



OKLAHOMA
Environmental
Quality

State of Oklahoma

Capacity Development Program Report to the Governor

State Fiscal Years 2024-2026

Oklahoma Department of
Environmental Quality

Water Quality Division

Capacity Development Section

September 2026

Reporting Requirements

In Oklahoma, the federal Safe Drinking Water Act (SDWA) and the Drinking Water State Revolving Fund (DWSRF) are administered by the Department of Environmental Quality (DEQ), with the DWSRF being co-administered by the Oklahoma Water Resources Board (OWRB). Closely tied with the management of the DWSRF, the DEQ also administers the state's capacity development program which provides Technical, Managerial, and Financial (TMF) assistance to the state's public water supplies (PWSs).

Section 1420(c)(3) of the 1996 Amendments to the SDWA requires that the DEQ must report to the governor every three years regarding the effectiveness of the state's capacity development program; **the purpose of this report is to satisfy that requirement by providing an assessment of the capacity development program in Oklahoma and the statewide strategy for assisting water systems in need.** Submittal of this report also assures that Oklahoma will not be subject to a 20 percent withholding of subsequent fiscal year federal grant funds from the DWSRF program.

The Report will be made publicly available online on the DEQ Capacity Development main page, under Reports: <https://oklahoma.gov/deq/divisions/water-quality/public-water-supply/capacity-development.html>

Report due: September 30, 2026

Date ranges covered: July 1, 2023- June 30, 2026



Figure 1. The Department of Environmental Quality's own 'Spirit of the Buffalo' statue stands tall in the native pollinator garden located at DEQ's central offices.

Table of Contents

Reporting Requirements 2

Acronyms 4

Introduction to Capacity Development 5

 The Oklahoma DEQ Capacity Development Section 6

Technical, Managerial, and Financial (TMF) Sustainability 7

 Capacity Development Assessment 9

 Water Loss Auditing and Control..... 12

 Asset Management Program..... 15

 Emergency Response Plan..... 17

Additional Capacity Development Programs..... 18

 Area-Wide Optimization Program (AWOP) 18

 Disadvantaged Communities..... 20

 Lead Testing in Public Schools & Childcare Facilities..... 23

 Source Water Protection Program 26

Program Outreach Efforts..... 30

Lessons Learned and Improvements..... 32

Future Direction 34



Figure 2. The street façade of DEQ’s central offices, located at 707 N. Robinson Ave, OKC.

Acronyms

ASCOG	Association of South-Central Oklahoma Governments
ASDWA	Association of State Drinking Water Administrators
AWIA	America's Water Infrastructure Act
AWOP	Area-Wide Optimization Program
AWWA	American Water Works Association
BG	Billion gallons
CD Section	Capacity Development Section
CDA	Capacity Development Assessment
CPE	Comprehensive Performance Evaluation
CU	Communities Unlimited
DEQ	Department of Environmental Quality
DWSRF	Drinking Water State Revolving Fund
EC-SDC	Emergent Contaminants - Small and Disadvantaged Communities
EFC	Environmental Finance Center
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
FY	Fiscal Year
GIS	Geographic Information System
GWPC	Ground Water Protection Council
LRSS	Long-Range System Sustainability
LWSC	Lead Testing in Schools and Child Care Facilities
MG	Million gallons
O&M	Operation and Maintenance
OCC	Oklahoma Conservation Commission
ODAFF	Oklahoma Department of Agriculture and Forestry
OML	Oklahoma Municipal League
ORT	Operator Renewal Training
ORWA	Oklahoma Rural Water Association
OSA	Oklahoma Strategic Alliance
OWEA	Oklahoma Water Environment Association
OWRB	Oklahoma Water Resources Board
PFAS	Per- and polyfluoroalkyl substances
PSOC	Potential Source of Contamination
PWA	Public Works Authority
PWS	Public Water Supply
REAP	Rural Economic Action Plan
SDWA	Safe Drinking Water Act
SUDC	Small, Underserved, Disadvantaged Communities
SWAWWA	Southwest Section of AWWA
SWP	Source Water Protection
TMF	Technical, Managerial, and Financial
WIIN	Water Infrastructure Improvements for the Nation Act

Introduction to Capacity Development

Capacity refers to the Technical, Managerial, and Financial (TMF) capabilities that a water system needs to sustainably achieve and maintain compliance with the Safe Drinking Water Act (SDWA). With the 1996 Amendments to SDWA, Congress formally recognized that to be sustainable, a public water supply must possess adequate TMF capacity.

Mastering these factors is critical for a water system's ability to plan for, achieve, and maintain the production of safe drinking water that complies with all applicable drinking water standards. The three areas of TMF capacity are:

- **Technical Capacity:** a water system's ability to operate and maintain its infrastructure, including source water adequacy, infrastructure adequacy, and technical knowledge and implementation.
- **Managerial Capacity:** the ability of water system personnel to effectively administer system operations, including management/ownership accountability, adequate staffing and organization, and effective external communication, partnerships, and linkages.
- **Financial Capacity:** the financial resources and fiscal management needed to support the operation of a water system, including revenue sufficiency, credit worthiness, and fiscal management and control

TMF capacity is necessary to achieve and maintain long-term sustainability and compliance with national safe drinking water regulations; furthermore, it is crucial in supporting positive health and economic outcomes for water system customers.

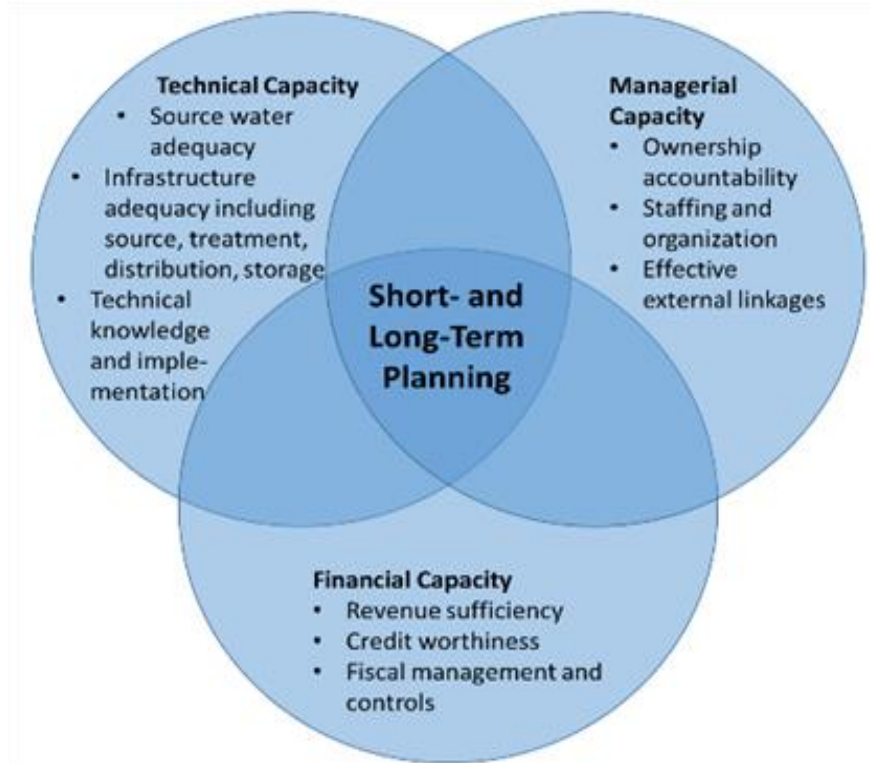


Figure 3. A visual representation of the three areas of TMF capacity.

The Oklahoma DEQ Capacity Development Section

DEQ's Capacity Development (CD) Section operates within the Public Water Supply (PWS) Group, which is in the agency's Water Quality Division. The section is responsible for implementing the state's capacity development strategy with the primary mission of ensuring that all DWSRF applicants and newly formed PWS systems have adequate TMF capacities. This is accomplished by both the direct provision of assistance via the section's staff members and by coordination with third-party technical assistance providers.

The assistance provided by the CD Section is purely 'non-enforcement' based and is conducted with PWS systems on a voluntary basis. The section helps systems develop the skills and utilize the resources necessary to return to compliance, maintain existing infrastructure, organize staff, and reliably provide safe drinking water to their customers.

The needs of Oklahoma's water systems vary widely; common issues include aging infrastructure, a lack of financial control policies, inadequate staffing, insufficient water rates, and a lack of written procedures and policies. When assisting a PWS system, the section usually begins with conducting a comprehensive 'capacity development assessment' that examines a system's needs and provides a comprehensive roadmap to sustainability. The section then aims to provide the tools, resources, and relationships needed for the system to reach sustainability; however, it is ultimately up to the systems themselves to make the necessary changes.

Prior to SFY 2024, the CD Section was staffed by three Environmental Programs Specialists and led by a section manager. With the continuously increasing TMF needs of PWS systems across the state and promising results achieved by the growing CD Section, the section now has a total of five Environmental Program Specialists and an administrative assistant.



Figure 4. The Department of Environmental Quality's Capacity Development team (Back left to right): Kamren Lambdin, Jamie Henson, Lisa Stewart. (Front left to right): Katelynn McLaughlin, Cady Belsky, Holly Cannon.

Technical, Managerial, and Financial (TMF) Sustainability

The SDWA requires that newly formed PWS systems as well as systems that apply for funding through the DWSRF systems possess the necessary TMF capacities to be resilient and sustainable. Considering this, the primary duty of the Capacity Development (CD) Section is to assist in developing and/or improving TMF sustainability for systems that meet these conditions. Secondly, DEQ believes that TMF sustainability is a critical concern for all water systems across Oklahoma, so the CD Section is able to provide TMF assistance to all water systems across the state. The section staff work directly with the operators, staff, and administrators of these systems to address or identify additional assistance in any number of the following areas:

Technical Capacity

- Operation and Maintenance Plans
 - System Information
 - Preventative Maintenance Plans
 - Work Order Systems
 - Inventory Records
 - Valve Location and Exercising Plans
 - Dead-end Line Elimination
- Energy Audits
- Training and Continuing Education
 - Operator and Board Member Training
 - Cross-Training Plans
- Communication
 - Communication Policies
 - Customer Notification Templates
- Strategic Plan Development
- Mapping
- Emergency Response Planning
 - Risk Assessment and Vulnerability Plans
 - Emergency Source of Water Plans
 - Critical Customer Plans
 - Mutual Aid Plans
- Water Loss Auditing and Control
- Source and Production Planning
 - Hydraulic Modeling
 - Maximum Demand/Rated Design Model
- Water Meter Accuracy Testing
- PWS System Security
- Contamination Prevention
 - Monitoring and Testing Procedures
 - Wellhead and Source Water Protection Plans
 - Backflow Prevention Plans

Managerial Capacity

- PWS Governance and Management
 - Open Meeting and Open Records Act Training
 - Bylaws Development and Updating
 - Board Member Training and Continuing Education
- Organization and Personnel
 - Organizational Chart Development
 - Personnel Policy / SOP Development
 - Office Support Staff Training

Financial Capacity

- Budgeting
 - Budget Preparation and Use
 - Financial/Budget Reporting
- Financial Position
 - Financial Indicator Training
 - Enterprise Accounting Training
- Accounts Receivable/Payable Training
 - Fund Management Procedures
 - Financial Controls
 - Separation of Duties Policies
- Rate Studies and New Rate Implementation
- Reserve Account Policies
- Insurance and Bonding
- Asset Management Plans

The CD Section is able to provide direct assistance in most of the above TMF areas; additionally, the section maintains technical assistance contracts with the Oklahoma Rural Water Association (ORWA) and referral relationships with other third-party technical assistance providers (Communities Unlimited, Environmental Finance Center, and Oklahoma Municipal League) to ensure that PWS systems receive help in areas where the section has a wait list or lacks the expertise.

