State of Connecticut

Department of Public Health Drinking Water Section

Triennial Governor's Capacity Development Strategy Status Report

For the Period of July 1, 2020 – June 30, 2023

DPH Keeping Connecticut Healthy

September 30, 2023

Table of Contents

Executive Summary 1

Introduction 2

Capacity Development Activities for Existing Public Water Systems 14

Capacity Development Strategy Review 35

Challenges Moving Forward 35

Assessment of the Efficacy of the Capacity Development Program 36

Conclusion 37

Appendix A – 2023 Governor's Capacity Development Reporting Criteria 1

Appendix B - WUCC Maps and Flyer 6

Appendix C - Sanitary Survey Capacity Questionnaire - 2020 Revision 10

Appendix D - DWSRF Capacity Review Checklist 13

Appendix E - Three Storm Strategy Report 16

Appendix F - Small CWS Fiscal & Asset Management Plan Template 21

Appendix G - Public Act 21-121 Adopted from House Bill 6666 Re: Capacity Implementation Plan Requirement 37

Appendix H – State Water Plan 2-Page Summary 40

Appendix I – CTRWWA SFY23 Classes Offered 42

Appendix J – CT DPH Cybersecurity Self-Assessment Checklist 45

Appendix K - PFAS Informational Brochure 47

Executive Summary

The Connecticut Department of Public Health (DPH) is the state primacy agency for implementing and enforcing the Federal Safe Drinking Water Act (SDWA). The 1996 SDWA Amendments require that primacy states develop a Capacity Development Strategy (Strategy) that addresses the technical, managerial, and financial (TMF) needs of public water systems (PWS). Primacy states are required to provide annual state capacity development program reports to the U.S. Environmental Protection Agency (EPA) for approval by the state's Regional EPA office. DPH recently completed a revision of the Strategy in 2022 which was approved by EPA Region 1 on March 24, 2023. The revised Strategy incorporates new requirements related to asset management for PWS per the America's Water Infrastructure Act (AWIA) of 2018. The strategy revision provided an opportunity to evaluate the effectiveness of the first 20 years of implementation, and to refocus DPH's efforts on the proactive protection of public health by attempting to identify and prevent PWS capacity weaknesses before formal enforcement actions are required. Since the time of the first Strategy, the way DPH and PWS operate has changed drastically with technological advances, large amounts of staff turnover (internally and within PWS) and the unprecedented amount of new and/or revised regulations. This report summarizes capacity development activities conducted July 1, 2020, through June 30, 2023. A copy of this report is required to be sent to the Governor's office and is also available to the public on DPH's Drinking Water Section (DWS) website. Further, DPH's DWS is required to prepare an annual report on capacity development activities each fiscal year which is submitted to EPA and also made available on the DWS website.

This report discusses how DPH works with new and existing PWS in accordance with the Strategy to create and maintain acceptable levels of TMF capacity. The goals of Connecticut's Capacity Development Strategy are to 1) ensure that CT PWS are consistently providing safe and adequate water by maintaining compliance with state and federal regulations; 2) track and prioritize PWS that are out of compliance, and provide assistance as needed; 3) systematically work to identify and eliminate factors that impair capacity development for PWS; 4) encourage the development and implementation of asset management plans for PWS to ensure long-term viability; and 5) continue stakeholder engagement and understanding of the strategy.

DPH's Strategy identifies the creation of new PWS as a key component. DPH incorporates capacity development elements into the Certificate of Public Convenience and Necessity (CPCN) process, which governs PWS creation. Integrating the CPCN process with DPH's work and the statewide Water Utility Coordinating Committee (WUCC) regional planning process provides an established process to prevent the proliferation of new PWS without first examining all service options and demonstrating adequate TMF capacity. This approach has proven to be successful in establishing new PWS with adequate capacity.

As the primacy agency and technical expert on the SDWA, DPH works closely with all its existing PWS to address issues through proactive prevention and hands-on technical assistance within the control points of the Strategy. Early detection of water quality problems, promoting the sustained use of high-quality sources for public drinking water and educational offerings for PWS owners and operators are critical aspects. Many small systems lack the TMF expertise that enables the systems to meet regulatory requirements now and into the future. Systems that lack capacity in one or more of the TMF areas are identified through a prioritization process. DPH encourages and helps to facilitate the

consolidation of small systems when feasible. The Strategy is dynamic in nature and as new challenges arise for PWS, DPH works across all programmatic units to address them through partnerships, training and education, and/or the passage of new statutes such as fiscal and asset management plans for small CWS. During the three-year reporting period, DPH worked diligently to continue progress on small PWS capacity, and also undertook initiatives for large PWS.

This report will also outline all major activities undertaken by DPH Drinking Water Section (DWS) and the Environmental Health & Drinking Water Branch to implement the Strategy in order to create and maintain sustainable PWS that can reliably serve safe and adequate water to the public now and into the future. Examples of activities conducted include implementation of fiscal and asset management plans for small CWS regulations, creation of the emerging contaminants unit, important partnerships with technical assistance contractors, implementation phase for the State Water Plan, Interagency Drought Plan and WUCCs, and utilization of the DWSRF in new ways with a focus on health equity and to address the needs of disadvantaged communities. This report also serves as a review of the Strategy and its implementation.

Introduction

There are 3 types of public water systems that are regulated in the State of Connecticut:

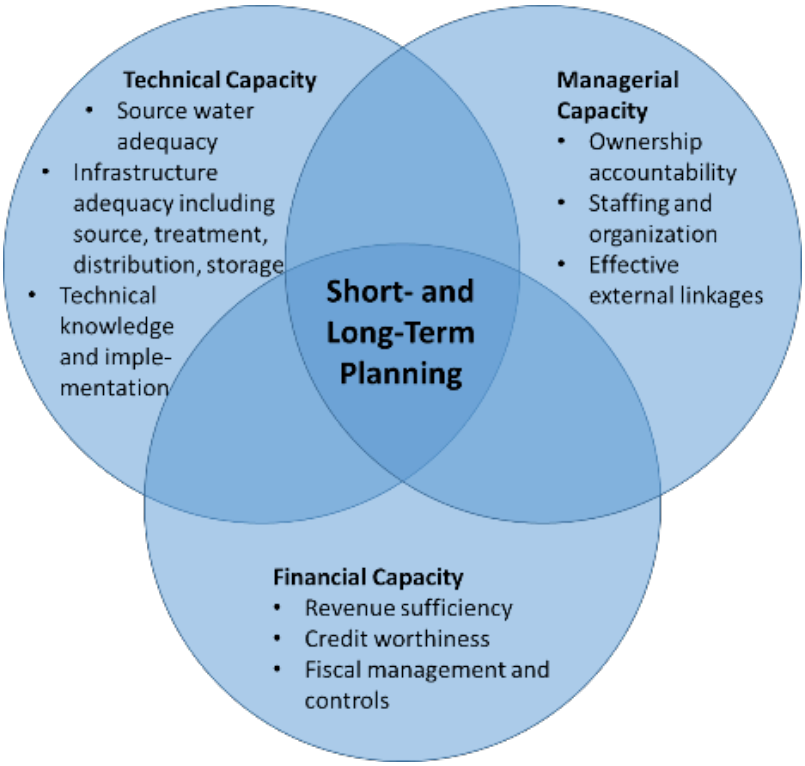
> ***Community Water Systems (CWS):*** Water systems that provide service to 25 or more residents at least 60 days per year. Systems can range widely in size from large municipal or privately owned systems to small rural neighborhoods that share a common water supply.
>
> ***Non-Transient Non-Community (NTNC) Systems:*** Non-residential water systems that serve 25 or more of the same people at least 6 months out of the year that include schools, daycare centers, factories, and office buildings.
>
> ***Transient Non-Community (TNC) Systems:*** Non-residential water systems that serve 25 or more people, but not necessarily the same people each day, for at least 60 days out of the year that include restaurants, parks, churches, campgrounds and gas stations.

Connecticut's relatively small geographic footprint contains a large number of public water systems (PWS), with 488 community water systems (CWS), 492 non-transient non-community (NTNC) systems, and 1,374 transient non-community (TNC) systems. As a SDWA primacy agency, DPH must implement a Capacity Development Strategy (Strategy) that addresses PWS' technical, managerial and financial (TMF) needs. These needs are described and depicted below:

> ***Technical capacity*** refers to a PWS' ability to operate and maintain water system infrastructure and includes elements such as source water adequacy, infrastructure condition and the technical knowledge of its operators.
>
> ***Managerial capacity*** refers to a PWS' ability to properly administer water system operations and includes elements such as organizational structure, asset management programs, capital improvement planning, operator training, record

keeping, customer service and an understanding of regulatory responsibilities.

Financial capacity refers to a PWS' ability to properly manage system financial obligations while generating sufficient reserve funds to maintain infrastructure and includes elements such as rate structure, budget preparation, collection services and credit worthiness.



This Capacity Development report identifies accomplishments during the period of July 1st, 2020 – June 30th, 2023, and provides information on the efficacy of DPH's Capacity Development Strategy. DPH submitted the state's initial Strategy to the EPA Region 1 on August 4th, 2000 and became the first state in New England to have an accepted Strategy. Recently, DPH submitted a revised Strategy to EPA Region 1 in December 2022, which was approved by EPA on March 24, 2023. The revised Strategy incorporates new requirements related to asset management for PWS per the America's Water Infrastructure Act (AWIA) of 2018. The Strategy revision evaluated the effectiveness of the first 20 years of implementation and refocused DWS's efforts on the proactive protection of public health by attempting to identify and prevent PWS capacity weaknesses before formal enforcement actions are required. Since the first Strategy's publication, technological advances, staff turnover, and numerous new SDWA Rules and regulations have transformed the operation of DPH and PWS. In establishing the directive to support sustainable systems and to eliminate systems unable to sustain acceptable levels of capacity, the Strategy defines where resources can be effectively applied to achieve the best results. This report is formatted to include all required reporting criteria outlined in a memorandum from EPA dated May 11, 2023, which has been included in Appendix A.

The everyday DWS programmatic activities are briefly summarized below for each of the ten functional units. The daily work of many DPH staff members contributes to building adequate TMF

capacity for all PWS.

Safe Drinking Water Rule Implementation Unit: The DWS Safe Drinking Water Rule Implementation (SDWRI) Unit, formed in June 2023, is responsible for the implementation and compliance activities of the following SDWA and Connecticut State drinking water regulations and statutes: 1) Revised Total Coliform Rule (RTCR), 2) Groundwater Rule (GWR), 3) Surface Water Treatment Rule (SWTR), 4) Disinfection By-Products Rule (DBP), 5) Radionuclides Rule, 6) Phase II/V Chemicals Rule, 7) Lead and Copper Rule (LCR), 8) Public Notification Rule, and 9) Lead and Copper Rule Revisions (LCRR), a new federal rule effective December 16, 2021. The SDWRI Unit closely monitors regulatory compliance of public water systems through the Safe Drinking Water Information System (SDWIS) database in conjunction with a Compliance Assistance Database (DWSCAD). DWS electronically receives drinking water analytical results from public water systems and laboratories certified by the State of Connecticut. Staff manually enter any results submitted by hard copy into SDWIS. SDWIS analyzes water quality compliance data and sanitary survey compliance data and reports the subsequent regulatory compliance violations that occur. SDWRI Unit staff review water quality results, determine compliance, validate compliance violations, and issue violation notification letters to public water systems. SDWRI Unit staff are also responsible for updating and maintaining the SDWIS inventory, water quality schedules, and compliance schedules. Staff also review project approvals and update SDWIS; update public water systems contacts; activate/inactivate PWS; report fluoride treatment residual data monthly to CDC through the Water Fluoridation Reporting System (WFRS) database; review and approve sampling site plans, compliance monitoring plans, monitoring reduction requests, and monitoring waiver requests. Lastly, SDWRI Unit staff provide technical assistance to public water systems, local health, certified operators, consumers, other stakeholders and response to water quality incidents and acute water quality issues, and directly handle consumer complaints. The data maintained and analyzed by the SDWRI Unit is a key to measuring TMF capacity for PWS and an important part of the Strategy.

Eastern and Western Capacity Assessment Regions: The DWS Eastern and Western Capacity Assessment Regions are charged with ensuring that PWS implement and comply with all applicable state and federal drinking water mandates. This includes verifying that system capacity is maintained in a condition that affords and assures the safety and protection of public health. Routine sanitary surveys are conducted every three (3) years for CWS and every five (5) years for NTNC and TNC systems to assess the compliance and capacity of the state's PWS. During a sanitary survey, eight required elements are reviewed including the physical condition of the water system infrastructure, records of regulatory compliance, and information regarding the managerial and financial health of the system. Initiatives such as fiscal and asset management planning and cybersecurity programs are also rolled into a comprehensive sanitary survey. Field engineers from the two regions issue a formal sanitary survey report upon completion and provide technical assistance to system owners and operators during and after the survey. Face-to-face interaction is critical to building a strong working relationship between the regulatory agency and the regulated community. It also provides the additional opportunity to observe the physical condition of water system components to understand how the water system operates and observe potential capacity weaknesses. The field engineers also review all RTCR Level 1 and 2 Assessments, approve all PWS infrastructure projects (except for PWS projects funded through the DWSRF program), and maintain and update construction guidelines. Both regions also review and

approve the Water Supply Plan (developed by water systems pursuant to Connecticut General Statute Section 25-32d); provide general engineering technical assistance; handle acute water quality issues and consumer complaints; conduct sampling when necessary; and respond to any reported security and emergency incidents.

The Regions are further charged with ensuring implementation of the Capacity Development Strategy aimed at identifying and targeting efforts of the Section to create and maintain TMF capacity for PWS.

Enforcement and Data Management Unit: The Enforcement Unit is responsible for preparing and issuing all formal enforcement actions (i.e., Administrative Orders, Consent Orders, and Consent Agreements); entering formal enforcement compliance requirements into SDWIS; and tracking compliance with order requirements. Any follow-up that is required as a result of requests for administrative hearings or referrals to the Office of Attorney General for court action are also handled by this program. This program provides quarterly updates to the EPA on priority systems identified for enforcement by the EPA Enforcement Targeting Tool (ETT) and works closely with the EPA on all enforcement activities. The unit must provide oversight of SDWIS to ensure that it is kept in good working order, maintained to eliminate down times, and updated as necessary to support the section's reporting mandates to the EPA. This program provides administrative functions including updates and maintenance of DWSCAD. DWSCAD provides support to all DWS Programs to implement drinking water rules, track engineering project reviews, creates PWS water quality monitoring and compliance schedules, water supply plan reviews, sanitary surveys, DWSRF projects, cross-connection control program requirements, certificate projects, and watershed surveys among other elements. The unit also maintains Laserfiche, an electronic document management system which is the primary repository for the Section's official documents and enables the Section to meet all State and Federal document retention requirements.

Drinking Water State Revolving Fund Unit: The Drinking Water State Revolving Fund (DWSRF) Unit assists community and non-profit, as well as non-community PWS, in financing drinking water infrastructure improvement projects. These projects can include upgrades and renovations to water storage tanks, water treatment facilities, pump stations, and water mains. Funding is provided through long-term, low-interest loans that can be repaid in terms of up to 20 years with interest rates as low as 2%. All PWS that apply for DWSRF funding must demonstrate adequate TMF capacity in order to obtain a loan. Reviews of financial qualification are conducted by the Office of The Treasurer (OTT) and, if the PWS is a privately owned rate-regulated utility, by the Public Utilities Regulatory Authority (PURA). Technical and managerial reviews are performed by DWS and include a historical review of regulatory compliance as well as infrastructure deficiencies that were identified during the most recent sanitary survey. Any capacity issues identified must either be corrected before a PWS is qualified to receive a loan or the project must include a plan to address the technical deficiency as part of the project.

Source Assessment and Protection Unit: The DWS Source Assessment and Protection Unit enforces state statutes and regulations and implements state policies that pertain specifically to the protection of public drinking water sources. Connecticut has approximately 4,000 surface and ground water drinking water supply sources that require protection and preservation. This unit maintains the DWS webpage and Geographic Information System (GIS) that are central tools to ensure that information is

readily available to those that need it. The GIS system provides analysis and visualization of a large amount of data and is used daily by the Section's planners, engineers, and analysts. DWS has identified several initiatives critical to protecting drinking water sources, minimizing public health risks, and supporting capacity development. These initiatives include reviewing water company land permits, conducting watershed surveys and water company land sales, issuing source abandonment permits and well permit exceptions, siting new sources, tracking emerging issues, maintaining priority power restoration lists for critical infrastructure, fostering a source water collaborative, and engaging local health and planning leaders on water supply management planning.

Grants and Administration Unit: The staff of the Grants and Administration Unit coordinate activities for the Section including grant management and progress reporting for required EPA program management reports. Staff also prepare any contracts, implement the DWS Fee Assessment program and coordinate the preparation of DWSRF loan agreements with DPH Fiscal Office, the Office of Grants and Contracts and the Office of The Treasurer. The Unit assists DWS in providing and developing communication activities and conducts general office functions to support the PWSS and DWSRF Programs. Additionally, the unit releases resources (i.e., fact sheets, brochures, pamphlets, etc.), the Quality Management Plan, Quality Assurance Project Plans, and Standard Operating Procedure documents. This unit is responsible for coordinating external and internal training.

The Operator Certification Unit: The Operator Certification Unit under the Environmental Health and Drinking Water Branch is responsible for the Operator Certification and the Cross Connection programs. The Operator Certification program ensures that all CWS and NTNC PWS are operated by qualified and skilled certified operators. Certifications are issued for treatment plant, distribution system, and small water system operators, backflow prevention device testers, and cross connection survey inspectors based on criteria established in regulation. The Operator Certification program is responsible for providing training and guidance to certified operators related to their duties and responsibilities and exercises quality control over the certification examination. In an effort to ensure operators maintain minimum training contact hours to renew their certifications, the unit approves other operator training course providers, operator training course curriculum and coordinates internal staff training for the Section. To streamline the certification process, DWS implemented an E-Licensure program which allows all licensure activities to be completed online.

The Cross Connection program ensures that PWS conduct inspections for cross connections and test backflow prevention devices. The intent is to prevent contamination of drinking water through the proactive identification of any improper connections to the drinking water distribution system and through testing the devices that restrict the backflow of contaminants. DPH receives over 650 cross connection inspection survey reports annually. DPH's regulations require the certification of Backflow Prevention Device Testers (Testers) and cross connection survey inspectors (Inspectors). The program issues and renews certificates for backflow personnel. Over 680 individuals have active DPH certificates as Testers/Inspectors. Staff participate in the training for Testers and Inspectors and provides technical assistance to the water industry, PWS, local health departments, building inspectors and the general public.

Emerging Contaminants Unit: The Emerging Contaminants Unit (ECU) was created in March of 2021 and plays a large role in preparing PWS to meet future challenges. The ECU coordinates actions among DWS and the Environmental Health Section's (EHS) programs and is responsible for planning and implementing the priority recommendations from the Connecticut Interagency PFAS

Action Plan. In addition to working on per- and polyfluoroalkyl substances (PFAS), the ECU identifies and works to address other contaminants of emerging concern in drinking water such as chloride, manganese, cyanotoxins, 1-4 dioxane, lithium and dieldrin. The ECU focuses on ensuring consistent strategies across DPH to address contaminants of emerging concern in both public and private drinking water.

The ECU's focus is both widespread and specific. In lieu of a federal regulatory framework for addressing emerging contaminants, the ECU is responsible for developing policies and procedures for the Department of Public Health to protect the public from potential adverse public health impacts of emerging contaminants. To accomplish this, the ECU collaborates with DPH's Public Health Laboratory; the University of Connecticut; sister state agencies including the Department of Energy and Environmental Protection (DEEP), and the Department of Transportation; and federal agencies such as the US EPA and the US Department of Agriculture's Natural Resources Conservation Service. Specifically, the ECU is the main program in the Environmental Health and Drinking Water Branch that provides general education and outreach on emerging contaminants, as well as individualized technical assistance to local health departments and districts, municipal officials, and public water systems.

Environmental Laboratory Certification Unit: DPH re-established the Environmental Laboratory Certification Program (ELCP) under the Environmental Health and Drinking Water Branch in 2019. The ELCP registers and approves all in-state and out of state environmental laboratories that operate in Connecticut. This includes private, municipal and industrial non-commercial labs. The mission is to ensure accurate, precise and legally defensible analytical data is reported by the environmental laboratory industry for use in compliance and in accordance with federal and state law. Currently, ELCP offers environmental laboratory certification in 1593 analytes/methods, including the addition of certification for PFAS methods 533 and 537.1. Public water systems are required to submit data for compliance with the regulations from a state-certified environmental laboratory.

In September of 2020, one of the positions left vacant by retirement of previous ELCP staff was filled. The program underwent a major transformation to meet current EPA standards and become paperless. This included creating an electronic filing system for the certified laboratory documents and communications along with improving the electronic records in the environmental laboratory database application. The ELCP Quality Manual and standard operating procedures were also developed to meet or exceed the EPA requirements and transition to the paperless system. In December of 2021, ELCP underwent the triennial review of the program including a review of the revised procedures with the EPA Region 1 Laboratory Certification Program Manager and no major program deficiencies were found. ELCP has strived to improve links between the program and the laboratories by providing technical resources, communications, and guidance documents on a regular basis to the 39 in-state laboratories. In October 2022, ELCP filled the second Laboratory Consultant position, bringing the staffing level up to two full-time employees. The two Laboratory Consultant staff were accepted into the March 2023 EPA Certification Officer Training, passed the examination, and received designation as a Certification Officer (CO) in Microbiology and Chemistry. Since becoming COs, ELCP has completed numerous evaluations of in-state laboratories which perform drinking water analysis for compliance purposes. The two Laboratory Consultants have also worked with DPH Drinking Water staff to help resolve approximately a dozen laboratory issues related to the reporting, data quality, procedural or method problems.

Capacity Development Activities for New Public Water Systems

Authority

Connecticut is required by the federal SDWA Section 1420(a) to have the authority to implement a program that assesses the TMF capacity of all new CWS and NTNC systems. The primary mechanism in DPH's Strategy to prevent the proliferation of new small PWS is the Certificate of Public Convenience and Necessity (CPCN) process. Pursuant to Connecticut General Statutes (CGS) Section 16-262m, all applicants must obtain a CPCN prior to construction of a new PWS. The CPCN regulatory review process requires that prospective new systems must first evaluate feasible interconnection with existing PWS. This is conducted through coordination with the Water Utility Coordinating Committees (WUCC).

