

Nevada

CAPACITY DEVELOPMENT PROGRAM



Report to the Governor

Abstract

This report covers initiatives and accomplishments for State Fiscal Years 2020 through 2023 in fulfillment of the requirements of United States Codes Section 1420(c)(3) of the Safe Drinking Water Act to ensure protection of public health.



Nevada Division of Environmental Protection

Bureau Safe Drinking Water & Office of Financial Assistance

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Our Mission

To preserve and enhance the environment of the State in order to protect public health, sustain healthy ecosystems, and contribute to a vibrant economy.



Executive Summary

The Nevada Division of Environmental Protection (NDEP) works to make sure Nevadans and visitors have access to clean drinking water when served by public water systems. Efficient and effective management of water systems helps us accomplish that goal. It requires technical, managerial, and financial support, shared via a multi-layered approach that includes hands-on training, networking, financial support, and – when necessary – formal enforcement. This report summarizes our efforts to help water systems improve their capacity over the last three years.

The Safe Drinking Water Act (SDWA) requires NDEP to prepare a report for the Governor every three years. This report outlines our effectiveness in implementing our capacity development strategy¹. This strategy is Nevada's approach to improving capacity for water systems that do not have the necessary skills or resources to do so. By collaborating with contractors, partner agencies, and stakeholders, NDEP can continue to improve water systems across the state.

As building capacity evolves, so does the program. Businesses are learning to take ownership of their water systems and manage them responsibly. This process is ongoing; through continuing education and collaboration, NDEP will explore existing and alternative methods to engage the regulated community and create partnerships that protect public health.

¹ Safe Drinking Water Act, Section 1420(c)(3)

ACRONYMS

- AMP** – Asset Management Plan
- BIL** – Bipartisan Infrastructure Law
- BSDW** – Bureau of Safe Drinking Water (NDEP)
- CSWPP** – Community Source Water Protection Plan
- CWS** – Community Water System
- DWSRF** – Drinking Water State Revolving Fund (Nevada)
- ETT** – Enforcement Targeting Tool (EPA)
- ISWPP** – Integrated Source Water Protection Program
- IUP** – Intended Use Plan (DWSRF)
- NDEP** – Nevada Division of Environmental Protection
- NIFS** – Nevada Infrastructure Finance System
- NvRWA** – Nevada Rural Water Association
- OFA** – Office of Financial Assistance (NDEP)
- PCS** – Potential Contamination Sources
- PWS** – Public Water System
- RCAC** – Rural Community Assistance Corporation
- RFP** – Request for Proposal
- SDWA** – Safe Drinking Water Act
- SFY** – State Fiscal Year
- SUDC** – Small Underserved and Disadvantaged Communities
- TA** – Technical Assistance
- TMF** – Technical, Managerial, and Financial
- WIIN** – Water Infrastructure Improvements for the Nation Act

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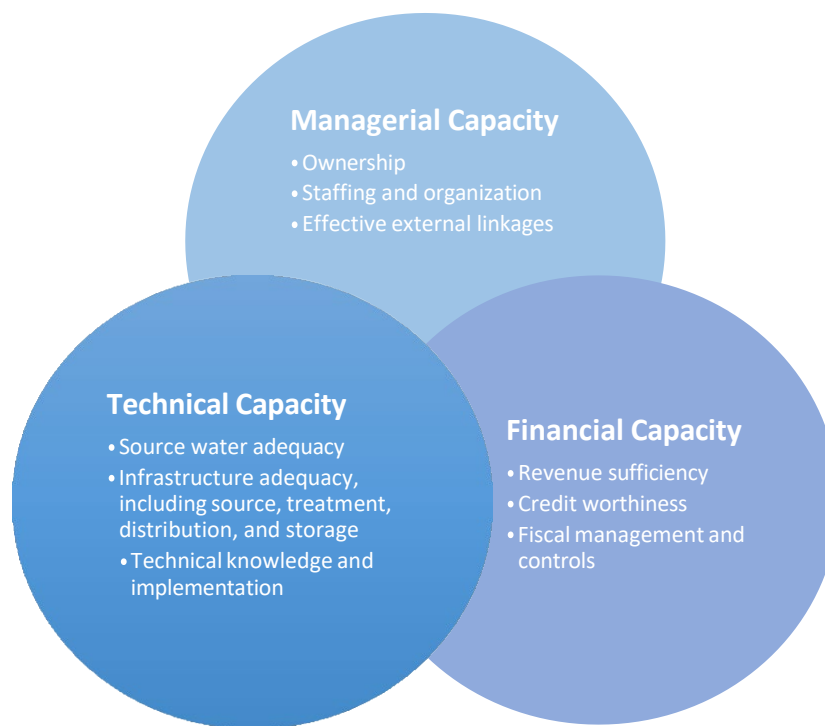
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INTRODUCTION

The Safe Drinking Water Act (SDWA)² requires drinking water systems to maintain their capacity. States are also required to implement and monitor programs which enhance that capacity.

In the 1996 Amendments to the SDWA, Congress ratified a philosophy that a capable public water system (PWS) is better positioned to meet applicable standards and provide safe and reliable water service. Congress recognized that protecting the public's drinking water supply requires ongoing vigilance when operating and maintaining PWS facilities.

The term "capacity development" was coined by Congress to describe capability. Capacity has three components: technical, managerial, and financial (TMF). Adequate performance in all three areas is necessary for a system to have "capacity." Short- and long-term planning is critical to maintain capacity.



TMF Capacity Interrelationship Short and Long-term Planning Nexus

² SDWA, Section 1452(a)(3)

Capacity Development Requirements

The SDWA requires that states develop and implement a strategy for PWSs to acquire and maintain TMF capacity³. Nevada’s Drinking Water State Revolving Fund (DWSRF) is a federally capitalized loan program that helps qualifying PWSs finance the infrastructure needed to comply with the SDWA. States that fail to develop and implement capacity development programs could risk having up to 20 percent of their DWSRF allotment withheld.

CAPACITY DEVELOPMENT GOALS		
To protect public health by ensuring consistent compliance with drinking water standards	To enhance performance beyond compliance through measures that encourage efficiency, effectiveness, and service excellence	To promote continuous improvement through monitoring, assessment, and strategic planning

It is important to note that the DWSRF cannot financially assist systems that do not have the technical, managerial, and financial capability to ensure compliance with the requirements – unless the funding will ensure compliance.