The CD Section also promotes TMF sustainability as part of the Oklahoma Strategic Alliance; a coalition of organizations committed to promoting PWS sustainability in Oklahoma. Ratified by Governor Stitt on September 3, 2019, the Alliance is comprised of the Office of the Secretary of Energy and Environment, DEQ, Oklahoma Water Resources Board (OWRB), and ORWA. Each organization is committed to working together and combining resources to help rural and small community PWS systems better maintain and update infrastructure.



Figure 5. Representatives from several of the Oklahoma Strategic Alliance partners present an award to a drinking water system.



Capacity Development Assessment

Introduction

In 2017, DEQ began work on a project to assess the Technical, Managerial, and Financial (TMF) capacity of small municipal PWSs and rural water districts in Oklahoma. Named the 'Capacity Development Baseline Assessment,' the project was designed to develop a clear concept of state-wide TMF needs, determine which systems are most in need of help, and delineate the unique set of needs faced by each system.

The Capacity Development Baseline Assessments were conducted between 2017 to 2020 at all municipal PWS systems and rural water districts in Oklahoma serving 10,000 or fewer individuals. From 2021 through the end of 2023, capacity development assessments continued to be completed in order to establish initial assessment ratings for systems that may have been missed in the baseline assessment. In addition, emphasis was placed on completing follow-up assessments with already completed systems to see if and how their score had changed. During State FY24, the CD Section completed Version 2.0 of the assessment which is easier to complete, understand, and synthesize. The updated assessment was implemented in January 2024. Continuous improvements to the Capacity Development Assessment are ongoing to best determine the needs of Oklahoma PWSs.

Results

The results of this project allowed DEQ to identify trends and correlations within the data including the state-wide average assessment score and the greatest issues affecting a significant proportion of Oklahoma water systems. A total of 1,427 Capacity Development Assessments have been completed as of June 30, 2026. Preliminary results of the 1,427 completed assessments indicate that, on average, water systems have 77.91% of the necessary TMF capacity to achieve sustainability. This means that, on average, assessed systems are missing almost one quarter (22.09%) of the items, procedures, policies, and resources needed to become sustainable.

Table 1. Total number and average score of completed Capacity Development Assessments.

Capacity Development Assessments (CDAs) completed by Date	Number of Assessments	Average Score
CDAs completed between 2023-2026	277	76.67%
Total Number of CDAs Completed	1,427	77.91%

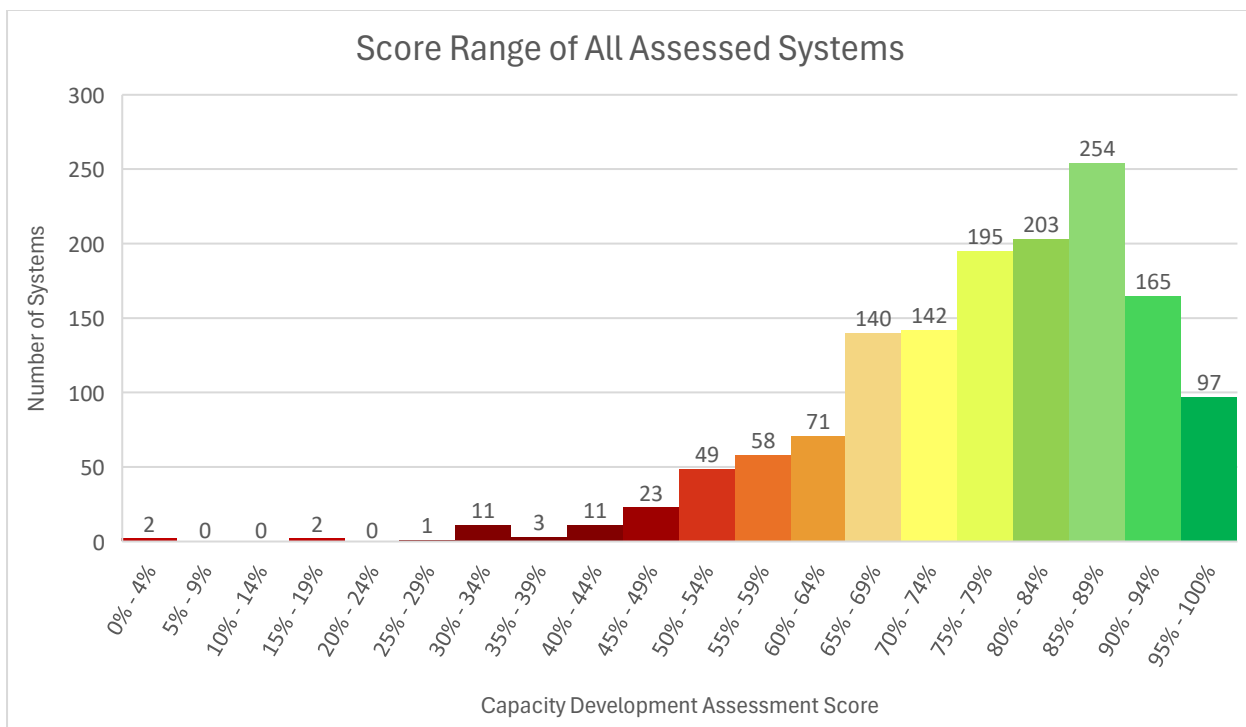


Figure 6. The score range of all systems assessed by the capacity development assessment. This data was collected over the last ten years and represents the technical, managerial, and financial capacity of over one-thousand Oklahoma water systems.

TMF Capacity Deficiencies for PWSs

Understanding which capacities most systems lack aids the CD Section in identifying where technical assistance efforts need to be focused. The **table below** identifies the top five missing capacities among Oklahoma PWS systems as reported by all of the updated Capacity Development Assessments taken since Calendar Year 2023. According to the data, the most common missing capacity for PWS systems is having a written meter maintenance plan. A meter maintenance plan outlines the schedules for maintenance, calibration, and replacement of meters used to measure water production and plant metrics. Having a meter maintenance plan allows the water system to extend the lifespan of their assets and to achieve improved data integrity. DEQ has developed a template for such a policy and shares this template with systems who lack this capacity.

Table 2. Top five missing capacities among PWSs according to Version 2.0 Capacity Development Assessments.

TMF Capacity Missing	Percentage of systems without
System has a complete written meter maintenance plan.	80%
System conducts an energy audit on a regular basis	78%
Operation and Maintenance (O&M) written plan available and regularly updated, detailing all aspects of operating the water system.	73%
System has complete written policy regarding communication	72%
System has written plan to acquire additional water rights to meet future increases in demand.	71%



It is common for systems to lack written plans, policies, and procedures. Considering this, DEQ improved and further developed its collection of templates for systems to address identified TMF deficiencies. The following templates are available for download on the DEQ Capacity Development webpage:

- Operations and Maintenance Plan
- Training and Certification Plan
- Communication Policies
- Strategic Growth Plan
- Emergency Response Plan
- Water Loss Audit Software
- Reporting and Records Policy
- Meter Maintenance Plan
- Backflow Cross-Connection Policy
- Cybersecurity Plan
- Organizational Chart
- Board Tour Memo
- Personnel Policies
- Asset Management Plan
- Meter Connections and Billing Status Policy
- Procurement Policy

Conclusions

A review of the capacity development assessments yielded the following three primary conclusions:

1. Of all the TMF issues surveyed, the top five limitations of Oklahoma systems are all ‘technical.’

All top five limitations of Oklahoma PWS systems were found to be in the technical section of the TMF assessment. One of the most common technical capacities missing was a written Operation & Maintenance (O&M) plan. While this capacity is not the top missing item, it is the most imperative of those missing and is therefore required for DWSRF funding. A complete and up-to-date O&M plan is crucial for PWS system sustainability. These plans should cover all aspects of system operations to ensure continuous PWS system operation in the event of an emergency or employee turnover. In addition, O&M plans are excellent tools to train new staff and to document and preserve institutional knowledge concerning system operations. PWS governing boards are encouraged to review O&M plans at least annually to become familiar with system operational challenges and to develop a knowledge base for making accurate, strategic, and informed decisions. The CD Section works closely with systems that lack an O&M Plan to build one that can be used for years to come. The importance of regular review and updates of the plan is emphasized to ensure the effectiveness of the plan and to ensure that the system is not reliant on any specific employees in the case of an emergency.

2. Of the deficiencies surveyed, four out of the top five included a lack of a ‘written’ policy or plan.

According to the TMF missing capacity table, it is common for systems to lack written plans, policies, and procedures. Most systems tend to say they have a plan, yet after more investigation, it is usually discovered to not be written down. Having every plan, procedure and audit written down is highly recommended. Without these plans written down for all system staff to view, chaos and disorganization is inevitable. One of the main objectives for capacity development is to assist these systems with developing and implementing written plans, policies, and procedures.

3. Water operator turnover has a major impact on the sustainability of a system.

There are multiple factors that contribute to a system’s capacity development score decreasing over time. One of the biggest influences is high employee turnover. Many of the small systems assessed by DEQ have one operator who has run the system for many years, often taking on many different responsibilities within their community. As those employees retire or leave their systems, the institutional knowledge carried by that employee is lost, making written plans and policies even more difficult to create.



Water Loss Auditing and Control

Since 2015, DEQ has worked to standardize and promote water loss auditing across the state using the M36 Water Loss Audit Method developed by the American Water Works Association (AWWA). The program has had great success tracking and identifying sources of loss and non-revenue water across the state using this scientifically sound, repeatable, and comparable method.

An M36 method water loss audit quantifies volumes and values of real and apparent water losses from a distribution system.

Real loss is defined as water that escapes the water distribution system through leakage, breaks, and storage overflows. This loss is water that is treated but is never delivered to customers and results in increased operational costs and stress on source water supplies.

