In the CWSRF program, potential projects—those that are for planning, planning and design, or ready to proceed with construction—are prioritized by assigning Project Criteria Points based on the project criteria established in Rule 0400-46-01-.02(2), as follows:

- Wastewater treatment plant (**WWTP**) discharges to a water-quality impaired stream segment will receive 100 Project Criteria Points in addition to any other applicable Project Criteria Points. WWTP projects with a compliance schedule in the NPDES permit requiring construction will receive 50 Project Criteria Points in addition to any other applicable Project Criteria Points;
- Wastewater collection system projects with a compliance schedule in the NPDES permit requiring construction will receive 50 Project Criteria Points in addition to any other applicable Project Criteria Points;
- Nonpoint Source (**NPS**) pollution projects affecting a water-quality impaired stream segment will receive 100 Project Criteria Points. Other NPS pollution projects will receive 25 Project Criteria Points. NPS pollution projects may be directed toward protecting or improving the quality of groundwater, surface water, or wetlands. NPS pollution projects must be consistent with Tennessee's approved Nonpoint Source Management Program requirements and be included in the State's current EPA-approved Nonpoint Source Management Plan;

- Effluent-trading projects will receive 50 Project Criteria Points in addition to any other applicable Project Criteria Points;
- Combined Sewer Overflow (CSO) projects will receive 25 Project Criteria Points;
- Infiltration/Inflow (I/I) correction and major sewer rehabilitation projects will receive 25 Project Criteria Points. Construction of projects that will transport and treat I/I at the WWTP will receive 10 Project Criteria Points;
- Stormwater management projects affecting a water-quality impaired stream segment will receive 100 Project Criteria Points. Stormwater management projects with a compliance schedule in the NPDES permit requiring construction will receive 50 Project Criteria Points. All other stormwater management projects will receive 25 Project Criteria Points;
- Collection lines to be constructed to address an existing public health problem caused by failed septic systems will receive a minimum of 40 Project Criteria Points up to a maximum of 100 Project Criteria Points;
- Any wastewater project proposed for development or growth potential, i.e., projects not planned to address a water quality problem or a public health problem, will receive 5 Project Criteria Points. WWTPs that are required to serve new collectors as part of the approved facilities plan will receive the same Project Criteria Points as the collectors;
- Interceptors and pump stations will receive varying Project Criteria Points. Interceptors or pump stations that eliminate a WWTP discharge point included in an approved facilities plan will receive the same Project Criteria Points as the WWTP. Interceptors or pump stations proposed as part of an I/I elimination project will receive the same Project Criteria Points as the I/I elimination project. Interceptors or pump stations submitted as part of a collection system project will receive the same Project Criteria Points as the collection system project;
- Planning/Design projects will receive Project Criteria Points based on the proposed project type;
- CWA Section 212 projects that are also associated with the construction of nonpoint source projects shall have an additional 20 Project Criteria Points;
- CWA Section 212 projects with zoning that demonstrates preservation of greenspace shall have an additional 15 Project Criteria Points;
- CWA Section 212 projects with zoning that demonstrates riparian buffer zones of at least 150 feet shall have an additional 10 Project Criteria Points;
- CWA Section 212 projects demonstrating an enforced buffer zone ordinance shall have an additional 5 Project Criteria Points;
- Refinancing projects will receive 1 Project Criteria Point; and
- In accordance with Tenn. Code Ann. § 6-58-109(b), all SRF projects within counties with an approved growth plan will receive 5 Project Criteria Points in addition to any other applicable Project Criteria Points.
- The assigned Project Criteria Points are calculated to determine the Priority Point Value for applicable projects. The Project Criteria Points are summed to establish a proposed project's Priority Rank. Projects will be placed on the PRL in descending order by total priority points. Projects with the same priority points will be ranked in ascending order based on the community's Ability to Pay Index (ATPI) and population to assist smaller and less affluent communities. Projects not ready to proceed with construction will not be assigned priority points but will be included on the bottom half of the PRL. Projects requesting funds for ineligible activities will not be assigned priority points or included on the PRL.

CWSRF IUP (pp. 13-15); CWSRF DRAFT IUP (pp. 9-11).

IV. Analysis of Tennessee's DWSRF

The Tennessee Drinking Water SRF program provides low-interest loans, principal forgiveness, and technical assistance to qualifying entities.[90] From 1997 until 2022, the federal government awarded Tennessee's DWSRF program $389 million, which includes $92 million awarded to Tennessee in 2022 alone.[91] During that same period, Tennessee contributed $55 million in match funds and $22.9 million in in-kind contributions for management of the program;[92] the state has disbursed $292 million.[93] In order to distribute these funds, each year Tennessee identifies potential projects and prioritizes them according to statutory and agency guidance materials.

While the timeline for identifying projects and processing funds (outlined in Section I, supra) starts at the beginning of the calendar year, opportunities to engage with the SRF

loan process recur throughout the year, including after TDEC publishes its draft Intended Use Plans for public comment. IUPs are important because they announce the state's policy decisions: what projects to prioritize and how to achieve the program's fiscal goals. For example, how Tennessee allocates its funds to program management in the IUPs is one practical way the state articulates its focus. So, it is important to know both that Tennessee may set aside some federal funds for specific activities (e.g., administration and technical assistance, small systems technical assistance, state program management, and local assistance) and to read that Tennessee initially proposed setting aside $6.5 million in funds in fiscal year 2023 but later changed that decision.

4% Administration - General Capitalization Grant	**$332,480**
4% Administration - BIL Supplemental Capitalization Grant	**$1,417,720**
7.5% State Program Management Public Water Supply Supervision (PWSS) - BIL Supplemental Capitalization Grant	**$2,835,800**
2% State Program Management Operator Certification BIL Supplemental Capitalization Grant	**$708,860**
Small System Technical Assistance (SMS) – BIL Supplemental Capitalization Grant	**$708,860**
Local Assistance - Sourcewater Protection – BIL Supplemental Capitalization Grant	**$447,884**

Table 2: DWSRF Base and BIL General Supplemental Capitalization Grant Set-aside Activities

Final IUP:[95]

Category	Base Cap. Grant	% of Funding	BIL Cap. Grant	% of Funding	Total
SRF Administration	$0	0%	$969,466	2.5%	$969,466
State Program Management Public Water Supply Supervision (PWSS):	$535,360	5.4%	$2,834,991	7.3%	$3,370,351
State Program Management Operator Certification:	$317,957	3.2%	$626,447	1.6%	$944,404
Small System Technical Assistance	$199,061	2.0%	$626,447	1.6%	$934,260
Source Water Protection/Wellhead	$0	0%	$447,884	1.1%	$447,884
AMP Grants	$0	0%	$3,886,620	10.0%	$3,886,620

Table 5: DWSRF Base and BIL General Supplemental Capitalization Grant Set-aside Activities

The state did not explain its decision to reduce or change its set-asides in the final IUP. Compare the draft to the final IUPs:

Draft:

Administrative and Technical Assistance

The DWR intends to use up to 4% ($332,480) of the FFY 2023 DWSRF Base Capitalization Grant and 4% ($1,417,720) of the FFY2023 BIL General Supplemental Capitalization Grant for administrative support, including database development, salaries, and benefits of employees; travel of staff relating to project management, conferences, seminars, and workshops; technical assistance contracts, training for state employees; general office supplies; equipment purchases (as needed), communication and printing, and rent of office space.

Final:

Administrative and Technical Assistance

The DWR intends to use $969,466 of the FFY2023 BIL General Supplemental Capitalization Grant for administrative support, including database development, salaries, and benefits of employees; travel of staff relating to project management, conferences, seminars, and workshops; technical assistance contracts, training for state employees; general office supplies; equipment purchases (as needed), communication and printing, and rent of office space.

Draft:

State Program Management

The State of Tennessee intends to set aside 9.5% or $3,544,660 of the FFY 2022 BIL General Supplemental Capitalization Grant for Public Water Supply Supervision and State Operator Certification.

Final:

State Program Management

The State of Tennessee intends to set aside of 8.6% or $853,317 for the FFY 2023 DW Base Capitalization grant and 8.9% $3,461,438 of the FFY 2023 DW BIL General Supplemental Capitalization Grant for Public Water Supply Supervision and State Operator Certification.

Draft:

Local Assistance and Other State Programs

The State of Tennessee intends to set aside 1.7% or $602,531 of the FFY 2023 BIL General Supplemental Capitalization Grant for source water protection and wellhead protection and to develop a set-aside assistance program for small or disadvantaged communities to further DWR's Capacity Development Strategy under 1420 of the SDWA as well as source water protection loans.

Final:

Local Assistance and Other State Programs

The State of Tennessee intends to set aside 1.1% or $447,884 of the FFY 2023 BIL General Supplemental Capitalization Grant for source water protection and wellhead protection and to develop a set-aside assistance program for small or disadvantaged communities to further DWR's Capacity Development Strategy under 1420 of the SDWA as well as source water protection loans.

