

# Alaska Capacity Development Program

## Annual Report to EPA State Fiscal Year 2024

September 2024



Mike Dunleavy, Governor Nancy Dahlstrom, Lieutenant Governor Emma Pokon, Commissioner, Department of Environmental Conservation Page Intentionally Left Blank

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## **Executive Summary**

The Alaska Department of Environmental Conservation (DEC) is the designated State primacy agency for the Safe Drinking Water Act (SDWA) implementation. As such, DEC is required to prevent the creation of new nonviable community and nontransient noncommunity water systems and to develop a strategy to address the technical, managerial, and financial (TMF) capacity of all existing water systems to reliably deliver safe drinking water.

Effective October 1, 1999, Alaska regulations require owners of new water systems to demonstrate system viability and capacity prior to DEC issuing an approval to construct. Alaska convened a Citizen's Advisory Board (CAB) and used the published results of that effort to produce Alaska's capacity development strategy in 2000. The strategy was revised in 2013 and again in 2022. The U.S. Environmental Protection Agency (EPA) approved the most recent strategy on February 1, 2023.

To assist in the anticipated need for increased capacity development support due to the influx of funding from the Infrastructure Investment and Jobs Act, DEC received authorization for additional positions to support the creation of a standalone Capacity Development (CapDev) Program. The standalone CapDev Program is comprised of one Environmental Program Manager and three Environmental Program Specialist staff.

The following annual implementation report describes the program's efforts during State Fiscal Year 2024 (SFY24) (July 1, 2023 – June 30, 2024) to ensure that both new and existing water systems acquire and maintain the TMF capabilities to successfully operate. This report is structured in accordance with EPA *Reporting Criteria for Annual State Capacity Development Program Reports* and contains all required reporting elements.

## EPA Reporting Criteria

The following information addresses the status of new systems and the existing system capacity development strategies crafted, adopted, and implemented by the State of Alaska. These strategies ensure that newly proposed water systems and existing water systems have the technical, managerial, and financial capacity to achieve and maintain compliance with federal regulations.

### NEW SYSTEMS PROGRAM ANNUAL REPORTING CRITERIA

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 HAS AFFECTED OR IMPACTED 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 ON LEGAL AUTHORITY IS NECESSARY.

The State's legal authority did not change during SFY24.

HAVE THERE BEEN ANY MODIFICATIONS TO THE STATE'S CONTROL POINTS? 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 did not change during SFY24.

LIST NEW SYSTEMS (PWSID & NAME) IN THE STATE WITHIN THE PAST THREE YEARS AND INDICATE WHETHER THOSE SYSTEMS HAVE BEEN ON ANY OF THE ANNUAL ENFORCEMENT TARGETING TOOL (ETT) LISTS (AS GENERATED ANNUALLY BY EPA'S OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE).

Appendix A lists new systems within the past three state fiscal years.

## EXISTING SYSTEM STRATEGY

IN REFERENCING THE STATE'S APPROVED EXISTING SYSTEMS STRATEGY, WHICH PROGRAMS, TOOLS, AND/OR ACTIVITIES WERE USED, AND HOW DID EACH ASSIST EXISTING PWS'S IN ACQUIRING AND MAINTAINING TMF CAPACITY? DISCUSS THE TARGET AUDIENCE THESE ACTIVITIES HAVE BEEN DIRECTED TOWARDS.

In accordance with the Alaska Capacity Development Strategy, DEC employs a collaborative and flexible approach to providing technical assistance. While the CapDev Program is responsible for implementing the existing systems strategy, other state programs also offer capacity assistance. Coordination among these various programs allows technical assistance providers to address some of the unique challenges faced in Alaska and enhances their ability to provide and direct services where they are most needed.

The following section details the various programs, tools, and initiatives utilized to assist existing public water systems (PWSs) acquire and maintain TMF capacity during SFY24.

#### Operations and Maintenance Best Practices (O&M Best Practices)

DEC's Village Safe Water (VSW) and Remote Maintenance Worker (RMW) Programs, in collaboration with the Rural Utility Business Advisor (RUBA) Program and the Alaska Native Tribal Health Consortium (ANTHC), developed criteria for assessing operations and maintenance capacity of rural water and wastewater utilities. The criteria, referred to as Operations and Maintenance Best Practices, is used for project scoring and prioritization for community sanitation projects funded through the VSW Capital Improvement Project (CIP) funding process. The O&M Best Practices score is used to determine the priority of sanitation projects proposed for funding and accounts for 40% of the points possible for CIP construction project scoring. The O&M Best Practices score is also used for scoring, prioritizing, and determining the level of principal forgiveness for State Revolving Fund Micro Loan projects.

Utilities are scored on technical, managerial, and financial categories comprised of nine criteria. The scoring criteria is included in Appendix B. Access to CIP and Micro Loan funding incentivizes rural communities to acquire and maintain TMF capacity. Communities are encouraged to actively work with technical assistance providers to improve system capacity, and by extension, their O&M Best Practices score. DEC's RMW and OpCert Programs and RUBA Programs offer resources, such as sample preventative maintenance plans and financial reports, operator trainings, management and financial trainings, and assistance with QuickBooks and taxes to assist utilities with their O&M Best Practices scores.

#### American Water Works Association (AWWA) Water System Operations (WSO) Guidebooks

DEC purchased AWWA WSO Water Treatment Grades 1 and 2 manuals and Certification Exam Prep books to provide additional resources to operators statewide. Operators who request assistance are provided these resources free of charge. Operators who have taken and failed certification exams are also targeted for outreach with these materials.

#### Small Untreated and Small Treated Water Systems Training Courses

Small untreated (SU) and small treated (ST) water systems are community or non-transient non-community water systems that serve fewer than 500 people, contain fewer than 100 service connections, and either add no chemicals or one chemical for treatment, respectively. In Alaska, 62% of systems that require a certified operator are classified as either SU or ST.