Apparent loss is revenue lost due to customer meter inaccuracies, billing system data errors, and/or unauthorized consumption. It is water that could have been sold but instead siphons revenue from the system and distorts data on production and consumption.

An M36 method water loss audit also determines the volumes and values of revenue and nonrevenue water that a PWS is producing.

The amount of *revenue water* a system can deliver has a direct impact on its ability to pay for operations, make debt obligations, and provide for capital improvement and emergency response funding.

In contrast, *nonrevenue water* is the sum of the real and apparent losses occurring at a system as well as all unbilled authorized usage, such as water used for municipal buildings, parks, swimming pools, irrigation, firefighting, and system flushing. Unbilled authorized usage is a necessity; however, these amounts can become excessive if not tracked. A water loss audit is often the first time many PWS systems become aware of the impact of unbilled authorized usage and can begin controlling it.

Program Statistics

426

Total Water Loss Audits
completed since 2015

122

Audits completed
(July 1, 2023- June 30, 2026)

25.686 BG

(billion gallons)

Total water loss identified
for Oklahoma systems

\$17,199,184

Total value of identified
apparent losses

\$32,271,412

Total value of identified
real losses

Real Losses

‘Real loss’ is defined as water that escapes the water distribution system through leakage, breaks, hydrants, and storage overflows. This loss is water that is treated but is never delivered to customers which results in increased operational costs and stress on source water supplies. The water loss auditing program has identified 23.07 billion gallons (BG) of real loss per year at Oklahoma systems, where the average real loss per system per year is 54.92 million gallons (MG). This is the largest category of water loss observed from the audited systems (accounting for ~90% of losses), costing on average \$79,097 per year per system. This totals \$32,271,412 in identified annual loss from systems audited through this program.

Table 3. Real water loss volumes and values identified in water loss audits conducted July 1st, 2023, through June 30th, 2026, as well as Water Loss Audits conducted since 2015 in Oklahoma.

Real Loss Identified	July 1, 2023 – June 30, 2026		Since 2015	
	Average	Total	Average	Total
Real Loss (/Yr):	69.52 MG	8.27 BG	54.92 MG	23.07 BG
Value of Real Losses (\$/Yr):	\$91,450	\$10.79 M	\$79,097	\$32.27 M

Apparent Losses

‘Apparent loss’ is water lost due to customer meter inaccuracies, billing system data errors, and/or unauthorized consumption. It is water that is still consumed by the distribution system’s customers but is not properly paid for. This type of water loss contributes greatly to system revenue loss and distorts production and consumption data. Annually, apparent losses have accounted for a smaller percentage of total water loss than real losses (~10% of total water loss). However, apparent losses still represent a significant loss of revenue to most systems participating in the audit, costing on average \$52,183 per audited system and over \$6.16 million total from all audited systems.

Table 4. Apparent water loss volumes and values identified in water loss audits conducted July 1st, 2023, through June 30th, 2026, as well as Water Loss Audits conducted since 2015 in Oklahoma.

Apparent Loss Identified	July 1, 2023 – June 30, 2026		Since 2015	
	Average	Total	Average	Total
Apparent Loss (/Yr):	7.08 MG	0.84 BG	6.24 MG	2.62 BG
Value of Apparent Losses (\$/Yr):	\$52,183	\$6.16 M	\$41,645	\$17.20 M

Leak Detection, Meter Analysis, and Loss Correction

Conducting water loss auditing with the AWWA M36 method has improved understanding of real and apparent losses at participating systems; however, this is only the first step towards the ultimate goals of reducing water loss and improving system finances. PWS systems that have completed a water loss audit and had results which indicate nonrevenue water (as % of supply) greater than 20% qualified for leak detection and/or meter analysis assistance from ORWA.

Participating systems meet with ORWA, review audit results, and coordinate an in-depth leak detection schedule. The typical technical assistance event takes place over 2-3 weeks' time and involves locating leaks, analyzing meters and training PWS staff. Following the completion of this technical assistance effort, participating systems receive a detailed report indicating the location, volume, and value of all identified leaks. Systems are encouraged to act on the information provided and make repairs where possible.

Since the inception of the program, 98 systems have received leak detection help from ORWA, where, together, they have identified 510 leaks estimated at 3.169 billion gallons/year. Of the 510 leaks identified by ORWA, 169 of them were repaired during detection. These repairs have recovered an estimated 1.878 billion gallons of water per year valued at an estimated \$18.658 million.

The amount of revenue saved has shown a real, immediate, and positive impact. Program participants have reported increased financial capacity, continued loss reduction, and better operational knowledge gained through their leak detection experiences with ORWA.

Moving forward, DEQ will continue to build on the success of the water loss auditing and control program by performing additional water loss audits at PWS systems and by continuing to contract with ORWA to conduct leak detection and meter analysis technical assistance.

Table 5. Leak detection work completed by ORWA. Includes the total number of systems who received assistance as well as how many leaks were detected and repaired during program participation.

ORWA Leak Detection Assistance Program	FY2026	FY2025	FY2024	FY2024-FY2026 Totals	Total Overall (FY2017-FY2026)
Systems that received Leak Detection assistance	14	14	16	44	98
Number of Leaks Detected	27	50	58	135	510
Real Loss Identified (MG/Yr)	398.93 MG	401.03 MG	387.89 MG	1.187 BG	3.169 BG
Value of Real Loss (\$/Yr)	\$847,687	\$1,862,863	\$1,475,564	\$4,186,113	\$8,734,136
Number of Leaks Repaired	23	23	38	84	169
Gallons/Yr. of Leaks Repaired	363.70 MG	317.50 MG	312.20 MG	993.40 MG	1.878 BG
Value/Yr. of Leaks Repaired	\$777,257	\$1,560,183	\$1,176,048	\$3,513,488	\$5,184,519

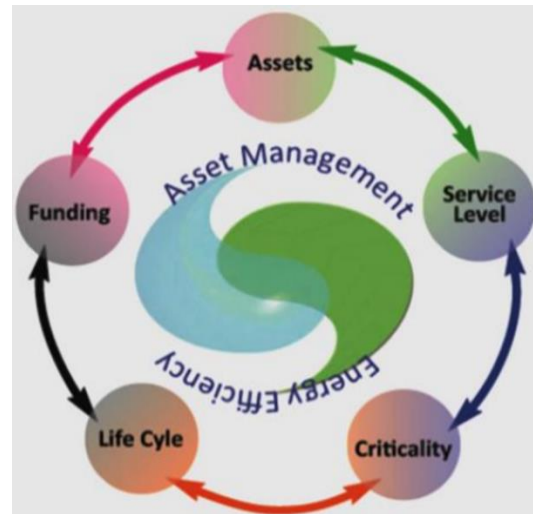
Asset Management Program

Asset management is the practice of operating a PWS so that the cost of owning and operating infrastructure capital assets is minimized while delivering the service level that satisfies customers. Termed “applied common sense” by the water industry, it is a means of operating a system that maximizes efficiencies and maintains sustainability, allowing a system to provide safe water at an affordable cost - indefinitely.

An asset management plan is built around 5 core components:

- Building an asset inventory,
- Determining a target level of service,
- Determining criticality of assets,
- Calculating life cycle costing, and
- Developing a long-term funding plan

Building an asset management plan that follows these core components guides water systems toward obtaining the longest and most efficient use of infrastructure possible while ensuring customers receive the quality of service they expect from the system.



The Capacity Development Asset Management Tool

In 2020, the Capacity Development Section created the Asset Management Tool that was made available to any Oklahoma PWS system, free of charge. The Microsoft Excel-based tool assists systems in cataloging their assets, determining the likelihood and consequence of failure, and exploring timeframes and funding for asset replacement. DEQ’s tool continues to be mentioned nationally during meetings and webinars hosted by the Association of State Drinking Water Administrators (ASDWA), and other states and agencies from across the United States continue to request copies of the tool. Some states have even used the tool as a base to create their own.

Since the tool’s creation in 2020, a total of 106 asset management plans have been created for Oklahoma water systems through the CD Section and numerous others through DEQ’s partners. Of these plans, 60 were completed between July 1, 2023 and June 30, 2026.

Program Statistics

106

Asset management plans created with systems since 2020

555,552

Total customers served by systems with a DEQ asset management plan

8,359

Total number of assets logged for Oklahoma systems

79

Average number of assets logged per water system



Asset Management Tool Improvements

Improvements continue to be made to DEQ's Asset Management Tool on a yearly basis with the most recent major updates being completed in June of 2026. These updates usually occur to increase user-friendliness, improve accuracy of calculations, and update inflation data. The most recent update reorganized the tool to where all data entry now occurs on one page, which allows for lines to be inserted or deleted when adding assets (previously would break the embedded equations). Additionally, the instructions page is now more informative, a cost estimate from any year may now be provided, criticality equations were reevaluated, and visual and content updates were made to the criticality table.

Asset Management Outreach

America's Water Infrastructure Act of 2018 (AWIA) required that states amend their capacity development strategies to include a description of how the state will encourage the development of asset management plans at PWS systems. The CD Section completed a revision of the state's strategy, which included a promotion of asset management best practices and detailed the training and technical assistance that the agency will provide. The strategy revisions focused on providing training seminars, one-on-one assistance with water systems, and providing for third-party asset management plan development via the ORWA technical assistance contract. These strategies continue to be employed for the promotion and completion of asset management planning.

Throughout calendar year 2025, DEQ held monthly Operator Renewal Trainings where asset management was one of the presented topics. In addition, throughout SFY 2024, 2025, and 2026, Capacity Development members were invited to present on asset management at various trainings and conferences across the state in association with various organizations including the Association of South-Central Oklahoma Governments (ASCOG) and ORWA.

Asset management plans are vital for making informed decisions on infrastructure acquisition, construction, operation, maintenance, renewal, replacement, expansion, and disposal. Having a plan in place that is regularly updated will minimize risk, help manage costs, and ensure the continuous delivery of safe drinking water to customers. Considering this, asset management plans are a requirement for any PWS undergoing a project with DEQ's DWSRF section. Once completed, regular updates to the plan are strongly encouraged.

Whether a water system is creating a plan to address the requirements of the DWSRF section or just to carry out best practices at their facility, DEQ's CD Section offers free technical assistance to community PWSs for asset management plan creation. Upon plan completion, DEQ sends a copy of the completed asset management plan to the water system for continual updates to be made to the data.

DEQ's partner, ORWA, conducts asset management plans using DEQ's tool through a technical assistance contract. ORWA's staff have been fully trained on plan development and are available to complete them with systems upon request.

For easy access by various users, the CD Section maintains the latest version of the Asset Management Tool on the Capacity Development webpage of the DEQ website.