The Nevada Division of Environmental Protection (NDEP) is responsible for updating the Governor and the public on progress made toward improving TMF capacity of PWSs in the State. This report will demonstrate how NDEP programs and activities support Nevada’s capacity development goals. The report will be made available to the public on the [NDEP Capacity Development website](#) and sent via NDEP’s Listserv.

Capacity Development Considerations for Nevada

Public water system management in Nevada is an ever-changing landscape. The arid climate, remote communities, and economic structure present unique considerations for capacity development. New regulations, aging infrastructure, workforce development, and a variety of other factors also impact the ability of a PWS to operate at a level of capacity that demonstrates long-term sustainability.

In response, NDEP has implemented the State’s Capacity Development Program. The focus of the program is to ensure all PWSs comply with safe drinking water regulations and use a forward-thinking approach to protect public health. To build TMF capacity, NDEP prioritizes its resources – sometimes leveraging the resources of others – to help PWSs adapt to changing circumstances while also maintaining compliance with SDWA requirements.

³ Nevada’s current Strategy was approved by EPA on July 10, 2023

NDEP has taken steps to broaden its approach to building PWS capacity. Part of that effort includes partnering and networking with other stakeholders to deliver safe drinking water through responsible and sustainable methods.

NDEP PARTNERS IN CAPACITY DEVELOPMENT		
<p>Federal Partners</p> <ul style="list-style-type: none"> • Environmental Protection Agency • U.S. Department of Agriculture - Rural Development • U.S. Department Housing and Urban Development • Indian Health Services • Division of Emergency Management • Federal Emergency Management Agency 	<p>State Partners</p> <ul style="list-style-type: none"> • Washoe County Health District • Southern Nevada Health District • Division of Public & Behavioral Health • Public Utilities Commission • Governor's Office of Economic Development • Division of Water Resources • State Parks • State Lands • Department of Transportation • Housing Division • Department of Education • Department of Corrections • Department of Veterans Services 	<p>Technical Assistance Providers</p> <ul style="list-style-type: none"> • Nevada Rural Water Association • Rural Community Assistance Corporation • Resource Concepts, Inc. • ERG • Farr West Engineering, Inc.

What is a public water system?



NDEP oversees approximately 594 PWSs with diverse service populations. Compliance with laws and regulations requires a multi-faceted approach. Many regulated water systems are not in the primary business of supplying water; rather, their business requires that they have water for drinking and hygiene purposes. It is critical NDEP provides routine communication and support to help these businesses understand what it means to be a regulated and viable water system.

Types of Nevada Public Water Systems



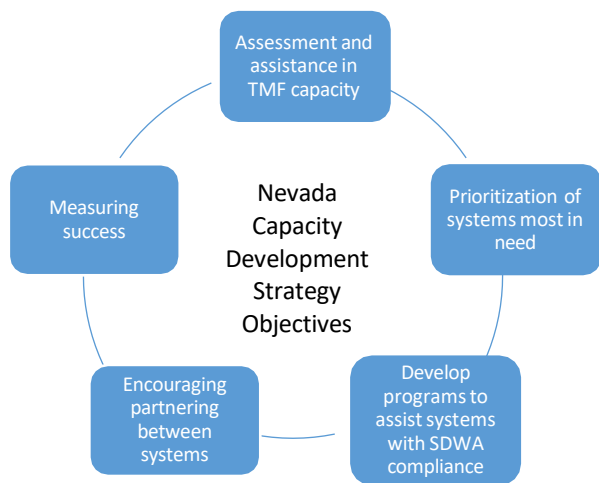
Figure 1: Distribution of Nevada public water system types

NEVADA’S STRATEGY

Nevada’s Capacity Development Strategy provides PWSs with the resources needed to deliver safe and reliable drinking water. NDEP supports the State by providing systems with management training, financial and technical assistance, and helping communities with local planning initiatives. NDEP has a comprehensive approach to identify and prioritize PWSs with the greatest need. Specific programs have been developed to determine what type of support is most effective for an individual system. This allows NDEP to provide meaningful and cost-effective assistance using a combination of staff, contractors, and external partners. NDEP implements the State’s [Capacity Development Program](#) to assist PWSs. This capacity development report highlights efforts to further the Capacity Development Program in accordance with the updated Capacity Development Strategy Objectives submitted by NDEP on March 16, 2022, and approved by EPA on July 10, 2023. When working to update the prior strategy, a comprehensive survey of our stakeholders was completed. Responses to the survey indicated that the existing strategy largely targeted their primary needs and therefore few updates to the Strategy were required. NDEP’s Office of Financial Assistance (OFA), and Bureau of Safe Drinking Water (BSDW), as well as contracted technical assistance (TA) providers – Nevada Rural Water Association (NvRWA) and Rural Community Assistance Corporation (RCAC) – contributed to this report.

Nevada's 2022 Implementation Strategies	
Personnel and Management	Development of best practices for workforce development
	Training on PWS responsibilities for boards and management staff
	Garnering feedback on Operator Certification testing resources
	Conducting virtual outreach to monitor PWSs between inspections
	Streamlining the application process for DWSRF Funding
Financial Sustainability	Additional training on the costs of service for a particular system
	Coordinating to address obstacles to funding system needs
	Capacity surveys that target AMPs, levels of service, and community outreach for cost of service
	Development of rate structures to cover operations, maintenance, debt service, and reserve requirements
PWS Characteristics	Physical and managerial consolidation coordination
	Support redundancy and security projects
	Board Training on engagement with operators and the public
	Capacity surveys to target unique technical issues
Planning	Increasing Priority List scores for systems with developed AMPS
	Require AMPs for projects receiving principal forgiveness funding
	Require AMPs for new water systems; for PWSs constructed after October 1, 1999, require AMPs every five years
	Include questions on AMPs in capacity surveys
Source Water Quality and Quantity	Increase outreach to water systems on Water Conservation Plans and Source Water Protection Plans
	Encourage projects in the DWSRF program that support redundancy for water sources and treatment
	Include question on source water quality and capacity in capacity surveys
	Coordination meetings to discuss consolidation for long-term capacity

Table 1: Capacity Development Implementation Strategies

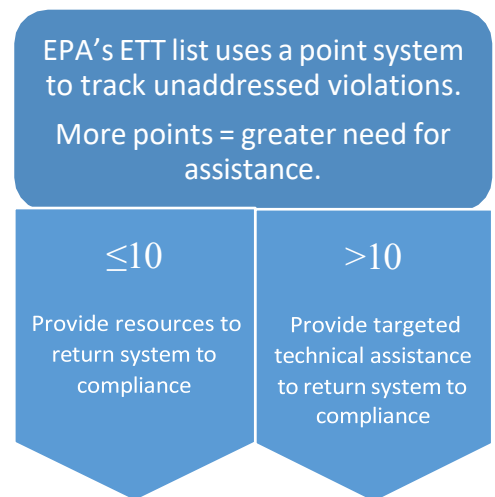


How does NDEP assess and prioritize systems?