Draft IUP:[94]

In addition to the current shifts within the program, it is important to understand Tennessee's historical trends in funding Drinking Water improvements to evaluate whether unintended consequences have resulted from longstanding policy choices, and whether such policies might merit updates. Since 1997, for example, Tennessee has spent roughly twice as much to help compliant systems maintain compliance ($182 million to fund 146 projects) as it has spent assisting noncompliant systems achieve compliance ($95 million to fund 60 projects). Significant funds have also been spent assisting compliant systems to meet future requirements ($32 million on 11 projects).[96] The state has reported leveraging no bonds or WIFIA loans.[97]

In recent years (2019-2022), the state funded an average of eight projects per year;[98] set-asides accounted for $3-3.5 million of the annual amount (awarded);[99] 2% of the annual amount (awarded) of the grants were for small systems technical assistance, 4% for administrative expenses, and 10% for state program management;[100] the state awarded $0 in loans for source water protection land acquisition/ conservation, source water protection measures, source water protection area delineation, or wellhead protection programs;[101] the state provided $0 in assistance for private systems, for the creation of new systems, or for the consolidation of assistance.[102]

With respect to funding assistance for Disadvantaged Communities, Tennessee has provided the following funding:

DWSRF Fund Assistance for Disadvantaged Communities (2014-2022)[103]

	DWSRF Fund Assistance	For the Reporting Year Ending June 30 of: 2014	2015	2016	2017	2018	2019	2020	2021	2022
	Assistance to Disadvantaged Communities									
	All Assistance to Disadvantaged Communities									
185	Annual Dollar Amount of Assistance to Disadvantaged Communities	$0	$0	$0	$0	$0	$0	$0	$0	$275,000
186	**Cumulative Dollar Amount*	$0	$0	$0	$0	$0	$0	$0	$0	$275,000
187	Annual Number of Assistance Agreements	0	0	0	0	0	0	0	0	1
188	**Cumulative Number of Agreements*	0	0	0	0	0	0	0	0	1
	Assistance to Disadvantaged Communities - with Subsidy**								**	
189	Annual Dollar Amount of Total Assistance with Principal Forgiveness/Grant/Negative Interest (Loan + Subsidy amount)	$6,595,648	$6,817,364	$10,574,102	$9,762,125	$3,042,294	$3,258,000	$886,000	$0	$275,000
190	**Cumulative Dollar Amount*	$64,235,233	$71,052,597	$81,626,699	$91,388,824	$94,431,118	$97,689,118	$98,575,118	$98,575,118	$98,850,118
191	Annual Dollar Amount of Principal Forgiveness/Grant/Negative Interest (Subsidy breakout amount only)	$2,069,130	$2,958,150	$2,733,926	$2,518,956	$523,693	$911,600	$886,000	$0	$55,000
192	**Cumulative Dollar Amount*	$25,408,424	$28,366,574	$31,100,500	$33,619,456	$34,143,149	$35,054,749	$35,940,749	$35,940,749	$35,995,749
193	Annual Number of Assistance Agreements with Subsidy	8	7	9	11	8	5	1	0	1
194	**Cumulative Number of Agreements*	42	49	58	69	77	82	83	83	84
	Assistance to Disadvantaged Communities - with Greater than 20-Year Repayment**								**	
195	Annual Dollar Amount of Assistance with > 20-Year Repayment	$0	$0	$0	$0	$0	$0	$0	$0	$0
196	**Cumulative Dollar Amount*	$0	$0	$0	$0	$0	$0	$0	$0	$0
197	Annual Number of Assistance Agreements with > 20-Year Repayment	0	0	0	0	0	0	0	0	0
198	**Cumulative Number of Agreements*	0	0	0	0	0	0	0	0	0
	Population Served (by the project) in Disadvantaged Communities Receiving Assistance									
199	Population Served	0	0	0	0	0	0	0	0	10,733
200	**Cumulative Population Served*	0	0	0	0	0	0	0	0	10,733

* Calculated values.
**2021 and later: Assistance to Disadvantaged Communities only

In Tennessee, another trend is opening up SRF funds to private entities. The Drinking Water SRF program makes some private entities eligible for funds, which raises the concern that limited funds might be disbursed in a way that is inconsistent with the goal of channeling needed funds to disadvantaged communities. For example, in 2002, the definition of "water system" in the state's Drinking Water Loan Act was amended to include—in addition to community public water systems of counties, municipalities and utility districts—any "instrumentality of government created by any one or more of the foregoing or by an act of the General Assembly as well as such governmental entity," including wastewater treatment authorities. Tenn. Code Ann. § 68-221-1203(6).

A. Key Recommendations for Tennessee's DWSRF

1. Re-align the State's Definition of DAC with Federal Guidance.

Because 49% of the IIJA's SRF funding increase must be provided as grants and forgivable loans to disadvantaged communities, the way Tennessee defines these groups has significant bearing on which communities will have access to needed financial assistance. If Tennessee updates its definition of "disadvantaged communities" under the Ability to Pay Index and creates a tiered ranking system, TDEC will be able to expand loan forgiveness to communities that may benefit the most from the funds.

2. Community Outreach to Stimulate Demands for Funds.

Community groups can support TDEC's short-term goal to expand green project funding and "encourage innovating use of SRF funds" for innovative, green, or resilient projects. See DWSRF IUP, p. 9. While water meter replacement is an example of a "water efficiency" project that is eligible for funding, it is far from innovative. See EPA Eligibility Handbook, pp. 48-53 (2017). Currently, many of the projects identified on the priority list as "green" projects are simply water meter replacements, more akin to traditional, gray infrastructure projects than green infrastructure (e.g., restores natural hydrology, conserves large tracts of open land, or takes a

regional planning approach) or innovative green efficiency projects (e.g., developing a conservation plan or reclaiming water). See DWSRF PRL (identifying water meter replacement to assist with water efficiency).

Support is also needed for TDEC's short-term goal to expand and broaden outreach activities "to ensure that public and private water systems" are well informed, and groups should advocate for the IUP to be revised to clarify that outreach should be to other community entities, not just utilities. See DWSRF IUP, p. 9.

Background: "[T]he IIJA includes information-gathering requirements that will support the EPA's goal of addressing environmental justice in both water and wastewater systems. These provisions require the EPA to collect historical data and develop outreach plans for disadvantaged communities. The EPA must also assess and report on drinking water and wastewater systems under the IIJA."[104]

3. Broaden Eligible Entities to Expand Source Water Protection Activities.

Some changes likely need to be made by statute. Support could be offered for TDEC's short-term goal to review the statute governing the DWSRF program for updates, "including improved clarity or language regarding source water protection eligibilities" and the use of SRF funds for land conservation and green infrastructure elements that enhance drinking water quantity and quality. DWSRF IUP, p. 9. Emphasize that any needed clarifications should expressly open the program to recipients other than public and private water systems. TDEC is currently envisioning a five-year process: "TDEC is currently working through a source water protection development plan with the drinking water program. Developing funding assistance programs for source water protection will require a review of statute and rules to document what funding assistance strategies are allowable. Next, we will have to create a funding structure, whether it be grants or loans, and the process for which an eligible entity can apply. Over the next few years TDEC will be reaching out to stakeholders, working with the Comptroller's Office, and engaging our drinking water experts at the state for input on program development. TDEC is committed to maximizing our source water protection efforts that can be extended to our customers over the next 5 years."[105]

Advocates should be aware that TDEC has defined confidential records prohibited from public disclosure based on concerns about broadcasting utilities' structural and operational vulnerabilities to include, among other confidential records, "[r]ecords pertaining to the delineation of source water protection areas" and "[r]ecords pertaining to well head protection areas and inventories of significant potential contaminant sources."[106]

Background: "The Source Water Petition Program [under the IIJA] allows counties to act on behalf of unincorporated communities to create voluntary partnerships to protect source water from degradation. The IIJA gives the EPA the authority to create the Assistance for Small and Disadvantaged Communities Program for the provision of grants, similar to USDA grant programs, to connect individual households to public water systems. Unlike other provisions of the grant—which focus on 'underserved communities' that do not have 'household drinking water or wastewater services' and those that are served by public water systems that are in violation of the SDWA—this provision focuses on 'disadvantaged communities.' ... To receive assistance to connect to a public water system, an individual must be 'a member of a household, the members of which have a combined income (for the most recent 12-month period for which information is available) equal to not more than 50 percent of the median nonmetropolitan household income for the State in which the household is located.' This requirement is the same as the standard for someone to receive assistance to improve their septic system or connect to a centralized wastewater treatment system. However, this grant does not provide direct assistance. This money would go through a public water system or a nonprofit assisting an individual needing assistance. Furthermore, the program has a 'voluntary connection' requirement. The individual must not only be voluntarily seeking to connect to the public water system, but the public water system must also agree to the connection. Under this program, the power still ultimately lies with the public water system—not the individual who needs assistance."[107]

4. Develop a Definition of "Future Growth" to Ensure Funds Do Not Support Ineligible Activities.

The SRF program is not supposed to fund future growth, see DWSRF IUP, p. 14, but some projects included on the priority ranking list suggest that they will facilitate growth in a state that does not have any meaningful land use restrictions, resulting in sprawling developments that may not have sufficient funds to properly operate. TDEC should develop a definition of "future growth" and a list of example ineligible activities. For example, several projects are for the Brownsville Energy Authority—Brownsville is the site of an electric truck and battery project that the State of Tennessee courted. See Lee, TDEC Announce $1.7 Million Loan for Brownsville Energy Authority Water Improvements (Oct. 4, 2023); Corey Davis,

"Brownsville mayor talks area potential growth fueled by massive BlueOval City project," Memphis Commercial Appeal ("Brownsville Mayor Bill Rawls believes the small, rural West Tennessee city with an estimated population of 9,500 could experience a population explosion after years of depopulation. The city is 13 miles from the BlueOval City campus in Stanton. "Because we had a population decline for so many years, we don't have any new housing development," Rawls said. "The thing we're working on now is establishing utility capacity to accommodate this type of growth. We all heard the phrase they build it; they will come. That's true, but in this case BlueOval is here and they're coming.").

