



NEVADA'S CAPACITY DEVELOPMENT PROGRAM: Report to the Governor

Abstract

This report covers initiatives and accomplishments for State Fiscal Years 2018 through 2020 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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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 help 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 to 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)

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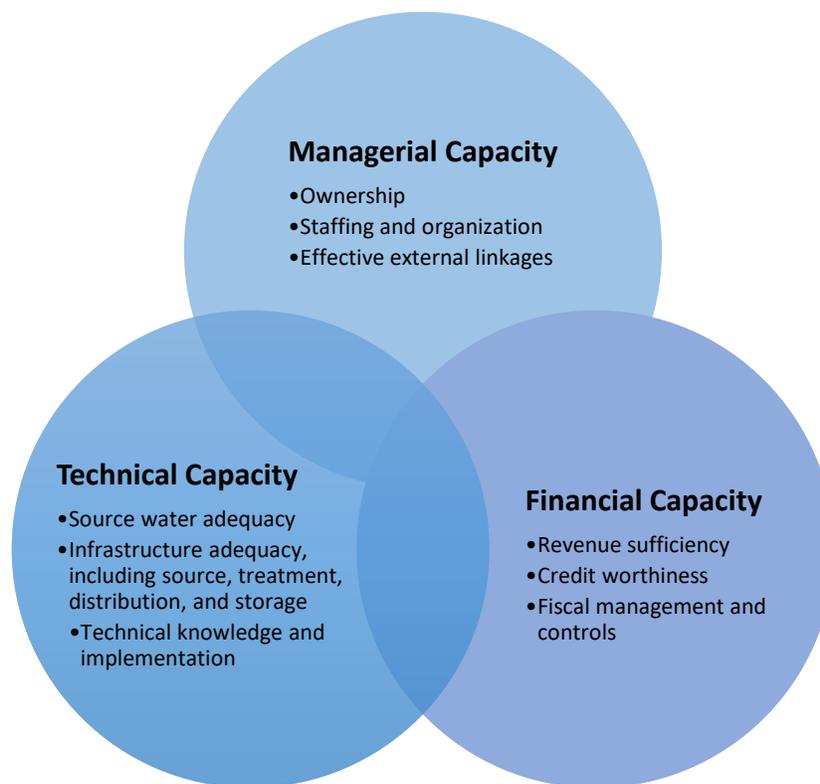
THE FUTURE 2021 to 2023 20

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. The 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 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.

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, 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 Program⁴. 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 to help PWSs adapt to changing circumstances, while also maintaining compliance with SDWA requirements.

³ Nevada’s Strategy was approved by EPA in September 2000

⁴ <https://ndep.nv.gov/water/financing-infrastructure/capacity-development>

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

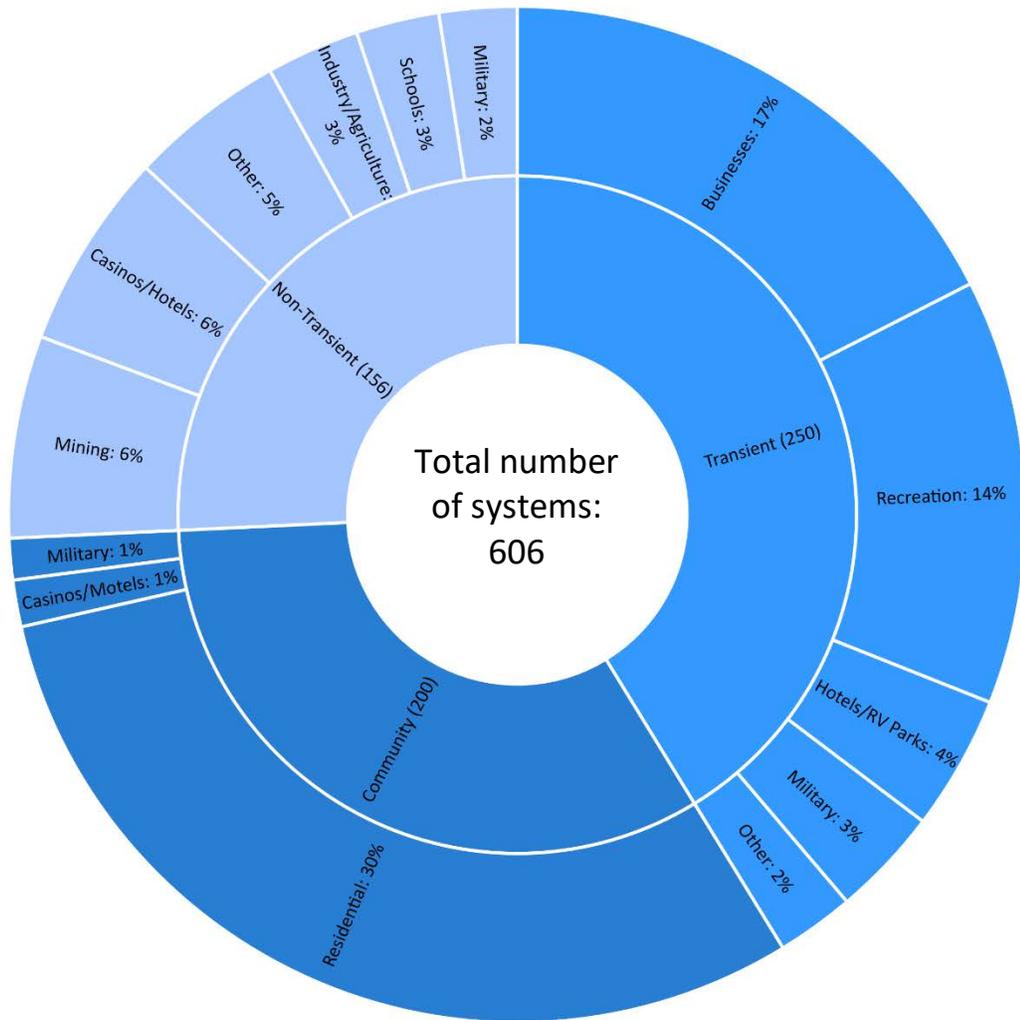
| NDEP Partners in Capacity Development | | |
|---|---|---|
| <p>Federal Partners</p> <ul style="list-style-type: none"> • Environmental Protection Agency • U.S. Department of Agriculture - Rural Development • U.S. Department Housing and Urban Development • Indian Health Services | <p>State Partners</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 • Environmental Finance Center • Rural Community Assistance Corporation • Resource Concepts, Inc. • Farr West Engineering, Inc. |