NDEP uses capacity assessments to measure the strengths and weaknesses of a water system. These assessments are conducted by third party contractors to determine where to focus funding and technical assistance and to prioritize systems most in need. With this information, NDEP staff and TA providers identify appropriate strategies to help PWSs deal with their challenges.

PWS regulatory compliance oversight is another routine process that enables staff to assess and prioritize assistance. NDEP currently utilizes multiple reporting mechanisms to help identify water systems facing challenges. Some of these reporting mechanisms include:

- Routine water system monitoring results
- Site inspections
- Non-compliance reports / certified operator status reports
- EPA’s Enforcement Targeting Tool (ETT)
- EPA’s Strategic Performance Measures



EPA’s quarterly ETT statistics provide measurable data on compliance for all types of water systems, as well as a mechanism to prioritize TA. Approximately 14 percent of PWSs face compliance challenges, so NDEP staff and TA providers work hard to address their needs.

How does NDEP use focused technical assistance?

Once NDEP understands the needs of PWSs, our contract TA providers can coordinate with the local system to address specific needs. Assistance can take multiple forms, including hands-on training and collaboration with the system to target their specific needs. NDEP’s external partners also have the capability to provide TA, which is leveraged by the State to maximize support for small water suppliers, extending NDEP’s financial resources and reach.

Three TA vendors, each with expertise in different areas, were in place during the first year of the reporting period. In SFY 2021, OFA initiated a new RFP that developed into two sub-grant agreements to provide TA for SFYs 2022-2023.

NDEP contracts with TA providers to offer critical TMF capacity development at no cost to systems. From SFYs 2021-2023, three vendors – Nevada Rural Water Association, Rural Community Assistance Corporation, and Farr West Engineering (SFY 2021 only) – made a concerted effort to address common deficiencies in PWSs, including compliance issues, distribution, treatment training, and more.

STRATEGY IMPLEMENTATION AND SUCCESSES

NDEP uses a targeted approach to develop TMF capacity for PWSs. These efforts help systems protect public health and reach sustainable long-term compliance with the SDWA. NDEP strategies are based on several key tools and measures, which are outlined below. Also included are several examples of projects that highlight the success of these strategies.

Personnel and Management

This implementation strategy addresses the need to attract and maintain staff to meet water quality and quantity requirements for the system. This strategy addresses struggles with operators passing certification tests, employee turnover and retention, lack of prospective employees, improvements in training, managerial support for staff, and navigating the drinking water SRF application process. The following elements have been implemented to address this strategy over the reporting period:

Workforce Development

Many water utilities throughout Nevada experience issues recruiting new operators as the workforce is aging to retirement. One opportunity to address this issue is to provide training to potential operators on drinking water operator exam material. Specifically, Nevada identified areas of the drinking water operator exams that frequently show low scores; this information is then provided to TA providers to implement in their training courses. In addition, through the Operator Certification Program Forum meeting, Nevada is directly talking to the drinking water facilities to get feedback on what operator workforce development assistance they have identified as being most beneficial to their communities; these needs can be incorporated into future assistance provided by the State.

The Rural Community Assistance Partnership provided a Workforce Innovation Webinar on May 31, 2023, for criteria and job task analysis for clerks and water/wastewater administrative professionals. NDEP intends to use the tools provided in this webinar to assist water facilities as part of our TA assistance programs. As a separate effort, BSDW continues to partner with the U.S. Department of Veterans Affairs through the Drinking Water Operator Certification Program. This program allows BSDW to provide veterans taking the Nevada Drinking Water Operator Certification Exams financial assistance to cover licensing costs.



Star City Water System

Problem
The system had been operated by a nonprofit since 1974, serving dozens of homes, a mobile home park, and a gas station. Recently, the system needed to find a new operator.

Solution
An offer was made for the system to be purchased by Humboldt County. DWSRF funding would help support the consolidation.

Result
The system consolidated with Humboldt County in 2021, with \$575,000 provided to support the managerial change.

Partnerships

- Humboldt County

Military Occupational Specialty experience continues to be an invaluable asset for PWSs throughout Nevada and NDEP strongly supports veterans being successful in their careers after service. **BSDW received 52 veteran applications in SFY 2023.** Information and resources are available to veterans on Nevada’s Drinking Water Operator Certification Program website.

Training and Outreach

Nevada works to keep compliance rates high by providing outreach and training to operators. The State uses monies from the Public Water System Supervision Program grant and the 10% Set-Aside from DWSRF for these efforts. BSDW also provides technical assistance, suggestions, and recommendations to operators through frequent telephone contact and through the sanitary survey (inspection) process.

Our technical assistance providers offer operator training throughout the state. Table 2 documents the training provided during the previous and current reporting periods. These trainings are provided at no cost in an effort to help PWSs meet their individual capacity development needs.



Operator Certification

Problem
Operators wanted relevant college courses to be accepted as postsecondary education, since many did not meet NAC requirements.

Solution
NDEP would host collaborative meetings with American Water College (AWC) to align courses with Nevada laws.

Result
Many AWC courses now meet NAC requirements. The college also improved opportunities for operators to prepare for exams.

Partnerships

- American Water College
- Nevada Water and Wastewater Operators Forum
- Nevada water operators

