
Annual State Capacity Development Program Implementation Report SFY 2021

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



September 30, 2021

SFY 2021 Reporting Period: July 1, 2020–June 30, 2021

A. New Systems Program Annual Reporting Criteria

- 1. Has the state's legal authority (statutes/regulations) to implement the New Systems Program changed within the previous reporting year? If so, please explain and identify how this change has affected the implementation of the New Systems Program (additional documentation, such as an attorney general (AG) statement or a statement from a delegated department attorney, may be required). If not, no additional information about legal authority is necessary.**

Oregon's legal authority to implement the New Systems Program has not changed.

- 2. Have the state's control points ever been modified? If so, describe the modifications and any impacts these modifications have had on implementation of the New Systems Program. If not, no additional information on control points is necessary.**

The state's control points have not been modified.

- 3. List new systems (PWS ID and name) established in the state within the past three years and indicate whether those systems have been on the enforcement targeting tool (ETT) list during their first three years of operation.**

Four new public water systems (Community [C] or Non-Transient Non-Community [NTNC]) were added to Oregon's public water system inventory during the reporting period. Table 1 lists these new systems.

Table 1: C and NTNC public water systems established during SFY 2021

PWS ID	PWS name	System type	Activity status	Activity date	Activity reason
OR41 01547	CHARLOTTE ANN WATER DISTRICT	C	A	4/07/2021	New purchasing system on 4/07/2021
OR41 01549	ELK CITY WATER DISTRICT	C	A	5/13/2021	New purchasing system on 5/13/2021
OR41 95645	MCLANE INDUSTRIAL PARK	NTNC	A	10/12/2020	New public water system on 10/12/2020
OR41 01548	WEST GREGORY MHP SOUTH	C	A	4/26/2021	New system on 4/26/2021

Oregon uses a violation system score list (i.e., ETT) to monitor system compliance. Of the 19 active C and NTNC water systems added to Oregon's inventory during the last three reporting periods, there are zero systems with a score of 11 or higher during the first three years of operation. Table 2 lists the ETT history for these 19 systems.

Table 2: ETT history for C and NTNC active public water systems established during SFYs 2019, 2020 and 2021

PWS ID	PWS Name	Type	ETT
OR41 95591	AMAZON DATA UMATILLA PDX063	NTNC	No
OR41 95621	ARBOR SCHOOL - WEST	NTNC	No
OR41 01539	CANYON RIDGE	C	No
OR41 01547	CHARLOTTE ANN WATER DISTRICT	C	No
OR41 95630	COLUMBIA HELICOPTERS	NTNC	No
OR41 01549	ELK CITY WATER DISTRICT	C	No
OR41 95602	GP ENERGY	NTNC	No
OR41 01538	HILAND WC – WYLAND	C	No
OR41 95613	HILLSBORO LANDFILL	NTNC	No
OR41 06274	HILLSBORO-BUTTERNUT CREEK	C	No
OR41 01542	LAKE OSWEGO - TIGARD WATER SUPPLY	C	No
OR41 95645	MCLANE INDUSTRIAL PARK	NTNC	No
OR41 95579	NW WINE COMPANY	NTNC	No
OR41 95580	PARTNERS IN UNITY	NTNC	No
OR41 01543	ROXY ANN HEIGHTS HOA	C	No
OR41 95609	STADELMANS PEAR BLOSSOM ORCHARD	NTNC	No
OR41 01540	TABLE ROCK MOBILE ESTATES (NORTH)	C	No
OR41 95627	TC CHEVY	NTNC	No
OR41 01548	WEST GREGORY MHP SOUTH	C	No

Oregon maintains an inventory of public drinking water systems. Three years is the criterion used for reporting purposes only.

B. Existing Systems Strategy

- 1. Regarding the state's approved Existing Systems Strategy, which programs, tools, and/or activities were used, and how did each assist existing public water systems in acquiring and maintaining technical, managerial, and financial capacity? Discuss the target audience for these activities.**

Oregon continues to work diligently at implementing its capacity development strategy. One of the major keys to success has been the integration of capacity-building elements into day-to-day Drinking Water Services (DWS) activities.