Historically, operators seeking assistance in passing the SU or ST certification exam had access to online courses that were hosted by the water/wastewater program at the University of Alaska, Southeast (UAS) in Sitka; however, the UAS program was eliminated, and along with it, the SU and ST online courses. Additionally, the DEC-approved correspondence course available to operators uses manuals that were developed in 2002. To address the training gap created by the elimination of the UAS online courses and to "refresh" the 2002 manuals, DEC solicited proposals for the development of a small untreated and small treated online training course, study modules, and consolidation of the SU and the ST manuals into one single manual.

During SFY24, the manual was finalized and made available for use in SU and ST courses. The State of Alaska has a learning and performance management system called AspireAlaska. This system is accessible to both State of Alaska employee's and external users to take learning provided by the Department of Environmental Conservation. DEC worked with AspireAlaska to host the online courses; the online courses will be available to the public on the AspireAlaska training platform in SFY25.

#### Public Outreach

During SFY24, the CapDev Program worked to build capacity through public outreach and presentations at statewide professional conferences. Public engagement included:

2024 Alaska Water
Wastewater Management
Association (AWWMA)
Conference Presentation:
The AWWMA conference is
held annually and provides
attendees the opportunity
to network with public
health officials, consulting
and environmental
engineers, government
regulators, water and
wastewater system
managers, operators, utility



managers, councilmen, chiefs, tribal administrators, and other industry professionals. The CapDev Program Manager presented an overview of the CapDev Program and current program initiatives. Attendees were encouraged to reach out to the program for assistance with any capacity needs.

 2024 Alaska Infrastructure Development Symposium: The 4th annual Infrastructure Development Symposium was hosted by the Alaska Municipal League in collaboration with the Governor's Office of Infrastructure and the Alaska Federation of Natives April 2-5 in Anchorage. DEC staff provided an overview of the Water Facilities section with a focus on Technical Assistance programs: Remote Maintenance Worker, Operator Certification & Training (OpCert), and Capacity Development. The CapDev Program Manager delved into tools and initiatives the CapDev group pursues to assist with building TMF capacity of water and wastewater utilities.  Careers in Water Presentation and Flyer: OpCert and CapDev staff collaborated with Community Technical College (CTC) in Fairbanks to deliver a Careers in Water presentation. CTC offers a Process Technology Program with a course for water treatment. CapDev staff provided an overview of potential career paths in the water industry including information on how to get started, available trainings, wages, and current job openings.



#### Rural Community Calendars

To support rural communities and utilities, DEC produces an annual calendar for rural community utility staff. In 2024, 500 calendars were printed and distributed to rural communities and technical assistance providers. The calendar contains important reminders each month for operators, clerks, and bookkeepers, such as deadlines for sampling, preventative maintenance reports, and taxes. Photos of communities, operators, and water infrastructure are included to highlight the diversity of Alaska's small systems and landscapes.

Calendars provide TMF assistance in rural communities where turnover is high and communication with technical assistance staff may be limited due to distance and connectivity issues. Sampling compliance, routine maintenance, and reporting requirements are all targeted with this effort. A contacts page is also included at the end of the calendar which lists the various technical assistance providers in the state, contact numbers, and a brief overview of the services offered.



	ð	UNP, 2	024			
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	June 30 <sup>th</sup> is the l Is your SFY25 B	ast day of SFY 24 udget approved?				1
2	3 Take coliform sample w/distribution residual *WPO duty*	4 Submit your May preventative maintenance records to your assigned RMW *WPO duty*	5 Pay May payroll & child support liabilities *Clerk duty/Bookkeeper duty*	6	7 Submit the May Discharge Monitoring Report (if required) to DEC Wastewater electronically through the NetDMR system "Responsible Official duty"	8
9	10 Submit the May operator report to DEC Drinking Water *WPO duty*	<b>11</b> Have you reconciled the May bank statement? *Clerk/Bookkeeper duty*	12 Visually inspect source water reservoir or intake gallery and clean intake screen *WPO duty*	13 Have you backwashed the filter? *WPO duty*	14 Have you tested the backup generator? "WPO duty"	15
16 Father's Day	<b>17</b> Check fuel levels and day tank in WTP "WPO duty"	18	<b>19</b> Monitor/maintain lift station *WPO duty*	20	21 Clean & calibrate SCD & turbidimeter *WPO duty*	22
23	24 Submit the May meeting minutes and financial reports to RUBA staff *Clerl/Bookkeeperduty*	25 Begin quarterly grant, IRS, and Dept. of Labor reports *Clerk/Bookkeeper duty*	26	27	28 Deadline to provide information to RUBA and RMW staff for Operations & Maintenance Best Practices CCR Report Due *wPO duty*	29 How many gallons of water did you treat this month? *WPO daty* 30
NOTES:						JULY
					Su Mo 1 7 8 14 15 21 22 28 29	Tu     We     Th     Fr     Sa       2     3     4     5     6       9     10     11     12     13       16     17     18     19     20       23     24     25     26     27       30     31     31

#### Water System Excellence Award Program

The Water System Excellence Award (WSEA) Program aims to increase the visibility of systems and operators who have demonstrated their commitment to providing safe drinking water, as community appreciation is essential to maintaining TMF capacity. By increasing visibility, DEC hopes that the positive recognition will contribute to employee retention and community support and encourage improvements in systems that are not currently recognized.

The WSEA recognizes water systems that achieve outstanding performance in the operation of their systems, and has two tiers, Ursa Major and Ursa Minor. To earn the Ursa Major award, a water system must maintain four quarters of operator certification compliance with no open, unresolved, or incurred drinking water violations during the award year. To earn the Ursa Minor award, a water system must maintain four quarters of operator certification during the open, unresolved, or incurred drinking water violation during the award year, or maintain three quarters of operator certification compliance with no more than one open, unresolved, or incurred drinking water violation during the award year, or maintain three quarters of operator certification compliance with no open, unresolved, or incurred drinking water violations during the award year. For the 2023 award year (SFY24), 280 water systems were awarded Ursa Major and 70 were awarded Ursa Minor. 66 of the systems awarded Ursa Major have retained this status for all six years that the program has run. Award winners receive the following certificates:





#### Drinking Water (DW) Program

The DW Program is responsible for enforcing federal health-based standards, established by the EPA as required by SDWA. The DW Program utilizes the EPA's quarterly Enforcement Targeting Tool (ETT) to focus attention on those PWSs that, based on the severity and frequency of their violations, are defined as significantly out of compliance with the SDWA requirements. During SFY24, ETT scores were used as indicators of capacity and to prioritize compliance assistance and enforcement for PWSs statewide. Currently, the DW Program and other technical assistance providers work with communities who receive an ETT score of 11 or higher to determine what steps are needed to bring a system back into compliance.