Section 25-33i of the CGS states that no public water supply system may be approved within a public water supply management area after the Commissioner of Public Health has convened a water utility coordinating committee unless: (1) an existing public water supply system is unable to provide water service or (2) the committee recommends such approval. CPCN applications are routed through the respective WUCC region for review and potential action early in the CPCN process. The statutes and regulations are silent as to the specific procedures of WUCC approval, leaving it up to the individual WUCCs as to how to process, review, and act on an application, including when in the CPCN process the WUCC acts. The WUCCs, in practice, evaluate each submission and consider it against local and regional development and water supply availability to determine the best long-term viable water supply for the proposal.

If an interconnection is not feasible, the CPCN regulations establish minimum design standards for new water systems and require new systems to demonstrate acceptable levels of TMF capacity prior to the issuance of a CPCN. The CPCN regulatory review process is conducted by DPH. When a designated Exclusive Service Area (ESA) provider exists, the CPCN process requires a designated ESA provider to own any new CWS system created in the approved service area (which is determined during the WUCC approval) pursuant to CGS 25-33g. The WUCC regions and ESA boundary maps, as well as the program flyer, are included in Appendix B.

Public Act No. 16-197 which became effective on October 1, 2016 was the most recent change in DPH authority which expedites the review CPCN applications. Under PA 16-197, DPH reviews CPCN applications and issues CPCNs for community (residential) water systems as is currently done for non-community (non-residential) water systems. For those systems that are regulated by the Public Utilities Regulatory Authority (PURA) or when ownership is not being assigned to an ESA provider, PURA will conduct the financial capacity review of the proposed system. Under the old statute, DPH and PURA jointly reviewed CPCN applications and issued CPCNs for every community water system. The new process has reduced redundancies in the CPCN process by ensuring there is no duplication of efforts between the two agencies. No new changes have been made to the authority during this reporting period.

Control Points

DPH's Strategy lists the CPCN process as the primary mechanism to manage the TMF Capacity of new PWS. The following control points are components of the Strategy and are included as part of the CPCN process:

WUCC/ESA Review and Approval
Local Planning and Zoning Approval
Source Review and Approval
Operator Certification
Operator Certification
TMF Capacity Review
Cross Connection Program
System Construction Approval

The control points were modified slightly as part of the recent Strategy revision to include Local Planning and Zoning Approval. DWS continues to work to strengthen its ability to minimize the creation of new PWS, as well as streamline the process to make it easier for new PWS to understand and therefore comply. DPH recognizes that early identification of potential new systems is critical which requires coordination and involvement at the local community level. Local health departments use forms developed by DWS to screen development projects to determine if a CPCN may be required. During SFY19, a meeting was held with local health stakeholders to discuss ways to improve this process. In SFY20, DPH began utilizing the revised PWS Screening Form which incorporates a local health sign off to ensure developments that can potentially create new PWS are appropriately captured before they proceed too far with the development. As is shown in the pie chart below, the majority of new PWS are Non-Community systems. The WUCC and ESA process has worked well to encourage new developers to use smart planning concepts and interconnect with viable public water systems with access to demonstrated TMF capacity when feasible. Many times, extension of the public water system is cost-prohibitive due to current costs versus an on-site well for a single building. Planners, municipalities and developers understand the process better now that the WUCCs have been established statewide. Public education in this area will be ongoing.

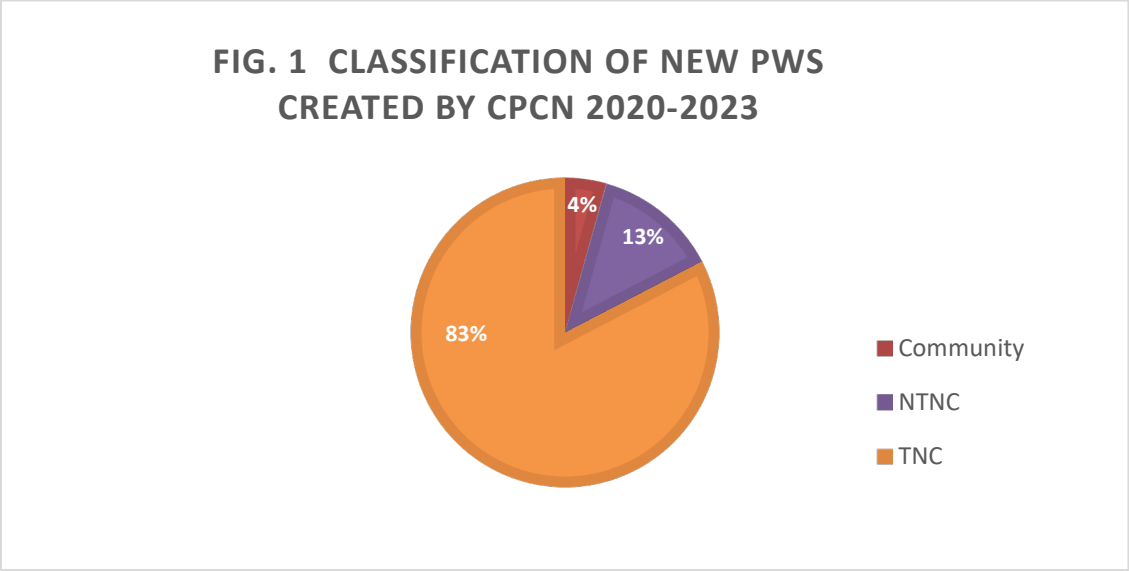


Table 1 below provides a list of all new PWS from the previous three fiscal years that are currently regulated by DWS. Twenty-three (23) new PWS highlighted in green were created through the CPCN process during the last three fiscal years which included a TMF Capacity review, as well as the other control points discussed previously, prior to the final approvals being granted. The remaining fifty-nine (59) PWS were newly discovered systems which were existing and, in instances, had been operating for years. These PWS started being regulated by DPH primarily through referrals from local health departments, reactivation of inactive systems due to new ownership. or expansion of business operations that increased system population over the thresholds. Each of the 59 discovered systems received the required regulatory compliance information upon their activation in the form of an individual "Public Water System Responsibilities Letter".

Table 1
List of New PWS - July 1st, 2020 – June 30th, 2023

PWSID	PWS Name	PWS Class	ETT Score	Reason	Status
CT1219141	GREEN VILLAGE II	C	0		
CT0121114	ABLE COIL AND ELECTRONICS	NTNC	0		
CT1609203	LOVE'S TRAVEL STOP & COUNTRY STORE	NTNC	0		
CT1419133	WHITE BARN CHILDREN'S CENTER	NTNC	0		
CT1669164	DOLLAR GENERAL WOLCOTT	NC	0		
CT0286044	9 LOOMIS ROAD, LLC	NC	0		
CT0979444	AQUILA'S NEST VINEYARDS	NC	0		
CT0321264	DOLLAR GENERAL, COVENTRY, CT	NC	0		
CT0481034	BACKROADS SMOKIN' BBQ	NC	0		
CT0798064	BESTWAY FOOD & FUEL	NC	1	PN	completion of PN required
CT0081144	KRIZ FARM ICE CREAM	NC	0		
CT1259144	2 ROUTE 7 BAKERY	NC	1	M&R	returned to compliance
CT1299034	WORTHINGTON POND FARM	NC	0		
CT0310284	WEST CORNWALL DEVELOPMENT	NC	8	M&R	returned to compliance
CT0121104	DOLLAR GENERAL - BOLTON	NC	0		
CT0699244	BLACK POND BREWS	NC	0		
CT1099274	JOEY'S SEAFOOD	NC	5	M&R	returned to compliance
CT0429244	ST. CLEMENTS MARINA	NC	0		
CT0925024	DOLLAR GENERAL - NEW HARTFORD	NC	0		
CT0012014	DOLLAR GENERAL ANDOVER	NC	0		
CT1021124	BESTWAY FOOD & FUEL - NORTH STONINGTON	NC	0		
CT0869174	DEER RUN STABLE, LLC (CITGO GAS STATION)	NC	0		
CT0787124	THE KIRBY MILL & WINERY	NC	0		
CT1419114	LITTLE FOOT DAY CARE & PRESCHOOL	NTNC	0		
CT0960183	PHOENIX INVESTMENT GROUP	NTNC	4	M&R / TT	monitoring resumption required

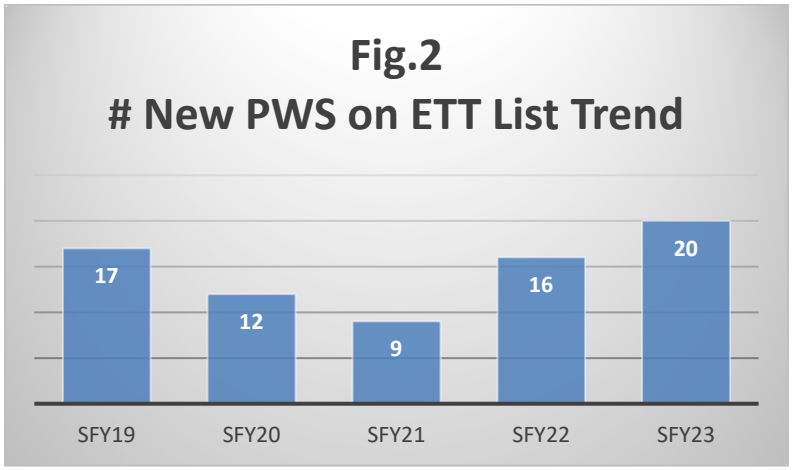
PWSID	PWS Name	PWS Class	ETT Score	Reason	Status
CT1300472	GYRE9	NTNC	0		
CT0719113	PRIDES CORNER- JADERLOON/PROPAGATION	NTNC	0		
CT1419124	EPIC ADVENTURES CHILDCARE	NTNC	3	M&R	returned to compliance
CT1429133	U.S. DEPARTMENT OF AGRICULTURE - TOLLAND	NTNC	0		
CT0570194	BACK COUNTRY KIDZ KORNER	NTNC	0		
CT0975143	SMT CORPORATION	NTNC	0		
CT0880053	980 RUBBER AVENUE	NTNC	1	M&R	returned to compliance
CT0199113	LEARNING CLINIC - BROOKLYN BLDG	NTNC	0		
CT0199123	LEARNING CLINIC - APPLIED ARTS BLDG	NTNC	0		
CT0230094	310 ALBANY TURNPIKE	NC	0		
CT0220094	WRIGHTS MILL FARM - LODGE	NC	0		
CT1435053	FIVE POINTS CENTER FOR THE VISUAL ARTS	NC	0		
CT0399064	DOLLAR GENERAL - EASTFORD	NC	0		
CT0420294	81 NORTH MAIN STREET	NC	1	PN	completion of PN required
CT0710094	MARKET ON THE GREEN	NC	0		
CT0410424	GETAWAY HOUSE	NC	3	M&R	monitoring resumption required
CT1020464	THE TIN PEDDLER	NC	0		
CT0430014	EAST HARTFORD BREWING COMPANY	NC	0		
CT1020014	LITTLE MAN'S BAKERY	NC	0		
CT0410384	12 RAE PALMER ROAD - EAST HADDAM	NC	not listed		
CT1500284	LAKE WARAMAUG/MAINTENANCE TENNIS & BEACH	NC	1	M&R	returned to compliance
CT1269094	278 LEAVENWORTH RD, BUILDING B	NC	0		
CT1430274	823 NEW HARWINTON ROAD	NC	10	M&R / PN	monitoring resumption & PN required
CT1350024	DOROTHY HEROY RECREATION COMPLEX	NC	0		
CT0970204	HAWLEYVILLE DELI	NC	1	M&R	returned to compliance
CT1280144	TOWER RIDGE COUNTRY CLUB	NC	0		
CT1430964	TORRINGTON CITGO	NC	5	M&R	returned to compliance
CT0220134	PRUDENCE CRANDALL MUSEUM	NC	0		
CT0581064	1130 VOLUNTOWN ROAD	NC	0		
CT0780334	POUR HOUSE	NC	0		
CT0460184	SILVERMAN'S FARM - ANIMAL FARM WELL	NC	0		
CT1479024	144&166 MAIN STREET	NC	0		
CT1660494	MAHANS LAKEVIEW FINE CATERING LLC	NC	9	M&R	returned to compliance
CT0209334	TONN'S MARKETPLACE	NC	0		
CT1301164	CALVARY FELLOWSHIP SOUTHBURY	NC	0		
CT0429204	D'ELIANA	NC	0		
CT0709254	RUNNING BROOK FARMS	NC	0		
CT1059344	LONG RIVER LOCAL	NC	5	M&R	returned to compliance
CT0560104	GRANBY JEHOVAH'S WITNESSES	NC	1	M&R	returned to compliance

PWSID	PWS Name	PWS Class	ETT Score	Reason	Status
CT0321284	CASSIDY HILL VINEYARD	NC	0		
CT0920304	CAMP SEQUASSEN (SOUTH SHOWER - WELL #6)	NC	0		
CT0259054	MAPLE OAK FARM AND MARKET	NC	5	M&R	returned to compliance
CT0840054	HAPPY SHACK	NC	6	M&R	returned to compliance
CT0179064	RT 6 PLAZA, LLC	NC	5	M&R	monitoring resumption required
CT0261113	HONEYCONE CREAM COMPANY, LLC	NC	0		
CT0260114	BRUSHMILL BY THE WATERFALL	NC	1	M&R	monitoring resumption required
CT0420134	COBALT GAS	NC	0		
CT0719144	GRAND LAKE SPA AND HOTEL	NC	0		
CT0878043	9 WATERTOWN ROAD	NC	0		
CT1010064	GREEN ACRES MART	NC	0		
CT0380244	HARD HAT RESTAURANT	NC	0		
CT0420562	20 EAST HIGH STREET	NC	0		
CT0420334	26 EAST HIGH STREET	NC	0		
CT0829094	RICH FARM ICE CREAM	NC	0		
CT0130074	LAKE ROAD PLAZA	NC	0		
CT0565074	JULIEN'S FARM STORE	NC	0		
CT1140134	CITY BOY SUBS	NC	0		

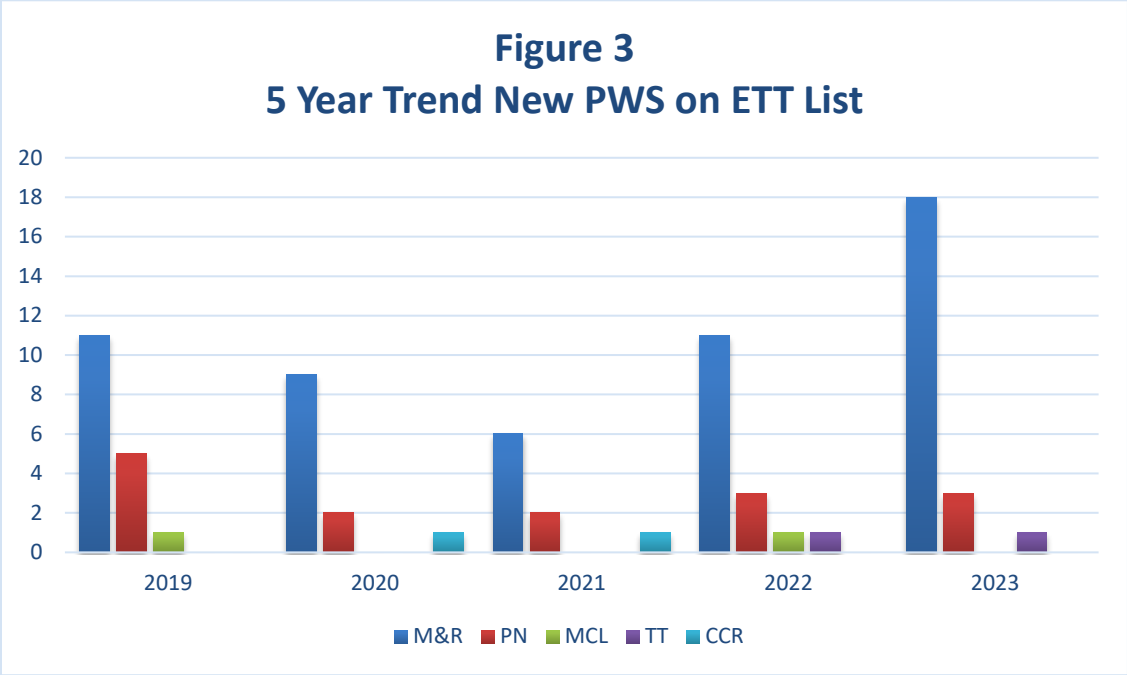
M&R = Monitoring and Reporting Violation
PN = Public Notification Violation
TT= Treatment Technique Violation

The Drinking Water Section (DWS) uses the EPA's Enforcement Targeting Tool (ETT) point-based system to identify compliance problems. Any PWS that scores eleven (11) or more points are prioritized for enforcement actions under the EPA's Enforcement Response Policy which also aligns with DWS's Strategy. None of the new PWS created through the CPCN process scored 11 or more points on the latest ETT list. As indicated in Table 1, four of the new PWS created through the CPCN process (17.4%) are on the current EPA Enforcement Targeting Tool (ETT) list with lower point values, primarily due to water quality monitoring & reporting (M&R) issues. This is compared to sixteen of the newly discovered PWS (27.1%) on the ETT list with scores ranging from 1-10 points.

The numbers of new PWS on the ETT list with any points increased again for the second year in a row as can be seen in Figure 2. This may be partially because of reduced staffing resources due to several staff departures during the SFY21 and SFY22 reporting periods within the compliance units. DWS is working hard to fill vacant positions and train new staff. Knowledgeable DWS staff is one of the most critical resources to help develop and maintain TMF capacity at new PWS.



An evaluation of what caused each PWS to accrue points for violations as part of the ETT strategy was also conducted as part of this report. As shown in Figure 3 below, the majority of the PWS with an ETT score can be primarily attributed to managerial issues such as water quality monitoring & reporting violations and public notification rule violations. DWS will continue to investigate new ways to clearly communicate the roles and responsibilities for new PWS related to monitoring (especially for transient non-community systems). To reduce managerial issues upon new system activation in the future, DWS plans to modify the CPCN process to elaborate on sampling plans. This will include contracting certified laboratories and other elements required for a successful water quality monitoring program, since the majority of new PWS ETT points came from monitoring & reporting violations. For the newly discovered PWS, DWS may implement either a plain language new PWS guide (included with the initial PWS responsibilities paperwork) or a follow up call with the new PWS to ensure these systems are prepared for successful compliance. It should also be noted that most new systems are Transient Non-Community PWS which are not required to have a certified operator. It is proven that a competent certified operator can be an asset to a PWS and reduce the potential for violations.



Capacity Development Activities for Existing Public Water Systems

Authority

Connecticut is required by the federal SDWA Section 1420(c) to develop and implement a Capacity Development Strategy (Strategy) that addresses PWS technical, managerial, and financial (TMF) needs to maintain viable water systems that can reliably provide safe and adequate water. DPH submitted the state's initial Strategy to the EPA Region 1 on August 4th, 2000, and drafted a revised Strategy which was submitted in December 2022. The revised Strategy was approved by EPA Region 1 on March 24, 2023. DPH also has been awarded primacy for the various SDWA federal rules which guides the work we do to ensure safe and adequate drinking water for the residents of CT public water systems.

Control Points

The following Strategy control points align with DPH Drinking Water Section organizational structure and are the primary criteria that DPH uses to identify and prioritize the PWS most in need of help to improve TMF capacity:

Source Water Protection
Water Quality and Compliance Data
Operator Certification Program
Distribution System and Cross Connection Protection
Sanitary Survey Program and TMF Capacity Review
DWSRF Capacity Review
PWS Water Supply Planning Data
Emerging Contaminants

Building capacity for PWS is interwoven with all the DWS and EHDW Branch level functional units, programs, tools, and activities as evidenced in the Strategy control points and complimentary activities. The associated accomplishments conducted during the last three fiscal years are highlighted in Table 2 on the following pages. The Strategy strengthens the TMF capacity of PWS by identifying and correcting weaknesses early through close regulatory oversight, technical assistance and enforcement. A comprehensive review of a PWS's performance is evaluated when isolated compliance problems are discovered, and during routine sanitary surveys. This process helps to identify and correct the root causes of compliance problems before more serious problems develop with a goal of long-term sustainability. The Strategy has worked well in Connecticut and is consistent with EPA's Sustainability Policy released in 2010.

Table 2. Summary of Programmatic and Capacity Initiatives during 7/1/20 through 6/30/23

Activity	SFY21	SFY22	SFY23	Comment
Source Protection & Assessment				
Maintain High Quality Source List	X	X	X*	Over 4,000 sources for use by PWS available; *Solicited updated information from water utilities in SFY23 but did not publish a new list.
Review PWS Watershed Survey Reports	X	X	X	31 Watershed surveys submitted annually for over 210 drinking water watersheds; violations issued and technical assistance provided as appropriate.
GIS Initiatives	X	X	X	Significant overhaul of GIS data and maintenance practices. Efforts to expand and better maintain published data. Creation of outreach and educational materials for municipalities using GIS data.
Water Quality & Compliance Data				
Formal Enforcement Issued	11 CO 24 AO	3 CO 12 AO	3 CO 14 AO	New Policy in SFY19 to issue Administrative Orders for all MCL violations as well as Lead Exceedances to set hard deadlines and better track return to compliance.
Process WQ data and assess compliance	411,737 results processed	436,712 results processed	436,811 results processed	Receiving water quality results and verifying compliance with state and federal rules remains a significant and important effort to assess capacity.
Maintenance of Data and Compliance Programs	X	X	X	Daily management of these critical data and compliance databases are not only a requirement of our primacy partnership agreement, but also essential to the day-to-day operations of the Section.

Activity	SFY21	SFY22	SFY23	Comment
Sanitary Survey Program & TMF Capacity Review				
Conduct Sanitary Surveys at PWS	601	559	516	Survey Program provides important time for face-to-face interaction with PWS and aims to achieve full compliance with all regulations.
Review New PWS technical Projects	~68	~80	~74	PWS projects continue to increase as staff identify deficiencies and/or work with PWS to implement proactive project plans.
CWS SS Capacity Questionnaire	X	X	X	Capacity Questionnaire completed at the time of the sanitary survey to measure TMF and update CAT score. In SFY21, the questionnaire was updated to an electronic form that automatically sends and compiles responses.
Fiscal & Asset Management Plan Statute	X	X	X	Fiscal & Asset Management Plans required for small CWS required beginning 1/1/2021. By the end of the 2023 calendar year, an inventory of F&AM plans will have been conducted and plan for moving forward.
CyberSecurity Initiatives	Circular Letter with Self-Assessment	Rec. Included in SS Reports	Develop cyber security workplan	Internal DWS cyber team developed and workplan development will continue to help PWS address this emerging issue.
Participation in AWOP Program	X	X	X	Focus on Distribution and Disinfection By-Product Optimization during last 3 years, transition back to in person meetings.
PWS Water Supply Planning Data				
Review Water Supply Plan	X	X	X	Water Supply Plans are an important planning tool for large CWS and DWS remains committed to creating a process that adds value to PWS helping them maintain TMF.
Water Supply Plan Update for PFAS		X		Require all PWS that prepare WSP to update their plan with a PFAS vulnerability assessment to identify PFAS risk areas in source water areas.