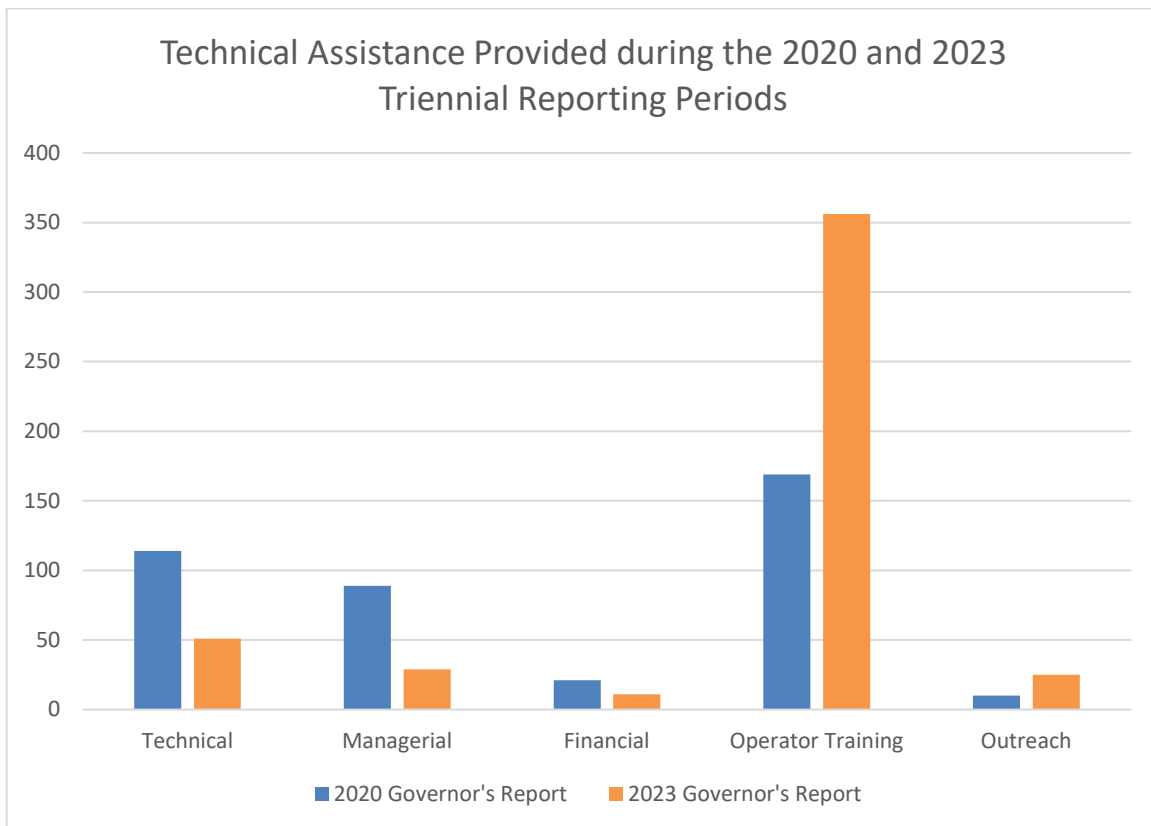


Figure 2: Technical assistance by category

Streamlining the Application Process

The Nevada Infrastructure Finance System (NIFS) went live online to DWSRF borrowers in January 2022. This system allows for water systems to manage their applications from the initial pre-application submission to the close out of the loan contract. Staff with NDEP, as well as TA providers, offer direct assistance to borrowers on SRF program requirements as well as navigating the NIFS system. NDEP’s website also provides detailed help guides to navigate in NIFS. The feedback from our borrowers on the use of NIFS for application submission and managing their loan contracts has been positive.

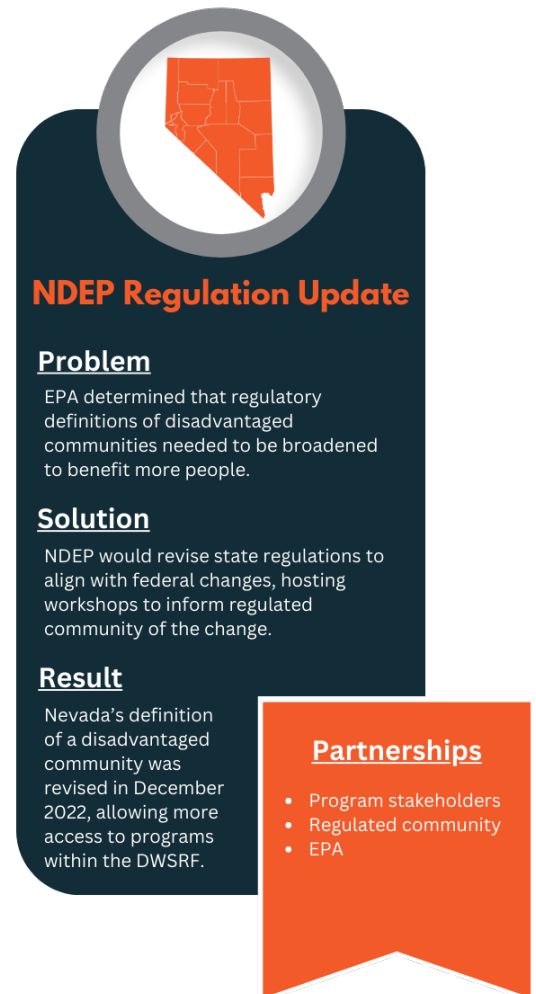
Financial Sustainability

This implementation strategy addresses the financial needs of drinking water systems for operations, maintenance, debt service, and capital reserve accounts. This includes understanding obstacles to funding system needs; cost of services to operate a water system; and community outreach and coordination between technical assistance providers, drinking water systems, and NDEP. The following elements have been implemented to address this strategy over the reporting period:

Funding Coordination

Nevada recognizes that addressing needs associated with infrastructure deficiencies is critical to continue to keep the State’s water free from waterborne disease and outbreaks attributable to public drinking water systems. Furthermore, a large proportion of Nevada’s PWSs are very small systems that often find it hard to identify and take advantage of various federal and State funding resources.

To address this challenge, a collaboration meeting, Infrastructure for Nevada Communities, is held on a quarterly basis and includes regulatory agencies, technical assistance providers and funding partners. These meetings help to target technical assistance needs, funding infrastructure deficiencies, and to identify the most suitable funding source/partner. Participating agencies include OFA, BSDW, NDEP’s Bureau of Water Pollution Control, the Public Utilities Commission, the Governor’s Office of Economic Development, USDA Rural Development, the Nevada Rural Water Association, and the Rural Community Assistance Program.



NDEP Regulation Update

Problem
EPA determined that regulatory definitions of disadvantaged communities needed to be broadened to benefit more people.

Solution
NDEP would revise state regulations to align with federal changes, hosting workshops to inform regulated community of the change.

Result
Nevada’s definition of a disadvantaged community was revised in December 2022, allowing more access to programs within the DWSRF.