The DW Program also conducts sanitary surveys. Sanitary survey inspections help PWSs strengthen operational and managerial processes, as well as support infrastructure, by identifying barriers or obstacles to provide safe drinking water to customers; providing operator education, technical assistance and training; increasing communication between the PWS staff and DW Program; and identifying and correcting deficiencies, thereby reducing risks to public health.

To assist in the technical capacity of water systems, the DW Program conducts plan reviews of new public water systems and modifications to existing public water systems to ensure that proposed designs meet current engineering standards and will be able to operate within the requirements of the drinking water regulations.

#### State Revolving Fund (SRF) Program

The SRF Program offers low-interest loans from the Drinking Water State Revolving Fund (DWSRF) to eligible PWS owners for infrastructure improvements. These loans assist PWS owners with financing the infrastructure upgrades needed to protect public health and achieve and maintain compliance with SDWA requirements. All SRF Program

borrowers for drinking water projects are required to demonstrate sufficient TMF capacity to operate the system in compliance with state and federal regulations. If a utility is non-compliant, an assessment is made to determine if the proposed SRF-financed project will bring the system into compliance, thus assisting the system in acquiring a greater capacity.

The target audience for DWSRF loans has historically included municipally owned water systems serving mid to large size communities. To provide funding assistance to small, rural Alaska communities, the SRF Program offers the Micro Loan program. The Micro Loan program finances projects that would otherwise be challenging to fund through traditional grant programs, or to finance aspects of larger grant-funded projects that are ineligible through a grant. Rural municipalities may be eligible to receive a low-interest Micro Loan of up to \$500,000 with a maximum of 90% principal forgiveness. The level of principal forgiveness depends on the affordability of the utility's user rates as well as the community's O&M Best Practices score. In addition to the direct support for technical capacity provided by infrastructure upgrades, the Micro Loans provide an incentive for PWSs to acquire and/or maintain TMF capacity. By relating the amount of principal forgiveness to the O&M Best Practices score, an incentive is provided for communities to develop and maintain TMF capacity: the higher the O&M Best Practices score, the higher the principal forgiveness.

#### Remote Maintenance Worker (RMW) Program

The RMW Program is a partnership between DEC and five regional health corporations to assist water systems in building and maintaining technical capacity by providing services to operators in nearly 200 rural Alaskan communities. During SFY24, the RMW Program continued its work of providing capacity assistance through on-site, on-the-job training in the proper operation and maintenance of water systems and compliance with state and federal regulations.

Organization	No. of Full Time RMWs	Region Served	Number of Communities
DEC	3	Southeast Alaska Aleutian/Pribilof Islands Kodiak Island Kenai Peninsula	69
Bristol Bay Area Health Corporation	1.5	Bristol Bay	21
Maniilaq Association	1	Kotzebue Region	10
Norton Sound Health 1.5 Corporation		Norton Sound	15
Tanana Chiefs Conference	3	Interior Alaska	31
Yukon Kuskokwim Health Corporation	5	Yukon Kuskokwim Delta	51



RMWs offer targeted, system specific assistance to operators, allowing them to improve the sampling, troubleshooting, maintenance, and mechanical repair skills needed to adequately run a community's utility. RMWs work with operators to develop and revise plans for system operations and maintenance (O&M) as well preventative maintenance plans. They also train operators in accurate record keeping and provide guidance in preparing sampling, monitoring, and testing reports to update the governing body about the status of the utility. Further capacity building efforts include informing local government officials of RMW findings and recommendations concerning O&M requirements and costs, plant O&M issues, and operator training needs. In addition to the one-on-one and local response, RMWs facilitate regional training workshops for operators in their region and provide classroom instruction to prepare operators for State certification exams.

#### Village Safe Water (VSW) Program

The VSW Program, within the DEC Division of Water, works to provide safe water and hygienic sewage disposal facilities in villages in the state. VSW is comprised of a team of engineers, project support specialists, procurement specialists, accountants, and grant administrators who work collectively to fund and implement planning, design, and construction of sanitation facilities.

#### Rural Utility Business Advisor (RUBA) Program

The RUBA Program is part of the Division of Community and Regional Affairs in the Department of Commerce, Community, and Economic Development. Local Government Specialist staff in the RUBA Program assist rural water utility providers with their financial and managerial capacity. Based in Anchorage, Bethel, Dillingham, Fairbanks, Juneau, Kotzebue, and Nome, RUBA staff travel to communities to provide direct one-on-one assistance to utility staff. During SFY24, RUBA staff worked alongside community members to identify strengths and weaknesses in their utility management and to develop plans to improve operations.

RUBA trainings are also provided in different regions across Alaska on a cost reimbursable basis. The 32-hour classes offered are: Introduction to Utility Management, Personnel Management, Financial Management, Organizational Management, Planning Management, Operations Management, Elected Officials and Utility Clerk. These courses provide utility staff with the principles and practices necessary to manage small water and wastewater facilities in rural Alaska. During SFY24, RUBA conducted eight classroom and five online management related trainings.

Additionally, RUBA staff play a key role in O&M Best Practices implementation and scoring. Staff collect and review the documentation required for scoring and actively work with communities to improve scores upon request.

#### Quarterly Technical Assistance Provider & Annual Regional Coordination Meetings

The CapDev Program has historically hosted quarterly Alaska Water Technical Assistance Providers Meetings. These meetings bring together the various agencies that provide technical assistance to communities throughout Alaska, including the EPA, ANTHC, DEC, RUBA, Rural Community Assistance Corporation (RCAC), and Tribal Regional Health Organizations (RHOs). By convening these groups quarterly, DEC works to share regulatory updates and requirements, coordinate efforts, reduce duplicative efforts, and identify funding sources.