Activity	SFY21	SFY22	SFY23	Comment
PWS Takeover Proceedings Initiated	1	2	1	2 CWS in takeover process currently. Recent takeovers have been voluntary acquisitions.
Drinking Water State Revolving Fund				
DWSRF loans processed	15 loans for $28.3M	9 loans for $18.5M	8 loans for $9M	DWSRF program remains strong in helping PWS install critical infrastructure upgrades.
DWSRF New Generators Funded	4	1	0	Program total to date: 74 emergency generators, indicating significant investment by CWS.
$20M State Bond Funding from Public Act 14-98 for interconnections/regionalization	X	X	X	$15M was awarded as principal forgiveness to Groton Utilities WTP Upgrade Project and $5M to Norwich WTP Upgrade Project. Each project included permanent or emergency interconnections with smaller CWS.
DWSRF Small Loan Program loans	3 loans for $255 k	1 loan for $56 k	1 loan for $26 k	Provide more funding opportunities for small PWS to upgrade water system infrastructure in a streamlined manner without “construction”.
DWSRF loans funded under Disadvantaged Community Program	4 loans for $15.9M	5 loans for $8.6M	3 loans for $2.6M	Additional subsidy from DPH’s annual capitalization grant will be made available to CWS in disadvantaged communities.
Operator Certification				
Operator CEU Course Approvals	192	99	137	Maintain Certified Operator Workforce
Total Training Contact Hours Approved	746	298.5	801	Suspension of Certified Operator Licenses expired in SFY23 and these courses were utilized to meet license renewal requirements.
NOV for no operator	26	29	77	In all years, PWS with no operators were brought back into compliance with no formal enforcement, but only technical assistance.
Maintained list of Certified Operators	X	X	X	Over 2,200 operators available for CT PWS
Creation of Remote and Distance Learning Course Criteria	50 courses 120 TCHs	35 courses 123 TCHs	5 courses 15 TCHs	New program criteria developed due to Covid-19 pandemic and the moratorium on in person training classes.

Activity	SFY21	SFY22	SFY23	Comment
Emerging Contaminants				
Emerging Contaminant Workgroups for PFAS, Legionella, Sodium/Chloride	X	X	X	Gain knowledge and work with stakeholders on several emerging contaminants developing a variety of new initiatives to prepare PWS to mitigate impacts from these contaminants.
DPH and DEEP Interagency PFAS Task Force Meetings	X	X	X	Continue implementing PFAS strategies outlined in the Governor's PFAS Action Plan; Convened a public meeting of Governor Lamont's PFAS Task Force in December of 2022.
PWS / Communities Receiving Assistance	1	6	6	Technical Assistance for PFAS and ECs detected above CT AL was provided to numerous PWS and communities. Some continued on a monthly basis to ensure coordinated actions among state agencies, towns and private water companies.
Public Information Sessions	3	4	1	Public outreach and education for communities with PFAS above CT AL.
Fourth and Fifth Unregulated Contaminant Monitoring Rule (UCMR4 & UCMR5) data review and implementation	X	X	X	Final UCMR4 data results were compiled and reviewed. A summary of the results was provided during the April '22 DWS monthly webinar; ECU prepared for UCMR5 rollout with assistance to PWS in messaging and outreach materials for PFAS and Li.

Activity	SFY21	SFY22	SFY23	Comment
Environmental Laboratory Certification				
Program updates and revisions	X	X	X	Updating standard operating procedures and guidance documents.
ELCP Database Application	X	X	X	Completed an update to the database to incorporate each analytes approved method citation.
EPA Drinking Water Laboratory Certification Officer Certification	X	X	X	Interim certification status was obtained during COVID. In March of 2023 Microbiology and Chemistry Certification was obtained.
Partnerships				
CTRWWA partnership	X	X	X	New leadership and creation of CT specific rural water association to provide tangible training and technical assistance to PWS in CT.
CIRCA Vulnerability Assessment	X	X	X	Vulnerability and resiliency work continued during '21, '22, and '23 as asset management and fiscal plans were being drafted and finalized by small systems; specific training was provided to system operators on asset management planning; public water system resiliency was included in the GC3 Governor's Report of 1/2021; and the small system loan program continued to promote highly subsidized loans for system generators.
Finalization and Implementation of WUCC and State Water Plan	X	X	X	Multi-year planning processes are both now in implementation phase. These initiatives focus on small system capacity as a key issue.
Regionalization and Interconnection Opportunities	X	X	X	Small system consolidation of community systems continues with a decrease in the overall number of community PWS in CT.
University of Connecticut (UConn) Memorandum of Agreement (MOA)			X	Multi-year MOA is assisting in community outreach and education by drafting informative PFAS posters, webinars and infographics.

Identification of PWS in Need of Capacity Development Assistance

DPH uses all the information at its disposal to identify and prioritize existing PWS that need capacity development assistance. Some of the most typical means of identifying PWS in need are through 1) Water Quality and Compliance Data; 2) Sanitary Survey/Capacity Assessment Tool Data; 3) DWSRF Capacity Review; and 4) Other PWS data.

1) Water Quality Compliance Data: DWS identifies systems in need of capacity development assistance by the system's ability to respond to the compliance requirements for prescribed regulations and to report this compliance data to DWS. Compliance data is managed in the Safe Drinking Water Information System (SDWIS) database and compliance determinations are run on a continual basis. In addition, the Rule Implementation Unit has created publicly available water quality monitoring and compliance schedules for each individual PWS in compliance with applicable federal rules and state regulations. Examples of data that may identify a system in need of assistance would include MCL violations, M&R violations and Treatment Technique (TT) violations among others. PWS that receive more than one monitoring & reporting violation within a 12-month period are flagged for possible deficiencies in managerial or financial capacity. DWS initiates technical assistance and/or formal enforcement actions for these flagged systems, attempting to catch them before they are placed on the ETT list. Systems that are on, or become placed on, the ETT list are given priority technical assistance consistent with Connecticut's existing Strategy. The compliance units within DWS have been working closely with the Environmental Laboratory Certification Program (ELCP) to investigate data integrity issues and common laboratory mistakes to ensure the compliance determinations being made by engineers is made with confidence in the data being provided by laboratories on behalf of the PWS.

2) Sanitary Survey/Capacity Assessment Tool (CAT) Data: Another mechanism used is the sanitary survey process and the resulting compliance determinations. During a sanitary survey, the physical infrastructure of the water system as well as other elements including monitoring and reporting, operator certification, management and operations, and security are assessed to determine if there are significant violations or deficiencies that could present long and/or short-term sustainability problems. DWS continuously modifies elements of the question sets into the sanitary survey process to determine if systems are adequately employing sustainability concepts with their physical assets. Sanitary surveys are conducted at least every three (3) years for CWS and every five (5) years for Non-Community systems. Cyber security concepts were incorporated into the survey process during SFY22 and SFY23 and will continue as DPH works to develop a more robust cybersecurity strategy. The small system capacity assessment tool (CAT) has also been incorporated into the sanitary survey process. All CWS are required to complete a capacity questionnaire that will update the baseline CAT at the time of the survey (included in Appendix C). The CAT data has been an integral part of developing capacity through the WUCC process; keeping the data updated and relevant is key. Work to create a real-time CAD module has yet to be completed due to staffing limitations, however this is still something DWS plans to complete in the coming years.

3) DWSRF Program Capacity Review: All PWS that apply for DWSRF funding must demonstrate adequate TMF capacity in order to obtain a loan. Reviews of financial qualification are conducted by the OTT and, if the PWS is a privately owned rate-regulated utility, by PURA. Technical and managerial

reviews are performed by DWS and include a historical review of regulatory compliance as well as infrastructure deficiencies that were identified during the most recent sanitary survey. Any financial issues that are identified must be addressed before a PWS is qualified to receive a loan. Any technical or managerial violations that are identified must be addressed either prior to receiving a loan or as part of the project that receives a loan. Since 2011, the DWSRF Program has placed additional incentives for PWS to enhance TMF capacity through asset management (AM) planning. PWS with existing AM plans are provided additional priority points in the priority ranking system to increase project(s) ranking on the DWSRF Project Priority Lists. Additionally, the DWSRF Program provided incentives beginning in SFY19 for small PWS to implement AM plans by offering 25% subsidization towards project(s) if systems had existing AM plans or would undertake AM planning as part of the project(s). During the SFY20, a "TMF Capacity Review Checklist" (included in Appendix D) was developed to better document the capacity review completed for DWSRF funding recipients. This checklist ensures that all available aspects of capacity are reviewed, including routine compliance, formal enforcement, ETT score, most recent sanitary survey, and fiscal and asset management planning. Any PWS which is found to not have sufficient capacity will be referred for technical assistance. This checklist continued to be used on all SRF projects during SFY23.

4) Other PWS data: PWS capacity needs can also be realized through many different types of interactions that provide data to DWS. DWS may identify capacity issues by assessing a range of information points, including: the lack of a certified operator or operators with large amounts of violations cited at the systems they operate, water service interruptions resulting in frequent outages or bulk water hauling, failure to comply with orders, recurring water quality issues, cross-connection issues, and customer complaints. DWS prioritizes systems displaying low capacity in the aforementioned ways for technical assistance and/or formal enforcement actions. In Connecticut, PWS serving 250 or more connections or 1,000 people or more are required to prepare and update water supply plans. The plans incorporate, asset inventories, capital improvement schedules, drought triggers, available water and safe yield, unaccounted for water, emergency plans and much more. DWS would like to implement coordination of water supply plan review with the sanitary survey which will make the survey more dynamic and help to incorporate planning and asset management concepts and discussions into the survey. Additionally, changes to the transfer of water company land (WCL) permit process have been implemented at the request of the capacity development workgroup to incorporate a review of the fiscal and asset management plan during the WCL review process. This will enable the transfer of institutional knowledge from owning and operating a water system to new owners as part of the property transfer process.

Capacity Development Approach for PWS in Need

DWS continued to use concepts and tools identified within the Strategy to help PWS of all classifications increase their technical, managerial and financial capacity in order to remain sustainable and capable of delivering a safe and adequate supply of water to customers now and into the future. Routine examples of these include sanitary surveys, trending water quality data, PWS compliance data, review of fiscal and asset management plans, operator certification, source water protection and permitting, engineering reviews of new treatment and PWS infrastructure projects, enforcement and individual technical assistance meetings. To assist PWS in achieving compliance and provide access to important

information, DWS uses its website, frequent circular letters, online water quality monitoring, and compliance schedules to provide a broad range of information to PWS These actions continue to be some of the primary mechanisms to develop capacity for Non-Community (NTNC and TNC) PWS. Further, DWS has maintained its monthly webinar series with PWS, environmental laboratories, certified laboratories and other stakeholders, which have proven to be an effective mechanism to conduct important and time-sensitive outreach.

Since the storms in 2011 and 2012 that greatly impacted Connecticut's small community PWS, a large portion of the technical assistance and capacity development initiatives and outreach have been geared toward smaller community systems. A copy of the Three Storm Strategy prepared by DWS is included in Appendix E for reference. Some of the past initiatives developed after the storms included the passage of regulations for emergency power provisions and response plans for all CWS, continuing the WUCC planning process statewide, a technical assistance contract with technical assistance provider RCAP Solutions to provide financial capacity assistance, $20 million in state grant funding for the DWSRF to be reinvested in small CWS consolidation or interconnection projects, and the passage of state statutes requiring fiscal and asset management plans for small community water systems in addition to a capacity implementation plan.

DWS has learned over the years that the approach to develop TMF capacity must be different for small CWS versus the largest CWS, however there is a commonality: education. For smaller CWS, getting the PWS owners and managers engaged and interested in learning about their systems and responsibilities is the first hurdle. DWS has been working on updating the website and standard forms and applications to create more easily understood processes. A recent example is the revision of the RTCR Level 1 and Level 2 Assessment Forms and training classes held in October 2022. Feedback from the review of the small CWS fiscal and asset management plan reviews has also provided many opportunities for individual education during the sanitary survey process, which will continue. For large CWS, DWS strives to maintain a presence in state training forums by frequently presenting on regulatory and capacity developing topics as well as organizing and hosting our own trainings. Additionally, work to revamp and re-energize the water supply plan process for large CWS is an important initiative that should continue to be a priority with emphasis on topics such as regionalization and partnerships, cybersecurity, emerging contaminants, climate change resiliency, and lead and copper rule revisions. With increased funding from the Bipartisan Infrastructure Law (BIL), DPH is working hard to attract and train new staff to help all PWS with these important initiatives and more.

The following are summaries of work conducted during the last three years on many important initiatives, showing how DWS functional units work together to develop capacity for all PWS.

CT DPH Capacity Development Strategy: During SFY21 and 22, DWS worked on a revision of its original Capacity Development Strategy from 2000, submitted the revised Strategy to EPA Region 1 in December 2022 and received EPA approval of the revised Strategy on March 24, 2023. The revision was required pursuant to the America's Water Infrastructure Act (AWIA) of 2018 to encourage the development of asset management plans and training for certified operators on asset management. Since the first Strategy's publication, technological advances, staff turnover, and numerous new and revised regulations have transformed the operation of DPH and PWS. The opportunity to revisit such an important guiding document was well-timed and productive. DWS looks forward to many successful years implementing the revised Strategy. The Strategy is posted on the DWS website for the regulated

community as well as public at large to review.

Fiscal and Asset Management Plan Requirement: DPH is one of a few primacy agencies in the nation that has worked to incorporate asset management planning for PWS prior to the AWIA mandate. DPH proposed a bill which passed during the 2018 legislative session requiring small community public water systems to prepare a fiscal and asset management plan of their systems' assets, including a prioritized assessment review of their hydropneumatic pressure tanks, if applicable. The bill was codified into the Connecticut General Statutes as Section 19a-37e. The prioritized fiscal and asset hydropneumatic storage tank assessment for all small CWS was conducted during SFY19 and the findings were summarized in past annual capacity reports. Work to eliminate aging hydropneumatic tanks continues: 42 hydropneumatic tanks have been inactivated and replaced primarily with constant pressure pumping systems since 2015.

During SFY20, DWS worked to help PWS meet the second due date of the statute by developing a fiscal and asset management plan template with instructions, a guidance document, an appendix to be included for CWS who also want to apply for a DWSRF loan, a completed example plan, and a training webinar. The template is included in Appendix F and was formatted to include all information that is needed to meet the statute.

Approximately 291 small CWS were required to create the fiscal and asset management plan by the end of the 2020 calendar year. DWS asked all CWS to submit a certification that they had developed their fiscal and asset management plan. To date, DWS has received 204 certifications from small CWS that their plan was developed (70.1% compliance rate), with 87 outstanding certifications. DWS is reviewing the plans as part of the routine sanitary survey and issuing deficiencies to PWS that have not completed the plan. It will take a 3-year cycle of conducting community sanitary surveys to fully reach all small systems required to create the plan. Initial analysis upon review of the plans received to date is that the asset portion of the plan is more complete than the financial portion of the plan. This may be due to a lack of charging separate fees for water, poor recordkeeping, the certified operator or person preparing plan not having access to financial information, or reluctance to sharing private financial information. DWS will continue to address this discrepancy by working to help PWS to understand the investment required (full cost pricing) to run a community water utility as well as to account for depreciation and proactive reinvestment.

Capacity Implementation Plan Requirement: To further emphasize the need for CWS to implement the findings of the Fiscal and Asset Management Plan, DWS was able to pass another statutory requirement during the 2021 legislative session (language included in Appendix G). This act aims to demonstrate that these small CWS have adequate technical, managerial and financial capacity and shall implement the fiscal and asset management plan. All small CWS are required to complete the initial capacity implementation plan by July 1, 2025, and plans must be updated annually thereafter. There are 11 required items including financial capacity information, water production and consumption, capital improvement schedule for five- and twenty-year periods, ownership and management information, and descriptions of various maps, plans and programs required to be maintained by the small CWS. DWS will be working to develop the capacity implementation plan template and associated guidance documents, as well as training to aid small CWS in meeting this new requirement.

WUCC: The WUCCs have identified small community public water systems as needing significant

capacity development assistance to combat some common problems. These include uncoordinated planning among PWS, competition between PWS for expansion of service areas, increasing regulatory requirements, aging and substandard infrastructure, inadequate source protection, difficulties developing new water sources, inadequate financing, poor management, and a significant lack of communication between water companies and with local elected officials of the communities serviced. The WUCCs have assessed these issues and more in their published Coordinated Plans. In each region, the evaluation of small CWS included the following factors: whether the CWS is within 1,000 feet of another CWS; actual distance to another CWS; and limitations related to sources, storage, or pumping. As part of the Coordinated Plans, a toolbox of options was developed to ensure that each CWS has at least two options available to them to help correct the identified weaknesses. The options are:

A. Conduct internal improvements and remain a small independently owned CWS
B. Pursue acquisition by larger CWS and remain a satellite system owned and operated by the larger CWS
C. Interconnection with larger or more viable CWS
D. Interconnection and eventual consolidation with larger or more viable CWS

This analysis was conducted for all three WUCCs. The analyses are available at the following link: https://portal.ct.gov/DPH/Drinking-Water/WUCC/Water-Utility-Coordinating-Committee.
These documents were developed and published in SFY18. The WUCCs are now working on implementation of the recommendations outlined in the three Coordinated Water System Plans, summarized here:
https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/drinking_water/pdf/WUCC-Statewide_10pager-final-3-20.pdf.
A statewide WUCC implementation committee has been formed that currently meets quarterly to improve public water system planning and resiliency. Several of the priorities are related to the capacity of small public water systems. Details on the implementation committee is available here: https://portal.ct.gov/DPH/Drinking-Water/WUCC/Water-Utility-Coordinating-Committee-Implementation-Workgroup)

In SFY21 through SFY23, the WUCCS continued implementing these efforts. A WUCC Implementation Group is working to ensure that these systems have pathways to viability. Specifically, the workgroup worked on implementation of the following:

- Finding solutions to facilitate the connections of new and existing small public water systems to viable Community PWS rather than developing duplicative small public water systems. One concept is to delineate areas in local plans where new development is expected to interconnect to existing infrastructure instead of creating another public water system.
- Encouraging public water systems with the potential to develop emergency interconnections to do so; an interconnection roadmap was developed to assist public water systems, municipalities, and regional planners in understanding the analysis and process of developing redundancies via interconnections.
- Developing sustainable rate structure models that could be used by small water systems

State Water Plan: The Connecticut State Water Plan (SWP) was prepared under the direction of the Water Planning Council (WPC) to help planners, regulators and lawmakers make decisions about managing the state's water in a manner that is consistent with stakeholder-defined principles and available scientific data. The SWP is a broad, over-arching document with hundreds of recommendations, including a recommendation to develop a method to monitor and report on implementation of the Plan's recommendations to ensure compliance with the requirements of the statute. A two-page summary document on the State Water Plan is included in Appendix H.

The WPC is advised by two main subgroups, the Water Plan Council Advisory Group (WPCAG) and the State Water Plan Implementation Work Group (IWG). Under the IWG, multiple implementation sub-workgroups have been made to conduct research and recommend action items back to the WPC on how to address a wide range of recommendations from the SWP. Over the last couple years, the IWG has held multiple sub-workgroups which have focused on Private Well location and data, SWP Tracking Implementation and reporting, Water Efficiency, SWP Education and Outreach, and Drought.

- A notable success from these sub-workgroups is the review and improvement to the Connecticut State Drought Plan, which has evolved over the last several years to better prepare the water industry in times drought conditions. The report has enabled improved drought monitoring and forecasting, better data collection on capacity levels, and most importantly better communication among the water industry and the State as a whole.
- Another successful sub-workgroup effort has been research and recommendations regarding private well water capacity. While private wells in Connecticut are regulated differently from a large public water system, the sub-workgroup identified the need to better track all current and future private well locations and data to better identify water quality on a local level. The result of the information could better inform local communities and potential homebuyers, as well as neighboring large public water systems, of the water quality and water quantity in the area. The recommendations of the private well sub-workgroup assisted DPH in crafting legislation during the 2022 session to address private wells in Connecticut. This legislation successfully passed as Public Act 22-58 in which Section 60 addresses 'Private And Semipublic Well Testing'.

NOAA Northeast Regional Climate Center: DWS is wrapping up a collaboration with NOAA's Northeast Regional Climate Center to create a website where reservoir and groundwater capacity measurements can be entered or uploaded by public water systems. After the final phases of internal testing are completed, DWS and the Northeast Regional Climate Center will begin an initial testing phase with volunteer public water systems to ensure proper functionality before the site is made available to all water systems. This website will enable easier reporting by PWS. Electronic receipt of data by DPH will create a more efficient drought tracking mechanism for DPH to better help PWS prepare and navigate during periods of drought. This multi-year initiative is in the final planning phases before implementation which DWS is looking forward to.

DWSRF Program: The DWSRF continues to grow with the addition of the Bipartisan Infrastructure Law (BIL) funding and be an attractive financing option for important drinking water infrastructure projects that provide essential public health protection and help achieve long term infrastructure sustainability.

The pace of loan executions during SFY 23 is still rebounding after being slowed down during SFY20 as a result of the COVID-19 pandemic and the reluctance of several PWS to place new construction contracts out to bid due to many uncertainties. Supply chain concerns and delays have also impacted projects. The demand for DWSRF loans remains strong and has increased, with the interest rates in the municipal bond market beginning to increase above the 2% currently offered by the DWSRF. In addition, significant funding from the BIL—with its focus on lead service line replacement and emerging contaminants such as PFAS, along with the requirement to provide high levels of subsidy to qualifying PWS and projects —will make the funding more attractive and increase demand further. For SFY23 alone, the total amount of project funding requests was over $900 million, which is unprecedented.