Partnerships

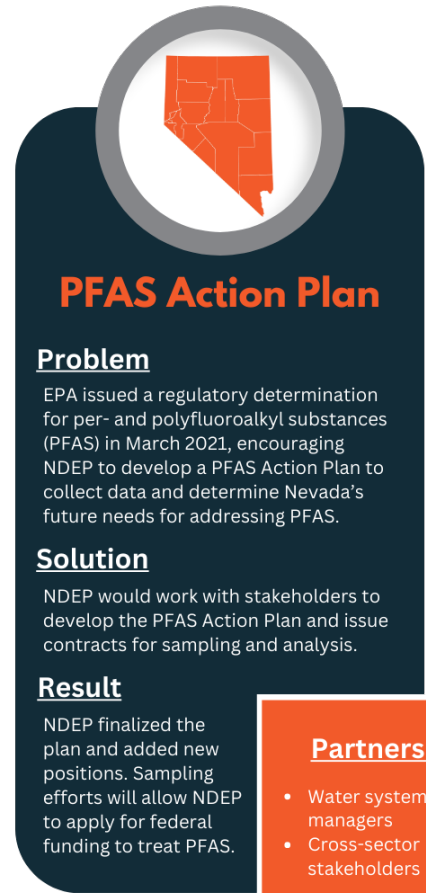
- Program stakeholders
- Regulated community
- EPA

Increasing Access to Available Funding

During the 2023 legislative session, Assembly Bill 20 (AB 20) was passed. Specifically, AB 20 addressed funding for drinking water systems by allowing an additional source of DWSRF funding, the DWSRF set-aside funding, to be used for loans and grants. While not funded for SFY 24-25, the State Capital Improvements Grant Program was expanded to allow for funding to be used for abandoning a well and connecting the property to a municipal water system. NDEP will increase awareness for this potential use in future years.

OFA holds listening sessions each year to update water systems, consultants, and the public on the available State Revolving Fund loans for the next year. The listening session informs potential borrowers on what entities are eligible to apply and what project types could qualify for funding. The session also provides information on available funding, including principal forgiveness dollars, updates to the Project Priority Lists, Priority List ranking changes, disadvantaged and affordability criteria, recent changes to loan interest rates, security, and incentives.

Federal appropriations for DWSRF require Nevada to use a percentage of its grant to provide additional subsidies to “disadvantaged communities.” These include forgiveness of principal, negative interest loans, grants, or any combination of these. Nevada has a “disadvantaged community” program to address low-income areas that have infrastructure deficiencies that pose a health threat. Thirty-four projects totaling \$22.2 million were awarded principal forgiveness funding between SFY 2021-2023.



PFAS Action Plan

Problem
EPA issued a regulatory determination for per- and polyfluoroalkyl substances (PFAS) in March 2021, encouraging NDEP to develop a PFAS Action Plan to collect data and determine Nevada’s future needs for addressing PFAS.

Solution
NDEP would work with stakeholders to develop the PFAS Action Plan and issue contracts for sampling and analysis.

Result
NDEP finalized the plan and added new positions. Sampling efforts will allow NDEP to apply for federal funding to treat PFAS.

Partnerships

- Water system managers
- Cross-sector stakeholders

Type	Number of Projects	2021-2023 Principal Forgiveness Funding (total of \$22.2 million)
Water Treatment	6	\$3,123,386.00
Consolidation	2	\$985,000.00
Water Source	6	\$6,139,392.00
Water Storage	6	\$4,815,650.00
Water Transmission	3	\$5,832,300.00
Planning and Design	9	\$706,937.00
Meters	2	\$616,188.00
TOTAL	34	\$22,218,853.00

Table 3: Principal forgiveness by type

To demonstrate fiscal sustainability, PWSs must have water rates in place which adequately support the current and future operations, maintenance, debt service, and reserves of the system. Sufficient water rates structures are also necessary to seek funding support from DWSRF. Rate structures are addressed through rate studies, which must be supported by boards and governing bodies. Nevada provides free TA to PWSs to complete rate studies and board trainings.

The Water Infrastructure Improvements for the Nation (WIIN) Act provides federal grants to address health-based violations in small underserved and disadvantaged communities (SUDC). The federal fiscal year 2022 grant waived the match requirement; as such, NDEP applied for the grant, and was ultimately awarded \$394,000. Three PWS projects will be addressed with the grant award:

PWS Name	County	Population	Project
Town of Jackpot	Elko	1240	Water capacity evaluation and tank design/construction
Mountain City	Elko	30	New chlorinator and building
C Valley MHP	Nye	54	Engineering plans for unapproved construction

Table 4: WINN Act grant projects

PWS Characteristics

This implementation strategy addresses the challenges and opportunities that individual systems face due to unique geographic, geological, socio-economic, and infrastructure conditions. Capacity surveys are used to identify specific challenges such as water pressures, sanitary survey deficiencies, water loss, and backflow prevention. This strategy also addresses the need to train board members in public participation and engagement with system operators. The following elements have been implemented to address this strategy over the reporting period.

Vulnerability Assessment Program

The Vulnerability Assessment Program promotes the protection of drinking water sources from contamination while reducing monitoring costs. The program teaches PWS operators to identify potential contamination sources (PCS) and evaluate risks. Water supply sources at low risk of contamination do not need to be monitored as frequently, which saves money. The Vulnerability Assessment Reports note PCSs and rank them based on their potential to adversely affect a water supply source. 232 PWSs qualify for chemical monitoring waivers.

Crystal Trailer Park

Problem
This small mobile home park in Verdi had elevated arsenic levels in its water. Despite system upgrades in 2011, arsenic levels continued to exceed federal standards.

Solution
The water system was encouraged to apply for DWSRF funding to consolidate with TMWA.

Result
The water system consolidated with TMWA in 2022 and abandoned the contaminated wells.

Partnerships

- TMWA
- Northern Nevada Public Health

Found Systems

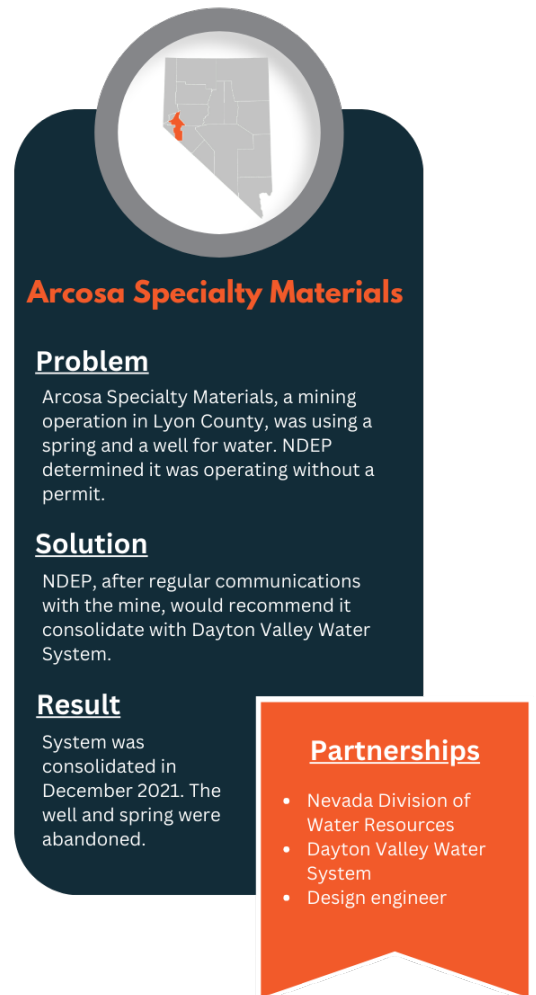
On occasion, water systems meet PWS criteria and require permitting without knowing that their system is subject to Safe Drinking Water Act regulatory requirements enforced by NDEP. Such systems are found to be operating without a permit and have been dubbed “found systems.”