As discussed in detail below, Oregon's capacity development strategy focuses on four areas: capacity assessment, information and communication services, training and outreach.

Focus Area 1: Capacity Assessment

Program Description and Narrative

Oregon staff assess water system capacity on water systems applying for funding through the Drinking Water State Revolving Fund (DWSRF) and on new water systems during the initial plan review process.

For DWSRF applicants, Oregon staff perform the technical and managerial assessments, while Business Oregon (BizOR) performs a concurrent financial capacity assessment. During this process, DWS and BizOR cooperatively identify systems with capacity-related deficiencies and work with those systems to develop necessary capacity. Most deficiencies are easily corrected prior to final loan disbursement. More severe issues require correction before initiating the loan. This cooperative program has allowed water systems to make necessary capital improvements while improving overall capacity.

New public water systems are assessed during the initial plan review and approval process. All public water systems must comply with applicable requirements before 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.

The target audience of the capacity assessment program is water system management and operators.

Activities During This Reporting Period

Oregon conducted thirteen DWSRF capacity assessments during the reporting period. The Oregon DWS Technical Services Unit provides a capacity assessment for each water system receiving a DWSRF loan so that any needed capacity improvements can be written into the loan contract.

New public water systems added to the inventory were assessed during the initial plan review and approval process. Oregon DWS engineers facilitate the assessment by using a capacity-assessment lens during the plan review process for each new public water system.

Focus Area 2: Information and Communication Services

Program Description and Narrative

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

Oregon DWS Website

Oregon uses its website to provide water-system-specific information, including public access to the state Safe Drinking Water Information System (SDWIS) database. In addition to information on compliance-related monitoring and reporting, the DWS website provides many educational and resource materials, including technical-assistance handouts, public water system map, 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. 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.

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.

DWS Newsletter—The Pipeline

DWS continues to issue The Pipeline newsletter two or three 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.

The target audience for these efforts includes system managers, operators and the general public.

Activities During This Reporting Period

Two guidance documents have been added to the DWS homepage:

- [Revised Guidance for Reopening Building Water Systems After Prolonged Shutdown](#)
- [Recommendations for Oregon Public Drinking Water Systems Experiencing Chemical Supply Shortages](#)

Oregon maintains a [Training Opportunities](#) webpage that lists all known drinking water operator training opportunities and providers in Oregon.

Oregon DWS used the government email delivery system (GovDelivery) to send capacity development information via The Pipeline newsletter to all email-capable public water systems. Approximately 90% of Oregon's public water systems can receive email communications.

Focus Area 3: Training

Program Description and Narrative

Training opportunities are available on all levels for water system operators and managers. The following training courses are provided by Oregon DWS on a recurring basis:

- *Basics for Small Water Systems Training Course.* Oregon DWS contracts with Oregon Association of Water Utilities to provide this one-day classroom training at no cost to the water system. To comply with COVID-19 safety guidelines, this course was also provided virtually through GoToWebinar during the reporting period. Typically, the course is offered 20 times per year at numerous locations throughout the state and more. More than 500 people per year take the course. The course has recently been updated and is being peer reviewed.
- *Surface Water Treatment.* Three training classes have been developed and are taught by DWS staff at various locations around the state. Course titles include *Essentials of Surface Water Treatment*, *Conventional and Direct Filtration*, and *Slow Sand Filtration*. To comply with COVID-19 safety guidelines, the *Essentials of Surface Water Treatment* course has been recorded and is available on the DWS Training Opportunities webpage.
- All training is targeted, convenient and cost effective. Training guides, manuals and factsheets are continually identified, developed and made available. Training on capacity development and optimization for surface water systems is provided in coordination with the Area-Wide Optimization Program.

Activities During This Reporting Period

The Capacity Development team attended Capacity Development and Asset Management trainings provided by the EPA and other collaborating agencies. The team placed the information and tools on the DWS website for water systems to use.

This team has also held meetings with the following agencies regarding future training collaborations: Rural Community Assistance Corporation (RCAC), the Oregon Association of Water Utilities (OAWU) (a state affiliate of the National Rural Water Association), Civil West Engineering Services, Inc., and Colorado State University.