The Alaska Network for Energy Education and Employment connects stakeholders in Alaska's energy sector, including training, technical assistance and troubleshooting providers. They host the Alaska Energy Training Group, a quarterly virtual meeting for energy training and workforce development stakeholders. During this reporting period, the TA Providers Group merged with the group due to the overlap in these quarterly meetings topics. Combining both groups allows providers to more efficiently and effectively share information and deploy collective resources throughout the state.

The CapDev Program also coordinates annual regional meetings in rural hub communities that bring together representatives of the regulatory programs and technical assistance providers that address rural sanitation needs. Participants include staff from DEC's CapDev, OpCert, RMW, VSW, DW, Wastewater, and Solid Waste programs, RUBA program, ANTHC, and RHO environmental health programs. At these meetings, participants review and discuss the current capacity status of all rural communities within a region to ensure that no community is unintentionally neglected from receiving technical assistance. The goal of these meetings is to coordinate effective and consistent communication between the agencies aiding rural communities with their sanitation infrastructure needs, to capture community needs for funding purposes, and to establish interagency collaboration on technical assistance efforts to communities.

At the conclusion of the Norton Sound, Maniilaq, Bristol Bay and Yukon Kuskokwim Regional Sanitation Coordination Meetings, CapDev, OpCert and RMW staff traveled to rural communities to administer exams and engage in outreach activities.

 On August 9, 2023, staff traveled to Brevig Mission and met with the Village Council. DEC staff gave crucial water utility management and small local governance training to the Council, mayor, and operator, provided technical assistance for some pressing operational issues, and gave the operator and Council a rundown of the technical aspects of water utility operations and maintenance. Additionally, DEC staff toured the water treatment plant. After the conclusion of the tour, staff administered the Small Treated Water System certification exam to the primary water treatment operator, who passed the exam and has been issued a Small Treated Water System certification. With the primary operator attaining this certification, the Brevig Mission water system has a properly certified water system operator.

- On August 22, 2023, DEC and Maniilaq staff traveled to Kobuk, toured the water treatment plant, met with new city administrators, and presented to the council.
- On September 21, 2023, DEC staff along with BBAHC staff visited Manokotak. Staff met with the mayor and city staff as well as the operators of the water system.
- On October 5, 2023, DEC staff, the YKHC RMW Program supervisor, and RUBA staff visited the community of Kwethluk and met with the three operators of the water system. DEC staff administered a Small Treated Water System certification exam to one of the operators who passed the exam and obtained certification.



## BASED ON THE EXISTING SYSTEM STRATEGY, HOW HAS THE STATE CONTINUED TO IDENTIFY SYSTEMS IN NEED OF CAPACITY DEVELOPMENT ASSISTANCE?

The State continues to work collaboratively and to use a variety of indicators for identifying existing systems in need of capacity development assistance.

#### ETT Scores & Sanitary Surveys

Statewide, compliance data is a strong indicator of systems in need. As discussed in the previous section, sanitary survey deficiencies and an ETT score of 11 or greater are used to identify and prioritize systems for capacity assistance.

#### Operator Quarterly Ranking

The OpCert Program maintains a quarterly schedule of analyzing and ranking the operator certification noncompliance status of systems; systems that rank the highest (based on factors such as system type, population served, source water, and system classification) are targeted for capacity assistance.

#### **O&M Best Practices**

For rural systems, the O&M Best Practices score is a comprehensive measure of capacity that is updated annually. Communities with low scores are prioritized for technical assistance from several programs, including the RMW and RUBA programs.

#### Technical Assistance Provider Coordination

Various agencies and staff provide technical assistance to communities throughout Alaska. By convening these groups quarterly, and annually for rural systems, DEC works to identify and target systems most in need of capacity assistance.

#### Financial Capacity Assessments

Financial Capacity Assessments are used to determine if a community is eligible for SRF loan funds. Different aspects, such as operating income, cash flows, debt, and affordability, are reviewed to assess the overall financial health of a utility. This type of review can identify systems in need of capacity development assistance.

## DURING THE REPORTING PERIOD, IF STATEWIDE PWS CAPACITY CONCERNS OR CAPACITY DEVELOPMENT NEEDS (TMF) HAVE BEEN IDENTIFIED, WHAT WAS THE STATE'S APPROACH IN OFFERING AND/OR PROVIDING ASSISTANCE?

During the reporting period, DEC addressed recurring capacity concerns and identified new projects to assist water systems build and maintain capacity.

#### System-Specific Training and Certification (S2TC) Program

Operators of water treatment systems are required to be certified at levels equal to system classification. To become certified, operators must pass validated exams and document required operations experience. DEC administers national ABC exams purchased from Water Professionals International. Many operators have been unable to pass the ABC exams, even after significant preparation through course work and coaching. Reasons given include test anxiety and the reality that ABC exams cover a wide variety of water treatment topics, many of which do not apply to the system under the operator's control. However, it has long been maintained that many of these operators, while unable to pass the ABC exams, possess the knowledge and skills needed to safely operate their water systems.

To address this challenge faced by capable and experienced operators, DEC developed the S<sub>2</sub>TC Program. The S<sub>2</sub>TC Program consists of training modules for different treatment and distribution components of a PWS, which serve as the basis for an alternative approach to certification exams. Operators identified by DEC to participate in this program will be required to prepare and submit a facility description to determine which modules will be administered. Each module is intended to educate and test an operator on information that is specific to the technology used in their utility. In these limited cases, successful completion of the S<sub>2</sub>TC Program will replace the requirement of passing the standard certification exam and certification will be specific to that system. The training modules will also be made available as study materials for all operators.

During this reporting period, the first phase of modules and their corresponding examinations were completed: General Drinking Water and Operator Certification Regulations, Surface Water, Disinfection, Direct Filtration, Water System Components and Electricity, Corrosion Control, Principles of Math, and Chemical Feed Systems. DEC identified Clifton (Kip) Howard, the operator of the Kake Water Treatment Plant, as the first participant to pilot test the S<sub>2</sub>TC Program. During SFY24, CapDev staff traveled to Kake to host an orientation meeting with the water treatment plant operator, the exam proctor, and the system representative. By the end of this reporting period Kip had completed and passed the examination for the first of eight modules.