B. Other Issues of Concern Related to Tennessee's DWSRF

- **Regionalization.** The IUP identifies "consolidation or regionalization" as a long-term goal for systems that face challenges in operating cost-effectively, see DWSRF IUP, p. 8, but TDEC should also prioritize consolidation and regionalization of small systems in order to avoid redundant impacts to water resources.

  There is an advocacy opportunity here to ask TDEC to condition SRF funds on regionalization, not just favor projects that do so: "There is no statutory authority to mandate the consolidation of water utilities. Under Tenn. Code Ann. § 69-7-308, the Commissioner of TDEC and the Board are directed to 'encourage and support regional water planning whenever possible.' If a water utility eligible for a loan from the State drinking water revolving loan fund does not have the requisite technical, managerial, and financial capability for its system, the loan may be conditioned upon appropriate changes in operations of the water utility as required by the WWFB or the UMRB, which may include changes in 'ownership, management, accounting, rates, maintenance, consolidation, alternative water supply, or other procedures.' Tenn. Code Ann. §§ 7-82-709(a), 68-221-1206(a)(3)."[108]

- **Agency Resources**. TDEC has described problems with staff retention and resources for administering the SRF program; we need to better understand the costs/benefits of opportunities for TDEC to contract with third parties to assist with low-capacity systems. Notably, TDEC's response to public comments in December 2023 suggested there were no problems with staffing capacity.

- **Leveraging Funds.** "'Leveraging is a process through which a state places its annual federal appropriation (and perhaps its state match funds) in a reserve pool to guarantee the sale of revenue or general obligation bonds'... The leveraging practice among states is varied; some states do not leverage at all. Some engage in aggressive leveraging, generating upwards of five dollars for every initial investment dollar. On the other hand, states may choose a safer level of leveraging, with a trade-off of fewer dollars (about two- to-one) available."[109]
  For example: TDEC could even look for opportunities to leverage SRFs with EPA's Water Infrastructure Finance and Innovation Act (WIFIA) Loan Program and its special features for SRF leading (i.e., "SWIFIA"). Cf. DWSRF IUP, p. 9 (identifying short-term goal as: "Conduct research on SRF Loan Programs in other states and perform a cost-benefit analysis to recommend the implementation of a sustainable funding source, reducing the SRF Loan Program's reliance on state appropriations for match funding.").

- **Transparency.** The priority ranking system for the DWSRF program is not established by regulation, so TDEC should engaged in a formal notice-and-comment process to develop regulations. See DWSRF IUP, p. 12 (identifying short-term goal as "Review and develop recommendations for updates to the DWSRF priority ranking system.).

  We also have outstanding questions about whether all documents used to approve or prioritize projects are publicly available. For example, "TDEC's State Revolving Fund loan program has partnered with the Tennessee Association of Utility Districts to develop a tool to assist communities prioritize critical needs. The Tennessee Infrastructure Scorecard is a simple tool that brings financial, operational, managerial, and technical components of your water infrastructure system into one place."[110] Those scorecards are not posted online and previous attempts to use the Public Records Act to acquire them were unsuccessful.

  In Tennessee, exceptions for the Public Records Act include "Records that would allow a person to identify areas of structural or operational vulnerability of a utility service provider or that would permit unlawful disruption to, or interference with, the services provided by a utility service provider." Tenn. Code Ann. § 10-7-504(a)(21)(A)(1). See also University of Tennessee, Municipal Technical Advisory Service, Institute for Public Service, Utility Records. Id. Safety and Security Records. The basis for certain records not being

made public could be traceable to these confidentiality provisions of state law.

- **Source Water Protection.** TDEC identifies, as a short-term goal, supporting "the continuation of source water protection programs," DWSRF IUP, p. 8, but there have not been any source water protection efforts funded by the program, according to NIMS.[111] TDEC's proposal in the latest IUP has a five-year horizon to achieve it, which could be more aggressively pursued.

- **Revising the IUP to Conform to Changes In the Law**. The IUP states, "To evaluate the technical, financial, and managerial capacities of water systems eligible for DWSRF loans, the state has established two boards. The Water and Wastewater Financing Board reviews cases involving county and municipal government water systems, as well as water and wastewater authorities. The Utility Management Review Board handles cases concerning utility districts and water and wastewater authorities." DWSRF IUP, p. 23. However, "On July 1, 2023[,] Public Chapter 463 of the 2023 Public Acts went into effect terminating the Utility Management Review Board and Water and Wastewater Financing board."[112]

V. Analysis of Tennessee's CWSRF

The Clean Water SRF fund provides low-interest loans and principal forgiveness to qualifying entities.[113] From 1997 to 2022, Tennessee received $759 million in capitalization grants from EPA and contributed $141 million in matching funds to the state's Clean Water SRF program.[114] "Cumulatively, the CWSRF has received $1,026,601,421 in principal repayments, $283,863,242 in repayment interest income, and $104,485,213 in treasury interest."[115] The program has no history of leveraged bonds or WIFIA loans, or of any state match bonds.[116]

In 2022, EPA awarded Tennessee nearly $26 million for clean water projects and $1.3 million specifically for potential "emerging contaminant" infrastructure projects as part of the first wave of funding from the Bipartisan Infrastructure Law (**BIL**).[117] A range of projects are eligible for these new funding streams (e.g., consolidation of water systems to household water testing kits),[118] but TDEC has had difficulty applying for the capitalization grants for emerging contaminants, for example, because it has too few qualifying projects on the state's priority list[119] and, as of December 2023, there are "no applications for emerging contaminants specific funds."[120] TDEC has begun meeting with academics to identify the leading processes for identifying and treating emerging contaminants, anticipating the agency's ability to infuse money into smaller systems.[121] As of December 2023, TDEC had not disbursed any emerging contaminants funding for projects or eligible activities.[122] "It is the State's intent to distribute emerging contaminants funding in the form of grants. The state is currently developing the grant program for these funds...[G]rants and awards will go to the highest scoring applications and on a first come first serve basis. The scoring criteria will be developed and evolve to assist with projects that serve the public in the greatest capacity for health and safety based on emerging contaminants focused projects that apply for funding."[123] The program will be announced via the State Water Infrastructure Grants (**SWIG**) program webpage.[124]

Tennessee's Clean Water SRF program faces challenges. The rate of SRF fund allocation has not always been swift, projects that have received SRF funds are sometimes facially inconsistent with the program's goals, and certain categories of qualifying projects are still awaiting funding:

- as of June 2022, the program had an unobligated balance of $269 million;[125]

- for fiscal year 2022, the state committed $82 million in loans for 18 projects, including $19.5 million for the City of Franklin, one of the wealthiest cities in one of the wealthiest counties in the United States; [126] and

- in 2022, the program funded no projects categorized as related to stormwater, energy conservation, water conservation, nonpoint source (e.g., agricultural best management practices), groundwater, brownfields, sanitary landfills, or land conservation.[127]

In 2023, Tennessee received nearly $34 million from EPA, half of which is available for grants or principal forgiveness loans, as part of the second wave of funding from the Bipartisan Infrastructure Law (**BIL**).[128] "The State of Tennessee's allotment of FFY 2023 CWSRF Capitalization Grant is $10,897,000. The State required match is 20% of the federal allocation or $2,179,400 to receive the full allotment. The State of Tennessee's allotment of FFY 2023 CWSRF BIL Supplemental Capitalization Grant is $30,279,000. The State required match is 10% of the federal allocation or $3,027,900 to receive the full allotment."[129]

Clean Water SRF Program Information for the State of Tennessee[130]

Clean Water SRF Program Information for the State of Tennessee

Fund Analysis	For the Reporting Year Ending June 30 of: 2015	2016	2017	2018	2019	2020	2021	2022
CWSRF Funds Available for Projects								
282 *Annual (New Funds)	52,718,315	54,571,522	60,149,515	68,949,543	125,315,389	90,950,786	178,455,311	97,748,373
283 *Cumulative	1,714,346,412	1,768,917,934	1,829,067,449	1,898,016,992	2,023,332,381	2,114,283,167	2,292,738,478	2,390,486,851
CWSRF Assistance as a % of Funds Available								
284 *Annual	139%	157%	64%	238%	56%	165%	43%	82%
285 *Cumulative	91%	93%	92%	98%	95%	98%	94%	93%
Outlays as a % of Capitalization Grants								
286 *Annual	168%	252%	38%	223%	81%	12%	89%	81%
287 *Cumulative	92%	97%	95%	99%	98%	95%	95%	95%
Disbursements as a % of Funds Available								
288 *Annual	115%	180%	198%	147%	77%	138%	95%	120%
289 *Cumulative	67%	70%	75%	77%	77%	80%	81%	83%
Construction Starts as a % of Funds Available								
290 *Annual	158%	115%	286%	55%	128%	67%	51%	118%
291 *Cumulative	77%	78%	85%	84%	86%	86%	83%	84%
Initiation of Operations as a % of Funds Available								
292 *Annual	58%	135%	94%	163%	87%	149%	38%	68%
293 *Cumulative	62%	64%	65%	69%	70%	73%	70%	70%
Loan Principal Repayments as a % of Funds Available								
294 *Annual	41%	41%	45%	47%	29%	53%	79%	62%
295 *Cumulative	41%	41%	42%	42%	41%	42%	44%	45%

* Calculated values.