The DWSRF program continues to look for ways to strengthen the capacity of loan recipients, particularly small systems. Since 2014, the DWSRF has subsidized loans to small systems that have developed asset management plans or agree to develop these plans as part of their loan project. The incentive to develop these plans to receive a subsidized loan has increased the recognition of asset management planning as an important and essential tool for small systems to understand and implement essential utility management concepts including capital improvement planning, rate structure, annual budget preparation, and the importance of capital reserve funds. A Disadvantaged Community Assistance Program (DCAP) was created within the DWSRF during SFY20 and an additional 35% of DPH's annual capitalization grant was made available for DWSRF projects located in disadvantaged communities. In addition, the subsidy policies were modified so that all projects are eligible for some level of federal subsidy. During SFY23 more than $1.5 million was provided as subsidy in project funding agreements, which was approximately 17% of all funding provided. The BIL funding will also significantly increase the amount of subsidy available for DCAP projects over the next several years.

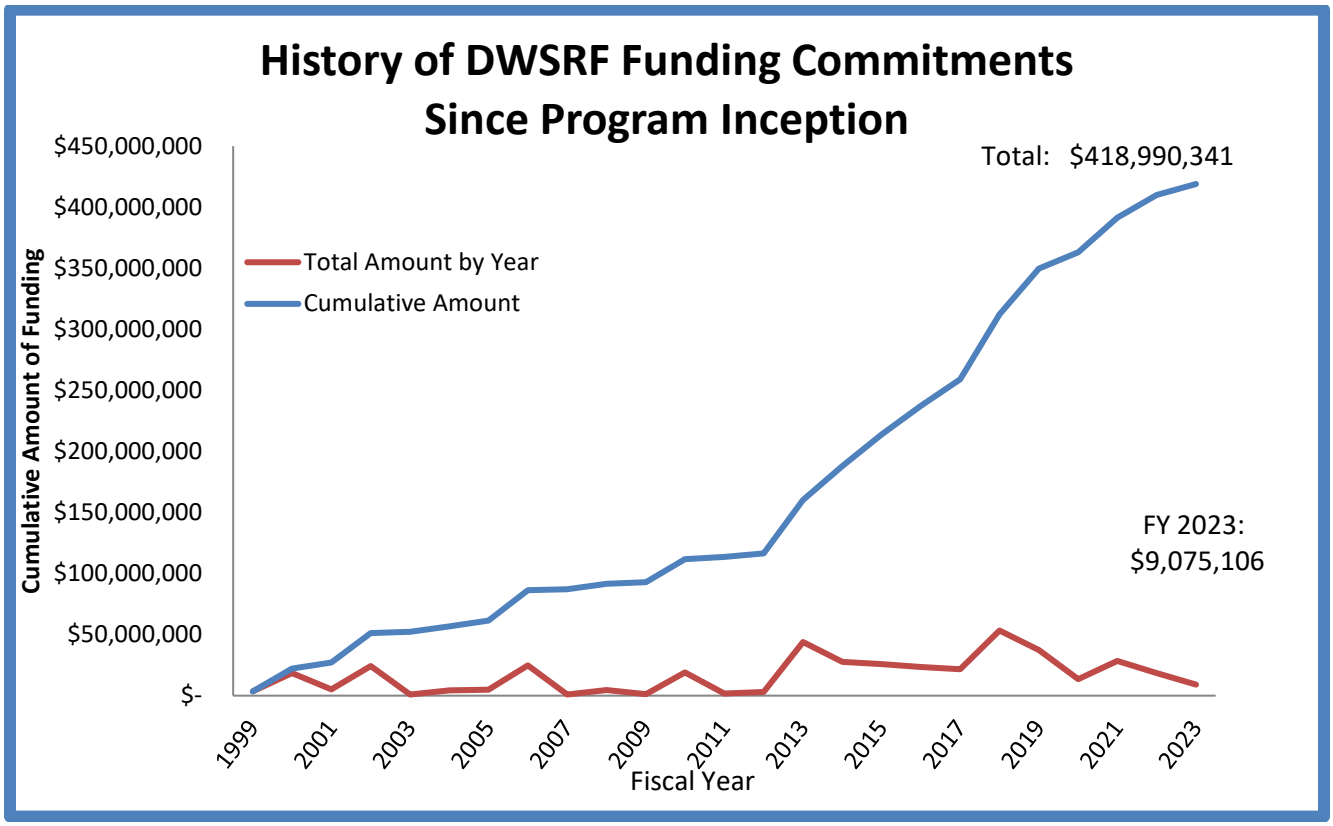


Fig.4 Historical Funding of the DWSRF Program

DWSRF Small System Programs: DWS created an Emergency Power Generator Program (EPGP) during SFY12 and a Small Loan Program (SLP) during SFY19. These programs streamlined the procurement procedures for non-construction projects costing less than $100,000 to make it easier for small PWS with qualifying projects to proceed through the DWSRF process. This program is only available for the purchase and installation of generators for emergency back-up power, new equipment, or the replacement of equipment installed for an existing facility that does not involve the construction, alteration or repair (including painting or decorating) of that facility. Over the past three years, 2 EPGP loans were executed under this program, with a total of 74 generators installed through this program to date; funding will continue to be offered. Over the past three years and since the inception of the SLP program, 5 loans were executed totaling more than $323,000.

These programs are designed to work in concert with the Fiscal and Asset Management Plan process. Small PWS that have identified the need for infrastructure repair and/or replacement as part of their fiscal and asset management plan will be better prepared to attain funding through this streamlined program. Including all projects over the past three years, the DWSRF has executed 15 funding agreements for small water systems serving less than 10,000 residents totaling over $8.4 million.

Fig. 5 New booster pumps and tank which were installed at the Housatonic Regional School District No. 1 small public water system to replace aging infrastructure. The project was funded by the DWSRF.

Fig. 6 Water transmission main was installed in the Berlin Water Control Commission small water system to replace aging infrastructure. The project was funded by the DWSRF.

State Grant Funding for DWSRF Projects: State grant funding under the Public Water System Improvement Program contained in CGS 22a-483f provides grants-in-aid, in the form of loan principal forgiveness for DWSRF projects. A project that is eligible for any subsidy from the DWSRF must execute a loan for the remaining amount of principal in order to receive the grants-in-aid. Eligibility criteria for these grant funds are identified in the DWSRF's annual Intended Use Plan to reflect the top drinking water infrastructure priorities for the State of Connecticut. During SFY21, these priorities continued to

include regional interconnections, small system consolidations, lead service line replacements and treatment for emerging contaminants; however, there were no new appropriations for this program during SFY20. During the SFY20 legislative session the legislature did appropriate $24 million in grant funding to support this program during SFY21 and the DWSRF has been working closely with several current/potential applicants on eligible projects to utilize these funds. During SFY23, the DWSRF determined that these funds would be used for lead service line replacements.

Operator Certification Work: To validate the competency of Connecticut Certified Operator applicants more thoroughly, DWS changed to using the ABC Standardized Examinations, which were more recently validated through an updated job task analysis. Operator exams are now administered at remote computer-based test sites, which increases availability to certification applicants. DPH processed 180 initial certification examination results from a newly designated computer-based administrator. The Operator Certification Program (OCP) staff also participated in 32 stakeholder/utility board meetings that provide guidance for administration of DPH's OCP. Staff assessed PWS Operator designations of record and made 668 modifications to SDWIS. Most recently, a large effort was conducted by the OCP staff to make repeated contact with operators whose certification was impacted by the Governor's ordered COVID suspension of certification renewal requirements. This effort ensured that all operators were able to renew their certification maintaining compliance with federal and state drinking water regulations.

Climate Change Initiatives: DPH participated in CWS resilience initiatives throughout the past three years, building on the findings and recommendations of the 2018 Drinking Water Vulnerability Assessment and Resilience (DWVAR) Plan with the Connecticut Institute of Resilience and Climate Adaptation (CIRCA). These recommendations included actions to increase resilience at small community water systems across Connecticut with respect to climate change. CWS resilience efforts conducted during this period included membership in the Governor's Council on Climate Change (GC3) Public Health and Safety (PH&S) Work Group, inclusion of climate related action items to address public drinking water impact in the 2021 GC3 Report, DPH's work and receipt of a 5-year grant award under CDC's Building Resilience Against Climate Effects (BRACE) program, and participation with State Agencies Fostering Resilience (SAFR). These efforts aim to develop and implement adaptation strategies to assess and prepare for the impacts of climate change, thereby enhancing capacity at many of Connecticut's public water systems. During SFY21, SFY22, and SFY23 the GC3 focused on near-term actions and has begun scheduling meetings to reconvene the full PH&S working group to further explore the recommendations of the 2021 report. Through the BRACE program, DPH established the Office of Climate and Public Health (OCPH). The OCPH worked with partners, including the Yale Center on Climate Change and Health, to implement actions in collaboration with Local Health Departments that enhance health equity, increase resiliency, and ensure Connecticut communities are prepared for the health impacts of climate change with a focus on populations most vulnerable to the health effects of climate change seeking to address social determinants of health in the context of climate change. As a member of the SAFR Working Group, DWS assisted partners at CIRCA in identifying vulnerable drinking water infrastructure (primarily within distressed communities) to be included within "zones of shared risk" which help prioritize climate related resiliency projects for the Resilient Connecticut program. CIRCA has completed Phase II of the Resilient Connecticut project, to conduct resilience planning in New Haven and Fairfield counties, and is working on Phase III to synthesize, prioritize and develop implementation plans. Throughout the past three fiscal years, the Drinking Water Section actively participated in numerous climate related meetings and presentations for the GC3, BRACE,

OCPH, SAFR, and CIRCA initiatives described above, representing the public water systems of Connecticut.

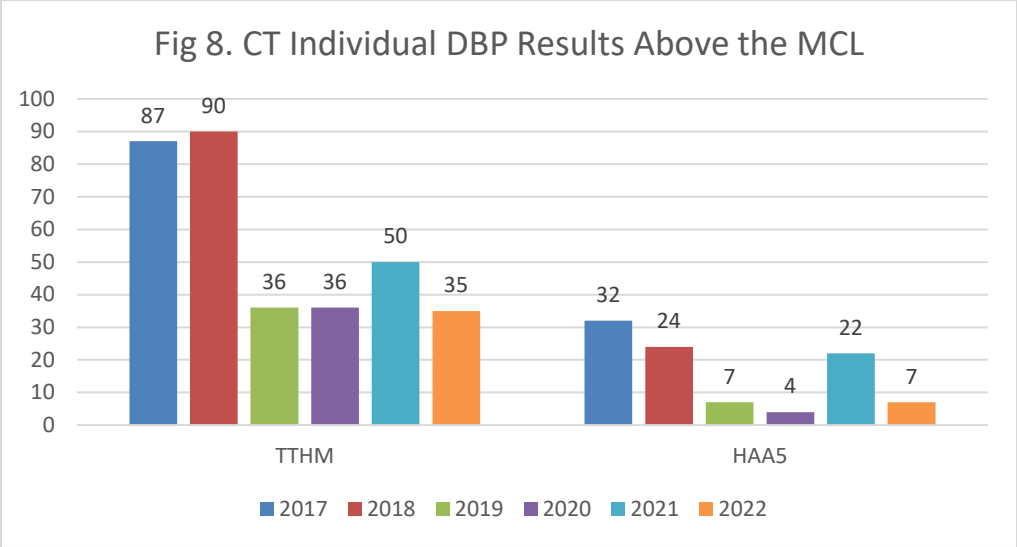
Sanitary Survey Program: During SFY22, a key compliance activity was merged into the duties of the sanitary survey staff, namely the review and process of all Level 1 and Level 2 assessments as triggered by the Revised Total Coliform Rule (RTCR). Unchecked RTCR assessments have led to acute water quality issues such as E. Coli contamination in the past. This is a significant workload comprising approximately 200 assessments annually. Sanitary survey staff are familiar with the PWS and have longstanding knowledge of the various system components based on field work. That knowledge enables DWS to work with PWS to better evaluate and identify sanitary defects, which often results in quicker action to correct. During SFY 22 and SFY23, the RTCR Level 1 and Level 2 assessment forms were revised, and two days of training were provided to persons interested in becoming credentialed Level 2 Assessors in October 2022. The form revisions included a summary section to delineate whether a sanitary defect was identified or not, and to address other common mistakes made by assessors. As a result of the work conducted to revise assessment forms and provide training to RTCR Assessors, the number of treatment technique violations has declined with respect to submitting complete and timely assessments demonstrating increased PWS capacity. Survey staff will continue to work to strengthen this relatively new compliance process.

Fig. 7 DWS Staff presenting at the RTCR Level 2 Assessor Trainings held on October 18 and 20, 2022

Cybersecurity Initiatives: DPH recognizes that threats to drinking water infrastructure pose significant risk to the safety of Connecticut's water supplies. Throughout SFY22, DWS staff continued to communicate the importance of adequate security measures primarily through circular letters to PWS owners and operators. These communications were used to inform systems of potential threats and to share information on available training opportunities. The DWS Cybersecurity Self-Assessment Checklist for PWS was rolled out to water system owners and operators in DWS Circular Letter 2021-0085. A copy of the Self-Assessment is included in Appendix I and continues to be referenced during

surveys. Sanitary Survey staff raise the topic of cybersecurity during routine surveys and include a standard recommendation in survey reports requesting that PWS review and complete the Cybersecurity Self-Assessment Checklist. DPH acknowledges that the agency does not have dedicated cybersecurity experts, however, DPH has been advocating strongly as to how PWS can obtain subject matter expert resources to help with cybersecurity. DPH started the development of a cybersecurity strategy during SFY23 and work will continue in this area to promote a comprehensive program for PWS to refer to.

Area Wide Optimization Program Participation: DWS continued its participation in the EPA-sponsored Area Wide Optimization Program (AWOP) which provides tools and approaches for drinking water systems to meet water quality optimization goals. The primary goal is to maximize public health protection through optimization of existing water treatment and distribution facilities to achieve higher levels of compliance without major capital improvements. During the reporting period, DWS staff have participated in many regional meetings where distribution and disinfection by-product optimization remain current topics of on-site workshops and discussion. DWS has utilized knowledge gained in several overlapping workshops to help CWS achieve and maintain compliance with the Stage 2 DBP Rule. Analysis of the DBP results over past six years demonstrates trends toward improvement as shown in Figure 8. DPH will continue to closely monitor and help these PWS maintain compliance with the MCL. Developing technical expertise in this area through participation in AWOP and working to deliver the training to PWS who struggle with compliance in this area aligns with the goals of the Strategy to achieve technical compliance and therefore capacity through optimization.



Federal Technical Assistance Provider Partnerships: DWS continued partnering with federal technical assistance contractors, Connecticut Rural Water and Wastewater Association (CTRWWA) and Environmental Finance Center Network (EFCN) as well as starting new work with Cadmus Group. EFCN coordinated a two-part training webinar for small water systems financial planning and rates including Basic Financial Planning and Benchmarking and Funding Your Water System with User Rates. These topics were selected as follow up training for PWS based on DWS staff review of the small CWS Fiscal and Asset Management Plans. CTRWWA had a change in leadership and a charter change to provide a singular focus within the state of Connecticut. During this reporting period, their technical assistance

specialists offered direct technical assistance to a handful of small community PWS on the lead and copper rule, asset planning, leak detection and PWS regulatory compliance and provided very timely certified operator training. CTRWWA delivered 55 hours of free classroom and virtual continuing education for PWS owners and certified operators. These education efforts strongly supported compliance with the reinstatement of the certified operator licensure requirement on the heels of a multi-year suspension of the license requirements resulting from the COVID-19 pandemic. A list of classes that was provided by CTRWWA during the reporting periods is presented in Appendix J. Finally, five PWS in CT were provided federal technical assistance through the Compliance Advisors For Sustainable Water Systems Program administered by Cadmus Group. Several compliance issues were addressed and final reports for the assistance provided were issued by Cadmus Group upon the conclusion of all work.

Emerging Contaminants Work Highlights: Since its creation in March of 2021, the ECU has worked with DEEP to continue implementing the recommendations of the Governor's PFAS Action Plan. In this reporting period, DPH set new action levels for a total of ten PFAS compounds. These new action levels were communicated to all public water systems and stakeholders in circular letters, webinars, and training sessions for public water systems. The ECU encourages public water systems to voluntarily test for PFAS and provides outreach, communications, and planning materials for those that choose to test and those that detect PFAS.

One of the key recommendations in the Governor's PFAS Task Force's PFAS action plan is to test drinking water for PFAS at public water systems serving vulnerable populations in disadvantaged communities. State funding supported the purchase of new equipment for the State Department Public Health Laboratory for PFAS analytical testing using EPA Method 533. The lab installed, calibrated, and tested this equipment in preparation of receiving future drinking water samples collected by the ECU consistent with the PFAS Action Plan's recommendation. The ECU worked with the state lab to develop a Quality Assurance Project Plan (QAPP), which was drafted, finalized, and approved for EPA method 533 by the EPA. The ECU researched PFAS sample collection, and developed and delivered an internal training presentation for drinking water staff on how to collect PFAS samples and avoid cross contamination. This training and the labs' analytical ability were tested by collecting split samples with a public water system with known PFAS concentrations in their sources.

The ECU entered into a Partnership Agreement with the EPA for the Fifth Unregulated Contaminant Monitoring Rule (UCMR 5). The agreement formalizes how the state will assist EPA in carrying out this federal program. The ECU agreed to review the State Monitoring Plan developed by the EPA utilizing an EPA-developed tool, and to provide access for migration of the large public water system and small public water system inventories to EPA's Safe Drinking Water Accession and Data Review System (SDWARS). The ECU also prepared for the release of data for the UCMR 5 by creating a centralized database of all known testing. The ECU provided assistance to PWS for UCMR 5 compliance through webinars, circular letters, and direct outreach when EPA could not contact a PWS. The ECU also developed community outreach to the systems detecting PFAS and lithium. This included providing PWS risk communication for their customers and guidance for expected commonly asked questions to prepare PWS for public release of results. The ECU, with assistance from DPH toxicologists, prepared a

draft lithium (Li) fact sheet with updated information and DPH toxicologists collaborated and reviewed the latest information to begin establishing a health-based value for Li in drinking water.

The ECU applied to the EPA for the Biden Administration's Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) Grant in SFY22 and was allotted the first two years of EC_SDC grant funding during SFY23. Working with the DWSRF staff, OCP staff, and the Capacity Regions, the ECU finalized a draft workplan for EC-SDC Grant and submitted the workplan to EPA approval for grant funding which will be awarded and accessible starting in SFY24. This EC-SDC workplan includes enhancements to the Technical Managerial and Financial Capacity questionnaire that all community public water systems are required to fill out prior to their sanitary surveys. To accomplish this, recommendations for additional questions were provided and will be implemented in future sanitary surveys to identify which PWS require assistance for TMF. The ECU will be responsible for recommending qualifying public water systems under this grant with the goal of helping those systems in disadvantaged or small communities to meet the minimum TMF standards for operation.

Technical assistance was provided to multiple public water systems throughout the reporting period as results of emerging contaminants were reported to the ECU. This included assisting with community outreach and education materials, engineering reviews for treatment designs, and ensuring the water system could implement the necessary changes. To assist with providing accurate and clear information, the ECU developed and updated a PFAS informational brochure (see Appendix K- PFAS Informational Brochure). This brochure is used during public meetings and provided to PWS to assist with providing clear understanding for PFAS information to their customers and the public. The brochure has been updated to include all ten DPH Action Levels for PFAS and provides background information on PFAS, answers to commonly asked questions, PFAS drinking water treatment information, and links and contact information for additional resources.

Legionella: DWS continued to work with the DPH Multi-disciplinary Legionella Response Team aimed at evaluating legionella defined cases and assist affected facilities in understanding the environmental assessment needed to address and curb the presence of legionella in water ready for consumption. DWS representatives on the DPH Multi-disciplinary Legionella Response Team facilitated communications between the public water systems and the healthcare facilities they serve to assure measures are taking on both sides to minimize legionella growth and minimize the proliferation of legionella growth. DWS formed an internal workgroup to develop subject matter expertise on Legionella control and educating PWS on best available practices to improve water quality in distribution systems to minimize bacterial growth. During the 2022 legislative session, Public Act 22-58 established a Legionella Working Group comprised of representatives from hospitals, nursing homes, water companies, and regulators. The group was tasked with proposing recommendations for legislation, regulations, or other changes concerning the prevention and mitigation of legionella in hospitals, nursing homes, and other health care facilities.

Manganese: DWS worked with DPH EHS to reassess the action level based on data released by EPA citing the need to set a manganese health advisory level (HAL) of 0.3 mg/l. This new level is considerate of the health implications to infants and nursing mothers. The DPH manganese fact sheet was updated to reflect this new HAL, and efforts started to inform public water systems on measures to be taken when manganese is found above the HAL of 0.3 mg/l. In SFY 2022, public water systems that serve

populations over 10,000 concluded monitoring for manganese under EPA's Fourth Unregulated Contaminant Monitoring Rule. Final results from the UCMR program were provided to DPH and are currently under review by the Emerging Contaminants Unit. DWS reviews the results from this monitoring and provides technical and financial assistance to those PWS that approach or exceed the HAL. DWS also is providing a DWSRF loan for a PWS for the installation of treatment for manganese.

Lead and Lead and Copper Rule Revisions Preparation: The DWS Lead Team continued to meet biweekly to foster methods and suggestions aimed at reducing public exposure to lead in drinking water. Several circular letters on the Lead and Copper Rule Revisions (LCRR) related to the lead service line material inventory were developed and dispensed in the past year. The LCRR material inventory template was developed and released to the public water systems to assist them to comply with the lead service line inventory requirements and other LCRR requirements. The DWS Lead Team formed four special committees to review and propose recommendations on multiple decision points that the LCRR leaves open for state discretion for state-level implementation of the LCRR. The four special committees completed their research and had received approval from DWS management on their proposed recommendations and requirements on each of the twelve (12) decision points. Guidance documents will be developed and shared with public water systems. During SFY23, a Lead and Copper Group within the Safe Drinking Water Rule Implementation (SDWRI) Unit was created to implement the current rule as well as the new Lead and Copper Rule Revisions. A lead engineer position for the new Lead and Copper Group was established and filled with a qualified staff in the Spring of 2023. The DWS Lead Team members are actively participating in various ASDWA and EPA workgroups related to the LCRR and upcoming Lead and Copper Rule Improvements (LCRI). To date, 199 Administrative Orders have been issued to PWS who have exceeded the 90% lead action level to shorten the timeframes for compliance and installation of optimal corrosion control.