#### Operator Sampling Toolkit

Compliance with sampling and monitoring is a recurring challenge in Alaska. Remote systems often experience shipping delays due to limited infrastructure and inclement weather which can result in reporting violations. Additionally, the high cost of shipping samples can become more burdensome if operators are unfamiliar with proper sampling procedures and samples are rejected by the receiving laboratory. While small systems in urban areas may not experience the same issues related to shipping, systems such as homeowners' associations may rely on volunteers who are unfamiliar with the sampling procedures to conduct the required monitoring.

To address capacity needs related to small system sampling and monitoring compliance, the CapDev Program developed an operator sampling toolkit. This tool kit includes an easy-to-read wall chart and companion booklet with instructions tailored to Alaska's public water systems. The wall chart is a large format visual reference for each type of sample, to assist with bottle identification, where and when to take the sample, and details for transportation. The companion booklet includes more comprehensive information with specific instructions to successfully collect and ship water samples. The goal of this tool kit is to help operators stay in compliance and protect the public health by simplifying the water sampling process.

During SFY24, CapDev identified eighty-one systems with sampling and monitoring challenges and provided each of these systems a sampling toolkit.

#### INSTRUCTIONS FOR COLLECTING DRINKING WATER SAMPLES

1) WASH 5) CALL I	HANDS 2) WEAR GLOVES & EYE PROTECTION 3) FOLLOW STEP-BY-STEP INSTRUCTIONS 4) FILL OUT LAB FORMS, SHIP WITH AB, NOTIFY. Most labs charge extra if samples are not received 8am-5pm Mon-Wed, and by 3pm on Thursdays. Never let a san *More details in Sampling Guidebook.	SAMPLES				
HOLD HOLD TIME TEMP	SAMPLING RAW WATER: Tap supplied by raw water before any water treatment or disinfection.	USUAL CONTAINER*				
20 S0'F hours max	Long Term 2 (LT2)	120-s. clear plastic				
Sodium thiosul- fate (Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub> )	Refrigerate Temperature Blank until sampling. Check your DEC-approved plan for sampling site and frequency. Do not rinse sample bottle containing preserv- ative. Fill bottle between 100-150 mL or as instructed by lab. Complete LT2 reporting form and lab paperwork. Pack Temperature Blank with sample. Ship ASAP! Call lab to report sample tracking information.					
28 2975 days max	Total Organic Carbon (TOC) in raw water Put ice packs in freezer until completely frozen or until sample collection, whichever is longer. Check your DEC-approved plan for sampling site and freeuency.	40 ml vial or 125 ml glass bottle				
(HCI) / Sulfuric acid (H <sub>2</sub> SO <sub>2</sub> ) with pH <2	Do not rinse sample bottle containing preservative. Remove faucet aerators/screen. Run cold water for about 5 minutes, reduce flow to width of a pencil. Re- move cap, hold cap with opening facing down and do not touch inside bottle cap/top. Slowly fill bottle to the shoulder, cap tightly. Invert bottle 5 times to mix in preservative. Place sample in ice packs immediately or within no more than 15 minutes.	lů,				
HOLD HOLD TIME TEMP PRESERVATIVE	SAMPLING AT ENTRY POINT TO DISTRIBUTION: First tap after treatment but before distribution.					
41 42*F hours max Sulfuric acid (H,SO,) with pH <2	Nitrate (NO <sub>3</sub> ) Check your monitoring summary for sampling site and frequency. Remove faucet aerators/screens. Run cold water for about 5 minutes, reduce flow to width of a pencil. Slowly fill boths to shoulder, don't overfill, cap tighty to avoid leaks. Ship ASAPI Call lab to report sample tracking information.	125mL 60mL or 40mL clear plastic				
See Do not	Regulated Inorganics (Old and New)	Material and size depends on lab				
Preservative depends on lab's method	Required for systems subject to monitoring Arsenic, Barlium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, Total Antimony, Total Beryllium, or Total Thallium. Check your system's DEC-approved plan for aech specific contaminant and its required sampling frequency. Do not rinse sample bottle containing preservative. Remove faucet aerators/screen. Run cold water for about 5 minutes, reduce flow to thickness of a pencil. Remove cap, hold cap with opening facing down and do not touch inside bottle caphtop. Slowly fill bottle to the shoulder, cap tightly. Invert bottle 5 times to mix in preservative. Place sample whi ice for shipment. Call lab to report tracking information for shipped sample. Holding time for Mercury is 28 days; all others is 6 menths.	Ū				
14 29% days max	Volatile Organic Compounds (VOC) — Take all samples from the same location.	Trip Blanks (TB), viais w/septum cap				
Ascorbic acid & Hydrochloric acid (HCI) with pH <2	Trip Blanks (TB) must return unopened to the lab. Check your monitoring summary for sampling frequency. While sampling, have clothes, hands, and body free of oil, grease, gasoline, diesel flue for tumes and do not use Sharpie or markers with smells; these could affect sample lab results. Do not to time bottles containing ascorbic add. Do not touch inside bottle capitop. Run cold water for about 5 minutes, reduce flow to width of a pencil. Slowly fill until 1/2 full, then add HCI, swif sample vial to mix in preservative. Then slowly fill rest of the vial forming a mound of water at the rim, careful not to overfill. If you see air bub- bles, add water avoiding spills, cap and check; repeat as needed until no bubbles.					
2 39% days max	Synthetic Organic Compounds (SOC)	Vials or bottles				
Preservative depends on lab's method	and a system in reason are not socied, plane to Socie containmation and are register to an Socie winner, in your system has a wave, many you do not need to sample SOCIE during the waivered 3-year compliance period. Check your system's Monitoring Summary to see if you are required to sample, or contact your drinking water environmental specialist for SOC monitoring waiver application assistance.					
6 months See ->-	Total Gross Alpha, Radium 226 & 228	2L cubitainer or jug				
Nitric acid (HNO,) with pH <2	Samping containers, volume, and requency varies. Check your monitoring summary for requency, to one rise sample bottle corteaning preservative, ne- move faucts eartory/screenes. Run cold water for about 5 minutes, reduce for to this/instess of a pencil. Do not touch inside bottle captory. Fill bottle without overfilling and removing preservative. Cap tightly and gently swirl to mix. Holding temperature: Gross Alpha, 50°F max, Radium 226/228, 39°F max.	100				
Analyze On-Site Immediately	Free Chlorine Residual (Entry to Distribution) — Enter readings on Monthly Operator Report and submit to DEC per requirements.	NACH Test Kit				
Sample Daily	Instructions specific to HACH Chlorine Test Kit (pictured): Run cold water for 5 minutes. Collect a "blank" sample by filing 10 mL vial. Turn instrument on. Wipe vial/blank with lint-free cloth or chem wipes. Insert into instrument and cover. Press the "0" button to zero out the instrument. Take out vial, add the DPD reagent (Free powder pillow, not Total), screw cap on and swirt to mix. Wipe again with lint-free cloth or chem wipes ensuring vial is free of lint or fingerprints. If measuring Free Chlorine Residual, within 1 (one) minute of adding the reagent, insert the mixed sample into instrument. Arrange sample/vial so the white diamond is facing you. Cover by placing instrument cap over mixed sample, cap should fit snugly. Press start button. Results will appear in mg/L.					
28 29'5 days max	Total Organic Carbon (TOC) in treated water	40 ml vial or 125 ml glass bottle				
Networkster (HG) Setther (HG)						
HOLD HOLD TIME TEMP PRESERVATIVE	SAMPLING AT DISTRIBUTION SYSTEM: Tap after all treatment. Collection site is system-specific as explained below.	USUAL CONTAINER*				
ag Sors hours max	Total Coliform (TC) — Check your system's RTCR Sample Siting Plan approved by DEC for exact collection site and required frequency.	120-s. clear plastic				
Sodium thiosul- fate (Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub> )	of a pencil. Remove cap, hold cap with opening facing down and do not touch inside bottle capitop. Fill bottle to the shoulder, cap tightly. Invert bottle 5 times to mix in preservative. Fill out lab forms for each sample bottle. Place sample with ice pack for shipment ASAP! Call lab to report sample tracking info. For most labs, samples should arrive to lab Monday - Thursday. Call ahead if needing weekend analysis. If result is positive, see guidebook for next steps.					
Analyze On-site Immediately	Free Chlorine Residual — Ship with TC sample after collecting at same time and site as TC. Enter readings on Monthly Operator Report for DEC.	NACH Test Kit				
Sample Monthly	of water. Turn on the instrument. Wipe the val/blank sample with lin-tree (oth or chem wipes, insert into the instrument and cover. Press the "0" button to zero out the instrument. Take out the sample val, add the DPD reagent @ree powder pillow, not Total to the val, screw on cap and swift to mix. Wipe again with lint-free (oth or chem wipes making sure the outside of the sample bottle is free of lint or fingerprint. To measure Free chlorine residual, within one minute after adding the reagent, insert again the mixed sample into the instrument. Arrange the mixed sample val so that the white diamond is facing you. Cover the mixed sample by placing the instrument cap over the mixed sample, the cap should fit snugly. Press the start button. Results appear in mg/L					
See Avoid #5 Freezing	Lead and Copper Check your DEC approved plan for collection sites. Beview instructions with homefullities complete for how and where to complete De not complete for the set	Tue wide mouth				
Nitric acid (HNO <sub>4</sub> ) with pH <2	Check your bec-approved pain for an experiment where where we do not a set of the set of	Ū				
14 29'5 days max	Total Trihalomethanes (TTHM) — Take all samples from the same approved location.	Trip Blanks (TB), viais w/septum cap				
Trip Blanks (TB) must return unopened to the lab. Check your DSC-approved plan for is sampling site and frequency. Do not rinse bottlis containing accorbic ac- id. Do not touch inside bottlic cap/top. Run cold water for about 5 minutes, reduce flow to width of a pencil. Slowly fill until 1/2 full, then add HCQ, then slowly (RI/AQ.J /Hgb avoiding spills, cap and check; repeat as needed until no bubbles. Ship sample bottle with the lab form in a cooler with ice to keep them cold.						
14 29'5 days max	Haloacetic Acids (HAA5) — Take all samples from the same approved location.	250-L brown glass				
Ammonian chieriae (H4,CI) chieriae (H4,CI) sampling, ship sample bottle with the lab form in a cooler with ice to keep them cold. Keep samples in the dark.						
Aizska Department	Ansatzin of Water Berlein Water Water for Cur- Renate Maintanasse Program Capacity Pergram Capacity Pergram Program Pergram Capacity Control C					