Focus Area 4: Outreach

Outreach activities are performed daily through a variety of programs carried out by DWS. The target audience for the following outreach programs includes water system managers and operators.

The Drinking Water State Revolving Fund Program (DWSRF)

Program Description and Narrative

Oregon continues to have notable success with the DWSRF and associated outreach activities. DWSRF funds are very beneficial because they provide a funding mechanism for water systems that otherwise might be unable to afford needed modifications, upgrades and replacements of existing drinking water system infrastructure needed to maintain compliance with the Safe Drinking Water Act. Oregon's outreach activities to promote this program are accomplished through a variety of methods, including industry presentations, one-stop meetings, Pipeline articles, postcard mailings and GovDelivery bulletins, routine updates to the DWSRF webpage, use of the circuit rider program to provide assistance to water systems in completing funding program letters of interest, dissemination of the DWSRF program brochure during routine water system encounters, and DWSRF program signage at construction sites.

Activities During This Reporting Period

- COVID-19 restrictions limited the promotion of the DWSRF program to water systems throughout Oregon. Rather than offering several in-person presentations, as in years past, Oregon DWS relied more on word-of-mouth marketing through DWS regional staff and partner agencies.
- During the 2020 EPA Region 10 DWSRF Training, DWSRF program staff presented on the newly developed Small System Equipment Assistance (SSEA) funding program. SSEA launched in early 2021 and provides much needed help to small water systems in acquiring equipment they need (but cannot afford) to remain in compliance with the Safe Drinking Water Act.
- DWSRF partners at Business Oregon held nine one-stop meetings for communities interested in pursuing financial assistance to address water/wastewater improvements. The DWSRF is one of many financing programs promoted at these meetings.
- DWSRF program staff contributed three articles to The Pipeline newsletter, including a summary of what the program can offer to eligible PWSs throughout Oregon. DWS also sent postcards and GovDelivery bulletins to promote the DWSRF Intended Use Plan. These notifications went to all interested parties and eligible PWSs, partners, engineering firms and tribes. This was the DWSRF program's second LISTSERV announcement and it went to over 4,000 interested parties. DWS will continue to use the

GovDelivery system as a major communication tool to enhance program awareness and effectiveness.

- Routine updates to the DWSRF webpage are ongoing. A few examples are the quarterly and annual updates to Project Priority Lists for public comment periods, the creation of the new SSEA program webpage, and the annual update to the DWSRF Annual Report.

Technical Service Providers

Program Description and Narrative

To further enhance Oregon DWS's ability to assist water systems with identified problems and to develop capacity, the Technical Assistance DWSRF set-aside is used to contract with outside technical service providers. Circuit riders provide free on-site technical services for short-term operational problems for Community water systems serving populations under 10,000, as well as not-for-profit Transient and Non-Transient Non-Community water systems. They perform one-on-one technical assistance in the field to individual water systems, providing quick response services. Examples of acceptable assistance activities can be reviewed at Oregon's dedicated Circuit Rider website at [DWS Circuit Rider Program](#).

The objective of the technical-assistance strategy is to expand services available to small water systems and identify and solve specific and immediate water system operational and/or management problems through timely expert help. For fiscal management, the scope of the work is generally limited to 10 hours or less per project, unless there is prior written approval from OHA management. Additionally, outreach activities can, in certain circumstances, include sample collection assistance for *Cryptosporidium* and microscopic particulate analysis (MPA) monitoring requirements as outlined below.

Cryptosporidium and Microscopic Particulate Analysis (MPA) Monitoring

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2) applies to all public water systems that use surface water or groundwater under the direct influence of surface water (GWUDI). The purpose of the rule is to ensure adequate treatment of surface water sources with higher levels of *Cryptosporidium*. EPA allows for the payment of the costs of LT2 monitoring for *Cryptosporidium* through the DWSRF set asides. Surface water systems exceeding the *E. coli* triggers are referred to the technical-assistance circuit rider for assistance in determining the bin class under LT2. A part of this determination is *Cryptosporidium* sampling. Similarly, groundwater systems identified as at risk for GWUDI are targeted for MPA sampling. DWS staff may refer water systems to the circuit rider for assistance in determining GWUDI, which entails sampling by the circuit rider for determination of GWUDI or non-GWUDI status.

