
Federal Safe Drinking Water Act Capacity Development Strategy State Fiscal Years 2020–2023 Report to the Governor

**Oregon Health Authority
Public Health Division
Center for Health Protection
Drinking Water Services**



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Executive summary

Water system capacity is integrated into the day-to-day operations of Oregon's drinking water program. Since its inception, Oregon Drinking Water Services (DWS) has successfully made progress in further developing and implementing capacity development initiatives. The following points summarize progress made during the reporting period, July 1, 2020, through June 30, 2023.

- **Revised Capacity Development Strategy:** Oregon continues to work diligently at implementing its capacity development strategy, which has recently been revised to include asset management implementation. During the state fiscal year of 2023 DWS posted asset management resources on Oregon's dedicated Capacity Development webpage and added contract services through the circuit rider program to provide on-site technical assistance, coaching, and guidance to water systems evaluating or implementing an asset management program.
- **Drinking Water State Revolving Fund (DWSRF) capacity assessments:** DWS conducted 34 capacity assessments for water systems applying for DWSRF monies during the reporting period.
- **Capacity assessments for new water systems:** Beginning with SFY 2024, a new improved process for identifying and completing capacity assessments on new public water systems was implemented.
- **Water system operators training course:** DWS contracts with Oregon Association of Water Utilities (OAWU) to provide the *Basics for Small Water Systems* training course. This is a free one-day classroom training. The course is offered 20 times per year at numerous locations throughout the state including a virtual class four times per year. More than 500 people are trained each year. In addition, DWS staff conduct training classes each year specifically designed for surface water treatment plant operators. DWS conducted eight of these classes and trained 93 people during the reporting period. To comply with COVID-19 safety guidelines, during SFY 2021 the *Essentials of Surface Water Treatment* course was

recorded and made available on the DWS Training Opportunities webpage.

- **Technical services providers:** DWS contracts with a circuit rider that provides technical assistance to groundwater and surface water systems. The circuit rider troubleshoots and resolves short-term operational problems and made 308 contacts during the reporting period.
- **Area-Wide Optimization Program (AWOP):** DWS is an active participant in EPA's AWOP. The objective of AWOP is to educate surface water treatment plant operators in optimization principles with the goal of improving public health protection. DWS staff progressed toward meeting the AWOP objective by providing training and direct technical assistance to treatment operators and by presenting on optimization concepts at conferences.
- **Surface water treatment plant inspections:** DWS conducted 174 surface water treatment plant visits during the reporting period.
- **Drinking water source protection implementation:** Both the Oregon Department of Environmental Quality (DEQ) and DWS continue to provide timely technical assistance to Community water systems that will ultimately result in voluntary implementation of source water protection strategies in response to local source water characteristics and vulnerabilities. This capacity development effort uses source water assessment information to communicate source vulnerability risks to water system operators and decision makers with the goal of increasing overall capacity. This effort primarily assists water systems with managing risks and technical resources while they plan to obtain funds for developing or maintaining protection of their drinking water sources.

I. Introduction

Water system capacity is the technical, managerial, and financial capability of a water system to achieve and maintain compliance with drinking water standards and to consistently provide safe drinking water.

Capacity development is a fundamental component of the 1996 Safe Drinking Water Act (SDWA) Amendments. The SDWA Amendments provide a framework for states and water systems to work together to protect public health. Every state has developed a Capacity Development

Program to assist public water systems in building Technical, Managerial, and Financial (TMF) capacity.

Any water system can implement capacity development activities to increase their TMF capacity. Small systems can especially benefit from capacity development. DWS is committed to helping small water systems provide safe drinking water through publications, training, and technical and financial assistance.

Local officials and consumers play an important role in helping small water systems meet regulatory requirements and protect public health. Besides protecting public health, communities that support their water systems are making long-term investments in sustainable communities and economic well-being. These triennial reports are required by the EPA in statute, to be submitted by States to their Governor's office and shall be available to the public no later than September 30, 2023.