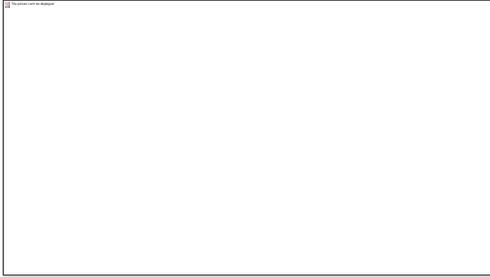
What is a public water system?



NDEP oversees approximately 600 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.

Nevada Public Water System Types





COVID-19 RESPONSE: 20 Years of Capacity Development

When the public health crisis began, response by the water and laboratory sector took their years of experience and put it into action. Beginning on March 12, 2020, NDEP began communicating with the Nevada water and wastewater sector to discuss COVID-19 impacts. NDEP staff formed a Technical Advisory Workgroup to assess needs and discuss next steps. The workgroup represented a cross sector of water, wastewater, and lab professionals across the state – from small, medium, and large utilities, consisting of the following partners:

- NDEP water, wastewater and emergency response staff
- Technical assistance providers
- Nevada water and wastewater operators
- Laboratory managers
- Nevada Rural Water Association (NvRWA)
- Nevada Water/Wastewater Agency Response Network (NvWARN)
- Public Utilities Commission (PUC)

Nevada’s water professionals were well prepared for the crisis. Measures were in place to continue serving water, complete water testing, and address continuity of operations, which included:

- ◆ Utilizing Emergency Response Plans
- ◆ Communicating with neighboring utilities to help in the case of staff illness
- ◆ Teleworking to the extent possible while addressing routine operations and maintenance
- ◆ Addressing critical needs of their utilities and preparing for shelter in place
- ◆ Sharing expertise regarding COVID-19, including surveillance monitoring in wastewater

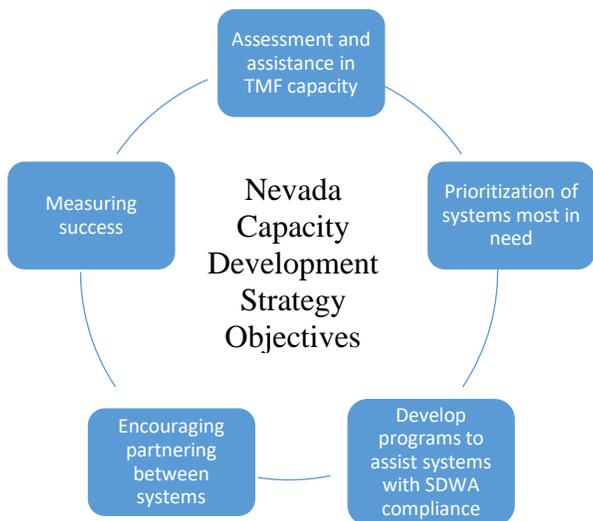
| Suspension of Shutoffs March 2020 | Critical Worker Travel Credentials April 2020 | Cloth Face Masks May 2020 | Infrared Thermometers July 2020 |
|---|---|--|--|
| <ul style="list-style-type: none"> •PUC & NDEP coordinate messaging •NDEP email blast to water & wastewater utilities •PUC posts messages to website | <ul style="list-style-type: none"> •NDEP developed system •Joint utility and NDEP verification process •NDEP issued 248 water and 79 laboratory travel documents | <ul style="list-style-type: none"> •FEMA, EPA, NvWARN, AWWA provided •Personnel protection •Distribution to water and wastewater utilities •6,000 distributed by NvWARN, RCAC, NvRWA | <ul style="list-style-type: none"> •FEMA provided •PUC and NDEP coordination •Personnel screening •Distribution to water and wastewater utilities •210 distributed by NDEP, NvRWA, NvWARN |