NDEP started a unique program in SFY 2016, which has been showcased nationally in the drinking water regulatory sector. The Found Systems Program actively looks for these types of PWSs, providing technical, managerial, and financial assistance to help protect consumer health and ensure these PWSs comply with the appropriate regulatory programs. NDEP works with these found systems by either issuing permits or helping consolidate them with an existing PWS. If the potential PWS does not meet the criteria to qualify as a PWS, but shows potential to qualify in the future, that system is placed on a continuous verification list for future outreach.

During the current reporting period, nine found systems worked through the necessary steps of compliance and permitting. Three systems consolidated with a nearby utility eliminating the need for a permit. Currently, seventeen systems are continuing to work through the compliance and permitting process. TA is available from NDEP; Northern Nevada Public Health (formerly the Washoe County Health District); Southern Nevada Health District; and our TA providers, RCAC, and NVRWA.

Sanitary Surveys

A sanitary survey is a routine inspection of drinking water system facilities, operations, and records. These inspections are a review of the PWS’s documents and infrastructure; they provide an opportunity for regulators to assess needs or require improvements to TMF capacity.



Arcosa Specialty Materials

Problem
Arcosa Specialty Materials, a mining operation in Lyon County, was using a spring and a well for water. NDEP determined it was operating without a permit.

Solution
NDEP, after regular communications with the mine, would recommend it consolidate with Dayton Valley Water System.

Result
System was consolidated in December 2021. The well and spring were abandoned.

Partnerships

- Nevada Division of Water Resources
- Dayton Valley Water System
- Design engineer

EPA defines eight elements that must be reviewed during each sanitary survey:

Sanitary Survey Element	Related TMF Component
Source. The raw water’s susceptibility to contamination.	Technical capacity
Treatment. The design, operation, and maintenance of water treatment plants.	Technical capacity
Distribution System. The design, operation, and maintenance of distribution systems.	Technical capacity
Finished Water Storage. The design, operation, and maintenance of finished water storage facilities.	Technical capacity
Pumps. The design, operation, and maintenance of water supply pumping facilities.	Technical capacity
Monitoring & Reporting. The water system’s conformance with regulations based on review of water quality monitoring plans and system records.	Managerial capacity
Management & Operation. The current overall performance and long-term viability in meeting water quality goals.	Managerial capacity
Operator Certification. Discussion and calculations during each inspection to ensure that operators are certified at the required grade.	Technical and managerial capacities

Compliance with Safe Drinking Water Act

Over the reporting period, 86 percent of Nevada’s PWSs reported no violations. Of the 601 regulated PWSs in Nevada, only 2 percent reported long-term violations. The other 12 percent of systems reported short-term violations. When a violation is reported, BDSW works closely with its TA providers to bring the PWS back into compliance.

EPA’s quarterly Strategic Performance Measures are focused on ensuring a community water system (CWS) is in compliance with health-based standards. Health-based standards address acute and chronic non-compliance. The number of Nevadans receiving compliant water remains over 99.88 percent. CWSs not compliant with the health-based standards are prioritized for TA.

HEALTH BASED VIOLATIONS		
State Fiscal Year	Compliant CWSs	Population receiving compliant water
2021	91.88%	99.70%
2022	92.89%	99.66%
2023	94.30%	99.88%

Table 5: Community water system statistics

Planning

This implementation strategy addresses the system’s ability and desire to prepare for future needs. Boards, managers, and the public often do not fully plan for continued system sustainability. This strategy identifies the need to provide training and technical assistance to help with public outreach, board training, and managerial involvement in the planning process. This will help PWSs sustain their levels of service and address capacity needs necessary to apply for DWSRF loans. The following elements have been implemented to address this strategy over the reporting period:

Asset Management Plan

An Asset Management Plan (AMP) is a planned and systematic method of managing and monitoring all the required physical components of a mechanical system and the desired level of service for a community. A PWS that uses an AMP can make capital improvements, maintain its level of service, sustain its infrastructure, and acquire long-term funding and critical assets. AMPs are now federally required as part of the Capacity Development Strategy. PWSs see asset management plans as a key element for systems to maintain, improve, and elevate their services and reliability.

As part of the 2023 DWSRF Intended Use Plan (IUP), AMPs are required for systems receiving principal forgiveness loans for infrastructure projects from the DWSRF program. Loan applicants must certify as part of the loan contract that the recipient has, or will develop, an AMP prior to the final draw on the loan and will re-evaluate the plan every five years. These reports will help educate system management and the users of the system about the cost of their water system. Nevada’s Technical Assistance providers can develop the AMPs as a free service to our borrowers. The development of AMPs for PWSs has exponentially increased as result of the new federal requirements and resulting SRF requirements.

Capital Reserve

In another effort to develop fiscal responsibility to address current and future needs, the 2023 DWSRF IUP requires principal forgiveness loan recipients to set aside funds in a reserve account for capital replacement. These funds are critical for water facilities to have in order to replace capital assets in the future.



Goldfield Town Water

Problem
The town of Goldfield is expected to grow after a nearby mine was recently proposed, requiring new water connections for customers as soon as possible.

Solution
NDEP would work with the system on water connection capacity, and the DWSRF would fund an asset management plan (AMP).

Result
An AMP was completed in 2023, and the system was able to meet customer needs.

Partnerships

- Town of Goldfield
- Design engineer

Source Water Quality and Quantity


“Source water” in Nevada means an untreated source of water used to supply drinking water to the public. Source water includes groundwater before it is pumped out by a well, or surface water flowing in a spring, river, or tributary before being diverted to a treatment plant. Groundwater aquifers are critical resources in Nevada. Most public water systems in the state rely solely on wells for their water supplies; however, a few larger communities also rely on springs, creeks, lakes, rivers, and reservoirs. Source water protection areas are also often referred to as wellhead protection areas, drinking water protection areas, and sometimes vulnerability assessment areas.