II. Capacity Development Program funding

Oregon's Capacity Development Program is funded by the Local Assistance and Other State Programs Set-Aside of the annual Drinking Water State Revolving Loan Fund (DWSRF) capacity grant. This capacity grant is provided to states to provide loans to public water systems to assist them with maintaining compliance with the SDWA. The SDWA authorizes states to use a maximum of 31 percent of its annual allotment for set-aside activities. Set-aside activities are available to administer the DWSRF and to assist water systems in meeting the requirements of the SDWA. The Capacity Development Program is one of three categories within the Local Assistance and Other State Programs Set-Aside of the DWSRF. The maximum percentage of this set-aside is 15 percent of the annual federal capacity grant allotment. Below are the approximate funding percentages and functions of the three categories that compose the 15 percent.

1. Implementation of protection: 10 percent
 - Interagency agreement with Oregon DEQ
 - Technical assistance for drinking water source protection
 - Geographic Information Systems
 - Training and support
2. Capacity Development: 4 percent
 - Capacity assessments and TMF skill-building assistance for water systems and their operators

3. Drinking Water Source Protection: 1 percent

- Funds in the form of grants for systems with source protection issues needing assistance to mitigate problems.

The Small System Technical Assistance Set-Aside is also vital. The maximum percentage of this set-aside is 2 percent of the total federal capacity grant allotment annually. It is used specifically for the circuit rider contract and the small system training course provider contract.

Please note that the above stated percentages vary annually based on programmatic needs.

III. Overview of Capacity Development Strategy

In 2021, in response to new federal requirements related to including asset management in state capacity development strategies, DWS reviewed and revised Oregon's strategy. DWS documented existing program elements, identified future program activities, and identified existing and future asset management efforts. The revised strategy is being implemented and is publicly available at Oregon's dedicated Capacity Development webpage in the Posted Reports section.

DWS intends to apply the developed Asset Management Implementation Plan in phases as described in the revised strategy. During state fiscal year 2023, DWS posted asset management resources on Oregon's dedicated Capacity Development webpage and added contract services through the circuit rider program to provide on-site technical assistance, coaching, and guidance to water systems evaluating or implementing an asset management program. Future reports will highlight progress in implementing the Asset Management Implementation Plan.

Oregon's Capacity Development Strategy focuses on four areas: (1) capacity assessment, (2) information and communication services, (3) training, and (4) outreach. One of the major keys to success has been the integration of capacity-building elements into current DWS activities.

Capacity assessment

The capacity assessment is an evaluation of the water system for TMF capability. DWS staff work with water systems to identify deficiencies and provide direct technical assistance to help water systems resolve identified issues.

Information and communication services

DWS continually strives to better communicate with water system operators and managers and provide the essential information water systems need to maintain compliance. This is achieved primarily through the ePipeline newsletter, GovDelivery, and the maintenance of a robust website (<https://yourwater.oregon.gov/>) where information on all aspects of water system operation can be found and accessed by systems and the public.

Training

Training opportunities are available on all levels for water system operators. DWS contracts with a local training provider to offer free training courses monthly across the state. Virtual courses are offered quarterly, improving accessibility to operators residing in rural areas. These classes are specifically targeted at small groundwater system operators. In addition, DWS staff conduct training classes each year specifically designed for surface water treatment plant operators. Staff also conduct special training sessions as needed and regularly speak at industry sponsored (American Water Works Association, Oregon Association of Water Utilities (OAWU), etc.) forums. All training is targeted, convenient and cost effective.

Outreach

Outreach to public water systems occurs through many different activities. Water system surveys, water treatment plant visits, capacity assessments, industry conferences and topic-specific workshops all provide venues for dissemination of information regarding many aspects of capacity. Integration of capacity-building outreach into day-to-day DWS activities is key to the successful resolution of identified capacity-related deficiencies. Field staff are familiar with available technical-assistance resources and provide direct assistance to water systems during sanitary survey activities, water treatment plant visits, water quality investigations and associated technical consultation and outreach. Staff use a wide variety of tools and resources to help systems address identified capacity deficiencies, including direct technical assistance in person and over the phone; handouts, factsheets, and training guides; referrals to resources on the DWS website; and referrals to funding partners and outside technical assistance and training providers. Water systems in violation or with water quality test results indicating a potential public health concern are contacted directly by staff and technical assistance is provided. Water systems needing help to build

capacity for emergency response are provided resources and technical assistance to better prepare for continued operation. Additionally, the program contracts with a technical service contractor (circuit rider) that provides technical and managerial assistance to systems serving fewer than 10,000 people.