Water and laboratory professionals across the state worked together to quickly respond to the public health crisis, maintaining the needs of Nevadans as a priority.

NEVADA'S STRATEGY

Nevada's Capacity Development Strategy provides public water systems 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; allowing NDEP to provide meaningful and cost-effective assistance using a combination of staff, contractors, and external partners.

| | |
|------------|---|
| Technical | <ul style="list-style-type: none">• Hands-on troubleshooting for general or specific operations• Water quality testing• Leak detection and water loss• Sanitary survey deficiencies• System mapping using GIS |
| Managerial | <ul style="list-style-type: none">• All aspects of administering a PWS to comply with applicable safe drinking water standards• Operating and maintenance manuals, emergency response plans, cross-connection control plans, and sampling plans• Water conservation plans• Consumer confidence reports |
| Financial | <ul style="list-style-type: none">• Fiscal sustainability plans or asset management plans• Budgeting and rate setting• Understanding financial reports• Internal controls• Recordkeeping and financial support |
| Training | <ul style="list-style-type: none">• Operator certification training• Board training• Management and staff training |
| Outreach | <ul style="list-style-type: none">• Funding opportunities for water system projects• Workforce development |



How does NDEP assess and prioritize systems most in need?

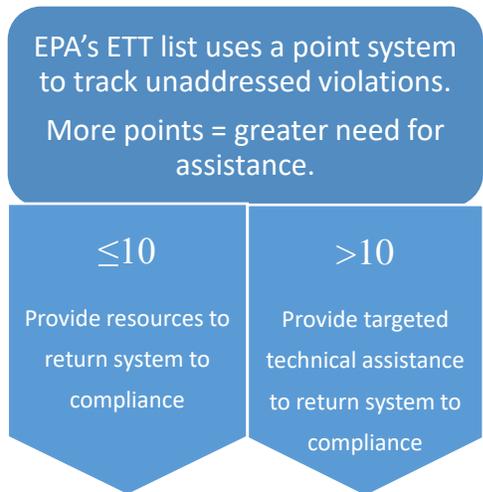
NDEP uses capacity assessments to measure the strengths and weaknesses of a water system. These assessments are conducted by third party contractors to determine where to focus funding and technical assistance and to prioritize systems most in need. With this information, NDEP staff and technical assistance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

Some of the challenges Nevada systems face include:

- ◆ Lack of routine maintenance and manuals to instruct staff on proper maintenance
- ◆ Under-staffed and under-funded operations
- ◆ Frequent management and ownership changes
- ◆ Limited maps of water system infrastructure
- ◆ Lack of Emergency Response and Cross Connection Control Plans
- ◆ Lack of Capital Improvement and Asset Management Plans
- ◆ Water source supply/quality

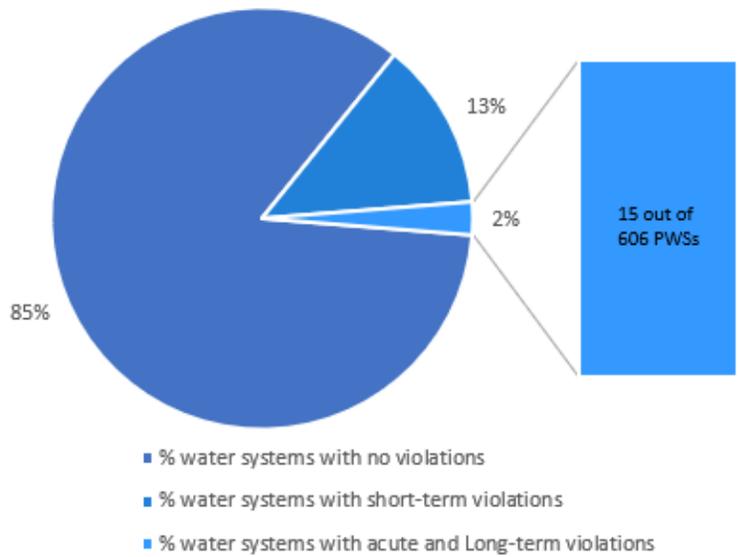
PWS regulatory compliance oversight is another routine process that enables staff to assess and prioritize assistance. NDEP currently utilizes multiple reporting mechanisms to help identify water systems facing challenges. Some of these reporting mechanisms include:

- ◆ 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 and a mechanism to prioritize TA. Approximately 15 percent of PWSs face challenges, and NDEP staff and TA providers focus a lot of time addressing their needs.