Emergency Response Plan

Emergency response planning is a process that helps water system managers and staff explore vulnerabilities, make improvements, and establish procedures to follow during an emergency. Preparing and practicing a response plan can save lives, prevent illness, enhance system security, minimize property damage, and lessen liability.

America’s Water Infrastructure Act (AWIA) requires that community water systems serving a population of 3,300 or greater will need to develop, submit, and update an emergency response plan (ERP) for their system; additionally, water systems will need to complete or show proof of a written ERP prior to being approved for DWSRF funding. The CD Section has created an ERP template for Oklahoma water systems to fulfill these requirements.

The DEQ ERP template provides water systems with a place to gather all the relevant contact information, infrastructure information, and response resources that might become important in the instance of an emergency. System staff are prompted to discuss alternative routes into their community, assembly areas that could be utilized in the event of water outages, physical security, cybersecurity, power outages, and emergency drinking water suppliers.

Emergency preparedness and security are vital for the reliable delivery of safe drinking water, the protection of public health, and the safety of staff.

TABLE OF CONTENTS

UTILITY OVERVIEW AND EMERGENCY RESPONSE PLAN SPECIFICS.....	1
I. UTILITY OVERVIEW	1
II. KEY LOCAL SERVICES	1
III. UTILITY INFORMATION	2
CONTACT INFORMATION [INTERNAL AND EXTERNAL]	3
IV. PERSONNEL INFORMATION	3
V. EMERGENCY RESPONSE ROLES.....	3
VI. EXTERNAL PARTNER COMMUNICATION	4
Local Partners	4
State Partners	4
Federal Partners.....	4
VII. CRITICAL CUSTOMER COMMUNICATION	5
VIII. MEDIA OUTREACH	6
PRIMARY UTILITY COMPONENTS	7
IX. PRIMARY UTILITY COMPONENTS	7
X. INDUSTRY CHEMICAL HANDLING AND STORAGE FACILITIES	8
XI. SAFETY	9
XIII. RESPONSE RESOURCES	10
EMERGENCY PLANS AND PROCEDURES.....	11
XIII. CORE RESPONSE PROCEDURES.....	11
XIV. ALTERNATE DRINKING WATER SUPPLIES.....	13
XV. DETECTION STRATEGIES.....	14
XVI. INCIDENT-SPECIFIC RESPONSE PROCEDURES	14
EMERGENCY RESPONSE PLAN APPROVAL	15

Figure 7. The Table of Contents of the DEQ ERP template.

Program Statistics

74

Total ERPs completed
since 2021

41

ERPs completed
(July 1, 2023- June 30,
2026)

193,240

Total customers served
by water systems with
a DEQ ERP

81,263

Total Service
Connections served by
water systems with a
DEQ ERP

The template is consistent with AWIA guidelines as it provides strategies and resources to improve the resiliency of the system, plans and procedures that can be implemented in hazardous situations, and strategies that can be used to aid in the detection of emergency events.



Area-Wide Optimization Program (AWOP)

AWOP Background

The Area-Wide Optimization Program (AWOP) first piloted in early April 1999 in Oklahoma by EPA Region 6. This program started as a multi-state effort to optimize particle removal and disinfection capabilities of filtration at conventional water treatment plants. AWOP is now a voluntary approach to improve drinking water quality beyond compliance levels to enhance public health protection, and it is no longer limited to conventional water treatment plants. Following the AWOP model is one of the most cost-effective and economical ways a PWS can improve their ability to produce safe drinking water, as it is focused on enhancing process monitoring and control using the existing staff and facilities.

DEQ AWOP Status

Since 1997, DEQ has conducted 25 optimization and eight mandatory Comprehensive Performance Evaluations (CPEs) of water systems within the state. The original scope of the CPE effort was, and continues to be, to assist the community and train the operators and engineers in understanding the intricacies of optimizing water treatment. A CPE provides analysis of the facility's design capabilities and a system's administrative, operational, and maintenance practices. Within 60 days following the CPE, systems receive a report from DEQ that outlines factors that may influence the optimization of their treatment operations.

The AWOP team has also provided technical assistance and employee training via workshops on a number of topics such as turbidity data integrity, manganese, low-pressure membranes, and more. The team presented at the Oklahoma DEQ Operator Training events around the state to highlight how the program can help all water systems. The AWOP network has allowed for working relationships to develop with other AWOP Region 6/7 states, which has provided staff with the opportunity to assist other states when needed. Internally the AWOP team is organized by three team leaders who head the workshops, awards, and CPE components of AWOP. Active participants in the team include various employees of every section within the DEQ Water Quality Division, PWS Group.

AWOP Regions 6/7 Meetings, Workshops, and CPE

EPA Region 6, Oklahoma, Arkansas, Louisiana, New Mexico, and Texas, along with Region 7 states: Missouri, Iowa, and Kansas, meet at least quarterly for meetings. Oklahoma continues its involvement by attending and/or hosting these quarterly regional meetings, workshops, and multi-state CPEs. The following were the meetings, workshops, and CPEs that occurred for the Regions 6/7 AWOP team for SFY 2024, 2025, and 2026.

- 08/2023 – National AWOP Meeting
- 10/24/2023 – Oklahoma City, OK – Turbidity Data Integrity Workshop
- 12/13/2023 – Claremore, OK – Manganese Workshop
- 2/14/2024 – Remote Meeting
- 5/21/2024 – Wichita, KS – Intro to Microbial CPEs, Part I – Administrative Team
- 7/10/2024 – Remote Training – Fundamentals of Low-Pressure Membrane Integrity Workshops



- 7/30/2024 – Lenexa, KS – Intro to Microbial CPEs, Part II – Design Team
- 9/12/2024 – Anadarko, OK – Oklahoma AWOP Turbidity Workshop
- 10/7/2024 – Rogers, AR – Multi-State CPE
- 2/12/2025 – Remote Meeting
- 5/13/2025 – Springfield, MO – Intro to Microbial CPEs, Part II – O&M Team
- 9/15/2025 – Ellsworth, KS – Kansas Voluntary CPE
- 9/25/2025 – Wetumka, OK – Oklahoma AWOP Disinfection Byproducts Workshop
- 10/28/2025 – Remote Meeting – Intro to Microbial CPEs, Part IV – Filter Assessment and PLFs
- 2/1/2026 – Remote Meeting – PFAS Presentation

In October 2023 Oklahoma hosted the AWOP Region 6/7 Quarterly Meeting which included the completion of a turbidity data integrity workshop at two Oklahoma water systems. One system was a conventional water treatment plant while the other was a low-pressure membrane plant. The Oklahoma DEQ staff and AWOP team members also conducted a manganese workshop in December 2023 in Claremore, OK modeled after a workshop presented at an AWOP Region 6/7 Quarterly Meeting in Dallas, TX in May 2023. On September 12th, 2024, and September 25th, 2025, Oklahoma DEQ internally conducted a turbidity workshop and disinfection byproduct (DBP) workshop respectively for newer AWOP team members. During the week of September 15th, 2025 three Oklahoma AWOP members assisted Kansas in completing a voluntary CPE at Ellsworth Co. RWD #1.

During the full multi-state CPE in October of 2024, DEQ staff were split amongst the admin, design, operation & maintenance (O&M), and distribution teams. Each team had their own responsibilities, such as assessing the TMF capabilities in administration, evaluating the design and build of the treatment train in design, determining how the plant is being operated and evaluating the filters in O&M, and evaluating the condition, operation, and maintenance of the distribution system in distribution. After the week-long process of running tests, interviewing the water operations staff, and evaluating all the historical data of the system, the staff assisted in developing the performance limiting factor sheet as well as the final report that was given to the system. Once the staff returned to Oklahoma, they presented their experience to the rest of the Public Water Supply Group.

AWOP Awards

Oklahoma DEQ also has a recognition system within the AWOP called the AWOP Awards. PWS systems can voluntarily sign up to earn points by achieving different optimization goals throughout the year. Awards are given based on a tiered ranking system where PWS systems are recognized with plaques, trophies, signs, flags, and more. Several systems participate in this every year.

AWOP Goals

Internal participation in the AWOP team has increased over the last three fiscal years in every section of the public water supply group. With significant turnover during this time period, newer staff have gained valuable onsite training through this program. The team aims to continue to conduct at least one workshop on a yearly basis, and there are plans for a full CPE to occur at an Oklahoma water soon.

Disadvantaged Communities

Adequate TMF capacity is a critical component of PWS sustainability and is required for a system to consistently provide safe drinking water to the public. A failure to maintain TMF capacity can lead to unsustainable, inefficient operation and frequent or continuous violations of health-based, primary drinking water standards. Acquiring and maintaining this TMF capacity can be challenging for any water system, but systems located in small and disadvantaged communities can find it particularly difficult. The CD Section hosts several programs that provide additional assistance and priority for small and disadvantaged communities.

Technical Assistance and Long-Range System Sustainability (LRSS)

The primary role of the CD Section is to provide technical assistance to the public water systems of the state, particularly those seeking DWSRF funds, but priority for assistance is always given to small and disadvantaged community systems. Using insights from the Capacity Development Baseline Assessment Project (2017-2020) and from additional Capacity Development Assessments conducted since 2020, DEQ intends to tailor the provided TMF assistance to focus on resolution of health-based drinking water standard violations that can be corrected via improved operations and system optimization, as well as on improving all aspects of the system's TMF capacity.

Since the CD Section is a small team of individuals with additional duties, DEQ and ORWA, as members of the Oklahoma Strategic Alliance, joined forces and developed a program in state fiscal year 2020 aimed at improving and enhancing PWS sustainability. Named the Long-Range System Sustainability (LRSS) Program, the program leads PWS systems through a series of programs and trainings that, once complete, provide a significant boost to TMF capacity and system sustainability. The LRSS program focuses on many of the issues examined by the Baseline Assessment, and systems that complete the program demonstrate an improved TMF score, as well as improved efficiency, operations, and fiscal condition. Under this program, some or all the following technical assistance activities continue to be conducted with participating systems at no cost:

- Asset Management Planning
- Business and Financial Policy Planning and Development
- Capital Improvement Planning
- Contract Engineering Services and Infrastructure Planning/Design
- Cybersecurity on Electronic Control Systems
- Development and Provision of Training Content
- Distribution System Mapping and Line Inventory
- Employee Succession Planning and Guidance
- Energy Efficiency and Auditing
- Governing Authority / Board Training and Guidance
- Laboratory Data Validation/Verification
- Mutual Aid Planning and Development
- Office and Support Personnel Training
- Operations and Maintenance Plan Development and Implementation

- Operator Skillset Development and Continuing Education
- Optimization of Water Treatment and Disinfection Systems
- Rate Analysis and Implementation
- Risk / Vulnerability Assessment and Emergency Response Planning
- Safety Training and Safety Plan Development / Implementation
- Source Water Protection Plan Development and Implementation
- System Operations on a Temporary/As Needed Basis
- Water Loss Auditing, Leak Detection, and Meter Analysis

Whether working with DEQ's Capacity Development Section or with ORWA staff, each participating PWS will receive a package of technical assistance activities focused on their individual needs and tailored to maximize effectiveness. There is no maximum amount of time or effort that may be expended on an individual system- as much assistance and guidance as needed will be provided.