Tennessee SRF Fund Analysis (2015-2022)[131]

for the State of Tennessee

Fund Analysis	For the Reporting Year Ending June 30 of: 2015	2016	2017	2018	2019	2020	2021	2022
Financial Indicators								
Federal Return on Investment								
306 *Annual	177%	192%	1603%	236%	508%	4609%	822%	629%
307 *Cumulative	206%	205%	222%	223%	231%	248%	265%	274%
Executed Loans as a % of Funds Available								
308 *Annual	139%	157%	64%	238%	56%	165%	43%	82%
309 *Cumulative	91%	93%	92%	98%	95%	98%	94%	93%
Disbursements as a % of Executed Loans								
310 *Annual	83%	115%	310%	61%	136%	83%	219%	147%
311 *Cumulative	73%	76%	81%	79%	81%	81%	86%	88%
Undisbursed Funds to Average Disbursements (Years to Disburse)								
311.1 *Cumulative	11.9	8.0	5.0	4.1	4.4	4.0	3.4	3.0
Additional Loans Made Due to Leveraging								
312 *Annual	-	-	-	-	-	-	-	-
313 *Cumulative	-	-	-	-	-	-	-	-
314 *Cumulative Additional Loans as a % of Contributed Capital	-	-	-	-	-	-	-	-
Sustainability (Retained Earnings) Excludes Subsidy								
318 *Annual	7,377,090	8,477,387	10,495,050	14,538,970	18,629,797	16,348,820	10,230,853	10,760,840
319 *Cumulative	309,842,637	318,320,024	328,815,074	343,354,044	361,983,841	378,332,661	388,563,514	399,324,354
320 *Cumulative Retained Earnings as a % of Contributed Capital	47.4%	47.0%	47.0%	47.7%	48.5%	49.0%	48.5%	48.3%
Additional Subsidy Provided								
321 Grant Amount	0	0	0	0	0	0	0	0
322 Negative Interest	0	0	0	0	0	0	0	0
323 Principal Forgiven	1,937,265	747,595	702,402	3,419,856	1,477,100	1,123,300	0	1,000,000
324 * Total Annual Subsidy	1,937,265	747,595	702,402	3,419,856	1,477,100	1,123,300	0	1,000,000
325 * Total Cumulative Subsidy	64,026,821	64,774,416	65,476,818	68,896,674	70,373,774	71,497,074	71,497,074	72,497,074
Green Project Reserve (GPR)								
326 Green Infrastructure	8,200,000	0	-4,000	1,531,250	-163,849	500,000	11,327,000	0
327 Energy Efficiency	15,530,640	13,822,741	1,996,216	1,074,920	-1,436,304	37,303	0	4,015,000
328 Water Conservation	0	0	0	0	0	0	0	1,245,000
329 Green Innovative	0	0	0	0	0	0	0	0
330 * Total Annual GPR	23,730,640	13,822,741	1,992,216	2,606,170	-1,600,153	537,303	11,327,000	5,260,000
331 * Cumulative GPR	101,794,266	115,617,007	117,609,223	120,215,393	118,615,240	119,152,543	130,479,543	135,739,543

* Calculated values.

In federal fiscal year 2021, Tennessee received a $23 million capitalization grant, which the state matched with $4.6 million for the Clean Water SRF program.[132] Eighteen projects were awarded loans.[133] The following year, Tennessee received $42.6 million in federal grants ($23 million in capitalization grants, which the state matched at 20%) for the program.[134]

In Fiscal Year 2023, Tennessee's capitalization grant from the federal government was $10.9 million with a Green Project Reserve amount of $1 million.[135] Tennessee is required to provide at least a 20% match to the capitalization grant amount; use 10% of the funds in the base capitalization grant for principal forgiveness, negative interest loans, or grants;

and use 10-30% of the capitalization grant amount for certain entities, including those that meet affordability criteria, seek to benefit individual ratepayers in the residential user rate class, or encourage sustainable project planning, design, and construction.[136]

Community groups looking to engage with the Clean Water SRF program should be aware of some of the statutory limits and directives to TDEC, including:
(g) No portion of a grant made pursuant to this part may be used to acquire land or to pay any costs associated with acquisition of land; provided, that expenditures for land that will be an integral part of the treatment process or that will be used for the ultimate disposal of residues resulting from such treatment may be made out of a grant made pursuant to this part.

(h) No portion of a grant made pursuant to this part shall be used to construct reserve capacity in a wastewater treatment works; provided, that reserve capacity in eligible interceptors and in collection systems for a community with a population of less than three thousand five hundred (3,500), according to the 1980 federal census or any subsequent federal census, using alternative technology may be funded out of such grants. Tenn. Code Ann. § 68-221-804.

A. Key Recommendations for Tennessee's CWSRF

- **Add Goals to the Intended Use Plan**. The stated goals in the IUP should expressly identify the purposes of the program vis-à-vis equity, affordability, climate resilience, and workforce development.

- **Expand Engagement.** In addition to outreach to utilities and industry groups, accelerate the goal of engaging with communities directly.

  For example, there are many opportunities to engage in the underutilized green infrastructure program. ("The FFY 2021 CWSRF Capitalization Grant requires a portion of the funds to be allocated towards subsidy for green projects. The amount allowed for subsidization is a minimum of $2,308,200, or 10% of the grant award. The state did not have any projects that received subsidization in the form of principal forgiveness for GPR designated projects."[137]). Outreach around green infrastructure could explain that one of the perceived roadblocks—that GI maintenance is not covered by the program—is not wholly true because the three to five-year establishment period for green infrastructure constitutes a capital cost (i.e., construction, warranty, and/or assessment period cost) rather than an operation and maintenance cost, and so falls within the CWSRF program.[138] One of the short-term goals of the IUP is to "[e]xpand the use of Green Project Reserve (GPR) funding to include more projects and encourage innovative use of SRF funds following EPA guidance." CWSRF IUP, p. 6.

  Similarly, according to TDEC, although there are many stormwater funding needs across Tennessee's communities, the SRF is underutilized in that area—whereas there were dozens of applicants for the noncompetitive and competitive stormwater grants, there have been anemic responses to the SRF solicitations from MS4s.

  In response to a request in 2023 for TDEC to describe in detail any forward-looking goals to identify or notify community-based organizations and other stakeholders and to seek feedback on the draft IUPs, TDEC demurred, stating, "The Intended Use Plan is a forward-looking workplan. Details on past education and outreach are in the SRF's Annual Report. We appreciate the recommendation and will work to ensure Annual Reports are available to stakeholders to provide information on the accomplishments of the past year."[139]

  However, sharing annual reports is not the same as (1) detailing specific plans in the IUP or (2) conducting outreach in conjunction with releasing the draft IUPs for public comment.

  TDEC could revise its short-tern goal #10 for expanded outreach to explicitly reference communities, in addition to publicly owned stormwater systems and wastewater treatment systems. See CWSRF IUP, p. 7.

  While reaching out to nontraditional groups, clearly explain the types of technical, financial, and managerial assistance available to wastewater systems in disadvantaged communities, including assistance with applications.

- **Broaden Eligible Entities.** Work with TDEC to update the rules, as necessary. This recommendation is consistent with supporting the agency's short-term goal to "[e]valuate and assess expanding the loan process to included non-traditional eligible entities." CWSRF IUP, p. 6.

  The CWSRF offers opportunities to connect federal dollars with rural landowners, tourism-related businesses, HOAs, and nonprofits via nontraditional revenue sources (e.g.,

business revenues, carbon credits, equipment rentals, developer fees, homeowner association fees, membership fees, on-bill financing, recreational or license fees, report fees, and more).[140] "The IIJA prioritizes underserved communities and projects initiated under nonprofit organizations. These provisions include funding of programs to connect communities to public wastewater systems."[141]

- **Revise Prioritization Methodology.** Work with TDEC to update the IUP and rules, as necessary. This recommendation is consistent with short-term goal #13. See CWSRF IUP, p. 7. After all, "[t]he CWSRF is flexible by design and gives states significant freedom in how to apportion their funds: the statute and its implementing regulations only limit the types of projects that may be funded with CWSRF dollars (such as treatment plants and sewer pipes) and the methods by which these funds may be distributed (such as loans and debt guaranties). While states are required to create priority ranking systems for evaluating projects, federal law does not explicitly mandate that these systems further any particular policy goal."[142] Tennessee already prioritizes communities that have urban growth plans, but the state could also give additional prioritization points to (1) communities that promote housing development, sustainable development, or targeted density areas,[143] and (2) projects that promote climate resilience.[144] Advocates could request that TDEC revise its IUP set a goal of hosting listening sessions with communities, not just SRF staff.