Sodium and Chloride: The Sodium/Chloride Stakeholder Workgroup met every two weeks to share regular updates and discuss concerns with sodium and chloride contamination. The workgroup consists of DPH, DEEP, CT Department of Transportation, UConn Center for Land Use Education and Research and the UConn Training and Technical Assistance Center. Members of the group shared actions each organization is taking to address the overuse of road salts during winter storm events. Legislation supporting a training program for private winter maintenance contractors was adopted in the 2022 session. The workgroup collaborated to enhance the UConn Training and Technical Assistance Center's training program to focus on private applicators. ECU staff participated in one of the municipal training sessions to gain technical knowledge of winter maintenance best management practices to provide meaningful recommendations to PWS that struggle with sodium and chloride issues. A key incentive for private applicators—liability protection—was not included in the legislation. The workgroup has been discussing other ways to incentivize private applicators to adopt winter maintenance practices that protect drinking water supplies. Additionally, the connections made through stakeholder engagement resulted in municipal public water systems encouraging their fellow public works departments to participate in the existing municipal education program and at least one public water system agreeing to pilot the private applicator education program prior to the legislation being adopted. During this reporting period, various units within the Environmental Health and Drinking Water Branch participated in outreach events and technical assistance and planning sessions for communities that have residential areas of private wells with high sodium and chloride levels. These meetings have resulted in several applications to the DWSRF for funding assistance to remedy these private well issues by extending public water to the homes and abandoning the impacted wells.

Cyanotoxins **-** DWS is partnering with the Connecticut Council on Soil and Water Conservation to accelerate the implementation of source water protection in Connecticut through the implementation of the Connecticut Source Water Protection Project (CSWPP). An increasing number of drinking water supply sources in Connecticut, including the Farm River in Regional Water Authority's watershed, are experiencing algal blooms raising serious public health concerns. There is a need to bring the expertise and resources of those traditionally involved in Farm Bill, EPA 319, and LISS watershed management programs to the source water protection effort. Stakeholders need to embrace the One Water concept to better leverage technical and financial resources. The project, intended to improve this collaboration, began on August 1, 2019. CSWPP offers specific stakeholder trainings on harmful algal blooms and will develop a statewide Geographic Information System that will assess at a parcel level, areas that may contribute to source water impairments due to introducing algal bloom causing nutrients into drinking water watersheds. In FY 2022, public water systems that serve populations over 10,000 concluded monitoring for certain cyanotoxins under EPA's Fourth Unregulated Contaminant Monitoring Rule. DWS is reviewing the finalized results provided by EPA this monitoring and is providing technical and financial assistance to those PWS that have detected cyanotoxins it their source water.

Capacity Development Strategy Review

The preparation of this Triennial Governor's Capacity Development Report serves as a review of the implementation of the new and existing systems Strategy during the previous reporting period. This is a unique report as DWS recently updated its Strategy during the last two years. Much has changed with respect to the way PWS operate as well as how DWS regulates PWS since the original strategy drafted in 2000. Today, all laboratory results are submitted electronically to DPH, DWS runs a primarily paperless operation with all correspondence and received and sent via email, and PWS transitioning to remote operations using Supervisory Control and Data Acquisition (SCADA) systems or other operational technology. The integration of technology provides many benefits such as being able to remotely operate plants, as well as areas of concern such as cybersecurity and being able to ensure data integrity at all levels. The revised strategy provides a framework for DPH to be able to adapt to meet current and future capacity challenges of PWS as well as incorporates the consideration of asset management for PWS and training for certified operators on such topics.

Capacity development implementation is ongoing, and much of the work discussed in the Strategy is incorporated into many routine work tasks within DWS. Progress is reviewed during weekly unit meetings and DWS Supervisor meetings, quarterly and annual meetings with TA providers and development, and evaluation of PWS and Certified Operator training materials and classes. Since DWS is a small group with all staff operating out of the same office, it is easy to communicate about PWS issues and work together to address once identified through daily interactions.

Challenges Moving Forward

Congress amended the SDWA in 1996, providing for a variety of initiatives to assist States and PWS in providing safe drinking water to the public. Capacity development, the Drinking Water State Revolving

Fund (DWSRF), operator certification programs, and resources such as the Environmental Finance Centers and Small System Technical Assistance Centers, were instituted to aid states and PWS. Congress established capacity development with the intent of focusing on those systems most in need of assistance. These were primarily small systems (serving populations of 3,300 or less). Over 90% of Connecticut's four hundred and eighty-eight (488) CWS are small systems. Regulations have become more stringent and complicated including the new federal Groundwater Rule (GWR) which began implementation in 2014, and the Revised Total Coliform Rule (RTCR) which began implementation in 2016. The GWR and the RTCR affect small systems as they rely predominantly on groundwater sources of water supply. Additionally, with changes to the lead and copper rule to be promulgated imminently, there are increasing requirements being placed on these systems. With a small customer base, the increased cost of compliance, operations, capital improvements and planning efforts is often passed on to the rate payers in order to achieve long-term sustainability. This challenge is even greater during tough economic times as collection services for non-payment of water bills do not exist for most small systems and the revenues necessary for sustainability suffer from these losses. This was heightened during the COVID-19 pandemic.

Increased awareness of the challenges facing the state's public water supplies among community leaders is necessary. Planning efforts need to be undertaken and investments made to meet these challenges moving forward. The expansion of larger CWS that have sufficient water supply to consolidate small systems is one option and an option that is strongly supported by DWS. However, such expansions can be costly and new sources of drinking water supply may be needed to meet these demands. Incentives at the state and federal levels for larger CW to expand need to be discussed and explored for possible options. Other options include non-connected satellite ownership of small systems by larger systems where the costs associated with operating and maintaining small satellite system can be distributed across the larger customer based thereby achieving economies of scale for smaller systems. If small systems want to remain viable, DWS is adding requirements like the fiscal and asset management plans and emergency power provisions to ensure these small systems are resilient and sustainable into the future.

Other challenges include the potential for decreased levels of federal support for SDWA primacy agencies and the DWSRF. DWS relies heavily on the federal Public Water System Supervision grant and DWSRF capitalization grants to fund program staff and activities. The DWSRF also provides millions of dollars each year to finance important community drinking water projects. Competition for federal funding is very high in the current economic climate and federal budgets are being cut. For federal fiscal years (FFY) 2022 and 2023 Congress has diverted funds from the DWSRF to fund Congressionally Directed Spending projects (aka "earmarks"). This resulted in a reduction of over 36% in FFY 2022 and over 55% in FFY 2023 from the level of Connecticut's DWSRF funding that was provided for FFY 2021. The Federal House of Representative's FFY 2024 budget proposes reducing next fiscal year's DWSRF funding by well over 90% compared to 2021 levels and steering millions away from this well-established program, adversely impacting the long-term health of the DWSRF Program. The BIL made significant one-time investments in these programs, but the funding ends in FFY 2026 leaving a trail of unfunded water infrastructure programs in its wake. The importance of safe drinking water must be communicated effectively to congressional leaders so that financial support for state SDWA primacy programs and the DWSRF continue.

As a result of these challenges, P.A. 14-98 has become an integral tool for meeting financial challenges

of the small systems by appropriating up to $50 million in state funds that can be used to provide supplemental grants-in-aid to eligible PWS that receive DWSRF loans from DPH after July 1, 2014. The $50M was reduced to $20M which has been invested along with DWSRF loans. P.A. 23-205, signed by the Governor on 6/29/2023, will provide an additional $25M for each SFY 2024 and 2025. These supplemental subsidization funds now provide PWS additional capacity to undertake other important projects the result in interconnections and or regionalization with other small PWS. Also, CGS 19a-37e supports efforts regarding the fundamentals of fiscal and asset management for small CWS to help educate them about what is required to be a viable and sustainable CWS that can provide safe and adequate water to their consumers now and into the future.

Assessment of the Efficacy of the Capacity Development Program

DPH's Capacity Development Strategy has always been proactive, with the goal of strengthening the TMF capacity of PWS by identifying and correcting weaknesses early through close regulatory oversight, assistance and enforcement. The functional units within DWS work closely together so that PWS performance is evaluated holistically and discussed when isolated compliance problems are discovered. This process helps to identify and correct the root causes of compliance problems before more serious problems develop. Long term sustainability of every PWS is always the goal, rather than a short-sighted goal of compliance alone. To this extent, the Strategy has worked well in Connecticut and is consistent with EPA's Sustainability Policy released in 2010.

A good overall measurement of the effectiveness of the strategy is the Government Performance and Results Act (GPRA) scores, which is an EPA tool that looks at the compliance rate of PWS that are regulated by CT DPH. For the twelve quarters that encompass this reporting period, DPH scored above the national target of 90% of PWS in compliance every quarter and scored greater than the Region 1 average 10 of the 12 quarters. DPH scored above both the national target and Region 1 average for all 12 quarters in measures of percent of population served by PWS that comply with the regulations. This is a great example of the dedication of DPH staff and the entire PWS and certified operator regulated communities ensuring PWS maintain acceptable levels of TMF capacity providing safe and plentiful drinking water.

Conclusion

As evidenced by the capacity development activities discussed above, DWS continued to implement the tenants of the strategy to meet the needs of Connecticut's PWS during the last three fiscal years. A review of these activities demonstrates that when new PWS are created using the control points within the Strategy combined with the laws in place, new PWS are more likely to succeed. Additional work is needed to educate newly discovered PWS under DPH oversight, in order to establish and maintain acceptable levels of TMF capacity from the beginning. For existing systems, this report demonstrates that capacity development is intrinsic to all the DWS functional units, and routine interactions with PWS is the primary mechanism used to develop and maintain TMF capacity. This is extremely important with all the new regulations PWS are facing as part of the SDWA and a variety of emerging contaminants. With the new BIL funding available for PWS and states to implement the SDWA, DWS must be able to incorporate capacity development into every interaction with the PWS to maximize our own resources and capacity. DWS will continue to effectively apply resources to support sustainable systems and will advocate for the elimination of systems unable to maintain

acceptable levels of capacity by utilizing the takeover process and/or assistance from the WUCCs. As challenges arise, DWS works internally and with external partners to develop and implement mitigation approaches. DPH has successfully worked to require all small CWS to have an asset and fiscal management plan. Training for PWS and operators was provided on fiscal and asset management and tangible infrastructure projects are being realized as a result of these planning efforts. Capacity needs and possible solutions for small CWS ownership and operations for the future has also become a focus of the WUCCs which have transitioned to the implementation of the Coordinated Plans.

This Capacity Development Report to the Governor for the period of July 1, 2020 – June 30, 2023 will be made available to the public through the DWS's webpage at Capacity Development Report (ct.gov). With committed attention to activities discussed here, DWS can successfully implement the Capacity Development Strategy to promote proactive, integrated, and flexible yet accountable TMF for CT's public water suppliers. DPH's DWS effectively regulated and protected public health at four hundred eighty-eight (488) CWS, four hundred ninety-two (492) NTNC systems, and thirteen hundred and seventy-four (1,374) TNC systems during the reporting period. The implementation of capacity development is proven and will remain consistent with CT's current EPA-approved Strategy.

Appendix A – 2023 Governor's Capacity Development Reporting Criteria

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF WATER

May 11, 2023

MEMORANDUM

SUBJECT: 2023 State Capacity Development Program Reports to the Governor

FROM: Marietta Echeverria, Director
Drinking Water Capacity and Compliance Assistance Division

MARIETTA ECHEVERRIA Digitally signed by MARIETTA ECHEVERRIA Date: 2023.05.11 16:04:02 -04'00'

TO: Drinking Water Program Managers
Regions I-X

State capacity development programs are integral to building strong water systems and strong communities. As EPA and the states continue to implement the historic investment from the Bipartisan Infrastructure Law, it is critical that our activities include the state capacity development programs to ensure that water systems will have not only technical, but also financial and managerial capacity to sustain access to safe drinking water for Americans. This will involve a regular channel of communication between EPA Regional offices and state programs.

On January 6, 2023, Jennifer McLain and Andrew Sawyers wrote to the EPA Regional offices to encourage actions to improve implementation and oversight of the BIL State Revolving Loan Funds, and to emphasize the importance of consistently and robustly engaging states.

In that same spirit, I am writing to remind you of the upcoming submission requirement for the State Capacity Development Program Report to the Governor, and the need for these reports to address certain asset management-related elements required under the America's Water Infrastructure Act (AWIA). These triennial reports are required, by statute, to be submitted by States to their Governor's office and shall be available to the public no later than September 30, 2023. Please share this reminder with your States, so that they have adequate time to prepare and submit the report in addition to making the report available to the public. Failure to submit the report by the required date will result in a 20 percent withholding of a State's Drinking Water State Revolving Fund (DWSRF) allotment.

Please work with your States to ensure not only that they meet the September 30, 2023 deadline, but also that the reports address the two issues mandated under section 1420(c)(3) of the Safe Drinking Water Act: (1) efficacy of the Capacity Development strategy and (2) progress made towards improving technical, managerial, and financial capacity of public water systems, including efforts of the State to encourage development by public water systems of asset management plans and to assist public water systems in training relevant and appropriate persons in implementing such asset management plans (AWIA Section 2012).

The attached document provides suggested reporting content to guide the States as they begin to develop their Capacity Development Program Reports to the Governor. After your States have notified you that they have submitted their reports, please notify the DWSRF Project Officers that the requirements have been met. We request that each State forward to you a courtesy copy of the report, along with an explanation of how the report was made available to the public.

I appreciate your continued efforts in working with your States to promote the importance of safe drinking water through the implementation of the Capacity Development Program. Please feel free to contact me with any questions, or you may contact the Capacity Development Coordinator, Alison Flenniken, at (202) 564-4412 (Flenniken.Alison@epa.gov).

Attachment

cc: Water Division Directors, Regions I-X

Capacity Development Coordinators, Regions I-X

DWSRF Coordinators, Regions I-X

Damaris Christensen, Supervisor, Water Finance Branch, OGWDW

Rose Kyprianou, Supervisor, Capacity Development Branch, OGWDW

Suggested Reporting Content for Development of
State Capacity Development Program Report to the Governor

This attachment contains EPA's suggestions to States on questions to consider as they develop their State Capacity Development Reports to the Governor. States should focus on how improving technical, managerial, and financial capacity for public water systems promotes public health protection through safe drinking water, and what actions the State is taking to make these improvements. We encourage States to consider addressing the following questions in their reports:

1. *What is your assessment of the efficacy of your strategy*?

   Describe the major objectives in your strategy, any accomplishments associated with those objectives, progress you continue to make in implementing your strategy effectively, including coordination between State agencies, and changes you have made or plan to make as a result of your experience.

   We recommend you showcase "success stories" during the past 3 years of strategy implementation. Consider the approaches you found to be successful in helping systems improve their technical, managerial, and financial capacity; as well as sharing experience with approaches that you did not find effective. Reports structured in this way can be shared with other States to collaborate and implement new strategies. You may also discuss how enforcement and capacity development efforts in assisting systems with a history of significant noncompliance has played a role in helping systems achieve capacity and compliance.

2. *From a Statewide perspective, what progress are you making (through your strategy) in improving the technical, managerial, and financial capacity of public water systems?*

   Discuss the baseline against which you plan to measure progress and any early indications of progress, against that baseline. You may also discuss the role that partnerships among systems and with stakeholders are playing in assisting systems as they obtain and sustain capacity.

   Consider discussing problems that you and your systems face most frequently, such as insufficient funds to cover infrastructure improvements or difficulty in dealing with certain categories of small systems. Additionally, you could identify new challenges, such as new or pending regulatory requirements or experiencing a decrease in workforce.

3. *How do you prioritize your actions to support the communities that need the most assistance?*

   How are you identifying and assisting systems and communities that have infrastructure and capacity needs, and how are you working to build their capacity? How does the technical assistance in your capacity development program support this effort? How do you assess the success of technical assistance?

Suggested Reporting Content for Development of
State Capacity Development Program Report to the Governor (*cont.*)

4. *What assistance is available in your state for public water systems to develop or implement asset management plans?*

   The 2018 America's Infrastructure Act (AWIA), Section 2012, requires States to include efforts of the State encouraging the development and implementation of asset management plans by public water systems in the triennial Governor's report no later than September 30, 2023. Consider your state's asset management approach within the capacity development strategy. We recommend you include all the activities that your State implements to promote asset management, such as enforcement orders or training programs, and summarize how implementing these activities enhances your capacity development program. Discuss the barriers to implementation and future opportunities to expand your program to promote asset management.

5. *What additional efforts in your investment in capacity development have not been mentioned above, but wish to include in this report?*

   We encourage you to discuss the continued resource investment in following areas: extent and success of system consolidation and restructuring; training efforts, especially those associated with operator certification; source water assessment protection efforts undertaken by the State or at the local level; other collaborative projects.

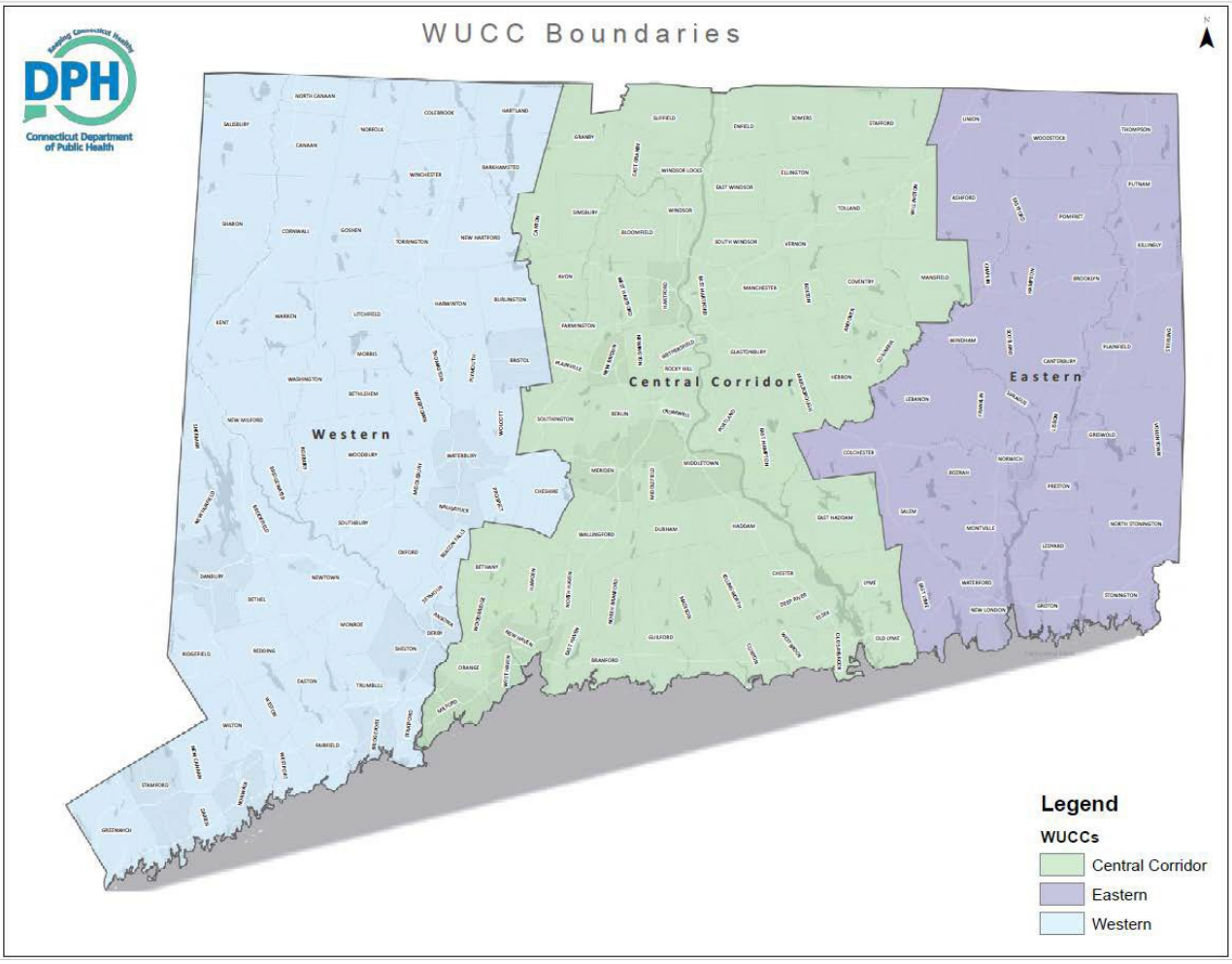
   Financial assistance from the DWSRF and other Federal/State loan or grant programs should also be considered for this report. You may include how the state is using the set-asides to provide training and technical assistance to systems that lack capacity; conditions for loan agreement and forgiveness programs that relate to capacity development (e.g., requiring asset management plans, board member training, etc.); as well as best practices for improving equity of access to financial assistance by water systems.