IV. Efficacy and progress

Oregon has been successful in continuing to implement its Capacity Development Strategy. One of the major keys to success has been the integration of capacity-building elements into our current program activities. Optimization of resources and personnel is essential to long-term capacity development. The sections below delineate some of the progress Oregon has made.

Capacity assessment

Capacity assessments for DWSRF applicants

All DWSRF applicants receive a comprehensive capacity assessment prior to release of any funds. DWS staff perform technical and managerial assessments of system capacity, with a concurrent financial capacity assessment performed by Business Oregon. During this process, DWS and Business Oregon cooperatively identify capacity deficiencies and work with water systems to develop necessary capacity. DWS completed 34 capacity assessments for water systems applying for DWSRF funding during the reporting period.

Capacity assessments for new water systems during plan review

Beginning with SFY 2024, a new improved process for identifying and completing capacity assessments on new public water systems was implemented. All public water systems must comply with applicable requirements prior to serving drinking water to the public. Areas of evaluation are plan review, construction, master plan/feasibility study, operator certification, managerial processes, ownership, water management and conservation, rate structure, financial planning, and water system survey deficiencies. All deficiencies are documented and corrective action is required. Requirements vary based on public water system type.

Information and communication services

DWS continually strives to better communicate with water system operators and managers and provide the essential information water systems need to maintain compliance. DWS continues to accomplish this in the following ways:

DWS website

DWS uses its website to provide water-system-specific information, including public access to the state Safe Drinking Water Information System database. In addition to information on compliance-related monitoring and reporting, the DWS website provides many educational and resource materials, including technical-assistance handouts, health-effects factsheets, training guides and contacts for outside technical-assistance providers.

The DWS website also includes a capacity-development-specific webpage that provides capacity-related resources for water system managers and operators

(<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/OPERATIONS/CAPACITY/Pages/index.aspx>).

The Financial Capacity webpage includes links to two series of financial capacity handouts: budgeting and planning. The webpage also includes comprehensive resources in the areas of budgeting, rate setting, capital improvement planning and asset management. A Managerial Capacity webpage was developed and made available during this reporting period.

To support continuing education for water system personnel, the DWS website includes a Training Opportunities webpage. This webpage provides a one-stop-shopping site for water system operators and managers where they can view free upcoming training classes and webinars. Links to other training providers are also posted on this webpage (<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/OPERATIONS/CAPACITY/Pages/training.aspx>).

DWS newsletter — ePipeline

DWS continues to issue the ePipeline newsletter four times per year, which provides information regarding upcoming rules and deadlines, as well as operations and maintenance issues. DWS also conducts special mailings to inform drinking water systems about new rules and upcoming regulatory deadlines.

Training

Training opportunities are available on all levels for water system operators. A contract is in place with OAWU to provide a training course called *Basics for Small Water Systems*. The course is offered approximately 20 times per year. In addition, DWS staff conduct three types of surface water treatment training classes each year specifically designed for plant operators. DWS conducted eight of these classes during the reporting period.

Program staff also routinely make presentations at industry-sponsored conferences and trainings to address issues of interest and concern to operators. Three days of training are provided annually to local public health authorities including Department of Agriculture and county health department staff who contract with DWS to work with public water suppliers.

Outreach

The Drinking Water State Revolving Fund

Oregon continues to have great success with the DWSRF and associated outreach activities. The DWSRF provides a funding mechanism for water systems that might not otherwise be able to afford needed modifications, upgrades and replacements of existing drinking water system infrastructure. DWS actively networks with other funding agencies to identify and facilitate access to funding options for water suppliers. DWSRF program staff contributed 11 articles to the ePipeline newsletter, including a summary of what the program can offer to eligible PWSs throughout Oregon. DWS also sent GovDelivery bulletins to promote the DWSRF Intended Use Plan. These notifications went to all interested parties and eligible PWSs, partners, engineering firms and tribes. The DWSRF program has contributed to several GovDelivery announcements over the reporting period and each was delivered to approximately 6,825 interested parties. DWS will continue to use the GovDelivery system as a major communication tool to enhance program awareness and effectiveness.