- **Develop Regional Water Authorities for SRF Funds.** Some scholars have argued that SRF programs could be reformed by "reallocat[ing] authority over wastewater projects from the local to the regional level in order to better insulate these projects from defensive local politics. This has already happened in many of the United States' larger metropolitan areas in the form of special-purpose wastewater districts, which provide services to a group of towns or an entire metropolitan region."[145] Identify existing mechanisms under Tennessee law to house these regional decisionmakers.

B. Other Issues of Concern Related to Tennessee's CWSRF

- **Lead Service Lines.** Opportunities for faster lead service line identification and replacement. [NOTE: starting in November 2023, TDEC began soliciting for lead service line replacement. "SWIG has allocated $16,832,719 for this LSL grant. Grant award maximums are $250,000 per applicant."][146]

- **Agency Resources.** Agency staff retention and resources for administering SRF program appear to be one major cause of underdistributing available funds. "The CWSRF pace of 94 percent, decreased from TDEC's previous year of 98 percent and is slightly lower than the national average of 97 percent. The program continues to update its programmatic processes and modernize the program. The program has undergone significant changes, including recent vacancies of several team members on both the financial and technical teams. This change required the program to re-evaluate its current processes. CWSRF expects that in the next fiscal year, that the pace will improve toward the national average."[147] More recently, when asked whether TDEC has enough staff to review applications and meet with applicants, TDEC simply responded "yes," and when asked whether there are any bottlenecks to fund administration, TDEC responded that, "Currently the SRF program can administer funds in timely fashion and adhere to all State and Federal financial and environmental regulations."[148]

  One notable change from the draft IUP to the finalized IUP for the CWSRF program is the state's decision not to use CWSRF funding for "administration and technical assistance" but to reserve "the right to utilize these funds at a later date" –compared with its initial proposal to use 1/5 percent of the current valuation of the program. Compare CWSRF IUP, p. 29 with CWSRF Draft IUP, p. 24. The explanation is that, "The valuation calculation shall be based upon 'Total Net Position' of the Fund as determined by the Comptroller of the Treasury state fiscal yearend (June 30) and reported in the Annual Audit. The net position of the CWSRF fund balance for the SFY 2023 is yet to be available. Therefore, Tennessee SRF estimates that up to $2,418,100 may be allocated for the administration, management, and operation of the CWSRF Loan Program." CWSRF IUP, p. 29.

- **Priority Ranking List.** It is not readily apparent for any given fiscal year which projects (1) are included for potential funding, and (2) actually funded. The priority ranking list is not co-extensive with the funding list, and the IUP explains, "The CWSRF PRL (Appendix) will denote CWSRF projects for which the total amount of assistance requested is at least equal to the amount of the FFY 2023 Base Allotment and BIL General Supplemental Capitalization Grants. In addition to the projects listed, the CWSRF Loan Program may consider additional loans for existing projects, projects carried forward from 2021 and 2022 PRLs, and other CWSRF-eligible projects." CWSRF IUP, pp. 15-16.

VI. Summary Conclusion and Recommended Next Steps

Annually, TDEC averages 20 to 30 SRF loans.[149] However, because TDEC has substantial reserves in its SRF accounts, advocates could help facilitate TDEC's identification of additional projects that would benefit the public—and put the money to use now. The SRF program should not be a rainy-day fund. It should not merely accumulate interest while improvements to water infrastructure and community health are possible today. After all, clean water and drinking water are basic rights: "Recognizing that the waters of the state are the property of the state and are held in public trust for the benefit of its citizens, it is declared that the people of the state are beneficiaries of this trust and have a right to both an adequate quantity and quality of drinking water." Tenn. Code Ann. § 68-221-702 (Declaration of policy and purpose: Tennessee Safe Drinking Water Act of 1983).

Because the Clean Water and Drinking Water IUPs include provisions to advance the statutory permissibility of for-profit/private utilities receiving SRF funds, it is also now reasonable to look for opportunities for not-for-profit and other community groups to become eligible to receive funds to further the SRF mission. According to a recent EPA memo, it is appropriate to partner with community groups and philanthropic organizations to increase outreach and communications about the SRF program.[150]

NGOs have been awarded American Rescue Plan funds in Tennessee and TDEC has been active in the process of disbursing those federal dollars. And TDEC is receptive to nontraditional SRF requests from nontraditional loan recipients (e.g., § 319-style projects).151 However, TDEC has not had any nontraditional applicants apply for SRF funds.152 One perceived hurdle is that the financial review of nontraditional proposals is made challenging by inapplicable requirements (e.g., applicants must provide their rate structures as part of the application process).153 Community groups could begin engaging with TDEC and TLDA to develop alternate loan documents for NGOs/CBOs. More generally, community-based organizations could begin meeting with TDEC to learn about opportunities to participate in project identification, prioritization, and implementation.

In addition:

- **Transparency.**
  - Both SRF programs are required to prepare annual reports with details about the loans. See CWSRF IUP, p. 30; DWSRF IUP, p. 45. However, the annual report for the CWSRF program references an appendix that isn't uploaded to the web, and the DWSRF program's annual report leaves many questions about the loan terms, subsidization, and other details.
  - TDEC should publish on the SRF website redlined copies of the IUPs showing differences between the draft and final versions, plus rationales in addition to responses to public comments. There were significant differences between the draft and final DWSRF IUPs in 2023 that are not explained within the IUPs.
  - Keep the draft IUPs, public notices, and other materials on TDEC's website.
  - Make copies of public comments available, not just the agency's summaries of public comments.
- **Comment.**
  - Advocates should plan to comment on the draft IUPs in 2024 to recommend more specificity for the scoring criteria to encourage green infrastructure.[154]
- **Be a Resource.**
  - Begin longer-term, work with TDEC to expand the definition of eligible entities and confirm source water protection funding processes.
  - With green/nature-based solutions, provide advice on how to account for capital costs given 2–4-year planting cycle (establishment costs as capital costs).
- **Seek Out State Experts.**
  - Reach out to Dr. John Schwartz (Director of the University of Tennessee's Tennessee Water Resources Research Center (**TNWRRC**), which is located within the Institute for a Secure and Sustainable Environment (**ISSE**). In May 2023, Dr. Schwartz won a $1 million EPA Grant: "TNWRRC will help rural, small, and Tribal communities plan for and access funding from the Infrastructure Investment and Jobs Act and other sources. EPA's grant funding will be used to assess communities' most pressing challenges, provide training on water infrastructure and management

best practices, help communities navigate the federal funding application process, and strategically invest in reliable infrastructure solutions."[155]

VII. Contact the Tennessee Department of Environment and Conservation

- Tennessee's State Revolving Fund & Water Infrastructure Grants Contacts
- Ask.SRF@tn.gov or (615) 532-0445
- Vena Jones (Program Manager), Vena.L.Jones@tn.gov | (615) 898-9499
- Lacey Aviles (Financial Administration Manager), Lacey.L.Aviles@tn.gov | (615) 347-0598
- Felicia D. Freeman (Technical Team Manager), Felicia.D.Freeman@tn.gov | (615) 879-0011

Disclaimer: Not legal advice; laws may have changed since this draft memo was prepared.

Notes

1. "Under the American Rescue Plan Act, the State of Tennessee received $3.725 billion in funds awarded via the US Treasury 'State Fiscal Recovery Fund' ('SFRF')…. Under the SFRF program, funds must be used for costs incurred on or after March 3, 2021. Further, funds must be obligated by December 31, 2024, and expended by December 31, 2026." TDEC, Tennessee Resiliency Plan Data Dashboard.
2. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 4 (Nov. 1, 2023).
3. Tennessee's 2023-2024 Budget (p. B-298).
4. "Local government" means: (i) A county, incorporated town or city, metropolitan government, state agency, water/wastewater authority, energy authority or any instrumentality of government created by any one (1) or more of these or by an act of the general assembly: (a) Which has authority to administer a wastewater facility; or (b) Whose residents are served or are eligible to be served, in whole or in part, by a wastewater facility operated by another local government as defined by this subdivision (7); (ii) One (1) of the foregoing acting jointly with a utility district operating or having the authority to operate a wastewater facility; or (iii) Any combination of two (2) or more of the foregoing acting jointly in connection with a wastewater facility; (B) "Local government" also means any utility district created pursuant to title 7, chapter 82, existing on July 1, 1984, and which operates a wastewater facility; and also includes such utility district created after July 1, 1984, if such utility district operates a wastewater facility comprised of at least five hundred (500) customer connections; (C) "Local government" also means, for the purposes of this part only, a privately owned community wastewater treatment system subject to regulation by the Tennessee public utility commission." Tenn. Code Ann. § 68-221-1003(7).
5. CWSRF Annual Report for Fiscal Year 2022, p. 7 (December 2022).
6. CWSRF Annual Report for Fiscal Year 2022, p. 7 (December 2022).
7. TDEC American Rescue Plan (ARP) State Water Infrastructure Grant Program Competitive Grant Frequently Asked Questions, p. 4 (Aug. 2023).