This implementation strategy is focused on the system’s need to manage the quality and quantity needs of communities. This strategy is addressed primarily through education, public outreach, and conservation efforts. Protecting water at its source ensures communities will have a sustainable water supply. The following elements have been implemented to address this strategy over the reporting period.

Integrated Source Water Protection Program

Public water systems and local communities throughout Nevada are working to protect drinking water supplies from contamination. The State assists them through the multi-faceted Integrated Source Water Protection Program (ISWPP). Though the program is voluntary, NDEP believes that effective source water protection must be developed and administered by the community in conjunction with local water suppliers. A local plan, referred to as Community Source Water Protection Plan (CSWPP), is a long-term commitment on the part of the community to protect its drinking water sources from becoming contaminated or polluted by various land use activities.

Nevada's Source Water Protection Program encourages cooperation and aligned efforts with other state and federal entities to give the most resources to the communities' plans. NvRWA Source Water Protection works with NDEP in developing ISWPPs and meeting the criteria of both programs in plan development.



Virgin Valley CSWPP

Problem
Led by Virgin Valley Water District, Mesquite residents wanted to learn how to identify potential risks to drinking water during city planning efforts.

Solution
The system would develop a Community Source Water Protection Plan (CSWPP) and encourage partnership with ISWPP in Clark County.

Result
A CSWPP was approved and later adopted in 2023. An online tool was integrated into the CSWPP for public education purposes.

Partnerships

- NvRWA

At the close of SFY 2023, cumulative source water protection efforts resulted in:

- Eight Nevada counties have adopted a CSWPP
- Two of the planning areas in Clark County have established local plans
- Washoe County has an updated CSWPP
- Lincoln County is currently developing its CSWPP, with expected completion in Fall 2023
- Humboldt County and Carson City are currently working on updated plans
- Implementation of CSWPPs continue to be supported in all counties
- All sixteen counties and Carson City have wellhead protection plans since early-2000s; these plans cover approximately 115 PWS in Nevada

Consolidation

Another method for systems to protect their water sources is through a physical or managerial consolidation with neighboring water systems. Financial benefits of the consolidation of water systems include reducing costs, achieving greater economies of scale through shared services, and increasing a system’s access to funds through new partnerships. Through the Nevada DWSRF program, systems that are addressing capacity deficiencies through physical or managerial consolidations are now evaluated as disadvantaged communities. There are some communities in Nevada that are declining in population and too far away from another system to physically consolidate. While these systems must operate on their own, the possibility of consolidating management remains. NDEP hopes to utilize solutions like this to assist other disadvantaged systems with their capacity needs.

Over SFY 2021-2023, seven systems have consolidated as public water systems.

Resiliency

The DWSRF has supported drinking water systems throughout the state in addressing the resiliency of their water systems by providing principal forgiveness funding for projects that improve redundancy, water storage, water delivery, and water treatment systems.

While not part of the Strategy, Assembly Bill 20 (2023) further increased water system resiliency by authorizing the DWSRF to address local issues, such as stormwater/flood control and wildfire resiliency, in order to continue to protect drinking water resources.

Star City Water System

Problem
The system had been operated by a nonprofit since 1974, serving dozens of homes, a mobile home park, and a gas station. Recently, the system needed to find a new operator.

Solution
An offer was made for the system to be purchased by Humboldt County. DWSRF funding would help support the consolidation.

Result
The system consolidated with Humboldt County in 2021, with \$575,000 provided to support the managerial change.

Partnerships

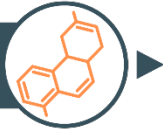
- Humboldt County

CAPACITY DEVELOPMENT CHALLENGES

Nevada water systems are currently managing a number of challenges that are expected to persist in future reporting cycles. To tackle these challenges, Nevada will continue efforts to address technical, managerial, and financial sustainability throughout the state. Addressing these challenges will require partnerships, funding collaborations, outreach, and technical assistance.

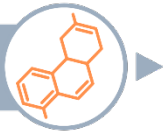
Current and Future Challenges of Per- and Polyfluoroalkyl Substances (PFAS)

2021



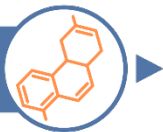
2021: [Assembly Bill \(AB\) 97](#) passed and called for a Working Group to study issues relating to environmental contamination resulting from PFAS in Nevada.

2022



2022: To address AB 97, NDEP established a Working Group composed of representatives of interested state and local public agencies, labor organizations, community organizations, and trade associations to support the development of Nevada's PFAS Action Plan, which sets forth recommendations to address PFAS in Nevada.

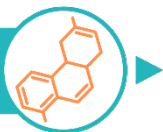
2023



2023: Among the plan's recommendations was a need for sampling and analysis. PFAS sampling began in Nevada and is being conducted under EPA's Unregulated Contaminant Monitoring Rule 5, as well as a voluntary program through NDEP's contractors. By leveraging federal and state funding, NDEP contractors are beginning an effort to sample and analyze approximately 200 drinking water sources, wastewater outfalls, and surface water bodies in Nevada. To keep the regulated community informed on the topic of PFAS, NDEP has expanded its [PFAS in Nevada webpage](#) to provide up-to-date information and resources to the public.

The Bipartisan Infrastructure Law (BIL) passed by Congress in 2021 has targeted grants available through the DWSRF and for Small or Disadvantaged Communities programs to address Emerging Contaminants. The primary focus for these funds is to assess PFAS contamination and design and construct compliance strategies (e.g., install treatment, develop new sources, install connections to compliant water systems). Over a five-year period, approximately \$40.4 million in funding will be available through the DWSRF and \$47.3 million through the Small or Disadvantaged Communities grants.

2024 - 2026



2024-2026: As the proposed PFAS National Primary Drinking Water Regulation are finalized by EPA, NDEP has been developing a process for sampling, data collection and analysis, education, and compliance. The following PFAS activities and anticipated challenges are expected during the next three years.

Technical Challenges

Supply Chains

To safely manage and operate facilities that protect drinking water quality, reliable supply chains are critical. Over the past reporting cycle, supplies necessary for treating, maintaining, repairing, and building water facilities have had long lead times and escalating costs. NDEP bridges the gap between national supply chains and PWSs through direct outreach, coordinating with system operators to acquire necessary treatment chemicals (such as water disinfectants). These supply chain issues have resulted in delays in implementing projects intended to provide safe drinking water to Nevada communities. Supply chain issues will continue to be a challenge to drinking water systems throughout the state.