Figure 8. Cherokee County Rural Water District #16 receiving an award for the completion of the Long-Range Sustainability Program. Shown are representatives from the town, DEQ, OWRB, and ORWA.

Emergent Contaminants-Small and Disadvantaged Communities (EC-SDC) Grant Program

DEQ was awarded Federal FY22 and Federal FY23 funding for the Environmental Protection Agency (EPA) Emerging Contaminants in Small and Disadvantaged Communities Grant (EC-SDC) in State FY24. EC-SDC Funds for Federal FY24 and Federal FY25 were awarded in State FY26. DEQ is using EC-SDC funding to take a proactive approach to sampling and remediation/reduction of possible exposure in and around PWS systems that are small, disadvantaged and lack the capacity to effectively identify and treat emerging contaminants on their own. Funding under the EC-SDC grant, as appropriated by Section 1459A of the Safe Drinking Water Act (SDWA), will help small and disadvantaged PWS systems across the State to sample for and implement remediation and mitigation measures for per- and polyfluoroalkyl substances (PFAS) and other emerging contaminants, including manganese.



In State FY25, DEQ partnered with the ORWA and the State Environmental Lab Services to sample all eligible PWS systems for PFAS. As of June 30, 2026, 305 out of the 316 small and disadvantaged PWS systems have been sampled under Method 537.1 v2, resulting in a total of 917 water samples being taken. All eligible systems were sent letters explaining the PFAS Rule and the grant program prior to their first sampling event. In addition, systems are emailed copies of their sample results as well as updates from the EC-SDC Program. The EC-SDC Grant Program will sample each eligible system up to four times for PFAS to fulfill the initial monitoring requirements and to establish a year baseline for the emergence of PFAS. Sampling will continue through State FY26 and is expected to conclude in December 2026.

As of June 30, 2026, there have been 34 instances of PFAS detection through program sampling, with five systems being known to need remediation. It is expected that these counts will increase as more systems are sampled in different parts of the state and at different times of the year.

In the final three years of this program, remediation projects will be implemented at the systems that are highest on the prioritization list. These projects will have an emphasis on PFAS removal, though projects for the removal of manganese and other emerging contaminants will be eligible for remediation funding as well. EC-SDC funds will be partnered with Drinking Water State Revolving Fund (DWSRF) principal forgiveness funding, which will allow additional oversight in the planning, design, bidding, and construction phases of the projects. DEQ anticipates funds to be used to implement remediation measures where PFAS and other emerging contaminants levels exceed the EPA health advisories. DEQ will also develop outreach materials to educate the public on PFAS and other emerging contaminants and their health effects and occurrence in water before, during, and after all actions pertaining to EC-SDC. This program will result in a reduction in the number of PWS systems serving small or disadvantaged communities that have elevated levels of PFAS or other contaminants that threaten public health.

Small, Underserved and Disadvantaged Communities (SUDC) Grant Program

With the funds appropriated under Section 1459A of the Safe Drinking Water Act, amended by the 2016 Water Infrastructure Improvement Act (WIIN) Section 2104, DEQ has been able to provide sizable grants to small, underserved, and disadvantaged communities (SUDC) for drinking water infrastructure construction projects. These projects are intended to upgrade aging or damaged infrastructure which will lead to resolution of violations of health-based primary drinking water standards and that significantly improve PWS system efficiency, operation, and fiscal health. These grant funds are provided in combination with DWSRF principal forgiveness and/or loan funding, which allows additional oversight in the planning, design, bidding, and construction phases of the projects. To qualify for the grant funds, a system must be a community water system that is on the DWSRF project priority list, has a population of <10,000 people (small), meets the affordability criteria established by the state (disadvantaged), and has not complied with a national primary drinking water regulation (underserved).

As of June 30th, 2026, the first project to receive grant funds has received their full disbursement of \$500,000: LeFlore County Rural Water District (RWD) #17. This project began work at the beginning of SFY 2025 and received their final disbursement from this program in May 2026. Three additional systems are lined up to begin work and receive disbursements within the next fiscal year: Breckinridge Public Works Authority (PWA) at \$300,253.57, Frederick PWA at \$452,747.50, and Okmulgee Co. RWD #4 at \$600,162. DEQ plans to continue using the funds as described as long as the grant funding is available.

Lead Testing in Public Schools & Childcare Facilities

Background

Beginning in 2020, the CD Section began implementation of a program aimed at reducing or eliminating lead from drinking water in public schools and public or private childcare centers. Using funding appropriated by the EPA Water Infrastructure Improvements for the Nation Act- Section 2107, the Lead Testing in Schools and Child Care Facilities Drinking Water Grant Program (LWSC) offers free testing of drinking water for lead to any Oklahoma public school or childcare facility that requests to participate. In addition to free drinking water sampling, these facilities receive direction on how to address high lead levels based on EPA's "3Ts" guidance, access to remediation funding, and follow up sampling if necessary.

In the past, lead was a common component of faucets and water supply plumbing. If the water transported and delivered by such plumbing is corrosive, lead can leach out from lines and fixtures and enter the water- exposing anyone using the water to lead. Lead is a highly toxic metal that is harmful to all humans, and no level of lead in the body is considered safe. Children are at particular risk of adverse health effects from lead, including nervous system damage, learning impairment, bone development problems, hearing damage, and anemia. The LWSC program aims to protect the health of children by reducing or eliminating children's exposure to lead in the water they drink at school or childcare centers.

Along with no-cost testing, program participants implement EPA's 3Ts guidance to:

- Communicate the results and important lead information to the public, parents, teachers, and larger community,
- Train on the risks of lead in drinking water and of the importance of testing for lead, as well as developing key partnerships to support the program, and
- Take Action, including the development of a plan for helping schools and childcare facilities in their response to test results and in addressing potential elevated lead where necessary.

Program Updates

As of 2026, there are an estimated 4,609 eligible public schools and childcare facilities in Oklahoma. Of these, 539 facilities are involved in the program: 114 public schools and 425 childcare facilities. A total of 264 facilities have completed the program. See below for a summary of program participants by program status.

Table 6. Number of participating facilities in each phase of the LWSC Program.

Status of Facilities in Program	Number of Facilities
Waitlist (signed up for program, waiting to be sampled)	206
Awaiting Results (initial sampling complete, results not yet available)	24
Remediation (initial sampling complete, facilities are working to remediate outlets with lead detections before re-sampling)	42
Complete (done with entire program)	267

In State FY25, DEQ hired a third-party contractor to decrease waitlisted facilities and increase sampling and outreach capacity. Partnership between the two organizations has been successful with a complete reduction of waitlisted facilities and an increase in the number of enrolled facilities from 146 to 539 through targeted outreach. During State FY26, DEQ continued to work with the third-party contractor to conduct webinars, collect samples, and assist with data management.

Sample Analysis

Program representatives have collected a total of 10,104 samples (2 per fixture) from school and childcare facilities across the state. These sample results are summarized below and grouped into three categories: non-detect, low detection, and high detection. Facilities with high detection samples (equal to or above 10.0 µg/L) are immediately contacted and instructed to remove the fixtures from service until a remediation plan is implemented.

Table 7. Total number of water samples results in each lead detection category.

Category	Samples	Percentage
No detectable level of lead (under 1.0 µg/L)	7,055	69.8%
Low Detection (between 1.0 and 9.9 µg/L)	2,667	26.4%
High Detection (equal to or above 10.0 µg/L)	382	3.8%

To collect accurate data and adhere with EPA's 3T's guidance program, representatives take two samples at each outlet: a first draw (right from the tap) and a flush sample (taken after running the water for 30 seconds). The results of these two samples help to inform remediation decisions, if needed. The figure below depicts the difference in lead results from the first draw vs. "flush" (second draw) samples. A higher lead result in the first draw with a lower result in the second draw implies that the lead source could be from fixture contamination as opposed to plumbing lines. The figure below only includes sample results with detectable levels of lead.

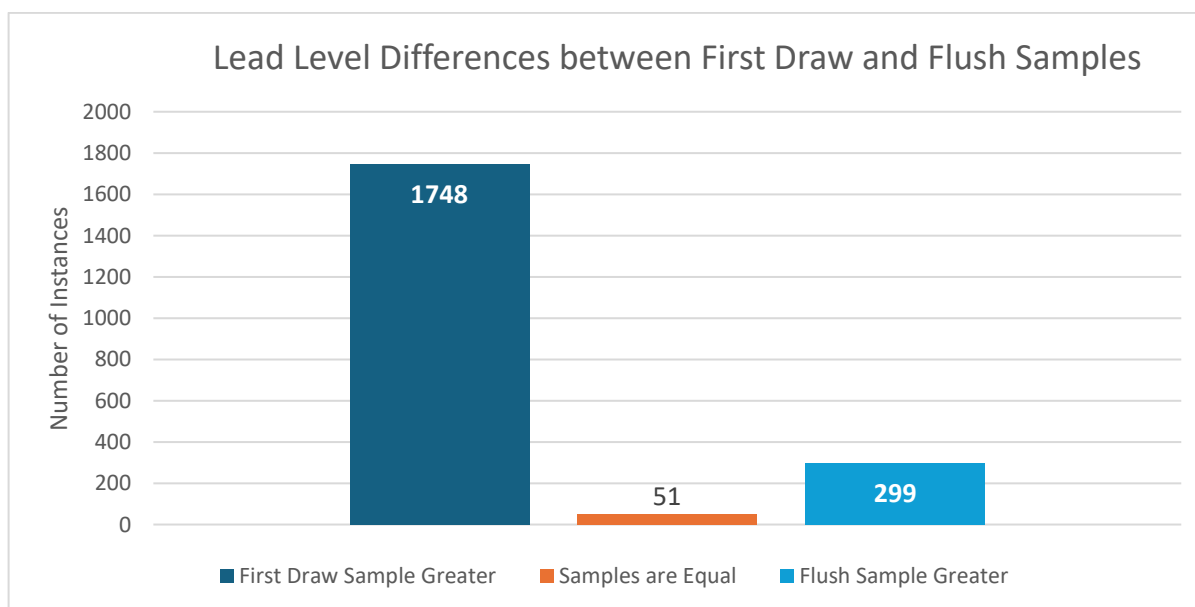


Figure 9. The number of instances where the lead levels from the first draw sample was greater than, equal to, or less than the "flush" (second draw) sample.