Average Public Water System Compliance
SFY 2018-2020



EPA’s quarterly Strategic Performance Measures are focused on Community Water Systems (CWSs) 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 percent. CWSs not compliant with the health-based standards are prioritized for TA.

| State Fiscal Year | Health-Based Violations | |
|-------------------|-------------------------|--|
| | % Compliant CWSs | % Population receiving compliant water |
| 2018 | 92.46 | 99.89 |
| 2019 | 91.33 | 99.87 |
| 2020 | 91.46 | 99.70 |

Table 1. Community Water System Statistics

Since State Fiscal Year 2018, three main factors have contributed to the small decrease in the percent of compliant CWSs:

- 1) EPA added requirement for assessing violations to PWSs for unaddressed significant deficiencies;
- 2) Some small PWSs failing to maintain their treatment plants; and
- 3) The addition of newly discovered “Found water systems” to the statewide inventory that typically come with initial compliance challenges.

To address these issues in 2019, BSDW initiated a structured system for pre-enforcement meetings to address and track unaddressed significant deficiencies. Additionally, TA has been targeted to develop treatment plant maintenance logs for PWSs with non-compliant arsenic treatment plants.

Since 2017, NDEP has re-evaluated and enhanced the process for prioritizing and targeting TA, so PWSs can address their challenges. These enhancements include:

- ◆ A new sub-grant in FY 2020 expanded NDEP TA providers from one to three, providing better statewide coverage and the ability to utilize unique strengths of each provider
- ◆ Increased coordination with PWSs, NDEP staff, and TA providers
- ◆ Reporting documentation enhancements
- ◆ Targeting EPA-funded TA providers on projects that address the following EPA priorities:
 - Community water systems with health-based violations
 - Schools in non-compliance
 - Lead exceedances
- ◆ Partnerships between water systems
- ◆ Steps to obtain funding for needed projects

To address PWS challenges, systems may require training, resources, or technical expertise to achieve compliance and develop operational and managerial capacity.

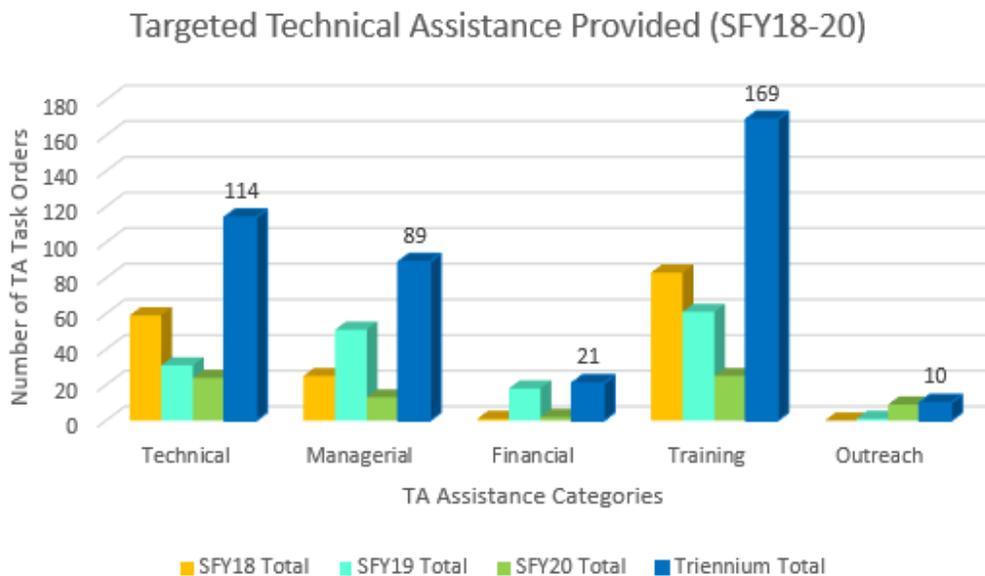
NDEP collates all the information from various tools and capacity assessments to determine PWS challenges. Targeted TA may then be assigned with the goal of achieving safe drinking water compliance and long-term sustainability.

How does NDEP use focused technical assistance?

Once NDEP understands the needs of PWSs, 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 systems to efficiently target their specific needs. NDEP’s external partners also have capability to provide TA, which is leveraged by the State to maximize support for small water suppliers, extending NDEP’s financial resources and reach.