Activities During This Reporting Period

According to invoices paid, the circuit rider completed 99 discrete technical-assistance contacts during this reporting period: 45 for surface water systems and 54 for groundwater water systems. The expenses totaled \$170,000.00 and were paid with funds from the DWSRF Technical Assistance set-aside. These services included eight *Cryptosporidium* sample collection assistance activities for surface water systems and four MPA sample collection assistance activities for groundwater systems.

Of special note is the outreach and assistance provided to water systems affected by wildfires during the summer of 2020. Oregon's Circuit Rider vendor, Civil West Engineering Services, Inc., assisted multiple systems affected by the fires with identifying the extent of the damages to their infrastructure and identifying options for resuming normal operations as quickly as possible.

Capacity Building by DWS Staff

Program Description and Narrative

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 or over the phone; providing handouts, factsheets, and training guides; referral to resources on the DWS website; and referral 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.

Activities During This Reporting Period

DWS staff devoted more than 6,000 hours to technical assistance and outreach activities for water systems to assist them in maintaining compliance with the Safe Drinking Water Act.

Surface Water Treatment Plant Inspections

Program Description and Narrative

DWS staff evaluate surface water treatment plant facilities and operations during each water treatment plant visit and based on the evaluation, establish a future visit frequency of six months, one year or three years. The systems at highest risk are prioritized for receiving targeted performance improvement assistance to better address capacity issues. This process is an example of how DWS integrates capacity building into existing activities. These inspections provide an

opportunity for staff to ask questions and discuss concepts related to optimization of treatment processes, including optimization goals established through Oregon's Area-Wide Optimization Program.

Activities During This Reporting Period

DWS conducted 38 water treatment plant visits during the reporting period.

Area-Wide Optimization Program (AWOP)

Program Description and Narrative

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 educating water system staff about the basics of water treatment and the multiple barrier concept, providing the opportunity and incentive to learn about and engage in optimizing treatment beyond regulatory standards, and using data to monitor performance and identify areas for improvement.

Activities During This Reporting Period

Because of COVID-19 restrictions and the unprecedented wildfire season affecting approximately 50 surface water systems, activities related to AWOP were adapted to serve those in need of post-wildfire assistance, as detailed below.

- AWOP staff assisted in post-wildfire response by contacting approximately 50 systems (comprising 52 surface water intakes) with watersheds within the fire perimeters. Staff called the affected water systems, documented damage sustained and recovery needs, and assisted with a coordinated response.
- As part of the Erosion Threat Assessment and Response Team (ETART) efforts, AWOP staff assisted EPA in developing the priority ranking of affected surface water treatment systems as documented in the ETART report available at [ETART Water Quality/Drinking Water Supply Resource Report](#).
- AWOP staff researched and assembled guidance ("Optimizing Water Treatment Plants After a Wildfire") to assist operators of surface water treatment plants in treating source waters higher in turbidity, ash and organics related to the wildfires. This guidance is available on the DWS website at [Optimizing Water Treatment Plants After a Wildfire](#).
- AWOP staff presented on the impacts of wildfire on water systems and treatment optimization concepts at five training events organized by EPA: Region 10/8 AWOP, Oregon DEQ/CADMUS, Pacific Northwest Clean

Water Association, Pacific Northwest Section and Northwest Oregon
Subsection of AWWA.

In addition to the wildfire efforts, activities included the following:

- The AWOP Surface Water Treatment website (www.healthoregon.org/swt) was updated and maintained.
- The article “SCADA Alarms for Treatment Plants” and a SCADA alarm verification template was developed and included in the April 2021 Pipeline newsletter.

Source Water Protection Implementation Project

Program Description and Narrative

Both the Oregon Department of Environmental Quality 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 as they plan for funds for developing or maintaining protection of their drinking water source(s).