Improvements made

The LWSC program saw numerous changes throughout the last three years including:

- Hired a third-party contractor to assist with waitlist times, data management, and outreach;
- Updated program SOPs to include streamlined processes;
- Created new outreach materials including: a new general information flyer, LWSC Action Plan Resource (for remediation assistance), and a remediation funding guide;
- WIIN 2107 funds were used to fund several remediation projects;
- Experimented with outreach methods including webinars, cold calling, mailers, mass emails, etc.;
- Launched a remediation filter pilot project in which free filters and pitchers were provided to eligible facilities;
- Updated website to make results easier to search.

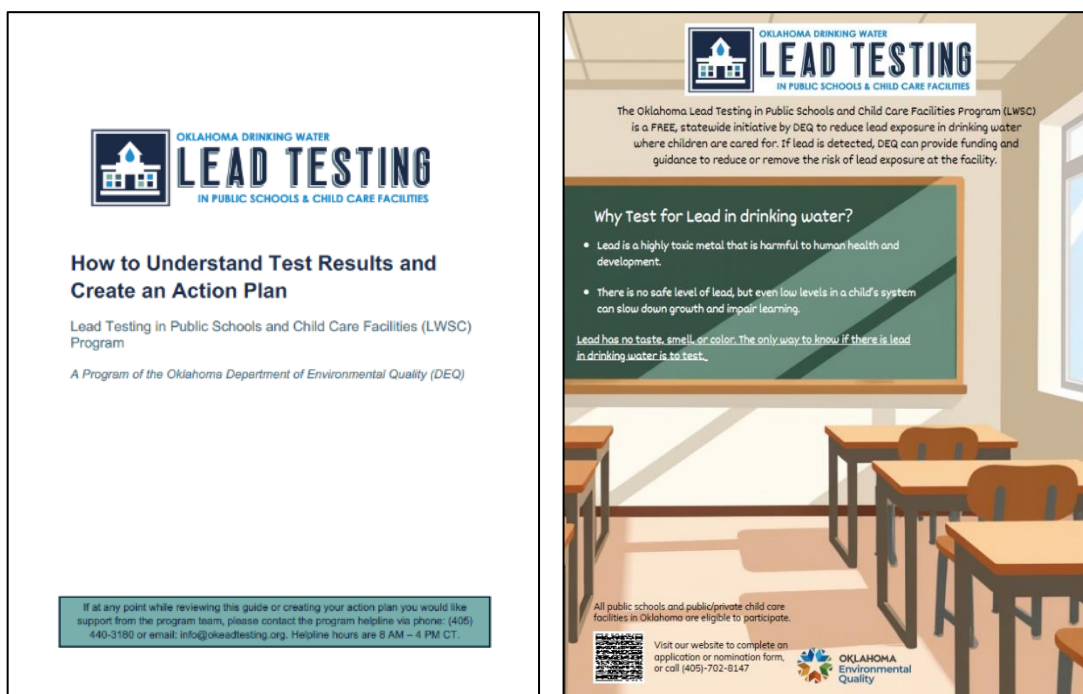


Figure 10. Outreach materials for the program. Pictured left is the "LWSC Action Plan Resource" developed to assist with remediation after sampling. Right is a new program flyer that focuses on the 'call to action', i.e. enrollment.

Expected Outcomes

Expected outcomes for the "Lead Testing in Public Schools & Childcare Facilities" program are:

- The reduction of children's exposure to lead in drinking water.
- The increase in community knowledge on the harmful effects of lead in drinking water- and what can be done to mitigate exposure.
- Water quality improvement and lead exposure reduction in drinking water.
- Establishment of routine practices such as those outlined in the 3Ts guidance.
- Fostering sustainable partnerships at the state and local level to allow for a more efficient use of resources and the exchange of information among experts in various areas of school, childcare, utility, and health sectors.

Source Water Protection Program

Background

At its inception, the Source Water Assessment Program (SWAP) was designed in accordance with the 1996 Amendments to the Safe Drinking Water Act (SDWA) which required the development and implementation of a SWAP to analyze the existing and potential threats that public drinking water sources face throughout the state. This program was developed utilizing EPA's Source Water Assessment and Protection Programs Guidance. In addition, Oklahoma DEQ has hosted the state's Wellhead Protection Program since its development under the direction of the 1986 Amendments to the SDWA.

In 2022, DEQ's Capacity Development Section began redeveloping both of these programs to create one comprehensive Source Water Protection (SWP) Program, and since July 1st, 2023, has made major progress in this endeavor. These updates and changes are being made in an effort to provide public water systems with more comprehensive information, resources, and insights when it comes to understanding and developing plans for protecting their source waters, whether on the surface or underground.



SWP Assessment Procedure Updates

For the first phase of redeveloping the SWP Program, Capacity Development was focused on revamping the Source Water Assessment portion of the program, and as SFY 2026, has finished all major updates to the assessment process. Per EPA's Source Water Assessment and Protection Programs Guidance, a Source Water Assessment includes the following components:

- Delineation of the Source Water Protection Area(s) (includes Wellhead Protection Areas),
- Inventory and vulnerability determination of Potential Sources of Contamination (PSOCs),
- Assessment of the sensitivity of the source(s),
- Determination of the susceptibility of each source.

Alterations made to the original methods of the assessment process include:

- Switching to a calculated fixed radius for the groundwater delineation and zonation method,
- Switching to a more comprehensive delineation and zonation method for surface water sources,
- Applying a new process for inventorying potential sources of contamination (PSOCs),
- Introducing new evaluations, calculations, and score ranges for vulnerability, sensitivity, and susceptibility scores,
- Creating a new SWP Program Report (assessment results along with additional resources).

A water system's final SWP report now contains more detailed information regarding their PSOCs, the results of their assessment and its implications, and then suggestions for additional actions to be taken towards implementing a more comprehensive source water protection program at their system. The appendices of the report now contain a complete list of all PSOCs for the system as well as refined maps that vary depending on the needs of the system. These maps tend to include the delineation of the source water protection areas, land use analyses, locations of PSOCs, crop types, and impervious areas.

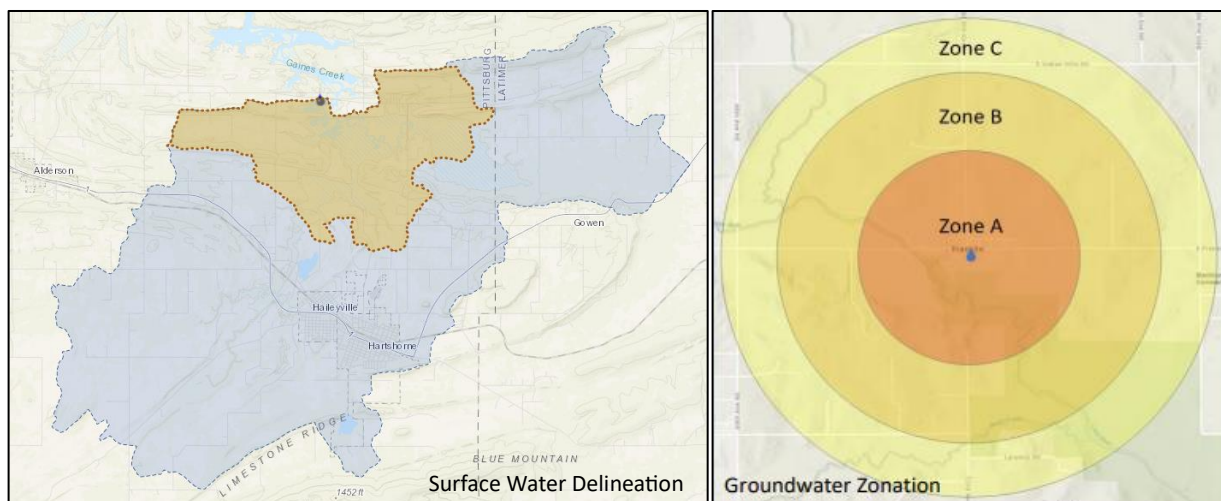


Figure 11. Application of delineation and zonation methodology for each a surface water system and a groundwater system.

For ease of inventorying potential sources of contamination and conducting land use analyses, an extensive SWP master map was created in ArcGIS Pro that houses all relevant layers for the completion of Source Water Assessments. The following table outlines data layers included in this map.

Table 8. Data layers included in the Source Water Protection Master Map utilized by Capacity Development Section staff during SWP assessments.

Layer name	Data Description	Source of Data	Date
PSOC Data Layers			
CAFOs	Locations of Confined Animal Feeding Operations (CAFOs)	ODAFF	2023
PFOs	Locations of Poultry Feeding Operations (PFOs)	ODAFF	2023
OKR05 Sites	Industrial Stormwater Permits in effect in Oklahoma	Oklahoma DEQ Water Quality	2024
Class I UIC Wells	Class I Underground Injection Wells	Oklahoma DEQ Land Protection	2022
Class II UIC Wells	Oklahoma RBDMS Class II Underground Injection Wells	Oklahoma Corporation Commission	2023
Oil and Gas Wells	Oklahoma RBDMS statewide Oil and Gas wells	Oklahoma Corporation Commission	2023
Land Application Sites	Permitted land application of industrial wastewater/sludge	Oklahoma DEQ Water Quality	2022
PST Facilities	Above and below ground Petroleum Storage Tank locations	Oklahoma Corporation Commission	2025
Cemeteries	Oklahoma Structures layer that includes cemetery locations	US Geological Survey	2024
Solid Waste Facilities	Permitted solid waste facilities	Oklahoma DEQ Land Protection	2023
Superfund Sites	Superfund sites and boundaries in Oklahoma	Oklahoma DEQ Land Protection	2022
Total Retention Facilities	Permitted systems that discharge to Class III wastewater surface impoundment systems	Oklahoma DEQ Water Quality	2022
VCP Sites	Oklahoma DEQ Voluntary Cleanup Program (VCP) sites	Oklahoma DEQ Land Protection	2024
Remediation Sites	Remediation sites with Institutional Control tracked by the DEQ	Oklahoma DEQ Land Protection	2022
NonCoal Mineral Mines	Non coal mineral mines across Oklahoma.	Department of Mines	2023
Abandoned Coal Mines	Problem areas that contain abandoned coal mine features	Department of Mines	2018
ODEQ Brownfields	Oklahoma DEQ managed Brownfield sites	Oklahoma DEQ Land Protection	2024
OCC Brownfields	Oklahoma Corporation Commission managed Brownfield sites	Oklahoma Corporation Commission	2024
ACRES - Brownfields	Information reported by EPA Brownfields grant recipients	EPA Facility Registry System	2024
NPDES	NPDES surface water permits issued under the Clean Water Act	EPA Facility Registry System	2024
RCRA Facilities	EPA's RCRAInfo for hazardous waste sites	EPA Facility Registry System	2024
SSTS	Tracks pesticide-producing establishments	EPA Facility Registry System	2024
TRI	Toxic Release Inventory (TRI)- information about toxic chemicals	EPA Facility Registry System	2024
TSCA	Database that supports the Toxic Substances Control Act of 1976	EPA Facility Registry System	2024
Land Use - Land Type Data Layers			
NLCD Land Use	Land Use and Land Coverage Data	US Geological Survey	2021
NCLD Impervious	Locations of impervious surfaces	US Geological Survey	2021
Cropland coverage	Planted U.S. commodities and farms	US Department of Agriculture	2023
Transportation Data Layers			
Airports and Runways	Airports, runways, and helipad locations	US Geological Survey	2024

Since the finalization of the new assessment procedures at the end of SFY 2025, Capacity Development has successfully completed several pilot assessments with public water systems. These systems include Antlers Public Works Authority, Duncan Public Utilities Authority, and Southern Oklahoma Water Corporation. The Section is continuously refining the assessment process and has several more interested water systems already in line for completing updated assessments.