During SFY 2018, one vendor was contracted by NDEP’s Office of Financial Assistance (OFA) to provide TA assistance in Nevada. In SFY 2019, OFA initiated a new *Request for Proposal* to find additional qualified vendors. Three TA vendors, each with expertise in specific areas, were selected to help support PWSs through SFY 2021.

NDEP contracts with TA providers to offer critical TMF capacity development, at no cost to systems. During the reporting period, the three vendors – Nevada Rural Water Association, Rural Community Assistance Corporation, and Farr West Engineering – made a concerted effort to address common deficiencies in PWSs. These TA providers also supported PWSs with compliance issues, distribution and treatment training, and more.



Strategies and Successes in SDWA Compliance

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.

➤ **Communication with stakeholders**

One of the quickest ways to increase a PWS's capacity is to open lines of communication and build relationships with regulatory agencies and TA providers. The Bureau of Safe Drinking Water (BSDW) is structured so that compliance staff are assigned specific water systems to oversee and manage. This structure was developed to provide PWSs one point of contact within BSDW, creating trust and consistent communication.

NDEP has built partnerships with other agencies to leverage program authorities, including state and local health departments, Manufactured Housing, the Department of Education, the Public Utilities Commission, and local county building departments. These partnerships are invaluable in achieving compliance and building sustainable water systems.

Other communication efforts include:

- ◆ Holding annual meetings with operators to provide consistent messaging.
- ◆ Opening a dialogue with TA providers to expand networking capabilities.
- ◆ Communicating with stakeholders to raise awareness of needs and resources.



Elko County

Back story

- Town in rural Nevada
- 290 residents
- Drought capacity concerns

NDEP efforts

- Stakeholder communication
- Watershed survey
- Review of chemical and microbiological data from unused spring owned by PWS
- Targeted TA

Partnerships

- County Public Works
- TA provider
- Engineers
- Owners
- Certified Laboratory

Successes

- Developed emergency preparedness plan
- Water source available for next prolonged drought
- Coordinated three-year planning effort

➤ **Found Water Systems Program**

In recent years, BSDW became aware of businesses and communities operating water systems in Nevada without the required regulatory oversight. These unregulated systems were potentially serving unsafe drinking water. The Found Water Systems Program was developed to identify these systems and bring them under BSDW oversight. An organized system using standardized procedures and tracking lists are used to manage the program:

1. Find Potential PWS

NDEP and stakeholders work together to identify potential PWS. Once identified, the system is added to a BSDW tracking list and prioritized for follow-up.

2. Contact Owner

The owner of the potential PWS is contacted and asked to verify the system.

3. Determine PWS Status

Once the status of the system is determined, BSDW either initiates the permitting process or requires the owner to provide routine re-verification of potential regulatory status to NDEP.

4. Provide Technical Assistance

Regulatory partner agencies are made aware of the potential PWS. NDEP works with TA providers to then deliver any permitting assistance necessary.

Newly identified systems are added to the list regularly, as NDEP conducts research into rural areas, water right permits, businesses, and historical records.



Churchill County

Back story

- School and childcare center
- 85 children and employees served by system
- Stakeholder notified BSDW of system
- Found PWS
- Arsenic & coliform non-compliance

NDEP efforts

- Communicated with stakeholder
- Temporary permit with compliance deadline issued
- Provided TA assistance

Partnerships

- Division of Public Behavioral Health (DBPH)
- Department of Education
- TA provider
- Engineer
- Owner

Successes

- Compliant water served
- Private School and Child-care facility remained solvent
- DPBH added PWS verification to checklist
- Long-term sustainability achieved
- One year permitting process



Since 2017, 21 found systems have been activated:

- ◆ 1 community water system
- ◆ 10 non-transient water systems
- ◆ 10 transient water systems

The people served by these previously unidentified systems now have assurance that their water is compliant with State and Federal law and safe to use.

➤ **Formal enforcement**

Formal enforcement is a last resort effort to compel a PWS to comply with SDWA requirements. These enforcement efforts oftentimes look to address environmental justice issues. Once formal enforcement is initiated, the process takes, on average, two and a half years to complete. This approach, while lengthy, has a dual benefit of protecting public health and building TMF capacity for PWSs.

Enforcement actions have resulted in three PWSs taking significant steps to address non-compliance associated with arsenic and lead action level exceedances. One of the systems is now serving water that meets compliance requirements. The two community PWSs with arsenic exceedances were closed.