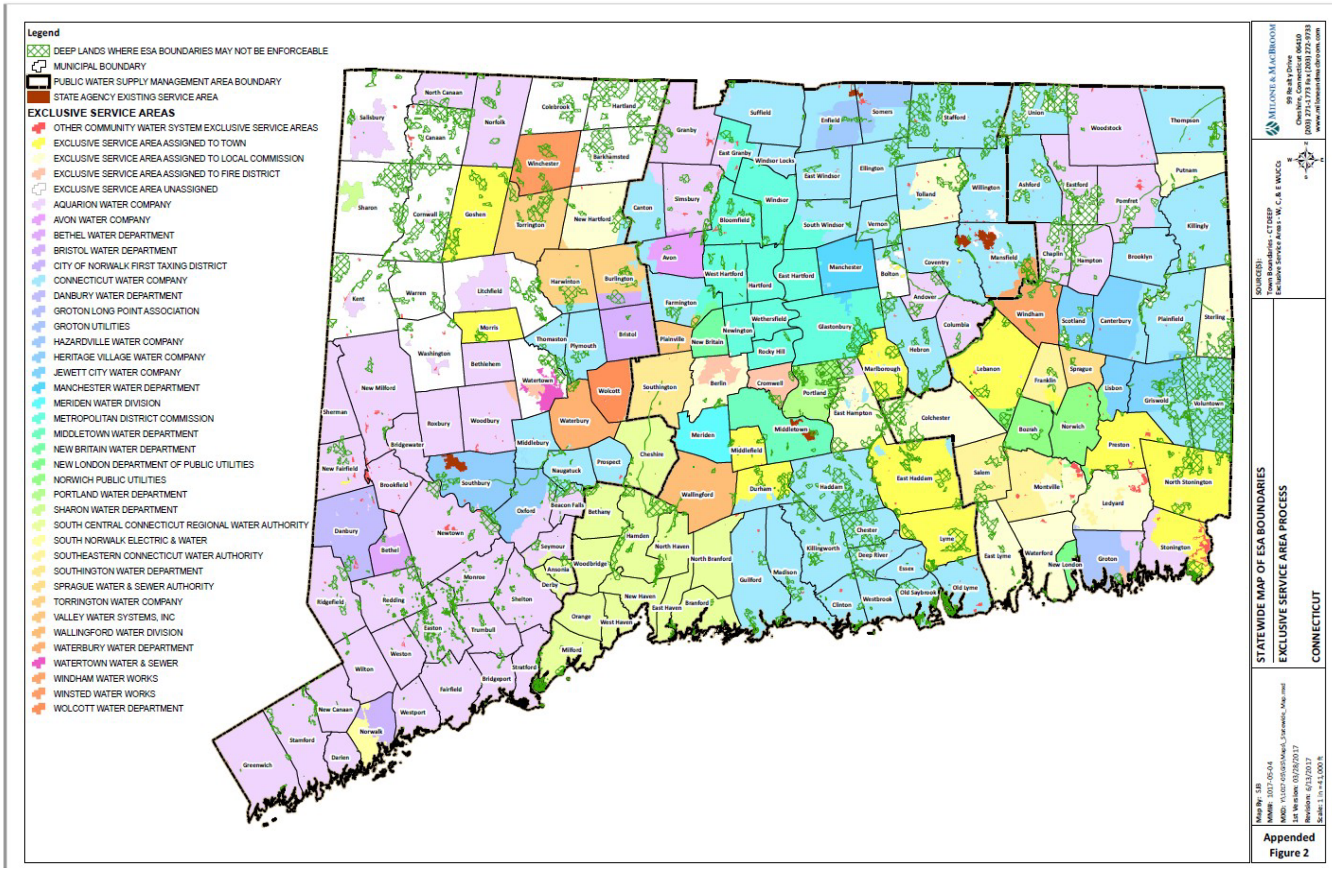
6. *How will you make this report available to the public*?

   States are required to submit to the Governor a report that shall also be made available to the public on the efficacy of the strategy and progress made toward improving technical, managerial, and financial capacity of public water systems in the State.

   Please include a description of how you will make this report publicly available. You may wish to consider the following options: posting the report on your website and websites of your stakeholders; asking systems to advertise the report in the Consumer Confidence Report or in the customer's water bill; publishing the report in various newsletters or *State Registers*; or making the report available for viewing in the State's office.

Appendix B - WUCC Maps and Flyer


WUCC Boundaries
DPH
Connecticut Department of Public Health
Western
Central Corridor
Eastern
Legend
WUCCs
Central Corridor
Eastern
Western

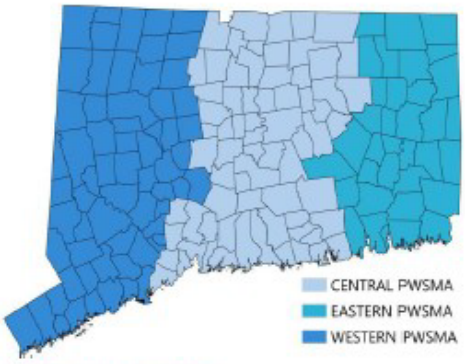


Legend
DEEP LANDS WHERE ESA BOUNDARIES MAY NOT BE ENFORCEABLE
MUNICIPAL BOUNDARY
PUBLIC WATER SUPPLY MANAGEMENT AREA BOUNDARY
STATE AGENCY EXISTING SERVICE AREA
EXCLUSIVE SERVICE AREAS
OTHER COMMUNITY WATER SYSTEM EXCLUSIVE SERVICE AREAS
EXCLUSIVE SERVICE AREA ASSIGNED TO TOWN
EXCLUSIVE SERVICE AREA ASSIGNED TO LOCAL COMMISSION
EXCLUSIVE SERVICE AREA ASSIGNED TO FIRE DISTRICT
EXCLUSIVE SERVICE AREA UNASSIGNED
AQUARION WATER COMPANY
AVON WATER COMPANY
BETHEL WATER DEPARTMENT
BRISTOL WATER DEPARTMENT
CITY OF NORWALK FIRST TAXING DISTRICT
CONNECTICUT WATER COMPANY
DANBURY WATER DEPARTMENT
GROTON LONG POINT ASSOCIATION
GROTON UTILITIES
HAZARDVILLE WATER COMPANY
HERITAGE VILLAGE WATER COMPANY
JEWETT CITY WATER COMPANY
MANCHESTER WATER DEPARTMENT
MERIDEN WATER DIVISION
METROPOLITAN DISTRICT COMMISSION
MIDDLETOWN WATER DEPARTMENT
NEW BRITAIN WATER DEPARTMENT
NEW LONDON DEPARTMENT OF PUBLIC UTILITIES
NORWICH PUBLIC UTILITIES
PORTLAND WATER DEPARTMENT
SHARON WATER DEPARTMENT
SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY
SOUTH NORWALK ELECTRIC & WATER
SOUTHEASTERN CONNECTICUT WATER AUTHORITY
SOUTHINGTON WATER DEPARTMENT
SPRAGUE WATER & SEWER AUTHORITY
TORRINGTON WATER COMPANY
VALLEY WATER SYSTEMS, INC
WALLINGFORD WATER DIVISION
WATERBURY WATER DEPARTMENT
WATERTOWN WATER & SEWER
WINDHAM WATER WORKS
WINSTED WATER WORKS
WOLCOTT WATER DEPARTMENT
MILONE & MACBROOM
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773 Fax (203) 272-9733
www.miloneandmacbroom.com
SOURCE(S):
Town Boundaries - CTDEEP
Exclusive Service Areas - W, C, & E WUCCs
STATEWIDE MAP OF ESA BOUNDARIES
EXCLUSIVE SERVICE AREA PROCESS
CONNECTICUT
Map By: SJB
MMI#: 1017-05-04
MXD: Y:\1017-05\GIS\Maps\ESA_Statewide_Map.mxd
1st Version: 03/28/2017
Revision: 6/13/2017
Scale: 1 in = 41,000 ft
Appended Figure 2

Connecticut's Water Utility Coordinating Committee (WUCC) Process

A Coordinated Planning Approach for the State's Public Drinking Water Supply

WHAT ARE THE WUCCs? The Western, Central, and Eastern WUCCs are comprised of one representative from each public water system and one representative from each regional council of government (COG) within three Public Water Supply Management Areas (PWSMAs) established by the Department of Public Health (DPH) pursuant to CGS § 25-33f.



WHY DO THE WUCCs EXIST? Connecticut's regional public water supply planning process was prompted by the State's extended drought in the early 1980s. Public Act 85-535, "*An Act Concerning a Connecticut Plan for Public Water Supply Coordination,*" directed the DPH to administer a procedure to coordinate the planning of public water supply systems in an effort to maximize their efficient and effective development and to promote public health, safety, and welfare. The legislative finding associated with this Public Act was codified in CGS § 25-33c.

WHAT ARE THE WUCCs DOING? In June 2016, the DPH convened the Water Utility Coordinating Committee (WUCC) for each PWSMA and directed each WUCC to implement the 2-year planning process established by CGS §§ 25-33g and 25-33h.

The Regulations of Connecticut State Agencies (RCSA) § 25-33h-1(d) requires each WUCC to prepare a CWSP consisting of the following elements in addition to the utilities' individual *Water Supply Plans* prepared for systems within the PWSMA:

- Completion of a *Water Supply Assessment* of regional water supply conditions and problems;
- Establishment of exclusive service area (ESA) boundaries delineating each public water system's potential service area;
- Completion of an *Integrated Report* providing an overview of public water systems and addressing area-wide water supply issues, concerns, and needs to promote cooperation among public water systems; and
- Completion of an *Executive Summary* to serve as an abbreviated overview of the CWSP.

The WUCCs were required by RCSA § 25-33h-1(f) to submit each of the four components of its CWSP to the DPH within specified timeframes spanning a two-year planning process. Each WUCC held monthly meetings that were open to the public to facilitate this work. Efforts were made throughout this process to be inclusive of diverse viewpoints from water utilities, state and local government, stakeholders, and the public.

Each WUCC prepared its CWSP and submitted the plan to DPH in May (Western and Eastern regions) and June (Central region) of 2018. The CWSPs are required to be updated as necessary or at least every 10 years.

Eastern WUCC Meeting, June 2018

WHAT IS THE IMPACT OF THE WUCC PROCESS? Each of the three regional CWSPs evaluates current water supply conditions and problems in the PWSMA, establishes ESA boundaries assigning responsibility for providing future public water supply to areas where it may be needed, and presents current and projected water demands for public water systems.

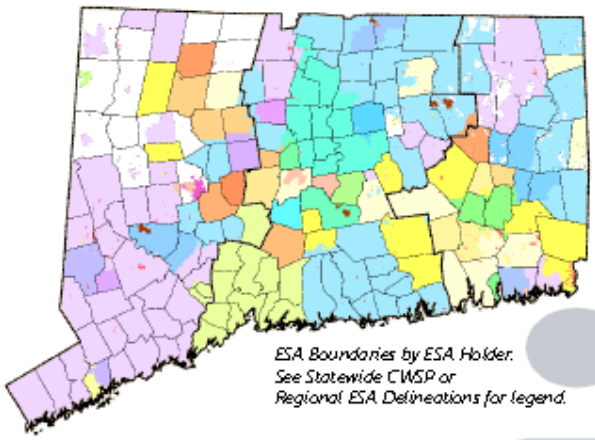
WHAT IS THE VISION FOR THIS PLANNING PROCESS? As envisioned in Connecticut General Statute (CGS) § 25-33c, "*an adequate supply of potable water for domestic, commercial and industrial use is vital to the health and well-being of the people of the state. Readily available water for use in public water systems is limited and should be developed with a minimum of loss and waste.*" This vision statement guided the Coordinated Water System Plan (CWSP) process and requires sustained vigilance by state agencies and public water systems to ensure adequate water quality and quantity is maintained. The CWSP prepared by each WUCC evaluates current public water supply conditions and future needs at a regional scale and provides guidance towards improving regional coordination and the technical, managerial, and financial capacity of public water supply systems.

November 19, 2018

MILONE & MACBROOM

DPH Connecticut Department of Public Health

PHAB



ESA Boundaries by ESA Holder. See Statewide CWSP or Regional ESA Delineations for legend.

ESA boundaries delineate existing and potential future service areas of public water systems, identify responsible parties to own and operate "community" (residential) public water systems developed through the Certificate of Public Convenience and Necessity process (CGS § 16-262m), and resolve competing future service area claims by public water systems resulting from the assignment of overlapping franchise areas over time by the state legislature. When municipal land use and development goals result in the need for the creation of a new public water system, the designated ESA provider will be part of that process.

The CWSPs identify potential regional projects to encourage system resiliency and redundancy, provide a desktop review of potential environmental impacts of new supply sources identified in water supply plans that may meet regional needs, and quantifies how water conservation may reduce projected water demands. The CWSPs identify regional needs as opposed to site-specific capital improvement projects, leaving such decisions to the individual utilities to evaluate with assistance from the respective WUCC. Several potential projects are identified in order to facilitate further discussion and possible funding.

Each CWSP contains more than 60 recommendations for the WUCC to pursue in order to improve public water supply conditions through the year 2030. These recommendations fall into the topic areas of responsible planning, drought management, source protection, water conservation, resiliency, and funding. Some recommendations will require action by DPH or other state agencies, while others will rely on action by COGs or by individual public water systems. These recommendations provide the basis for discussion and action by each WUCC and its members over the next 10 years.

WHAT IS THE OUTCOME OF THE WUCC PROCESS? The DPH has interpreted the primary messages of the each CWSP into the following top needs for public water systems in the state, which are intended to serve as guiding principles for future regulations, water planning, capital improvement projects, and funding goals. They are:

1. Regionalization and Interconnections
   Ensure redundant and environmentally responsible supplies.
2. Water Conservation and Water Efficiency
   Reduce future demands and unnecessary water use.
3. Reduce Clustering of Small Water Systems
   Encourage consolidations and ensure responsible planning to mitigate proliferation of adjacent small systems.
4. Assistance to Small Public Water Systems
   Ensure proper technical, managerial, and financial capacity of small public water systems.
5. Investment in Infrastructure
   Replace aging infrastructure, including mains a century old.
6. Funding
   Provide grants and loans for planning, projects, and small systems in line with the above needs.
7. Drought Management and Resilience
   Increase awareness of drought impacts and standardize responses to the extent practicable.
8. Resiliency to Storms and Climate Change
   Reduce recovery time and adapt to future conditions.
9. Protection of Watersheds and Supplies
   Continue to ensure adequate water supplies with high water quality.
10. Improvements to Water Demand and Water Quality Planning
    Avoid the development of unnecessary new sources and ensure proper consideration of regulated and unregulated contaminants.

WHAT ARE THE NEXT STEPS? Each WUCC will work to implement the recommendations of their CWSP, including ensuring that water demand and projection data in the CWSPs are updated sooner than is required to facilitate regional planning, and working with DPH to provide assistance to small water systems. DPH plans to hold workshops in 2019 to educate public water systems on the outcome of the planning process and to work towards implementation of regional and statewide public water supply projects.

WHAT IF I WANT MORE INFORMATION? Visit the WUCC webpages located on the DPH website at https://portal.ct.gov/DPH/Drinking-Water/WUCC/Water-Utility-Coordinating-Committee/

MILONE & MACBROOM

DPH Connecticut Department of Public Health

Appendix C - Sanitary Survey Capacity Questionnaire

State of Connecticut Department of Public Health
Drinking Water Section
Sanitary Survey Capacity Questionnaire

Your PWS is due for a routine sanitary survey this calendar year. As a regulated PWS, you have regulatory responsibilities* associated with the survey. Completing the brief questionnaire below will fulfill several of these requirements and should only take a few minutes. Your answers will also enable DWS to provide better technical assistance to your PWS based on your individual needs. Please email the completed survey to DPHCapacity@ct.gov **within 30 days of receipt**. Any questions can also be emailed to that address. You will be contacted by a DPH Engineer to schedule a sanitary survey of your PWS this year.

PWS Name: PWS ID:

Please list the correct current owner/legal contact for this PWS. The Legal Contact is the system owner or person(s) who is authorized to bind and act on behalf of the owner of that system.

Name		**Address**	
Title		**City, State, Zip**	
Signature		**Daytime Phone**	
Email		**Emergency Phone**	

	Technical Capacity Questions	Yes	No	Comment
T1	a) Has your system had instances where demand exceeded your supply (e.g. low pressure or no pressure)?			
	b) Has your well(s) pumping rate decreased or system demand increased in the last 5 years?			
	c) Does your PWS regularly read meters and promptly addresses leaks?			
T2	Does your PWS own or control the sanitary radius** for each groundwater source of supply?			If no, please explain:
T3	a) System has emergency power capability for all critical facilities?			If no, please explain:
T4	System has an up to date DPH-approved Sampling Site Plan? (Sampling Point Inventory with Location Map)			

	Managerial Capacity Questions	Yes	No	Comment
M1	a) Does your PWS have a Certified Operator?			
	b) Does your PWS ownership meet routinely with the certified operator to review water system operations and needs?			Please elaborate:
M2	Does your PWS have by-laws, resolutions, or ordinances and are reviewed at least biennially			
M3	Individuals deemed in direct responsible charge are clearly defined and legally empowered in by-laws or by ordinances to act on behalf of the system?			

Managerial Capacity Questions Cont'd		Yes	No	Comment
M4	Does your PWS have an up-to-date map showing all water system facilities?			
M5	a) Does your PWS track and have a program to reduce unaccounted for water loss?			
	b) Does your PWS have metered service connections?			
	c) Does your PWS conduct leak detection surveys?			Frequency:
M6	Is there a process to address water emergencies 24 hours a day for the PWS?			Please elaborate:
M7	Does your PWS maintain water system records per applicable record retention schedules?			

Financial Capacity Questions		Yes	No	Comment
F1	Does your PWS calculate the annual costs of operating and maintaining the system, including depreciation, reserve funds for capital improvements, and other expenses?			
F2	a) Do you bill customers for water? If yes, please explain the method for billing customers.			Briefly explain:
	b) Does the customer billing cover all annual costs including depreciation, future expenses and infrastructure replacement?			
F3	Does your PWS have rules, regulations, and/or by-laws that cover billing and address delinquent payments?			
F4	Does your PWS have a Fiscal and Asset Management (F&AM) plan? (for PWS serving >1,000 these may be separate plans)			
F5	Has your PWS set up a reserve fund for emergency costs or if not, does the PWS have the legal authority to levy special assessments on customers for unexpected large expenses?			
F6	Does your PWS have fiscal controls to ensure monies are collected and spent appropriately?			Briefly explain:
F7	Does your PWS have an insurance policy that covers the water system assets and/or board liability?			Please elaborate:

* Your responses to this survey are part of this public water system's regulatory and statutory requirements, specifically RCSA Section 19-13-B102(l), (o), (p), (r), (s) and (w) and CGS 19a-37e

** Sanitary Radius Requirements for Groundwater Sources of Supply

Well pump Withdrawal Rate in gpm:	<10	10-50	>50
Sanitary Radius	75'	150'	200'

Reset Form

Appendix D - DWSRF Capacity Review Checklist

State of Connecticut, Department of Public Health
Drinking Water Section, Drinking Water State Revolving Fund (DWSRF)
Technical Managerial Financial Capacity Review Checklist

Clear Form (temporary)

Applicant PWS Name: _____ **PWSID:** _____

Project Name: _____

DWSRF Project Number: _____ Pop Served by PWS: _____

DWSRF funding assistance requires the applicant to have adequate technical, managerial, and financial capacity in order to be eligible to receive funding. The Office of the State Treasurer (OTT) reviews the financial capacity of each borrower (item #12). This form documents the Technical and Managerial Capacity review by the Drinking Water Section.

The technical, managerial, and financial capacity review is considered complete when all applicable items have been reviewed. Add comments as necessary.

---

1. Current Overall Capacity Assessment Tool (CAT) Score: ☐ Date run: ☐

   Managerial Score ☐ Technical Score ☐ Financial Score ☐

2. Is this PWS under any formal enforcement action by DPH? ☐ Yes ☐ No

3. Is this PWS listed on the current Enforcement Targeting Tool (ETT) list? ☐ Yes ☐ No

   If yes, how many points: ☐ Date of List: ☐

4. Is PWS in compliance with Certified Operator requirements? ☐ Yes ☐ No

5. Does this PWS have any unresolved deficiencies from the most recent sanitary survey inspection? ☐ Yes ☐ No

   If yes, is the PWS actively working towards resolving the deficiencies? (i.e. has TRFA accepted their proposed resolution?) ☐ Yes ☐ No

6. Has this PWS completed its Sanitary Survey Capacity Questionnaire? ☐ Yes ☐ No

   If submitted with DWSRF FAA-Part I, give to Cap. Dev. Unit for CAD input

7. Does this PWS have a current Water Supply Plan (WSP)? ☐ Yes ☐ No ☐ N/A

   If so, is the project(s) submitted for DWSRF supported by the WSP? ☐ Yes ☐ No

   If so, and the WSP is >5 years old, is project(s) on current Capital Improvement Plan? ☐ Yes ☐ No

8. Does this PWS have an Asset Management plan? ☐ Yes ☐ No

9. Does this PWS have a Fiscal Management plan? ☐ Yes ☐ No

10. If a Small PWS serving <1,000, do they have a Fiscal and Asset Management Plan? ☐ Yes ☐ No ☐ N/A

    Has this plan(s) been reviewed? ☐ Yes ☐ No

    Which, if any, have been found acceptable? ☐ AM ☐ FM

    (If the AM plan is acceptable for small PWS, this PWS is eligible for federal subsidy)

11. Has DWSRF staff met with TRFA/survey staff to discuss overall system? ☐ Yes ☐ No

    Are there any Technical or Managerial Capacity issues? ☐ Yes ☐ No

    Are there any water system issues? ☐ Yes ☐ No

    Are there other needs which should/must be prioritized over the proposed DWSRF project(s)? ☐ Yes ☐ No

12. Has OTT conducted the financial viability review of the applicant? ☐ Yes ☐ No

    If yes, was it found to be acceptable? ☐ Yes ☐ No

State of Connecticut, Department of Public Health
Drinking Water Section, Drinking Water State Revolving Fund (DWSRF)
Technical Managerial Financial Capacity Review Checklist

Does this PWS need assistance with Technical capacity? ☐ Yes ☐ No
Does this PWS need assistance with Managerial capacity? ☐ Yes ☐ No
Does this PWS need assistance with Financial capacity? ☐ Yes ☐ No

Assistance provided/Actions taken:

Summary of Capacity Review

Item	Reviewed Y/N or N/A	Technical Managerial & Financial Capacity Items	Acceptable Y/N or N/A
1		Compliance Assessment Tool Scorecard	
2		DPH Formal enforcement action	
3		ETT list (Enforcement Targeting Tool)	
4		Certified Operator Requirements	
5		Deficiencies from most recent sanitary survey	
6		Sanitary Survey Capacity Questionnaire	
7		Water Supply Plan / Capital Improvement Plan (if applicable)	
8		Asset Management Plan (if PWS has one)	
9		Fiscal Management Plan (if PWS has one)	
10		Fiscal and Asset Management Plan (small <1,000 pop only)	
11		Met with TRFA/Survey Staff	
12		OTT Financial Viability Review	

Does this PWS have sufficient Technical Capacity for a DWSRF loan? ☐ Yes ☐ No
Does this PWS have sufficient Managerial Capacity for a DWSRF loan? ☐ Yes ☐ No
Does this PWS have sufficient Financial Capacity for a DWSRF loan? ☐ Yes ☐ No

All applicable items MUST be determined to be Acceptable for applicant to be eligible for DWSRF funding.