Additional Program Updates

In consideration of making the SWP Program a better resource for more comprehensive information, resources, and insights into overall source water protection planning, the process no longer ends at the assessment phase. Once the assessment is complete, a system then enters the protection phase (modeled after EPA's "Components of a Source Water Protection Program"). As previously mentioned, the SWP report has been modified into a more complete document that provides systems with tailored results and resources. Some of the additional resources include informational handouts that the CD Section has developed on topics such as best management practices, funding, green infrastructure, and details regarding specific PSOCs.

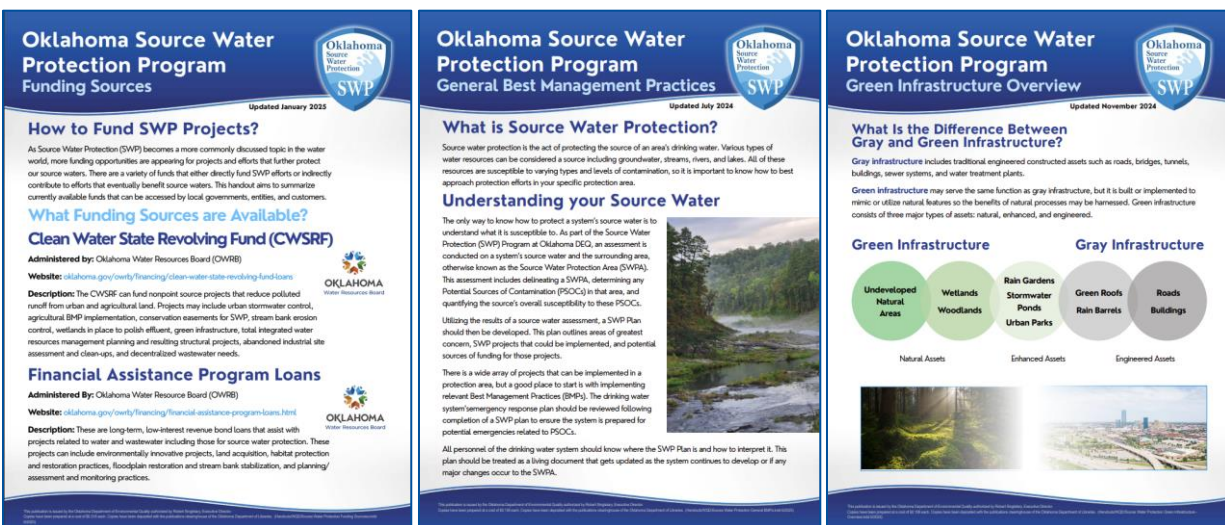


Figure 12. Informational handouts developed to communicate various available resources, existing programs, potential SWP projects, and additional information regarding common PSOCs.

In addition, a SWP Action Plan template was created. This document serves as an exercise for the system to consider contingency planning as well as beneficial SWP practices and projects that can be implemented at their system. DEQ's CD Section is available to assist water systems with completing this template. The combination of the Source Water Assessment along with the Action Plan creates a complete Source Water Protection Plan for the system.

With all the major changes made to program, a Source Water Protection Program Handbook was created which serves to maintain all rational and resources for administering the program. Standard operating procedures and instructions for completing a source water assessment (surface as well as groundwater) have been established and included.

During SFY 2026, all SWP Areas for surface water systems were redrawn under the updated delineation methodology and added into the Water Quality Division Gallery on the DEQ website.

Future Goals for the SWP Program

The CD Section plans to begin conducting new Source Water Assessments for systems around the state as a component of the technical assistance suite provided by the section. In addition to completing assessments, the CD Section staff will be available to assist systems in developing complete Source Water Protection Plans using the newly created resources. Beyond providing this assistance solely based on request, DEQ will work towards assessing prioritization to better target systems that could greatly benefit from participating in the program.

The SWP program would also benefit from a further improved methodology for the assessment of Source Water Protection Areas of the groundwater sources. DEQ does not currently have an on-staff hydrologist, which provides challenges when it comes to groundwater modeling, but avenues are being explored.

Oklahoma Source Water Collaborative

In addition to internal source water efforts, DEQ is also an active member of the Oklahoma Source Water Collaborative with OWRB, OCC (Oklahoma Conservation Commission), ORWA, ODAFF (Oklahoma Department of Agriculture and Forestry), SWAWWA (Southwest Section of AWWA), USDA NRCS (United States Department of Agriculture Natural Resources Conservation Service), and the GWPC (Ground Water Protection Council). This group generally meets quarterly to identify the source water protection needs of surface and ground water systems across the state, as well as to facilitate collaboration across the agencies involved. During SFY 2025, the collaborative worked on creating a comprehensive Geographic Information System (GIS) map that houses a multitude of layers relating to the topic of Source Water Protection. This tool is extremely useful for entities looking to implement source water protection measures and for water systems who have received updated Source Water Assessments. As of SFY 2026, this web map application is live and publicly available at the following web address:

<https://experience.arcgis.com/experience/52affe3a355c440a9c9f59c18ddd5355>

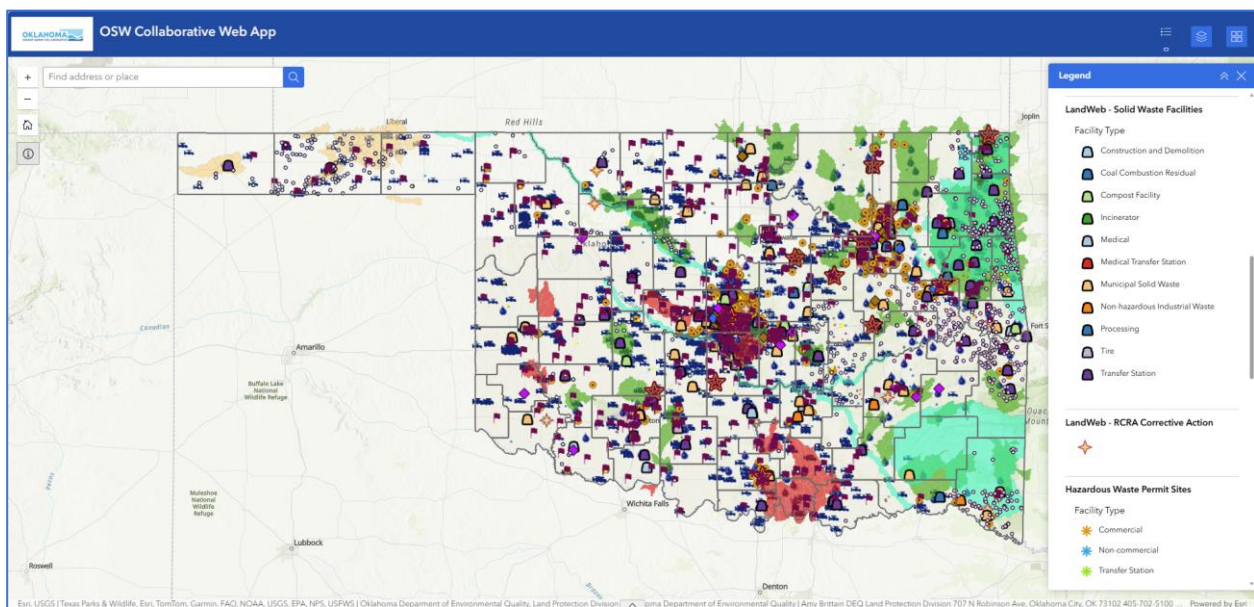


Figure 13. Oklahoma Source Water Collaborative Web Application. This map contains a multitude of data layers identifying and informing Source Water Protection efforts.



Program Outreach Efforts

The Capacity Development Section participates in outreach and marketing efforts throughout the year to inform Oklahoma water systems of the services the section provides, connect with organizations who have similar goals, and to share the success of its programs.

The section has historically attended multiple conferences every year, but over the course of the last three years has begun to play a major role in acting as the Public Water Supply group's go-to for outreach events. Responsibilities at events vary, but the section is often responsible for giving presentations and/or tending to the setup and staffing of the DEQ booth. Events at which the section has either spoken or hosted a booth include:

- ORWA Annual Conference
- ORWA Equipment Expo (Annual)
- ORWA Fall Conference (Annual)
- Oklahoma Governor's Water Conference (Annual)
- EPA Region 6 5-State Meeting (Annual)
- Water Appreciation Day at the State Capitol (Annual)
- ASCOG (Association of South-Central Oklahoma Governments) REAP (Rural Economic Action Plan) Seminar (Semiannual)
- Oklahoma Municipal League (OML) Annual Conference
- Southwest AWWA Conference (2024)

TMF Trainings:

- ORWA & DEQ Training Roadshow (2024)
- DEQ Operator Renewal Training (ORT) Roadshow (2024-2026) (total 17)
- DEQ Internal Trainings on CD Section Programs
- Region 7 State's Asset Management Conference Call (9/13/2024)

Lead Testing in Public Schools & Childcare Facilities (LWSC):

- LWSC Program Overview for OSU (3/19/2024)
- LWSC Webinar (3/11/2025)
- City of Tulsa/TPS LWSC Webinar (3/27/2025)
- Oklahoma Water Environment Association (OWEA) Operator Short School – LWSC (2025)
- Children's Health Symposium OU Health (6/26/2025)

Source Water Protection (SWP) Program:

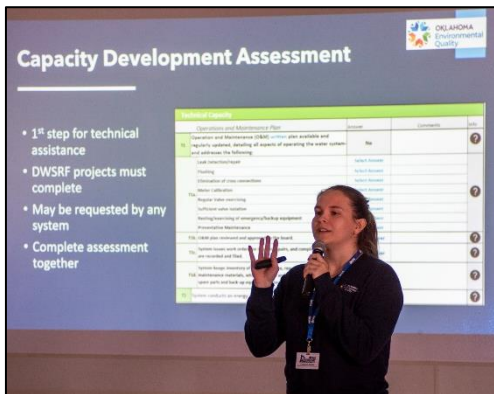
- Groundwater Protection Council (GWPC) Annual Forum SWP Presentation (2025)
- OWEA Operator Short School – SWP (2025)
- DEQ SWP Brown Bag (2025)
- Presentation to Data/GIS Subcommittee of National Source Water Collaboratives Network (2025)





Improvements to Outreach Efforts

To more effectively and efficiently communicate program information with water operators, the public, and other federal, state, and local agencies, the Capacity Development (CD) Section developed and organized improved flyers, brochures, and handouts to display when hosting a booth for DEQ at events. This includes a complete program binder for Capacity Development that contains all plan and policy templates that the CD Section has created. In addition, a new tablecloth and backdrop were acquired for the Public Water Supply (PWS) Group, which the CD Section maintains responsibility of.