Since 2017, 12 PWSs had open formal enforcement cases with the following non-cumulative actions taken:

- ◆ 7 cases were closed
 - 2 PWSs were inactivated due to Mobile Home Park closure and repurposing of the land.
- ◆ 3 new cases were opened, with 5 cases still open
- ◆ 1 case has a court-appointed receiver
- ◆ 5 cases required follow-up from the Attorney General’s office
 - 2 cases required action in district court
- ◆ 4 PWSs achieved long-term sustainability; 3 PWSs achieved short-term sustainability



Douglas County

Back story

- Residential community along Sierra Nevada foothills
- 50 residents
- System-wide lead exceedance

NDEP efforts

- Determined source water corrosivity
- Educated community on danger and mitigation
- Targeted TA
- SRF Loan

Partnerships

- Public Utilities Commission
- Homeowners Association
- Federal and Local Scientists
- Engineers
- Owners
- County Public Works
- County Legal Department

Successes

- Compliant water served
- Centralized treatment replaced residential treatment systems
- Solved 7 years of non-compliance

➤ **Additional subsidy**

Financial management is often the greatest challenge for small drinking water systems. As part of the DWSRF, Nevada has a program to provide principal forgiveness loans with additional subsidy to address low income areas or areas where the small number of customers make some projects unaffordable.

Systems receiving a principal forgiveness loan for infrastructure improvements are required to prepare a fiscal sustainability plan or asset management plan, establish a reserve account for capital replacement, and evaluate water rates every five years. With this loan, PWSs can enhance capacity and better serve communities that are most in need of assistance.

Over the past three fiscal years, approximately \$6.9 million in DWSRF principal forgiveness loans were awarded to 20 Nevada communities.



Washoe County

Back story

- Motel
- 32 residents, plus staff
- Arsenic non-compliance
- Classified as community water system in 2016

NDEP efforts

- Communication with stakeholder
- Formal enforcement
- Additional subsidy for consolidation to municipality

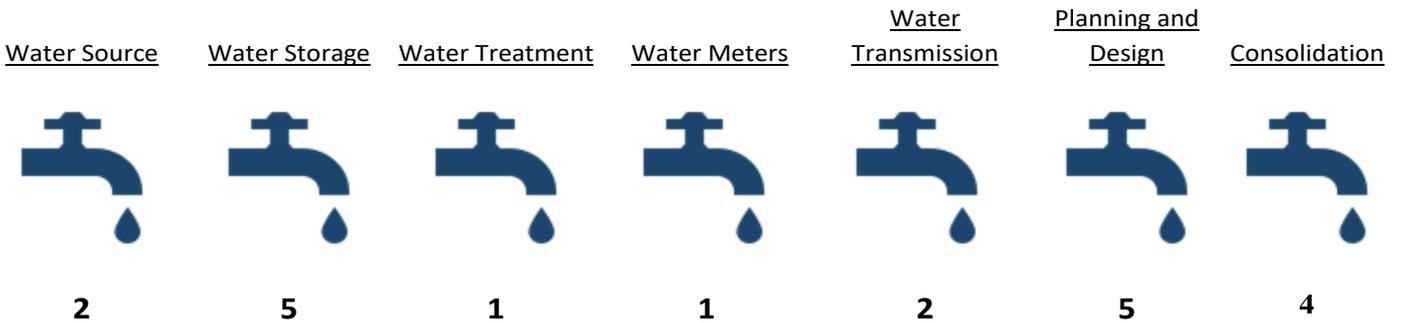
Partnerships

- Washoe County Health District
- Local municipality
- Engineer
- Owner

Successes

- Consolidation of a small non-compliant system into a large utility
- Compliant water served
- Owner no longer required to maintain a PWS

NUMBER OF PRINCIPAL FORGIVENESS LOANS ISSUED (2018-2020)



➤ **Financial reviews for funding opportunities**

The DWSRF provides financial assistance to both public and privately owned water utilities seeking low interest loans. User rates, capital improvement plans, and financial reports are reviewed to assess the community’s ability to maintain its system financially, as well as the PWSs ability to take on more debt. Three communities received assistance in reviewing their water rates, making needed adjustments for fiscal sustainability.

➤ **Financial reviews of previously funded projects**

NDEP believes refinancing debt – whether it is existing DWSRF debt or other eligible debt – helps recipients remain fiscally sustainable by taking advantage of better market conditions. Water systems can use savings from a refinance on needed capital-related infrastructure. The NDEP OFA helped three Nevada communities refinance infrastructure loans, totaling almost \$15 million. The savings to these communities amounted to over \$3.1 million.

➤ **Drinking Water Operator Certification Program**

Nevada regulations require PWSs to have properly trained and certified operators who are directly responsible for operating drinking water distribution and water treatment plants. Properly certified operators help NDEP further protect public health and the environment. Certification through testing is an NDEP program.