Through the DWSRF loan program, loans (up to \$100,000 per water system) and grants (up to \$30,000 per water system) are made available annually to water systems for source water protection projects or activities. Each year, DWS awards approximately \$200,000 in grants and loans. Awards fund projects for individual water systems and joint projects involving multiple water systems. Joint projects can be funded with grant money up to \$30,000 per each participating water system, thus encouraging water systems to collaborate on source water protection strategies that target regional risks to drinking water quality.

Activities During This Reporting Period

For FY 2021, DWS received 17 applications for drinking water protection projects with a total of \$643,528 requested. Four of the applicants requested emergency grant funding as a result of wildfires that occurred in fall 2020. A fifth applicant sought emergency loan funds to help pay for easement agreements on privately owned timber land within their drinking water source area. The remaining 12 projects were submitted as part of our routine open application intake period that occurs from mid-January through mid-March each year. In total, DWS approved 16 projects with a funding amount of \$513,528. Due in part to the increased interest in emergency loan and grant funds because of wildfires, DWS allocated an additional \$288,555 to source water protection projects this year. Proposed projects included the following:

- Collection of post-fire turbidity/water quality data and initial rehabilitation projects in several watersheds
- Sediment-reduction projects involving riparian zone rehabilitation, livestock exclusion fencing, invasive plant removal, etc.
- Development of management plans including:
 - Drinking water source protection plans
 - Forestry management plans
 - Watershed water quality monitoring plans
- Retrofitting older stormwater collection systems with newer designs to remove pollutants
- Public education and outreach projects
- Updating drinking water source area delineations

Compared to the previous reporting period, DWS served twice as many systems and provided three times the financial assistance.

2. *Based on the existing strategy, how has the state continued to identify systems in need of capacity development assistance?*

DWS identifies systems in need of capacity development assistance continuously. There are three primary ways that systems are identified:

- Use of a violation system score list (i.e., ETT) to identify systems with compliance issues
- Identifying issues during sanitary surveys and water treatment plant visits
- Noting problems during AWOP activities

3. *During the reporting period, if statewide PWS capacity concerns or capacity development needs (TMF) were identified, what was the state's approach in offering and/or providing assistance?*

Water system violations generated monthly by DWS continue to point to water quality monitoring and reporting as a statewide capacity issue. Systems in violation are contacted directly by DWS or county/Department of Agriculture staff, and technical assistance is provided in an effort to resolve identified compliance issues.

Additionally, sanitary surveys conducted within the reporting period continue to identify deficiencies in required water system documentation.

The five deficiencies most frequently identified during sanitary surveys conducted within the last SFY are the following:

- No operations and maintenance manual - *Management and Operations Violations*
- Emergency response plan not completed - *Management and Operations Violations*
- No coliform sampling plan - *Monitoring and Reporting Violations*
- Annual summary report not issued - *Distribution System Violations*

- Monitoring not current - *Monitoring and Reporting Violations*

To aid in correcting these deficiencies, DWS and county/Department of Agriculture staff provide on-site technical assistance and distribute factsheets describing the correct methodology for completing these required documents. The DWS Data Management, Compliance & Enforcement Unit tracks when corrections are due.

The AWOP standards most often unmet, as identified by surface water treatment plant inspections, are the following:

- Turbidimeters are not properly calibrated.
- Filter Optimization goals are not met
- Filter-to-waste capability is lacking.

DWS staff provide on-site technical assistance and, in many cases, refer these systems to the technical-assistance circuit riders for further assistance.

4. *If the state reviewed the implementation of the Existing Systems Strategy during the previous year, discuss the review and how findings have been or may be addressed.*

DWS reviewed the implementation of the Existing Systems Strategy during the reporting period and revised the strategy to address new requirements surrounding asset management. As noted in previous annual reports, Oregon strives to identify the highest value activities and focus efforts there accordingly.

5. *Did the state modify the Existing Systems Strategy? If so, describe.*

DWS did modify the Existing Systems Strategy to include new asset management requirements identified by EPA. With the revised strategy, Oregon anticipates making significant programmatic changes during the next reporting period. The draft strategy is under review and will be finalized in December 2021. Specific information about these new activities will be available at that time by visiting Oregon's dedicated Capacity Development webpage, located at [Capacity Development Oregon Drinking Water Services](#).