Attached: Capacity Assessment Tool CAD report

Comments:

(Signature of DWS Staff) (print name) (Date)

Date Technical, Managerial & Financial Capacity Review Completed:

Appendix E - Three Storm Strategy Report

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

DPH Drinking Water Section Strategy to Address the Effects of Storms Irene, Alfred and Sandy on Connecticut's Community Public Water Systems
Original draft December 2011, last update April 2018)

Following the three storms that impacted Connecticut in 2011 and 2012, the Department of Public Health Drinking Water Section developed a strategy to address emergency preparedness for the state's community public water systems (CPWS). This public health strategy was developed in order to assure a safe and adequate water supply to the 2.9 million Connecticut residents served by CPWS. The strategy has the following objectives that address vulnerabilities, preparedness, resiliency and system capacity:

1. Assure sustained water supply for all CPWS,
2. Provide current and accurate large system status shared across WebEOC,
3. Work to develop mechanisms to prioritize restoration of street power to CPWS and priority facilities,
4. Assure that small community public water systems are well prepared to proactively address emergency situations.
5. Assure system capacity
6. Assure adequate certified operator oversight
7. Assure adequate review and oversight of public water systems
8. Work toward more resilient CPWS through enhanced water supply planning

Storms Irene, Alfred and Sandy brought different challenges, however affected small satellite CPWS (systems that serve under 1,000 people) in a similar way due to lengthy power outages that impacted large regions of Connecticut. Further, while large CPWS (systems that serve over 1,000 people) were able to sustain water supply and system pressure, some experienced lack of priority to regain street power with multiple large scale pump stations and surface water treatment plants on generators for more than 7 days.

On average for all three storms, over 100 small CPWSs were on boil water advisory due to loss of system pressure caused by loss of street power. These systems represent a significant percentage of Connecticut's 450 small CPWS. Many small CPWS were ill prepared, lacked planning, and lacked adequate technical, managerial and financial capacity to address loss of street power for an extended period of time. Below is a summary of the effects of the three storms on the state's public water systems:

DPH
Connecticut Department of Public Health

Phone: (860) 509-7333 • Fax: (860) 509-7359 • VP: (860) 899-1611
410 Capitol Avenue, MS#51WAT, P.O. Box 340308
Hartford, Connecticut 06134-0308
www.ct.gov/dph
Affirmative Action/Equal Opportunity Employer

- Storm Irene (tropical storm on August 29, 2011) –
    - 137 small cpws on Boil Water Advisory (30% of small cpws), these systems are shown in red on the attached map
    - 16,624 CT residents served by these 137 small cpws (19% of population served by small cpws)
    - Majority of small cpws that were on Boil Water Advisory were due to loss of system pressure caused by power outage (on average it was 5 to 6 days until power restoration)
    - Majority of sources and systems were not affected by flooding due to requirements to locate wells outside flood zone.
    - Majority of large cpws on shoreline area lost street power, however operations were not affected due to their emergency generator capacity, street power restored to these systems within a few days
    - 2.688 million CT residents retained their safe public drinking water (99% of CT residents served by cpws)
    - 51 small cpws (6,300 population served) affected by both storms shown in purple on map

- Storm Alfred (early season snow storm on October 29, 2011) –
    - 121 small cpws on Boil Water Advisory (26% of small cpws), these systems are shown in blue on the attached map
    - 20,212 CT residents served by these 121 small cpws (23% of population served by small cpws)
    - Majority of small cpws that were on Boil Water Advisory was due to loss of system pressure caused by power outage
    - Majority of large cpws along and north of the I-84 corridor lost street power, however operations were not affected due to their emergency generator capacity, street power restored slowly to these systems with some generators operating 8 to 9 days straight
    - 2.674 million CT residents retained their safe public drinking water (98% of CT residents served by cpws)

- Storm Sandy (hurricane category 1 on October 30, 2012) –
    - 100 small cpws on Boil Water Advisory, these system are shown in green on the presentations map
    - Majority of small cpws that were on Boil Water Advisory was due to loss of system pressure caused by power outage
    - Many large cpws lost street power, however operations were not affected due to their emergency generator capacity, street power restored very slowly to these systems with some generators operating 8 to 9 days
    - 2.7 million CT residents retained safe public drinking water

CTDPH believes that it is important for all community public water systems to have the capacity to sustain their system's water supply throughout extended loss of street power and therefore avoid the need to issue a boil water advisory to their customers. Public water systems that have emergency power capacity will avoid potential negative impacts to water quality, lengthy boil water advisories and unnecessary increased risk to public health due to potentially impacted drinking water quality. Currently in CT, small CPWS have no requirements that address the need for emergency planning or to have back-up power capacity.

The State's large CPWS had the capacity to supply water and sustain system pressures even with loss of street power due to their existing emergency power capacity. This capacity included emergency power generators not only in place for sources of supply and treatment systems, but also in place for pump stations in remote areas of their system. One challenge and vulnerability following each storm for the large CPWS included the need to capture the attention and understanding of local and state emergency managers to prioritize restoration of street power to large CPWS components including surface water treatment plants. Adding a system status component for these large CPWS to WebEOC will directly assist to meet this challenge as well as develop information to share with power companies to address street power restoration to critical public water facilities and critical public health facilities.

Based upon the above storm related effects and system vulnerabilities, the following DPH action items were developed in November 2011 and then updated following Storm Sandy in 2012 to meet the above objectives:

DPH Action Items:

1. **Emergency Power Requirement** - Require small CPWS to have emergency power capacity; ***regulations drafted in 2012 and passed 2014, Compliance Required December 2018***

2. **Funding Assistance for Generators** - Develop and provide for subsidized DWSRF loans to assist in purchasing generators; ***DWSRF program initiated 2012, over 50 generators funded, program continues in 2018 with up to 45% subsidy***

3. **Emergency Plan Requirement** - Require small CPWS to develop an emergency plan; ***regulations passed in 2014, compliance required December 2018***

4. **Training for Plan Development** - Develop and provide workshops to assist to develop an emergency plan; ***Workshops held in 2016 and 2017, as well as planned Fall 2018***

5. **WebEOC & Large CPWS** - Work with large CPWS to develop WebEOC templates and implement active use, hold annual tabletops; ***Templates drafted in 2015, Workshop planned June 2018***

6. **Critical Facilities List** - Work with state's power companies and the water industry to promote critical facility priority power restoration, develop critical facilities list to include all primary care hospitals, nursing homes and dialysis centers, keep up to date and share annually with DEMAS; ***List produced in 2014 following June 2014 Workshop, Workshop held with hospitals and large PWS 2016, annual list updates provided to DEMAS***

7. **Certified Operators** - Revise and update certified operator regulations to address direct responsibility including emergency response; **Regulations drafted 2014, and recently shared with Cert Op CT Section committee in 2018**

8. **Small System Capacity Tracking Tool** - Develop a scorecard as a Capacity Assessment Tool (CAT) for small CPWS to fully understand system capacity and initiate change as needed, promote use of CAT during sanitary surveys; ***Tool developed from state of MS in 2014, CATs completed in 2016, part of WUCC process 2016 to 2018, plan to update during survey process and plan to publish in 2019***

9. **Assistance with Asset & Fiscal Management Plan development** - work with a contractor and EPA TA providers and RCAP to provide for asset management planning, emergency planning and fiscal planning; ***RCAP Contract initiated in 2014, ending Fall 2018,*** develop continuing training program Fall/Winter 2018/2019

10. **Streamlined Small System DWSRF Loan Process** - develop a subsidized small system DWSRF loan program, ***in progress***

11. **Regional Vulnerability Review and Plan Development** - work to develop regional vulnerability assessments and resiliency plans though utilization of $600,000 in HUD funding via DOH; ***Planning initiated in 2016, workshop held April 2018, Plan to be finalized Fall 2018***

12. **WUCC Process** - move forward the WUCC process in order to assure large system involvement with small CPWS issues and vulnerabilities, and analyze satellite management or interconnection potential; ***Planning process initiated statewide June 2016, plans to be finalized July 2018, implement plan***

13. **Asset and Fiscal Plan Development** - move forward with Asset and fiscal Management legislation in order to require plan development; ***legislation drafted in 2013, moving forward during 2018 legislative session House Bill 5151***

14. **Takeover Process 16-262n & 16-46** - Streamline Takeover Process & Rework Receiverships Process - work with PURA to redevelop the CPCN and Takeover processes and legislation if needed; ***initiated Docket in 2015, Docket 15-11-33 reviewed process and finalized report 2018***

15. **Certified Operators Ad Hoc Committee** – work with committee to review issues and concerns with small systems and develop new initiatives including review of ownership and financial responsibility; ***First meeting Winter 2018, nest meeting Summer 2018, develop an Action Plan***

16. **HydroTank Assessment** – Assessment requirement following tank explosion in 2015; ***part of House Bill 5151, hope to pass May 2018 legislative session***

This document will be updated on an ongoing basis as projects move forward and issues evolve over time.

Last updated April 2018

LJM

Appendix F - Small CWS Fiscal & Asset Management Plan Template

Connecticut Department of Public Health Drinking Water Section

Fiscal and Asset Management Plan for Community Public Water Systems (PWS) Serving less than 1,000 Residents

This plan was created as a tool for use by Small Community PWS to assist PWS in meeting the new statutory requirement of Connecticut General Statutes (CGS) §19a-37e; and help provide safe and adequate drinking water to its customers now and into the future. Small community water systems serving less than 1,000 people are often run by volunteer home or condominium association boards, property management companies or by a sole owner of a complex. These groups may not have a background in the water industry and/or be familiar with all regulations pertaining to the ownership and operation of Community PWS. Owning and maintaining a PWS is a large responsibility and all customers of Community PWS deserve access to safe and adequate water regardless of the type of PWS ownership.

Fiscal and Asset Management is a **fundamental component of PWS ownership and a comprehensive Fiscal and Asset Management Plan (F&AM) is essential for the long-term success of any PWS.** Hopefully, PWS will find this template useful as a tool to assist PWS in organizing and assessing their water system finances and assets. It is anticipated that Small Community PWS can populate this template themselves based on their records and in working with their certified operator. The physical condition of the water system and financial decisions the system makes can have a direct impact on your customers' health as well as impact other factors such as property values. In addition to providing safe and reliable water, PWS that maintain a comprehensive F&AM Plan can boost PWS efficiency, save PWS staff time, improve customer service, tackle increasing costs of infrastructure and support budget discussions with facts to make informed decisions. Fiscal and Asset Management Plans will be required for all small Community PWS by **January 1, 2021**. While this template was designed for small Community PWS, this template may also be used by larger Community PWS and/or Non-Community PWS at their discretion. Further, if PWS wish to expand upon this template, there are many asset management services available to continue their asset management journey.

Date Plan Created	
Signature of PWS Owner/Legal Contact	
Printed Name PWS Owner/Legal Contact	

SECTION 1: PWS GENERAL INFORMATION

Public Water System Name: _____ **PWSID:** _____ **Town Served:** _____

Type of Ownership:
(check appropriate box)

☐ Private Owner
☐ Homeowners Association / Condominium Association
☐ Other (specify): _____
☐ Municipality / Water Authority
☐ Incorporated, Investor-Owned

Public Water System Description

Source Type:
(Check all that apply)

☐ Ground Water ☐ Surface Water ☐ Surface Water (Purchased) ☐ Ground Water (Purchased)

Number of Service Connections:		Total Population Served:	
Number of Metered Service Connections:		Interconnections (list, if applicable):	
Number of Lead Service Lines:			

Contact Information

Contact Type	*Name*	*Phone*	*Email*	*Current Address*
Owner				
Manager				
Financial Contact				
Chief Certified Operator				
Sampler				
Head Maintenance Personnel				

Fiscal and Asset Management Team

Name	*Responsibility*

Water System Schematic & Distribution System Map

Use this space to draw a detailed schematic of the water system including as many of the system assets as possible; an existing copy may be attached in lieu of a drawing. Additionally, an up-to-date distribution system map should be attached to the plan to show all distribution system assets.

SECTION 2. ASSET MANAGEMENT INFORMATION

Asset Inventory Worksheet

Asset Component	*Asset ID*	*Size, Length, Diameter and / or Capacity, and Location (Where necessary, list each individual component separately)*	*Year Constructed or Installed*	*Estimated Life Expectancy (Yrs)*	*Condition (1-5)* [1]	*Estimated Remaining / Adjusted Service Life* [2] *(Yrs)*	*Probability of Failure (1-5)* [3]	*System Impact (1-5)* [4]	*Risk Score (1-25)* [5]
Well									
Well Pump									
Source Meter									
Well/Pump House									
Atmospheric Tank									
Booster Pumps									
Bladder Tank									
Hydropneumatic Tank [6]									
Distribution Pipe and all in-line valves and boxes									
Treatment System									

Asset Component	Asset ID	Size, Length, Diameter and / or Capacity, and Location (Where necessary, list each individual component separately)	Year Constructed or Installed	Estimated Life Expectancy (Yrs)	Condition (1-5)[1]	Estimated Remaining / Adjusted Service Life[2] (Yrs)	Probability of Failure (1-5)[3]	System Impact (1-5)[4]	Risk Score (1-25)[5]
Hydrants and Blow-offs									
Back-up Generator									
Customer Meters									
Electrical Service									
Telemetry/SCADA or other Remote Monitoring System									
Other									

[1]

Score	Condition	Description
1	Excellent	New or relatively new condition. Asset has required little to no preventative or corrective maintenance.
2	Good	Acceptable condition. It still functions and requires minor preventative or corrective maintenance.
3	Fair	Deterioration of the asset can be seen. It needs preventative or corrective maintenance frequently to be able to function.
4	Poor	Failure of the asset is likely and will need to be replaced in the next few years.
5	Very Poor	Failure has occurred or is going to occur. Major maintenance is required, or replacement needs to occur.

[3]

Score	Probability of Failure
1	Highly Unlikely
2	Unlikely
3	Likely
4	Very Likely
5	Imminent

[4]

Score	System Impact	Description
1	Insignificant	Can continue normal operations of the water system without this asset.
2	Minor	Redundant systems in place; loss of the asset has a minor impact on the ability of the system to operate.
3	Moderate	Some redundancy in place; loss of the asset has a moderate impact on the ability of the system to operate.
4	Major	Greatly reduced capacity (major impact) to operate water system without this asset.
5	Catastrophic	Cannot operate water system without this asset.

[2] ***Remaining / Adjusted Service Life***: *Remaining or adjusted service life will be the difference between the current year and the year an asset was installed /constructed. This value may change depending on specific asset maintenance practices and current asset condition rating.*

[5] ***Risk Score*** *is a number which is the result of Probability of Failure Score multiplied by System Impact Score.*

[6] *Attach the Hydropneumatic Tank Fiscal and Asset Assessment Form that was completed for each active hydropneumatic tank, if applicable.*

Water System Operation and Maintenance (O&M) Plan

A Water System Operation and Maintenance Plan is a written procedure explaining how a public water system is to be operated on a day-to-day basis to ensure public health, safety and compliance with applicable regulations. It also describes maintenance practices and frequency to assure that the physical components of the water system are maintained in such a way to maximize the useful life of the assets.

Copies of these procedures should be kept with this Fiscal and Asset Management form for reference purposes. If your utility already has a written water system operation and maintenance plan that is routinely updated, please attach the latest version of this plan to this document. If not, please outline the current operation and maintenance practices for each category in the spaces provided below:

Day-to-Day Operations		
Task	Frequency	Description
Record instantaneous and totalizing meter readings for all sources of supply		
Check and record water levels in storage tanks		
Inspect pumps, motors and controls		
Check chemical solution tanks and record amounts used; replenish tanks		
Conduct field operating tests for treatment parameters (pH, Cl_2 and PO_4 residual)		
Check instrumentation for proper signal input/output		
Complete security check of pumphouse		
Inspect heater/dehumidifier operation		
Read customer meters		

Routine Maintenance		
Task	Frequency	Description
Exercise Valves		
Implement flushing program		
Insect tank hatches, vents, pipes		
Inspect and lubricate pumps		
Calibrate chemical feed pumps and/or treatment instrumentation		
Inspect and conduct repairs to water system facilities – wellheads, pump house, etc., as needed		
Inspect and clean chemical feed lines and solution tanks		

Water Quality Monitoring	
Sampling Schedule	Attach copy of DWS Water Quality Monitoring & Compliance Schedule
Sample Locations	Attach copy of DWS- Approved Sampling Site Plan with sampling point map
Certified Laboratory: Name and Contact Information	
WQ Sampler: Name and Contact Information	

Capital Improvements

Input the assets with the top ten highest Risk Scores from the Asset Inventory Worksheet on pages 5 and 6, starting with the highest score first. Fill out the columns in the table in accordance with the instructions in order to develop a Capital Improvement Project List and Budget.

Risk Score	*Asset ID*	*Asset*	*Description of Action Required to Improve Asset*	*Years Until Action Required*	*Approx. Total Cost of Required Action: Replacement, Rehabilitation, Repair*	*Reserves Required Each Year (Total Cost ÷ # of Years)*
				Totals:		

Capital Improvement Funding:

For the actions you've listed on the table above, where is the funding for these projects included in your budget? Is the money included in the capital reserve? Is it included in your Operation & Maintenance budget? Please explain.

Explain how the system is or will be developing/managing a reserve fund for water system capital improvements. Be sure to include how the reserve fund will be generated and used and how often funds are/will be added to the account.

SECTION 3. FISCAL MANAGEMENT INFORMATION

Fiscal Information – Answer the questions and complete the tables below. If a line item is not applicable you can leave it blank.

Water Rates: (complete all rows that apply)

Flat Fee	Y / N	Current Rate		Frequency of Billing:	Monthly		Quarterly		Other (Specify):	
Metered Usage	Y / N	Current Rate	_____ Base Rate _____ Volume Charge	Frequency of Billing:	Monthly		Quarterly		Other (Specify):	
Other	Y / N	Current Rate		Frequency of Billing:	Monthly		Quarterly		Other (Specify):	

Average Residential Annual Water Bill _____ Average Commercial Annual Water Bill _____ Are water rates combined with any other rates/fees? (If yes, list) _____

When was the last time the water rates were reviewed? _____

When was the last time the water rates were changed? If so, how were they changed? _____

Types of Accounts Maintained by the Water System (check all that apply):

Operating Account _____ Reserve Account _____ Emergency Account _____ Other (list) _____

PWS Revenue (complete or attach PWS budget)	Actual Last Year	Budget Current Year	Projected Next Year	Comments
Total Water Usage Revenue:				
Other Fees and Service Charges (late fees, new connection fee, etc.):				
Special Assessments:				
Secured Funding (e.g. loan):				
Interest:				
Amount transferred from Reserve Fund:				
Amount transferred from Emergency Fund:				
Other:				
TOTAL REVENUE:	$	$	$	

PWS Operating Expenses	Actual Last Year	Budget Current Year	Projected Next Year	Comments
Expenses				
Maintenance:				
Certified Operator:				
Utilities (power, telephone, internet, etc.):				
Salaries and Benefits:				
Equipment Cost:				
Water Quality Sampling & Testing:				
Water Treatment (Chemicals, etc.):				
Capital Improvement Project:				
Rent or Mortgage:				
Insurance:				
Professional Services (property management, legal, accounting, engineering, etc.):				
Training Costs:				
Billing costs:				
Fees (state PWS fee, etc.):				
Security:				
Debt payments:				
Taxes:				
Amount transferred to Reserve Fund:				
Amount transferred to Emergency Fund:				
Other:				
TOTAL EXPENSES:	$	$	$	
Net Income/Loss:				
Total Revenue:	$	$	$	
Total Expenses:	$	$	$	
Net Income/loss:	$	$	$	

Overall Account Balances	Actual Last Year	Budget Current Year	Projected Next Year	Comments
Operating Account Balance (cash on hand, etc.)				
Opening balance:				
Annual income/loss:				
Ending balance:				
Approx. number of months of operating monies on-hand:				
Emergency Fund Account Balance				
Opening balance:				
Annual inflow/outflow:				
Ending balance:				
Reserve Fund Account Balance				
Opening balance:				
Annual inflow/outflow:				
Ending balance:				
Required Reserves				
Total Annual Required Reserves:				
Opening Reserve Fund Balance:				
Annual inflow/outflow:				
Required Reserves Ending Balance:				
Additional Reserves Needed:				
Debt Balance(s)				
Opening Balance:				
Annual Outflow (Payments):				
Ending Balance:				

Fiscal Management Review

How often are the water system revenues and expenses reviewed? By whom and how are they reviewed?

If the water system revenues were insufficient to meet expenses, what steps is the PWS using to rectify the situation including reserving funds for anticipated capital improvements and other reserve purposes such as emergencies and debt expenses?

What fiscal controls are in place to ensure that monies are collected and spent appropriately, and the financial needs of the system are met? Who is responsible for collecting water bill/fees from customers?

How many customer accounts were unpaid or delinquent during the year? How are these unpaid or delinquent accounts resolved?

SECTION 4. UNACCOUNTED FOR WATER LOSS INFORMATION

"Unaccounted for Water Loss" means water that the small community water system supplies to its distribution system, but never reaches its consumers. Types of unaccounted for water loss can be leaks, main breaks, flushing, tank cleaning, etc. The vast majority of water systems have unaccounted for water loss. It should be noted that unaccounted for water for the purpose of this exercise encompasses both Real Water Loss such as leaks, main breaks, etc. and PWS approved, but Unbilled Water Loss such as water main flushing, treatment backwashing or make up water, firefighting, etc.

Determination of PWS Unaccounted for Water Loss (UWL)

Do you have Unaccounted for Water Loss? YES _____ NO _____(zero water loss is rare to non-existent)

If No, How do you know? _____

If yes, What is the total annual amount of unaccounted for water loss for your PWS? (use either Option A or Option B below to determine this amount)	

***Option A**: PWS that meters both supply production and distribution consumption*

Use the table below to organize your meter reading data and complete the calculation to determine the amount of unaccounted for water loss.

Month	Total Production (Gallons)	Total Distribution (Gallons)	Unaccounted for Water Loss (Real Water Loss & Unbilled Water Loss) (Gallons)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Annual Totals			
Calculation	Total Production (minus) -	Total Distribution (equals) =	Unaccounted For Water Loss

***Option B:** PWS that do not include distribution meters must estimate the total amount of unaccounted for water loss*

Unaccounted for water loss can be estimated by calculating the total amount of water produced (and/or purchased) and examining water usage trends and applying established estimates on the amount of water used. This option is only for systems that do not utilize distribution meters. Per RCSA Section 19-13-B102(n) public water systems are required to conduct weekly meter readings for each source of supply. Weekly water produced should be tabulated from the meter readings and compiled in order to determine long-term trends. According to record retention requirements, PWS should maintain these records for ten years.

Populate the total amount of water produced (as calculated by adding up all of your source meters weekly readings) for each week of the year in the table below.