8. Anita Wadhwani, For-profit sewage providers are seeking access to public funds, a move environmental groups oppose, Tennessee Lookout (Apr. 1, 2021) [hereafter "For-profit sewage providers"]; Kaye LaFond, Infographic: America's Septic Systems, circle of blue (Oct. 16, 2015).
9. Nathan A. Cummings, Septic Shock: Wastewater Infrastructure, Urban Growth, and Local Exclusion, Note, 41 Yale L. & Pol'y Rev. 170, 185 (2022) [hereafter Septic Shock].
10. TDEC, Water Infrastructure Investment Plan Response to Public Comments, p. 3 (Dec. 2021).
11. For-profit sewage providers, supra note 8.
12. TDEC, TNH2O: Tennessee's Roadmap to Securing the Future of Our Water Resources, Infrastructure Working Group, p. 7 (2018).
13. See Comments on draft amendment to Tenn. Comp. R. & Regs. 0400-40-02-.03 governing small domestic wastewater plants, pp. 2-4 (2023) (submitted by the Tennessee Association of Utility Districts) [on file with Harpeth Conservancy] ("[W]ater and wastewater systems owned and operated by homeowner associations or property owner associations have no regulation in Tennessee. TBOUR only approves new systems owned and operated by local governments. TBOUR only exercises its regulatory jurisdiction of wastewater systems owned by local governments. Associations are exempt from regulation by TPUC. Therefore, future customers served by wastewater systems owned by associations have no one to tum to when the system is not operating properly. Moreover, these associations do not have the capacity to finance capital improvements to these systems after they are completed by a developer and turned over to the association. All the association can do is increase rates or impose special assessments to finance needed improvements. Oftentimes, the homeowners are surprised to learn they are responsible for the cost of operating and improving the wastewater system which is serving them. Homeowners are often shocked at how high monthly wastewater rates must be to operate, maintain, and make capital improvements to such wastewater systems."). In Kentucky, communities have spent millions of dollars to remove small, decentralized sewer plants (often known as package plants) from service, while Kentucky works to regionalize its wastewater treatment operations. See Presentation to the Kentucky Joint Committee on Local Government, 28:00 (Sept. 28, 2016), https://ket.org/legislature/archives/2016/interim/interim-joint-committee-on-local-government--part-1-201716; see generally Comments on draft amendment to Tenn. Comp. R. & Regs. 0400-40-02-.03 governing small domestic wastewater plants (2023) (submitted by Harpeth Conservancy, Southern Environmental Law Center, Tennessee Wildlife Federation, Paul Davis, the Tennessee Association of Utility Districts, and the City of Franklin, and the American Council of Engineering Companies of Tennessee) [on file with Harpeth Conservancy].
14. University of Tennessee, 2020-2040 Tennessee Population Projection (Boyd Center for Business and Economic Research).
15. For-profit sewage providers, supra note 8.
16. Meehan, Katie, et al. "Geographies of Insecure Water Access and the Housing Water Nexus in US Cities." PNAS, 2 Nov. 2020, https://www.pnas.org/content/117/46/28700, Fig. 1 ("Households without piped water access in the United States, 2013 to 2017. This hex map depicts the spatial distribution of households without piped water access, with lighter colors indicating areas with higher numbers of unplumbed households. Shaded areas (in orange) indicate that sampling error is large relative to the estimate, due to the relatively small number of unplumbed households. Data source: US Census Bureau."). See also Tennessee Department of Health, Private Water Supply (noting that 10% of Tennessee's population uses a private well, which are largely unregulated).
17. Lauren A. Patterson, Affordability of household water services across the United States, PLOS Water (May 10, 2023), https://doi.org/10.1371/journal.pwat.0000123.
18. Mack EA, Wrase S (2017) A Burgeoning Crisis? A Nationwide Assessment of the Geography of Water Affordability in the United States. PLoS ONE 12(1): e0169488. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0169488 PMID: 28076374. [hereafter Burgeoning Crisis].
19. Id. at pp. 10-11, 4.
20. Id. at p. 12 (emphasis added).
21. Id. at p. 14 (emphasis added).
22. Id. at p.15.
23. Id..
24. https://www.thinktennessee.org/state-of-our-state/ [Economy].
25. University of Tennessee, Tennessee State Data Center: Boyd Center for Business and Economic Research, 2022 County Population Estimates: Most Metros Swell, Rural Tennessee Counties See Upswing (Apr. 5, 2023).
26. Caitlin Huff, Tennessee among most expensive state for monthly utility bills, WATE.org (Apr. 8, 2023).
27. John Egan, Who Pays the Highest Water Bills in Tennessee? LawnStarter (Nov. 1, 2016), (quoting general manager of

Utility District and citing a review of data from Food & Water Watch).

28. Id.
29. Brady A. England, Quantifying Disparities in Public Potable Water and Wastewater Treatment Systems in Tennessee Using a Disparity Index (2023). Masters of Science, Thesis, Civil Engineering College of Graduate Studies, Tennessee Technological University, https://www.proquest.com/openview/29a453e3f652d6cc64800bb784fd9fe7/1.pdf?pq-origsite=gscholar&cbl=18750&diss=y, p. 4 (citations omitted) [hereafter Quantifying Disparities]. "Distressed counties are the bottom 10% of counties in the nation (ARC, 2021). At-Risk counties fall between the worst 10% and 25% of counties in the nation (ARC, 2021). Distressed and At-Risk counties are considered economically disadvantaged. Transitional counties are the middle 50% of counties (ARC, 2021), and are considered economically neutral. Competitive counties fall between the top 10% and 25% of counties in the nation (ARC, 2021). Attainment counties are the top 10% of counties in the nation (ARC, 2021). Competitive and Attainment counties are considered economically advantaged." Id. at p. 9.
30. Tennessee State Government, Rural Economic Dashboard (FY2024). The index value rank of some of Tennessee's distressed counties are particularly high (e.g., Lake County is the 3,070 out of 3,113 counties in the U.S. where 1 is the best).
31. Tennessee Advisory Commission on Intergovernmental Relations, A Report on Ensuring Fair and Equitable Water and Wastewater Rates for Non-resident Customers of City Utilities, p. 5–6 (Jan. 2014) ("A total of 262 cities provide water or sewer service, or both, to customers outside city limits: 199 cities provide water service, 93 provide sewer, and 89 provide both.") [hereafter Ensuring Fair Rates].
32. Id. at p. 3. See also id. at 11-12 (suggesting that, because extending service may cost more, to avoid having in-area customers subsidize others, ensure tap fees are sufficient to cover the share in the fixed assets or establish special assessment districts to collect revenue from those benefitting form the infrastructure improvements; warning against establishing a cap on outside rates because national trend is that it would become the default acceptable differential rate).
33. Id. at p. 9.
34. ThinkTennessee, State of Our State (6th year) [Infrastructure].
35. TDEC, Posted Streams, Rivers, and Reservoirs in Tennessee (Mar. 2019).
36. See EPA, A Compilation of Cost Data Associated with the Impacts and Control of Nutrient Pollution (May 2015) ("Higher pollutant concentrations of nutrients and algae in the source water result in higher treatment costs for municipalities and their residents due to the additional treatment needed to remove the pollutants."). Price JI, Heberling MT. The Effects of Source Water Quality on Drinking Water Treatment Costs: A Review and Synthesis of Empirical Literature. Ecol Econ. 2018 Sep 3;151:195-209. doi: 10.1016/j.ecolecon.2018.04.014. PMID: 30008516; PMCID: PMC6040680. ("Overall, results suggest that marginal changes in water quality measures lead to statistically significant but modest gains in avoided treatment costs.").
37. Dr. Ryan Jackwood, Map of Impaired Streams in Tennessee by County (Harpeth Conservancy 2023).
38. See YouTube, TDEC Division of Water Resources – Source Water Protection (Feb. 21. 2023), (explaining that dye trace studies funded by SRF program source water protection).
39. Tennessee Wildlife Resources Agency, Climate Change and Potential Impacts to Wildlife in Tennessee.
40. E.F. Hollyday, Karst and Glades, MTSU (2023).
41. TDEC, TN H2O: Tennessee's Roadmap to Securing the Future of Our Water Resources, Groundwater Working Group, p. 23 (2018).
42. Caballero, M. D., Fernandez, A., McDonald, Y. J., and Manners, J. (March 2022). Tennessee DOH's Approaches to Estimating Private Wells, Private Well Users, and Risk Estimation [Webinar]. NEHA 2022 Surveillance, Treatment, And Well Testing Approaches for Safe Groundwater and Private Wells Webinar Series, virtual. https://www.youtube.com/watch?v=qD_-fz2auFY. "The Tennessee Private Wells Project is a multi-methods pilot study conducted in rural Tennessee. The project was a collaborative effort with the Tennessee Department of Health (TDH), funded by the National Environmental Health Association (NEHA). The goal of this project was to develop a methodology to estimate populations reliant on private well drinking water sources and associated risk of contamination. In the summer of 2021, the team developed geospatial methods for estimating populations reliant on private wells. They also conducted fieldwork in two counties, collecting water samples and surveys from private well owners. Lastly, they developed a risk-based map to estimate potential areas where geological/environmental/anthropogenic sources of groundwater contamination may be present. The methods developed in this pilot study will be utilized by TDH to conduct targeted public health interventions and

estimate environmental risks in Tennessean communities." Vanderbilt Drinking Water Justice Lab, Tennessee Private Wells Project.