Nevada’s Drinking Water Operator Certification Program has been a critical resource for PWSs across the State to meet regulatory requirements. By using database queries, NDEP can target technical assistance, such as transitional services, finding new operators, and training to help prepare an operator for certification exams. In Nevada, 99.8 percent of water systems are compliant with operator certification requirements.



Clark County

Back story

- Community water system
- 9,000 residents
- Existing debt service from USDA preventing additional funding for construction projects needed for sustainability

NDEP efforts

- Communication with stakeholder
- Financial review for funding opportunity
- Networking with partner funders to aid system

Partnerships

- Water district
- Financial advisor
- Bond counsel
- USDA

Successes

- Net present value savings of 26.3% on \$2.7 million in debt
- System able to leverage cash flows for additional projects

| | 2018 | 2019 | 2020 |
|---------------------------------|--------------------------|--|-------------------------------|
| Number of operator certificates | 2130 | 2177 | 2091 |
| PWSs in compliance | 98.2% | 98.6% | 99.8% |
| Training hours | 266 onsite (71 sessions) | 140 onsite (44 sessions) 33 virtual | 279 virtual (+122 by AWWA) |

NDEP works closely with TA providers to help train operators and water system managers to improve their technical and managerial capacities. NDEP also engages volunteers from the Nevada Water and Wastewater Operator’s Forum and California-Nevada American Water Works Association (AWWA) to perform regular and comprehensive reviews for program improvements. These assessments also benefit the Operator Certification Program by addressing training and certification needs for Nevada water system operators.

In May 2018, changes to Drinking Water Operator Certification Program regulations were approved by the State. The amendments made various programmatic updates and increased fees gave the Nevada Drinking Water Program sufficient funds to address operational needs and promote the professional development of drinking water operators.

Nevada’s Operator Certification program continues to be recognized by EPA for its efforts to aid in SDWA compliance.

➤ **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. EPA defines eight elements that are required during all sanitary surveys.

| 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 |

NDEP, Washoe County Health District (WCHD), and SNHD inspectors identified 3,227 deficiencies during sanitary surveys conducted between June 1, 2017 and July 1, 2020. Of those, 1,603 were characterized as “significant.”⁵ NDEP engages with PWS staff after the sanitary survey to ensure deficiencies are corrected. Third-party technical assistance is coordinated for PWSs that have difficulty resolving their deficiencies, with priority going to systems with unresolved significant deficiencies.

During the last three years, NDEP has improved reporting of significant deficiencies as violations consistent with the regulations, as well as a recommendation from a Legislative Counsel Bureau audit. To address the associated increase in non-compliance, a new pre-enforcement process began last year. Additionally, NDEP is in the final stages of reformatting the sanitary survey report template, so PWSs may more easily understand their compliance status and the required follow-up actions. Rollout of the new format – and tracking its effectiveness – are anticipated to begin in January 2021.

By resolving sanitary survey deficiencies, PWSs can address immediate and long-term public health threats, while building TMF capacity.



Nye County

Back story

- County Senior Center, recreational facility, and offices
- 100 staff & 45 visitors daily
- Cross-connection control concerns noted
- Potential back-siphonage of water from non-potable sources, including pool

NDEP efforts

- Sanitary survey conducted
- Reached out to specialist

Partnerships

- County operator
- Cross-connection Control Specialist

Successes

- 7 backflow devices installed
- Increased awareness of backflow protection needs
- Operator using knowledge to survey other county-operated PWSs.
- Potential to assist other PWSs



➤ **Community source water protection**

PWSs and local communities throughout Nevada continually work to protect drinking water supplies from contamination. They recognize that investments made to protect drinking water sources will significantly reduce the cost of treating water later. This greatly enhances a system’s ability to make safe drinking water available and affordable to all.

NDEP leads this effort by implementing the State’s voluntary Integrated Source Water Protection Program (ISWPP). NDEP believes effective source water protection must be developed and administered by the local planning community – in conjunction with water suppliers. A local plan is a long-term commitment on the part of the community; the ISWPP helps make this commitment both economical and effective in protecting public health.

⁵ NAC 445A.4665 describes “significant” deficiencies as having “the potential to cause a risk to public health”

The ISWPP’s multi-jurisdictional approach provides opportunities for PWSs – ranging from very small taverns and mobile home parks, to larger districts and municipalities – to combine resources and promote community-wide awareness. This increases opportunities for small PWSs with limited resources to be included under a more comprehensive, county-wide source water protection plan (CSWPP). This unified approach protects water resources on a regional basis. The opportunity to be a part of the CSWPP allows PWSs to develop tools, maps, and strategies that build capacity.

The Vulnerability Assessment (VA) Program also helps protect community source water from contamination. The program teaches PWS operators to identify potential contamination sources (PCS) and evaluate risks. PWSs can even reduce monitoring costs if their source water is not at risk.