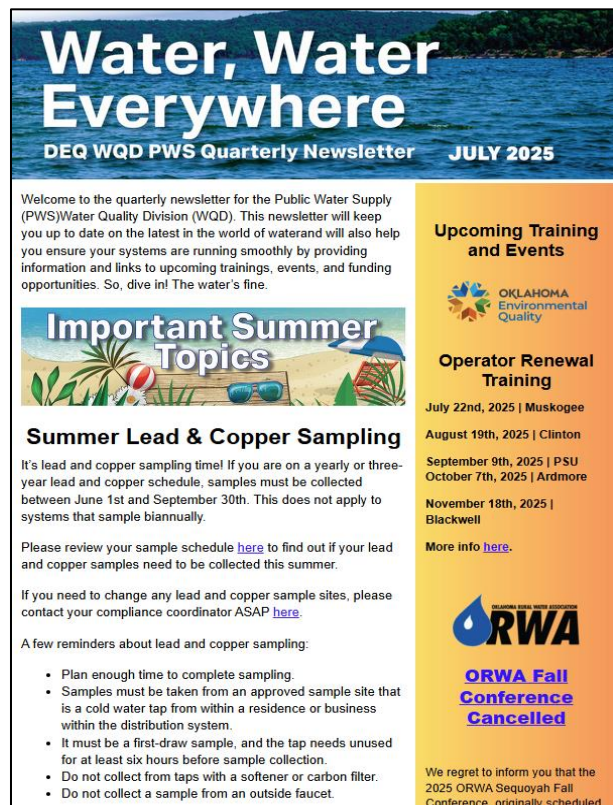
In the beginning of calendar year 2024, DEQ's PWS group began hosting monthly Operator Renewal Trainings (ORT) in rotating locations around the state. Each of these trainings are four hours long and provide water operators with more localized options to receive their training hours. These presentations change on an annual basis and address various topics such as cybersecurity, AWOP, storage tanks, PFAS, DWSRF, SWP, asset management, and many more. In 2025, these training began to also be hosted online. As of the end of State FY26, 17 trainings have been

provided.

PWS Quarterly Newsletter

The PWS Quarterly Newsletter started in January 2024. Four installations are sent out each year, one at the start of each quarter. Creation of the newsletter is headed by the CD Section with input from other sections within the PWS Group. The newsletter is sent to all subscribed PWS systems in the state and consists of topics that keep systems up to date on new and updated rules and regulations. It also provides links to resources that can assist systems with maintaining drinking water quality and highlights upcoming training and events conducted by various state and federal agencies within Oklahoma. Anyone can sign up for the newsletter by visiting the PWS website.

The image to the **right** is an example of the quarterly newsletter.





Lessons Learned and Improvements

In the past three years the Oklahoma DEQ Capacity Development (CD) Section has undergone many improvements. With the addition of three new employees in the first half of State FY23, the section hit the ground running improving existing and developing new resources, tools, trackers, and dashboards.

Capacity Development Assessment

Version 1.0 of the Capacity Development Assessment (CDA) served its role during the baseline assessment period, though was quite lengthy, had some complicated wording, and lacked additional guidance for those looking to complete the assessment. With the start of calendar year 2024, the newly updated CDA Version 2.0 was implemented. The updates to the assessment included cutting down the number of questions, reorganizing the order of questions, simplifying phrasing, updating point values, reassessing which items are considered required for DWSRF funds (bolded items), adding in an additional information page that includes explanations of each question and links to resources, and adding in a results summary page to get a snapshot of a systems results. Overall, this update has provided more comprehensive and customized assistance to each water system assessed. With the implementation of Version 2.0, smaller updates were made as needed, though additional observation of how systems respond to each question has informed further improvements that will be implemented in Version 3.0 in State FY27.

Templates and Resources

In the CDA, many of the questions ask water systems to have written plans, policies, and/or procedures. It was observed that getting these items completed was difficult when systems had to start with a blank document. Considering this, the CD Section created templates for all of these questions that required written documents. These templates include an operation and maintenance plan, training plan, financial policies, personnel policies, meter maintenance plan, and more. Every template is available to water systems on DEQ's website, and a binder was created with printouts of every template to be brought along to conferences, trainings, and site visits.

Website

In order to improve availability of information and resources offered by the CD Section, the section's webpages of the DEQ website received major improvements. When a water system now navigates to the Capacity Development & Technical Assistance webpage, they can find a technical assistance request button, information about the CD Section, previous reports, additional resources (such as the newly developed templates), and a place to sign up for the PWS quarterly newsletter. The Source Water Protection Program also now has its own webpage with links to informational flyers, GIS maps, and requesting SWP Planning assistance. The LWSC Program's webpage is located within the PWS Group under Compliance Monitoring and Lead & Copper. This webpage has also seen major improvements in organization of materials and simplification of navigation.

Asset Management Tool

Major improvements and updates were also made to DEQ's Asset Management Tool. These updates were made to increase user-friendliness, provide better instructions for use, improve accuracy of calculations, and present results in an improved manner. See the Asset Management section for this report for additional details.



SWP and LWSC Programs

Both the Source Water Protection (SWP) and the Lead Testing in Public Schools & Childcare Facilities (LWSC) Programs have seen significant improvements and redesigns over the course of the last three years. A completely new Source Water Assessment process was established, numerous resources and templates were created, and GIS tools were established for SWP. Redesigned resources, flyers, and certificates were created, a contractor was hired to conduct sampling and supplemental outreach, and remediation provided increased for LWSC. For additional details about the strides these programs have seen over the last three fiscal years, see their respective sections earlier in this report.

Internal Process Updates

With the increased productivity of the section as a result of additional team members, improvements needed to be made to the methodology of internal document maintenance and data tracking. The shared computer drive with all of the records for capacity development was majorly reorganized and many documents now get routed and recorded into OnBase. Additionally, more efficient and robust data tracking was implemented via a “Master Tracker” spreadsheet. This comprehensive tracker has allowed for more effective data analysis and visualization of Capacity Development efforts. A Water Loss Audit dashboard that summarizes the water loss observed at assessed water systems was created, is now hosted on the DEQ website, and is regularly updated.

The updates to the Capacity Development Assessment firmly established what items on the assessment are required for systems to have completed prior to being approved through the DWSRF process. This meant that the capacity development process could potentially entail more time, inform project scope, and/or cause a DWSRF project to be delayed. Considering this, the CD Section improved coordination and communication with the DWSRF section, improved internal tracking of active projects, amended existing letter templates to systems, created a new standard letter template to send systems when Capacity Development work is finalized, have begun to engage systems earlier in the DWSRF process (once a preliminary engineering report is submitted), switched to a five year cycle for providing updates to previously completed systems, and refined pre-visit checklists to be more helpful to systems. These adjustments allowed for the CD Section and the DWSRF section to remain extremely coordinated during the busy second half of State FY26, which resulted in a monthly record of 20 systems receiving approval for DWSRF funding in June of 2026.

Flexibility of Assistance

With more years established as a section and more one-on-one assistance provided to water systems, every member of the CD Section has become skilled in adapting and learning to respond to the diverse needs of water systems in the state. Each system is unique in what the most effective assistance may look like, and some systems may need more attention than others. The section makes strides daily in learning the cues for when additional assistance is needed, when alternative communication styles may be more helpful, and when a system may have technical limitations that require alternative approaches of providing assistance.

Future Direction

The Capacity Development Section will continue fine-tuning the technical assistance offered to respond to the ever-changing needs of Oklahoma water systems. Expectations are to continue providing assistance via the Water Loss Auditing, Emergency Response, Asset Management, and AWOP programs over the next few years with minor changes. These programs have had an incredible impact across the state, and the hope is to extend assistance from these programs to as many systems as possible in the coming years. As more experience is gained over the years, further improvements to templates, tools, visualizations, and general resources are projected and intended.

Several of the programs are anticipated to undergo further changes within the next three years including the Capacity Development Assessment, Lead Testing in Public Schools & Childcare Facilities Program, various Disadvantaged Communities Grant Programs, and the Source Water Protection Program. The goals below reflect the anticipated changes and future direction of the section.

Internal Goals:

1. Implement Version 3.0 of the Capacity Development Assessment with the start of State FY27 and continue to remain flexible in applying improvements to all technical assistance resources.
2. Modify the Lead Testing in Public Schools & Childcare Facilities Program to meet the needs required by the Lead & Copper Rule Improvements (LCRI).
3. Refine and implement the process for funding through the EC-SDC Grant Program.
4. Continue to fund projects through the SUDC Grant Program (now SmART).
5. Continue to promote the revamped Source Water Protection (SWP) Program, complete new assessments for as many systems as possible, and develop prioritization strategies for targeted assistance and SWP project development.
6. Promote AWOP Awards to increase awareness and application of optimization concepts.
7. Continue to promote and provide trainings and presentations on the various Capacity Development programs and aim to gain a greater audience with not only water operators, but with city leaders, managers, and office staff.
8. Coordinate more with other Public Water Supply sections to better target technical assistance to new systems and to systems who would most benefit (violations, managerial issues, etc.).

Project outcomes:

1. Reduce the number of PWS systems out of compliance with health-based standards.
2. Improved understanding of current and emerging threats to water quality, safe drinking water, public health, and environmental health.
3. Decrease real and apparent water loss at PWS systems and increase understanding of types of loss and the importance of data integrity.
4. Improve TMF assessment scores across the state- especially in small, underserved, and disadvantaged communities- leading to an improvement in the overall state TMF score.
5. Reduce lead exposure from drinking water at schools and childcare facilities across the state.
6. Improve the awareness surrounding source waters and encourage practices and projects that proactively improve water quality at the source.