Lead Service Line Inventories

By October 16, 2024, PWSs must submit an inventory of their service line materials and service line replacement plans to NDEP. Any lead or unknown materials identified will need to be replaced or further inspected. The service line identification process can create challenges, as service lines cross onto private property and into historical buildings. New methods for identifying materials, as well as funding to complete the inventory, are just becoming available as the deadline for submission approaches. BIL funding will be made available through contracts managed by the Nevada DWSRF program to help support Nevada communities with the development of these inventories. Funding is limited, however, and will not fully fund inventories across the state.

Managerial Challenges

Personnel

Most drinking water systems across the state have expressed concerns about maintaining and recruiting sufficient staff to operate and maintain their facilities. One issue expressed is that a large percentage of the operator workforce is nearing retirement age. This creates issues with having sufficient personnel to run facilities, as well as a loss of knowledge and experience. In the upcoming reporting period, NDEP will work with TA providers on different strategies to address workforce development, including creating apprenticeship and internship programs.

COVID-19 Impacts to Water Systems

Through much of the reporting period, Nevada's PWSs dealt with complications tied to the COVID-19 outbreak. Despite this, operators were able to continue to conduct testing and provide safe drinking water to their communities. Some of their success can be attributed to various partnerships created throughout the pandemic. This includes partnering with neighboring utilities and developing contacts through agencies such as the Nevada Water/Wastewater Agency Response Network and the Nevada Division of Emergency Management. While Nevada remains ready to address future hardships like the COVID-19 pandemic, many communities still experience struggles with supply issues, maintaining and recruiting personnel, and reaching financial sustainability.

Financial Challenges

Technical Assistance

Expanded federal funding sources have broadened the TA programs at both the federal and state levels. This additional funding is a benefit to addressing drinking water capacity development throughout the state. Nevada’s goal is to ensure the highest priority needs are addressed, without overlapping assistance providers. Identifying and tracking the various TA providers through multiple funding sources creates challenges. Many of the TA providers have multiple sources of federal funding; just a portion of that funding is managed by the State directly. Along with the complexities of trying to understand and manage multiple funding sources, each funding source has different directives, and other agencies, such as USDA Rural Development, also have federal dollars for similar types of assistance.

Technical Assistance Providers Managed and Coordinated by Nevada	
1.	Rural Community Assistance Corporation
2.	Nevada Rural Water Association
3.	Environmental Finance Centers
4.	EPA Contractor Assistance for Lead Service Line Surveys
5.	EPA Contractor Assistance for Enforcement
6.	EPA Contractor Assistance for Compliance

Table 6: TA providers assisting Nevada’s drinking water systems

Funding Coordination

The BIL has provided infrastructure funding for drinking water facilities, with an emphasis on addressing SUDCs (additional funding also came to the states through the WIIN Act). The BIL funding targeted two major concerns: addressing emerging contaminants and replacing lead service lines. The funding is provided to Nevada PWSs through OFA and BSDW. These funds will be distributed over a five-year period, and managing them effectively will be a continuing effort. In addition, coordinating these funds with other partner agencies – like Community Development Block Grant Program and the USDA Rural Development – creates another layer of complexity when addressing the highest priority projects in the state.

Federal Earmarks

Project-level federal earmarks have reduced base grants given to Nevada for the last several years. The reduction in base grants has created cascading impacts to drinking water facility funding and program management over time. Reduced base funding for the Nevada SRF program reduces capital available for drinking water loans, as well as reducing funding available to support NDEP staff in OFA and BSDW who manage the SRF program. This reduced base funding also takes away resources to create partnerships with our TA providers, who remain a critical element of our programs. The BIL funding has provided sufficient funding to support all program needs currently, but BIL funding only spans a five-year period.

Financial Sustainability

Nevada has a number of very small communities in the state with very few residents to support their water systems. They often have critical water infrastructure needs, and are unable to develop affordable rate structures to properly operate and maintain their system. Therefore, even in cases where Nevada is able to support the system upgrades through principal forgiveness loans, the system struggles to maintain TFM sustainability for their system. In the future, Nevada hopes to explore technical and financial support to study managerial and physical consolidation options with other public or private water utilities.

THE FUTURE: 2024 to 2026

As the Nevada Capacity Development Program has grown, lessons learned have resulted in a program that continues to evolve and better serve the needs of Nevada’s PWSs. The goal is to empower local communities, operators, boards, and businesses to take ownership and be proactive in managing their drinking water systems for long-term sustainability. These goals can be achieved with several on-going efforts NDEP plans to implement over the next three years:

Personnel and Management	Workforce development for the next generation of operators, managers, board members, and staff
	Through TA assistance, identify workforce development issues and needs in at least 50 communities throughout the state
	Support for TA providers to develop internship and apprenticeship programs to bring new operators into the workforce
	Continue to gather information on capacity development needs through the Nevada Operator Certification Forum meeting and other outreach opportunities to support new programs/initiatives
	Continue to support operator training and outreach through TA Assistance
	Increased board and staff training as workforce changes
	Continue development of operation and emergency plans
Financial Sustainability	Continue to support the development and updates of rate studies to provide a basis for long term financial sustainability of water systems
	Work with TA providers to help develop innovative practices to support infrastructure improvements and on-going operations, maintenance, and asset reserve accounts for very small communities
	Increase outreach for funding options available for TA and project implementation
	Utilize TA assistance and principal forgiveness funding to help support the development of sustainable water systems
PWS Characteristics	Coordinate and partner with FEMA for funding emergency repairs to water facilities as needed
	Continue to prioritize TMF assistance and project funding assistance based on risk to human and environmental health
	Continue efforts to train operators, boards, and staff on PWS responsibilities
	Continue networking with stakeholders and communicating with systems on resource sharing, partnerships, and consolidation
	Continue to support communities in addressing issues identified in PWS Vulnerability Assessment Plans

Planning	Through vendor assistance, offer training on public outreach, board training and managerial involvement in planning processes
	Increased development of asset management plans and capital reserve accounts
	Continue to utilize or conduct sanitary surveys and capacity surveys, as needed, to determine current system needs
	Support communities with understanding and addressing cybersecurity vulnerabilities
Source Water Quality and Quantity	Continue to encourage consolidations of systems through principal forgiveness loans and networking
	Work to develop CSWPPs in all counties & potentially individual PWSs
	Ongoing updates of existing source water protection plans
	Utilize targeted fundings sources to address emerging contaminants throughout the state
	Support efforts to develop lead and copper inventories throughout the state with TA and capital funding