#### O&M Best Practices Scores

DEC's VSW Program administers the Capital Improvement Project (CIP) funding allocation system that funds planning, design and construction of sanitation improvements in rural Alaskan communities.

During this reporting period, DEC announced a substantial change to the implementation of this funding process. To more effectively meet the needs of communities, collaborate with DEC's partners, and ensure the efficient and timely use of available funds, DEC no longer uses O&M Best Practices as an eligibility criterion for VSW CIP funding. O&M Best Practices continue to be used as a component of the CIP project scoring criteria.

#### Operator Examination Passage Rates

Assistance for operators unable to pass certification exams continues to be an identified need. DEC's approach to aiding operators includes:

- Developing small untreated (SU) and small treated (ST) water system online courses and an updated consolidated manual.
- Offering free WSO books and examination preparation materials to any interested operator.
- Administering the S<sub>2</sub>TC Program for experienced operators who have been unable to pass the ABC examinations.
- Maintaining a Training Coalition Calendar that includes information about all available courses, trainings, and CEU opportunities for operators in Alaska.

#### Quick Reference Guides for Rural Community Sanitation Utilities

Water systems in rural communities suffer from frequent turnover at all levels of the utility, creating an environment where management, administrative staff, and operators may not be aware of the TMF resources available to them. During this reporting period, the CapDev Program worked to finalize editing and formatting for a "welcome packet" binder for new utility operators and managers to address knowledge gaps created by this staff turnover.