43. TDEC, TN H2O: Tennessee's Roadmap to Securing the Future of Our Water Resources, Groundwater Working Group, p. 37 (2018).
44. TDEC & TAUD, Tennessee Infrastructure Scorecard, p. 3 (Nov. 30, 2021).
45. Wikipedia, African Americans in Tennessee (citing Tennessee: 2010 Summary Population and Housing Characteristics, US Census Bureau, CPH-1-44).
46. According to the U.S. Census and the 2020 census, 72.8% of the population identified as "White alone, not Hispanic or Latino," 16.7% as "Black or African American alone," 6.4% as "Hispanic or Latino," 2.2% as "Two or More Races," 2.1% as "Asian alone," and 0.5% as "American Indian and Alaska Native alone." U.S. Census, QuickFacts Tennessee (July 1, 2023).
47. University of Tennessee, 2020 Population by Race and Ethnicity (Boyd Center for Business and Economic Research).
48. Cf. Paxton, C., Anderson, K.M., and McDonald, Y.J. (2022). The water sector industry workforce: A quantitative case study, Tennessee, USA. Utilities Policy, 76, 101356.; Ding, K.J., Hornberger, G.M., Hill, E.L., and McDonald, Y.J. (2022). Where you drink water: An assessment of the Tennessee, USA public water supply. Water, 14(16), 2562. ("Purchased water, in general, has a higher share of MCL-based [maximum contaminant level] violations and fewer TT [treatment technique] violations in comparison to systems that treat their own water.").
49. TDEC Presentation, (slide 14).
50. TDEC Presentation, (slide 16).
51. TDEC Presentation, (slide 18).
52. See TDEC Presentation (Slide 10).
53. TDEC Presentation, (slide 81, 84). See also id. (slides 87-88 for eligible and ineligible LSL projects; slides 93-96 re AMPs).
54. Chart prepared by Janet Pritchard, EPIC (December 2023).
55. Chart prepared by Janet Pritchard, EPIC (December 2023).
56. TDEC Presentation, (slide 30).
57. "The interest rates assigned to communities in the DWSRF Loan Program are determined by their ATPI scores. These interest rates can range from 40 percent to 100 percent of the 20- year, 25-year, and 30-year Bond Buyer Index and the Municipal Market Data General Obligation Yields, which are published on a weekly basis." DWSRF IUP (p. 21); DWSRF DRAFT IUP (p. 14). "The interest rate is based on a community's Ability to Pay determined through the State of TN Ability to Pay Index (ATPI). Interest rates can vary from zero to 100 percent of the interest rate reported on the 20-year Bond Buyer Index and the Municipal Market Data General Obligation Yields published every Thursday. . . . the State may also recommend a reduction of the interest rate to incentivize Green Project Reserve and sustainable & resilient projects, but not below zero percent. Disadvantaged communities, as determined by the ATPI, are eligible for a lower interest rate or principal forgiveness. Communities, utility districts, and wastewater authorities may also be eligible for lower interest rates or principal forgiveness if they agree to pilot new and innovative techniques or agree to in-kind efforts that benefit the public through providing templates, education, or other actions that can broadly assist other communities in Tennessee to achieve high priority water quality goals. The interest rates for utility districts and wastewater authorities that have service areas in more than one county." CWSRF Annual Report for Fiscal Year 2022, p. 6 (December 2022).
58. "Principal Forgiveness for Disadvantaged Communities: Communities with ATPIs of 50 or less are eligible for 20% principal forgiveness (up to a maximum of $2,500,000 in principal forgiveness per project)." CWSRF IUP (p. 20); CWSRF DRAFT IUP (p. 13). See also CWSRF DRAFT IUP (pp. 13-14, 16-18) (identifying more information about standard principal forgiveness, priority principal forgiveness, BIL principal forgiveness, and green project reserve principal forgiveness); DWSRF IUP (pp. 18-21); DWSRF DRAFT IUP (pp. 13, 15-18) (identifying more information about standard principal forgiveness, priority principal forgiveness, BIL principal forgiveness, and green project reserve principal forgiveness).
59. CWSRF IUP (p. 15) ("Projects with the same priority points will be ranked in ascending order based on the community's Ability to Pay Index (ATPI) and population to assist smaller and less affluent communities."); CWSRF DRAFT IUP (pp. 9-11, 15); DWSRF IUP (p. 17) ("The affordability criteria derived from the ATPI will also be used to prioritize projects with the same number of points on the PRL. Communities with greater economic needs and smaller populations will be ranked higher."); DWSRF DRAFT IUP (p. 10) (same).
60. "To be considered disadvantaged, the community must score 50 or less on the ATPI." CWSRF IUP (p. 19); CWSRF DRAFT IUP (p. 15).
61. TDEC, Ability to Pay Index, Subsidies (July 7, 2021).
62. "The eligibility for DWSRF principal forgiveness will be determined based on the most up-to-date ATPI. Small

communities are defined as those with a population of 20,000 or fewer. To be considered disadvantaged, a community must score 50 or less on the ATPI." DWSRF IUP (p. 17); DWSRF DRAFT IUP (p. 15). "In SFY 2022 TDEC SRF was able to award projects with subsidization in the form of principal forgiveness. The total amount of subsidization was $1,235,000 of the obligated FFY 2021 Capitalization Grant. Tennessee's CWSRF Loan Program has developed a new initiative. The small and disadvantaged community principal forgiveness initiative is a process that portions funds for disadvantaged communities with an ability to pay index (ATPI) of less than 50. These communities are eligible for a range of principal forgiveness from a portion of the project through the total project receiving principal forgiveness." CWSRF Annual Report for Fiscal Year 2022, p. 14 (December 2022).

63. TDEC Presentation, slide 27.
64. Conversation between TDEC and Harpeth Conservancy (August 2023).
65. Conversation between TDEC and Harpeth Conservancy (August 2023).
66. CWSRF Annual Report for Fiscal Year 2022, p. 7 (December 2022).
67. Conversation between TDEC and Harpeth Conservancy (August 2023).
68. Conversation between TDEC and Harpeth Conservancy (August 2023).
69. Conversation between TDEC and Harpeth Conservancy (August 2023).
70. There are only three consolidated city-county governments in Tennessee, and the other two are substantially smaller than Nashville, which is the largest county in the state by population. (i.e., the other two are 85th and 93rd in population in 2020). See Understanding County Government in Tennessee, Tennessee County Commissioners Association.
71. See University of Tennessee, City-town Socio-economic Profile: Nashville-Davidson (2023).
72. Conversation between TDEC and Harpeth Conservancy (August 2023).
73. Conversation between TDEC and Harpeth Conservancy (August 2023).
74. Conversation between TDEC and Harpeth Conservancy (August 2023).
75. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 2 (Nov. 1, 2023).
76. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 1 (Nov. 1, 2023).
77. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, pp. 1-2 (Nov. 1, 2023).
78. TDEC Rules, Tenn. Comp. R. & Regs. 0400-46-01-.02(1) Priority Ranking, Project Criteria Points, and Priority Point Value Formula.
79. CWSRF IUP (p. 15); CWSRF DRAFT IUP (pp. 9-11).
80. CWSRF IUP (p. 13); CWSRF DRAFT IUP (p. 8).
81. CWSRF IUP (p. 14); DWSRF DRAFT IUP (p. 10).
82. CWSRF IUP (pp. 18-19).
83. CWSRF IUP (p. 41).
84. TDEC Presentation, (slide 32).
85. Drinking Water SRF 2022 Report at 6, 23. According to the Southern Environmental Law Center, the percentage was found by dividing the total amount of binding commitment loan terms in 2021 ($26.2 million) by the total Drinking Water SRF Requested ($311 million). See Drinking Water SRF 2022 Report at 11; Drinking Water State Revolving Fund 2021 Priority Ranking List, November 1, 2021.
86. Clean Water SRF 2022 Report at 5.
87. SELC Comments.
88. CWSRF IUP, p. 17.
89. CWSRF IUP, p. 17.
90. DWSRF IUP (pp. 25, 17); DWSRF DRAFT IUP (pp. 23, 12, 25-27).
91. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 3).
92. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022](p. 6).
93. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 33).
94. DWSRF DRAFT IUP (pp. 23-25).
95. DWSRF IUP (p. 26).
96. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 24).
97. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 30).
98. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 21).
99. EPA National Information Management System (NIMS)

Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 6).

100. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 9).
101. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 12).
102. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 27).
103. EPA National Information Management System (NIMS) Drinking Water SRF Program Information for Tennessee [data from 1997-2022] (p. 21).
104. Michele Okoh, Forgotten Waters, 111 Geo. L.J. 723, 746-749 (2023) [hereafter Forgotten Waters].
105. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 1 (Nov. 1, 2023).
106. Tenn. Comp. R. & Regs. 0400-40-01-01(4)(c)2 (citing Tenn. Code Ann. § 19-7-504(a)(21)(A)(i).
107. Forgotten Waters, supra note 103, at 746-749.
108. TDEC, TNH20: Tennessee's Roadmap to Securing the Future of Our Water Resources: Legal & Institutional Framework Working Group, p. 38 (2018). See also id. at p. 68 ("The State should consider incorporating incentives for considering the feasibility of regional water planning or at the very least coordination amongst adjacent water systems making consistency with an applicable plan a condition for receipt of grants or loans.").
109. Nguyen, Lien T. "Three Essays on Clean Water State Revolving Funds: Determinants of State Leveraging and Measurement of Debt Affordability" (2022). Doctor of Philosophy (PhD), Dissertation, School of Public Service, Old Dominion University, DOI: 10.25777/wtrw-az64 https://digitalcommons.odu.edu/publicservice_etds/50, p. 45 (internal citations omitted). Leveraging is not without risk, and Tennessee—an unleveraged state—saw among the highest profitability scores over one review horizon; in addition, "States usually utilize consultants to evaluate their leveraging decisions. For instance, Alabama, which began to leverage its CWSRF program in 1990, asked the EPA, with the help of a consultant, to evaluate whether it should continue to leverage, using the SRF financial planning model. As a result, Alabama decision-makers were recommended to discontinue leveraging in 2006 (EPA, 2018)." Three Essays on Clean Water, pp. 33-34, 91.
110. TDEC & TAUD, Tennessee Infrastructure Scorecard, p. 3 (Nov. 30, 2021).
111. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 1 (Nov. 1, 2023):
112. Tennessee Board of Utility Regulation, Utility Board Reports.
113. CWSRF IUP (p. 3, 15); CWSRF DRAFT IUP (pp. 4, 13).
114. EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (p. 13); CWSRF Annual Report for Fiscal Year 2022, p. 8 (December 2022).
115. CWSRF Annual Report for Fiscal Year 2022, p. 5.
116. EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (p. 45).
117. EPA, Biden-Harris Administration Announces $33,705,000 for Clean Water Infrastructure Upgrades Through the Bipartisan Infrastructure Law in Tennessee (Feb. 24, 2023). See also TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 3 (Nov. 1, 2023) ("The TDEC SRF program has submitted for an allocation of $1,368,000 for CWSRF EC and $13,097,000 for DWSRF EC for federal fiscal year 2022. The SRF program will apply for fiscal year 2023 EC allocation as well in the coming months.").
118. TDEC Presentation, (slide 37).
119. Conversation between TDEC and Harpeth Conservancy (August 2023); TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 3 (Nov. 1, 2023).
120. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 4 (Nov. 1, 2023). Eligible entities for the CWSRF EC Fund "are dependent on the project type and may include: municipalities, intermunicipal, interstate, or state agencies; non-profit entities; private, for-profit entities; watershed groups; community groups; homeowner's associations; and individuals." Id.
121. Conversation between TDEC and Harpeth Conservancy (August 2023).
122. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 3 (Nov. 1, 2023).
123. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 3 (Nov. 1, 2023).
124. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 3 (Nov. 1, 2023).

125. CWSRF Annual Report for Fiscal Year 2022, pp. 9, 6 (December 2022).
126. See City of Franklin, History of Franklin, TN. CWSRF Annual Report for Fiscal Year 2022, p. 16 ("The City of Chattanooga received three CWSRF loans totaling $47,100,000 with $100,000 in principal forgiveness"). EPA's BIL State Revolving Funds Implementation Memorandum (Mar. 8, 2022). While states have discretion to deploy ARPA and BIL funds for a broad range of purposes, federal priorities for these funds have focused on remediating wastewater issues in the nation's most underserved communities. The BIL's funds flow in part through the CWSRF program, and the statute mandates that 49% of this funding must go towards projects that serve disadvantaged communities or individual ratepayers, or that further environmental sustainability.
127. EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (pp. 25, 29, 37).
128. EPA, Biden-Harris Administration Announces $33,705,000 for Clean Water Infrastructure Upgrades Through the Bipartisan Infrastructure Law in Tennessee (Feb. 24, 2023).
129. TDEC, Public Notice to Potential State Revolving Fund (SRF) Loan Applicants and Interested Parties, p. 2 (May 25, 2023). [broken link, on file with Harpeth Conservancy].
130. EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (p. 59).
131. EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (p. 67).
132. https://www.tn.gov/content/dam/tn/environment/water/srf/wr_srf_cw-2022-annual-report.pdf (p. 4); EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (p. 5).
133. https://www.tn.gov/content/dam/tn/environment/water/srf/wr_srf_cw-2022-annual-report.pdf (p. 4);
134. EPA National Information Management System (NIMS) Clean Water SRF Program Information for Tennessee [data from 1997-2022] (p. 5, 9).
135. EPA, Memorandum, FY 2023 Clean Water State Revolving Fund Base Allotment Availability, pp. 3, 4 (Mar. 30, 2023).
136. EPA, Memorandum, FY 2023 Clean Water State Revolving Fund Base Allotment Availability, pp. 1-2 (Mar. 30, 2023).
137. CWSRF Annual Report for Fiscal Year 2022, p. 14.
138. Vo, S., Koch, C., Weinfurter, A. (2023). Navigating Green Infrastructure Maintenance with Capitalized Establishment Costs. Environmental Policy Innovation Center & WaterNow Alliance.
139. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 2 (Nov. 1, 2023).
140. EPA. (2021). CWSRF Best Practices Guide for Financing Nonpoint Source Solutions. https://www.epa.gov/system/files/documents/2021-12/cwsrf-nps-best- practices-guide.pdf. See also EPA (2017), Financing Options for Nontraditional Eligibilities in the Clean Water State Revolving Fund Program. https://www.epa.gov/sites/default/files/2017-05/documents/financing_options_for_nontraditional_eligibilities_final.pdf.
141. Forgotten Waters, supra note 103, at 746-749.
142. Septic Shock, supra note 9, at 223-225.
143. Septic Shock, supra note 9, at 223-225 ("[W]astewater plays a powerful dual function in both remediating pollution and shaping development. State governments can acknowledge this by exercising their broad discretion under the CWSRF to set funding priorities based on regional housing as well as environmental needs. Some states have already taken steps towards this end by incorporating whether a community has taken steps to promote housing development as one consideration in their CWSRF criteria."); id. (citing See, e.g., Final Amendments to the Final Clean Water Intended Use Plan for Federal Fiscal Year 2021 (and State Fiscal Year 2022), N.J. DEP'T OF ENV'T PROT. (Nov. 2021), [https://perma.cc/7ADW-NYJZ] (awarding points to areas targeted for density in the state's comprehensive plan); Integrated Project Priority System for Water Quality Capital Projects Point Sources and Nonpoint Sources, MD. DEP'T OF THE ENV'T 6 (Jan. 8, 2021), [https://perma.cc/2MA4-LPPA] (awarding points for projects that promote "sustainable development," including proximity to transit)).
144. Septic Shock, supra note 9, at 223-225 (citing State Water Res. Control Bd., Policy for Implementing the Clean Water State Revolving Fund, CAL. ENV'T PROT. AGENCY 6-8 (Dec. 3, 2019) (awarding up to nine "primary" points for projects that address water quality issues, and up to four "secondary" points for projects that meet other objectives like climate change resilience)).
145. Septic Shock, supra note 9, at 229-230.
146. TDEC, Lead Service Line Inventory Grant (applications accepted Nov. 29, 2023 to Jan. 16, 2024) ("SRF set-aside $16,832,719 from FFY 2022 and 2023 Lead Service Line Capitalization grants to develop a grant assistance program for communities investigating and addressing

LSL issues and provide direct and indirect technical assistance for Public Water Systems (PWS). This grant program, executed through State Water Infrastructure Grants (SWIG), will be directed to investigate LSL issues by service area, establish compliant inventories, and provide dollars for planning and design for full lead service line replacement (LSLR). The lead service line (LSLI) investigation, inventory, and planning assistance program will allow the rapid identification and inventory of LSLs and ensure PWSs have a plan for LSL replacement, potentially financed through an SRF loan."); TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 3 (Nov. 1, 2023).

147. CWSRF Annual Report for Fiscal Year 2022, p. 12 (December 2022).
148. TDEC Response to Comments on Clean Water and Drinking Water State Revolving Fund Intended Use Plan for State Fiscal Year 2024, p. 2 (Nov. 1, 2023).
149. TDEC Presentation, (p. 7).
150. See EPA March 2022 Memo (p. 8).
151. Conversation between TDEC and Harpeth Conservancy (August 2023).
152. Conversation between TDEC and Harpeth Conservancy (August 2023).
153. Conversation between TDEC and Harpeth Conservancy (August 2023).
154. For examples, see Letter from WaterNow Alliance to Wisconsin Department of Natural Resources re: Draft SFY 2024 Clean Water Fund Program Intended Use Plan (Aug. 25, 2023) [on file with Harpeth Conservancy].
155. University of Tennessee, Schwartz wins $1 million EPA Award (May 5, 2023).

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