Technical service providers

To further enhance DWS's ability to assist water systems with identified problems and developing capacity, a technical assistance set-aside is used to contract with a local engineering firm to serve as a technical service provider (circuit rider). The circuit rider assists small groundwater and surface water systems serving fewer than 10,000 people. This technical

assistance is provided outside of the regulatory program and helps facilitate water systems' voluntary compliance with the SDWA. Most of the assistance is in the field, one-on-one with individual water system operators.

The objective of the technical assistance strategy is to expand services available to small water systems for identifying and solving specific and immediate water system operational and/or management problems through timely expert help. The scope of the circuit rider's work is limited to short-term operational problems. The circuit rider made 305 contacts during the reporting period.

Area-Wide Optimization Program

The objective of Oregon's AWOP is to educate water system operators in optimization principles with the goal of improving public health protection. This is accomplished by imparting an understanding of not only the basics of water treatment and the multiple barrier concepts, but also providing the opportunity and incentive to learn and engage in optimizing treatment beyond regulatory standards and using data to monitor performance and identify areas for improvement.

During the reporting period, DWS staff progressed toward meeting the AWOP objective by providing training and direct technical assistance to treatment operators and by presenting on optimization concepts at conferences.

Surface water treatment plant inspections

Surface water treatment plant facilities and operations are evaluated during water treatment plant visits. A consistent rating system is used and a future evaluation frequency of six months, one year or three years is established. Each surface water system is prioritized for receiving targeted performance improvement assistance to better address capacity issues. DWS conducted 174 surface water treatment plant visits during the reporting period.

Source water protection implementation project

Funded under a separate set-aside of the DWSRF, source water protection efforts target all Oregon public water systems. DWS shares implementation responsibilities with the Oregon DEQ. DWS staff have leadership responsibility for completing source water assessments of all new water systems and, when needed, updating assessments of older Community and Non-Transient Non-Community groundwater systems.

The capacity assessment effort uses the source water assessment information to communicate source vulnerability risks to water system

operators and decision-makers in hopes of increasing overall capacity. This effort primarily assists water systems with managing these risks and their technical resources while planning for funds to develop or maintain protection of their drinking water sources.

Activities for this reporting period include *Cryptosporidium*/micro particle analysis (MPA) monitoring. Surface water systems exceeding the *E. coli* triggers are referred to the circuit rider for assistance in determining the bin class under the Long Term 2 Enhanced Surface Water Treatment Rule (LT2). A part of this determination is *Cryptosporidium* sampling. Similarly, groundwater systems identified as being at risk for Ground Water Under Direct Influence (GWUDI) are targeted for MPA sampling. A referral to the circuit rider for assistance in determining GWUDI can be made by state staff.

V. Commonly identified problems and solutions

Capacity assessments and related site visits have served as valuable tools for identifying capacity-related deficiencies. Some of the more common deficiencies and attempted solutions are presented below.

Technical capacity

Water system violations generated on a monthly basis by DWS continue to point to water quality monitoring and operations as a statewide capacity issue. A common technical deficiency is no certified operator at the required level. Systems in violation are contacted by DWS staff, and technical assistance is provided in an effort to resolve identified compliance issues.

Managerial capacity

Common managerial deficiencies include lack of required water system documentation. Examples of this documentation include coliform sampling plans, system operations and maintenance manual, annual summary report, annual consumer confidence report and emergency response plans. To aid in correcting these deficiencies, DWS staff provide on-site technical assistance, distribute fact sheets describing the correct methodology for completing these required documents, and direct water system personnel to the DWS website for additional resources.

Financial capacity

Common financial deficiencies have included inadequate budgeting and accounting practices and inadequate cash reserves for emergencies. Partnering agency Rural Community Assistance Corporation (RCAC) provides education addressing financial budgeting for public water systems.

VI. Future challenges and plans

DWS continues to seek ways to improve the capacity of Oregon's public water systems. Water systems continue to struggle with day-to-day problems such as operator turnover, aging infrastructure and inadequate finances. Additionally, many systems face regulatory-driven challenges such as compliance with new standards established by the EPA. DWS continually strives to tailor its capacity effort to ensure that water systems are provided with the tools and resources necessary to meet these challenges. In addition to current work, future efforts by DWS will be to encourage the development of asset management plans by public water systems.

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