The *Quick Reference Guide for Rural Community Sanitation Utilities* gives an overview of the various programs that provide technical assistance to support rural water utilities. Included in this packet are brief descriptions of how each of these programs can help and how to contact them. Also included are samples of commonly used reports and documents needed by water and wastewater utility staff, along with QR codes for quick online access, and "How Do I" pages that include simple instructions about common tasks and processes necessary to operate a small water utility. These welcome packet binders provide a valuable central resource for water system staff in rural water utilities across the state, offer a direct link between rural communities and technical assistance staff, and are a simple, consolidated resource that can be easily accessed by utility staff.

During SFY24, the CapDev Program compiled forty-two binders for new operators and administrators. CapDev staff coordinated with Wastewater Compliance staff to identify communities due for wastewater inspections. CapDev provided the Compliance team with an overview of the binder's purpose and hard copies for inspections. The Compliance staff were able to hand deliver and review binders with utility staff in multiple rural communities. The CapDev Program also collaborated with the RMW Program to identify communities in need of assistance and provided RMWs with binders to hand deliver during on-site visits.

The CapDev Program has received feedback from new operators on the usefulness of the binders. The new water operator in Kasigluk was able to reach out to the RMW program for assistance with a distribution leak by referring to the contact page of the binder.



#### Asset Management

DEC is in the early stages of incorporating asset management into the capacity development strategy but has taken advantage of the water utility support system already in place in Alaska to educate and inform public water systems about what asset management is and how it can stabilize and protect water utilities and the public health.

During this reporting period, the asset management assistance supported and encouraged by DEC included a presentation at the AWWMA conference which included information and updates on asset management. Asset management trainings are listed on DEC's annual training calendar webpage as they become available and qualify participants for continuing education units (CEUs). CapDev also includes a section on asset management in the *Quick Reference Guide for Rural Community Sanitation*.

The SRF Program offers the Sustainable Infrastructure Planning Projects (SIPP) funding opportunity to assist small water systems in financing planning and related activities that promote sustainable infrastructure. Up to \$75,000 in loan principal forgiveness is currently offered to disadvantaged communities to implement SIPP projects including development of asset management plans, feasibility studies, consolidation studies, water rate analysis, leak detection studies, and water system master plans. The SRF Program incorporates asset management into the project evaluation and scoring process for all proposed loan projects to further incentivize the development and implementation of asset management plans and activities. SRF applicants can receive a total of thirty points in the asset management scoring category.

#### Small System Non-Rural Assistance

Recognizing the prevalence of assistance available to small rural water systems, the CapDev Program is developing targeted assistance for small non-rural community water systems that serve less than 500 people. Public water system operators and administrators of small urban systems managed by homeowner's associations, trailer parks, and other small entities face unique challenges in receiving training and TMF support similar to those experienced

by rural water systems. Large portions of trainings offered to rural water systems often do not apply to small nonrural community water systems, and availability for courses is extremely limited for this classification of operators and administrators because of their small size. Offering specifically tailored training to these utilities will directly increase their ability to safely and effectively operate their water systems in compliance with the Safe Drinking Water Act.

The CapDev Program, through collaboration with other Technical Assistance Programs, is in the process of acquiring training materials to meet this need. These materials will include the development of three separate courses addressing the basics of water systems, asset management for small systems, and financial management for small systems, all specifically tailored to small urban water systems. The CapDev Program will select a contractor to develop an instructional curriculum, including slideshows, hands on training exercises, and classroom materials that attendees can keep for future reference.

Four course sessions will be held in the first year this project is executed. The CapDev Program intends to renew the contract for these courses for up to an additional two years after reviewing the impact of the first year. CapDev Program staff will be expected to gain proficiency in the course material to be able to effectively facilitate the course without the need for a contractor, increasing offerings of the course material for water system staff.

The CapDev Program has allocated all funding necessary for this project, and approval for procurement has been granted. Contractor selection and course development are expected to begin fall of 2024.

## IF THE STATE PERFORMED A REVIEW OF IMPLEMENTATION OF THE EXISTING SYSTEMS STRATEGY DURING THE PREVIOUS YEAR, DISCUSS THE REVIEW AND HOW FINDINGS HAVE BEEN OR MAY BE ADDRESSED.

The State did not perform a review of the implementation of the existing system strategy during SFY24.

#### DID THE STATE MAKE ANY MODIFICATIONS TO THE EXISTING SYSTEM STRATEGY? IF SO, DESCRIBE.

The State did not make any modifications to the existing system strategy during SFY24.

## Reporting Period and Submittal Dates

The reporting period is July 1, 2023 – June 30, 2024, with a submittal date of no later than September 30, 2024.

## Appendix A: New Systems for SFY22-24

PWSID	System Name	PWS Type	Active	Source	Population	City	Startup Date	FY	ETT
AK2121527	KETCHIKAN WATER, TRUCK 1	С	А	SWP	100	KETCHIKAN	5/11/2022	FY22	No
	VIEW POINTE AT THE RANCH - PHASE 1								
AK2220485	& 2	С	А	GW	50	PALMER	4/1/2022	FY22	No
	KNIK-FAIRVIEW CCS EARLY LEARNING								
AK2220500	CENTER	NTNC	А	GW	128	WASILLA	11/21/2022	FY23	No
AK2220506	LUPINE MOB LLC	NTNC	А	GW	80	WASILLA	4/20/2023	FY23	No
AK2220507	VALLEY VIEW TOWER	NTNC	А	GW	85	WASILLA	4/1/2023	FY23	No
AK2220512	LIBERTY TAX BUILDING	NTNC	А	GW	125	WASILLA	4/1/2023	FY23	No
AK2220515	WINTER ROSE MULTIFAMILY HOUSING	С	А	GW	100	WASILLA	10/3/2023	FY24	No
AK2224604	MSBSD HOUSTON HIGH SCHOOL	NTNC	А	GW	381	WASILLA	3/29/2023	FY23	No
AK2226057	ARKOSE WOODS	С	А	GW	90	PALMER	7/1/2021	FY22	No
AK2249263	HOMERUN OIL CO. WATER HAULER	С	А	SWP	100	HOMER	5/22/2023	FY23	No
AK2315609	BOREALIS BASECAMP	NTNC	А	GW	90	FAIRBANKS	9/18/2023	FY24	No
AK2340882	KIVALINA K-12 SCHOOL	NTNC	А	SWP	217	KIVALINA	11/1/2022	FY23	No
AK2380947	MANH CHOH PERSONNEL CAMP-TOK	NTNC	А	GW	200	ТОК	12/30/2022	FY23	No