Weekly Readings	Year:		Year:		Year:	
Week Number	**Meter Readings (Gallons)**	**Est. Daily Production (Gal Produced/Week ÷ # of Days = Gallons/Day)**	**Meter Readings (Gallons)**	**Est. Daily Production (Gal Produced/Week ÷ # of Days – Gallons/Day)**	**Meter Readings (Gallons)**	**Est. Daily Production (Gal Produced/Week ÷ # of Days – Gallons/Day)**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
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33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
Annual Totals						

Use the tabulated production readings above to determine trends and/or look for anomalies such as exceedingly high water usage, etc. Also, by calculating the estimated daily and/or customer usage, you will be able to more easily see trends. To estimate daily usage, divide the total gallons produced each week by the number of days between readings. To estimate customer usage, take the total gallons produced each week and divide by the number of customers or by the number of service connections. Try to identify the cause for anomalies such as annual flushing programs, water main breaks or service line leaks, etc. Then estimate the amount of unaccounted for water by comparing the anomalies to the typical water production averages. Space is available for 3 years' worth of water production readings in order to compare trends which are more easily seen over a longer period of time.

Causes for Unaccounted for Water Loss

Check "Yes" or "No" for each category and provide an adequate description for each item checked "Yes"

Yes	No	Category	Description (Size and Number of Occurrences per Year)	Estimated/Actual Volume
		Water main breaks (Real)		
		Distribution system leaks (Real)		
		Water main flushing (Unbilled)		
		Treatment system backwash/process (Unbilled)		
		Fire Protection (Unbilled)		
		Distribution Bleeder (Unbilled)		
		Other:		
			Total Estimated Unaccounted for Water Loss Volume (gallons):	
			Volume Water Produced in Year (gallons):	
			Estimated Percentage of UWL = UWL ÷ Total Volume Produced in Year:	

Measures Being Taken to Reduce the Amount of Unaccounted for Water Loss

Check "Yes" or "No" for each category and provide an adequate description for each item checked "Yes"

Yes	No	Category	How Often	Description
		Conduct Leak Detection Survey		
		Water Main Replacement Program		
		Conduct Routine Water Audits		
		Meter Replacement/ Calibration Program		
		Trend Meter Reading Data		
		Midnight - 4 am Meter Read		
		Other:		

SECTION 5. Annual Update Record Complete as necessary each year when plan is updated.

Date of update:		Signature of PWS Owner/Legal Contact	
Brief description of update (items considered, changes made, etc.):			
Date of update:		Signature of PWS Owner/Legal Contact	
Brief description of update (items considered, changes made, etc.):			
Date of update:		Signature of PWS Owner/Legal Contact	
Brief description of update (items considered, changes made, etc.):			
Date of update:		Signature of PWS Owner/Legal Contact	
Brief description of update (items considered, changes made, etc.):			
Date of update:		Signature of PWS Owner/Legal Contact	
Brief description of update (items considered, changes made, etc.):			

Appendix G - Public Act 21-121 Adopted from House Bill 6666 Re: Capacity Implementation Plan Requirement

Public Act 21-121 adopted from House Bill 6666
Sec. 85. (NEW) (*Effective October 1, 2021*) (a) As used in this section:

(1) "Consumer" has the same meaning as provided in section 25-32a of the general statutes;

(2) "Owner" means the person or entity that owns or controls the small community water system; and

(3) "Small community water system" has the same meaning as provided in section 19a-37e of the general statutes.

(b) Not later than January 1, 2025, each owner of a small community water system shall complete a small community water system capacity implementation plan on a form prescribed by the Department of Public Health demonstrating that such owner has the managerial, technical and financial capacity to continue to own and operate such system and shall implement such plan. Following the completion of the initial small community water system capacity implementation plan, each small community water system shall update such small community water system capacity implementation plan annually and make such small community water system capacity implementation plan available to the department upon request. Such plan shall include:

(1) A description of the small community water system, including the number of consumers and persons served and sources of drinking water;

(2) Ownership and management information, including the type of ownership structure and the current names, addresses and telephone numbers of the owners, certified operators and emergency contact persons for the small community water system;

(3) Service area maps;

(4) Facilities maps, including the location of and specific information regarding sources, storage facilities, treatment facilities, pressure zones, booster pumps, hydrants, distribution lines, valves and sampling points;

(5) A description of such system's cross-connection control program;

(6) A description of such system's source water protection program;

(7) A copy of such system's emergency response plan required pursuant to section 19-13-B102 of the regulations of Connecticut state agencies;

(8) A capital improvement program, including the schedule that identifies all capital improvements scheduled for a five-year planning period and capital improvements or major projects scheduled for a twenty-year planning period;

(9) Water production and consumption information;

(10) Information regarding public water systems that are nearby, including the distance from the small community water system and type of public water system, if any. Such information shall be based on the coordinated water system plan approved by the Commissioner of Public Health pursuant to section 25-33h of the general statutes for the water utility coordinating committee in which such small community water system is located; and

(11) Financial capacity information, including:
(A) An evaluation of the small community water system's fiscal and assessment management plan prepared pursuant to section 19a-37e of the general statutes;
(B) A summary of the income and expenses for the five years preceding the date of submission of the plan;
(C) A five-year balanced operation budget;
(D) Water rate structure and fees charged, including information regarding how such rates and fees are updated and whether such rates and fees are sufficient to maintain cash flow stability and to fund the capital improvement program, as well as any emergency improvements; and
(E) An evaluation that has considered the affordability of water rates.

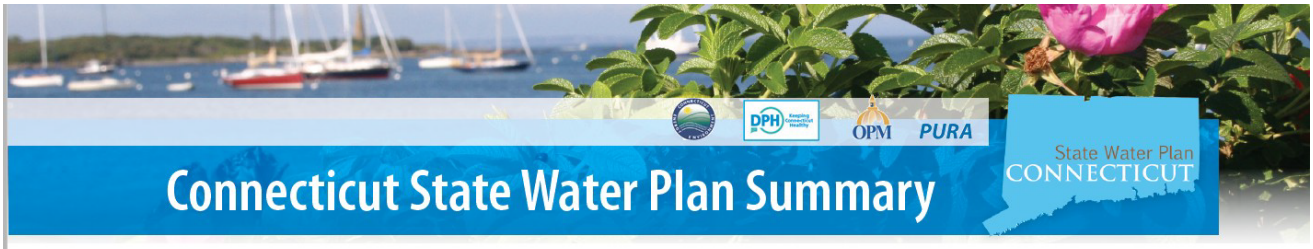
(c) On or before July 1, 2025, and annually thereafter, the small community water system shall provide a summary of its small community water system capacity plan in the small community water system's consumer confidence report required by section 19-13-B102 of the regulations of Connecticut state agencies.

(d) The provisions of this section shall not apply to a small community water system that is (1) regulated by the Public Utilities Regulatory Authority, (2) subject to the requirements set forth in section 25-32d of the general statutes, or (3) a state agency.

(e) The provisions of this section shall be deemed to relate to the purity and adequacy of water supplies for the purposes of the imposition of a penalty under section 25-32e of the general statutes.

f) The commissioner may adopt regulations, in accordance with the provisions of chapter 54 of the general statutes, to carry out the provisions of this section.

Appendix H - State Water Plan 2-Page Summary



Connecticut State Water Plan Summary

BACKGROUND: On July 1, 2014, Public Act 14-163, "An Act Concerning the Responsibilities of the Water Planning Council," directed the state's Water Planning Council (WPC) to develop a State Water Plan. The WPC is comprised of representatives of the four state entities with oversight or regulatory responsibility for water management: The Department of Energy and Environmental Protection (DEEP), the Department of Public Health (DPH), the Office of Policy and Management (OPM), and the Public Utilities Regulatory Authority (PURA). While Connecticut has historically enjoyed plentiful, clean water, unique factors in the state have combined to emphasize the importance of the Public Act and its recommended evaluation of water management strategies in the future:

- The recent drought in 2016 raised awareness that even in Connecticut, river basins can be depleted.
- Connecticut is the only state in the U.S. that prohibits wastewater discharges to drinking water sources, preserving the highest quality water for drinking (Class A). This protects human health and helps keep treatment costs low, but the policy could, however, limit future drinking water sources.
- New state streamflow requirements downstream of water supply reservoirs are highlighting the ecological need for water, which must be balanced with other water needs.
- Future climate trends in the northeast are uncertain, and planning for adaptation is essential.

GOALS: The overarching goal of the Plan, as defined by stakeholders who participated in the workshops as designated representatives of broad water interests, has been to "**Balance the use of water to meet all needs.**" The Plan aims to protect water quantity and quality for all of its current and future instream and out-of-stream uses when regulations, climate, and economic conditions are changing. These goals, as well as the recommendations in the Plan, were grounded in the enabling statute, and formulated by stakeholders from across the state representing various interests in water; public and private water utilities, environmental and watershed advocacy groups, agriculture, industry/energy, wastewater, land planning, golf courses, academia, and water science professionals.

USING THE PLAN: The Plan provides technical information and guiding principles that may be used to inform decisions across the state or on a case-by-case basis. The Plan does not attempt to prioritize any particular water use or water use category over others. Likewise, specific uses of water, if currently authorized by state law and regulation, are neither advocated nor diminished relative to other uses. The Plan's information may be used by lawmakers to formulate new legislation, by regulators to adapt water and land regulations to changing needs and conditions, and by the Water Planning Council to inform decisions and recommend legislation.

To comply with the statute's goal of collecting and applying scientific data, the Plan includes maps and data summary sheets on each of the state's 44 regional river basins and compares water that is naturally available in each basin to the growing needs for water in and out of the streams. Examples are included in the Executive Summary and Section 3 on how to properly and cautiously use these screening tools. Additionally, the policy recommendations in the Plan are intended to provide a basis for legislation, regulations, and situational decisions that **consistently apply the views of stakeholders** across the state.

5 MOST IMPORTANT MESSAGES IN THE PLAN: The Water Planning Council has interpreted the primary messages of the Plan as follows:

- **PLAN FUNCTION:** The Plan is not an answer, but a platform for consistent, informed decision making.
- **MAINTAIN HIGHEST QUALITY DRINKING WATER:** The Plan reaffirms the state's dedication to the highest standard of drinking water quality in the nation (Class A).
- **BALANCE:** Many river basins in Connecticut cannot satisfy all instream and out-of-stream needs all the time. The Plan offers ideas for understanding and improving this balance.
- **CONSERVATION:** While Connecticut leads the nation in protections of drinking water quality, the State lags in its water conservation ethic. Outreach that builds on utility initiatives is one of the most important recommendations in this Plan.
- **MAINTAIN SCIENTIFIC DATA:** The plan advocates for the collection and use of scientific data, as well as centralized access to it.

NEIWPCC CDM Smith Milone & MacBroom

KEY TECHNICAL FINDINGS: The following observations summarize key interpretations of the available scientific data included in the Plan.

- Many river basins have enough water to satisfy both instream (ecological, recreation) and out-of-stream (drinking, industry, agriculture, energy) needs most of the time, but they cannot all supply these needs during drought, or even typical summer conditions.
- Most water diversions in Connecticut were grandfathered from permitting through a registration process. Registered volumes do not necessarily represent actual overallocation of water as many remain unused or underutilized. Although there may be practical limitations to using their maximum capacity, full use of some unused registrations as authorized could put rivers in jeopardy of not meeting all instream and out-of-stream needs.
- There are opportunities to enhance the water conservation ethic for public and private water supply in Connecticut in cooperation with many initiatives already advocated by water utilities.
- Climate change is likely to have a significant effect on potential flooding in Connecticut, and could also result in drier summers in the next 25 years. More work is recommended on coastal impacts, longer-term effects (50 – 100 years), and basins at risk of not satisfying all future needs.
- Simulation modeling can be effective in future evaluation of potential new water policies or strategies within specific basins (as shown with a demonstration).

TOP TEN CONSENSUS-BASED POLICY PRIORITIES: Broad consensus was reached on the following top policy recommendations in the Plan, which can serve as guiding principles for legislation, regulations, and water planning.

1. Water management should follow scientific examples.
2. As possible, remove obsolete water registrations.
3. Encourage innovation in agricultural water practices.
4. Water data (or access to it) should be centralized in a single database and/or portal to other sources.
5. Consider Class B Water for individual non-potable uses if environmentally prudent and cost-effective, using guidelines to be developed by the WPC using the Triple Bottom Line metrics (environmental, social, economic).
6. Develop an education and outreach strategy focusing on water conservation topics.
7. The WPC should provide ongoing review of other Connecticut state plans in order to identify and address inconsistencies.
8. Encourage regional water solutions where they are practical and beneficial.
9. Reaffirm support for the protection of Class I and II land contributing to water supply. Expand protections to other watershed lands and land that feed aquifers used for public water supply or by private wells.
10. Create a data-based water education program aimed at the general public and municipal officials.

In addition to these top priorities, the Plan includes many more policy recommendations that are formulated based on stakeholder consensus, as well as recommended next steps for issues that require further study or deliberation.

FUTURE ROLES OF THE WATER PLANNING COUNCIL: To date, the Water Planning Council has been tasked by statute to oversee the development of the State Water Plan. To effectively implement the Plan by promoting consistent use of its data and recommendations, the WPC has proposed that its future roles may include:

- Early Review of Proposed Water Legislation
- Developing proposed legislation as needed
- Hiring a Water Plan "Chief" to serve as a liason between the WPC, public, and legislature.
- Conflict avoidance and resolution through mediation or arbitration (binding or non-binding)
- Seeking and securing funding for implementation
- Prioritizing and initiate next steps

Appendix I – DWS Cybersecurity Self-Assessment Checklist

STATE of CONNECTICUT
DEPARTMENT of PUBLIC HEALTH
Cybersecurity Self-Assessment Checklist for PWS

The CT DPH Drinking Water Section is providing this Cybersecurity Self-Assessment Checklist for PWS use to assist in the preparation of the cybersecurity prevention and response component of the required Emergency Response Plans (ERPs) pursuant to the American Water Infrastructure Act of 2018 and State regulations. Public Water Systems should strive to answer "Yes" to all questions below.

Public Water System Information			
PWS ID:		**PWS Name:**	

	Does your Public Water System:	YES or NO
1.	Keep an inventory of control system devices and ensure this equipment is not exposed to networks outside the utility? • *Never allow any machine on the control network to "talk" directly to a machine on the business network or on the Internet.*	
2.	Segregate networks and apply firewalls? • *Classify IT assets, data, and personnel into specific groups, and restrict access to these groups. Be alert for unusual behavior in Operational Technology (OT) and IT systems, such as unexpected reboots of digital controllers and other OT hardware and software, and delays or disruptions in communication with field equipment or other OT devices. Enhance logging to investigate anomalous activity – including collecting more logs and increasing storage capacity and retention time.*	
3.	Use secure remote access methods? • *A secure method, like a virtual private network, should be used if remote access is required.*	
4.	Establish roles to control access to different networks and log system users? • *Role-based controls will grant or deny access to network resources based on job functions.*	
5.	Backup Data? • *Implement and test data backup procedures on both IT and OT networks and ensure copies of backups are isolated (stored offline) from the network.*	
6.	Require strong passwords and password management practices? • *Use strong passwords and have different passwords for different accounts.*	
7.	Stay aware of vulnerabilities and implement patches and updates when needed? • *Monitor for and apply IT system patches and updates. CISA maintains a catalog of Known Exploited Vulnerabilities that utilities are encouraged to review to identify vulnerable systems.*	
8.	Implement multi-factor authentication? • *After changing passwords, make implementing multi-factor authentication (MFA) a priority. MFA significantly reduces your risk from almost all opportunistic attempts to gain entry into your systems.*	
9.	Enforce policies for the security of mobile devices? • *Limit the use of mobile devices on your networks and ensure devices are password protected.*	

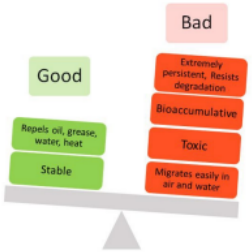
10.	Have an employee cybersecurity training program? • *All employees should receive regular cybersecurity training.*	
11.	Involve utility executives in cybersecurity? • *Organizational leaders are often unaware of cybersecurity threats and needs.*	
12.	Incident Response Plans? • *Create, maintain, and exercise a cyber incident response and continuity of operations plans.*	
13.	Monitor for network intrusions? • *Be capable of detecting a compromise quickly and executing an incident response plan. Malicious cyber actors are known to target organizations on weekends and holidays when there are gaps in organizational cybersecurity. Identify surge support for responding to an incident.*	
14.	Manual Operations? • *Have a resilience plan that addresses how to operate your system if you lose access to or control of critical OT or IT systems – including the ability to sustain manual operations for extended periods.*	

NOTE: For more information about each of these questions, see WaterISAC *15 Cybersecurity Fundamentals for Water and Wastewater Utilities* at https://www.waterisac.org/fundamentals.

Appendix J – CTRWWA SFY23 Classes Offered

CTRWWA Educational Classes SFY2023			
Date Conducted	Class Topic	TCHs	Type
8/18/2022	GWR for small systems	2	Virtual
10/13/2022	Asset Management for small systems	3	Virtual
10/27/2022	Risk &Resilience and ERP for small systems	3	Virtual
11/3/2022	Basic WQ & Boil Notices	3	Virtual
11/28/2022	PFAS	4	Classroom
12/7/2022	LCRR and LSL Inventories	2	Virtual
12/15/2022	CT RTCR for small systems	2	Virtual
1/24/2023	Level 1 Assessments	2	Virtual
2/8/2023	Water Storage Tank Basics	4	Virtual
2/23/2023	LCRR CCT for small Systems	3	Virtual
3/9/2023	Seasonal Water Systems RTCR	2	Virtual
3/14/2023	Low Income Household Water Assist Program	2	Virtual
3/29/2023	PFAS	4	Virtual
4/11/2023	Underground Pipe Location of Water & Sewer Lines/Leak Detection	4	Classroom
4/20/2023	Water Assistance Programs	2	Virtual
4/26/2023	Underground Pipe Location of Water & Sewer Lines/Leak Detection	4	Classroom
5/4/2023	GWR for small systems	2	Virtual
5/23/2023	Water Metering Solutions	4	Classroom
5/30/2023	Asset Management for small systems	3	Virtual
	total hours:	55	

Appendix K – PFAS Informational Brochure



What are PFAS?

Per- and **P**oly**f**luoro**a**lkyl **S**ubstances

- Developed in the 1940s
- Group of thousands of human-made chemicals with many useful properties including the ability to repel water, prevent staining, and increase heat resistance.
- PFAS have many industrial and consumer uses including fabric, carpet, electrical wire and non-stick coatings, food packaging, and firefighting foam used to extinguish petroleum fires.
- PFAS are persistent and can remain in the environment for long periods of time.
- PFAS are toxic and exposure to elevated levels of some PFAS may increase the risk of developing a variety of health effects (see DPH PFAS information page for additional details).

08/2023

Resources

CT DPH's PFAS Information Webpage: https://portal.ct.gov/DPH/Environmental-Health/PFAS/PFAS

Public Water Supply: Please contact your local water utility to learn more about your drinking water and to see whether they have monitoring data for PFAS or can provide any specific recommendations for your community.

Local Health Department: To find contact information for your local health department, please visit: www.ct.gov/dph and click on "Find your Local Health Department."

CT DPH – Emerging Contaminants Unit: Phone: 860-509-7356
Email: DPH.EmergingContaminants@ct.gov

CT DPH– Private Well Program
Phone: 860-509-8401
Email: dph.privatewellprogram@ct.gov

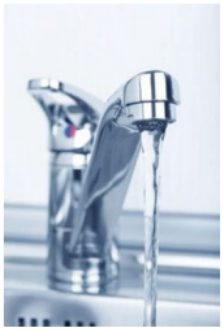
CT DPH – Environmental & Occupational Health Assessment Program: Phone: (860) 509-7740
Email: DPH.EOHA@ct.gov

CT Department of Energy and Environmental Protection PFAS Information:
Email: DEEP.PFAS@ct.gov

US Environmental Protection Agency:
https://www.epa.gov/pfas

Per- and Polyfluoroalkyl Substances (PFAS)

Basic Information about drinking water



Connecticut Department of Public Health
Environmental Health & Drinking Water Branch
Emerging Contaminants Unit
410 Capitol Avenue MS#12DWS
Hartford, CT 06134

PFAS Name	CT Drinking Water Action Level (ppt)
6:2 chloropolyfluoroether sulfonic acid (6:2 Cl-PFESA; F-53B major)	2
8:2 chloropolyfluoroether sulfonic acid (8:2 Cl-PFESA; F-53B minor)	5
Hexafluoropropylene oxide-dimer acid (HFPO-DA; GenX)	19
Perfluorobutane sulfonic acid (PFBS)	760
Perfluorobutanoic acid (PFBA)	1,800
Perfluorohexane sulfonic acid (PFHxS)	49
Perfluorohexanoic acid (PFHxA)	240
Perfluorooctane sulfonic acid (PFOS)	10
Perfluorooctanoic acid (PFOA)	16
Perfluorononanoic acid (PFNA)	12

ppt = parts per trillion

Connecticut Drinking Water Action Level

- An Action Level is the concentration of a contaminant that when exceeded protective measures are advised.
- As of June 2023, DPH has established Action Levels for 10 PFAS *(table above)*.
- Individual levels reflect evolving scientific research on their toxicity.

08/2023

Is My Water Safe to Drink?

- These PFAS Action Levels represent the best studied and most commonly found PFAS chemicals in CT.
- An Action Level provides protection to all the public including sensitive populations such as babies or pregnant women. Multiple safety factors are used in the calculation of Action Levels.
- PFAS Action Levels consider a lifetime of exposure and consider additional sources of exposure besides drinking water.
- Consuming water above CT's Drinking Water Action Levels over a long period of time may increase the risk of developing some health effects for some people. It does not necessarily mean that you WILL develop health effects.
- DPH expects public water systems that detect PFAS to inform their customers and evaluate actions to reduce exposures.
- Wherever feasible, steps should be taken to reduce exposure to PFAS from all potential sources (e.g., drinking water, food, consumer products). Lower exposure means lower risk, and the less exposure the better.

PFAS Treatment for drinking water

- Activated carbon, ion exchange and high-pressure membranes (e.g., reverse osmosis) have all been demonstrated to remove PFAS from drinking water.
- Treatment targeted for one PFAS chemical will often also reduce the concentration of multiple other PFAS chemicals in the water.
- PFAS treatment is scalable from a point of use system on a kitchen sink to a system that treats all the water use in a home to a public water treatment system.
- Home treatment options are certified by the National Sanitation Foundation to treat PFOS and PFOA to below 70 ppt. Currently, no certification exists for removal of target PFAS to below laboratory detection limits.
- The best available treatment option depends on many factors, including water chemistry, PFAS compound concentration and water usage.
- Carbon filters installed in CT homes have demonstrated successful removal of target PFAS to below Action Levels.
- Please visit the DPH PFAS webpage for additional information on PFAS removal.