The VA Program and the ISWPP share and leverage this information to better assist PWSs. Local government can then prioritize strategies to manage community drinking water supplies more efficiently and effectively.

By the end of SFY 2020, cumulative source water protection efforts resulted in:

- ◆ 8 counties completing CSWPPs.
- ◆ 380 of the 606 existing PWSs implementing a source water protection plan
- ◆ 245 PWSs qualifying for reduced monitoring costs



Washoe County

Back story

- Truckee river: primary drinking water source
- 70 PWSs and 170 groundwater wells
- Source Water Protection Plan needed
- 319(h) Watershed Plan needed
- Numerous watersheds drain to the river
- Community planning tool needed

NDEP efforts

- Joint agency collaboration
- Leveraged program funding
- Facilitated plan development meetings
- Collaborated with local stakeholders
- Outreach and education
- Review and approval of final plan

Partnerships

- Cities of Reno, Sparks, and Washoe County
- Truckee Meadows Water Authority
- Washoe County Health District
- Stormwater Permit Coordinating Committee
- Western Regional Water Commission
- Numerous other local organizations

Successes

- All digital online map-based plan and tool
- Comprehensive water quality protection
- Stakeholder collaboration and investment
- Local agency support and approval of plan
- Ready to fund projects
- County ISWPP achieved national recognition

How does NDEP encourage partnering between systems?

NDEP believes that PWSs in the same geographical area can benefit from sharing resources and partnering on projects. That is why NDEP encourages PWSs to turn to each other when facing various funding challenges, limited administrative resources, maintaining certified operators, and other capacity limitations. Partnerships between stakeholders and PWSs at the local level bring people together, where they can coordinate with:

- ◆ Technical expertise
- ◆ Equipment
- ◆ Regional planning initiatives
- ◆ Local policymaking efforts
- ◆ Geographic information
- ◆ System mapping
- ◆ Outreach and education plans
- ◆ Managerial consolidation

State-local partnerships and local planning momentum helped consolidate 10 PWSs – two managerially and eight physically – in the last three years. In a state as vast as Nevada, these partnerships are critical for many PWS's. They encourage leadership development for local governments, cost-saving benefits for systems, and solutions for compliance issues.



Humboldt County

Back story

- County government
- Multiple small water systems within county struggling to keep a certified operator on staff and enough interested citizens to serve on governing board
- County long-term commitment needed to managing drinking water systems

NDEP efforts

- Communicated with stakeholder
- Networked with funding partners
- Approved DWSRF principal forgiveness funding
- TA assistance

Partnerships

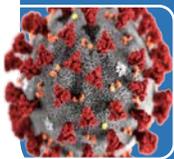
- County government
- USDA
- Engineer

Successes

- Sustainable, safe water provided to two communities
- In discussion for a third community

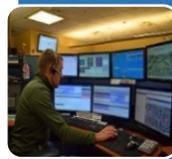
Benefits of Partnering

Continuity of Operations Plans



- Support for water operators during shutdown
- Delivering masks and thermometers across the state

County Operations



- Creating new operator position to service rural communities
- Counties maintain managerial operations for systems

Coordination of Contracted Services



- Water tank inspections are uninterrupted
- Backflow testing in remote areas

Co-funding Projects



- Joint funding pays for projects not otherwise affordable
- Reducing impact on rate increases for residents

THE FUTURE 2021 to 2023

As the 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 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.

Programs to Assist PWS Compliance

- Develop outreach for regulatory changes and updates.
- Develop programs to help assist PWS compliance.
- Re-assess the capacity development strategy for effectiveness and efficiency.
- Workforce development for the next generation of operators, managers, board members, and staff.
- Continue to encourage consolidations of systems through principal forgiveness loans and networking.
- Continue to develop PWS Vulnerability Assessment Plans.

Capacity Assessment & Assistance

- Re-examine assistance provided as a result of COVID-19 as a model for future virtual trainings.
- Increased development of asset management plans and financial sustainability.
- Increased board and staff training as workforce changes.
- Continue development of operation and emergency plans.

PWS Need Prioritization

- Continue to prioritize TMF assistance and project funding assistance based on risk to human and environmental health.
- Continue to utilize or conduct sanitary surveys and capacity surveys, as needed, to determine current system needs.

Encourage Partnering

- Continue networking with stakeholders and communicating with systems on resource sharing, partnerships, and consolidation.
- Expand the ISWPP to counties not previously covered.
- Ongoing modification of existing source water protection plans.
- Develop source water protection plans for individual PWSs.

Measuring Success

- Re-examine ways Nevada measures success:
- Number of years system remains off enforcement list after non-compliance issue addressed.
- Number of years system does not incur a sanitary survey deficiency.
- Number of failing systems consolidated into sustainable systems.
- Number of systems developing asset management plans, operation and maintenance plans, and emergency response plans.