## Appendix B: O&M Best Practices Scoring Criteria

	Category	Best Practice	Points	Contacts	Additional Information
cal	Operator Certification	Utility has more than one operator certified to the level of the water system Primary operator is certified to the level of the water system and the backup operator holds some level of certification in water treatment or distribution Primary operator is certified to the level of the water system and the backup operator holds no certification or there is no backup operator Utility has one or more operators certified at some level in water treatment or distribution Utility has no certified operators	10 7 5 3 0	Operator Certification Program	Regulations require that the primary operator of a water system be certified at level equal to the classification of a system. The classification of each water system can be found online at https://dec.alaska.gov/Applications/Water/OpCert/. For scoring purposes, the certification requirements considered will be for Water Treatment unless a system only requires a Water Distribution operator, in which case only Water Distribution certifications will be considered. Operators of Small Treated and Small Untreated systems who hold a Water Treatment certification at any level are considered to be certified to the level of the system. Wasterwater Collection and Wastewater Treatment certifications will be considered if a community has a wastewater system but no water system. Systems that do not require a certified operator will receive full points.
Techni	Preventive Maintenance Plan	Utility has a written PM plan; PM is performed on schedule; records of completion are submitted on a quarterly basis and have been verified Utility has a written PM plan; performance of PM and record keeping are not consistent Utility has no PM plan or performs no PM	25 15 0	Remote Maintenance Workers (RMWs)	A Preventive Maintenance Plan is a schedule of maintenance activities necessary for continued operation of the utility. At a minimum, the plan must include those activities required to prevent a loss of service. RMWs are available to assist in developing a PM Plans and training operators in proper maintenance. Utilities seeking 25 points must submit completed PM records to their assigned RMW on a quarterly basis. PM criteria apply to wastewater utilities if there is no public water system. Communities without a public water or wastewater system will receive full points.
	Compliance	Utility had no Monitoring and Reporting violations during the past year Utility had up to five Monitoring and Reporting violation during the past year Utility had more than five Monitoring and Reporting violation during the last year	10 5 0	Drinking Water Program	Public water systems are required to collect water samples to demonstrate that the water meets drinking water quality standards and is safe for consumers. The Drinking Water Program provides each utility with an annual Monitoring Schedule each year. Sampling is a primary responsibility of the operator and sufficient funds for monitoring must be included in the budget. Communities without a public water system will receive full points.
		Total Technical Points	45		
rial	Utility Management Training	A person who holds a position of responsibility for management of the utility has completed a DCRA approved Utility Management course or other utility management training course within the last five years	5	RUBA	This person is not required to have the Utility Manager title, but must have some responsibilities pertaining to the management of the utility. This person must reside within the community and represent the utility, even in instances when the utility is managed by a third party.
Manage	Meetings of the Governing Body	The utility owner's governing body meets routinely consistent with the local ordinance/bylaw requirements and receives a current report from the operator The utility owner's governing body meets routinely consistent with the local ordinance/bylaw requirements The utility owner's governing body does not meet	5 2 0	Rural Utility Business Advisor (RUBA)	Meetings must be held as prescribed by ordinance or by rules and regulations of the governing body, with reasonable exceptions made for unforeseeable circumstances. A written or oral report from the operator or contracted utility manager must be recorded in the meeting minutes.
Total Managerial Points					
	Budget	Utility owner and the Utility have each adopted a realistic budget and budget amendments are adopted as needed; Accurate monthly budget reports are prepared and submitted to the governing body Either the Utility or the Utility owner has adopted and implemented a budget, the other has not	15 13	RUBA	If the utility is managed or operated by a third party, the utility owner and the contractor must demonstrate appropriate budgeting and financial reporting practices. The utility owner must demonstrate appropriate budgeting for any utility subsidies and for the contracted services. The contracted manager must also demonstrate a realistic budget for the utility. When the utility is managed by a third party, monthly financial reports must be submitted to, and reflected in the meeting
		Either the Utility or the Utility owner has adopted a budget, but it is not being implemented Utility owner and the Utility have not adopted a budget	10		minutes of, the utility owner's governing body. Utilities not under contracted management must have a distinct budget for the utility operations in order to achieve the maximum score.
ancial	Revenue	Utility is collecting revenue sufficient to cover the Utility's operating expenses and to contribute to a repair and replacement account Utility is collecting revenue sufficient to cover expenses Utility has a fee schedule and a collection policy that is followed	20 15 5	RUBA	To receive run points, the reports must snow that sumcient revenues - whether from user rees, explicitly identified subsidies, or a combination of both - are being collected to meet all the utility's associated expenses, and that the utility is budgeting for repair and replacement expenses and/or already has sufficient funds saved to cover foreseeable repair and replacement costs. 'Collection policy' means a set of procedures designed to ensure bills are paid on time and in full, and to collect on past-due
Fin		Utility has no fee structure or collection policy	0		payments. Sending customers a bill/statement each month showing the amount owed is not a collection policy. The collection policy must include a statement of action that will be taken if past-due amounts are not received.
1	Worker's Compensation Insurance	Utility has had a workers' compensation policy for all employees for the past two years and has a current policy in place Utility has a current workers' compensation policy in place for all employees Utility has no workers' compensation policy	5 2 0	RUBA	All employees of the entity which owns the utility must be covered by workers' compensation insurance. In addition, all employees of a third party managing the utility must be covered, if applicable.
	Payroll Liability Compliance	Utility has no past due tax liabilities and is current with all tax obligations Utility owes back taxes, but has a signed payment agreement, is current on that agreement, and is up-to-date with all other tax obligations Utility is not current with its tax obligations and/or does not have a signed repayment agreement for back taxes owed	5 2 0	RUBA	This criteria applies to the utility owner, as well as to a third party managing the utility, if applicable. Taxes considered include both Federal and State taxes. A utility representative must sign an IRS tax authorization form for this information to be verified for scoring purposes.